August 28, 2020

Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, DC 20426

Attention: Ms. Kimberly D. Bose, Secretary

Re: Sierrita Gas Pipeline LLC;
Docket No. CP13-73-000;
Annual Post-Construction Vegetation Monitoring Report (Year Five)

Commissioners:

Sierrita Gas Pipeline LLC ("Sierrita") is hereby filing with the Federal Energy Regulatory Commission ("Commission") in Docket No. CP13-73-000, its annual post-construction vegetation monitoring report related to Sierrita's Pipeline Project ("Project").

**Description of Proceeding**

On February 7, 2013, Sierrita submitted its application ("Application"), pursuant to Section 7(c) of the Natural Gas Act ("NGA"), requesting a certificate of public convenience and necessity authorizing the construction and operation of the Sierrita Pipeline Project located in Pima County, Arizona. Concurrently, Sierrita filed an application in Docket No. CP13-74-000, pursuant to Section 3 of the NGA, seeking a new presidential permit authorizing the export of natural gas at a new international border crossing associated with the Sierrita Pipeline. On June 6, 2014, the Commission issued an Order Issuing Certificate ("Order") granting Sierrita's requested certificate.[1] Sierrita placed the project facilities into service on October 31, 2014.

**Submittal of Status Report**

In accordance with Appendix H, Section 7.0 of the Final Environmental Impact Statement, Sierrita is herein filing its annual post-construction vegetation monitoring report documenting re-vegetation progress along the project right-of-way during the fifth year of in-service. The report has been prepared by SWCA Environmental Consultants. The report was presented to stakeholders during the 2020 Annual Stakeholders meeting held via Webex on August 26, 2020. Based on the vegetation progress and the long-term monitoring plan requirements for its Project, Sierrita believes it has fulfilled

[1] See *Sierrita Gas Pipeline, LLC*, 147 FERC ¶ 61,192 (2014).

its right-of-way vegetation restoration obligations. Accordingly, in consultation with Federal Energy Regulatory Commission Staff, Sierrita notes that no further annual post-construction monitoring reports will be required.

**Filing Information**

Sierrita is e-Filing this letter with attachments with the Commission's Secretary in accordance with the Commission's Order No. 703, *Filing Via the Internet*, guidelines issued on November 15, 2007 in Docket No. RM07-16-000.

Respectfully submitted,

SIERRITA GAS PIPELINE LLC

By /s/
Francisco Tarin
Director, Regulatory

Attachments

cc: Mr. David M. Hanobic

## Certificate of Service

I hereby certify that I have this day caused a copy of the foregoing documents to be served upon each person designated on the official service list compiled by the Commission's Secretary in this proceeding in accordance with the requirements of Section 385.2010 of the Federal Energy Regulatory Commission's Rules of Practice and Procedure.

Dated at Colorado Springs, Colorado as of this 28th day of August 2020.

/s/
Francisco Tarin

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# Sierrita Pipeline Post-Construction Vegetation Monitoring: Year Five (2019) Annual Monitoring Report

Prepared for

Sierrita Gas Pipeline LLC

For Submittal to

**Federal Energy Regulatory Commission**

**and**

**Arizona State Land Department**

**FERC Docket No. CP13-73-000**

April 2020

# SIERRITA PIPELINE POST-CONSTRUCTION VEGETATION MONITORING: YEAR FIVE (2019) ANNUAL MONITORING REPORT FERC DOCKET NO. CP13-73-000

Prepared for

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SWCA Project No. 32239

April 2020

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# EXECUTIVE SUMMARY

This report summarizes results of Year Five (2019) of a 5-year post-construction vegetation monitoring plan designed to measure and evaluate success of revegetation efforts for the Sierrita Pipeline Project (the Project) construction right-of-way (ROW). The post-construction vegetation monitoring plan was implemented to determine whether post-construction restoration and reclamation activities met performance criteria established in the Post-Construction Vegetation Monitoring Document (Federal Energy Regulatory Commission [FERC] 2014). The goals of the Post-Construction Vegetation Monitoring Document include protecting water resources, successful establishment of stable vegetation cover, minimizing impacts to the viewshed, and returning land uses to pre-existing conditions to the extent practicable. These goals can be met through the establishment of stable vegetation cover, resulting in minimization of erosion and sedimentation. The processes for accomplishing these goals include post-construction soil stabilization, establishment of plant cover, noxious weed abatement, and wildlife habitat restoration. The five measurable elements of the plan are as follows: overall vegetation cover, succulent plantings, noxious weeds, access road conditions, and tree plantings.

For Year Five (2019), all cover and landscape categories are meeting or exceeding the success criteria as outlined in the Guidance Documents.[1] For the Arizona Upland-Sonoran Desertscrub category, the statistical tests indicate that percent foliar and percent basal cover was significantly greater within ROW plots than control plots, while percent bare ground was significantly greater in control plots than ROW plots. For the Semidesert Grassland category, the statistical tests indicate that the percent bare ground was significantly less in the ROW plots than the control plots.

For the remaining cover and landscape categories, there is no significant difference in percent foliar, bare, or basal cover between the control and ROW plots. These trends are consistent with the 2017–2018 data; therefore, no corrective actions are recommended.

The additional metric goals of species composition, frequency, density, and dominance are also at or above the success criteria in Year Five (2019). Data collection surveys identified 108 desirable plant species within the quadrats, and a majority of those desirable species, 73 (68%), are

[1] Documents produced as part of, and in association with the Project's Final Environmental Impact Statement. See Section 1.2 for details.

exceeding the frequency success criteria (i.e., desirable species on the ROW occur with ≥50% the frequency of that species in the off-ROW control plots). In 2019, all vegetation monitoring plots met or exceeded the ≥70% species composition, density, and dominance goals on the ROW vs. the off-ROW control. Because all of the metrics are being met or exceeded at this time, no management activities are recommended with respect to the reseeding of the ROW. These additional metrics were all achieved in Year Four (2018) as well.

Three of the 270 quadrats occurring in ROW vegetation plots have an off-highway vehicle (OHV) Index Class of 5; however, no corrective action is recommended at this time because the ROW is overall meeting the success criteria, and the vast majority (267 of 270) of quadrats have OHV Index Classes of 4 or below.

Succulent monitoring results included that 47% of the transplanted Pima pineapple cacti (*Coryphantha scheeri* var. *robustispina*) have survived for 5 years since being moved, with 88% of survivors in good condition. Since no goals were established for Pima pineapple cactus, no additional measures are needed.

For 2019, 94% of transplanted saguaros (*Carnegiea gigantea*) were found in good condition; 94% of saguaros found alive were in the same condition as the saguaros outside the ROW (i.e., as the controls), and 6% were in worse condition than the controls. The total number of saguaro plants alive in the ROW is 231, which is 40% higher that the "no net loss" criteria of 165 (the original number of saguaro plants in the footprint of disturbance). Since saguaros are well above the "no net loss" criteria, no additional measures are needed.

For 2019, 175 of 414 transplanted Palmer's century plants (*Agave palmeri*) were found alive in the ROW, with 85% of those found alive in good condition. The number of Palmer's century plants found alive is 202 plants lower than the "no net loss" criteria of 377. This monitoring effort takes into account mortality of agave plants due to reproductive success. Agave plants that have stalked, flowered, and gone to seed die following seed dispersal and this type of mortality is normal. However, Palmer's century plants were originally monitored because they are a forage plant for the now delisted lesser long-nosed bat (*Leptonycteris curasoae yerbabuenae*). Thus, even though the "no net loss" criterion is currently not being met, no further plantings are required at this time.

For 2019, there was a 20% survival rate for the smallflower century plant (*Agave parviflora*) transplants, with 94% of those found alive still in good condition. Since no survival goal was established for smallflower century plant, no additional measures are needed.

During the spring 2019 noxious weed monitoring and control event, one Arizona Department of Agriculture (ADA)–listed noxious weed was identified and controlled: buffelgrass (*Pennisetum ciliare*). Additionally, one ADA-listed species was identified and mapped: morning-glory (*Ipomoea* sp.). In fall 2019, only buffelgrass was identified and controlled. No other ADA-listed noxious weeds were identified in 2019. In total, 137 buffelgrass plants were identified and removed from the ROW within weed control areas during spring 2019, while 3,252 buffelgrass plants were identified and removed from the ROW within weed control areas during fall 2019. Since participants in the 2016 annual stakeholder meeting were not as concerned with morning-glory removal as buffelgrass removal, and manual removal of morning-glory had been proven to be ineffective during past Project weed monitoring and control events, no observed morning-glory plants were removed in the spring 2018, fall 2018, spring 2019, or fall 2019 weed control events. The performance criteria of ≤10% percent weed cover where noxious weed species are not outside the ROW is being achieved for 2019. This is due to the weed control of all buffelgrass infestations within the High-Density Weed Area (HDWA) and Additional Weed Area (AWA) weed monitoring sites. Where source populations of weeds were present in the off-ROW control to each on-ROW monitoring site, all buffelgrass was controlled. In addition, one weed control site (HDWA 2) exceeded the trigger for implementing corrective actions for cover class for pedestrian travel in fall 2019, but not spring 2019. No corrective actions for that site are recommended as it is expected to have a high degree of human presence and travel due to the proximity of residential developments and well-traveled roadways. None of the HDWAs or AWAs exceeded the trigger for implementing corrective actions for OHV travel or grazing in spring 2019 or fall 2019, therefore, no corrective action is needed for OHV travel or grazing at these sites.

All of the Project access roads are in good to fair condition, with erosional features (including rutting) being noted. Many of these erosional features along AR-18 were noted as occurring historically along the access roads before it was improved for pipeline construction activities. There have been no requests by any landowner to conduct any road maintenance activities and all Project access roads appear to be functioning at or close to pre-construction levels.

For 2019, six of the 16 tree monitoring sites locations are not meeting the success criteria, despite the additional plantings that occurred in 2017. Sierrita Gas Pipeline, LLC (Sierrita) will plant the number of trees needed to reach the success criteria by the first quarter 2020 to satisfy the requirements in the December 2014 Final Environmental Impact Statement *Post-Construction Plan for the Planting of Trees and Long-term Monitoring* document. Additionally, any honey mesquites (*Prosopis glandulosa*) plants found will be removed during the tree replanting. No tree monitoring site cover classes for OHV travel, grazing, or pedestrian traffic exceeded 4, which is the trigger for implementing corrective actions. Thus, no corrective actions for OHV travel, grazing, and pedestrian traffic are recommended for the tree monitoring sites.

# 1.0 INTRODUCTION

Sierrita Gas Pipeline, LLC (Sierrita), an indirect subsidiary of Kinder Morgan, Inc., and Kinder Morgan Energy Partners, L.P., was issued a Certificate of Public Convenience and Necessity by the Federal Energy Regulatory Commission (FERC) in 2014 for the construction and operation of the Sierrita Pipeline Project (the Project) (FERC Docket No. CP13-73-000). As analyzed by the Project's Final Environmental Impact Statement (FEIS) (FERC 2014), the Project consisted of the installation of approximately 60.9 miles of 36-inch-diameter steel pipe, and associated aboveground measurement facilities and appurtenances, to deliver natural gas from an interconnection with El Paso Natural Gas Company, LLC, existing pipeline system southwest of Tucson in unincorporated Pima County, Arizona, to an interconnect point at the U.S.–Mexico border near the town of Sasabe, Pima County, Arizona (Figure 1).

The purpose of this report is to present the findings of the Year Five (2019) annual monitoring activities for submittal to FERC and the Arizona State Land Department (ASLD), and as necessary, to recommend treatments or adaptive management strategies to ensure that restoration and reclamation activities meet performance criteria, as established in the FEIS (FERC 2014) for the Post-Construction Vegetation Monitoring Document (Monitoring Document).

Sierrita's Monitoring Document provides the standard operating procedures for monitoring metrics and focuses on ASLD-managed lands crossed by the Project, but may also apply to private lands, as requested by individual landowners (FERC 2014). The Monitoring Document provides a summary of the restoration and revegetation approach for the project area and details the monitoring goals and objectives.

## 1.1 Sierrita's Reclamation Plan, and Plan and Procedures

Sierrita's Reclamation Plan and its Plan and Procedures, and other documents identified in the FEIS completed for this Project, identified the conservation measures, best management practices, and restoration activities that were implemented prior to, during, and post-construction to avoid, minimize, and mitigate impacts to sensitive natural and cultural resources. FERC states, "The short-term goal of reclamation is to minimize erosion and sedimentation potential on land affected by the Project" (FERC 2014: Appendix G, p. G-1). FERC continues, "Long-term

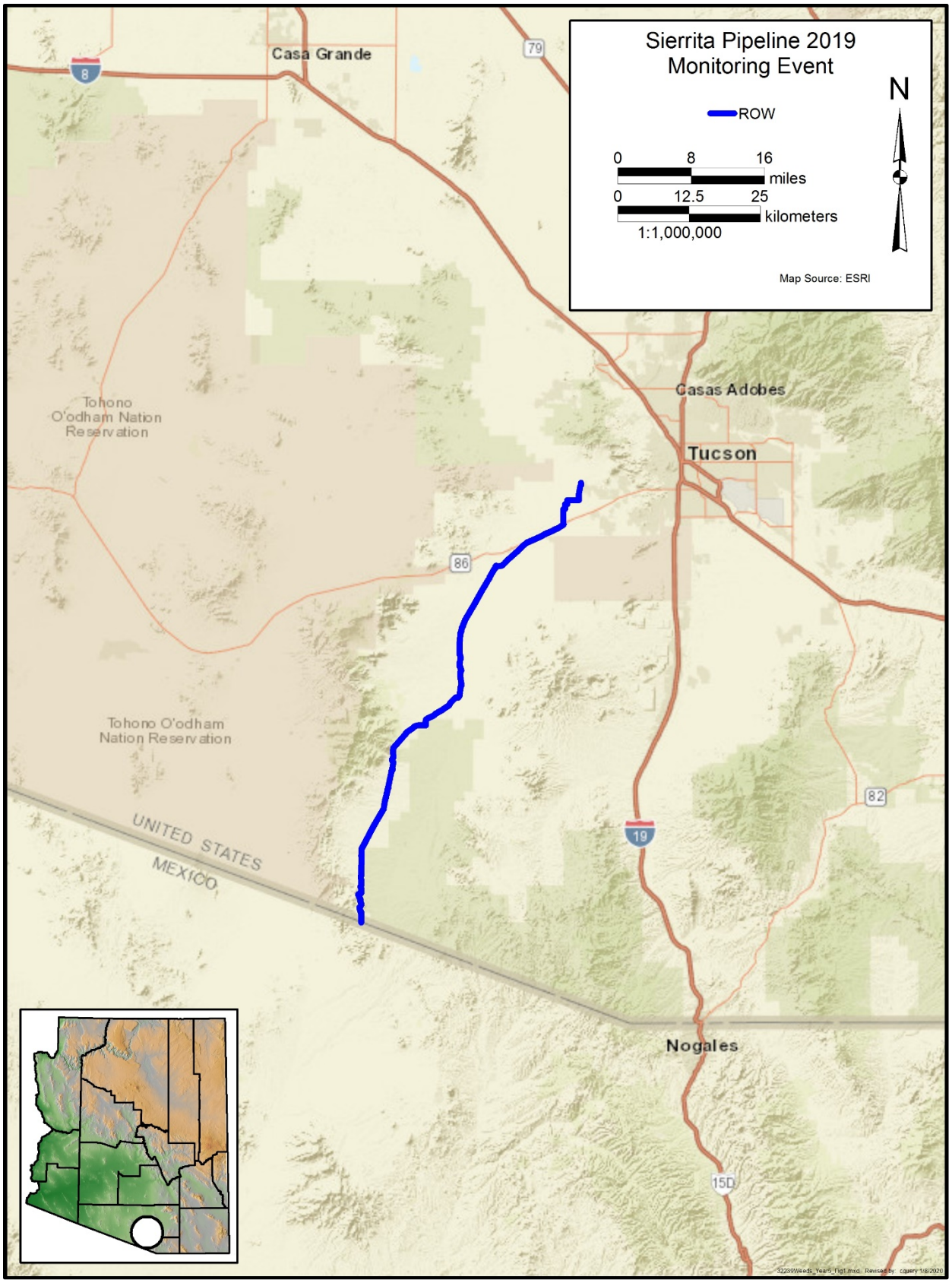



**Figure 1. General location of the Sierrita Pipeline project area.**

reclamation goals include protecting water resources, stabilizing successful establishment of stable vegetation cover, minimizing impacts to the viewshed, and returning land uses to pre-existing conditions to the extent practicable" (FERC 2014: Appendix G, p. G-2).

As detailed in the Reclamation Plan (FERC 2014: Appendix G), the right-of-way (ROW) restoration involved the backfilling of the excavated trench, replacing stockpiled subsoil and topsoil, restoring preexisting contours, installing permanent erosion control structures (e.g., waterbars/slope breakers), and establishing native vegetation. The annual post-construction monitoring efforts are designed to measure and evaluate the success of the establishment of vegetation in the ROW.

Seed mixes were developed in coordination with the Natural Resources Conservation Service, U.S. Fish and Wildlife Service (USFWS), and local landowners (FERC 2014). The seeding application methods (i.e., drill or broadcast), soil amendments (fertilizer was not used), and the use of mulch (i.e., straw, hydro, or wood chips) were tracked and detailed by milepost (MP).

During preparation and acquisition of the two native seed mixes, several species could not be obtained by the seed supply company, and substitute species were allowed after review and approval from the FERC in consultation with the USFWS and other agencies. In total, 14 different plant species are listed between the two seed mixes (four species differ between the two mixes; 10 species are the same). Thirteen of these 14 plant species (93%) are present on ROW as of fall 2019. Only one species, catclaw acacia (*Senegalia greggii*) was not found on the ROW.

In addition, during the pre-construction surveys, areas were identified that contained noxious or invasive weeds that were then targeted for mitigation measures outlined in the FEIS (FERC 2014). The 2014 FEIS Appendix I, Noxious Weed Control Plan, included mitigation measures to minimize the introduction and/or spread of weeds within the construction footprint. Mitigation measures included cleaning all construction equipment prior to mobilizing to the project area and having cleaning stations for equipment and vehicles at each end of the noxious weed areas identified within the ROW, until the topsoil was segregated from subsoil and travel lanes within the ROW were established on the subsoil surfaces.

## 1.2 Sierrita's Monitoring Plan Documents

As proposed mitigation identified in the Project's FEIS and the December 2014 filing *Post- Construction Plan for the Planting of Trees and Long-term Monitoring*, post-restoration and long-term monitoring of vegetation (i.e., reseeding efforts), succulents, noxious weeds, and tree plantings is to be conducted following the Guidance Documents produced as part of, and in association with the FEIS, which included:

- 2014 FEIS Appendix I, Noxious Weed Control Plan;
- 2014 FEIS Appendix H, Post-Construction Vegetation Monitoring Document;
- 2014 Post-Construction Plan for the Planting of Trees and Long-term Monitoring; and
- 2014 Long-term Monitoring Plan, Exhibit C to Sierrita Gas Pipeline LLC Mitigation Agreement and Agreement for Easements.

These documents can be found in the 2014 FEIS (FERC 2014). The Guidance Documents above identify six areas of monitoring efforts to be conducted on an annual basis; three of these areas were identified in the FEIS: 1) reseeding, 2) succulents, and 3) noxious weeds. The remaining three areas of monitoring are included to address landowner and/or stakeholder requirements and include 1) access roads, 2) tree plantings, and 2) erosion using Light Detection and Ranging (LiDAR) mapping. These other three monitoring areas are in response to requests from the Buenos Aires National Wildlife Refuge, the USFWS, and Pima County, respectively. The results of the 2019 LiDAR mapping analysis will be provided in a separate report.

# 2.0 MONITORING (STUDY) AREAS

## 2.1 Vegetation Monitoring

In order to ensure post-construction soil stability, noxious weed abatement, and wildlife habitat restoration, the plant cover establishment after reseeding is being monitored, as set forth in the 2014 FEIS Appendix H, Post-Construction Vegetation Monitoring Document. Thirty random points were generated using the Create Random Points Tool in ArcMap within the ROW, including 23 in upland areas and seven in riparian areas. These random points were stratified throughout the ROW by vegetation type, soil type, and land ownership in order to have long-term vegetation

monitoring study areas established that are representative of the entire ROW and its variations. For each of the 30 vegetation monitoring sites (plots) established in the ROW, a paired control monitoring site was established just outside the ROW footprint for comparison. Table 1 contains the parameters for each of the 30 vegetation monitoring sites, and their locations are also depicted on Figures 2.1 through 2.12.

**Table 1. Vegetation Monitoring Study Areas**

| Plot No. | MP | Figure Number | UTM Easting | UTM Northing | Land Ownership | Vegetation Community | Soil Type | Location Type |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.3 | 2.1 | 484244 | 3561093 | State Trust Land | AZ Upland Subdivision - Sonoran Desertscrub | Sahuarita soils, Mohave soils and urban land, 1 to 5 percent slopes | Upland |
| 2 | 1.2 | 2.1 | 483763 | 3559675 | State Trust Land | AZ Upland Subdivision - Sonoran Desertscrub | Mohave soils and urban land, 1 to 8 percent slopes | Upland |
| 3 | 21.1 | 2.5 | 464560 | 3538562 | State Trust Land | AZ Upland Subdivision - Sonoran Desertscrub | Hayhook-Sahuarita complex, 1 to 5 percent slopes | Riparian |
| 4 | 1.6 | 2.1 | 483868 | 3559100 | State Trust Land | AZ Upland Subdivision - Sonoran Desertscrub | Anthony fine sandy loam, 0 to 3 percent slopes | Upland |
| 5 | 1.6 | 2.1 | 483869 | 3558982 | State Trust Land | AZ Upland Subdivision - Sonoran Desertscrub | Anthony fine sandy loam, 0 to 3 percent slopes | Riparian |
| 6 | 1.9 | 2.1 | 483869 | 3558519 | State Trust Land | AZ Upland Subdivision - Sonoran Desertscrub | Anthony fine sandy loam, 0 to 3 percent slopes | Riparian |
| 7 | 2.2 | 2.1 | 483597 | 3558382 | Private land | AZ Upland Subdivision - Sonoran Desertscrub | Anthony fine sandy loam, 0 to 3 percent slopes | Upland |
| 8 | 5.0 | 2.1 | 481129 | 3556140 | Private land | AZ Upland Subdivision - Sonoran Desertscrub | Mohave soils and urban land, 1 to 8 percent slopes | Upland |
| 9 | 7.8 | 2.2 | 479110 | 3552963 | State Trust Land | AZ Upland Subdivision - Sonoran Desertscrub | Bucklebar-Sahuarita complex, 0 to 3 percent slopes | Riparian |
| 10 | 20.3 | 2.5 | 465265 | 3539768 | State Trust Land | AZ Upland Subdivision - Sonoran Desertscrub | Palos Verdes-Sahuarita complex, 2 to 8 percent slopes | Upland |
| 11 | 19.5 | 2.4, 2.5 | 465879 | 3540830 | State Trust Land | AZ Upland Subdivision - Sonoran Desertscrub | Palos Verdes-Sahuarita complex, 2 to 8 percent slopes | Upland |
| 12 | 26.7 | 2.6 | 462991 | 3530057 | State Trust Land | AZ Upland Subdivision - Sonoran Desertscrub | Anthony fine sandy loam, 0 to 3 percent slopes | Upland |
| 13 | 22.3 | 2.5 | 463656 | 3536814 | State Trust Land | AZ Upland Subdivision - Sonoran Desertscrub | Hayhook-Sahuarita complex, 1 to 5 percent slopes | Upland |
| 14 | 27.1 | 2.6 | 462889 | 3529359 | State Trust Land | AZ Upland Subdivision - Sonoran Desertscrub | Anthony fine sandy loam, 0 to 3 percent slopes | Upland |

| Plot No. | MP | Figure Number | UTM Easting | UTM Northing | Land Ownership | Vegetation Community | Soil Type | Location Type |
|---|---|---|---|---|---|---|---|---|
| 15 | 27.5 | 2.6 | 463098 | 3528740 | State Trust Land | AZ Upland Subdivision - Sonoran Desertscrub | Pinaleno-Stagecoach complex, 5 to 16 percent slopes | Upland |
| 16 | 33.2 | 2.7 | 459657 | 3521469 | State Trust Land | Semidesert Grassland | Tubac gravelly loam, 1 to 8 percent slopes | Upland |
| 17 | 33.8 | 2.7 | 458835 | 3520982 | State Trust Land | Semidesert Grassland | Bucklebar-Sahuarita complex, 0 to 3 percent slopes | Riparian |
| 18 | 35.9 | 2.8 | 456813 | 3518884 | State Trust Land | Semidesert Grassland | Diaspar sandy loam, 1 to 5 percent slopes | Upland |
| 19 | 40.8 | 2.9 | 451238 | 3514209 | State Trust Land | Semidesert Grassland | White House-Caralampi complex, 5 to 25 percent slopes | Upland |
| 20 | 42.8 | 2.9 | 451137 | 3511168 | State Trust Land | Semidesert Grassland | White House-Caralampi complex, 5 to 25 percent slopes | Upland |
| 21 | 43.0 | 2.9 | 451029 | 3510963 | State Trust Land | Semidesert Grassland | Diaspar sandy loam, 1 to 5 percent slopes | Upland |
| 22 | 43.7 | 2.9 | 450743 | 3509904 | State Trust Land | Semidesert Grassland | White House gravelly loam, 1 to 8 percent slopes | Upland |
| 23 | 46.8 | 2.10 | 449679 | 3504925 | State Trust Land | Semidesert Grassland | Comoro sandy loam, 0 to 2 percent slopes | Riparian |
| 24 | 49.3 | 2.11 | 447987 | 3501467 | State Trust Land | Semidesert Grassland | Riveroad and Comoro soils, 0 to 2 percent slopes | Upland |
| 25 | 51.5 | 2.11 | 446256 | 3498223 | State Trust Land | Semidesert Grassland | White House gravelly loam, 1 to 8 percent slopes | Upland |
| 26 | 52.3 | 2.11 | 445657 | 3497151 | Private land | Semidesert Grassland | Riveroad and Comoro soils, 0 to 2 percent slopes | Riparian |
| 27 | 52.5 | 2.11 | 445656 | 3496868 | Private land | Semidesert Grassland | Riveroad and Comoro soils, 0 to 2 percent slopes | Upland |
| 28 | 54.0 | 2.11 | 445655 | 3494375 | State Trust Land | Semidesert Grassland | White House-Caralampi complex, 5 to 25 percent slopes | Upland |
| 29 | 58.0 | 2.12 | 445298 | 3488660 | State Trust Land | Semidesert Grassland | Lampshire-Romero-Rock outcrop complex, 10 to 65 percent slopes | Upland |
| 30 | 59.2 | 2.12 | 445310 | 3486944 | State Trust Land | Semidesert Grassland | Lampshire-Romero-Rock outcrop complex, 10 to 65 percent slopes | Upland |

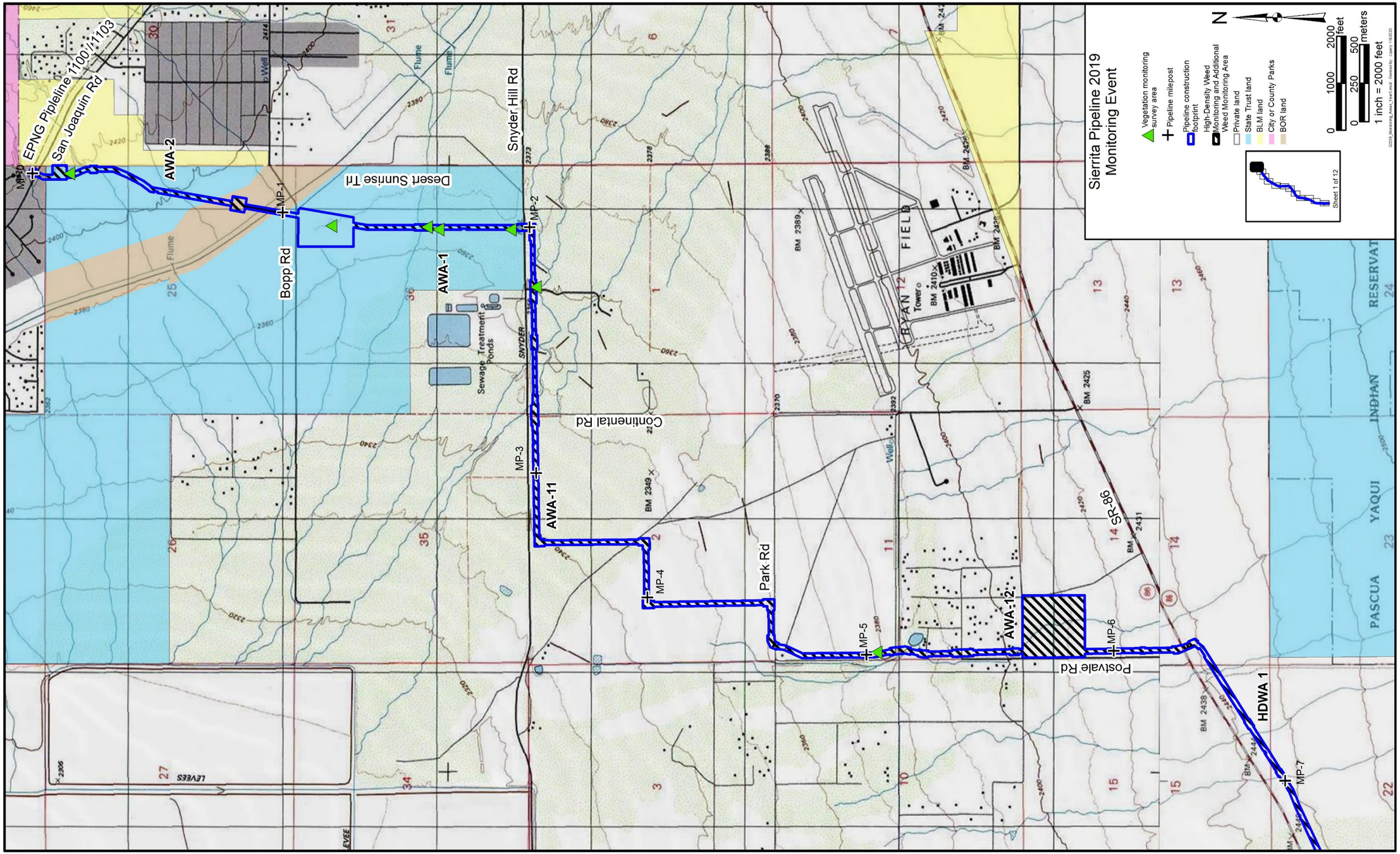



**Figure 2.1. Location of monitoring (study) areas.**

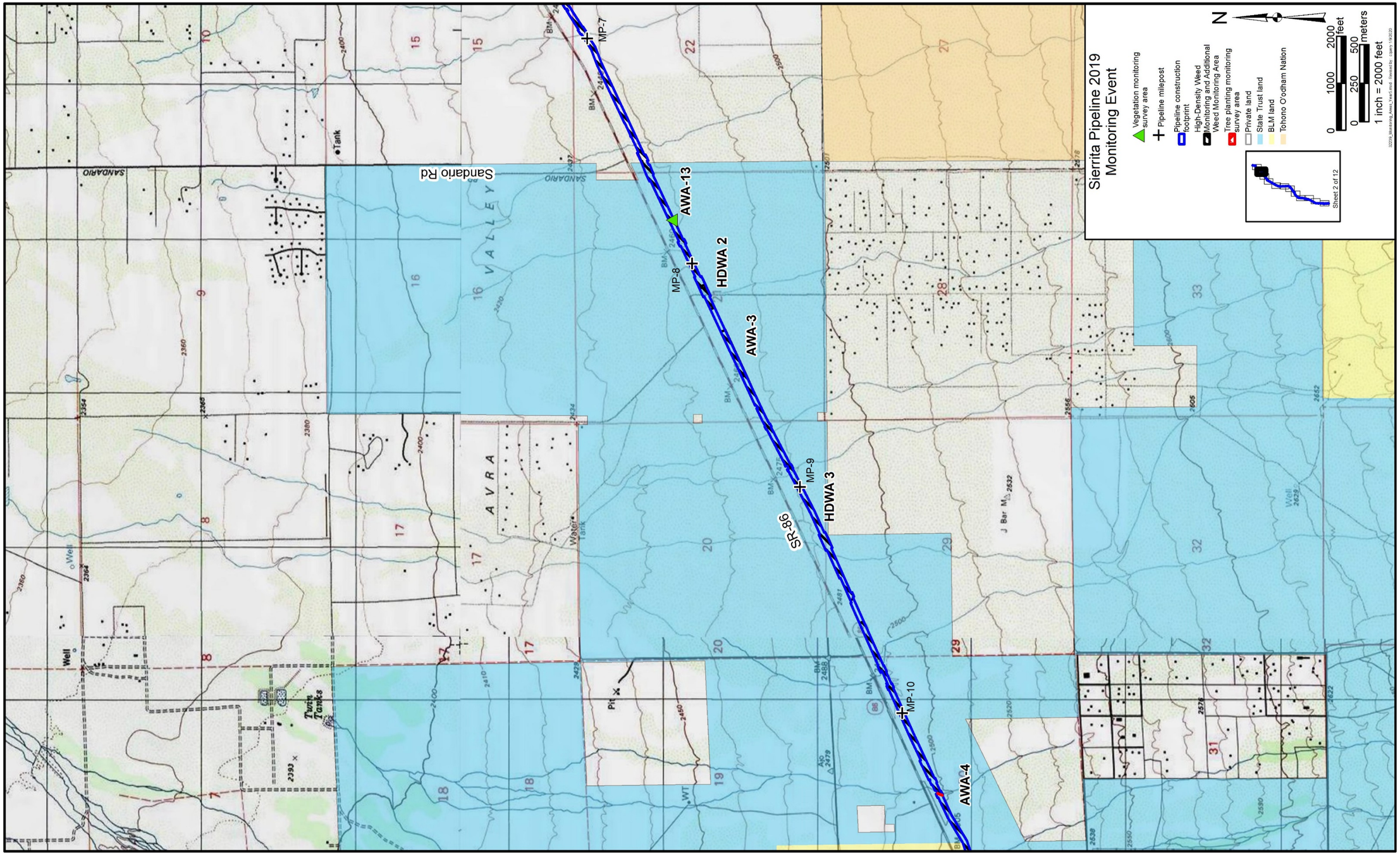



**Figure 2.2. Location of monitoring (study) areas.**

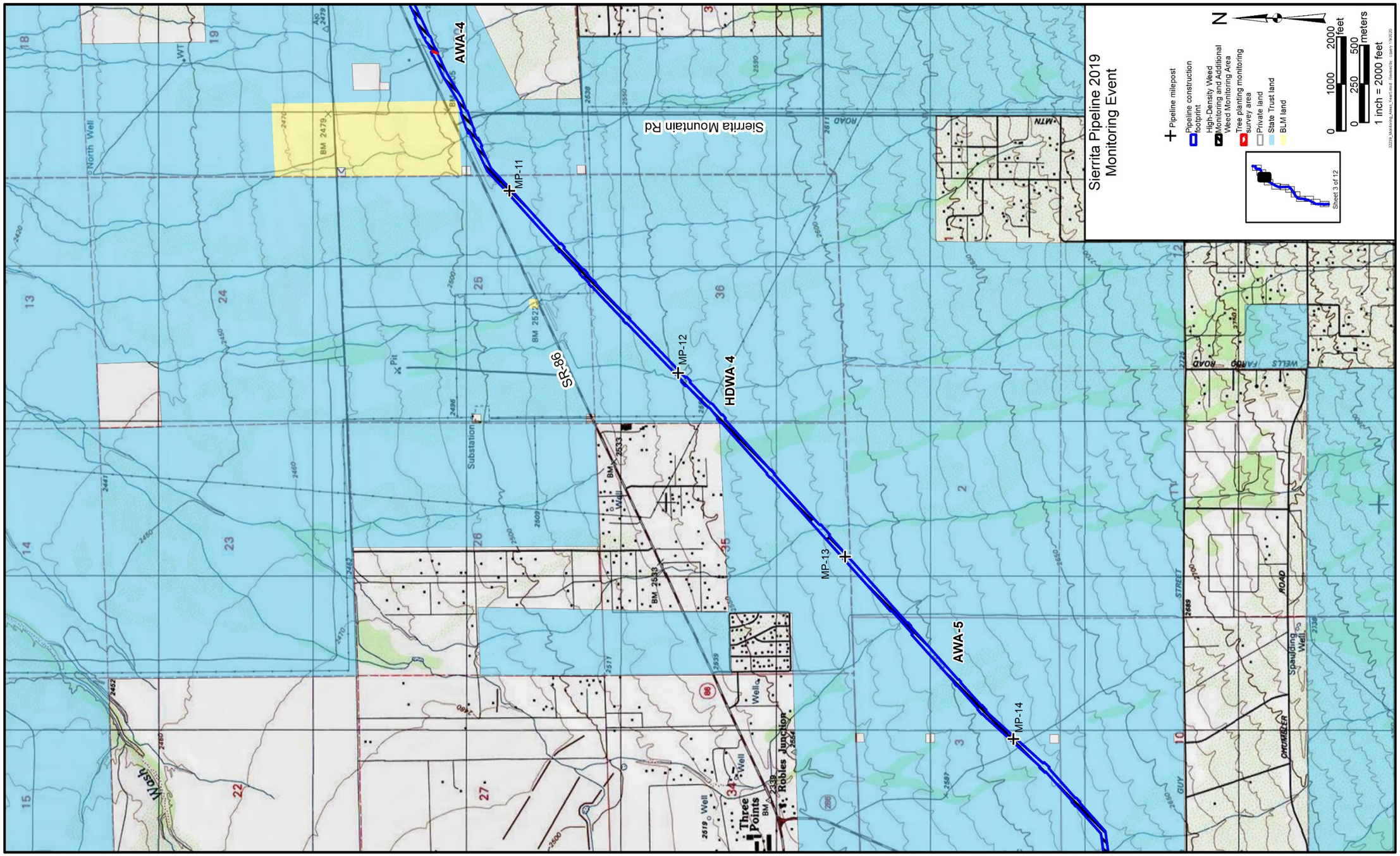



**Figure 2.3. Location of monitoring (study) areas.**

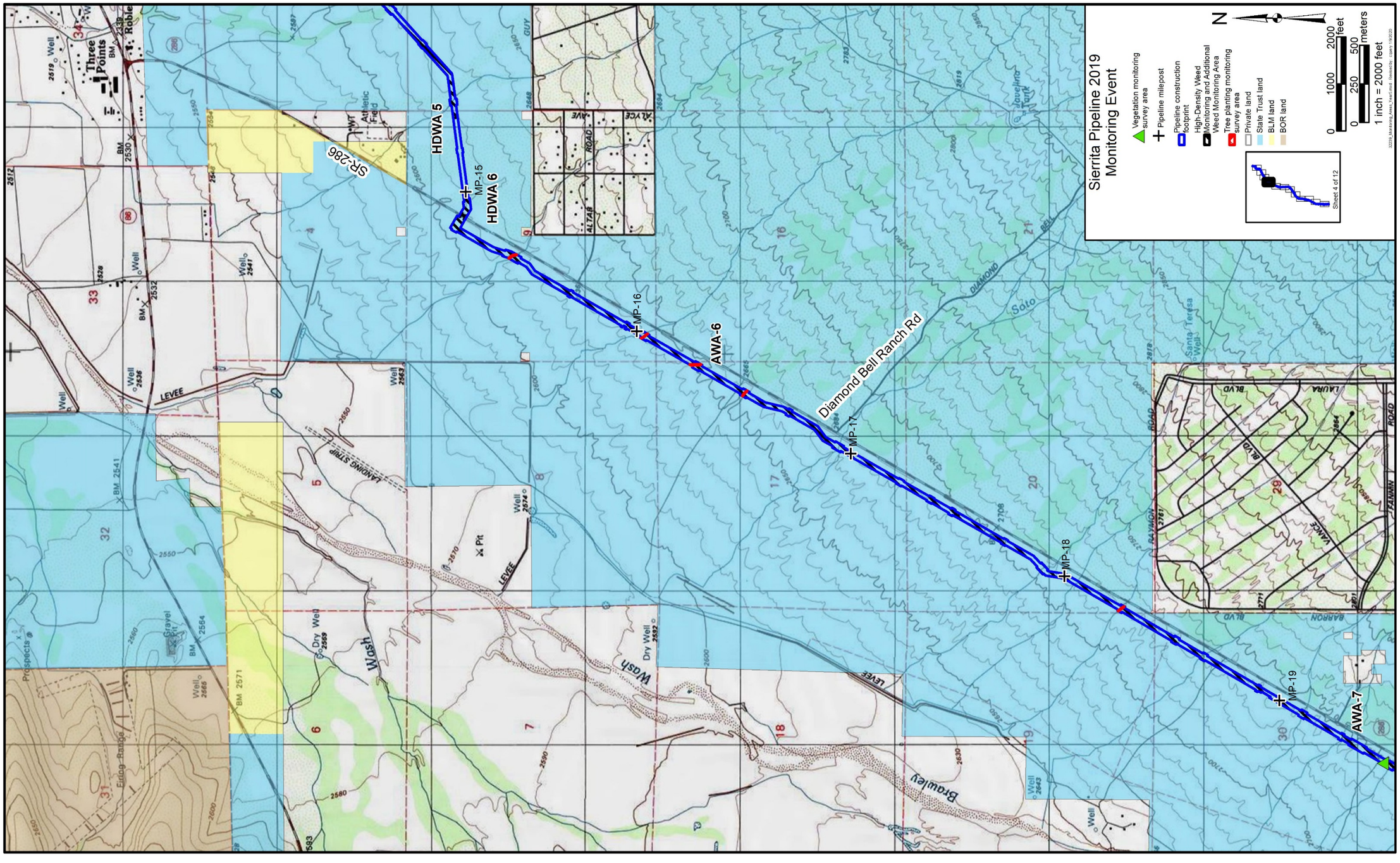



**Figure 2.4. Location of monitoring (study) areas.**

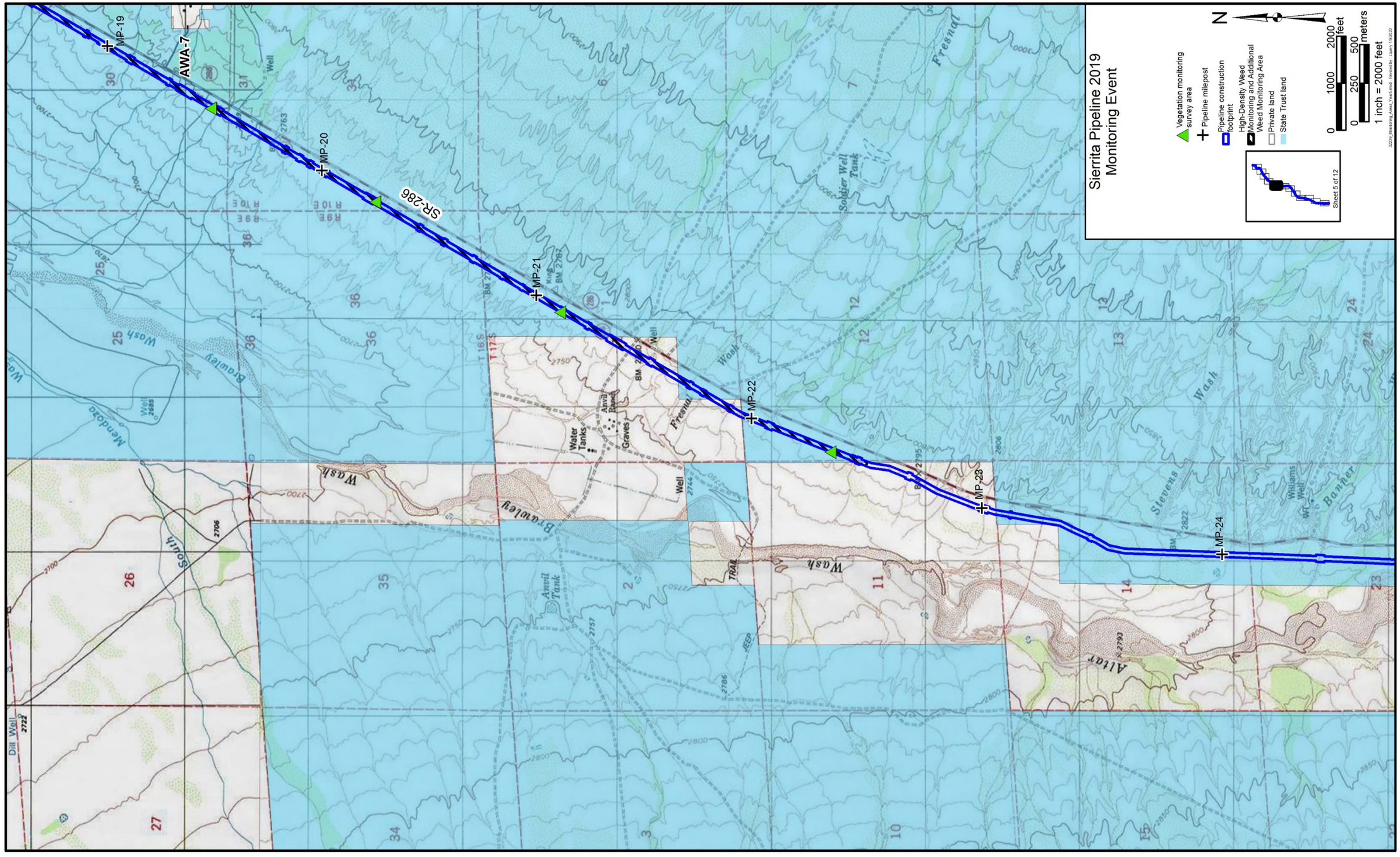



**Figure 2.5. Location of monitoring (study) areas.**

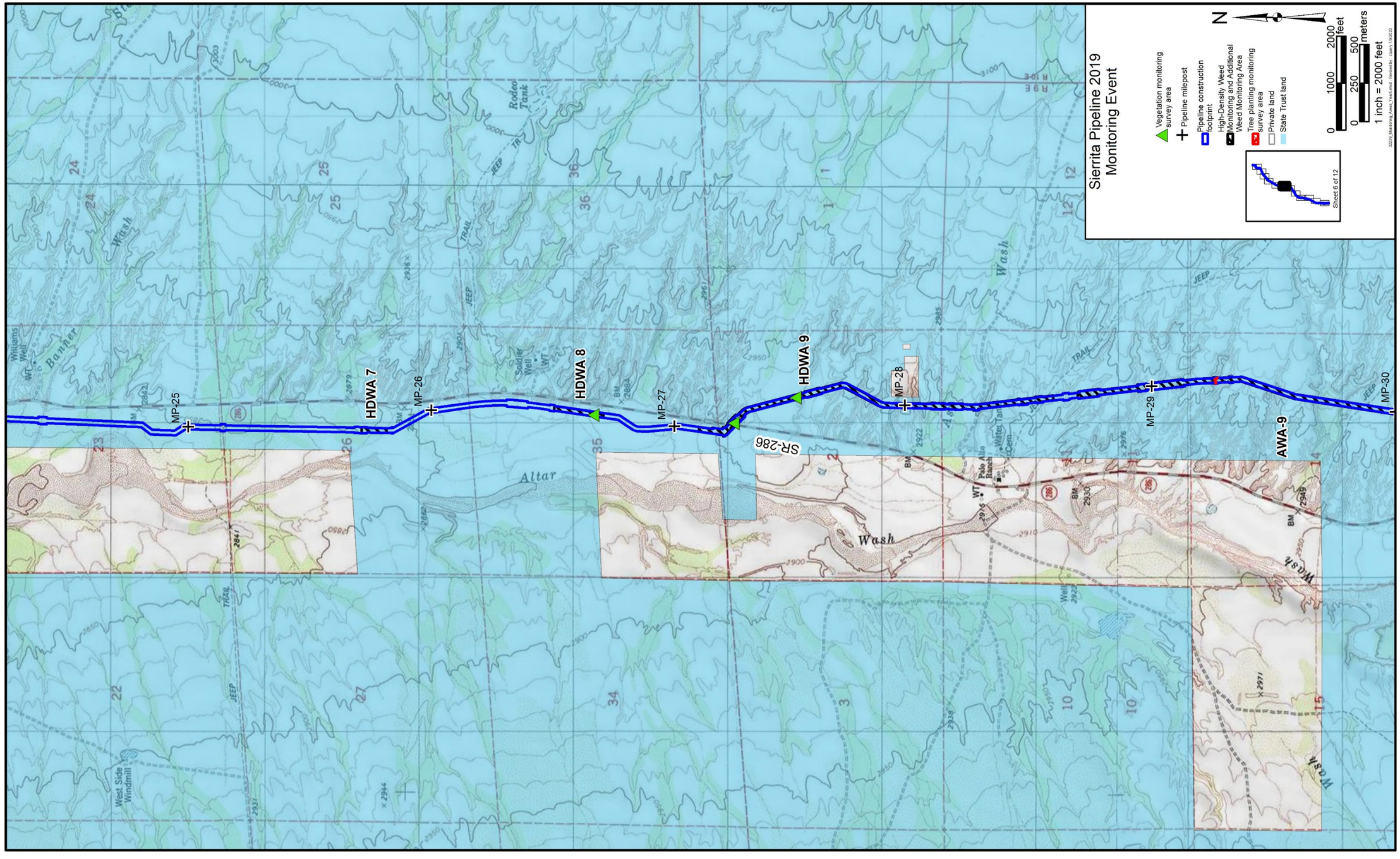



**Figure 2.6. Location of monitoring (study) areas.**

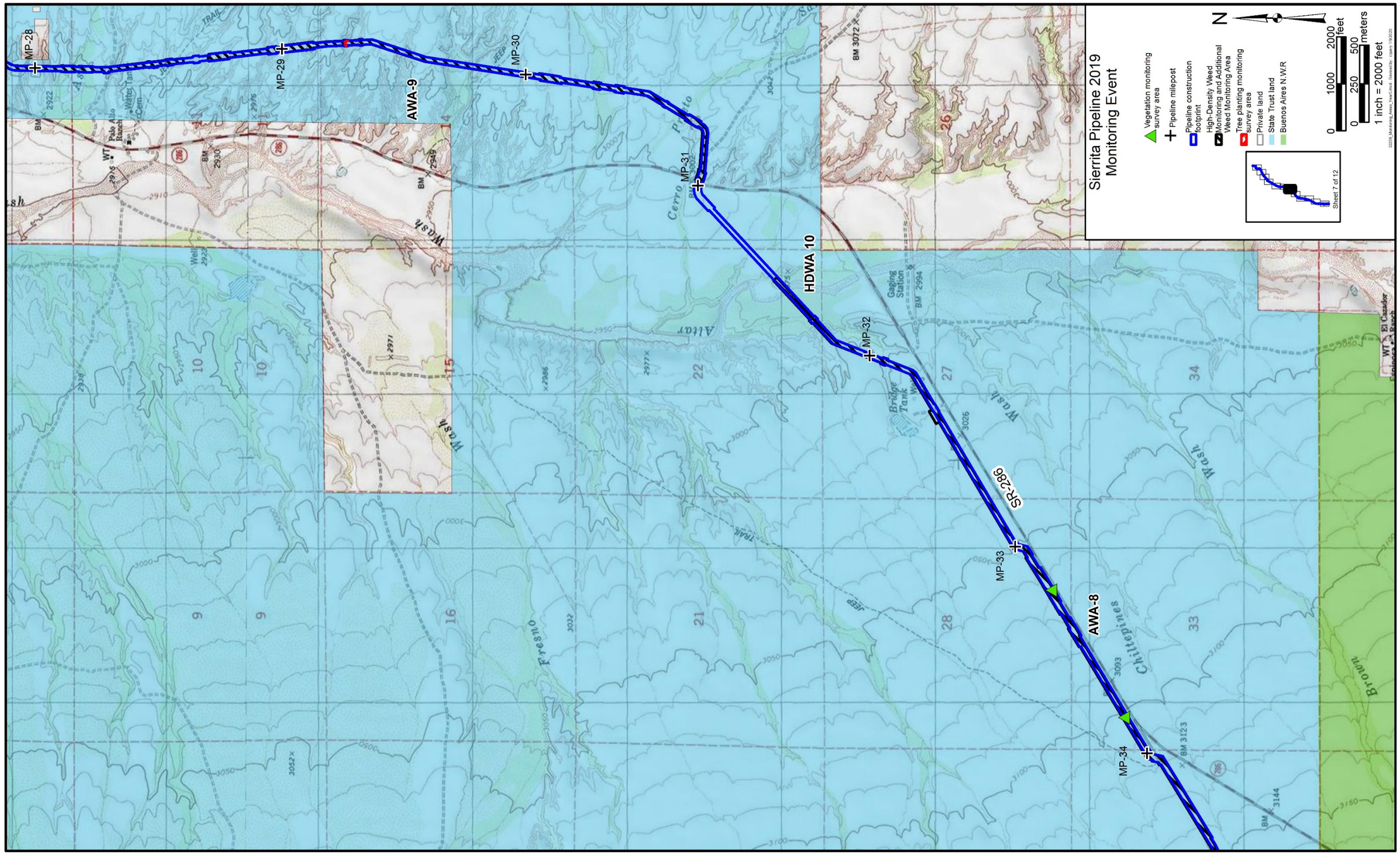



**Figure 2.7. Location of monitoring (study) areas.**

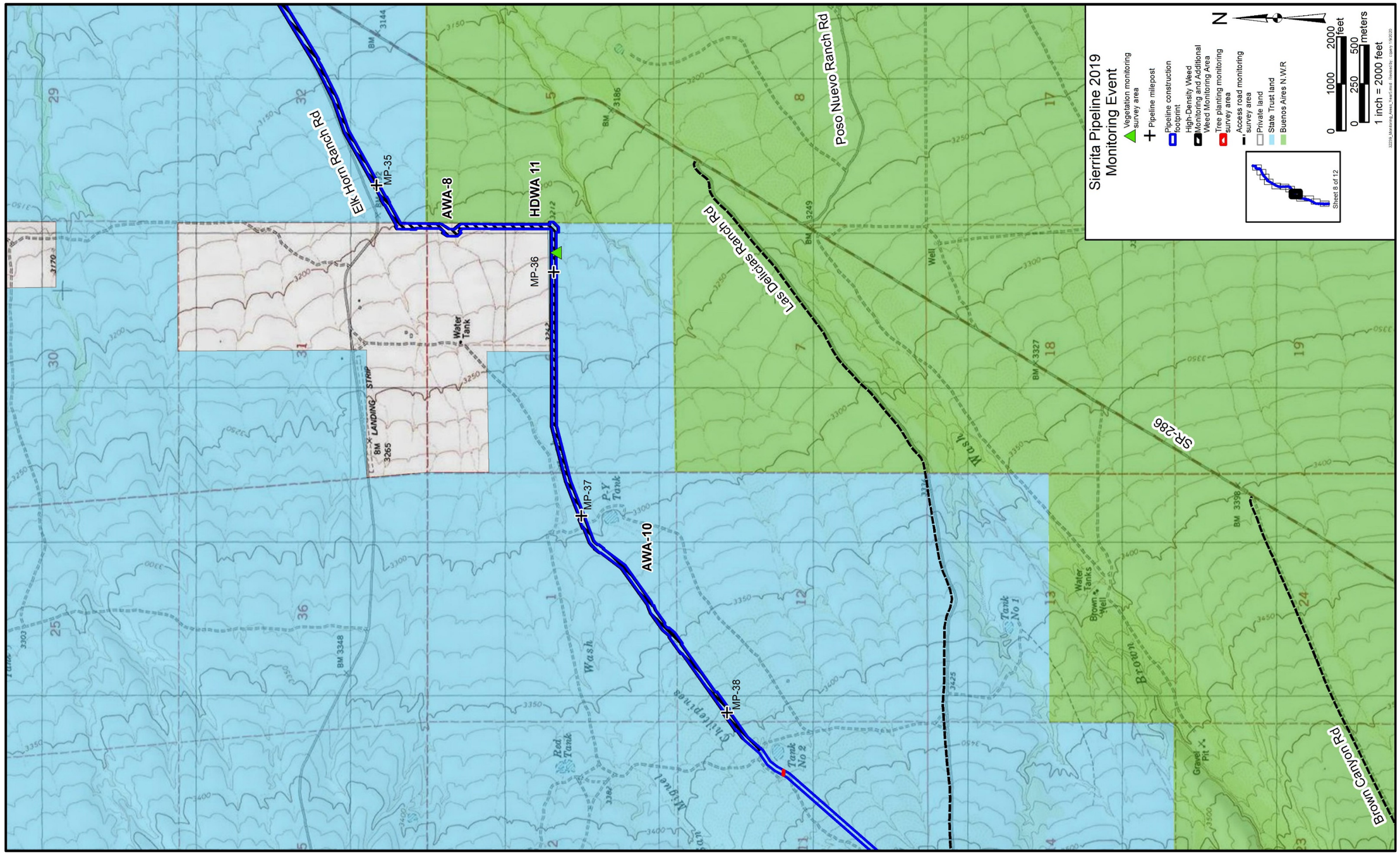



**Figure 2.8. Location of monitoring (study) areas.**

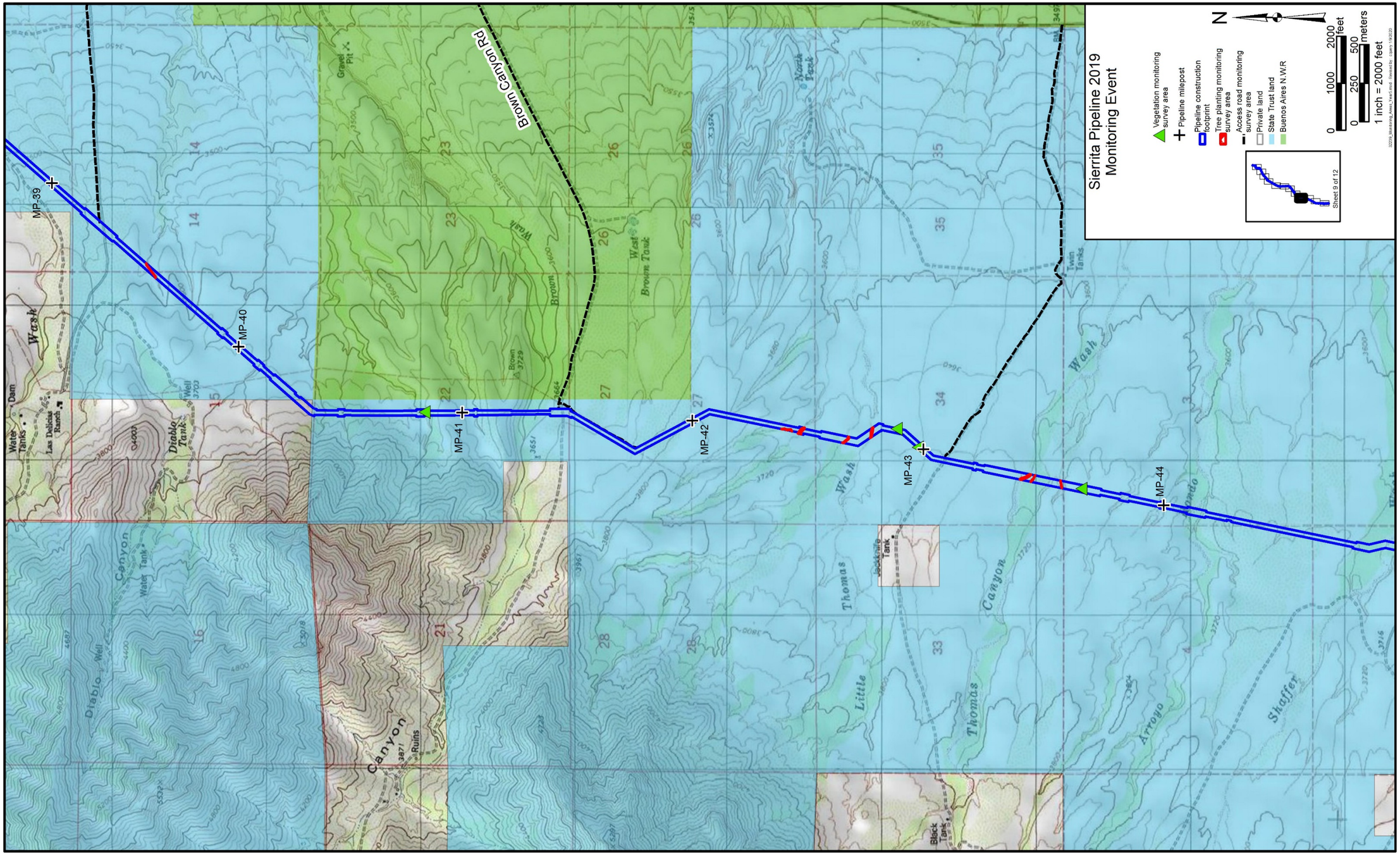



**Figure 2.9. Location of monitoring (study) areas.**

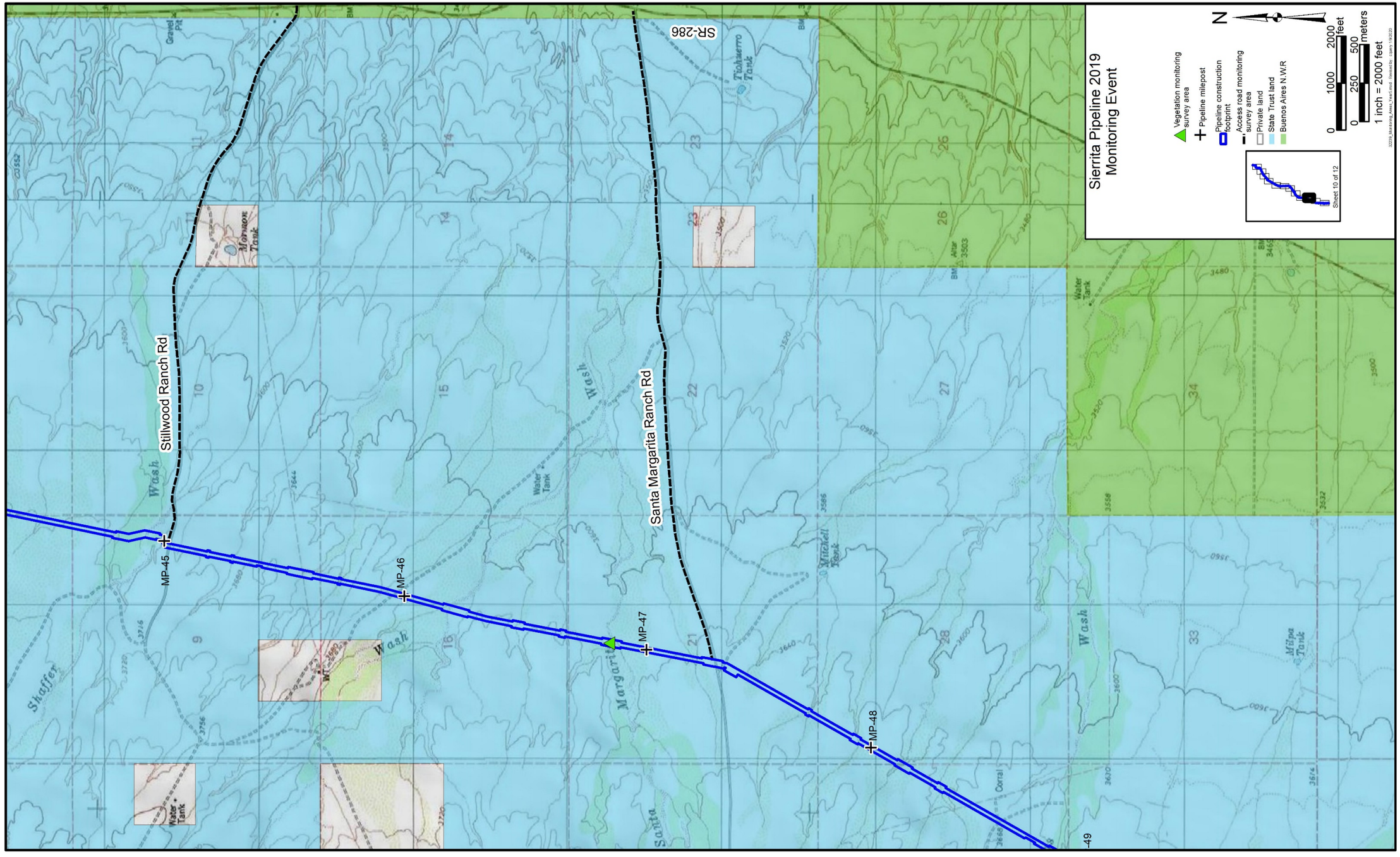



**Figure 2.10. Location of monitoring (study) areas.**

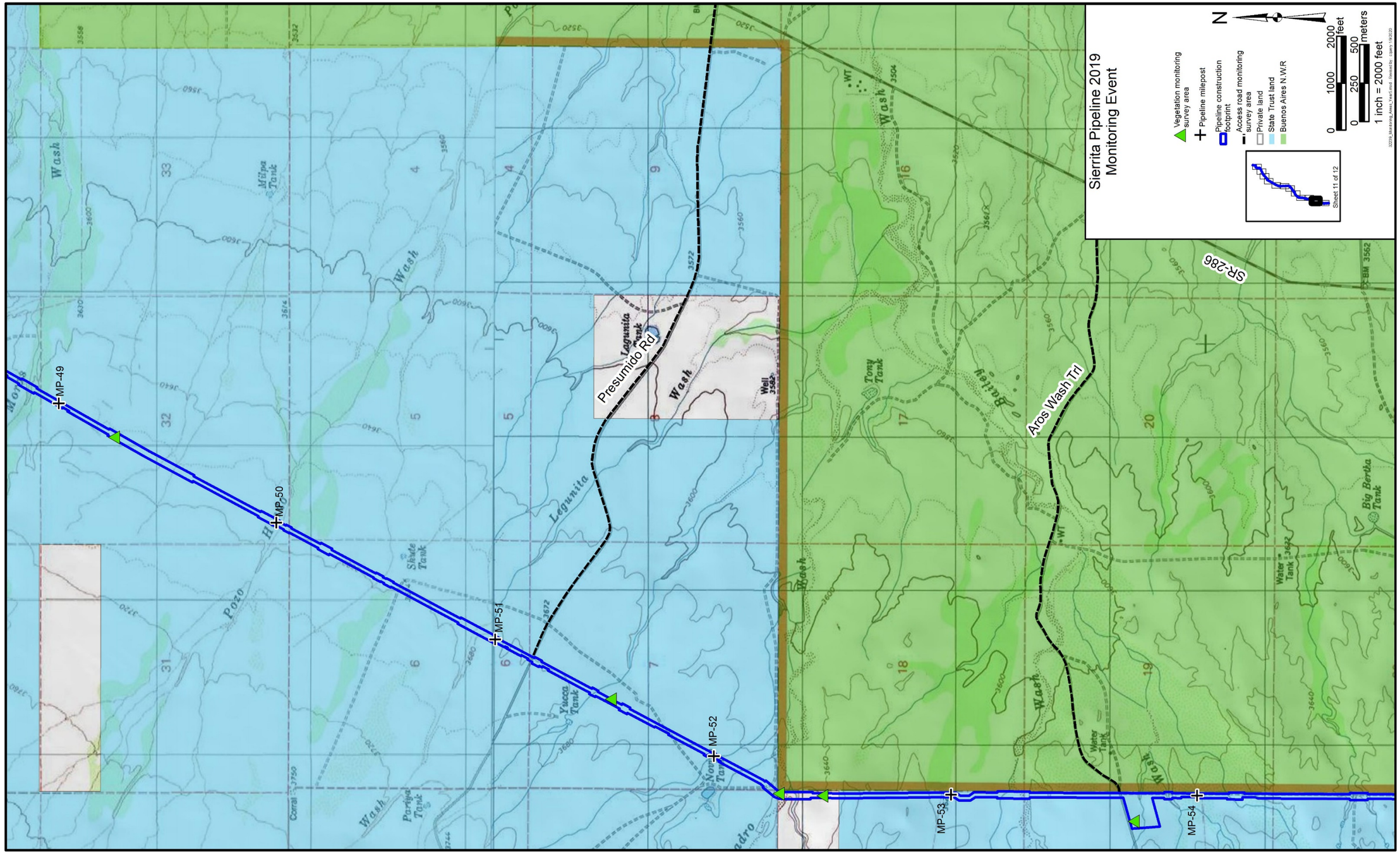



**Figure 2.11. Location of monitoring (study) areas.**

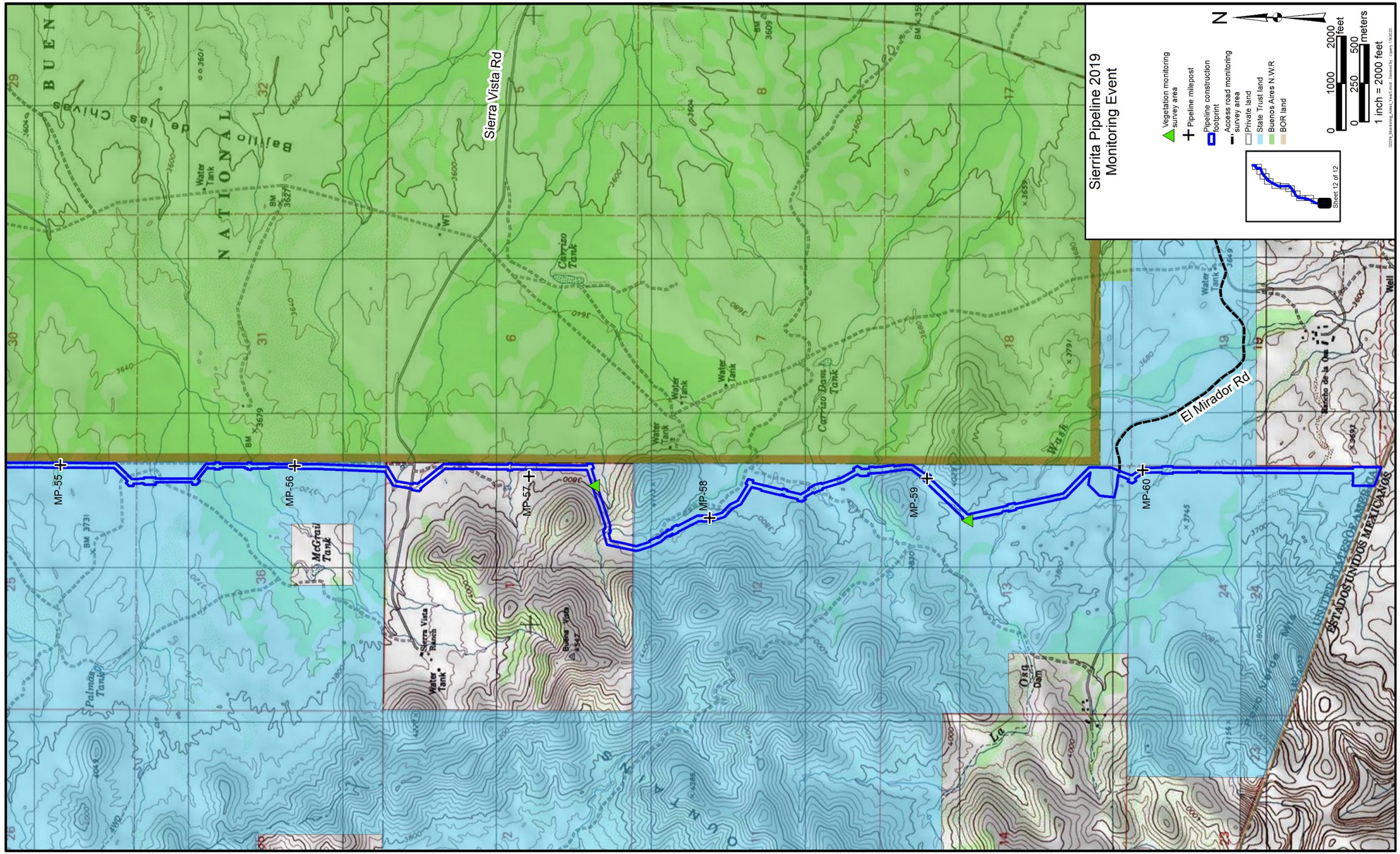



**Figure 2.12. Location of monitoring (study) areas.**

## 2.2 Succulent Monitoring

As specified in the 2014 FEIS Appendix H, Post-Construction Vegetation Monitoring Document, and in the 2014 USFWS Biological Opinion for the project (USFWS 2014), Pima pineapple cacti (*Coryphantha scheeri* var. *robustispina*), saguaro cacti (*Carnegiea gigantea*) that were less than 9 feet in height without arms, Palmer's century plant (*Agave palmeri*), and smallflower century plant (*Agave parviflora*) (also referred to as "agaves") were removed from the ROW prior to construction and placed in a holding nursery site, with the exception of the Pima pineapple cacti, which were transplanted off-ROW immediately after salvage. After construction was completed, the salvaged succulents (i.e., saguaros and agaves) were transplanted back into the ROW and were supplemented with additional plants. Succulent locational information was provided by the contractor for use in relocation of the plants for monitoring. The Pima pineapple cactus is a federally listed endangered plant species. The saguaros and Palmer's century plants are potential foraging plants for the previously federally listed endangered lesser long-nosed bat (*Leptonycteris curasoae yerbabuenae*) (USFWS 2018). This effort of salvage, replanting, and supplemental planting was undertaken to achieve no net loss of saguaro plants and Palmer's agave plants. Because the USFWS recommended "no net loss" of saguaros within the ROW due to construction, and saguaros over 9 feet tall were not transplanted, additional plantings of outside nursery stock were completed to meet the success metric.

## 2.3 Noxious Weed Monitoring

Based on pre-construction surveys and as indicated in the 2014 FEIS Appendix I, Noxious Weed Control Plan, 11 high-density weed monitoring sites were identified within the ROW as needing pre-construction cleaning stations as a mitigation measure, and also for post-construction monitoring for tracking and treating potential future weed infestations. The 11 sites are depicted in Figures 2.1 through 2.12 and summarized in Table 2.

In addition, the Year Five (2019) spring and fall noxious weed monitoring and control event included surveys between the High-Density Weed Areas (HDWAs) from MP 0.0 to MP 38.2, since this portion of the ROW is where the majority of buffelgrass (*Pennisetum ciliare*) was identified during pre-construction surveys and also where a large source population is located outside the ROW, which promotes spread of the species into the ROW. The areas between the HDWAs were

investigated to determine whether the HDWAs were becoming larger or weeds were spreading into the interspatial areas between the HDWAs. The additional survey and control areas were termed Additional Weed Areas (AWAs), and the 13 sites are depicted in Figures 2.1 through 2.12 and summarized in Table 3.

**Table 2. High-Density Weed Monitoring Study Areas**

| HDWA Site ID | Begin MP | End MP | Figure Number(s) | Site Length (feet) | Site Area (acres) |
|---|---|---|---|---|---|
| 1 | 6.3 | 7.5 | 2.1–2.2 | 6,336 | 14.5 |
| 2 | 8.1 | 8.2 | 2.2 | 282 | 0.65 |
| 3 | 8.5 | 9.5 | 2.2 | 5,280 | 12.1 |
| 4 | 10.9 | 12.8 | 2.3 | 10,032 | 23.0 |
| 5 | 14.6 | 14.7 | 2.3–2.4 | 528 | 1.2 |
| 6 | 15.0 | 15.1 | 2.4 | 528 | 1.2 |
| 7 | 25.7 | 25.8 | 2.6 | 528 | 1.2 |
| 8 | 26.5 | 26.7 | 2.6 | 1,056 | 2.4 |
| 9 | 27.1 | 28.6 | 2.6–2.7 | 7,920 | 18.2 |
| 10 | 31.5 | 31.7 | 2.7 | 1,050 | 2.4 |
| 11 | 35.7 | 36.0 | 2.8 | 1,584 | 3.6 |
| | | **Total** | | **35,124** | **80.45** |

**Table 3. Additional Weed Study Areas**

| AWA Site ID | Begin MP | End MP | Figure Number(s) | Site Length (feet) | Site Area (acres) |
|---|---|---|---|---|---|
| 2 | 0.0 | 1.0 | 2.1 | 5,594 | 15.0 |
| 1 | 1.3 | 2.0 | 2.1 | 3,696 | 8.8 |
| 11 | 2.0 | 4.7 | 2.1 | 13,957 | 33.3 |
| 12 | 4.7 | 6.3 | 2.1 | 8,878 | 59.4 |
| 13 | 7.5 | 8.1 | 2.2 | 3,168 | 8.1 |
| 3 | 8.3 | 8.5 | 2.2 | 1,056 | 2.4 |
| 4 | 9.6 | 10.9 | 2.2–2.3 | 6,864 | 16.7 |
| 5 | 12.9 | 14.6 | 2.3 | 8,974 | 20.7 |
| 6 | 15.1 | 17.5 | 2.4 | 12,672 | 31.4 |
| 7 | 17.5 | 22.5 | 2.4–2.5 | 26,398 | 64.4 |
| 9 | 28.7 | 31.0 | 2.6–2.7 | 12,171 | 30.9 |
| 8 | 31.7 | 35.7 | 2.7–2.8 | 21,104 | 53.7 |
| 10 | 36.0 | 38.2 | 2.8 | 11,601 | 28.2 |
| | | **Total** | | **136,133** | **373.0** |

## 2.4 Access Road Monitoring

Construction of the Project required the use of access roads outside the ROW, which were divided into two groups: Group 1 Access Roads, which required remediation after construction, and Group 2 Access Roads, which did not require modification after construction. Thus, only Group 1 Access Roads required monitoring, in accordance with the 2014 FEIS Appendix H, Post- Construction Vegetation Monitoring Document. These eight areas are depicted on Figures 2.1 through 2.12. Table 4 provides the location and length for each of the access road monitoring study areas.

**Table 4. Access Road Monitoring Study Areas**

| Access Road ID | Approximate MP | Length (feet) |
|---|---|---|
| AR-15: Las Delicias Road | 37.4 | 18,020 |
| AR-16: Brown Canyon Road | 39.6 | 15,950 |
| AR-18: Unnamed Road | 41.2 | 10,260 |
| AR-19: Stillwood Ranch Road | 43.2 | 12,150 |
| AR-20: Santa Margarita Road | 45.4 | 14,020 |
| AR-21: Presumido Road | 49.3 | 15,180 |
| AR-22: Aros Wash Road | 51.8 | 13,850 |
| AR-27: La Osa Road / El Mirador Road | 58.0 | 10,640 |

## 2.4 Tree Monitoring

As specified in the December 2014 FEIS *Post-Construction Plan for the Planting of Trees and Long-term Monitoring* document, the banks of 17 wash locations were replanted with 5-gallon-container native tree species, including velvet mesquite (*Prosopis velutina*), desert willow (*Chilopsis linearis*), and whitethorn acacia (*Vachellia constricta*, formerly *Acacia constricta*) (see Figures 2.1–2.12). These wash areas were identified as sensitive areas since they are connected to and within habitat areas for three Endangered Species Act (ESA)-listed species: Chiricahua leopard frog (*Rana chiricahuensis*), the northern Mexican gartersnake (*Thamnophis eques megalops*), and the jaguar (*Panthera onca*). The replantings were done in order to enhance and restore these riparian areas, which have the potential to be important to these sensitive species. Initial tree plantings were completed in June and July 2015. Wash numbers remained consistent with the pre-construction numbering system labeled throughout and adjacent to the ROW. The tree monitoring study area details are provided in Table 5.

**Table 5. Tree Monitoring Study Areas**

| Wash No. | Approximate MP | Figure Number(s) | ROW Width (feet) |
|---|---|---|---|
| Wash 32 | 10.4 | 2.2–2.3 | 130 |
| Wash 53 | 15.3 | 2.4 | 150 |
| Wash 55 | 16.0 | 2.4 | 150 |
| Wash 56 | 16.2 | 2.4 | 150 |
| Wash 57 | 16.4 | 2.4 | 150 |
| Wash 65 | 18.2 | 2.4 | 150 |
| Wash R115 | 29.2 | 2.6–2.7 | 130 |
| Wash 134 | 38.3 | 2.8 | 100 |
| Wash 136 | 39.4 | 2.9 | 100 |
| Wash 142 | 42.4 | 2.9 | 100<br>Does not cross the ROW, but was parallel to the working side |
| Wash 143 | 42.4 | 2.9 | 150 |
| Wash 144 | 42.3 | 2.9 | 150 |
| Wash 145 | 42.5 | 2.9 | 150 |
| Little Thomas Wash | 43.4 | 2.9 | 150 |
| Thomas Canyon | 43.4 | 2.9 | 150 |
| Wash 147 | 43.4 | 2.9 | 150 |
| Wash 149 | 43.5 | 2.9 | 150 |

# 3.0 METHODS

The Sierrita field crew members were familiar with the Project and the natural environment (including the flora and fauna) of the region and have the educational and/or experience levels required for accurate data collection. Table A-1 in Appendix A provides project role, education, and experience details for each Sierrita staff member on the Project. All staff were up to date on their annual safety training (including the annual Kinder Morgan, Inc., safety training), and a project-specific Job Hazard Analysis was completed for the fieldwork, in accordance with Sierrita safety protocols. In addition, a pre-field monitoring protocol training was conducted prior to starting the monitoring. The annual 2019 monitoring event (Year Five) for succulents took place in June 2019, during the monsoon season. The remaining monitoring tasks for the 2019 monitoring (Year Five) occurred from August through November 2019.

The Sierrita field crew generated a comprehensive plant list during pre-construction, construction, and other site visits conducted from 2012 through 2019 (see Appendix B). However, this plant list does not represent an exhaustive plant list for all plants that may occur in the construction footprint.

For example, this list does not include plant species that may occur in different seasons of the year, or that may occur in different successional time frames.

Field equipment used to conduct the monitoring tasks included the following:

- Nikon W300 Waterproof Underwater Digital Camera (hereafter referred to as "digital camera"); this camera has capability to record GPS locational data for each photograph
- White dry-erase boards for recording date, crew, and site location and direction in each photograph
- Trimble GeoExplorer 2008 Series Geo XT
- Garmin Etrex 20; used for general navigation, and as a backup
- Three 50-meter (m) measuring tapes
- Three 30-m measuring tapes
- Line intercept transect pointer, a long pin flag, less than 1 millimeter in diameter
- Rebar and PVC for replacing any permanent photo points or transect beginnings or ends that had gotten lost since 2015
- A 1-meter-square ($m^2$) PVC quadrat
- A 1.5-m PVC pole for standardizing photograph height
- Small measuring tape for measuring saguaro diameter at breast height (dbh) during succulent monitoring
- Clipboards and datasheets
- Shovels and trash bags for noxious weed removal
- Safety equipment (i.e., personal protection equipment)

## 3.1 Vegetation Monitoring

During the Year One (2015) fall monitoring event, the Sierrita field crew established 30 vegetation monitoring plots at randomly selected points and collected the data (see Section 2 and Figures 2.1–2.12). Within each of the 30 plots, six areas in which line intercept transects (three on the ROW

and three controls in undisturbed habitat outside the ROW, i.e., off-ROW control plots) and eighteen 1 × 1–m PVC pipe quadrats (at three randomly generated points on each of the six line intercept transects) were randomly arranged on the plot as described below.

These 30 vegetation monitoring plots were sampled again during the Year Two (2016), Year Three (2017), and Year Four (2018) monitoring events. In 2019, the crew navigated to each established plot using a Garmin GPS unit, where red rebar and an identifying PVC sleeve marked the beginning of each line-intercept transect, and blue rebar and an identifying PVC sleeve marked the end. The 30-m or 50-m tape was laid out along the transect between the rebar. Random numbers were used for the placement of the 18 quadrats along the meter tape (Stat Trek 2019). A digital camera was used to document vegetation on the line transects and within quadrats. A photograph was taken from the starting point of each plot. Photographs along line transects were taken from each of the permanent rebar markers, and a photograph was taken of each of the quadrats. Photographs were taken at a standard height of 1.5 m, and a white board with all pertinent information was included in each image.

In accordance with the Guidance Documents, data recording for each transect followed methods as described in Elzinga et al. (1998) and Herrick et al. (2005a, 2005b). This included assigning scores of plant basal and foliar canopy covers, litter cover, and bare ground. The number of each plant species occurring within the quadrats was recorded. Grazing, off-highway vehicle (OHV), and pedestrian traffic class indices were also recorded within each quadrat. All data were recorded on project-specific field forms and then entered into a digital database. For both on-ROW and off-ROW quadrats, an Index Class was assigned for livestock grazing, OHV, and pedestrian use. The cover class scale corresponds to the following:

- Index Class 1: No apparent grazing, fecal droppings, or hoofprints; no OHV tire marks; no evidence of pedestrian traffic in the plot.
- Index Class 2: <25% plants grazed, fecal droppings, or hoofprints; <25% OHV tire marks; <25% evidence of pedestrian traffic in the plot.
- Index Class 3: 25%–50% plants grazed, fecal droppings, or hoofprints; 25%–50% OHV tire marks; 25%–50% evidence of pedestrian traffic in the plot.

- Index Class 4: 50%–75% plants grazed, fecal droppings, or hoofprints; 50%–75% OHV tire marks; 50%–75% evidence of pedestrian traffic in the plot.
- Index Class 5: >75% plants grazed, fecal droppings, or hoofprints; >75% OHV tire marks; >75% evidence of pedestrian traffic in the plot.

### 3.1.1 Statistical Analysis and Other Calculation Methods

#### 3.1.1.1 DATA COMPILATION FOR STATISTICAL ANALYSES

Line-point intercept data from monitoring plots were used to calculate percent cover by three cover classes: 1) basal, 2) foliar, and 3) bare ground. For each control and within-ROW plot (composed of three line transects), the total number of "point hits" for each cover class was summed and divided by the total number of points collected within the plot. The cover data were compiled according to the three plot landscape categories (i.e., Riparian, Arizona Upland-Sonoran Desertscrub, and Semidesert Grassland).

#### 3.1.1.2 T-TESTS

A series of parametric and non-parametric t-tests were completed to determine whether statistical differences in 1) basal, 2) foliar, and 3) bare ground cover could be detected using the line-point intercept transect data collected during the 2018 vegetation monitoring. Compiled plot data (see Section 3.1.1.1) were divided according to the three landscape categories for all analyses. Plots could, in some cases, be classified into two categories (e.g., Semidesert Grassland and Riparian). Independent sample t-tests (parametric) and Wilcoxon Signed Ranks Test (non- parametric) were used to detect differences in mean and median cover between control plots and ROW plots. For these independent tests, plot data from a landscape category were pooled for comparison.

In contrast, paired tests, which included paired-samples t-tests (parametric) and Wilcoxon Signed Rank tests (non-parametric), analyzed data on a plot-by-plot basis, wherein the cover from a ROW plot was compared with the cover in its corresponding control plot. Results of paired tests are reported according to vegetation category. All results are reported at the 80% confidence level (Sig = 0.20), in accordance with the Guidance Documents.

#### *3.1.1.3 OTHER CALCULATIONS*

In accordance with the Guidance Documents, additional calculations on the vegetation monitoring data were required starting in Year Two (2016). These calculations were completed using data for desirable species only, which are defined as any plant species that is not an Arizona Department of Agriculture (ADA)-listed noxious weed. Species composition, frequency, and density were calculated using the quadrat vegetation monitoring data, and dominance was calculated using the line-intercept foliar cover data. For all calculations, individual control or ROW plots were treated as samples (i.e., all quadrats and/or line-point intercept transects were pooled within the plot). The quadrat and line-point intercept data were sorted in a spreadsheet using Microsoft Excel, and these calculations were conducted using general mathematical functions in Excel and in IBM SPSS Statistics 19, as follows:

- **Species Composition** was calculated (from quadrat data) as the mean number of species observed within each control and ROW plot. Numbers of species per plot were calculated for all plots combined and for the three plot landscape categories.
- **Frequency** was calculated for control and ROW plots, respectively, by summing the number of plots in which a desirable species was encountered (during quadrat surveys) and dividing that value by the total number of plots in a group (30 plots). Frequency values are expressed as the number of plots in which a desirable occurs and were calculated separately for all control plots combined and all ROW plots combined.
- **Density** was calculated as the mean number of desirable species individuals that were observed per square meter within ROW and control quadrats. Mean values were calculated for all plots combined and for the three plot landscape categories.
- **Dominance** was calculated as the mean percent foliar of desirable species (from line-point intercept data) for the control and ROW plots. Dominance values are expressed as percentages and were calculated for all plots combined and for the three plot landscape categories.

## 3.2 Succulent Monitoring

Succulent monitoring for Pima pineapple cacti, saguaro cacti, and both agave species were conducted throughout the ROW for the monitoring event. Sierrita field crews revisited known

succulent locations for plants observed during the previous year's monitoring efforts in order to locate all transplanted succulents, both from on-site salvage prior to construction and supplemental off-site nursery stock. The following data were recorded for each transplanted plant: location using Universal Transverse Mercator (UTM) coordinates, species, tag number, and relative health (good, fair, poor, or dead). Since both agave species occur in clusters in the ROW, the following data were recorded for each cluster: locational UTM coordinates of the group, number of plants, and relative health of each plant (good, fair, poor, or dead). Additionally, height in feet and diameter in inches (measured at breast height) were recorded for each saguaro. A relative health comparison with plants occurring off the ROW was also made for each saguaro. Data recorded specific to Pima pineapple cacti included number of pups and stems and whether or not buds or fruit set were present. A photograph of each individual or agave cluster was taken using a digital camera, and any general notes were also recorded. All data were recorded into project-specific field forms and then entered into a digital database.

## 3.3 Noxious Weed Monitoring

The noxious weed monitoring data collection methods followed those provided in the aforementioned Guidance Documents and included the following protocol:

- In spring 2019, survey and control efforts were performed in each of the 11 HDWA monitoring sites, the 13 AWA monitoring sites, and much of the pipeline south of MP 38.2 during the period from March 18, 2019, through March 28, 2019 (see Figures 2.1–2.12).
- In fall 2019, survey and control efforts were performed in each of the 11 HDWA monitoring sites, the 13 AWA monitoring sites, and much of the pipeline south of MP 38.2 during the period from September 30, 2019, through November 19, 2019 (see Figures 2.1–2.12).
- At each site (i.e., HDWA or AWA), the field crew surveyed for the presence of ADA-listed noxious weeds and other non-native, highly invasive weeds.
- Buffelgrass, an ADA-listed noxious weed species, was identified and controlled immediately within the HDWAs and AWAs in fall 2019 (Year Five). The number of plants removed was noted and UTM coordinates were recorded.

- Morning-glory (*Ipomoea* sp.) infestations were identified and mapped, but were not removed during the spring 2019 monitoring event (Year Five). This course of action was chosen based on several factors. At the 2016 annual stakeholder meeting, buffelgrass was identified as the predominant noxious weed to control, and participants were not as concerned with morning-glory removal as with buffelgrass. In addition, morning-glory infestations occur in a limited area both on- and off-ROW, and morning-glory has not been found in locations on-ROW that are not adjacent to a source off-ROW. Manual control by the Sierrita field crew during the 2016 fall monitoring event (Year Two) was not effective with respect to this species.
- A visual assessment was used to determine relative cover of weeds within the occurrence area using the Daubenmire cover class scale with six classifications (Elzinga et al. 1998). A scale of 1 to 6 was assigned to define the relative cover by weed species in the occurrence area, as detailed in Table 6:

**Table 6. Cover Class Scale**

| Plant Cover Class | Range of Plant Cover (%) |
|---|---|
| 6 | 96–100 |
| 5 | 76–95 |
| 4 | 51–75 |
| 3 | 26–50 |
| 2 | 6–25 |
| 1 | 0–5 |

- In addition, the adjacent undisturbed portion (i.e., control area) of the original 300-foot study corridor (i.e., off-ROW) was also given a visual assessment and assigned a Daubenmire cover class value for comparison with the weed occurrence area.
- OHV, livestock grazing, and pedestrian class indices were recorded at each weed infestation within the HDWAs and AWAs.
- Photographs and GPS photo point locations were also recorded for all occurrences and comparison areas.

In addition to the noxious weed monitoring, the field crew documented all plant species observed during the spring and fall monitoring and control sessions. Appendix C contains the Year Five (2019) Spring Noxious Weed Monitoring and Control Event Report.

## 3.4 Access Road Monitoring

According to the Guidance Documents, access road monitoring is required for Year Five (2019). The Sierrita field crew completed visual assessments and photographic documentation on October 7 and 8, 2019, for each of the eight access road monitoring sites. These eight access road monitoring sites are depicted on Figures 2.1 through 2.12. Photographs and associated UTM locations and directions were taken to document existing conditions, including erosion issues or erosional control issues. For each access road, an overall assessment of the condition was determined and noted. Areas were recorded where erosion issues were observed, and the UTM locations documented. All data were recorded on project-specific field forms and then entered electronically into a digital database.

## 3.5 Tree Monitoring

To collect the data for the tree monitoring, the Sierrita field crew visited each of the 17 monitoring locations, as discussed in Section 2.1 and following the Guidance Documents for data collection. For each of the 17 locations (see Figures 2.1–2.12), the number of trees alive or dead by species was recorded, as well as the average height of each species in feet. In addition, an overall condition assessment and associated rating (following the methods described in Section 3.1) was conducted for each location, including OHV, livestock grazing, pedestrian traffic, evidence of flooding, erosion, trees missing as a result of flooding or erosion, small-mammal damage, and general observations. A permanent photo point was established in 2015 near each monitoring location using rebar and a labeled PVC sleeve; these were located in 2019 using a GPS unit. Photographs were taken using a digital camera at a standard height of 1.5 m in the upstream, downstream, and across-the-channel direction at each of the 17 monitoring locations to document the current conditions. Additional photographs were taken as needed to ensure that all trees within the transplant area were documented. The photographs contained a whiteboard with the date and wash identification. UTM coordinates were recorded for all photographs. All data were recorded on project-specific field forms and then entered into a digital database.

# 4.0 RESULTS

## 4.1 Vegetation Monitoring

The Year Five (2019) vegetation monitoring raw data results are included in Appendix D for the line-intercept transects and in Appendix E for the quadrats. Photographs taken for each of the plots, including the 30 ROW and 30 controls, which included three line-intercept transects and nine quadrats, are located in Appendix F and Appendix G, respectively. Additionally, comparative photographs from 2018–2019 of the overall vegetation monitoring study area are included in Appendix H. Table 7a–7c shows the means and standard deviations for the combined transects of each landscape category (i.e., Riparian, Arizona Upland-Sonoran Desertscrub, and Semidesert Grassland) and shows the mean and standard deviation calculations for percent bare ground, percent foliar cover, and percent basal cover for 2018–2019.

**Table 7a. Vegetation Plot Data, Percent Bare Ground**

| Plot Landscape Category | 2018 | | | | 2019 | | | |
|---|---|---|---|---|---|---|---|---|
| | Control Plots (Outside ROW) | | ROW Plots (Within ROW) | | Control Plots (Outside ROW) | | ROW Plots (Within ROW) | |
| | Mean (x) | Standard Deviation | Mean (X) | Standard Deviation | Mean (X) | Standard Deviation | Mean (X) | Standard Deviation |
| Riparian | 24.86 | 21.46 | 22.71 | 15.88 | 26.30 | 24.20 | 20.30 | 14.30 |
| Arizona Upland-Sonoran Desertscrub | 39.67 | 21.78 | 27.80 | 20.59 | 42.10 | 19.00 | 29.40 | 16.10 |
| Semidesert Grassland | 22.73 | 18.32 | 15.80 | 14.43 | 24.50 | 18.70 | 16.70 | 12.50 |

**Table 7b. Vegetation Plot Data, Percent Foliar Cover**

| Plot Landscape Category | 2018 | | | | 2019 | | | |
|---|---|---|---|---|---|---|---|---|
| | Control Plots (Outside ROW) | | ROW Plots (Within ROW) | | Control Plots (Outside ROW) | | ROW Plots (Within ROW) | |
| | Mean (x) | Standard Deviation | Mean (X) | Standard Deviation | Mean (X) | Standard Deviation | Mean (X) | Standard Deviation |
| Riparian | 60.00 | 19.18 | 67.86 | 16.93 | 47.60 | 19.20 | 50.40 | 22.60 |
| Arizona Upland-Sonoran Desertscrub | 47.60 | 21.56 | 65.13 | 22.79 | 36.00 | 19.30 | 40.90 | 24.30 |
| Semidesert Grassland | 67.87 | 15.04 | 74.53 | 14.53 | 52.10 | 23.50 | 56.70 | 23.20 |

**Table 7c. Vegetation Plot Data, Percent Basal Cover**

| Plot Landscape Category | 2018 | | | | 2019 | | | |
|---|---|---|---|---|---|---|---|---|
| | Control Plots (Outside ROW) | | ROW Plots (Within ROW) | | Control Plots (Outside ROW) | | ROW Plots (Within ROW) | |
| | Mean (x) | Standard Deviation | Mean (X) | Standard Deviation | Mean (X) | Standard Deviation | Mean (X) | Standard Deviation |
| Riparian | 0.14 | 0.38 | 0.29 | 0.49 | 0.14 | 0.38 | 0.43 | 0.79 |
| Arizona Upland-Sonoran Desertscrub | 0.27 | 0.46 | 0.27 | 0.46 | 0.07 | 0.26 | 0.87 | 2.83 |
| Semidesert Grassland | 0.07 | 0.26 | 0.27 | 0.46 | 2.53 | 8.45 | 0.80 | 0.86 |

## *4.1.1 Statistics*

### *4.1.1.1 T-TESTS*

Results of parametric and non-parametric statistical tests (Table 8) indicate that all three categories in Arizona Upland-Sonoran Desertscrub—percent foliar cover, and percent bare ground, and percent basal cover[2]—and one category in Semidesert Grassland—percent bare ground[3]—showed statistically significant differences between control and ROW plots, when significance criteria are set at the 80% confidence level (Sig = 0.20). For the Arizona Upland-Sonoran Desertscrub category, the statistical tests indicated that percent foliar and percent basal cover was significantly greater within ROW plots than control plots (see Table 7b), while percent bare ground was significantly greater in control plots than ROW plots (see Table 7a). For the Semidesert Grassland category, the statistical tests indicated that the percent bare ground was significantly less in the ROW plots than the control plots (see Table 7a). Significance values for all other cover and landscape categories are above 0.20. Thus, for these classes there is no significant difference in soil or vegetation cover between the control and ROW plots. These results are similar to the Year Four (2018) report.

Results from independent samples t-tests are shown in Appendix I. While both paired t-tests and independent t-tests are run, the results from the paired t-tests are more appropriate and used for

[2] The percent foliar and the percent basal cover categories were reported as being statistically significant for the Arizona Upland-Sonoran Desertscrub category when using the non-parametric paired samples test but were not statistically significant for the parametric samples t-test. Given the type of data (count data), the non-parametric paired samples test is considered more accurate. Parametric data require a normal distribution (i.e., a bell-shaped curve) and count data usually do not fit this distribution.

[3] The percent foliar cover category was reported as being statistically significant for the Semidesert Grassland category when using the parametric paired samples t-test but is not considered statistically significant when using the non-parametric paired samples test. Given the type of data (count data), the non-parametric paired samples test is considered more accurate. Parametric data require a normal distribution (i.e., a bell-shaped curve) and count data usually do not fit this distribution.

this project because the study design uses paired samples to account for spatial correlation. Study plots located closer together are more likely to be similar to one another than those farther apart. The results from the paired tests are able to better account for the similarities between vegetation communities located next to each other and more accurately test the differences between the control and ROW plots (Crawley 2007).

**Table 8. Results of Paired t-tests**

| Plot Landscape Category | | 2018 | | 2019 | |
|---|---|---|---|---|---|
| | | Parametric Paired Samples t-test (Sig.) | Non-Parametric† Paired Samples test (Sig.) | Parametric Paired Samples t-test (Sig.) | Non-parametric† Paired Samples test (Sig.) |
| Riparian | % Bare | 0.732 | 0.933 | 0.418 | 0.813 |
| | % Basal | 0.604 | 0.564 | 0.356 | 0.317 |
| | % Foliar | 0.338 | 0.345 | 0.677 | 0.813 |
| Arizona Upland-Sonoran Desertscrub | % Bare | 0.026* | 0.020* | 0.003* | 0.005* |
| | % Basal | 1.0 | 1.0 | 0.293 | 0.180* |
| | % Foliar | 0.004* | 0.005* | 0.250 | 0.182* |
| Semidesert Grassland | % Bare | 0.054* | 0.054* | 0.038* | 0.041* |
| | % Basal | 0.189* | 0.189* | 0.453 | 0.431 |
| | % Foliar | 0.083* | 0.073* | 0.203* | 0.222 |

* Statistically significant at the 0.20 level (80% confidence level).

† Wilcoxon Signed Ranks Test

#### *4.1.1.2 OTHER CALCULATIONS*

According to the Guidance Documents, four calculations of metrics are required starting in Year Two (2016), including species composition, frequency, density, and dominance. Tables 9 through 11 present the results of three of the calculations of metrics for 2018–2019, and the frequency calculations are included in Appendix J for 2019.

**Table 9. Results of Species Composition Mean Calculations**

| Plot Combination | 2018 | | 2019 | |
|---|---|---|---|---|
| | Off-ROW (Control) Mean Species Composition (No. of Species) | ROW Mean Species Composition (No. of Species) | Off-ROW (Control) Mean Species Composition (No. of Species) | ROW Mean Species Composition (No. of Species) |
| All plots | 11.13 | 11.90 | 9.77 | 11.10 |
| Arizona Upland-Sonoran Desertscrub | 8.07 | 8.87 | 7.27 | 8.67 |
| Semidesert Grassland | 14.20 | 14.93 | 12.30 | 13.50 |
| Riparian | 11.57 | 11.00 | 11.90 | 12.30 |

**Table 10. Results of Density Mean Calculations**

| Plot Combination | 2018 | | 2019 | |
|---|---|---|---|---|
| | Off-ROW (Control) Mean Density (No. of Plants / $m^2$) | ROW Mean Density (No. of Plants / $m^2$) | Off-ROW (Control) Mean Density (No. of Plants / $m^2$) | ROW Mean Density (No. of Plants / $m^2$) |
| All plots | 24.49 | 40.48 | 57.30 | 122.00 |
| Arizona Upland-Sonoran Desertscrub | 21.88 | 39.59 | 64.60 | 184.00 |
| Semidesert Grassland | 26.55 | 41.35 | 51.20 | 62.70 |
| Riparian | 24.65 | 34.97 | 44.50 | 103.00 |

**Table 11. Results of Dominance Mean Calculations**

| Plot Combination | 2018 | | 2019 | |
|---|---|---|---|---|
| | Off-ROW (Control) Dominance (% Desirables Cover) | ROW Dominance (% Desirables Cover) | Off-ROW (Control) Dominance (% Desirables Cover) | ROW Dominance (% Desirables Cover) |
| All plots | 57.73% | 69.83% | 44.10% | 48.80% |
| Arizona Upland-Sonoran Desertscrub | 47.60% | 65.13% | 36.00% | 40.90% |
| Semidesert Grassland | 67.87% | 74.53% | 52.10% | 56.70% |
| Riparian | 60.00% | 67.86% | 47.60% | 50.40% |

### *4.1.2 Off-Highway Vehicle and Grazing Impacts*

As outlined in the Guidance Documents, corrective action for ROW plots (quadrats) may be considered when grazing and/or OHV impacts[4] are Class 5 on the Index Class scale (see Section 3.1 for cover class information). In Year Five (2019), three ROW quadrats scored Index Class 5 for OHV travel in one vegetation plot. Eight ROW quadrats in 2018 (Year Four) scored an Index Class of 5 for OHV travel across five vegetation plots. In Year Five (2019), only 1% (3 of 270) of on-ROW quadrats scored Index Class 5 of OHV travel, while the remaining 99% on-ROW quadrats scored Index Classes 1–4 across all landscape categories (Table 12).

In Year Five (2019), none of the ROW quadrats scored Index Class 5 for livestock grazing. All on-ROW quadrats scored Index Classes 1–4 across all landscape categories (Table 13). In 2018 (Year Four), four ROW quadrats in one vegetation monitoring plot had a livestock grazing Index Class 5.

[4] Pedestrian travel is not included in the Guidance Documents as being considered for corrective actions.

**Table 12. Number of ROW Quadrats in OHV Index Classes by Landscape Category**

| OHV Index Class | Riparian—Arizona Upland Subdivision-Sonoran Desertscrub | Riparian—Semidesert Grassland | Upland—Arizona Upland Subdivision-Sonoran Desertscrub | Upland—Semidesert Grassland | Total |
|---|---|---|---|---|---|
| 1 | 29 | 25 | 98 | 108 | **260** |
| 2 | 0 | 1 | 0 | 0 | **1** |
| 3 | 1 | 1 | 1 | 0 | **3** |
| 4 | 3 | 0 | 0 | 0 | **3** |
| 5 | 3 | 0 | 0 | 0 | **3** |
| **Total** | **36** | **27** | **99** | **108** | **270** |

**Table 13. Number of ROW Quadrats in Livestock Grazing Index Classes by Landscape Category**

| Livestock Grazing Index Class | Riparian—Arizona Upland Subdivision-Sonoran Desertscrub | Riparian—Semidesert Grassland | Upland—Arizona Upland Subdivision-Sonoran Desertscrub | Upland—Semidesert Grassland | Total |
|---|---|---|---|---|---|
| 1 | 36 | 12 | 88 | 83 | **219** |
| 2 | 0 | 12 | 8 | 18 | **38** |
| 3 | 0 | 3 | 2 | 3 | **8** |
| 4 | 0 | 0 | 1 | 4 | **5** |
| 5 | 0 | 0 | 0 | 0 | **0** |
| **Total** | **36** | **27** | **99** | **108** | **270** |

## 4.2 Succulent Monitoring

The Year Five (2019) succulent monitoring—including Pima pineapple cacti, saguaro cacti, and both agave species—data results and comparative photographs from 2018–2019 are included in Appendices K, L, M, and N. As shown in Table 14 and Figures 3 and 4, 47% of the Pima pineapple cacti have survived since transplanting, with 88% in good condition in 2019, which is less than the 52% of the Pima pineapple cacti that were found alive in 2018, with 89% in good condition in 2018. For the 2019 succulent monitoring, any succulent monitoring species not found was assumed to be dead.

**Table 14. Pima Pineapple Cactus Monitoring Results Summary**

| Transplant Category | Survey Year | No. Transplanted | No. Alive | No. Dead* | Percent Lost | Condition of Alive | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Good | Fair | Poor |
| Total | 2018 | 88 | 46 | 42 | 48 | 41 | 3 | 2 |
| | 2019 | 88 | 41 | 47 | 53 | 36 | 4 | 1 |
| Transplanted once | 2018 | 71 | 37 | 34 | 48 | 33 | 2 | 2 |
| | 2019 | 71 | 34 | 37 | 52 | 29 | 4 | 1 |
| Transplanted twice | 2018 | 17 | 9 | 8 | 47 | 8 | 1 | 0 |
| | 2019 | 17 | 7 | 10 | 59 | 7 | 0 | 0 |
| Water added | 2018 | 42 | 21 | 21 | 50 | 17 | 3 | 1 |
| | 2019 | 42 | 19 | 23 | 55 | 17 | 1 | 1 |
| No water added | 2018 | 46 | 25 | 21 | 46 | 24 | 0 | 1 |
| | 2019 | 46 | 22 | 24 | 52 | 19 | 3 | 0 |
| Soil added | 2018 | 44 | 24 | 20 | 45 | 22 | 1 | 1 |
| | 2019 | 44 | 21 | 23 | 52 | 20 | 1 | 0 |
| No soil added | 2018 | 44 | 22 | 22 | 50 | 19 | 2 | 1 |
| | 2019 | 44 | 20 | 24 | 55 | 16 | 3 | 1 |

* Because plant locations are known, any plant not found in 2017, 2018, or 2019 was presumed dead.

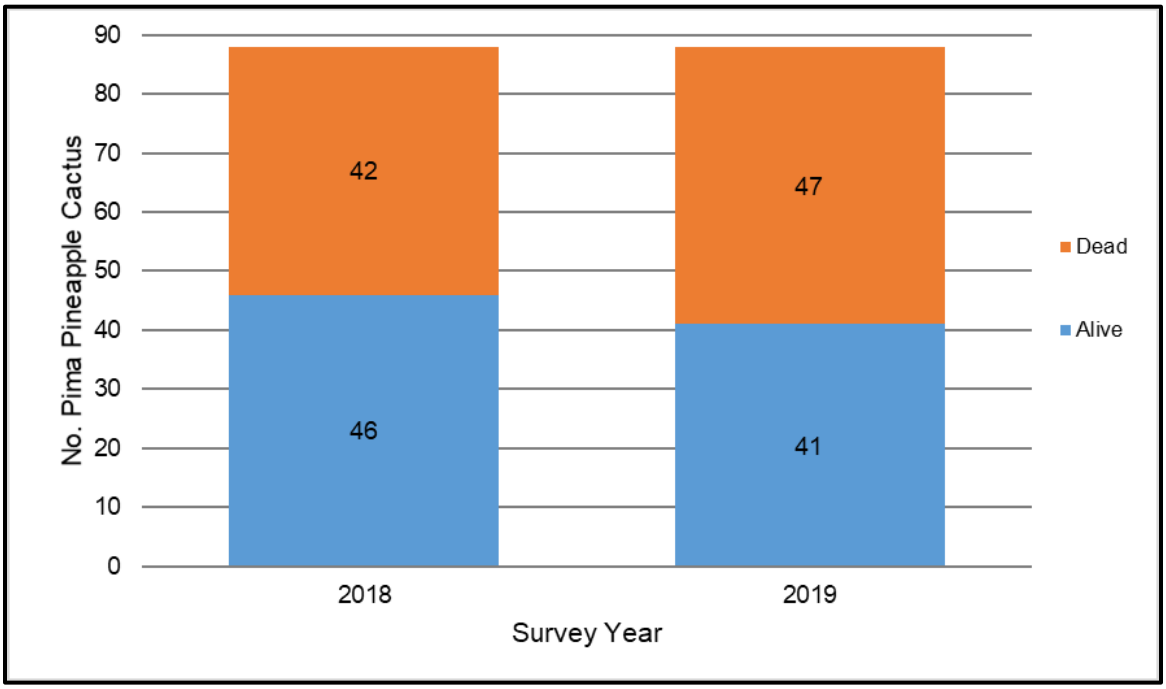



**Figure 3. Pima pineapple cactus status between 2018 and 2019. Note: losses are cumulative.**

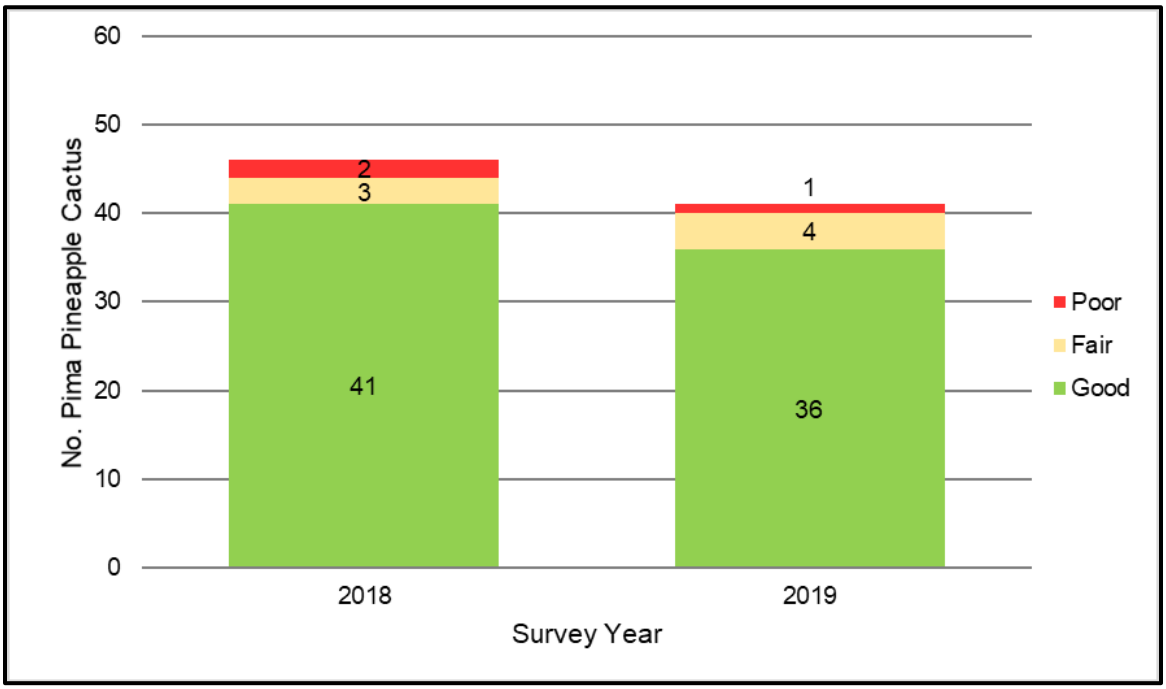



**Figure 4. Condition of living Pima pineapple cactus between 2018 and 2019.**

Overall, the percentage of Pima pineapple cacti lost appears to be similar among two of the transplanting method variables (water/no water and soil/no soil) (Figures 5 and 6; see Table 14). The percent of the total lost ranges from 52% to 59%, with the lowest percent lost (52%) among the plants where soil was added, no water was added, and those that were only transplanted once. The highest percent lost (59%) was among the plants that were transplanted twice. However, there are confounding factors as each plant was assigned three variables (one for soil, one for water, and one for transplant), which may serve to mask the effect of any one treatment. Overall, long-term trends indicate that plants with soil added (52%) had a similar survival rate as those plants where no soil was added (55%) and that those plants with no water added (52%) had a similar survival rate as those plants where water was added (55%). However, the number of times a plant was transplanted appears to have an impact on its long-term survival (59% lost for those transplanted twice, compared to 52% lost for those transplanted once; Figures 7 and 8). The significance of any of these trends has not been tested and the number of plants transplanted twice (n=17) is much smaller than those transplanted once (n=71).

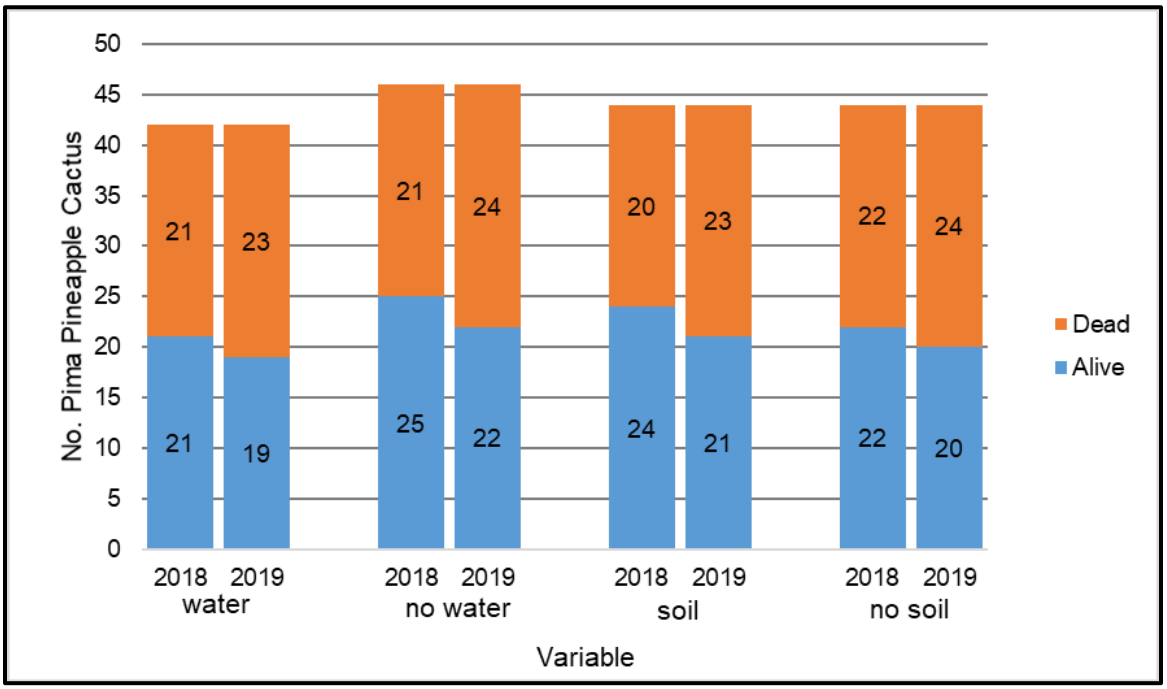



**Figure 5. Breakdown of status of Pima pineapple cactus by variable for 2018 and 2019. Note: losses are cumulative.**

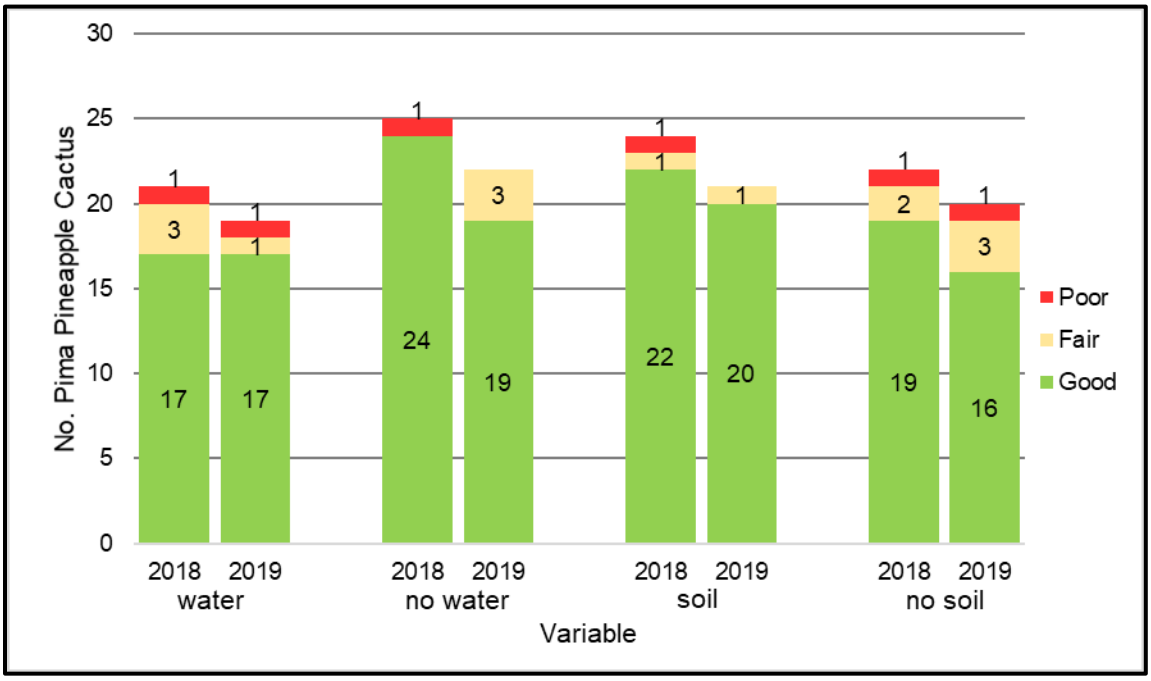



**Figure 6. Breakdown of condition of Pima pineapple cactus by variable for 2018 and 2019.**

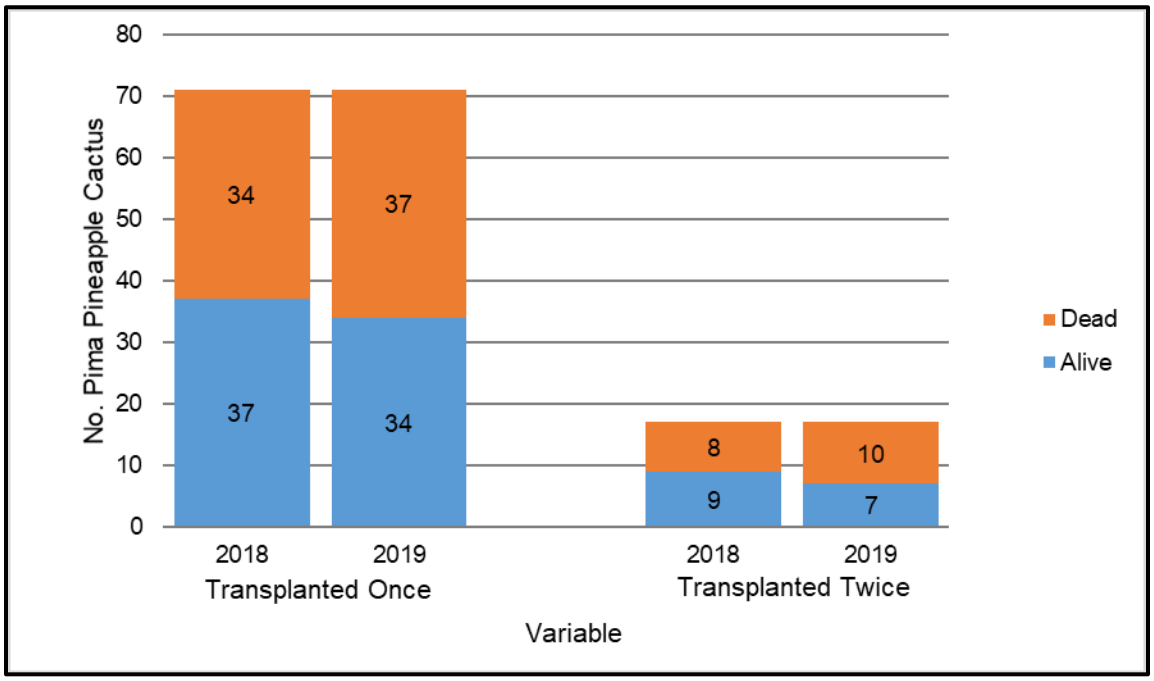



**Figure 7. Breakdown of status of Pima pineapple cactus by number of times transplanted, for 2018 and 2019. Note: losses are cumulative.**

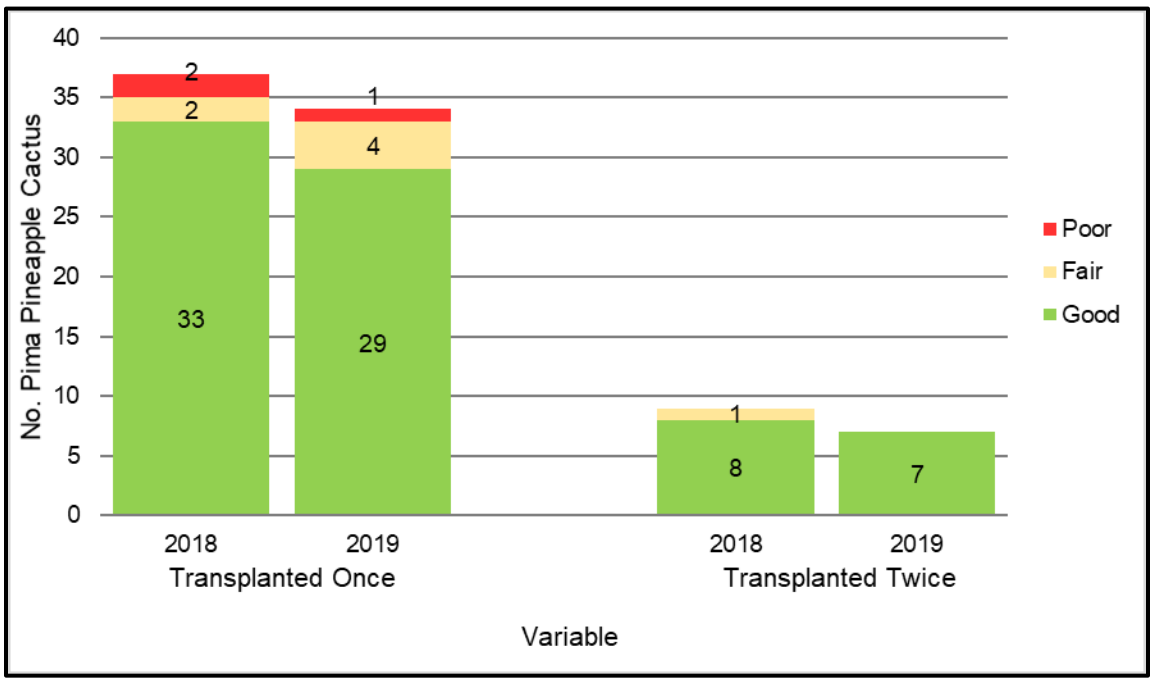



**Figure 8. Breakdown of condition of Pima pineapple cactus by number of times transplanted, for 2019 and 2019.**

Ninety-four percent of the saguaros found alive in Year Five (2019) were in good condition (217 of 231) (Table 15, Figures 9 and 10). All of the off-ROW comparison saguaros were found in good condition. Thus, 94% of the live saguaros in the ROW were in the same condition as the

saguaros outside the ROW, and 6% of the live saguaros in the ROW were in worse condition than the saguaros outside the ROW (14 of 231).

Since the lesser long-nosed bat is no longer listed as endangered (USFWS 2018), no additional plantings would be required for saguaro plants even though the number of alive plants is above the success criteria. This was determined through discussion with Scott Richardson from the USFWS (March 2019). However, the success criteria are still provided (see Table 15; see Figure 9) for comparative purposes.

**Table 15. Saguaro Cacti Monitoring Results Summary**

| No. Impacted by Construction (Success Criteria)† | No. Impacted (less than 10 feet tall) | No. Impacted (more than 10 feet tall) | Survey Year | No. Alive | No. Dead | Condition—Living | | | Condition Comparison Off-ROW—Living | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Good | Fair | Poor | Good | Fair | Poor |
| 165 | 117 | 48 | 2018 | 233 | 25* | 224 | 7 | 2 | 244 | 0 | 0 |
| | | | 2019 | 231 | 27 | 217 | 12 | 2 | 217 | 0 | 0 |

* One individual that was not found is presumed dead as it was found in 2015 and 2016, but not found in 2017, and its known location occurs within an unauthorized OHV track.

† For comparative purposes only. There is no requirement to meet the success criteria since the lesser long-nosed bat has been delisted.

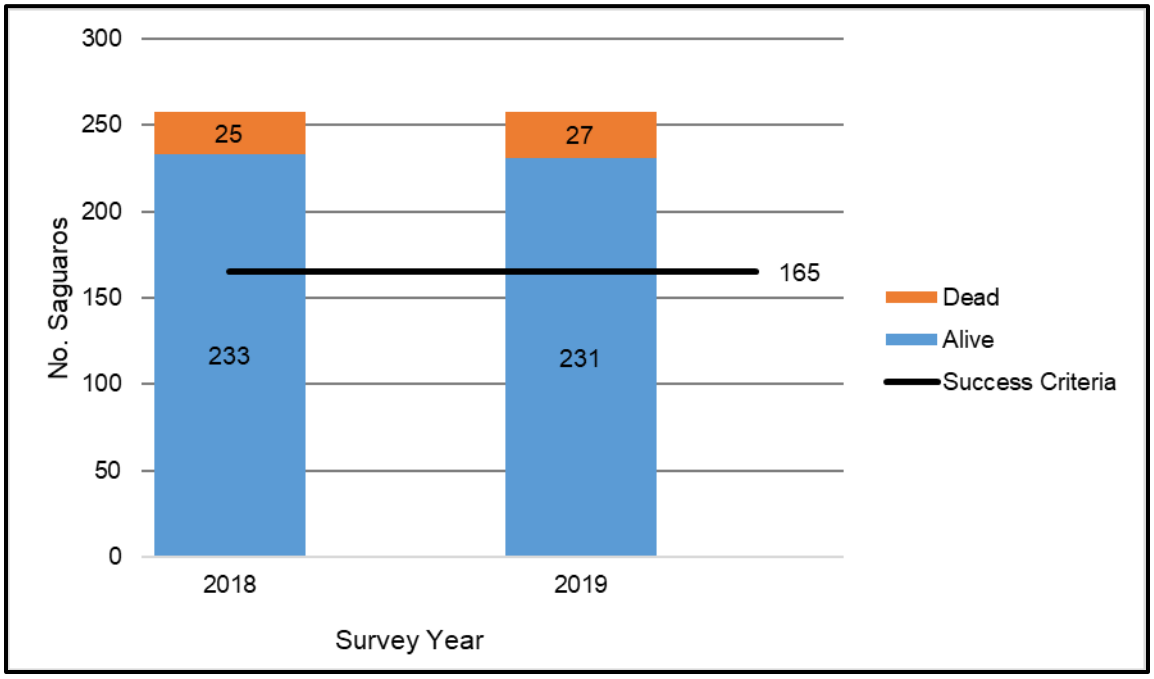



**Figure 9. Transplanted saguaro status in 2018 and 2019.**

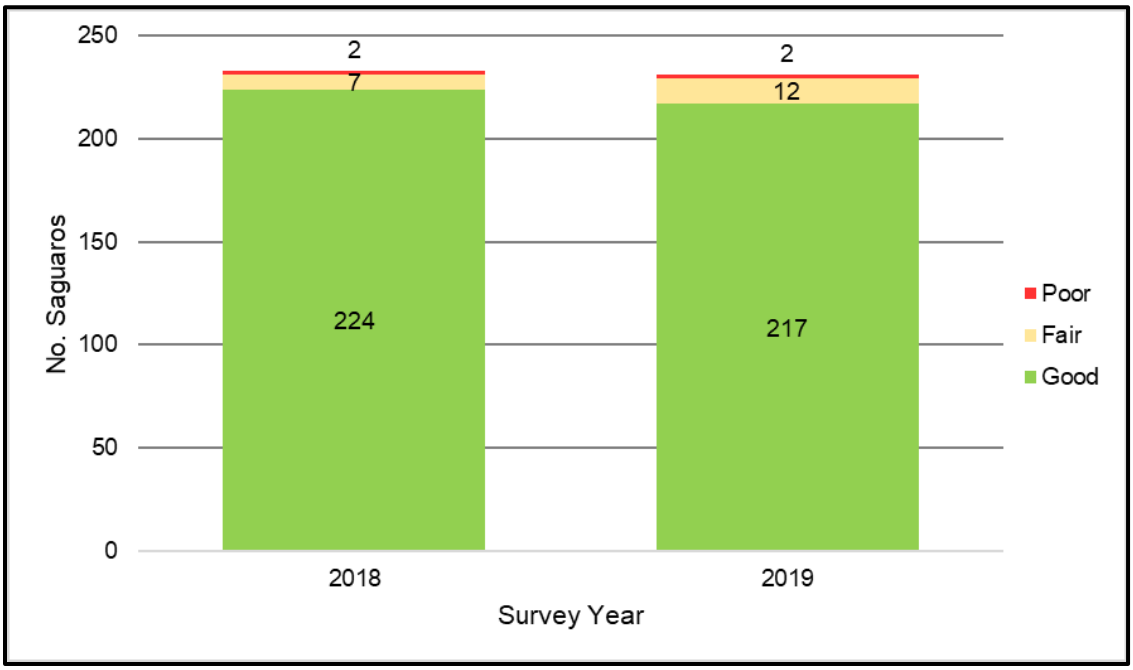



**Figure 10. Transplanted saguaro condition in 2018 and 2019.**

During Year Five (2019), regular monitoring efforts determined there were 43% of Palmer's Century plants (175 of 414 plants) alive, with 85% (149 of 175 plants) in good condition, 13% in fair condition, and 2% in poor condition. This is a decrease from Year Four (2018) monitoring efforts, where 51% (211 of 414 plants) were found alive, with 69% (145 of 211 plants) in good condition, 24% in fair condition, and 7% in poor condition (Table 16, Figures 11 and 12). However, five new plants were discovered in 2019 that were not originally transplanted, and 127 pups were observed around the alive Palmer's Century plants, suggesting that the alive plants are successfully persisting.

Since the lesser long-nosed bat is no longer listed as endangered (USFWS 2018), no additional plantings will be required for Palmer's Century plants even though the number of alive plants is below the success criteria. This was determined through discussion with Scott Richardson from the USFWS (March 2019). However, the success criteria are still provided (see Table 16; see Figure 11) for comparative purposes.

**Table 16. Palmer's Century Plant (i.e., Agave) Monitoring Results Summary**

| No. Impacted by Construction (Success Criteria)† | Total Transplanted | Survey Year | No. Alive | No. Dead* | Condition of Living | | |
|---|---|---|---|---|---|---|---|
| | | | | | Good | Fair | Poor |
| 377 | 414 | 2018 | 211 | 203 | 145 | 51 | 15 |
| | | 2019 | 175 | 239 | 149 | 22 | 4 |

* Those plants not found are assumed dead.

† For comparative purposes only. There is no requirement to meet the success criteria since the lesser long-nosed bat has been delisted.

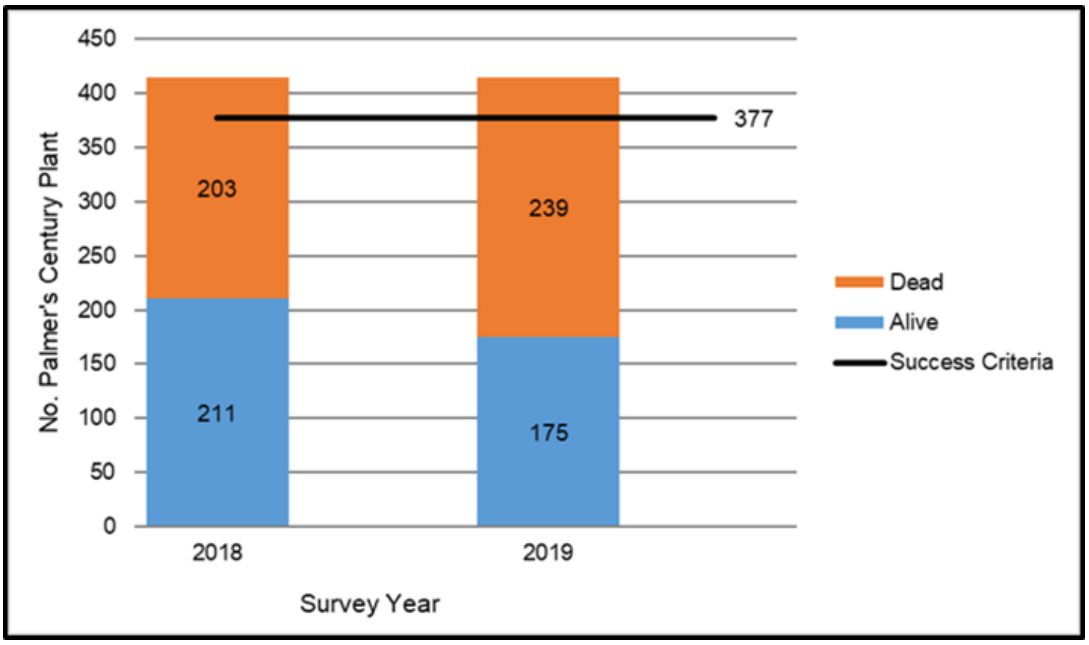



**Figure 11. Transplanted Palmer's Century plant status in 2018 and 2019.**

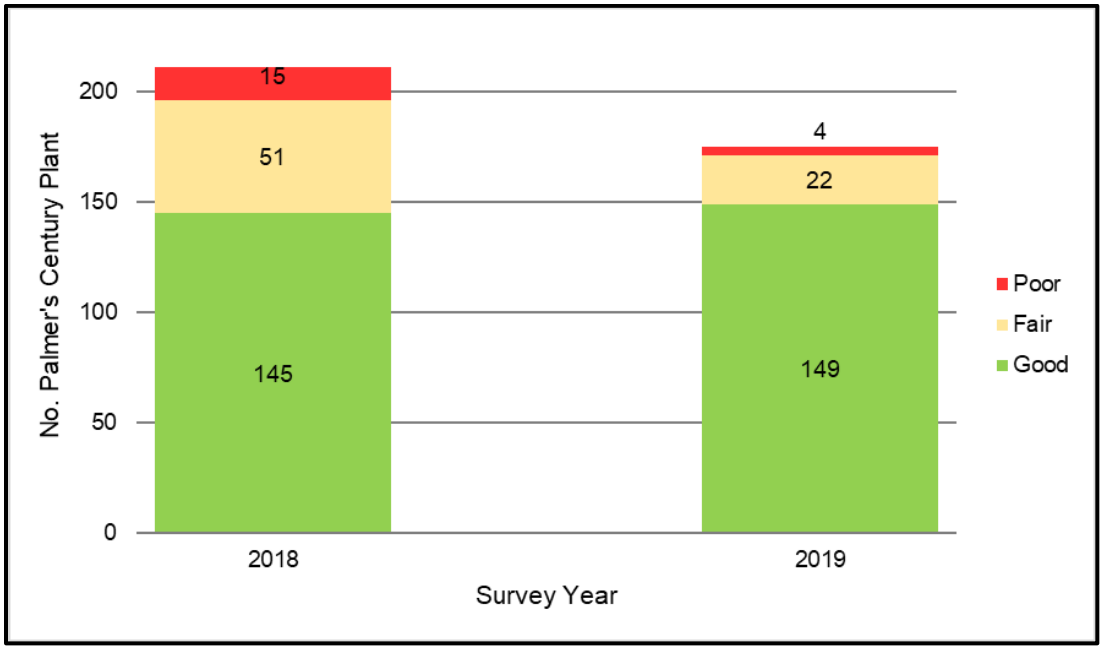



**Figure 12. Transplanted Palmer's Century plant condition in 2018 and 2019.**

As shown in Table 17 and Figure 13, there was a 20% survival rate for the smallflower century plant transplants in 2019, which is lower than the 21% survival rate in 2018. However, 94% of those found alive are in good condition in 2019 (Figure 14). Additionally, 21 new plants were discovered in 2019 that were not originally transplanted and 200 pups were observed around the alive smallflower century plants, suggesting that the alive plants are successfully persisting.

**Table 17. Smallflower Century Plant (i.e., Agave) Monitoring Results Summary**

| Total Transplanted | Survey Year | No. Alive | No. Dead | Condition of Alive | | |
|---|---|---|---|---|---|---|
| | | | | Good | Fair | Poor |
| 451 | 2018 | 93 | 358 | 77 | 15 | 1 |
| | 2019 | 88 | 363 | 83 | 3 | 2 |

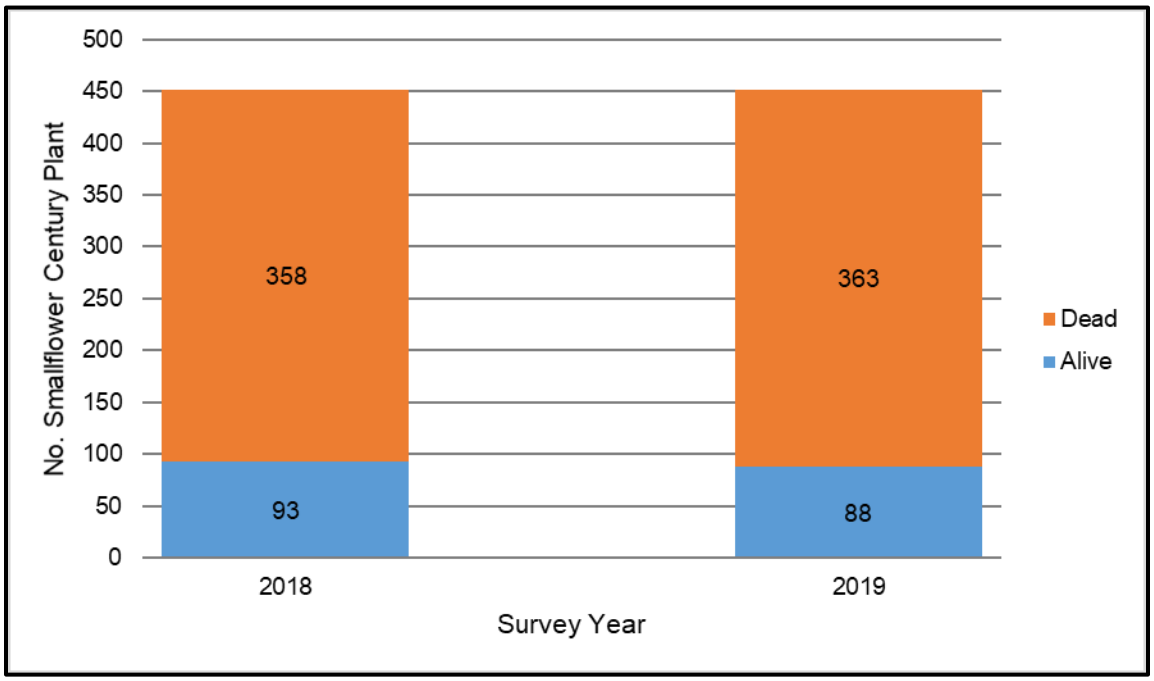



**Figure 13. Transplanted smallflower century plant status in 2018 and 2019.**

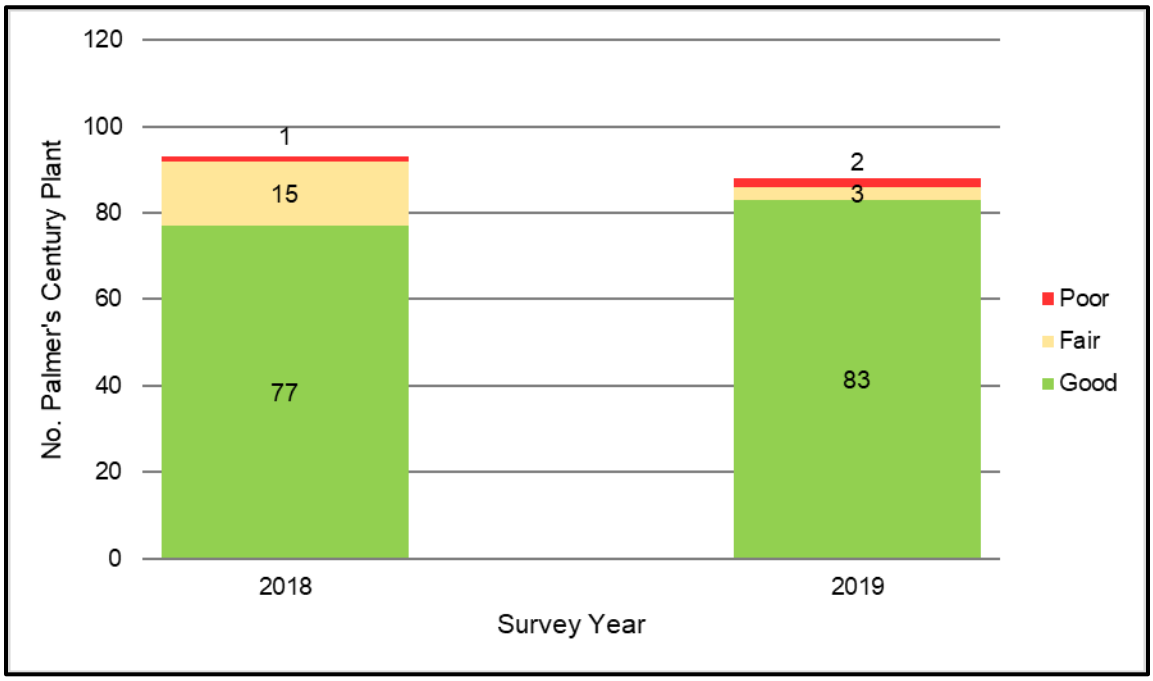



**Figure 14. Transplanted smallflower century plant condition in 2018 and 2019.**

## 4.3 Noxious Weed Monitoring

The detailed results of the spring 2019 noxious weed monitoring event are provided in the previously prepared report (see Appendix C). During the 2019 spring noxious weed monitoring and control event, only one ADA-listed noxious weeds was identified and controlled: buffelgrass. Additionally, one ADA-listed species was identified and mapped: morning-glory. In fall 2019, only buffelgrass was identified and controlled. No other ADA-listed noxious weeds were identified in 2019 (see Figures 15.1–15.12 below). Although morning-glory was observed on the ROW in spring 2019, these plants were not removed because participants in the 2016 annual stakeholder meeting were not as concerned with morning-glory removal as buffelgrass removal, and manual removal of morning-glory had been proven to be ineffective during past Sierrita Pipeline Project weed monitoring and control events.

All buffelgrass was controlled within the HDWA and AWA areas in 2019. In spring 2019, weed infestations were identified in three of the 11 HDWAs (HDWAs 1–3), and in fall 2019, weed infestations were identified within six HDWAs (HDWAs 1–4, HDWA 9, and HDWA 11). Weed infestations were controlled using mechanical methods immediately after documentation.

Weed infestations were identified in five of the 13 AWAs (AWAs 2, 4, and 11–13) in spring 2019 and 12 AWAs (AWAs 1–4 and 6–13) in fall 2019. Weed infestations were controlled using mechanical methods immediately after documentation.

Appendix O contains all data collected during the 2019 fall noxious weed monitoring and control event, and photographs of the noxious weed monitoring sites are included in Appendix P. In total, 137 buffelgrass plants were removed from the ROW in the HDWAs and AWAs during the spring 2019 noxious weed monitoring and control event, and 3,252 buffelgrass plants were removed from the ROW in the HDWAs and AWAs.

Table 18 shows the comparison of number of buffelgrass plants removed from the HDWAs and AWAs in 2019, with past post-construction noxious weed control efforts.

**Table 18. Approximate Numbers of Buffelgrass Plants Removed from the High-Density Weed Areas and Additional Weed Areas during the Spring 2018, Fall 2018, Spring 2019, and Fall 2019 Noxious Weed Removal Events**

| | Spring 2018 | | | Fall 2018 | | | Spring 2019 | | | Fall 2019 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | HDWAs | AWAs | All Weed Areas | HDWAs | AWAs | All Weed Areas | HDWAs | AWAs | All Weed Areas | HDWAs | AWAs | All Weed Areas |
| Buffelgrass | 483 | 314 | 797 | 2,880 | 6,026 | 8,906 | 68 | 69 | 137 | 187 | 3,065 | 3,252 |

Many more buffelgrass plants were identified and removed from the ROW in 2018 than in 2019. This may have been from the greater amount of precipitation that occurred during the monsoon rains in 2018 (approximately 7.01 inches of rain, June 15–September 30) compared to 2019 (approximately 5.06 inches of rain). Additionally, October 2018 had greater-than-average precipitation (2.87 inches compared to a normal of 0.87 inches), whereas October 2019 had a much lower-than-average precipitation (0.01 inches compared to a normal of 0.87 inches) (National Weather Service 2019), which may have allowed for an extended growing season in 2018 but not in 2019.

In spring 2019, outside of the HDWA or AWA monitoring sites, 162 buffelgrass plants were removed from areas south of MP 38.2. During fall 2019, 3,371 buffelgrass plants were removed from areas outside of the HDWA or AWA monitoring sites. In total, twenty 42-gallon trash bags were removed during the spring 2019 noxious weed monitoring and control event and ninety 42- gallon trash bags were removed during fall 2019.

Table 19 presents the off-ROW and on-ROW weed cover classes for the HDWAs during all of the monitoring events occurring between spring 2018 and fall 2019. The comparison of on-ROW vs. off-ROW was not needed this year in the HDWAs to indicate the need for control, since all infestations in these sites were controlled simultaneously with the survey. The performance criterion specified in the 2014 FEIS Appendix H, Post-Construction Vegetation Monitoring Document, is that on-ROW cover should be less than 10% when weeds occur on-ROW but not off-ROW. In 2019, none of the HDWAs had a noxious weed cover that exceeded 10% and weeds were not present off-ROW. Additionally, the noxious weed cover class on-ROW for all HDWAs was smaller than or equal to the off-ROW cover class. This seems to indicate that there are large source populations located adjacent to the ROW near these HDWAs.

Table 20 presents the off-ROW and on-ROW weed cover classes for the AWAs during all the monitoring events in 2018 and 2019. For the AWAs in 2019, portions of AWAs 1, 2, 4, 6, 7, 8, 10, and 13 had relatively high (4 or above) off-ROW cover class. Although the comparison shows that the relative cover of weeds on the ROW is generally the same or higher, these numbers only show a comparison at the site of infestation, and do not always take into account topography or washes which may impact infestation. Additionally, AWAs were not identified during HDWA selection; therefore, the performance criteria (specified above) is not applicable to these AWAs.

**Table 19. High-Density Weed Area Monitoring Sites Weed Cover Classes for 2018 and 2019**

| | ROW Weed Cover Class | | | | Off-ROW Weed Cover Class | | | |
|---|---|---|---|---|---|---|---|---|
| HDWA Site ID | Spring 2018 | Fall 2018 | Spring 2019 | Fall 2019 | Spring 2018 | Fall 2018 | Spring 2019 | Fall 2019 |
| 1 | 1 | 1–2 | 1 | 1 | 1 | 1–3 | 1 | 1 |
| 2 | 1–2 | 1–3, 5 | 1 | 2–3 | 3 | 3–5 | 4 | 5 |
| 3 | 1 | 2–4 | 1 | 1–2 | 1 | 2–4 | 2 | 1–2 |
| 4 | 1 | 2 | N/A | 1–2 | 1–2 | 2 | N/A | 1–3, 5 |
| 5 | N/A | 2 | N/A | N/A | N/A | 5 | N/A | N/A |
| 6 | N/A | 2 | N/A | N/A | N/A | 1 | N/A | N/A |
| 7 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 8 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 9 | N/A | 2 | N/A | 1–2 | N/A | 1 | N/A | 1 |
| 10 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 11 | N/A | 2 | N/A | 1 | N/A | 2 | N/A | 1 |

Note: Cover classes are expressed as one number or a range of numbers.
N/A = Not applicable; no values recorded because no weeds were found, or data were not recorded.

**Table 20. Additional Weed Area Weed Cover Classes for 2018 and 2019**

| AWA Site ID | ROW Weed Cover Class | | | | Off-ROW Weed Cover Class | | | |
|---|---|---|---|---|---|---|---|---|
| | Spring 2018 | Fall 2018 | Spring 2019 | Fall 2019 | Spring 2018 | Fall 2018 | Spring 2019 | Fall 2019 |
| 1 | 1 | 2, 4, 6 | N/A | 1,3 | 2 | 2–3, 5 | N/A | 1–3, 5 |
| 2 | 1 | 1–3, 6 | 1 | 2–3, 6 | 1 | 2–4, 5 | 1 | 1–2, 6 |
| 3 | 1 | N/A | N/A | 1 | 1 | N/A | N/A | 2 |
| 4 | 1 | 2–5 | 2–3 | 2, 6 | 2 | 2–5 | 6 | 6 |
| 5 | N/A | 2 | N/A | N/A | N/A | 1–3 | N/A | N/A |
| 6 | N/A | 1–3, 6 | N/A | 1–2, 4 | N/A | 2, 4–5 | N/A | 1–2, 4 |
| 7 | 1 | 1–2 | N/A | 1–2 | 1 | 1,3 | N/A | 1, 4 |
| 8 | 1 | 2–3 | N/A | 1–2 | 1 | 2–3 | N/A | 1–4, 6 |
| 9 | 1 | 1,3 | N/A | 2 | 1 | 1–2 | N/A | 1 |
| 10 | 1–2 | 1–3, 6 | N/A | 1, 3, 6 | 1–2 | 1–5 | N/A | 1–2, 5–6 |
| 11 | N/A | 1–3 | 1 | 1 | N/A | 2, 4 | 1 | 3 |
| 12 | 1 | 1–3, 5 | 1 | 1–2 | 1 | 2–3, 5 | 2 | 1 |
| 13 | 1 | 1–3 | 6 | 1–3, 5 | 1 | 2–3 | 5 | 2, 4–6 |

Note: Cover classes are expressed as one number or a range of numbers.
N/A = Not applicable; no values recorded because no weeds were found or data were not recorded.

Table 21 presents the off-ROW and on-ROW grazing, OHV, and pedestrian Index Classes for the HDWAs during monitoring events occurring between 2018 and 2019. Table 22 presents the off-ROW and on-ROW grazing, OHV, and pedestrian Index Classes for the AWAs during monitoring events in 2018 and 2019.

None of the HDWAs or AWAs exceeded a cover class of 4 for grazing or OHV travel in either monitoring event in 2019. Only one infestation in one HDWA, HDWA 2, scored a pedestrian Index Class of 5 in fall 2019. This infestation was near the Taylor Lane and Ajo Highway intersection, just east of Taylor Lane. This location is near two residential developments (one development is 0.5 miles south and another is 0.75 miles northwest). Given the proximity of these residential developments and that the infestation occurred near two well-traveled roadways, it is expected that there is a high degree of human presence and travel. The remaining HDWAs and AWAs did not exceed a cover class of 4 for pedestrian travel in either monitoring event in 2019.

**Table 21. High-Density Weed Area Monitoring Sites Grazing, OHV, and Pedestrian Index Classes for 2018 and 2019**

| | Grazing Index Class | | | | OHV Index Class | | | | Pedestrian Index Class | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HDWA Site ID | Spring 2018 | Fall 2018 | Spring 2019 | Fall 2019 | Spring 2018 | Fall 2018 | Spring 2019 | Fall 2019 | Spring 2018 | Fall 2018 | Spring 2019 | Fall 2019 |
| 1 | 1 | 1 | 1 | 1 | 2 | 1–2 | 2 | 1 | 1 | 1–2 | 2 | 1 |
| 2 | 1 | 1 | 1 | 1 | 2, 4 | 2–3, 5 | 3 | 3-4 | 2, 4 | 2, 5 | 2 | 3, 5 |
| 3 | 1 | 1 | 1 | 1 | 3 | 1–2 | 2 | 2–3 | 2 | 1–2 | 2 | 1–2 |
| 4 | 1–2 | 1 | N/A | 1 | 2–3 | 1–2 | N/A | 2–3 | 2 | 2 | N/A | 2, 4 |
| 5 | N/A | 1 | N/A | N/A | N/A | 1 | N/A | N/A | N/A | 2 | N/A | N/A |
| 6 | N/A | 1 | N/A | N/A | N/A | 1 | N/A | N/A | N/A | 2 | N/A | N/A |
| 7 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 8 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 9 | N/A | 3 | N/A | 2 | N/A | 1 | N/A | 1 | N/A | 1 | N/A | 1 |
| 10 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 11 | N/A | 3 | N/A | 3 | N/A | 2 | N/A | 1 | N/A | 2 | N/A | 1 |

Note: Cover classes are expressed as one number or a range of numbers.

N/A = Not applicable; no values recorded because no weeds were found or data were not recorded.

**Table 22. Additional Weed Area Monitoring Sites Grazing, OHV, and Pedestrian Index Classes for 2018 and 2019**

| AWA Site ID | Grazing Index Class | | | | OHV Index Class | | | | Pedestrian Index Class | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Spring 2018 | Fall 2018 | Spring 2019 | Fall 2019 | Spring 2018 | Fall 2018 | Spring 2019 | Fall 2019 | Spring 2018 | Fall 2018 | Spring 2019 | Fall 2019 |
| 1 | 1 | 1–2 | N/A | 1 | 2 | 3, 5 | N/A | 1–3 | 2 | 3, 5 | N/A | 1–3 |
| 2 | 1 | 1–2 | 1 | 1 | 1, 5 | 2–4 | 3 | 2–3 | 1, 3 | 2–4 | 2 | 2–4 |
| 3 | 1 | N/A | N/A | 1 | 2 | N/A | N/A | 3 | 2 | N/A | N/A | 2 |
| 4 | 1 | 1–2 | 2 | 1 | 2 | 1–2 | 3 | 2–4 | 2 | 2 | 2 | 2–4 |
| 5 | N/A | 1–2 | N/A | N/A | N/A | 1–2 | N/A | N/A | N/A | 2 | N/A | N/A |
| 6 | N/A | 3 | N/A | 1 | N/A | 1, 5 | N/A | 1–2 | N/A | 1–2 | N/A | 1–2 |
| 7 | 2 | 2–4 | N/A | 2 | 2 | 1 | N/A | 1 | 2 | 1, 3 | N/A | 1 |
| 8 | 2 | 2–3 | N/A | 2, 4 | 1 | 1–2 | N/A | 1–2 | 1 | 1–2 | N/A | 1 |
| 9 | 5 | 3 | N/A | 4 | 2 | 1–2 | N/A | 1 | 1 | 1 | N/A | 1 |
| 10 | 2 | 2–3 | N/A | 3 | 1 | 1–2 | N/A | 1 | 1 | 1–2 | N/A | 1 |
| 11 | N/A | 2 | 1–3 | 1 | N/A | 1–2 | 1–2 | 1 | N/A | 1–2 | 1–2 | 2 |
| 12 | 1 | 1 | 1 | 1 | 2 | 1–3 | 2 | 1–2 | 1 | 1–4 | 2 | 2 |
| 13 | 1 | 1 | 2 | 1 | 2 | 1–2 | 4 | 2–3 | 1 | 1–2 | 4 | 2–4 |

Note: Cover classes are expressed as one number or a range of numbers.

N/A = No values recorded because no weeds were found or data were not recorded.

During the spring 2019 noxious weed removal event, crews spread out thirty-eight 40-pound bags of seed mix that had been left over from the initial pipeline reseeding effort. Seed mix was hand-broadcast in locations where weeds were removed and in areas where vegetation was sparse or

absent, and in two locations where the soil was prepped using rakes. Neither of the areas where soils were prepared using rakes (one near MP 30.9 and the other near MP 34.2) showed any new native vegetation growth. Although the presence of buffelgrass was less in 2019 than in 2018 in several of the known areas of surface seed application, fewer buffelgrass plants overall were observed in 2019. General qualitative observations for most of these areas were that spreading the seed may have had a slight positive to no impact on reducing buffelgrass in the area. However, these observations are limited, and do not take into account a full year's worth of growth.

## 4.4 Access Road Monitoring

The fall 2019 (Year Five) access road monitoring results showing the overall assessment during monitoring are presented in Table 23. All of the Project access roads are in good to fair condition, with erosional features (including rutting) being noted. Many of these erosional features along AR- 18 were noted as occurring historically along the access roads before it was improved for pipeline construction activities. There have been no requests by any landowner to conduct any road maintenance activities and all Project access roads appear to be functioning at or close to pre-construction levels. Further detail on the access road monitoring data results is included in Appendix Q, and photographs are included in Appendix R.

**Table 23. Access Road Monitoring Overall Assessment Summary**

| Access Road ID | Overall Assessment |
|---|---|
| AR-15: Las Delicias Road | The road is in good to fair condition, with some erosional features present. |
| AR-16: Brown Canyon Road | The road is in good condition, with few ruts or other erosional features. |
| AR-18: Unnamed road | Overall, this road is returning to its original condition prior to pipeline construction. Portions of the access road have erosional features present. |
| AR-19: Stillwood Ranch Road | Road is in good to fair condition, with some erosion and cutting present. |
| AR-20: Santa Margarita Road | Road is in good condition. |
| AR-21: Presumido Road | Road in good condition, with some light to minor rutting. |
| AR-22: Aros Wash | Road in good to fair condition with some minor erosional rutting. |
| AR-27: Las Osa Road / El Mirador Road | Road is in good to fair condition and the road has been completely graveled. |

## 4.4 Tree Monitoring

The Year Five (2019) tree monitoring results showing the number of trees originally planted, the number of trees found alive during monitoring, and the number of additional trees required to meet the project success criteria are presented in Table 24. Summary figures for each tree planting site are included in Appendix S. A total of 32 live planted honey mesquites were found at the following

washes: 32 (n=1); R115 (n=3); 136 (n=9); 149 (n=4); 147 (n=4); Little Thomas Wash (n=2); 143/144 (n=4); and 145 (n=5).

In addition, 417 volunteer trees and shrubs have been observed within the wash monitoring locations, including velvet mesquite, whitethorn acacia, blue paloverde (*Parkinsonia florida*), and other species typically observed in ephemeral washes. The total number of alive trees contains both volunteer and planted trees. Further detail on the tree monitoring data results is included in Appendix T, and comparative photographs from 2018–2019 taken at each monitoring site are located in Appendix U.

Most of the washes in 2019 were found to have more live trees than in 2018, primarily due to the ongoing recruitment of new trees, particularly whitethorn acacia (*Vachellia constricta*), into the right-of-way.

**Table 24. Tree Monitoring Results Summary**

| Wash ID | Total No. of Trees Planted | Total No. of Alive Trees Observed (2018) | Total No. of Alive Trees Observed (2019)† | Total No. of Volunteer Trees Observed (2019) | Total No. of Additional Trees to be Planted (2020) |
|---|---|---|---|---|---|
| 32 | 43 | 12 | 12 | 2 | 13 |
| 53 | 64 | 37 | 46 | 15 | 0 |
| 55 | 56 | 29 | 30 | 8 | 5 |
| 56 | 68 | 25 | 32 | 5 | 11 |
| 57 | 52 | 15 | 60 | 34 | 0 |
| 65 | 52 | 38 | 38 | 13 | 0 |
| R115 | 49 | 41 | 82 | 45 | 0 |
| 134 | 32 | 10 | 30 | 16 | 0 |
| 136 | 99 | 72 | 81 | 26 | 0 |
| 142 | 56 | 10 | 26 | 16 | 9 |
| 143/144* | 78 | 32 | 51 | 28 | 0 |
| 145 | 60 | 11 | 33 | 32 | 7 |
| Little Thomas Wash | 70 | 27 | 36 | 25 | 9 |
| Thomas Canyon Wash | 52 | 30 | 90 | 77 | 0 |
| 147 | 75 | 27 | 31 | 23 | 16 |
| 149 | 56 | 35 | 62 | 52 | 0 |

* Tree numbers for washes 143 and 144 have been combined because these planting areas occur within the same drainage and use the same photo point.

† Includes planted and volunteer trees.

The Index Classes for livestock grazing, OHV tracks, and pedestrian traffic are presented in Table 25. OHV Index Classes were the same (13 of 16 sites) or lower (2 of 16 sites) in 2019 than in 2018 for almost all of the tree monitoring sites, with only one site having a higher OHV Index

Class in 2019 than in 2018. None of the sites had an OHV Index Class above 2. Signs of livestock grazing were either the same (12 of 16 sites) or lower (4 of 16 sites) in 2019 than in 2018. None of the sites had a Grazing Index Class above 2. Signs of pedestrian use in 2019 are the same as 2018, with no site having a Pedestrian Index Class above 1, suggesting little to no pedestrian travel at the sites.

**Table 25. Tree Monitoring Sites Grazing, OHV, and Pedestrian Index Classes Cover Classes for 2018 and 2019**

| Wash ID | Grazing Index Class | | OHV Index Class | | Pedestrian Index Class | |
|---|---|---|---|---|---|---|
| | 2018 | 2019 | 2018 | 2019 | 2018 | 2019 |
| 32 | 1 | 1 | 1 | 1 | 1 | 1 |
| 53 | 1 | 1 | 2 | 1 | 1 | 1 |
| 55 | 1 | 1 | 1 | 1 | 1 | 1 |
| 56 | 1 | 1 | 1 | 2 | 1 | 1 |
| 57 | 1 | 1 | 2 | 1 | 1 | 1 |
| 65 | 2 | 1 | 1 | 1 | 1 | 1 |
| R115 | 2 | 2 | 1 | 1 | 1 | 1 |
| 134 | 1 | 1 | 1 | 1 | 1 | 1 |
| 136 | 2 | 1 | 1 | 1 | 1 | 1 |
| 142 | 1 | 1 | 1 | 1 | 1 | 1 |
| 143/144 | 1 | 1 | 1 | 1 | 1 | 1 |
| 145 | 1 | 1 | 1 | 1 | 1 | 1 |
| Little Thomas Wash | 1 | 1 | 1 | 1 | 1 | 1 |
| Thomas Canyon | 2 | 1 | 1 | 1 | 1 | 1 |
| 147 | 1 | 1 | 1 | 1 | 1 | 1 |
| 149 | 2 | 1 | 1 | 1 | 1 | 1 |

Note: Cover classes are expressed as one number or a range of numbers.

Damage by small mammals was limited to minor gnawing on recently (2017) planted mesquites. It was noted that there was minor flooding at Wash 134, and some erosion at Wash 57 (moderate) and Wash 136 (minor).

# 5. RECOMMENDATIONS AND ADAPTIVE MANAGEMENT

## 5.1 Vegetation Monitoring

Results of parametric and non-parametric statistical tests (see Table 7a–7c) indicate that all three categories in Arizona Upland-Sonoran Desertscrub—percent foliar cover, and percent bare

ground, and percent basal cover[5]—and one category in Semidesert Grassland—percent bare ground[6]—showed statistically significant differences between control and ROW plots, when significance criteria are set at the 80% confidence level (Sig = 0.20). For the Arizona Upland-Sonoran Desertscrub category, the statistical tests indicated that percent foliar and percent basal cover were significantly greater within ROW plots than control plots (see Table 7b and Table 7c), while percent bare ground was significantly greater in control plots than ROW plots (see Table 7a). For the Semidesert Grassland category, the statistical tests indicated that the percent bare ground was significantly less in the ROW plots than the control plots (see Table 7a). Significance values for all other cover and landscape categories are above 0.20. Thus, for these classes there is no significant difference in soil or vegetation cover between the control and ROW plots. These results are similar to the Year Four (2018) report.

The results for the Arizona Upland-Sonoran Desertscrub and Semidesert Grassland indicate that these communities are significantly different from the ROW plots than the control plots in positive aspects for the project success criteria metrics (i.e., higher percent foliar cover, lower percent bare ground, and higher percent basal cover). The additional metric calculations of species composition, frequency, density, and dominance are all currently being achieved in Year Five (2019). Table 26 shows that all plots, even when tallied by vegetation classification, are meeting the ≥70% species composition goal on the ROW vs. the off-ROW control. This trend is also consistent with the 2017–2018 data. The ROW revegetation within the Arizona Upland-Sonoran Desertscrub and Semidesert Grassland communities is meeting or exceeding the vegetation monitoring success criteria as specified in the Guidance Documents, and therefore, no corrective actions are necessary with regards to reseeding.

[5] The percent foliar and the percent basal cover categories were reported as being statistically significant for the Arizona Upland-Sonoran Desertscrub category when using the non-parametric paired samples test but were not statistically significant for the parametric samples t-test. Given the type of data (count data), the non-parametric paired samples test is considered more accurate. Parametric data requires a normal distribution (i.e., a bell-shaped curve) and count data usually do not fit this distribution.

[6] The percent foliar cover category was reported as being statistically significant for the Semidesert Grassland category when using the parametric paired samples t-test but is not considered statistically significant when using the non-parametric paired samples test. Given the type of data (count data), the non-parametric paired samples test is considered more accurate. Parametric data requires a normal distribution (i.e., a bell-shaped curve) and count data usually do not fit this distribution.

**Table 26. Species Composition Metric Summary**

| Plot Combination | 2018 | | | | 2019 | | | |
|---|---|---|---|---|---|---|---|---|
| | Control Mean Species Comp. (No. of Species) | Species Comp. Goal (70% of Control Species Comp.) | ROW Mean Species Comp. (No. of Species) | Meets Species Comp. Goal? Y/N | Control Mean Species Comp. (No. of Species) | Species Comp. Goal (70% of Control Species Comp.) | ROW Mean Species Comp. (No. of Species) | Meets Species Comp. Goal? Y/N |
| All plots | 11.13 | 7.79 | 11.90 | Yes | 9.77 | 6.84 | 11.10 | Yes |
| Arizona Upland-Sonoran Desertscrub | 8.07 | 5.65 | 8.87 | Yes | 7.27 | 5.09 | 8.67 | Yes |
| Semidesert Grassland | 14.2 | 9.94 | 14.93 | Yes | 12.30 | 8.61 | 13.50 | Yes |
| Riparian | 11.57 | 8.10 | 11.00 | Yes | 11.90 | 8.33 | 12.30 | Yes |

Note: "Comp." = Composition

Of the 108 desirable species identified within the quadrats during data collection, 73 of those species (68%) are meeting the frequency criteria of ≥50%, in that a given species occurs on-ROW with at least 50% of the frequency that the same species occurs in the off-ROW control plots (see Appendix J). The remaining 35 species that are not meeting the frequency are listed in Table 27. In Year Four (2018), 108 species were identified and 74 were meeting the frequency criteria (69%). Therefore, the percent of species meeting the frequency criteria in Year Five (2019) is similar to that of Year Four (2018).

The majority of the species not meeting the frequency criteria are only missing the metric by 1.7% (n=24), and the remaining are below by 3.3% (n=7), 5.0% (n=3), and 6.7% (n=1). Additionally, the majority of the species not meeting the criteria are only occurring once (n=22) or twice (n=6) off-ROW, making these species infrequently occurring off-ROW as well. The remaining species not meeting the criteria occurred three (n=4), four (n=2), or five (n=1) times off-ROW. Thus, the majority of desirable species on the ROW are meeting the criteria of ≥50% of the desirable species in the off-ROW control plots. The majority of the species that are not meeting the frequency criteria (80%) are occurring infrequently off-ROW. Fourteen of the species listed below (see Table 27) also were below the frequency criteria of ≥50% in Year Four (2018).

**Table 27. Species Not Meeting Frequency Goals**

| Common Name (Scientific Name) | Common Name (Scientific Name) |
|---|---|
| New Mexico copperleaf (*Acalypha neomexicana*)* | Ocotillo (*Fouquieria splendens*)* |
| Palmer's century plant (*Agave palmeri*) | Tanglehead (*Heteropogon contortus*) |
| Annual windmills (*Allionia choisyi*) | California caltrop (*Kallstroemia californica*)* |
| Fringed amaranth (*Amaranthus fimbriatus*) | Littleleaf ratany (*Krameria erecta*) |
| Fewflower beggarticks (*Bidens leptocephala*)* | Creosote bush (*Larrea tridentata* var. *tridentata*)* |
| Cane bluestem (*Bothriochloa barbinodis*) | Water jacket (*Lycium andersonii*)* |
| Sprucetop grama (*Bouteloua chondrosioides*) | Catclaw mimosa (*Mimosa aculeaticarpa*) |
| Fairyduster (*Calliandra eriophylla*)* | Velvetpod mimosa (*Mimosa dysocarpa*) |
| Spiny hackberry (*Celtis ehrenbergiana*)* | Bush muhly (*Muhlenbergia porter*)* |
| Wright's lipfern (*Cheilanthes wrightii*) | Deergrass (*Muhlenbergia rigens*)* |
| Lambsquarters (*Chenopodium album*) | Yellow paloverde (*Parkinsonia microphylla*)* |
| Climbing wartclub (*Commicarpus scandens*) | Orange fameflower (*Phemeranthus aurantiacus*) |
| Jumping cholla (*Cylindropuntia fulgida*)* | Silkcotton purslane (*Portulaca halimoides*) |
| Walkingstick cactus (*Cylindropuntia spinosior*) | Violet wild petunia (*Ruellia nudiflora*)* |
| Low woollygrass (*Dasyochloa pulchella*) | Catclaw acacia (*Senegalia greggii*) |
| Pricklyburr (*Datura inoxia*) | Grisebach's bristlegrass (*Setaria grisebachii*) |
| Western trailing ticktrefoil (*Desmodium procumbens*) | Hairy fournwort (*Tetramerium nervosum*)* |
| Cliff fendlerbush (*Fendlera rupicola*) | |

* These species were not meeting frequency goals in 2018 as well.

Tables 28 and 29 show that all plots, even when tallied by vegetation classification, are meeting the ≥70% density and dominance goals on the ROW vs. the off-ROW control. Because all of the metrics are being met or exceeded at this time, no management activities are recommended with respect to the reseeding of the ROW. These additional metrics were all achieved in Year Four (2018) as well.

**Table 28. Density Metric Summary**

| Plot Combination | 2018 | | | | 2019 | | | |
|---|---|---|---|---|---|---|---|---|
| | Control Mean Density (No. of plants / $m^2$) | Density Goal (70% of Control) | ROW Mean Density (No. of plants / $m^2$) | Meets Goal? Y/N | Control Mean Density (No. of plants / $m^2$) | Density Goal (70% of Control) | ROW Mean Density (No. of plants / $m^2$) | Meets Goal? Y/N |
| All plots | 24.5 | 17.2 | 40.5 | Yes | 57.3 | 40.1 | 122.0 | Yes |
| Arizona Upland | 21.9 | 15.3 | 39.6 | Yes | 64.6 | 45.2 | 184.0 | Yes |
| Semidesert Grassland | 26.6 | 18.6 | 41.4 | Yes | 51.2 | 35.8 | 62.7 | Yes |
| Riparian | 24.7 | 17.3 | 35.0 | Yes | 44.5 | 31.2 | 103.0 | Yes |

**Table 29. Dominance Metric Summary**

| Plot Combination | 2018 | | | | 2019 | | | |
|---|---|---|---|---|---|---|---|---|
| | Control Dominance (% Desirables Cover) | Dominance Goal (70% of Control Dominance) | ROW Dominance (% Desirables Cover) | ROW Meets Goal? Y/N | Control Dominance (% Desirables Cover) | Dominance Goal (70% of Control Dominance) | ROW Dominance (% Desirables Cover) | ROW Meets Goal? Y/N |
| All plots | 57.7 | 40.4 | 69.8 | Yes | 44.1 | 30.9 | 48.8 | Yes |
| Arizona Upland | 47.6 | 33.3 | 65.1 | Yes | 36.0 | 25.2 | 40.9 | Yes |
| Semidesert Grassland | 67.9 | 47.5 | 74.5 | Yes | 52.1 | 36.5 | 56.7 | Yes |
| Riparian | 60.0 | 42.0 | 67.9 | Yes | 47.6 | 33.3 | 50.4 | Yes |

### *5.1.2 OHV and Grazing Impacts*

The overall number of ROW quadrats that scored an Index Class of 5 for OHV travel was low (1%) compared to those that scored index classes of 1–4 across all landscape categories. No ROW quadrats were found that scored an Index Class of 5 for Livestock Grazing. The OHV travel ROW quadrats with Index Class of 5 were found in three of the total nine ROW quadrats in one vegetation monitoring plot (plot 6). This vegetation monitoring plot is located on ASLD-administered land near Snyder Hill Road and an unnamed road. Therefore, this vegetation plot is likely to receive increased OHV travel given its proximity to other well-used roadways. However, the ROW as a whole (including those quadrats showing elevated levels of OHV) is meeting the success criteria for OHV travel and livestock grazing, as only a small percentage of the total number of quadrats had an Index Class of 5. This trend is consistent with the 2017–2018 data, and thus, no corrective actions are recommended.

## 5.2 Succulent Monitoring

Success criteria (Table 30) for succulents varies by species. For Pima pineapple cactus, no survival goal was established; thus, no additional measures are needed other than continued monitoring. Similarly, no goal was set for smallflower century plant. For saguaros and Palmer's century plants, the success criteria was no net loss of those impacted from construction; however, the lesser long-nosed bat is no longer listed as endangered (USFWS 2018) and therefore the success criteria are no longer applicable and no additional plantings would be required if either of these succulent species fell below it. This was determined through discussion with Scott Richardson from the USFWS (March 2019). However, the success criteria are still provided for comparative purposes.

As shown, the saguaros are meeting the success criteria and the Palmer's century plants are below the success criteria.

**Table 30. Recommended Additional Succulent Plantings Summary**

| Species | Total No. Transplanted | Total No. of Alive Observed (2019) | Total No. Impacted by Construction (Success Criteria)† | Above Success Criteria? |
|---|---|---|---|---|
| Pima pineapple cactus | 88 | 41 | N/A | N/A |
| Saguaro | 252* | 231 | 165 | Yes |
| Palmer's century plant | 414 | 179 | 377 | No |
| Smallflower century plant | 451 | 88 | N/A | N/A |

* This was the number provided from the Groundskeeper; however, this number is inaccurate because more than 252 transplanted saguaros were observed in the ROW during monitoring.

† For comparative purposes only. There is no requirement to meet the success criteria since the lesser long-nosed bat has been delisted.

## 5.3 Noxious Weed Monitoring

Figures 15.1 through 15.12 depict where noxious weeds were controlled or mapped (for which control of buffelgrass would have been recommended but instead was done immediately) in the HDWAs and AWAs. Since buffelgrass control efforts were conducted simultaneously with the Year Five (2019) spring and fall monitoring efforts, no additional control measures are needed for buffelgrass management in the ROW at this time. Most of these infestations are likely to recur, because a large source population of buffelgrass occurs off-ROW to serve as a seed source.

The performance criteria of ≤10% percent weed cover when noxious weed species are not outside the ROW is being achieved for 2019, since control of all buffelgrass infestations within the HDWAs and AWAs was completed. Therefore, no corrective action is needed for noxious weed infestations within the ROW.

Corrective action is triggered when cover classes for grazing, OHV travel, or pedestrian traffic exceed Index Class 4. None of the HDWAs or AWAs exceeded a cover class of 4 for grazing or OHV travel in either monitoring event in 2019; therefore, no corrective action is needed for grazing or OHV travel at these sites.

Only one infestation in one HDWA, HDWA 2, scored a pedestrian Index Class of 5 in fall 2019. This infestation was near the Taylor Lane and Ajo Highway intersection, just east of Taylor Lane. This location is near two residential developments (one development is 0.5 miles south and another is 0.75 miles northwest). Given the proximity of these residential developments and that the

infestation occurred near two well-traveled roadways, it is expected that there is a high degree of human presence and travel. Therefore, no corrective action is recommended. The remaining HDWAs and AWAs did not exceed a cover class of 4 for pedestrian travel in either monitoring event in 2019. Since the majority of the HDWAs (12 of 13) and all of the AWAs did not exceed cover class 4 for pedestrian travel, no corrective action is recommended for pedestrian travel at these sites.

## 5.4 Access Road Monitoring

The fall 2019 (Year Five) access road monitoring results found all of the access road in good to fair condition. However, the Sierrita field crew did note areas with issues, such as where noticeable erosional issues are occurring along an access road (Table 31). The specific locations of these areas are depicted on Figures 15.1–15.12.

**Table 31. Access Road Treatment Areas**

| Photo No. (see Appendix R) | Photo Location | | Monitoring Comments | Facing |
|---|---|---|---|---|
| | Easting | Northing | | |
| **AR-15: Las Delicias Road** | | | | |
| 275 | 453281 | 3516301 | Overview of typical northside runoff area along the access road. | E |
| 276 | 453847 | 3516343 | Overview of ~75-foot rocky erosional area crossing the access road. | E |
| 277 | 454067 | 3516330 | Overview of drainage area that is around a water bar area. | E |
| 278 | 454496 | 3516297 | Overview of runoff area. | E |
| 279 | 454632 | 3516298 | Overview of typical northside runoff area along the access road. | E |
| 280 | 455615 | 3516582 | Overview of southside drainage area exiting off the access road. | W |
| **AR-16: Brown Canyon Road** | | | | |
| 270 | 451319 | 3513281 | Overview of an erosional feature under a cattle guard along the access road. | E |
| 271 | 452079 | 3513062 | Overview of a pothole/dip area along the access road. | E |
| 272 | 452462 | 3513102 | Overview of a drainage area along the north side of the access road. | W |
| 273 | 452862 | 3513286 | Overview of a northside drainage area along the access road. | W |
| 274 | 454964 | 3514263 | Overview of a hump/erosional area along the access road. | W |
| **AR-18: Unnamed Road** | | | | |
| 263 | 451450 | 3510455 | Overview of typical erosional features along the access road. | E |
| 265 | 451652 | 3510328 | Overview of erosion occurring along the north side of the access road. | E |
| 266 | 451785 | 3510231 | Overview of erosion occurring along the access road. | E |
| 267 | 452067 | 3510050 | Overview of an eroded water bar along the access road. | E |
| 269 | 453177 | 3510103 | Overview of an erosional area along the access road. | E |
| **AR-19: Stillwood Ranch Road** | | | | |
| 259 | 452021 | 3507737 | Overview of an erosional and cut area along the access road. | W |
| 260 | 452532 | 3507573 | Overview of an erosional/ water runoff area along the north side of the access road. | W |

| Photo No. (see Appendix R) | Photo Location | | Monitoring Comments | Facing |
|---|---|---|---|---|
| | Easting | Northing | | |
| **AR-21: Presumido Road** | | | | |
| 249 | 447467 | 3498254 | Overview of erosion occurring on the north side of the access road for ~100 feet. | W |
| 250 | 447642 | 3498306 | Overview of erosion occurring along the access road. | E |
| 251 | 447891 | 3498347 | Overview of potholes within the access road. | W |
| 252 | 448469 | 3497978 | Overview of erosion occurring on the north side of the access road for ~50 feet. | W |
| 253 | 448644 | 3497861 | Overview of a flood area occurring along the access road. | E |
| 254 | 450441 | 3497597 | Overview of erosional rutting occurring along the access road. | E |
| **AR-22: Aros Wash Road** | | | | |
| 246 | 446494 | 3495279 | Overview of rutting erosional feature along an uphill portion of the access road. | W |

## 5.4 Tree Monitoring

The Year Five (2019) tree monitoring results revealed that 10 of the 16 monitoring areas are meeting the success criteria specified in the Guidance Documents (Table 32) with the consideration of the volunteer trees and excluding any honey mesquites. The remaining six of the 16 monitoring areas are not meeting the success criteria, additional tree plantings will occur during second quarter 2020 to meet the success criteria and all honey mesquites will be removed. After this planting, it is anticipated that no additional tree plantings would occur. None of the tree monitoring sites cover classes for OHV travel, grazing, or pedestrian traffic exceeded 4, which is the trigger for implementing corrective actions. Thus, corrective actions are not recommended at this time.

Table 32. Success Criteria Summary

| Wash ID | Total No. of Trees Planted (2015) | Total No. of Alive Trees Observed (2019)* | Total No. of Volunteer Trees Observed (2019) | Total No. of Trees Needed to Meet Success Criteria | Above Success Criteria? | No. Trees to be Planted in 2020 to Meet Success Criteria |
|---|---|---|---|---|---|---|
| 32 | 43 | 12 | 2 | 25 | No | 13 |
| 53 | 64 | 46 | 15 | 38 | Yes | 0 |
| 55 | 56 | 30 | 8 | 35 | No | 5 |
| 56 | 68 | 32 | 5 | 43 | No | 11 |
| 57 | 52 | 60 | 34 | 36 | Yes | 0 |
| 65 | 52 | 38 | 13 | 31 | Yes | 0 |
| R115 | 49 | 82 | 45 | 29 | Yes | 0 |
| 134 | 32 | 30 | 16 | 20 | Yes | 0 |
| 136 | 99 | 81 | 26 | 57 | Yes | 0 |
| 142 | 56 | 26 | 16 | 35 | No | 9 |
| 143/144† | 78 | 51 | 28 | 43 | Yes | 0 |

| Wash ID | Total No. of Trees Planted (2015) | Total No. of Alive Trees Observed (2019)* | Total No. of Volunteer Trees Observed (2019) | Total No. of Trees Needed to Meet Success Criteria | Above Success Criteria? | No. Trees to be Planted in 2020 to Meet Success Criteria |
|---|---|---|---|---|---|---|
| 145 | 60 | 33 | 32 | 40 | Yes | 7 |
| Little Thomas Wash | 70 | 36 | 25 | 45 | No | 9 |
| Thomas Canyon Wash | 52 | 90 | 77 | 33 | Yes | 0 |
| 147 | 75 | 31 | 23 | 47 | No | 16 |
| 149 | 56 | 62 | 52 | 36 | Yes | 0 |
| **Total** | | | | | | **70** |

* Includes planted and volunteer trees.

† Because washes 143 and 144 are in the same drainage, and use the same photo point, the tree numbers have been combined for those locations.

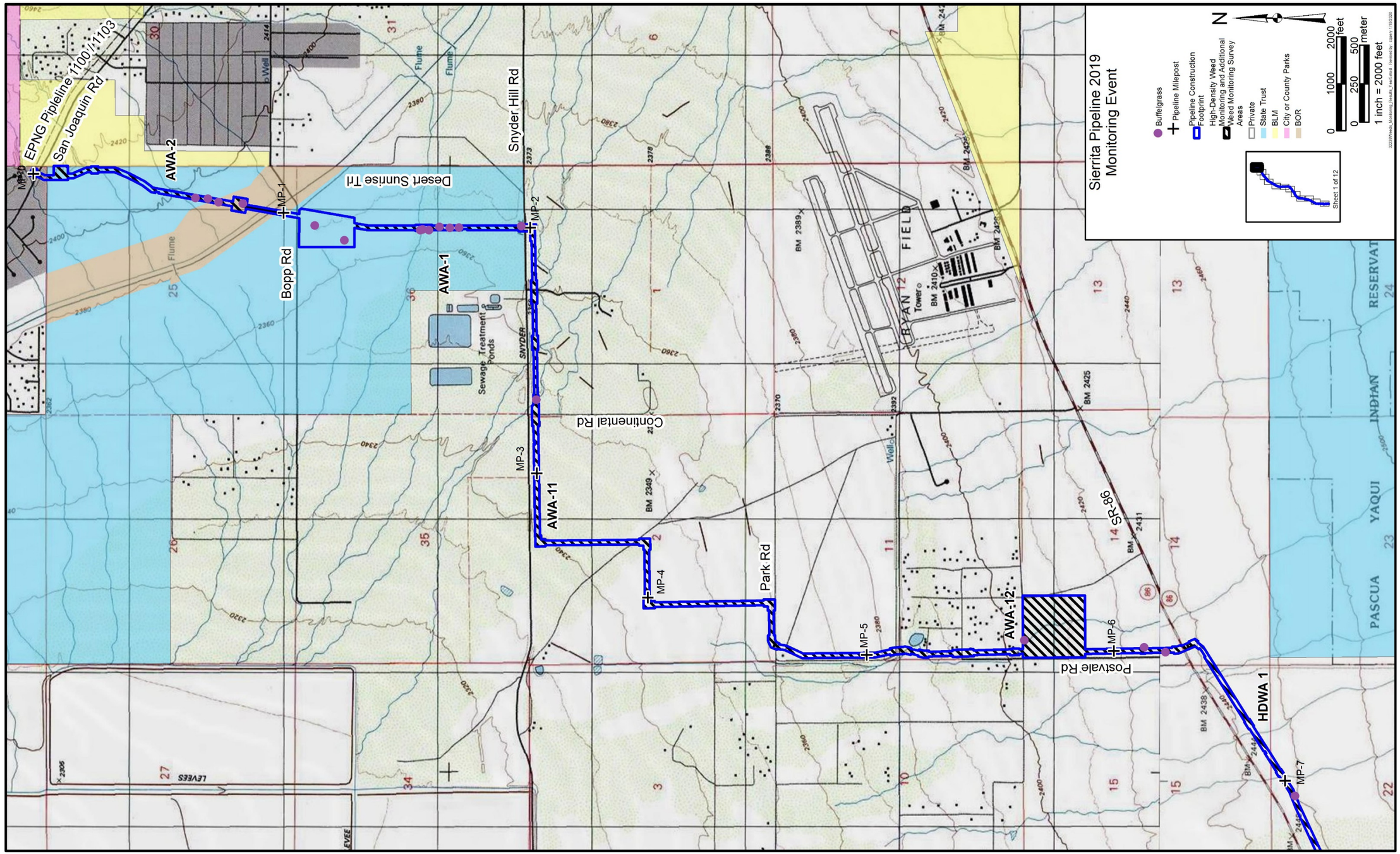



**Figure 15.1. Location of noxious and invasive weed infestations.**

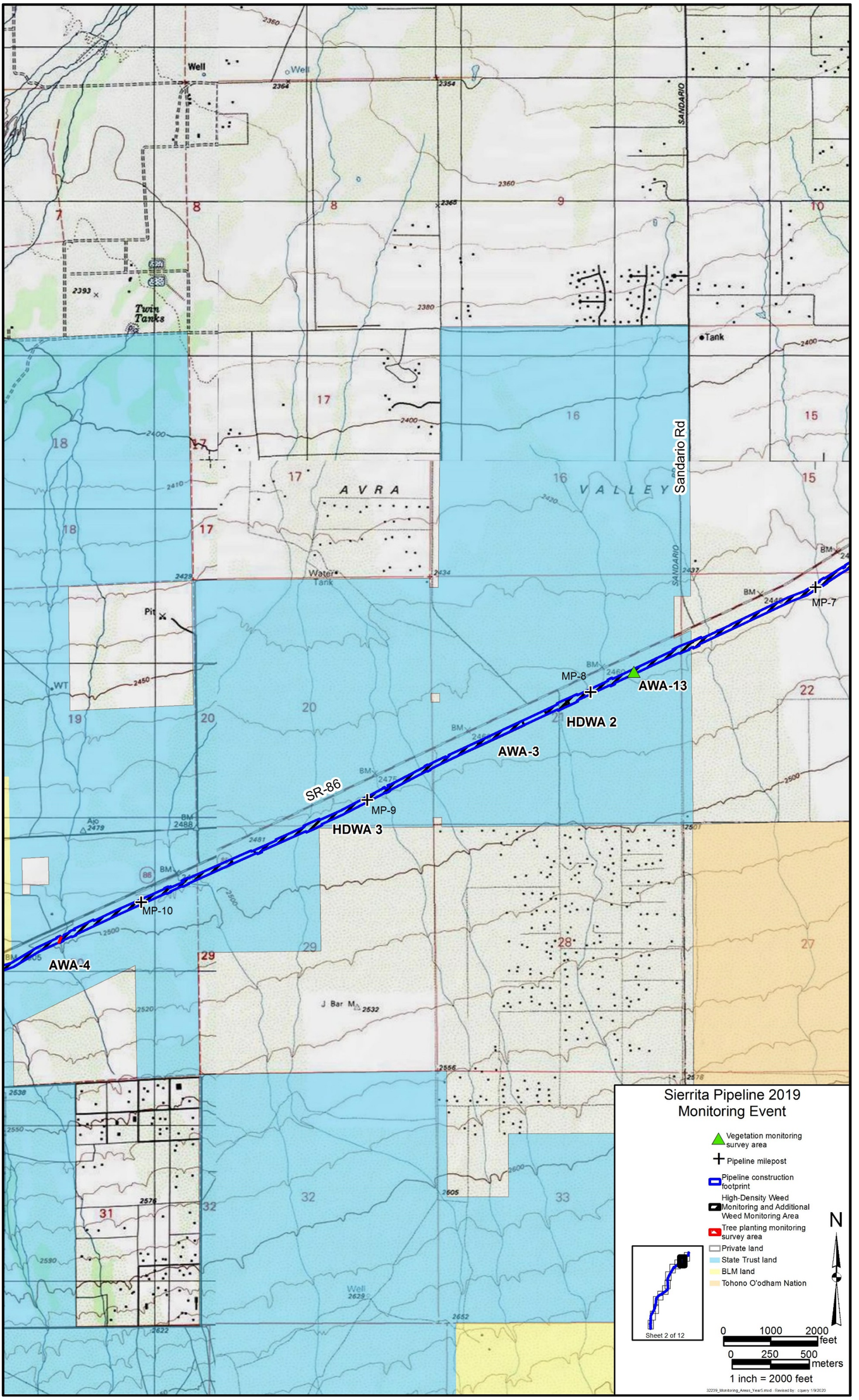



**Figure 15.2. Location of noxious and invasive weed infestations.**

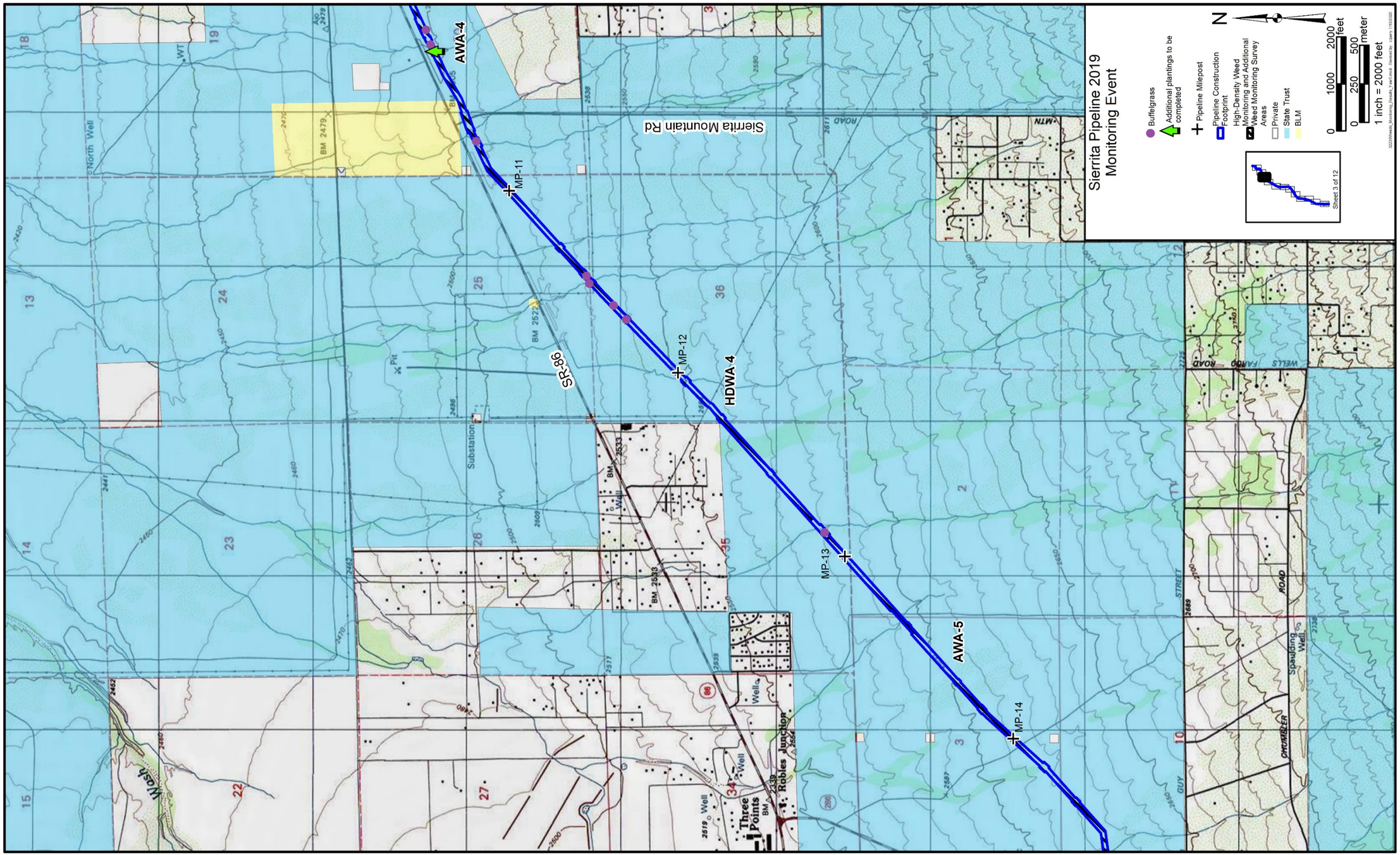



**Figure 15.3. Location of noxious and invasive weed infestations.**

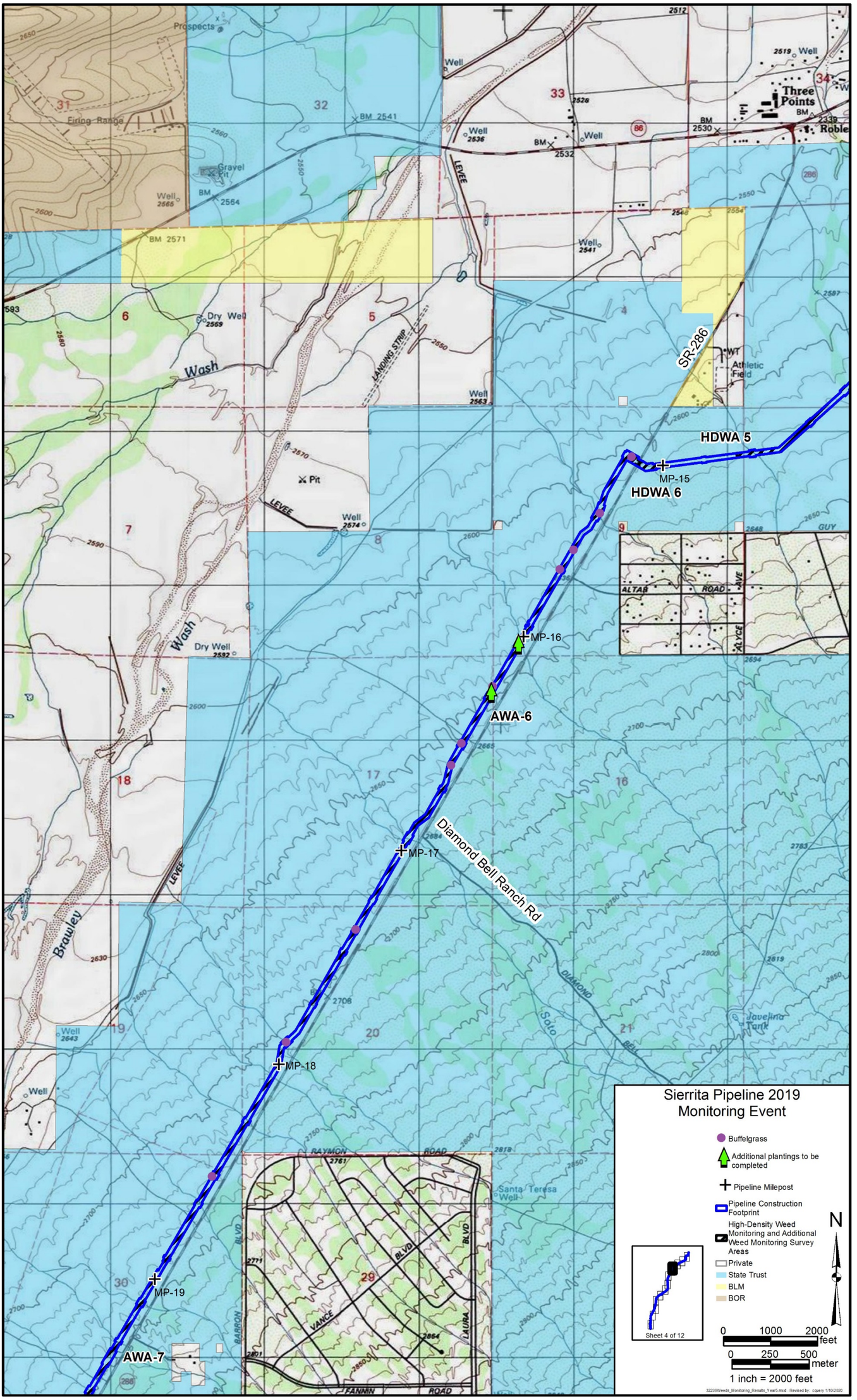



**Figure 15.4. Location of noxious and invasive weed infestations.**

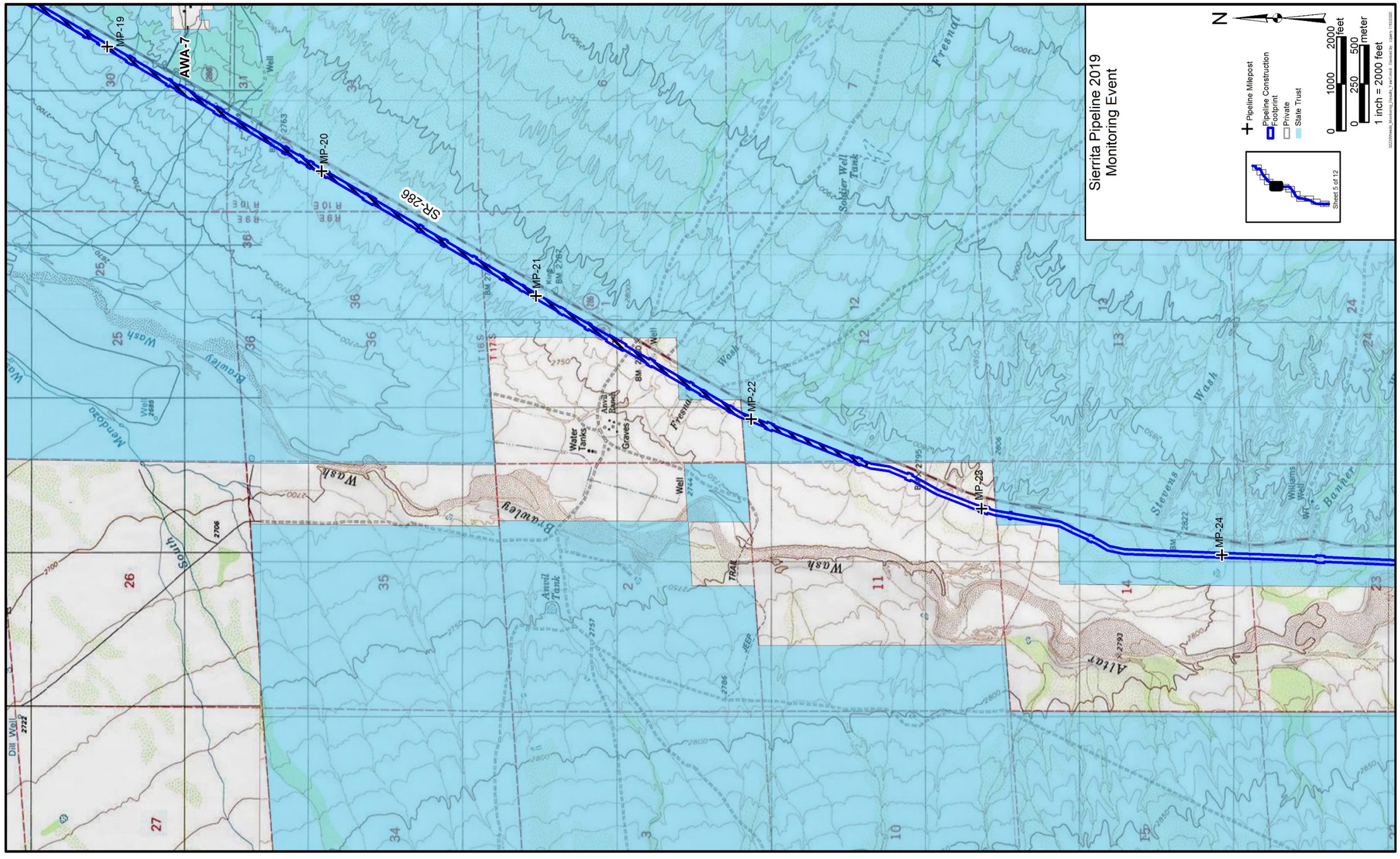



**Figure 15.5. Location of noxious and invasive weed**

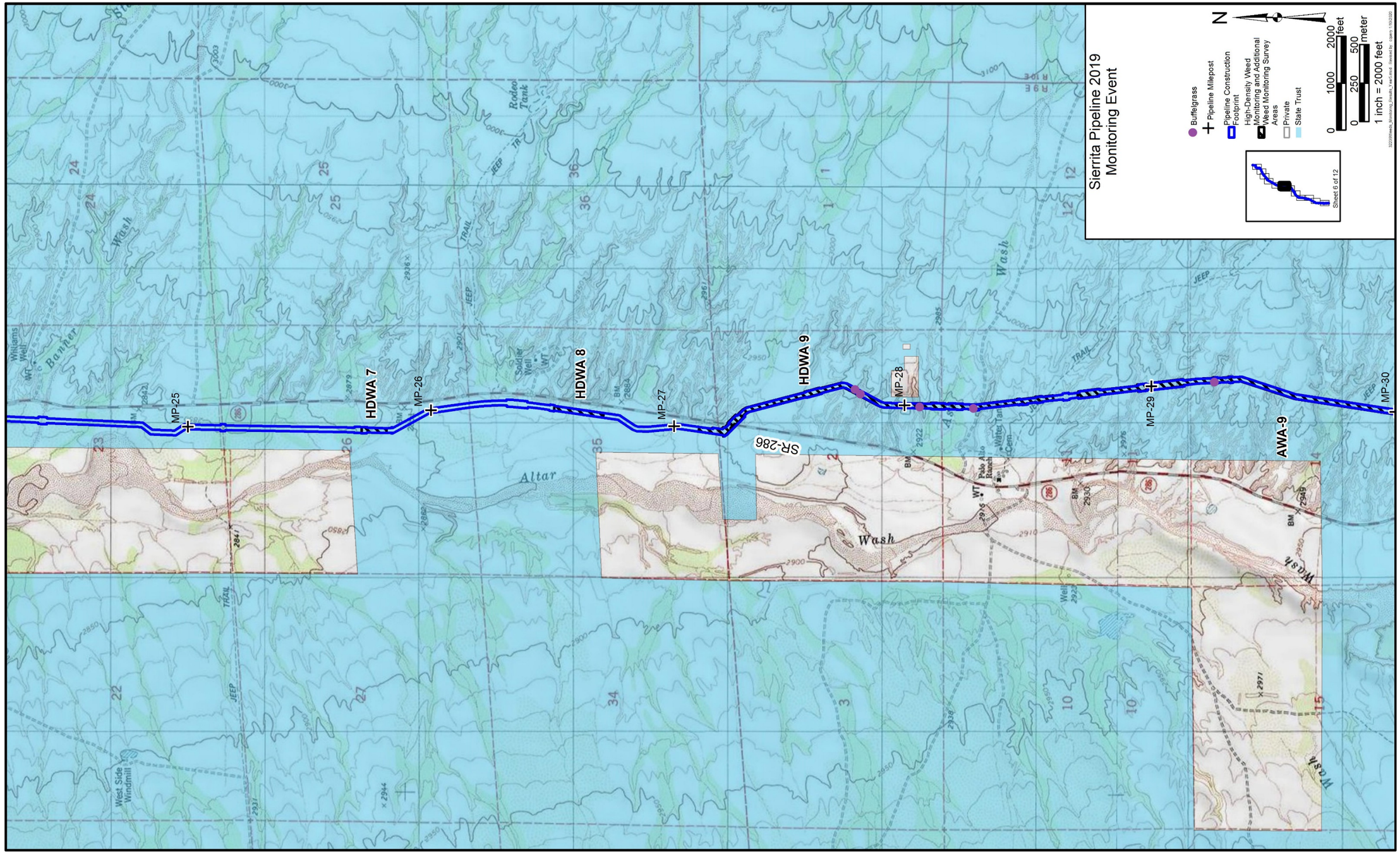
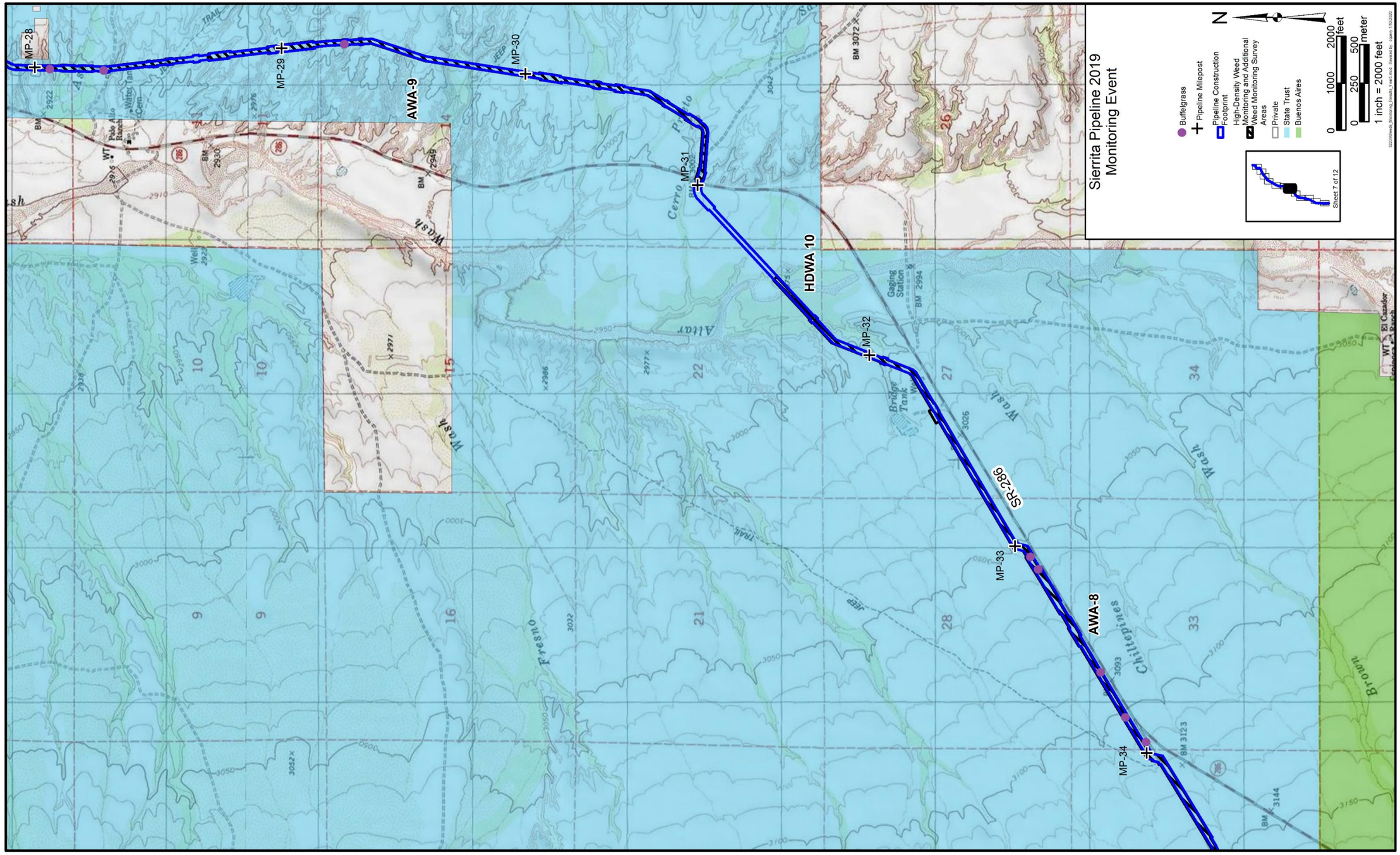



**Figure 15.6. Location of noxious and invasive weed infestations.**


Sierrita Pipeline 2019
Monitoring Event
N
Buffelgrass
Pipeline Milepost
Pipeline Construction Footprint
High-Density Weed Monitoring and Additional Weed Monitoring Survey Areas
Private
State Trust
Buenos Aires
0 1000 2000 feet
0 250 500 meter
1 inch = 2000 feet
Sheet 7 of 12
MP-28
MP-29
MP-30
MP-31
MP-32
MP-33
MP-34
AWA-9
HDWA 10
AWA-8
SR-286
Cerro Prieto
Gaging Station
Bridge Tank
Wash
Fresno
Chiltepines
Brownt
Pima Mine Road
Trail
Jeep
Well
Tank
Cem.
Pits
Pima Air Museum
Pima Air & Space Museum
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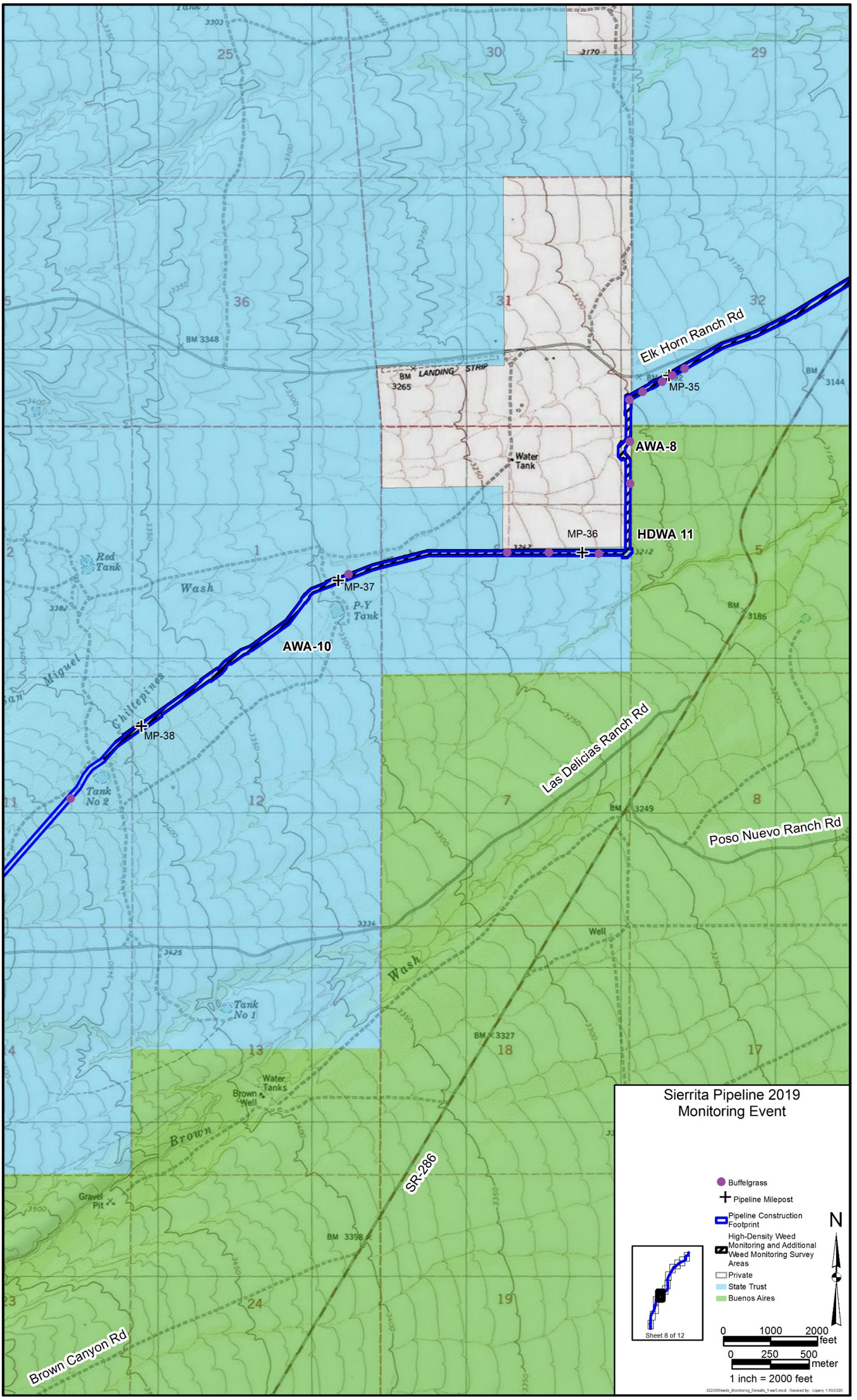



**Figure 15.8. Location of noxious and invasive weed infestations.**

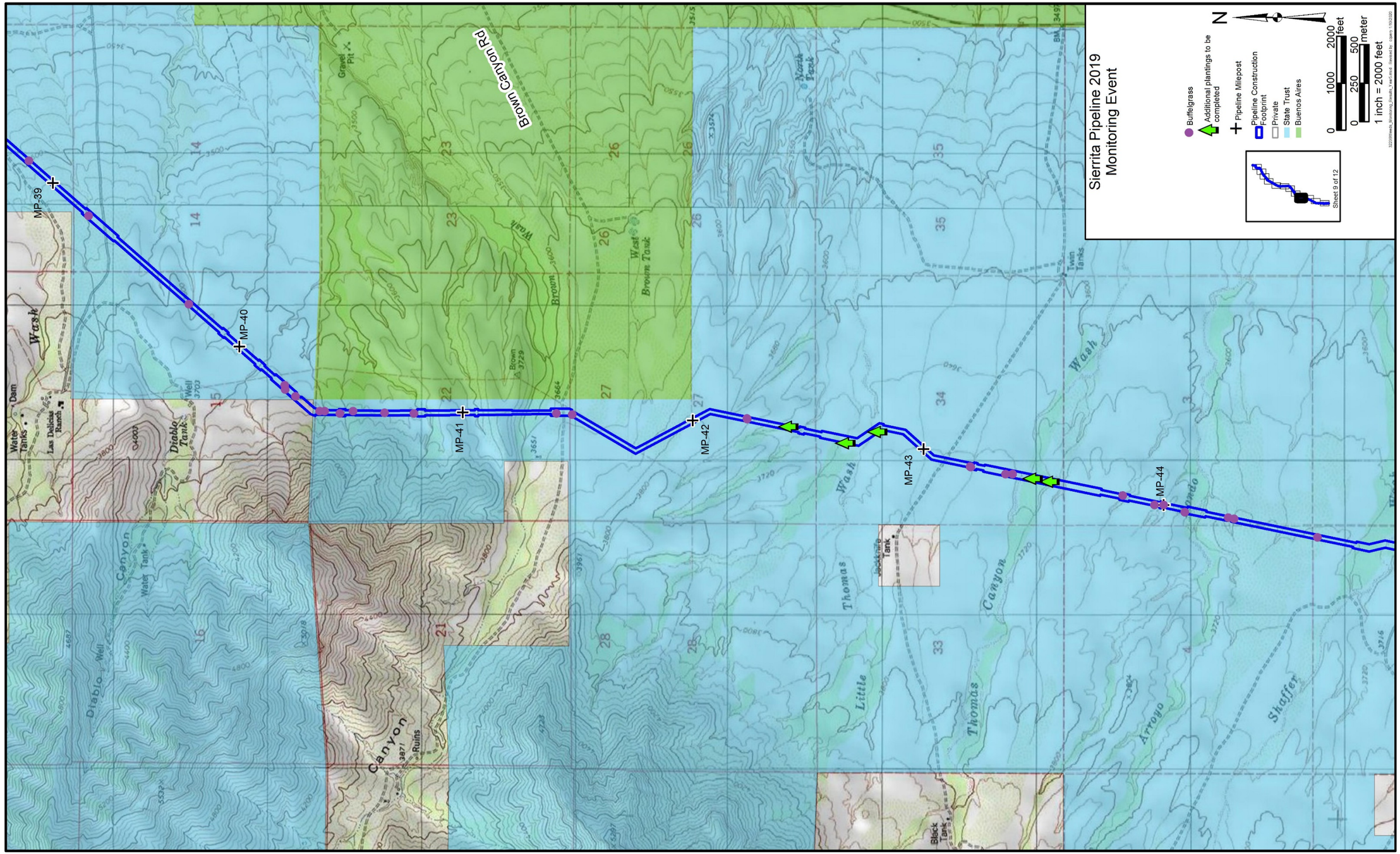



**Figure 15.9. Location of noxious and invasive weed infestations.**

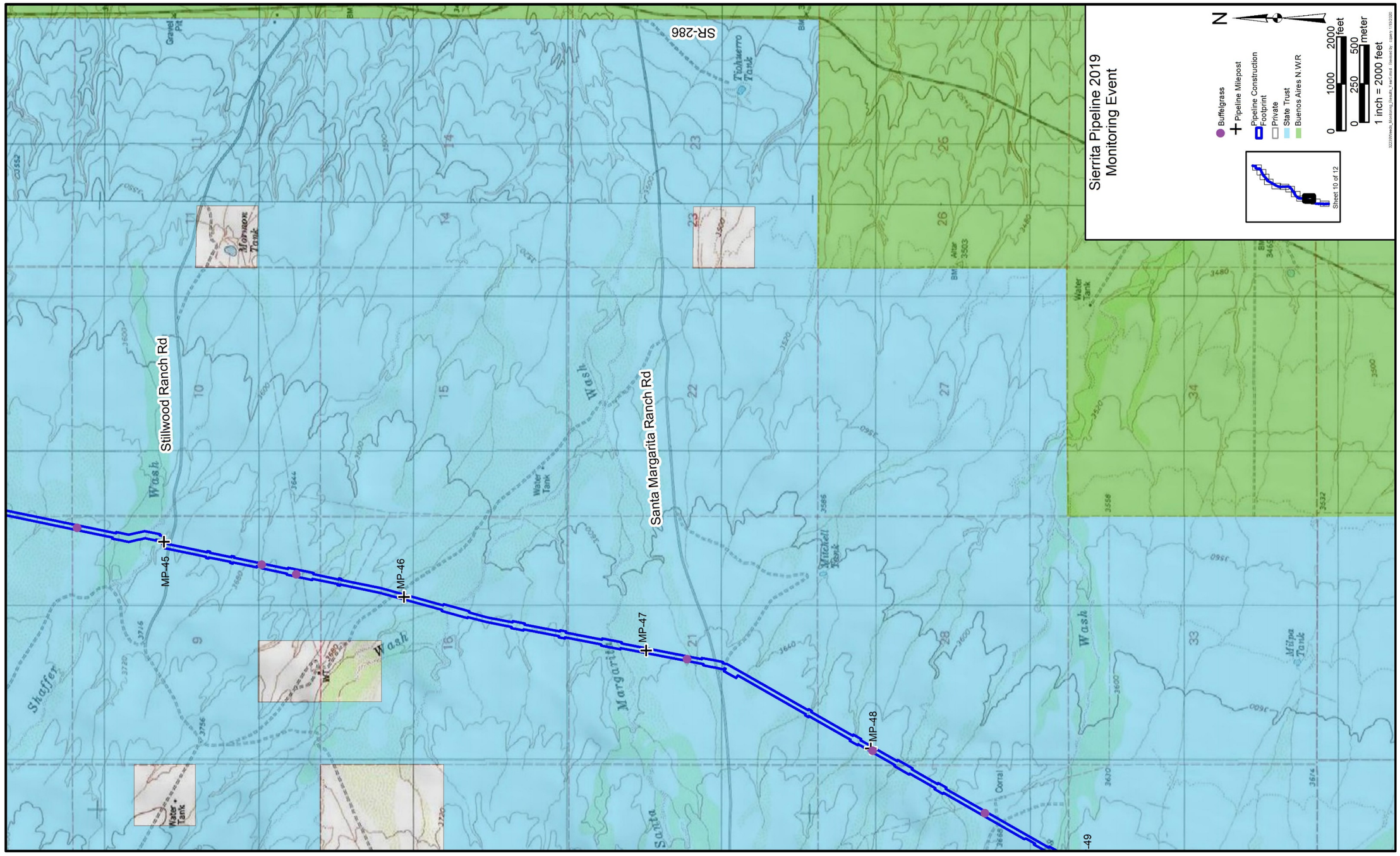



**Figure 15.10. Location of noxious and invasive weed infestations.**

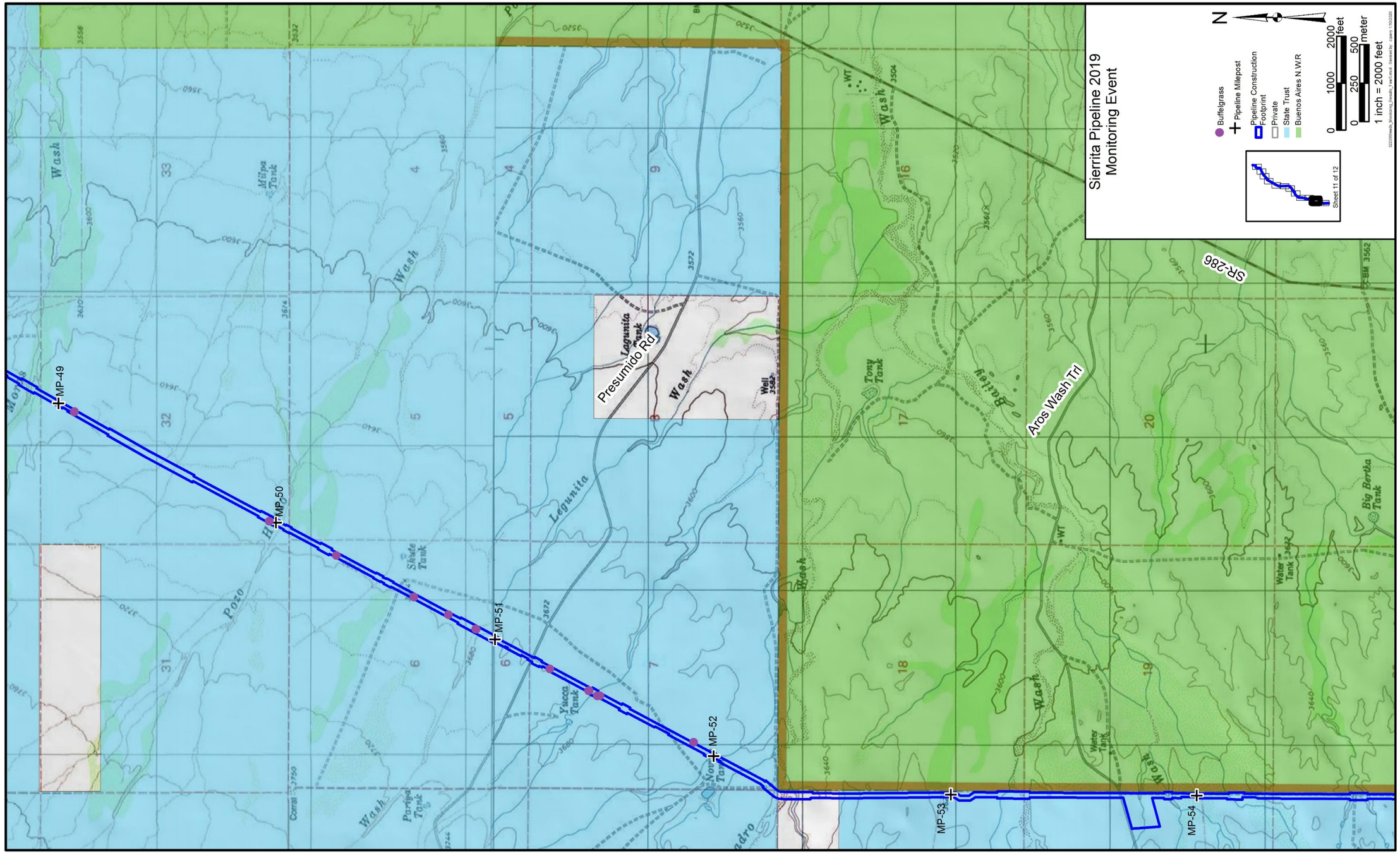



**Figure 15.11. Location of noxious and invasive weed infestations.**

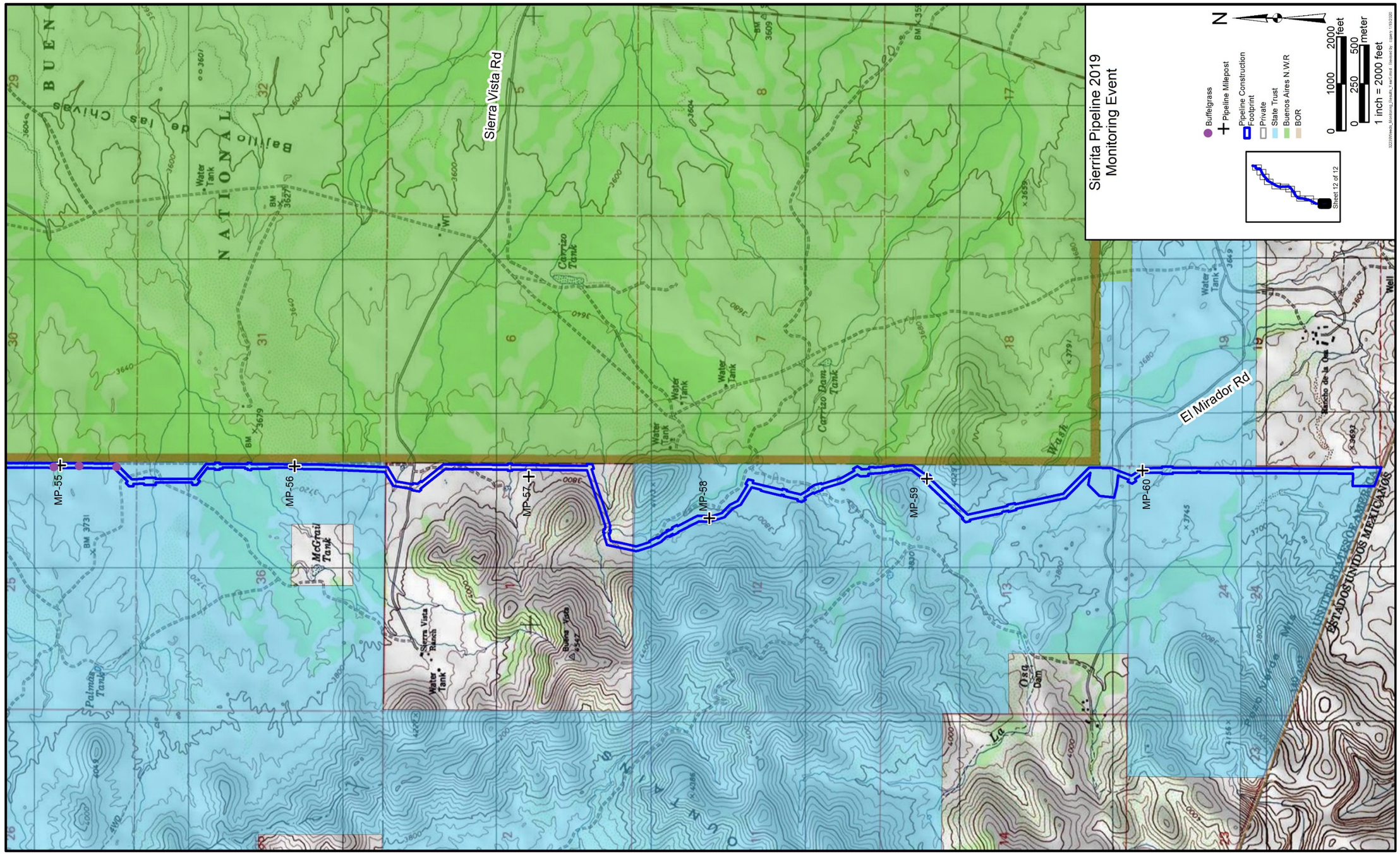



**Figure 15.12. Location of noxious and invasive weed infestations.**

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# APPENDIX A

## Sierrita Vegetation Monitoring Staff

## Table A-1. Sierrita Project Staff Information

| Staff Name | Project Role | Education | Years of Biological Experience (in Southwestern U.S.) |
|---|---|---|---|
| Russell Waldron | Project Manager | B.S., Renewable Natural Resources, University of Arizona; Tucson, 1994<br>B.S., Business Administration, University of Arizona; Tucson, 1986 | 27<br>(27) |
| Eleanor Gladding | Ecologist | M.S., Ecology, University of Central Florida; Orlando, 1998<br>B.S., Biology, Berry College; Rome, Georgia, 1994 | 29<br>(19) |
| Dr. Mandy Williams | Statistician | B.S., Soil Science, University of Missouri-Columbia; 2005<br>Ph.D., Geoscience (Soil Science), University of Nevada; Las Vegas, 2011 | 15<br>(10) |
| Bob Pape | Field Crew/Botanist | B.A., Biology, North Central College; Naperville, Illinois, 1973 | 31<br>(31) |
| John Durham | Field Crew/Succulent Expert | A.S., Business, Long Beach City College; Long Beach, California, 1970 | 19<br>(19) |
| Colin Ager | Field Crew/Database Manager | M.S., Planning, University of Arizona; Tucson, 2017<br>B.S., Environmental Science, Westminster College; New Wilmington, Pennsylvania, 2012 | 7<br>(5.5) |
| Stacy Campbell | Field Crew Lead/Database Assistant | M.S., Wildlife Conservation and Management, University of Arizona; Tucson, 2008<br>B.S. Zoology, Humboldt State University; Arcata, California, 1999 | 14.5<br>(14.5) |
| Thomas Staudt | Field Crew/Succulent Expert | B.A., General Science, University of Iowa; Iowa City, 1977 | 27.5<br>(27.5) |
| Robert Hergenrother | Field Crew | B.S., Earth Sciences (Meteorology), California University of Pennsylvania; California, Pennsylvania, 1998. Coursework in ecology/hydrology at Rutgers University. | 9<br>(3) |

Additional field crew project staff for the weed control and removal included Maggie Evancho, Eric Petersen, India Hesse, and Heather West. Ms. Evancho, Ms. Hesse, and Ms. West have worked on several previous weed control and removal efforts and thus have demonstrated the necessary knowledge, experience, and familiarity with the environment to conduct these efforts. In addition, these staff were accompanied and led by a Sierrita Project staff member listed above during weed control and removal efforts.

# APPENDIX B

## Comprehensive Plant List Through 2019

| Scientific Name* | Acronym | Common Name* | Status | On ROW | Off ROW |
|---|---|---|---|---|---|
| *Abutilon coahuilae* | ABUCOA | Indian mallow | Native | X | |
| *Abutilon* sp. | ABU SP. | Indian mallow | Native | | X |
| *Acalypha neomexicana* | ACANEO | New Mexico copperleaf | Native | X | X |
| *Acmispon rigidus* | ACMRIG | Shrubby deervetch | Native | | |
| *Acourtia wrightii* | ACOWRI | Brownfoot | Native | | X |
| *Agave colorata* | AGACOL | Mescal Ceniza | Introduced | X | |
| *Agave palmeri* | AGAPAL | Palmer's century plant | Native | X | X |
| *Agave parviflora* | AGAPAR | Smallflower century plant | Native | X | X |
| *Allionia choisyi* | ALLCHO | Annual windmills | Native | X | X |
| *Allionia incarnata* | ALLINC | Trailing windmills | Native | X | X |
| *Allium* sp. | ALL SP. | Onion | Native | | X |
| *Amaranthus albus* | AMAALB | Prostrate pigweed | Introduced | X | |
| *Amaranthus fimbriatus* | AMAFIM | Fringed amaranth | Native | | X |
| *Amaranthus palmeri* | AMAPAL | Carelessweed | Native | X | X |
| *Ambrosia acanthicarpa* | AMBACA | Flatspine bur ragweed | Native | X | X |
| *Ambrosia ambrosioides* | AMBAMB | Ambrosia leaf bur ragweed | Native | | X |
| *Ambrosia deltoidea* | AMBDEL | Triangle bur ragweed | Native | | X |
| *Ambrosia monogyra* | AMBMON | Singlewhorl burrobrush | Native | X | X |
| *Ambrosia psilostachya* | AMBPSI | Cuman ragweed | Native | X | X |
| *Amsinckia tessellata* | AMSTES | Bristly fiddleneck | Native | X | X |
| *Androsace occidentalis* | ANDOCC | Western rockjasmine | Native | X | X |
| *Anisacanthus thurberi* | ANITHU | Thurber's desert honeysuckle | Native | | X |
| *Apodanthera undulata* | APOUND | Melon loco | Native | X | |
| *Argemone polyanthemos* | ARGPOL | Crested pricklypoppy | Native | X | X |
| *Argythamnia neomexicana* | ARGNEO | New Mexico silverbush | Native | X | |
| *Aristida purpurea* | ARIPUR | Purple threeawn | Native | X | X |
| *Aristida ternipes* | ARITER | Spidergrass | Native | X | X |
| *Asclepias asperula* | ASCASP | Spider milkweed | Native | | |
| *Asclepias linearis* | ASCLIN | Slim milkweed | Native | | X |
| *Astragalus* sp. #1 | AST SP. | Milkvetch | Native | X | X |
| *Astragalus* sp. #2 | AST SP. | Milkvetch | Native | X | X |
| *Atriplex canescens* | ATRCAN | Fourwing saltbush | Native | X | X |
| *Atriplex elegans* | ATRELE | Wheelscale saltbush | Native | X | X |

| Scientific Name* | Acronym | Common Name* | Status | On ROW | Off ROW |
|---|---|---|---|---|---|
| *Atriplex lentiformis* | ATRLEN | Big saltbush | Native | X | |
| *Atriplex polycarpa* | ATRPOL | Cattle saltbush | Native | X | |
| *Ayenia compacta* | AYECOM | California ayenia | Native | X | |
| *Ayenia filiformis* | AYEFIL | Trans-Pecos ayenia | Native | X | X |
| *Baccharis sarothroides* | BACSAR | Desertbroom | Native | X | X |
| *Bahia absinthifolia* | BAHABS | Hairyseed bahia | Native | | X |
| *Baileya multiradiata* | BAIMUL | Desert marigold | Native | X | X |
| *Baileya pleniradiata* | BAIPLE | Woolly desert marigold | Native | X | |
| *Bebbia juncea* | BEBJUN | Sweetbush | Native | X | |
| *Bidens leptocephala* | BIDLEP | Fewflower beggarticks | Native | X | X |
| *Boerhavia coccinea* | BOECOC | Scarlet spiderling | Native | X | X |
| *Boerhavia erecta* | BOEERE | Erect spiderling | Native | X | X |
| *Boerhavia intermedia* | BOEINT | Fivewing spiderling | Native | X | X |
| *Boerhavia spicata* | BOESPI | Creeping spiderling | Native | X | |
| *Bothriochloa barbinodis* | BOTBAR | Cane bluestem | Native | | X |
| *Bouteloua aristidoides* | BOUARI | Needle grama | Native | X | X |
| *Bouteloua barbata* | BOUBAR | Sixweeks grama | Native | | X |
| *Bouteloua chondrosioides* | BOUCHO | Sprucetop grama | Native | | X |
| *Bouteloua curtipendula* | BOUCUR | Sideoats grama | Native | X | X |
| *Bouteloua eriopoda* | BOUERI | Black grama | Native | X | |
| *Bouteloua hirsuta* | BOUHIR | Hairy grama | Native | X | X |
| *Bouteloua repens* | BOUREP | Slender grama | Native | X | X |
| *Bouteloua rothrockii* | BOUROT | Rothrock's grama | Native | X | X |
| *Bowlesia incana* | BOWINC | Hoary bowlesia | Native | | X |
| *Brassica* sp. | BRA SP. | Mustard | Native | X | |
| *Brassica tournefortii* | BRATOU | Asian mustard | Introduced | X | X |
| *Calliandra eriophylla* | CALERI | Fairyduster | Native | X | X |
| *Calochortus* sp. | CAL SP. | Mariposa lily | Native | | X |
| *Carnegiea gigantea* | CARGIG | Saguaro | Native | X | X |
| *Celtis ehrenbergiana* | CELEHR | Spiny hackberry | Native | X | X |
| *Cenchrus longispinus* | CENLON | Mat sandbur | Native | X | |
| *Cenchrus spinifex* | CENSPI | Coastal Sandbur | Native | X | |
| *Centaurea melitensis* | CENMEL | Maltese star-thistle | Introduced | X | |

| Scientific Name* | Acronym | Common Name* | Status | On ROW | Off ROW |
|---|---|---|---|---|---|
| *Chamaecrista nictitans* | CHANIC | Sensitive partridge pea | Native | X | X |
| *Chamaesaracha coronopus* | CHACOR | Greenleaf five eyes | Native | X | |
| *Chamaesyce abramsiana* | CHAABR | Abrams' sandmat | Native | X | X |
| *Chamaesyce arizonica* | CHAARI | Arizona sandmat | Native | X | X |
| *Chamaesyce florida* | CHAFLO | Chiricahua Mountain sandmat | Native | X | X |
| *Chamaesyce gracillima* | CHAGRA | Mexican sandmat | Native | X | X |
| *Chamaesyce hirta* | CHAHIR | Pillpod sandmat | Native | X | |
| *Chamaesyce hyssopifolia* | CHAHYS | Hyssopleaf sandmat | Native | | X |
| *Chamaesyce micromera* | CHAMIC | Sonoran sandmat | Native | X | X |
| *Chamaesyce stictospora* | CHASTI | slimseed sandmat | Native | X | |
| *Chamaesyce* sp. | CHA SP. | Not identified | Native | X | |
| *Cheilanthes wrightii* | CHEWRI | Wright's lipfern | Native | | X |
| *Chenopodium album* | CHEALB | Lambsquarters | Native | X | |
| *Chenopodium incanum* | CHEINC | Mealy goosefoot | Native | X | |
| *Chenopodium pratericola* | CHEPRA | Desert goosefoot | Native | X | |
| *Chilopsis linearis* | CHILIN | Desert willow | Native | X | |
| *Chloris virgata* | CHLVIR | Feather fingergrass | Native | X | X |
| *Chorizanthe brevicornu* | CHOBRE | Brittle spineflower | Native | | X |
| *Cirsium* sp. | CIR SP. | Thistle | Native ? | X | |
| *Clematis drummondii* | CLEDRU | Drummond's clematis | Native | X | X |
| *Commelina erecta* | COMERE | Whitemouth dayflower | Native | | X |
| *Commicarpus scandens* | COMSCA | Climbing wartclub | Native | | X |
| *Condalia correllii* | CONCOR | Correll's snakewood | Native | X | X |
| *Conyza canadensis* | CONCAN | Canadian horseweed | Native | X | |
| *Corydalis aurea* | CORAUR | Scrambled eggs | Native | X | |
| *Coryphantha robustispina* ssp. *robustispina* | CORROB | Long-tubercle beehive cactus | Native | X | X |
| *Cottea pappophoroides* | COTPAP | Cotta grass | Native | X | |
| *Crotalaria pumila* | CROPUM | Low rattlebox | Native | X | |
| *Croton pottsii* | CROPOT | Leatherweed | Native | X | X |
| *Cryptantha* sp. 1 | CRY SP. 1 | Cryptantha | Native | X | |
| *Cryptantha* sp. 2 | CRY SP. 2 | Cryptantha | Native | X | |
| *Cucurbita digitata* | CUCDIG | Fingerleaf gourd | Native | X | |
| *Cylindropuntia acanthocarpa* | CYLACA | Buck-horn cholla | Native | | X |

| Scientific Name* | Acronym | Common Name* | Status | On ROW | Off ROW |
|---|---|---|---|---|---|
| *Cylindropuntia arbuscula* | CYLARB | Arizona pencil cholla | Native | | X |
| *Cylindropuntia fulgida* | CYLFUL | Jumping cholla | Native | | X |
| *Cylindropuntia leptocaulis* | CYLLEP | Christmas cactus | Native | | X |
| *Cylindropuntia spinosior* | CYLSPI | Walkingstick cactus | Native | | X |
| *Cylindropuntia versicolor* | CYLVER | Staghorn cholla | Native | | X |
| *Cynodon dactylon* | CYNDAC | Bermudagrass | Introduced | X | X |
| *Cyperus squarrosus* | CYPSQU | Bearded flatsedge | Native | X | X |
| *Dactyloctenium aegyptium* | DACAEG | Egyptian grass | Introduced | X | |
| *Dalea pulchra* | DALPUL | Santa Catalina prairie clover | Native | | X |
| *Dasyochloa pulchella* | DASPUL | Low woollygrass | Native | X | X |
| *Datura inoxia* | DATINO | Pricklyburr | Introduced | X | X |
| *Desmodium procumbens* | DESPRO | Western trailing ticktrefoil | Native | | X |
| *Dichanthelium acuminatum* | DICACU | Tapered rosette grass | Native | X | |
| *Digitaria californica* | DIGCAL | Arizona cottontop | Native | X | X |
| *Digitaria sanguinalis* | DIGSAN | Hairy crabgrass | Introduced | X | |
| *Diodia teres* | DIOTER | Poorjoe | Native | | X |
| *Ditaxis neomexicana* | DITNEO | New Mexico silverbush | Native | X | X |
| *Dodonaea viscosa* | DODVIS | Florida hopbush | Native | X | X |
| *Echeandia flavescens* | ECHFLA | Torrey's craglily | Native | | X |
| *Echinocereus fasciculatus* | ECHFAS | Pinkflower hedgehog cactus | Native | | X |
| *Echinocereus rigidissimus* | ECHRIG | Rainbow hedgehog cactus | Native | | X |
| *Echinochloa colona* | ECHCOL | Jungle rice | Introduced | X | |
| *Echinopepon wrightii* | ECHWRI | Wild balsam apple | Native | | X |
| *Encelia farinosa* | ENCFAR | Brittlebush | Native | X | X |
| *Encelia frutescens* | ENCFRU | Button brittlebush | Native | | X |
| *Enneapogon desvauxii* | ENNDES | Nineawn pappusgrass | Native | X | X |
| *Ephedra trifurca* | EPHTRI | Longleaf jointfir | Native | | X |
| *Eragrostis cilianensis* | ERACIL | Stinkgrass | Introduced | X | X |
| *Eragrostis curvula* | ERACUR | Weeping lovegrass | Introduced | X | X |
| *Eragrostis echinochloidea* | ERAECH | African lovegrass | Introduced | X | |
| *Eragrostis intermedia* | ERAINT | Plains lovegrass | Native | X | X |
| *Eragrostis lehmanniana* | ERALEH | Lehmann lovegrass | Introduced | X | X |
| *Eriastrum diffusum* | ERIDIF | Miniature woollystar | Native | | X |

| Scientific Name* | Acronym | Common Name* | Status | On ROW | Off ROW |
|---|---|---|---|---|---|
| *Ericameria laricifolia* | ERILAR | Turpentine bush | Native | | X |
| *Erigeron* sp. | ERI SP. | Fleabane | Native | X | X |
| *Eriochloa acuminata* | ERIACU | Tapertip cupgrass | Native | X | |
| *Eriogonum abertianum* | ERIABE | Abert's buckwheat | Native | X | X |
| *Eriogonum deflexum* | ERIDEF | Flatcrown buckwheat | Native | X | X |
| *Eriogonum fasciculatum* | ERIFAS | Eastern Mojave buckwheat | Native | | X |
| *Eriogonum polycladon* | ERIPOL | Sorrel buckwheat | Native | X | |
| *Eriogonum trichopes* | ERITRI | Little deserttrumpet | Native | X | X |
| *Eriogonum wrightii* | ERIWRI | Bastardsage | Native | X | |
| *Erodium cicutarium* | EROCIC | Redstem stork's bill | Introduced | X | X |
| *Erythrina flabelliformis* | ERYFLA | Coralbean | Native | | X |
| *Eschscholzia* sp. | ESC SP. | California poppy | Native | X | |
| *Escobaria vivipara* | ESCVIV | Spinystar | Native | | X |
| *Euphorbia davidii* | EUPDAV | David's spurge | Introduced | X | X |
| *Euphorbia exstipulata* | EUPEXS | Squareseed spurge | Native | X | |
| *Euphorbia gracillima* | EUPGRA | Mexican sandmat | Native | | X |
| *Evolvulus arizonicus* | EVOARI | Wild dwarf morning-glory | Native | X | X |
| *Eysenhardtia orthocarpa* | EYSORT | Tahitian kidneywood | Native | | X |
| *Fendlera rupicola* | FENRUP | Cliff fendlerbush | Native | | X |
| *Ferocactus emoryi* | FEREMO | Emory's barrel cactus | Native | | X |
| *Ferocactus wislizeni* | FERWIS | Candy barrelcactus | Native | X | X |
| *Festuca octoflora* | FESOCT | Sixweeks fescue | Native | | X |
| *Fouquieria splendens* | FOUSPL | Ocotillo | Native | X | X |
| *Funastrum cynanchoides* | FUNCYN | Fringed twinevine | Native | | X |
| *Funastrum cynanchoides* ssp. *heterophyllum* | FUNCYN | Hartweg's twinevine | Native | | X |
| *Gaillardia pulchella* | GAIPUL | Indian blanket | Native | X | |
| *Galium proliferum* | GALPRO | Limestone bedstraw | Native | | |
| *Gilia* ? sp. | GIL SP. | Gilia | Native | | X |
| *Glandularia gooddingii* | GLAGOO | Southwestern mock vervain | Native | X | X |
| *Gomphrena sonorae* | GOMSON | Sonoran globe amaranth | Native | | X |
| *Gossypium thurberi* | GOSTHU | Thurber's cotton | Native | | X |
| *Gutierrezia microcephala* | GUTMIC | Threadleaf snakeweed | Native | X | X |
| *Gutierrezia sarothrae* | GUTSAR | Broom snakeweed | Native | | X |

| Scientific Name* | Acronym | Common Name* | Status | On ROW | Off ROW |
|---|---|---|---|---|---|
| *Heliomeris longifolia* | HELCON | Longleaf false goldeneye | Native | X | |
| *Herissantia crispa* | HERCRI | Bladdermallow | Native | X | |
| *Heteropogon contortus* | HETCON | Tanglehead | Native | X | X |
| *Heterotheca subaxillaris* | HETSUB | Camphorweed | Native | | X |
| *Hibiscus biseptus* | HIBBIS | Arizona rosemallow | Native | X | |
| *Hibiscus coulteri* | HIBCOU | Desert rosemallow | Native | | X |
| *Hibiscus denudatus* | HIBDEN | Paleface | Native | | X |
| *Hilaria rigida* | HILRIG | Big galleta | Native | | X |
| *Hymenoclea monogyra* | HYMMON | Singlewhorl burrobrush | Native | X | |
| *Hymenothrix wislizeni* | HYMWIS | Trans-Pecos thimblehead | Native | X | X |
| *Ipomoea coccinea* | IPOCOC | Redstar | Introduced; PNW | X | X |
| *Ipomoea hederacea* | IPOHED | Ivyleaf morning-glory | Introduced; PNW | X | X |
| *Ipomoea longifolia* | IPOLON | Pinkthroat morning-glory | Native; PNW | X | |
| *Ipomoea ternifolia* | IPOTER | Tripleleaf morning-glory | Native; PNW | X | X |
| *Isocoma tenuisecta* | ISOTEN | Burroweed | Native | X | X |
| *Janusia gracilis* | JANGRA | Slender janusia | Native | | X |
| *Jatropha cardiophylla* | JATCAR | Sangre de cristo | Native | | X |
| *Justicia* sp. | JUS sp. | water-willow | Native ? | | X |
| *Kallstroemia californica* | KALCAL | California caltrop | Native | X | |
| *Kallstroemia grandiflora* | KALGRA | Arizona poppy | Native | X | X |
| *Krameria erecta* | KRAERE | Littleleaf ratany | Native | | X |
| *Laennecia coulteri* | LAECOU | Coulter's horseweed | Native | X | |
| *Larrea tridentata* | LARTRI | Creosote bush | Native | X | X |
| *Lepidium* sp. | LEP SP. | Pepperweed | Native | X | X |
| *Leptochloa dubia* | LEPDUB | Green sprangletop | Native | X | |
| *Leptochloa panicea* | LEPPAN | Mucronate sprangeltop | Native | X | |
| *Leptosiphon aureus* | LEPAUR | Golden linanthus | Native | | X |
| *Lesquerella gordonii* | LESGOR | Gordon's bladderpod | Native | X | X |
| *Lesquerella purpurea* | LESPUR | Rose bladderpod | Native | X | X |
| *Linanthus bigelovii* | LINBIG | Bigelow's linanthus | Native | | X |
| *Linum lewisii* | LINLEW | Lewis flax | Native | X | X |
| *Linum puberulum* | LINPUB | Plains flax | Native | X | X |
| *Lotus humistratus* | LOTHUM | Foothill deervetch | Native | X | X |

| Scientific Name* | Acronym | Common Name* | Status | On ROW | Off ROW |
|---|---|---|---|---|---|
| *Lotus strigosus* | LOTSTR | Strigose bird's-foot trefoil | Native | | X |
| *Lupinus* sp. 1 | LUP SP. 1 | Lupine | Native | X | |
| *Lupinus* sp. 2 | LUP SP. 2 | Lupine | Native | X | |
| *Lycium andersonii* | LYCAND | Water jacket | Native | X | X |
| *Lycium berlandieri* | LYCBER | Berlandier's wolfberry | Native | | X |
| *Machaeranthera tanacetifolia* | MACTAN | Tanseyleaf tansyaster | Native | X | X |
| *Mahonia haematocarpa* | MAHHAE | Red barberry | Native | | X |
| *Malva parviflora* | MALPAR | Cheeseweed mallow | Introduced | X | |
| *Malva* ? sp. | MAL SP. | Mallow | Native | X | |
| *Mammillaria grahamii* | MAMGRA | Graham's nipple cactus | Native | | X |
| *Mammillaria heyderi* | MAMHEY | Little nipple cactus | Native | | X |
| *Melinis repens* | MELREP | Rose Natal grass | Introduced | X | X |
| *Mentzelia multiflora* | MENMUL | Adonis blazingstar | Native | X | |
| *Microseris lindleyi* | LINSIL | Lindley's silverpuffs | Native | X | X |
| *Mimosa aculeaticarpa* | MIMACU | Catclaw mimosa | Native | | X |
| *Mimosa dysocarpa* | MIMDYS | Velvetpod mimosa | Native | X | X |
| *Mollugo verticillata* | MOLVER | Green carpetweed | Native | X | X |
| *Muhlenbergia porteri* | MUHPOR | Bush muhly | Native | X | X |
| *Nama demissum* | NAMDEM | Purplemat | Native | X | X |
| *Nicotiana glauca* | NICGLA | Tree tobacco | Introduced | X | X |
| *Nicotiana obtusifolia* | NICOBT | Desert tobacco | Native | X | X |
| *Nolina microcarpa* | NOLMIC | Sacahuista | Native | | X |
| *Oenothera* sp. | OEN SP. | Evening primrose | Native | X | X |
| *Oligomeris linifolia* | OLILIN | Lineleaf whitepuff | Native | X | X |
| *Opuntia engelmannii* | OPUENG | Cactus apple | Native | | X |
| *Opuntia gosseliniana* | OPUGOS | Violet pricklypear | Native | | X |
| *Opuntia phaeacantha* | OPUPHA | Tulip pricklypear | Native | | X |
| *Panicum alatum* | PANALA | Winged panicgrass | Native | X | |
| *Panicum hallii* | PANHAL | Hall's panicgrass | Native | X | X |
| *Panicum hirticaule* | PANHIR | Mexican panicgrass | Native | X | |
| *Panicum obtusum* | PANOBT | Vine mesquite | Native | X | X |
| *Pappophorum vaginatum* | PAPVAG | Whiplash pappusgrass | Native | X | |
| *Parkinsonia aculeata* | PARACU | Jerusalem thorn | Native | X | X |

| Scientific Name* | Acronym | Common Name* | Status | On ROW | Off ROW |
|---|---|---|---|---|---|
| *Parkinsonia florida* | PARFLO | Blue paloverde | Native | | X |
| *Parkinsonia microphylla* | PARMIC | Yellow paloverde | Native | | X |
| *Parthenice mollis* | PARMOL | Annual monsterwort | Native | X | X |
| *Pectis filipes* | PECFIL | Fivebract chinchweed | Native | | X |
| *Pectis papposa* | PECPAP | Manybristle chinchweed | Native | X | |
| *Pectocarya recurva* | PECREC | Curvenut combseed | Native | X | X |
| *Peniocereus greggii* | PENGRE | Nightblooming cereus | Native | | X |
| *Pennisetum ciliare* | PENCIL | Buffelgrass | Introduced; PNW; RGNW | X | X |
| *Penstemon eatonii* | PENEAT | Firecracker penstemon | Native | X | |
| *Penstemon parryi* | PENPAR | Parry's beardtongue | Native | X | |
| *Phacelia campanularia* | PHACAM | Desertbells | Native | X | |
| *Phacelia* sp. 2 | PHA SP. 2 | Phacelia | Native | X | |
| *Phacelia* sp. 3 | PHA SP. 3 | Phacelia | Native | X | |
| *Phaseolus acutifolius* | PHAACU | Tepary bean | Native | X | |
| *Phemeranthus aurantiacus* | PHEAUR | Orange fameflower | Native | X | X |
| *Phoradendron californicum* | PHOCAL | Mesquite mistletoe | Native | | X |
| *Phoradendron tomentosum* | PHOTOM | Christmas mistletoe | Native | | X |
| *Physalis crassifolia* | PHYCRA | Yellow nightshade groundcherry | Native | X | |
| *Plantago ovata* | PLAOVA | Desert Indianwheat | Native | X | X |
| *Plantago patagonica* | PLAPAT | Woolly plantain | Native | X | |
| *Porophyllum gracile* | PORGRA | Slender poreleaf | Native | | X |
| *Porophyllum ruderale* | PORRUD | Yerba porosa | Native | | X |
| *Portulaca halimoides* | PORHAL | Silkcotton purslane | Native | | X |
| *Portulaca oleracea* | POROLE | Little hogweed | Native; PNW; RGNW | X | X |
| *Portulaca suffrutescens* | PORSUF | Shrubby purslane | Native | X | X |
| *Portulaca umbraticola* | PORUMB | Wingpod purslane | Native | X | X |
| *Proboscidea althaeifolia* | PROALT | Desert unicorn-plant | Native | X | X |
| *Proboscidea parviflora* | PROPAR | Doubleclaw | Native | X | X |
| *Prosopis velutina* | PROVEL | Velvet mesquite | Native | X | X |
| *Pseudognaphalium leucocephalum* | PSELEU | White cudweed | Native | | X |
| *Quincula lobata* | QUILOB | Chinese lantern | Native | X | |
| *Rafinesquia neomexicana* | RAFNEO | New Mexico plumeseed | Native | | X |
| *Rhynchosida physocalyx* | RHYPHY | Buffpetal | Native | X | X |

| Scientific Name* | Acronym | Common Name* | Status | On ROW | Off ROW |
|---|---|---|---|---|---|
| *Ruellia nudiflora* | RUENUD | Violet wild petunia | Native | | |
| *Rumex hymenosepalus* | RUMHYM | Canaigre dock | Native | | X |
| *Salsola tragus* | SALTRA | Prickly Russian thistle | Introduced | X | X |
| *Salvia columbariae* | SALCOL | Chia | Native | X | |
| *Schismus arabicus* | SCHARA | Arabian schismus | Introduced | X | X |
| *Schizachyrium scoparium* | SCHSCO | Little bluestem | Native | | X |
| *Senecio* ? sp. | SEN SP. | Ragwort | Native | | X |
| *Senegalia greggii* | SENGRE | Catclaw acacia | Native | | X |
| *Senna bauhinioides* | SENBAU | Twinleaf senna | Native | X | X |
| *Senna covesii* | SENCOV | Coues' cassia | Native | X | X |
| *Senna hirsuta* | SENHIR | Wooly senna | Native | X | X |
| *Setaria grisebachii* | SETGRI | Grisebach's bristlegrass | Native ? | | X |
| *Setaria leucopila* | SETLEU | Streambed bristlegrass | Native | X | |
| *Setaria macrostachya* | SETMAC | Large-spike bristlegrass | Native | X | X |
| *Setaria viridis* | SETVIR | Green bristlegrass | Introduced | X | |
| *Sida abutifolia* | SIDABU | Spreading fanpetals | Native | X | X |
| *Simmondsia chinensis* | SIMCHI | Jojoba | Introduced | | X |
| *Sisymbrium irio* | SISIRI | London rocket | Introduced | X | X |
| *Solanum elaeagnifolium* | SOLELA | Silverleaf nightshade | Native | X | X |
| *Solanum lumholtzianum* | SOLLUM | Sonoran nightshade | Native | X | |
| *Sonchus oleraceus* | SONOLE | Common sowthistle | Introduced | X | X |
| *Sorghum bicolor* | SORBIC | Sorghum | Introduced | X | |
| *Sorghum halepense* | SORHAL | Johnsongrass | Introduced | X | X |
| *Sphaeralcea ambigua* | SPHAMB | Desert globemallow | Native | X | X |
| *Sphaeralcea* sp. 2 | SPH SP. 2 | Globemallow | Native | X | |
| *Sporobolus airoides* | SPOAIR | Alkali sacaton | Native | | X |
| *Sporobolus compositus* | SPOCOM | composite dropseed | Native | | X |
| *Sporobolus contractus* | SPOCON | Spike dropseed | Native | X | X |
| *Sporobolus cryptandrus* | SPOCRY | Sand dropseed | Native | X | X |
| *Stephanomeria pauciflora* | STEPAU | Brownplume wirelettuce | Native | | X |
| *Tecoma stans* | TECSTA | Yellow trumpetbush | Native | | X |
| *Tephrosia leiocarpa* | TEPLEI | Smoothpod hoarypea | Native | X | X |
| *Tetramerium nervosum* | TETNER | Hairy fournwort | Native | X | X |

| Scientific Name* | Acronym | Common Name* | Status | On ROW | Off ROW |
|---|---|---|---|---|---|
| *Tidestromia lanuginosa* | TIDLAN | Woolly tidestromia | Native | X | X |
| *Tragia nepetifolia* | TRANEP | Catnip noseburn | Native | X | |
| *Trianthema portulacastrum* | TRIPOR | Desert horsepurslane | Native | X | X |
| *Tribulus terrestris* | TRITER | Puncturevine | Introduced; PNW; RGNW | X | |
| *Trichloris crinita* | TRICRI | False Rhodes grass | Native | X | X |
| *Trixis californica* | TRICAL | American threefold | Native | | X |
| *Urochloa arizonica* | UROARI | Arizona signalgrass | Native | X | |
| *Urochloa fusca* | UROFUS | Browntop signalgrass | Native | X | |
| *Vachellia constricta* | VACCON | Whitethorn acacia | Native | X | X |
| *Vauquelinia californica* | VAUCAL | Arizona rosewood | Native | | X |
| *Verbena bracteata* | VERBRA | Bigbract verbena | Native | X | X |
| *Xanthisma texanum* | XANTEX | Texas sleepydaisy | Native | X | X |
| *Yucca baccata* | YUCBAC | Banana yucca | Native | | X |
| *Yucca elata* | YUCELA | Soaptree yucca | Native | | X |
| *Zinnia acerosa* | ZINACE | Desert zinnia | Native | X | X |
| *Ziziphus obtusifolia* | ZIZOBT | Lotebush | Native | | X |

***Scientific and common names are referenced from the USDA Plants Database - http://plants.usda.gov/java/**

**Arizona Dept. of Agriculture Status**

PNW = Prohibited noxious weed

RGNW = Regulated noxious weeds

RNW = Restricted noxious weed

# APPENDIX C

## Sierrita Year Five (2019) Spring Noxious Weed Monitoring and Control Event Report

# Sierrita Pipeline Vegetation Monitoring: Year Five (2019) Spring Noxious Weed Monitoring and Control Event Report

Prepared for

Sierrita Gas Pipeline LLC

For Submittal to

**Federal Energy Regulatory Commission**

**and**

**Arizona State Land Department**

**FERC Docket No. CP13-73-000**

June 2019

# SIERRITA PIPELINE VEGETATION MONITORING: YEAR FIVE (2019) SPRING NOXIOUS WEED MONITORING AND CONTROL EVENT REPORT

Prepared for

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June 2019

# 1.0 INTRODUCTION

Sierrita Gas Pipeline, LLC (Sierrita), an indirect subsidiary of Kinder Morgan, Inc. (KMI), and Kinder Morgan Energy Partners, L.P., was issued a Certificate of Public Convenience and Necessity by the Federal Energy Regulatory Commission (FERC) in 2014 for the construction and operation of the Sierrita Pipeline Project (the Project) (FERC Docket No. CP13-73-000). As analyzed by the Project's Final Environmental Impact Statement (FEIS) (FERC 2014), the Project consisted of the underground installation of approximately 60.9 miles of 36-inch-diameter steel pipe, and associated aboveground measurement facilities and appurtenances, to deliver natural gas from an interconnection with the El Paso Natural Gas Company, LLC, existing pipeline system near southwestern Tucson in Pima County, Arizona, to an interconnect point at the U.S.–Mexico border near the town of Sasabe, Pima County, Arizona (Figure 1). The purpose of this report is to present the findings of the Year Five (2019) spring noxious weed monitoring and control event for submittal to FERC and the Arizona State Land Department (ASLD), as part of the S*ierrita Pipeline Post-Construction Vegetation Monitoring: Year Five (2019) Annual Monitoring Report*, as established in the FEIS (FERC 2014) for the *Post-construction Vegetation Monitoring Document*.

Sierrita contractors used a nominal 100-foot-wide right-of-way (ROW), plus additional temporary workspaces that were up to 150 feet wide, for construction of the pipeline. A 50-foot-wide portion of the workspace footprint is permanent ROW and is used by Sierrita for operation and maintenance of the pipeline, meter stations, and appurtenant installations indefinitely; however, in the context of this report the terms *ROW* and *project corridor* are used to refer to the construction footprint. After the pipeline was installed and pressure-tested for integrity, the entire construction footprint was restored in accordance with Sierrita's *Reclamation Plan*, Sierrita's *Upland Erosion Control, Revegetation, and Maintenance Plan*, and Sierrita's *Wetland and Waterbody Construction and Mitigation Procedures* (Sierrita's Plan and Procedures) and in compliance with the U.S. Army Corps of Engineers' Clean Water Act Section 404 Nationwide Permit.

# 2.0 STUDY AND SURVEY AREAS

The Sierrita Pipeline Project is located in the southern Avra and Altar Valleys southwest of the Tucson metropolitan area. The northernmost 13 miles of the project corridor, from its point of origin to the community of Three Points, lies within the southern part of Avra Valley. From Three Points south to the international border, the project corridor traverses the length of the Altar Valley. Vegetation within the study area is within both the Arizona Upland subdivision of the Sonoran Desertscrub biotic community and the Semidesert Grassland biotic community (Brown 1994). Portions of this region were also mapped and categorized by The Nature Conservancy as Exotic-Dominated Grassland, High-Quality Native Grassland, and Historical Grassland (Gori and Enquist 2003). Elevations range between 2,247 and 3,907 feet above mean sea level. Surveys for plants and animals were undertaken by Sierrita biologists in 2012–2014 within a 300-foot-wide corridor (i.e., study area), which provided a buffer for minor pipeline route variations in the event that sensitive biological or cultural resources were identified during the routing and/or construction of the pipeline. Appendix A provides a list of plants that were identified in this study area prior to construction, during construction, and during the 2015–2019 post-construction monitoring and weed control activities.

During the pre-construction surveys, areas were identified that contained noxious or invasive weeds that were then targeted for mitigation measures outlined in the FEIS (FERC 2014). The noxious weed control plan prepared for the project included mitigation measures to minimize the introduction and/or spread of weeds within the construction footprint. Mitigation measures included cleaning all construction equipment prior to mobilizing to the project area and having cleaning stations for equipment and vehicles at each end of the noxious weed areas identified within the project corridor until the topsoil was segregated from subsoil and travel lanes within the project corridor were established.

Based on these pre-construction surveys, 11 high-density weed areas (HDWAs) were identified as needing pre-construction cleaning stations as a mitigation measure, and also for post-construction monitoring of tracking and treating any future weed occurrences. The 11 sites are summarized in Table 1.

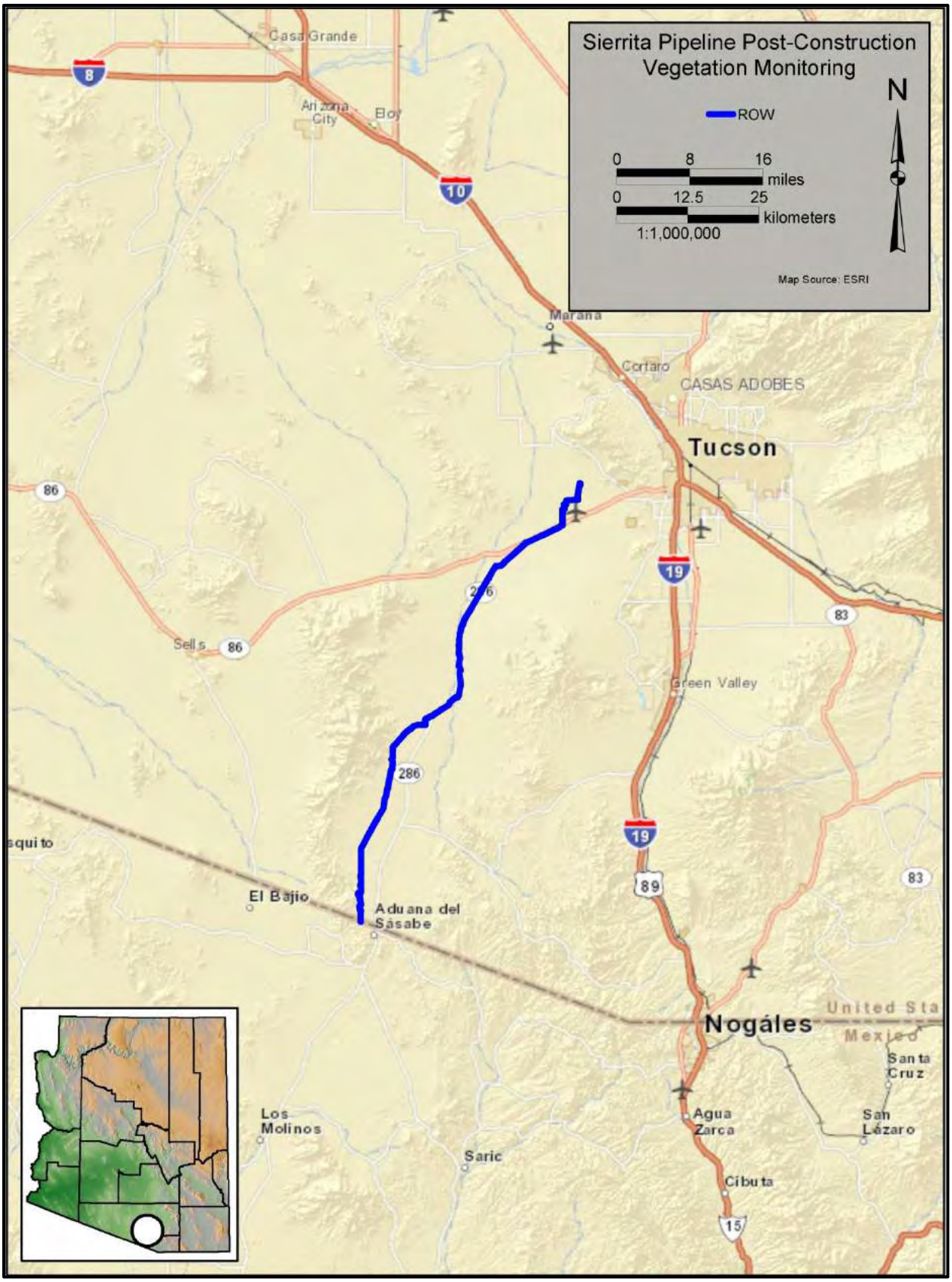



**Figure 1.** General location of the project area.

**Table 1.** High-Density Weed Area Monitoring Sites

| HDWA Site ID | Begin Milepost (MP) | End MP | Map Number (Appendix B) | Site Length (feet) | Site Area (acres) |
|---|---|---|---|---|---|
| 1 | 6.3 | 7.5 | B.1 | 6,336 | 14.5 |
| 2 | 8.1 | 8.2 | B.2 | 282 | 0.65 |
| 3 | 8.5 | 9.5 | B.2 | 5,280 | 12.1 |
| 4 | 10.9 | 12.8 | B.3 | 10,032 | 23.0 |
| 5 | 14.6 | 14.7 | B.4 | 528 | 1.2 |
| 6 | 15.0 | 15.1 | B.4 | 528 | 1.2 |
| 7 | 25.7 | 25.8 | B.6 | 528 | 1.2 |
| 8 | 26.5 | 26.7 | B.6 | 1,056 | 2.4 |
| 9 | 27.1 | 28.6 | B.6 | 7,920 | 18.2 |
| 10 | 31.5 | 31.7 | B.7 | 1,050 | 2.4 |
| 11 | 35.7 | 36.0 | B.8 | 1,584 | 3.6 |
| | | **Total** | | **35,124** | **80.45** |

During the Year Two (2016) spring noxious weed monitoring and control event, Additional Weed Areas (AWAs) were identified and surveyed to determine whether the HDWAs were becoming larger or weeds were spreading into the interspatial areas between the HDWAs from Milepost (MP) 0.0 to MP 38.2. The northern portion of the ROW is where the majority of buffelgrass (*Pennisetum ciliare*) was identified during pre-construction surveys and also where a large source population is located outside the ROW, which promotes spread of the species into the ROW. The 13 AWA sites are summarized in Table 2. The AWAs were surveyed during the Year Five (2019) spring noxious weed monitoring and control event, and all occurrences were removed.

In Year Five (2019), the spring noxious weed monitoring and control event also included surveys of the majority of the construction footprint, including south of MP 38.2. The majority of the pipeline corridor was surveyed, focusing specifically on roads or large washes that could serve as pathways to spread noxious weeds, which could lead to weed occurrences on the pipeline in the future (Appendix B, Figures B.1 through B.12).

**Table 2.** Additional Weed Areas

| AWA Site ID | Begin MP | End MP | Map Number (Appendix B) | Site Length (feet) | Site Area (acres) |
|---|---|---|---|---|---|
| 2 | 0.0 | 1.0 | B.1 | 5,594 | 15.0 |
| 1 | 1.3 | 2.0 | B.1 | 3,696 | 8.8 |
| 11 | 2.0 | 4.7 | B.1 | 13,957 | 33.3 |
| 12 | 4.7 | 6.3 | B.1 | 8,878 | 59.4 |
| 13 | 7.5 | 8.1 | B.2 | 3,168 | 8.1 |
| 3 | 8.3 | 8.5 | B.2 | 1,056 | 2.4 |
| 4 | 9.6 | 10.9 | B.2 and B.3 | 6,864 | 16.7 |
| 5 | 12.9 | 14.6 | B.3 and B.4 | 8,974 | 20.7 |
| 6 | 15.1 | 17.5 | B.4 | 12,672 | 31.4 |
| 7 | 17.5 | 22.5 | B.4 and B.5 | 26,398 | 64.4 |
| 9 | 28.7 | 31.0 | B.6 and B.7 | 12,171 | 30.9 |
| 8 | 31.7 | 35.7 | B.7 and B.8 | 21,104 | 53.7 |
| 10 | 36.0 | 38.2 | B.8 | 11,601 | 28.2 |
| | | **Total** | | **136,133** | **373.0** |

# 3.0 METHODS

As proposed mitigation identified in the Project's FEIS, post-restoration and long-term monitoring of noxious weeds are to be conducted following Guidance Documents of the FEIS, including Appendix H, Post-Construction Vegetation Monitoring Document; Appendix I, Sierrita Noxious Weed Control Plan; and the 2014 Long-Term Monitoring Plan, which is Exhibit C to the Sierrita Gas Pipeline LLC Mitigation Agreement and Agreement for Easements (Guidance Documents). The methods described for noxious weed monitoring and control are discussed in these documents. Project data were collected and recorded on project-specific field forms in accordance with the Guidance Documents. Field data were then entered into a digital database and are stored at the project office and/or servers; data are available upon request.

Pre-field monitoring data collection protocol training was provided to the field crew by SWCA Environmental Consultants Project Manager Russell Waldron and Ecologist Eleanor Gladding. The field crew consisted of Stacy Campbell, John Durham, Robert Pape, Thomas Staudt, Colin Agner, and Robert Hergenrother, all of whom participated in natural resource–based surveys of the study area prior to and during project construction, or during the 2015–2018 monitoring efforts. These local biologists are familiar with the Project and the natural environment of the region and have the educational and/or experience levels required for accurate data collection. Additional field crew for the spring 2018 noxious weed monitoring and control event included

India Hesse and Tyler Loomis. The 2019 spring noxious weed monitoring and control event also included removal of noxious weeds (mainly buffelgrass) from the ROW within the HDWAs and AWAs. In addition, the majority of the pipeline south of AWA 10 (MP 38.2) to the border was surveyed on foot for noxious weeds, focusing on locations in close proximity to potential sources (i.e., roads and large washes) and excluding ROW occurring on Sierra Vista Ranch. All observed Arizona Department of Agriculture (ADA)–listed weeds were removed with the exception of morning-glory species (*Ipomoea* spp.), because participants in the 2016 annual stakeholder meeting were not as concerned with morning-glory removal as buffelgrass removal, and manual removal of morning-glory had been proven to be ineffective during past Sierrita pipeline weed monitoring and control events. All personnel involved in the control efforts received training on regionally accepted practices for manual/mechanical removal and disposal of buffelgrass by attending a Sonoran Desert Weedwackers volunteer event in 2016, or by being trained in the field by personnel involved in prior weed control events on the pipeline. The Sonoran Desert Weedwackers are part of the Southern Arizona Buffelgrass Coordination Center. All target weeds identified in the HDWAs and the AWAs were controlled by mechanical removal, placed into 42-gallon trash bags, and then disposed of at the local landfill. All staff were up to date on their annual safety training, and a Project-Specific Job Hazard Analysis was completed for the fieldwork, in accordance with safety protocols.

The noxious weed monitoring data collection methods followed those provided in the aforementioned Guidance Documents and included the following protocol:

- Survey and control efforts were performed in each of the 11 HDWA monitoring sites, the 13 AWAs, and much of the pipeline south of MP 38.2 during the period from March 18, 2019, through March 28, 2019 (see Appendix B, Figures B.1 through B.12).
- The field crew surveyed for the presence of ADA-listed noxious weeds and other non-native, highly invasive weeds, at each HDWA and AWA site, and along the majority of the ROW outside of those monitoring sites.
- Within the HDWAs and AWAs and along the majority of the pipeline, ADA-listed noxious weeds were identified and controlled immediately. The boundaries of ADA-listed noxious weed occurrences were not mapped this year since control was conducted immediately. Instead, the number of plants removed was noted, and Universal Transverse

Mercator (UTM) coordinates were recorded. Invasive species that were not ADA-listed species were identified and mapped, but not controlled during this survey effort. By completing these surveys, the weed occurrences identified during the pre-construction surveys and past weed monitoring and control efforts were checked for recurrence.

- A visual assessment was used to determine relative cover of weeds within the occurrence area using the Daubenmire cover class scale with six classifications (Elzinga et al. 1998). A scale of 1 to 6 was assigned to define the relative cover by weed species in the occurrence area (Table 3).

**Table 3.** Cover Class Scale

| Plant Cover Class | Range of Plant Cover (%) |
|---|---|
| 6 | 96–100 |
| 5 | 76–95 |
| 4 | 51–75 |
| 3 | 26–50 |
| 2 | 6–25 |
| 1 | 0–5 |

- In addition, the adjacent undisturbed portion (i.e., control area) of the original 300-foot study corridor (i.e., off-ROW) was also given a visual assessment and assigned a Daubenmire cover class value for comparison with the weed occurrence area. Cover class off-ROW was only recorded when a weed occurrence was found.

  For each infestation, an index class was assigned for grazing, off-highway vehicle (OHV), and pedestrian use in the immediate vicinity of the infestation. These index classes were only recorded when a weed occurrence was found. The cover class scale corresponds to the following:

  - Index Class 1: No apparent grazing, fecal droppings, or hoofprints; no OHV tire marks; no evidence of pedestrian traffic in the plot.
  - Index Class 2: <25% plants grazed, fecal droppings, or hoofprints; <25% OHV tire marks; <25% evidence of pedestrian traffic in the plot.
  - Index Class 3: 25%–50% plants grazed, fecal droppings, or hoofprints; 25%–50% OHV tire marks; 25%–50% evidence of pedestrian traffic in the plot.

  - Index Class 4: 50%–75% plants grazed, fecal droppings, or hoofprints; 50%–75% OHV tire marks; 50%–75% evidence of pedestrian traffic in the plot.
  - Index Class 5: >75% plants grazed, fecal droppings, or hoofprints; >75% OHV tire marks; >75% evidence of pedestrian traffic in the plot.

- Photographs and GPS photo point locations were also recorded for all occurrences and comparison areas.
- In Spring 2019, thirty-eight 40-pound bags of seed mix left over from the initial pipeline reseeding was spread out along the pipeline. Seed mix was hand-broadcast directly onto areas where noxious weeds had been removed and where soils were disturbed. Seed mix was also hand-broadcast into two locations where soil had been prepared using rakes and shovels, one at approximately MP 30.9 and one at approximately MP 34.2. In addition, seed mix was hand-broadcast along the pipeline as the noxious weed survey occurred, without any preparation of soil and focusing on areas appearing barren or disturbed.

In addition to the noxious weed monitoring, the field crew continued to add newly identified plant species to the comprehensive plant list (see Appendix A).

# 4.0 RESULTS

## 4.1 Noxious Weeds

During the 2019 spring noxious weed monitoring and control event, only one ADA-listed noxious weed species was identified and controlled: buffelgrass. In addition, one ADA-listed species was identified and mapped: morning-glory (*Ipomoea* sp.) (see Appendix B, Figures B.1 through B.12). Previously identified weed species including Maltese star-thistle (*Centaurea melitensis*), scarletcreeper (*Ipomoea hederifolia*), little hogweed (*Portulaca oleracea*), and coastal sandbur (*Cenchrus spinifex* [*C. incertus*]) were not found during this monitoring session. This could be an indication that those species were only an incidental occurrence in the ROW. No live morning-glory (*Ipomoea* sp.) plants were observed on the ROW, although dead plants from the previous growing season that had already become brittle and dropped their seeds were observed. Because participants in the 2016 annual stakeholder meeting were not as concerned with morning-glory removal as buffelgrass removal, and because manual removal of morning-

glory had been proven to be ineffective during past Sierrita pipeline weed monitoring and control events, these morning-glory plants were not removed in either the fall 2017, fall and spring 2018, or spring 2019 weed control events.

Weeds identified within three of the 11 HDWAs were controlled using mechanical methods immediately after documentation. No weed occurrences were found in HDWAs 4–11. Weed occurrences were identified in five of the 13 AWAs and were similarly controlled after documentation. AWAs 1, 3, and 5–10 had no weed occurrences. In addition, 14 weed occurrences were controlled in the areas south of MP 38.2 that are not part of any HDWA or AWA. Appendix C contains all data collected during the 2019 spring noxious weed monitoring and control event, and Appendix D contains photographs taken during the event. In total, twenty 42-gallon trash bags of weeds were removed from the ROW. Within the HDWAs and AWAs, 137 plants of buffelgrass were removed from weed areas during the 2019 spring control event, 68 of which were removed from the HWDAs. Table 4 shows the comparison of number of invasive plants removed from the HDWAs and ADAs in spring 2019 with past post-construction noxious weed control efforts. Outside of the HDWA or AWA monitoring sites, 162 buffelgrass plants were removed from areas south of MP 38.2. All of these weed occurrences have been documented and removed. In addition, three dead morning-glory plants were observed within AWA 11, but were not removed.

**Table 4.** Approximate Numbers of Plants Removed from the HDWA and AWA Weed Areas during the Spring 2018, Fall 2018, and Spring 2019 Noxious Weed Removal Events

| | Spring 2018 | | | Fall 2018 | | | Spring 2019 | | |
|---|---|---|---|---|---|---|---|---|---|
| | HDWAs | AWAs | All Weed Areas | HDWAs | AWAs | All Weed Areas | HDWAs | AWAs | All Weed Areas |
| Buffelgrass | 483 | 314 | 797 | 2,880 | 6,026 | 8,906 | 68 | 69 | 137 |

Table 5 presents the off-ROW and on-ROW cover classes for the HDWAs during the spring and fall 2018 and spring 2019 weed monitoring and control events. Table 6 presents the off-ROW and on-ROW cover classes for the AWAs during the spring and fall 2018 and spring 2019 weed monitoring and control events. The comparison of on-ROW vs. off-ROW was not needed this year to indicate the need for control, since all occurrences were controlled simultaneously with the survey. However, the comparison does show that the relative cover of weeds on the ROW noted during the spring 2019 monitoring and control event is low. The performance criteria

specified in Appendix H, Post-Construction Vegetation Monitoring Document, indicate that on-ROW cover should be less than 10%. No HDWA sties had cover (Cover Class 2) exceeding 10% in Spring 2019, and all weeds were removed at all of these sites. However, certain portions of the ROW (e.g., HDWA 2 and AWA 13) have very high off-ROW cover classes. This indicates a large source population is located adjacent to the ROW. None of the areas surveyed south of MP 38.2 where buffelgrass was observed had relatively high off-ROW cover classes, and in all instances the cover class on-ROW was equal to or lower than the off-ROW cover class (see Appendix C).

**Table 5.** High-Density Weed Area Monitoring Sites Weed Cover Classes for 2018 and Spring 2019

| HDWA Site ID | ROW Weed Cover Class | | | Off-ROW Weed Cover Class | | |
|---|---|---|---|---|---|---|
| | Spring 2018 | Fall 2018 | Spring 2019 | Spring 2018 | Fall 2018 | Spring 2019 |
| 1 | 1 | 1–2 | 1 | 1 | 1–3 | 1 |
| 2 | 1–2 | 1–3, 5 | 1 | 3 | 3–5 | 4 |
| 3 | 1 | 2–4 | 1 | 1 | 2–4 | 2 |
| 4 | 1 | 2 | N/A | 1–2 | 2 | N/A |
| 5 | N/A | 2 | N/A | N/A | 5 | N/A |
| 6 | N/A | 2 | N/A | N/A | 1 | N/A |
| 7 | N/A | N/A | N/A | N/A | N/A | N/A |
| 8 | N/A | N/A | N/A | N/A | N/A | N/A |
| 9 | N/A | 2 | N/A | N/A | 1 | N/A |
| 10 | N/A | N/A | N/A | N/A | N/A | N/A |
| 11 | N/A | 2 | N/A | N/A | 2 | N/A |

* This cover class is for African lovegrass (*Eragrostis echinochloidea*), an invasive, non-native species, but not one that is ADA-listed as noxious.
Note: Cover classes are expressed as one number or a range of numbers.
N/A = Not applicable. No values recorded because no weeds were identified or data were not recorded.

**Table 6.** Additional Weed Area Weed Cover Classes for 2018 and Spring 2019

| AWA Site ID | ROW Weed Cover Class | | | Off-ROW Weed Cover Class | | |
|---|---|---|---|---|---|---|
| | Spring 2018 | Fall 2018 | Spring 2019 | Spring 2018 | Fall 2018 | Spring 2019 |
| 1 | 1 | 2, 4, 6 | N/A | 2 | 2–3, 5 | N/A |
| 2 | 1 | 1-3, 6 | 1 | 1 | 2–5 | 1 |
| 3 | 1 | N/A | N/A | 1 | N/A | N/A |
| 4 | 1 | 2–5 | 2–3 | 2 | 2–5 | 6 |
| 5 | N/A | 2 | N/A | N/A | 1–3 | N/A |
| 6 | N/A | 1–3, 6 | N/A | N/A | 2, 4–5 | N/A |
| 7 | 1 | 1–2 | N/A | 1 | 1, 3 | N/A |
| 8 | 1 | 2–3 | N/A | 1 | 2–3 | N/A |
| 9 | 1 | 1, 3 | N/A | 1 | 1–2 | N/A |
| 10 | 1–2 | 1–3, 6 | N/A | 1–2 | 1–5 | N/A |
| 11 | N/A | 1–3 | 1 | N/A | 2, 4 | 1 |
| 12 | 1 | 1–3, 5 | 1 | 1 | 2–3, 5 | 2 |
| 13 | 1 | 1–3 | 6 | 1 | 2–3 | 5 |

Note: Cover classes are expressed as one number or a range of numbers.
N/A = Not applicable. No values recorded because no weeds were identified or data were not recorded.

Table 7 presents the on-ROW and off-ROW grazing, OHV, and pedestrian Index Class scores for the HDWAs during the spring and fall 2018 and the spring 2019 monitoring events. Table 8 presents the on-ROW and off-ROW grazing, OHV, and pedestrian Index Class scores for the AWAs during the spring and fall 2018 and the spring 2019 monitoring events. For the grazing, OHV, and pedestrian Index Classes, all HDWA and AWA weed infestation sites in spring 2019 exhibited a score of 1 to 2 except the following: HDWA 2, which had an OHV score of 3; AWA 2, which had an OHV index score of 3; AWA 4, which had an OHV index of 3; AWA 11, which has a grazing index of 3; and AWA 13, which has OHV and pedestrian index scores of 4.

**Table 7.** High-Density Weed Area Monitoring Sites Grazing, OHV, and Pedestrian Index Classes for 2018 and 2019

| HDWA Site ID | Grazing Index Class | | | OHV Index Class | | | Pedestrian Index Class | | |
|---|---|---|---|---|---|---|---|---|---|
| | Spring 2018 | Fall 2018 | Spring 2019 | Spring 2018 | Fall 2018 | Spring 2019 | Spring 2018 | Fall 2018 | Spring 2019 |
| 1 | 1 | 1 | 1 | 2 | 1–2 | 2 | 1 | 1–2 | 2 |
| 2 | 1 | 1 | 1 | 2, 4 | 2–3, 5 | 3 | 2, 4 | 2, 5 | 2 |
| 3 | 1 | 1 | 1 | 3 | 1–2 | 2 | 2 | 1–2 | 2 |
| 4 | 1–2 | 1 | N/A | 2–3 | 1–2 | N/A | 2 | 2 | N/A |
| 5 | N/A | 1 | N/A | N/A | 1 | N/A | N/A | 2 | N/A |
| 6 | N/A | 1 | N/A | N/A | 1 | N/A | N/A | 2 | N/A |

| HDWA Site ID | Grazing Index Class | | | OHV Index Class | | | Pedestrian Index Class | | |
|---|---|---|---|---|---|---|---|---|---|
| | Spring 2018 | Fall 2018 | Spring 2019 | Spring 2018 | Fall 2018 | Spring 2019 | Spring 2018 | Fall 2018 | Spring 2019 |
| 7 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 8 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 9 | N/A | 3 | N/A | N/A | 1 | N/A | N/A | 1 | N/A |
| 10 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 11 | N/A | 3 | N/A | N/A | 2 | N/A | N/A | 2 | N/A |

Note: Cover classes are expressed as one number or a range of numbers.
N/A = No values recorded because no weeds were found or data were not recorded.

**Table 8.** Additional Weed Area Grazing, OHV, and Pedestrian Index Classes for 2018 and 2019

| AWA Site ID | Grazing Index Class | | | OHV Index Class | | | Pedestrian Index Class | | |
|---|---|---|---|---|---|---|---|---|---|
| | Spring 2018 | Fall 2018 | Spring 2019 | Spring 2018 | Fall 2018 | Spring 2019 | Spring 2018 | Fall 2018 | Spring 2019 |
| 1 | 1 | 1–2 | N/A | 2 | 3, 5 | N/A | 2 | 3, 5 | N/A |
| 2 | 1 | 1–2 | 1 | 1, 5 | 2–4 | 3 | 1, 3 | 2–4 | 2 |
| 3 | 1 | N/A | N/A | 2 | N/A | N/A | 2 | N/A | N/A |
| 4 | 1 | 1–2 | 2 | 2 | 1–2 | 3 | 2 | 2 | 2 |
| 5 | N/A | 1–2 | N/A | N/A | 1–2 | N/A | N/A | 2 | N/A |
| 6 | N/A | 3 | N/A | N/A | 1, 5 | N/A | N/A | 1–2 | N/A |
| 7 | 2 | 2–4 | N/A | 2 | 1 | N/A | 2 | 1, 3 | N/A |
| 8 | 2 | 2–3 | N/A | 1 | 1–2 | N/A | 1 | 1–2 | N/A |
| 9 | 5 | 3 | N/A | 2 | 1–2 | N/A | 1 | 1 | N/A |
| 10 | 2 | 2–3 | N/A | 1 | 1–2 | N/A | 1 | 1–2 | N/A |
| 11 | N/A | N/A | 1–3 | N/A | 1–2 | 1–2 | N/A | 1–2 | 1–2 |
| 12 | 1 | 1 | 1 | 2 | 1–3 | 2 | 1 | 1–4 | 2 |
| 13 | 1 | 1 | 2 | 2 | 1–2 | 4 | 1 | 1–2 | 4 |

N/A = No values recorded because no weeds were found or data were not recorded.

The infestations within AWA 11 lie within an open range, which accounts for the high grazing index. The infestations within AWA 2 were in areas where the ROW was covered in trash and OHV tracks, and near a dirt road that runs from the ROW northeast to a neighborhood south of San Joaquin Road. These debris piles have increased in size and number since the fall 2018 monitoring event. The field crew observed that particularly in the northern portion of the ROW, OHV tracks, evidence of illegal dumping, and evidence of migrant and Border Patrol pedestrian activity seems to be more common on-ROW than observed during previous monitoring activities.

In addition, much of the ROW south of MP 38.2 lies in open-range areas, and signs of cattle use (occasionally heavy cattle use) were observed.

# 5.0 RECOMMENDATIONS

## 5.1 Noxious Weeds

Since control efforts were conducted simultaneously with the spring 2019 monitoring effort, no additional control measures are needed for noxious and invasive species management in the ROW at this time. Far fewer plants were located and removed during the spring 2019 noxious weed monitoring and control event than during the fall 2018 event because all observed invasive weeds were removed in 2018, and there was minimal new invasive weed growth during the winter or spring seasons between the two monitoring and control events. As weed growth is expected to occur post–monsoon season, the fall 2019 monitoring activities could identify new weed occurrences or areas on the ROW where weeds are recurring, and control efforts will likely be needed later in 2019. The ADA proposed a rule change for noxious weeds that would remove the category of "regulated and restricted" and "prohibited" noxious weeds, and instead place weed species into one of three categories (Class A, Class B, or Class C) depending on distribution of the species within Arizona and level of threat it poses to habitats or crops (Arizona Administrative Register 2019; Southwest Vegetation Management Association 2018). If this rule change is approved following the public comment period, additional noxious weeds will be added to the list, and thus may need to be mapped or controlled during the Year Five (2019) fall monitoring event. At the annual stakeholder meeting on May 22, 2018, all agencies and stakeholders agreed that control of morning-glory infestations on the ROW are no longer necessary. Thus, morning-glory infestations on the ROW observed during future weed monitoring events will be recorded, but not removed. In addition, herbicide application of large infestations of buffelgrass where the off-ROW infestations are high may be considered for future control methods. Herbicide use would have to be carefully planned and specifically targeted for the noxious weeds, in order to not affect the desirable vegetation and reduce restoration success of the ROW; the success rates of herbicide treatments of buffelgrass are not widely published and are likely variable based on site conditions.

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# APPENDIX A

## Comprehensive Plant List

| Scientific Name* | Acronym | Common Name* | Status | On ROW | Off ROW |
|---|---|---|---|---|---|
| *Abutilon coahuilae* | ABUCOA | Indian mallow | Native | X | |
| *Abutilon* sp. | ABU SP. | Indian mallow | Native | | X |
| *Acalypha neomexicana* | ACANEO | New Mexico copperleaf | Native | X | X |
| *Acmispon rigidus* | ACMRIG | Shrubby deervetch | Native | | |
| *Acourtia wrightii* | ACOWRI | Brownfoot | Native | | X |
| *Agave colorata* | AGACOL | Mescal Ceniza | Introduced | X | |
| *Agave palmeri* | AGAPAL | Palmer's century plant | Native | X | X |
| *Agave parviflora* | AGAPAR | Smallflower century plant | Native | X | X |
| *Allionia choisyi* | ALLCHO | Annual windmills | Native | X | X |
| *Allionia incarnata* | ALLINC | Trailing windmills | Native | X | X |
| *Allium* sp. | ALL SP. | Onion | Native | | X |
| *Amaranthus albus* | AMAALB | Prostrate pigweed | Introduced | X | |
| *Amaranthus palmeri* | AMAPAL | Carelessweed | Native | X | X |
| *Ambrosia acanthicarpa* | AMBACA | Flatspine bur ragweed | Native | X | X |
| *Ambrosia ambrosioides* | AMBAMB | Ambrosia leaf bur ragweed | Native | | X |
| *Ambrosia deltoidea* | AMBDEL | Triangle bur ragweed | Native | | X |
| *Ambrosia monogyra* | AMBMON | Singlewhorl burrobrush | Native | X | X |
| *Ambrosia psilostachya* | AMBPSI | Cuman ragweed | Native | X | X |
| *Amsinckia tessellata* | AMSTES | Bristly fiddleneck | Native | X | X |
| *Androsace occidentalis* | ANDOCC | Western rockjasmine | Native | X | X |
| *Anisacanthus thurberi* | ANITHU | Thurber's desert honeysuckle | Native | | X |
| *Apodanthera undulata* | APOUND | Melon loco | Native | X | |
| *Argemone polyanthemos* | ARGPOL | Crested pricklypoppy | Native | X | X |
| *Argythamnia neomexicana* | ARGNEO | New Mexico silverbush | Native | X | |
| *Aristida purpurea* | ARIPUR | Purple threeawn | Native | X | X |
| *Aristida ternipes* | ARITER | Spidergrass | Native | X | X |
| *Asclepias asperula* | ASCASP | Spider milkweed | Native | | |
| *Asclepias linearis* | ASCLIN | Slim milkweed | Native | | X |
| *Astragalus* sp. #1 | AST SP. | Milkvetch | Native | X | X |
| *Astragalus* sp. #2 | AST SP. | Milkvetch | Native | X | X |
| *Atriplex canescens* | ATRCAN | Fourwing saltbush | Native | X | X |
| *Atriplex elegans* | ATRELE | Wheelscale saltbush | Native | X | X |
| *Atriplex lentiformis* | ATRLEN | Big saltbush | Native | X | |
| *Atriplex polycarpa* | ATRPOL | Cattle saltbush | Native | X | |
| *Ayenia compacta* | AYECOM | California ayenia | Native | X | |
| *Ayenia filiformis* | AYEFIL | Trans-Pecos ayenia | Native | X | X |
| *Baccharis sarothroides* | BACSAR | Desertbroom | Native | X | X |
| *Bahia absinthifolia* | BAHABS | Hairyseed bahia | Native | | X |
| *Baileya multiradiata* | BAIMUL | Desert marigold | Native | X | X |
| *Baileya pleniradiata* | BAIPLE | Woolly desert marigold | Native | X | |
| *Bebbia juncea* | BEBJUN | Sweetbush | Native | X | |

| Scientific Name* | Acronym | Common Name* | Status | On ROW | Off ROW |
|---|---|---|---|---|---|
| *Bidens leptocephala* | BIDLEP | Fewflower beggarticks | Native | X | X |
| *Boerhavia coccinea* | BOECOC | Scarlet spiderling | Native | X | X |
| *Boerhavia erecta* | BOEERE | Erect spiderling | Native | X | X |
| *Boerhavia intermedia* | BOEINT | Fivewing spiderling | Native | X | X |
| *Boerhavia spicata* | BOESPI | Creeping spiderling | Native | X | |
| *Bothriochloa barbinodis* | BOTBAR | Cane bluestem | Native | | X |
| *Bouteloua aristidoides* | BOUARI | Needle grama | Native | X | X |
| *Bouteloua barbata* | BOUBAR | Sixweeks grama | Native | | X |
| *Bouteloua chondrosioides* | BOUCHO | Sprucetop grama | Native | | X |
| *Bouteloua curtipendula* | BOUCUR | Sideoats grama | Native | X | X |
| *Bouteloua eriopoda* | BOUERI | Black grama | Native | X | |
| *Bouteloua hirsuta* | BOUHIR | Hairy grama | Native | X | X |
| *Bouteloua repens* | BOUREP | Slender grama | Native | X | X |
| *Bouteloua rothrockii* | BOUROT | Rothrock's grama | Native | X | X |
| *Bowlesia incana* | BOWINC | Hoary bowlesia | Native | | X |
| *Brassica* sp. | BRA SP. | Mustard | Native | X | |
| *Brassica tournefortii* | BRATOU | Asian mustard | Introduced | X | X |
| *Calliandra eriophylla* | CALERI | Fairyduster | Native | X | X |
| *Calochortus* sp. | CAL SP. | Mariposa lily | Native | | X |
| *Carnegiea gigantea* | CARGIG | Saguaro | Native | X | X |
| *Celtis ehrenbergiana* | CELEHR | Spiny hackberry | Native | X | X |
| *Cenchrus longispinus* | CENLON | Mat sandbur | Native | X | |
| *Cenchrus spinifex* | CENSPI | Coastal Sandbur | Native | X | |
| *Centaurea melitensis* | CENMEL | Maltese star-thistle | Introduced | X | |
| *Chamaecrista nictitans* | CHANIC | Sensitive partridge pea | Native | X | X |
| *Chamaesaracha coronopus* | CHACOR | Greenleaf five eyes | Native | X | |
| *Chamaesyce abramsiana* | CHAABR | Abrams' sandmat | Native | X | X |
| *Chamaesyce arizonica* | CHAARI | Arizona sandmat | Native | X | X |
| *Chamaesyce florida* | CHAFLO | Chiricahua Mountain sandmat | Native | X | X |
| *Chamaesyce gracillima* | CHAGRA | Mexican sandmat | Native | X | X |
| *Chamaesyce hyssopifolia* | CHAHYS | Hyssopleaf sandmat | Native | | X |
| *Chamaesyce micromera* | CHAMIC | Sonoran sandmat | Native | X | X |
| *Chamaesyce stictospora* | CHASTI | slimseed sandmat | Native | X | |
| *Chamaesyce* sp. | CHA SP. | Not identified | Native | X | |
| *Cheilanthes wrightii* | CHEWRI | Wright's lipfern | Native | | X |
| *Chenopodium album* | CHEALB | Lambsquarters | Native | X | |
| *Chenopodium incanum* | CHEINC | Mealy goosefoot | Native | X | |
| *Chenopodium pratericola* | CHEPRA | Desert goosefoot | Native | X | |
| *Chilopsis linearis* | CHILIN | Desert willow | Native | X | |
| *Chloris virgata* | CHLVIR | Feather fingergrass | Native | X | X |
| *Chorizanthe brevicornu* | CHOBRE | Brittle spineflower | Native | | X |
| *Cirsium* sp. | CIR SP. | Thistle | Native ? | X | |

| Scientific Name* | Acronym | Common Name* | Status | On ROW | Off ROW |
|---|---|---|---|---|---|
| *Clematis drummondii* | CLEDRU | Drummond's clematis | Native | X | X |
| *Commelina erecta* | COMERE | Whitemouth dayflower | Native | | X |
| *Commicarpus scandens* | COMSCA | Climbing wartclub | Native | | X |
| *Condalia correllii* | CONCOR | Correll's snakewood | Native | X | X |
| *Conyza canadensis* | CONCAN | Canadian horseweed | Native | X | |
| *Corydalis aurea* | CORAUR | Scrambled eggs | Native | X | |
| *Coryphantha robustispina* ssp. *robustispina* | CORROB | Long-tubercle beehive cactus | Native | X | X |
| *Cottea pappophoroides* | COTPAP | Cotta grass | Native | X | |
| *Crotalaria pumila* | CROPUM | Low rattlebox | Native | X | |
| *Croton pottsii* | CROPOT | Leatherweed | Native | X | X |
| *Cryptantha* sp. 1 | CRY SP. 1 | Cryptantha | Native | X | |
| *Cryptantha* sp. 2 | CRY SP. 2 | Cryptantha | Native | X | |
| *Cucurbita digitata* | CUCDIG | Fingerleaf gourd | Native | X | |
| *Cylindropuntia acanthocarpa* | CYLACA | Buck-horn cholla | Native | | X |
| *Cylindropuntia arbuscula* | CYLARB | Arizona pencil cholla | Native | | X |
| *Cylindropuntia fulgida* | CYLFUL | Jumping cholla | Native | | X |
| *Cylindropuntia leptocaulis* | CYLLEP | Christmas cactus | Native | | X |
| *Cylindropuntia spinosior* | CYLSPI | Walkingstick cactus | Native | | X |
| *Cylindropuntia versicolor* | CYLVER | Staghorn cholla | Native | | X |
| *Cynodon dactylon* | CYNDAC | Bermudagrass | Introduced | X | X |
| *Cyperus squarrosus* | CYPSQU | Bearded flatsedge | Native | X | X |
| *Dactyloctenium aegyptium* | DACAEG | Egyptian grass | Introduced | X | |
| *Dalea pulchra* | DALPUL | Santa Catalina prairie clover | Native | | X |
| *Dasyochloa pulchella* | DASPUL | Low woollygrass | Native | X | X |
| *Datura inoxia* | DATINO | Pricklyburr | Introduced | X | X |
| *Desmodium procumbens* | DESPRO | Western trailing ticktrefoil | Native | | X |
| *Dichanthelium acuminatum* | DICACU | tapered rosette grass | Native | X | |
| *Digitaria californica* | DIGCAL | Arizona cottontop | Native | X | X |
| *Digitaria sanguinalis* | DIGSAN | Hairy crabgrass | Introduced | X | |
| *Diodia teres* | DIOTER | Poorjoe | Native | | X |
| *Ditaxis neomexicana* | DITNEO | New Mexico silverbush | Native | X | X |
| *Dodonaea viscosa* | DODVIS | Florida hopbush | Native | X | X |
| *Echeandia flavescens* | ECHFLA | Torrey's craglily | Native | | X |
| *Echinocereus fasciculatus* | ECHFAS | Pinkflower hedgehog cactus | Native | | X |
| *Echinocereus rigidissimus* | ECHRIG | Rainbow hedgehog cactus | Native | | X |
| *Echinochloa colona* | ECHCOL | Jungle rice | Introduced | X | |
| *Echinopepon wrightii* | ECHWRI | Wild balsam apple | Native | | X |
| *Encelia farinosa* | ENCFAR | Brittlebush | Native | X | X |
| *Encelia frutescens* | ENCFRU | Button brittlebush | Native | | X |
| *Enneapogon desvauxii* | ENNDES | Nineawn pappusgrass | Native | X | X |
| *Ephedra trifurca* | EPHTRI | Longleaf jointfir | Native | | X |

| Scientific Name* | Acronym | Common Name* | Status | On ROW | Off ROW |
|---|---|---|---|---|---|
| *Eragrostis cilianensis* | ERACIL | Stinkgrass | Introduced | X | X |
| *Eragrostis curvula* | ERACUR | Weeping lovegrass | Introduced | X | X |
| *Eragrostis echinochloidea* | ERAECH | African lovegrass | Introduced | X | |
| *Eragrostis intermedia* | ERAINT | Plains lovegrass | Native | X | X |
| *Eragrostis lehmanniana* | ERALEH | Lehmann lovegrass | Introduced | X | X |
| *Eriastrum diffusum* | ERIDIF | Miniature woollystar | Native | | X |
| *Ericameria laricifolia* | ERILAR | Turpentine bush | Native | | X |
| *Erigeron* sp. | ERI SP. | Fleabane | Native | X | X |
| *Eriochloa acuminata* | ERIACU | Tapertip cupgrass | Native | X | |
| *Eriogonum abertianum* | ERIABE | Abert's buckwheat | Native | X | X |
| *Eriogonum deflexum* | ERIDEF | Flatcrown buckwheat | Native | X | X |
| *Eriogonum fasciculatum* | ERIFAS | Eastern Mojave buckwheat | Native | | X |
| *Eriogonum polycladon* | ERIPOL | Sorrel buckwheat | Native | X | |
| *Eriogonum trichopes* | ERITRI | Little deserttrumpet | Native | X | X |
| *Erodium cicutarium* | EROCIC | Redstem stork's bill | Introduced | X | X |
| *Erythrina flabelliformis* | ERYFLA | Coralbean | Native | | X |
| *Eschscholzia* sp. | ESC SP. | California poppy | Native | X | |
| *Escobaria vivipara* | ESCVIV | Spinystar | Native | | X |
| *Euphorbia davidii* | EUPDAV | David's spurge | Introduced | X | X |
| *Euphorbia exstipulata* | EUPEXS | Squareseed spurge | Native | X | |
| *Euphorbia gracillima* | EUPGRA | Mexican sandmat | Native | | X |
| *Evolvulus arizonicus* | EVOARI | Wild dwarf morning-glory | Native | X | X |
| *Eysenhardtia orthocarpa* | EYSORT | Tahitian kidneywood | Native | | X |
| *Ferocactus emoryi* | FEREMO | Emory's barrel cactus | Native | | X |
| *Ferocactus wislizeni* | FERWIS | Candy barrelcactus | Native | X | X |
| *Fouquieria splendens* | FOUSPL | Ocotillo | Native | X | X |
| *Funastrum cynanchoides* | FUNCYN | Fringed twinevine | Native | | X |
| *Gaillardia pulchella* | GAIPUL | Indian blanket | Native | X | |
| *Galium proliferum* | GALPRO | Limestone bedstraw | Native | | |
| *Gilia* ? sp. | GIL SP. | Gilia | Native | | X |
| *Glandularia gooddingii* | GLAGOO | Southwestern mock vervain | Native | X | X |
| *Gomphrena sonorae* | GOMSON | Sonoran globe amaranth | Native | | X |
| *Gossypium thurberi* | GOSTHU | Thurber's cotton | Native | | X |
| *Gutierrezia microcephala* | GUTMIC | Threadleaf snakeweed | Native | X | X |
| *Gutierrezia sarothrae* | GUTSAR | Broom snakeweed | Native | | X |
| *Heliomeris longifolia* | HELCON | Longleaf false goldeneye | Native | X | |
| *Herissantia crispa* | HERCRI | Bladdermallow | Native | X | |
| *Heteropogon contortus* | HETCON | Tanglehead | Native | X | X |
| *Heterotheca subaxillaris* | HETSUB | Camphorweed | Native | | X |
| *Hibiscus biseptus* | HIBBIS | Arizona rosemallow | Native | X | |
| *Hibiscus coulteri* | HIBCOU | Desert rosemallow | Native | | X |
| *Hibiscus denudatus* | HIBDEN | Paleface | Native | | X |

| Scientific Name* | Acronym | Common Name* | Status | On ROW | Off ROW |
|---|---|---|---|---|---|
| *Hilaria rigida* | HILRIG | Big galleta | Native | | X |
| *Hymenoclea monogyra* | HYMMON | Singlewhorl burrobrush | Native | X | |
| *Hymenothrix wislizeni* | HYMWIS | Trans-Pecos thimblehead | Native | X | X |
| *Ipomoea coccinea* | IPOCOC | Redstar | Introduced; PNW | X | X |
| *Ipomoea hederacea* | IPOHED | Ivyleaf morning-glory | Introduced; PNW | X | X |
| *Ipomoea longifolia* | IPOLON | Pinkthroat morning-glory | Native; PNW | X | |
| *Ipomoea ternifolia* | IPOTER | Tripleleaf morning-glory | Native; PNW | X | X |
| *Isocoma tenuisecta* | ISOTEN | Burroweed | Native | X | X |
| *Janusia gracilis* | JANGRA | Slender janusia | Native | | X |
| *Jatropha cardiophylla* | JATCAR | Sangre de cristo | Native | | X |
| *Justicia* sp. | JUS sp. | water-willow | Native ? | | X |
| *Kallstroemia californica* | KALCAL | California caltrop | Native | X | |
| *Kallstroemia grandiflora* | KALGRA | Arizona poppy | Native | X | X |
| *Krameria erecta* | KRAERE | Littleleaf ratany | Native | | X |
| *Laennecia coulteri* | LAECOU | Coulter's horseweed | Native | X | |
| *Larrea tridentata* | LARTRI | Creosote bush | Native | X | X |
| *Lepidium* sp. | LEP SP. | Pepperweed | Native | X | X |
| *Leptochloa dubia* | LEPDUB | Green sprangletop | Native | X | |
| *Leptochloa panicea* | LEPPAN | Mucronate sprangeltop | Native | X | |
| *Leptosiphon aureus* | LEPAUR | Golden linanthus | Native | | X |
| *Lesquerella gordonii* | LESGOR | Gordon's bladderpod | Native | X | X |
| *Lesquerella purpurea* | LESPUR | Rose bladderpod | Native | X | X |
| *Linanthus bigelovii* | LINBIG | Bigelow's linanthus | Native | | X |
| *Linum lewisii* | LINLEW | Lewis flax | Native | X | X |
| *Linum puberulum* | LINPUB | Plains flax | Native | X | X |
| *Lotus humistratus* | LOTHUM | Foothill deervetch | Native | X | X |
| *Lotus strigosus* | LOTSTR | Strigose bird's-foot trefoil | Native | | X |
| *Lupinus* sp. 1 | LUP SP. 1 | Lupine | Native | X | |
| *Lupinus* sp. 2 | LUP SP. 2 | Lupine | Native | X | |
| *Lycium andersonii* | LYCAND | Water jacket | Native | X | X |
| *Lycium berlandieri* | LYCBER | Berlandier's wolfberry | Native | | X |
| *Machaeranthera tanacetifolia* | MACTAN | Tanseyleaf tansyaster | Native | X | X |
| *Mahonia haematocarpa* | MAHHAE | Red barberry | Native | | X |
| *Malva parviflora* | MALPAR | Cheeseweed mallow | Introduced | X | |
| *Malva* ? sp. | MAL SP. | Mallow | Native | X | |
| *Mammillaria grahamii* | MAMGRA | Graham's nipple cactus | Native | | X |
| *Mammillaria heyderi* | MAMHEY | Little nipple cactus | Native | | X |
| *Melinis repens* | MELREP | Rose Natal grass | Introduced | X | X |
| *Mentzelia multiflora* | MENMUL | Adonis blazingstar | Native | X | |
| *Microseris lindleyi* | LINSIL | Lindley's silverpuffs | Native | X | X |
| *Mimosa aculeaticarpa* | MIMACU | Catclaw mimosa | Native | | X |
| *Mimosa dysocarpa* | MIMDYS | Velvetpod mimosa | Native | X | X |

| Scientific Name* | Acronym | Common Name* | Status | On ROW | Off ROW |
|---|---|---|---|---|---|
| *Mollugo verticillata* | MOLVER | Green carpetweed | Native | X | X |
| *Muhlenbergia porteri* | MUHPOR | Bush muhly | Native | X | X |
| *Nama demissum* | NAMDEM | Purplemat | Native | X | X |
| *Nicotiana glauca* | NICGLA | Tree tobacco | Introduced | X | X |
| *Nicotiana obtusifolia* | NICOBT | Desert tobacco | Native | X | X |
| *Nolina microcarpa* | NOLMIC | Sacahuista | Native | | X |
| *Oenothera* sp. | OEN SP. | Evening primrose | Native | X | X |
| *Oligomeris linifolia* | OLILIN | Lineleaf whitepuff | Native | X | X |
| *Opuntia engelmannii* | OPUENG | Cactus apple | Native | | X |
| *Opuntia gosseliniana* | OPUGOS | Violet pricklypear | Native | | X |
| *Opuntia phaeacantha* | OPUPHA | Tulip pricklypear | Native | | X |
| *Panicum alatum* | PANALA | Winged panicgrass | Native | X | |
| *Panicum hirticaule* | PANHIR | Mexican panicgrass | Native | X | |
| *Panicum obtusum* | PANOBT | Vine mesquite | Native | X | X |
| *Pappophorum vaginatum* | PAPVAG | Whiplash pappusgrass | Native | X | |
| *Parkinsonia aculeata* | PARACU | Jerusalem thorn | Native | X | X |
| *Parkinsonia florida* | PARFLO | Blue paloverde | Native | | X |
| *Parkinsonia microphylla* | PARMIC | Yellow paloverde | Native | | X |
| *Parthenice mollis* | PARMOL | Annual monsterwort | Native | X | X |
| *Pectis papposa* | PECPAP | Manybristle chinchweed | Native | X | |
| *Pectocarya recurva* | PECREC | Curvenut combseed | Native | X | X |
| *Peniocereus greggii* | PENGRE | Nightblooming cereus | Native | | X |
| *Pennisetum ciliare* | PENCIL | Buffelgrass | Introduced; PNW; RGNW | X | X |
| *Penstemon eatonii* | PENEAT | Firecracker penstemon | Native | X | |
| *Penstemon parryi* | PENPAR | Parry's beardtongue | Native | X | |
| *Phacelia campanularia* | PHACAM | Desertbells | Native | X | |
| *Phacelia* sp. 2 | PHA SP. 2 | Phacelia | Native | X | |
| *Phacelia* sp. 3 | PHA SP. 3 | Phacelia | Native | X | |
| *Phaseolus acutifolius* | PHAACU | Tepary bean | Native | X | |
| *Phemeranthus aurantiacus* | PHEAUR | Orange fameflower | Native | X | X |
| *Phoradendron californicum* | PHOCAL | Mesquite mistletoe | Native | | X |
| *Phoradendron tomentosum* | PHOTOM | Christmas mistletoe | Native | | X |
| *Physalis crassifolia* | PHYCRA | Yellow nightshade groundcherry | Native | X | |
| *Plantago ovata* | PLAOVA | Desert Indianwheat | Native | X | X |
| *Plantago patagonica* | PLAPAT | Woolly plantain | Native | X | |
| *Porophyllum gracile* | PORGRA | Slender poreleaf | Native | | X |
| *Porophyllum ruderale* | PORRUD | Yerba porosa | Native | | X |
| *Portulaca halimoides* | PORHAL | Silkcotton purslane | Native | | X |
| *Portulaca oleracea* | POROLE | Little hogweed | Native; PNW; RGNW | X | X |
| *Portulaca suffrutescens* | PORSUF | Shrubby purslane | Native | X | X |

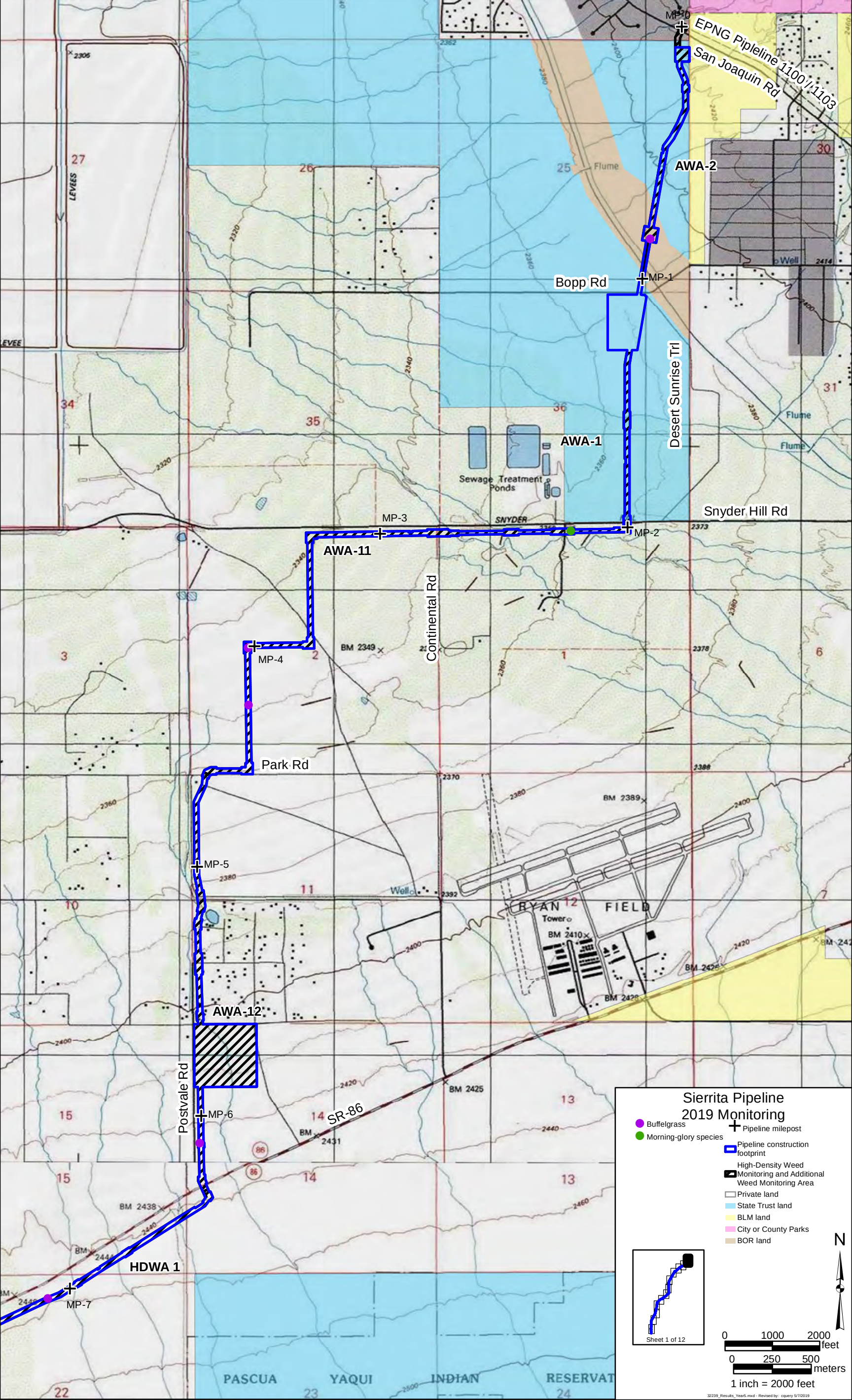
| Scientific Name* | Acronym | Common Name* | Status | On ROW | Off ROW |
|---|---|---|---|---|---|
| *Portulaca umbraticola* | PORUMB | Wingpod purslane | Native | X | X |
| *Proboscidea althaeifolia* | PROALT | Desert unicorn-plant | Native | X | X |
| *Proboscidea parviflora* | PROPAR | Doubleclaw | Native | X | X |
| *Prosopis velutina* | PROVEL | Velvet mesquite | Native | X | X |
| *Pseudognaphalium leucocephalum* | PSELEU | White cudweed | Native | | X |
| *Quincula lobata* | QUILOB | Chinese lantern | Native | X | |
| *Rafinesquia neomexicana* | RAFNEO | New Mexico plumeseed | Native | | X |
| *Rhynchosida physocalyx* | RHYPHY | Buffpetal | Native | X | X |
| *Ruellia nudiflora* | RUENUD | Violet wild petunia | Native | | |
| *Rumex hymenosepalus* | RUMHYM | Canaigre dock | Native | | X |
| *Salsola tragus* | SALTRA | Prickly Russian thistle | Introduced | X | X |
| *Salvia columbariae* | SALCOL | Chia | Native | X | |
| *Schismus arabicus* | SCHARA | Arabian schismus | Introduced | X | X |
| *Schizachyrium scoparium* | SCHSCO | Little bluestem | Native | | X |
| *Senecio* ? sp. | SEN SP. | Ragwort | Native | | X |
| *Senegalia greggii* | SENGRE | Catclaw acacia | Native | | X |
| *Senna bauhinioides* | SENBAU | Twinleaf senna | Native | X | X |
| *Senna covesii* | SENCOV | Coues' cassia | Native | X | X |
| *Senna hirsuta* | SENHIR | Wooly senna | Native | X | X |
| *Setaria leucopila* | SETLEU | Streambed bristlegrass | Native | X | |
| *Setaria macrostachya* | SETMAC | Large-spike bristlegrass | Native | X | X |
| *Setaria viridis* | SETVIR | Green bristlegrass | Introduced | X | |
| *Sida abutifolia* | SIDABU | Spreading fanpetals | Native | X | X |
| *Simmondsia chinensis* | SIMCHI | Jojoba | Introduced | | X |
| *Sisymbrium irio* | SISIRI | London rocket | Introduced | X | X |
| *Solanum elaeagnifolium* | SOLELA | Silverleaf nightshade | Native | X | X |
| *Solanum lumholtzianum* | SOLLUM | Sonoran nightshade | Native | X | |
| *Sonchus oleraceus* | SONOLE | Common sowthistle | Introduced | X | X |
| *Sorghum bicolor* | SORBIC | Sorghum | Introduced | X | |
| *Sorghum halepense* | SORHAL | Johnsongrass | Introduced | X | X |
| *Sphaeralcea ambigua* | SPHAMB | Desert globemallow | Native | X | X |
| *Sphaeralcea* sp. 2 | SPH SP. 2 | Globemallow | Native | X | |
| *Sporobolus airoides* | SPOAIR | Alkali sacaton | Native | | X |
| *Sporobolus compositus* | SPOCOM | composite dropseed | Native | | X |
| *Sporobolus contractus* | SPOCON | Spike dropseed | Native | X | X |
| *Sporobolus cryptandrus* | SPOCRY | Sand dropseed | Native | X | X |
| *Stephanomeria pauciflora* | STEPAU | Brownplume wirelettuce | Native | | X |
| *Tecoma stans* | TECSTA | Yellow trumpetbush | Native | | X |
| *Tephrosia leiocarpa* | TEPLEI | Smoothpod hoarypea | Native | X | X |
| *Tetramerium nervosum* | TETNER | Hairy fournwort | Native | X | X |
| *Tidestromia lanuginosa* | TIDLAN | Woolly tidestromia | Native | X | X |

| Scientific Name* | Acronym | Common Name* | Status | On ROW | Off ROW |
|---|---|---|---|---|---|
| *Tragia nepetifolia* | TRANEP | catnip noseburn | Native | **X** | |
| *Trianthema portulacastrum* | TRIPOR | Desert horsepurslane | Native | **X** | **X** |
| *Tribulus terrestris* | TRITER | Puncturevine | Introduced; PNW; RGNW | **X** | |
| *Trichloris crinita* | TRICRI | False Rhodes grass | Native | **X** | **X** |
| *Trixis californica* | TRICAL | American threefold | Native | | **X** |
| *Urochloa arizonica* | UROARI | Arizona signalgrass | Native | **X** | |
| *Urochloa fusca* | UROFUS | Browntop signalgrass | Native | **X** | |
| *Vachellia constricta* | VACCON | Whitethorn acacia | Native | **X** | **X** |
| *Vauquelinia californica* | VAUCAL | Arizona rosewood | Native | | **X** |
| *Verbena bracteata* | VERBRA | Bigbract verbena | Native | **X** | **X** |
| *Xanthisma texanum* | XANTEX | Texas sleepydaisy | Native | **X** | **X** |
| *Yucca baccata* | YUCBAC | Banana yucca | Native | | **X** |
| *Yucca elata* | YUCELA | Soaptree yucca | Native | | **X** |
| *Zinnia acerosa* | ZINACE | Desert zinnia | Native | **X** | **X** |
| *Ziziphus obtusifolia* | ZIZOBT | Lotebush | Native | | **X** |

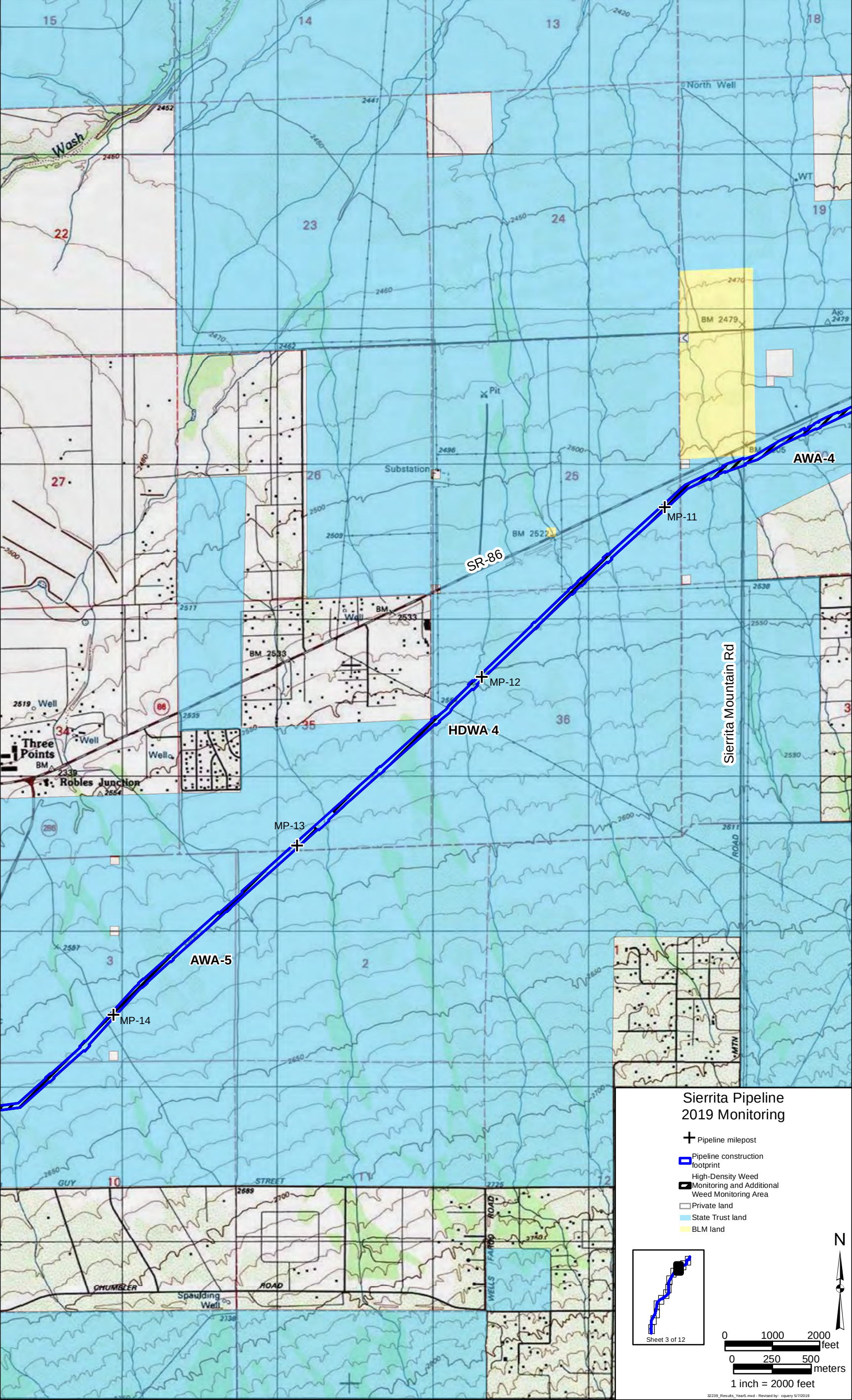
*Scientific and common names are referenced from the USDA Plants Database - http://plants.usda.gov/java/
Arizona Dept. of Agriculture Status
PNW = Prohibited noxious weed
RGNW = Regulated noxious weeds
RNW = Restricted noxious weed

# APPENDIX B

## Survey and Control Effort Figures


MP-0
EPNG Pipleline 1100/1103
San Joaquin Rd
AWA-2
Flume
MP-1
Bopp Rd
Desert Sunrise Trl
AWA-1
Sewage Treatment Ponds
Snyder Hill Rd
MP-3
MP-2
AWA-11
Continental Rd
MP-4
BM 2349
Park Rd
MP-5
Well
RYAN FIELD
Tower
BM 2410
BM 2389
AWA-12
Postvale Rd
MP-6
SR-86
BM 2425
BM 2431
BM 2438
HDWA 1
MP-7
PASCUA YAQUI INDIAN RESERVAT
LEVEES
Sierrita Pipeline
2019 Monitoring
Buffelgrass
Morning-glory species
Pipeline milepost
Pipeline construction footprint
High-Density Weed Monitoring and Additional Weed Monitoring Area
Private land
State Trust land
BLM land
City or County Parks
BOR land
Sheet 1 of 12
N
0 1000 2000 feet
0 250 500 meters
1 inch = 2000 feet
32239_Results_Year5.mxd - Revised by: cquery 5/7/2019

Well
Well
Twin Tanks
Tank
SANDARIO
Sandario Rd
AVRA
VALLEY
Water Tank
Pit
SR-86
MP-7
MP-8
MP-9
MP-10
AWA-13
HDWA 2
AWA-3
HDWA 3
AWA-4
J Bar M
Sierrita Pipeline
2019 Monitoring
Buffelgrass
Pipeline milepost
Pipeline construction footprint
High-Density Weed Monitoring and Additional Weed Monitoring Area
Private land
State Trust land
BLM land
Tohono O'odham Nation
Sheet 2 of 12
N
0 1000 2000 feet
0 250 500 meters
1 inch = 2000 feet
32239_Results_Year5.mxd - Revised by: cquery 5/7/2019


North Well
Wash
WT
BM 2479
Pit
Substation
AWA-4
MP-11
SR-86
BM 2522
BM 2533
Well
MP-12
HDWA 4
Sierrita Mountain Rd
Three Points
Robles Junction
MP-13
AWA-5
MP-14
GUY
STREET
CHUMBLER
ROAD
Spaulding Well
WELLS
FARGO
MTN
Sierrita Pipeline
2019 Monitoring
Pipeline milepost
Pipeline construction footprint
High-Density Weed Monitoring and Additional Weed Monitoring Area
Private land
State Trust land
BLM land
Sheet 3 of 12
N
0 1000 2000 feet
0 250 500 meters
1 inch = 2000 feet
32239_Results_Year5.mxd - Revised by: cquery 5/7/2019


Wash 55
MP-16
Wash 56
AWA-6
Wash 57
MP-17
Diamond Bell Ranch Rd
MP-18
MP-19
AWA-7
HDWA 5
MP-15
HDWA 6
SR-286
Wash
Levee
Landing Strip
Pit
Dry Well
Well
Gravel Pit
Firing Range
Prospects
Three Points
Athletic Field
Santa Teresa Well
Javelina Tank
Brawley
Raymon Road
Altar Road
Guy
Vance
Laura
Fannin Road
Sierrita Pipeline
2019 Monitoring
Pipeline milepost
Pipeline construction footprint
High-Density Weed Monitoring and Additional Weed Monitoring Area
Private land
State Trust land
BLM land
BOR land
Sheet 4 of 12
N
0 1000 2000 feet
0 250 500 meters
1 inch = 2000 feet
32239_Results_Year5.mxd - Revised by: cquery 5/7/2019

MP-19

AWA-7

MP-20

SR-286

MP-21

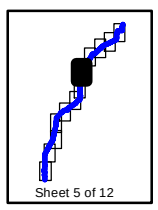
MP-22

MP-23

MP-24

# Sierrita Pipeline
# 2019 Monitoring

- Pipeline milepost
- Pipeline construction footprint
- High-Density Weed Monitoring and Additional Weed Monitoring Area
- Private land
- State Trust land



Sheet 5 of 12

N

0 1000 2000 feet

0 250 500 meters

1 inch = 2000 feet

32239_Results_Year5.mxd - Revised by: cquery 5/7/2019

MP-25

HDWA 7

MP-26

HDWA 8

MP-27

SR-286

HDWA 9

MP-28

MP-29

AWA-9

MP-30

# Sierrita Pipeline
# 2019 Monitoring

- Pipeline milepost
- Pipeline construction footprint
- High-Density Weed Monitoring and Additional Weed Monitoring Area
- Private land
- State Trust land

Sheet 6 of 12

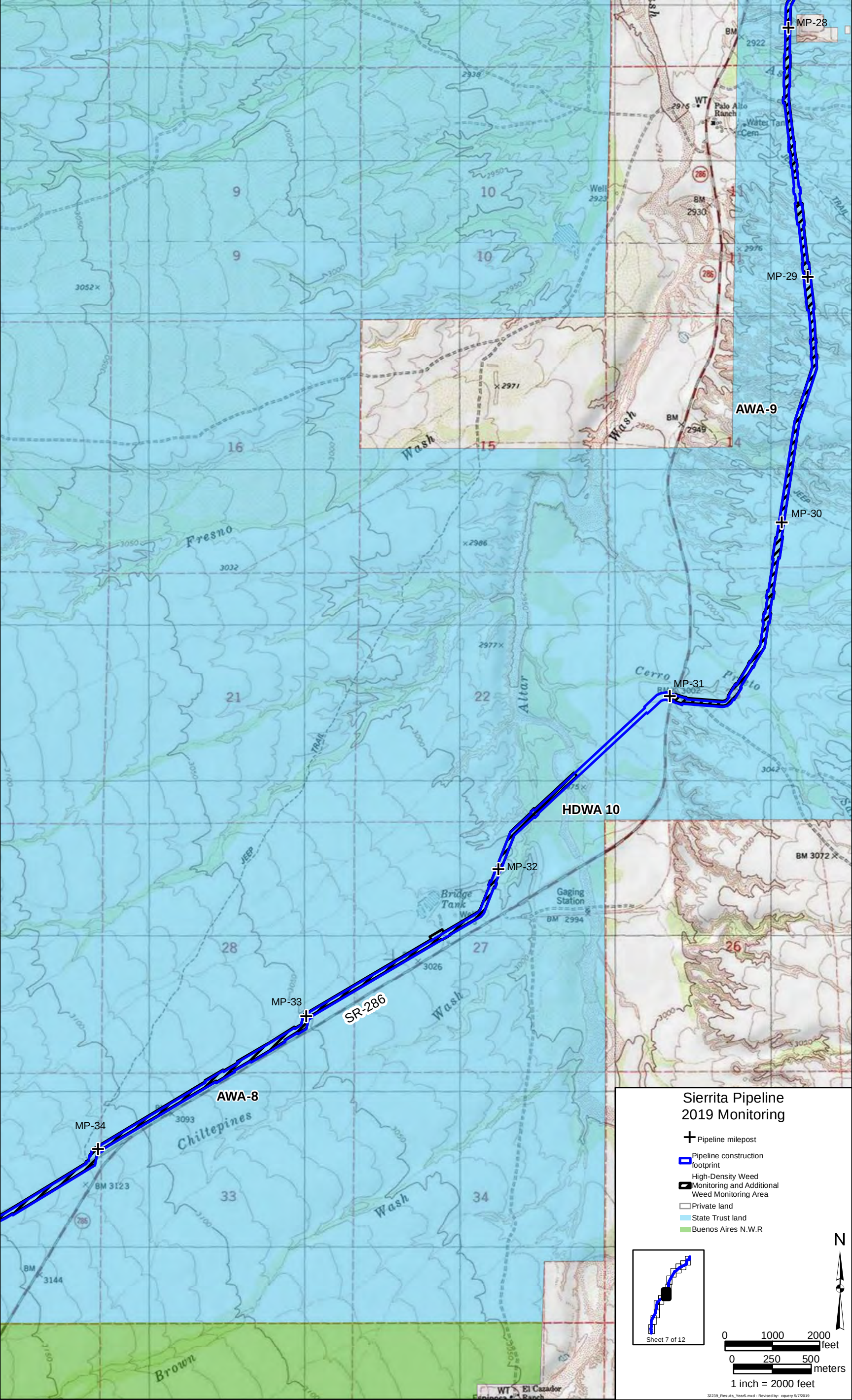
N

0 1000 2000 feet

0 250 500 meters

1 inch = 2000 feet

32239_Results_Year5.mxd - Revised by: cquery 5/7/2019


MP-28
MP-29
MP-30
MP-31
MP-32
MP-33
MP-34
AWA-9
HDWA 10
AWA-8
SR-286
Wash
Fresno
Chiltepines
Brown
Altar
Cerro Pinto
Bridge Tank
Gaging Station
Palo Alto Ranch
BM 2922
BM 2930
BM 2949
BM 3123
BM 3144
BM 3072
BM 3002
BM 2994
WT
JEEP
TRAIL
Sierrita Pipeline
2019 Monitoring
Pipeline milepost
Pipeline construction footprint
High-Density Weed Monitoring and Additional Weed Monitoring Area
Private land
State Trust land
Buenos Aires N.W.R
Sheet 7 of 12
N
0 1000 2000 feet
0 250 500 meters
1 inch = 2000 feet
32239_Results_Year5.mxd - Revised by: cquery 5/7/2019

Elk Horn Ranch Rd

MP-35

AWA-8

HDWA 11

MP-36

MP-37

AWA-10

MP-38

Wash 134

Las Delicias Ranch Rd

Poso Nuevo Ranch Rd

SR-286

Brown Canyon Rd

BM 3348

LANDING STRIP

BM 3265

Water Tank

Red Tank

Wash

P-Y Tank

Chiltepines

Tank No 1

Water Tanks

Brown Well

Gravel Pit

BM 3249

BM 3327

BM 3398

BM 3144

BM 3186

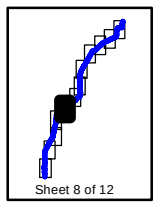
Well

Brown

Miguel

# Sierrita Pipeline 2019 Monitoring

- Pipeline milepost
- Pipeline construction footprint
- High-Density Weed Monitoring and Additional Weed Monitoring Area
- Private land
- State Trust land
- Buenos Aires



Sheet 8 of 12

N

0 1000 2000 feet

0 250 500 meters

1 inch = 2000 feet

32239_Results_Year5.mxd - Revised by: cquery 5/7/2019

MP-39

MP-40

MP-41

MP-42

MP-43

MP-44

Brown Canyon Rd

Wash 142

Wash 145

Little Thomas Wash

Wash 147

Wash 149

Sierrita Pipeline
2019 Monitoring

Buffelgrass

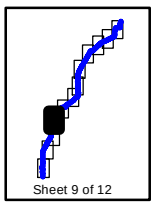
Pipeline milepost

Pipeline construction footprint

Private land

State Trust land

Buenos Aires



Sheet 9 of 12

N

0 1000 2000 feet

0 250 500 meters

1 inch = 2000 feet

32239_Results_Year5.mxd - Revised by: cquery 5/7/2019


MP-45
MP-46
MP-47
MP-48
Stillwood Ranch Rd
Santa Margarita Ranch Rd
SR-286
Shaffer
Wash
Water Tank
Mormon Tank
Gravel Pit
Mitchell Tank
Tiahuerro Tank
Altar
Corral
Milpa Tank
Sierrita Pipeline
2019 Monitoring
Buffelgrass
Pipeline milepost
Pipeline construction footprint
Private land
State Trust land
Buenos Aires N.W.R
Sheet 10 of 12
N
0 1000 2000 feet
0 250 500 meters
1 inch = 2000 feet
32239_Results_Year5.mxd - Revised by: cquery 5/7/2019

MP-49
MP-50
MP-51
MP-52
MP-53
MP-54
Presumido Rd
Aros Wash Trl
SR-286
Wash
Pozo
Legunita
Yucca Tank
Pariya Tank
Skute Tank
Milpa Tank
Lagunita Tank
Tony Tank
Bailey
Water Tank
Big Bertha Tank
Corral
Well
WT
31
32
33
6
5
4
7
8
9
18
17
16
19
20

Sierrita Pipeline
2019 Monitoring

Buffelgrass
Pipeline milepost
Pipeline construction footprint
Private land
State Trust land
Buenos Aires N.W.R

Sheet 11 of 12

N

0 1000 2000 feet
0 250 500 meters
1 inch = 2000 feet

32239_Results_Year5.mxd - Revised by: cquery 5/7/2019

MP-55

MP-56

MP-57

MP-58

MP-59

MP-60

Palmas Tank

BM 3731

McGrail Tank

Water Tank

Sierra Vista Ranch

Buena Vista

Water Tank

Water Tank

Water Tank

Carrizo Dam Tank

Water Tank

Bajillo de las Chivas

NATIONAL

BM 3679

BM 3627

WT

Sierra Vista Rd

Carrizo Tank

La Osa Dam

Wash

El Mirador Rd

Water Tank

Rancho de la Osa

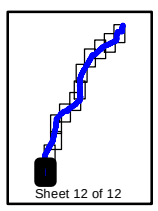
Well

ESTADOS UNIDOS MEXICANOS

UNITED STATES OF AMERICA

# Sierrita Pipeline 2019 Monitoring

- Pipeline milepost
- Pipeline construction footprint
- Private land
- State Trust land
- Buenos Aires N.W.R
- BOR land




N

0 1000 2000 feet

0 250 500 meters

1 inch = 2000 feet

32239_Results_Year5.mxd - Revised by: cquery 5/7/2019

# APPENDIX C

## Weeds Removed at the Weed Monitoring Sites

| Site ID | Start Coordinates | | End Coordinates | | Crew | Weeds Found? | Treatment? | Total buffelgrass removed by weed area | Weeds not removed |
|---|---|---|---|---|---|---|---|---|---|
| | Easting | Northing | Easting | Northing | | | | | *Ipomoea* sp. |
| HDWA 1 | 481177 | 3554095 | 479575 | 3553147 | SC, CA, RH | Yes | Yes | 1 | |
| HDWA 2 | 478668 | 3552752 | 478405 | 3552626 | SC, CA, RH | Yes | Yes | 62 | |
| HDWA 3 | 478038 | 3552454 | 476554 | 3551733 | SC, CA, RH | Yes | Yes | 5 | |
| HDWA 4 | 474543 | 3550774 | 472290 | 3548692 | TS, JD | No | No | 0 | |
| HDWA 5 | 470138 | 3546844 | 469951 | 3546826 | TS, JD | No | No | 0 | |
| HDWA 6 | 469641 | 3546783 | 469433 | 3546779 | TS, JD | No | No | 0 | |
| HDWA 7 | 462905 | 3531431 | 462939 | 3531285 | TS, JD | No | No | 0 | |
| HDWA 8 | 463040 | 3530178 | 462977 | 3529880 | TS, JD | No | No | 0 | |
| HDWA 9 | 462905 | 3529385 | 463119 | 3526963 | TS, JD | No | No | 0 | |
| HDWA 10 | 461705 | 3523239 | 461405 | 3522968 | TS, JD | No | No | 0 | |
| HDWA 11 | 456995 | 3519198 | 456690 | 3518882 | SC, JD, TL | No | No | 0 | |
| AWA 1 | 483896 | 3559521 | 483893 | 3558399 | SC, RH, TL | Yes | Yes | 0 | |
| AWA 2 | 484255 | 3561628 | 484021 | 3560208 | SC, RH, TL | Yes | Yes | 1 | |
| AWA 3 | 478397 | 3552608 | 478102 | 3552485 | RH, TL | No | No | 0 | |
| AWA 4 | 476523 | 3551717 | 474601 | 3550832 | RH, TL, TS, BP | Yes | Yes | 42 | |
| AWA 5 | 472252 | 3548667 | 470225 | 3546865 | TS, BP | No | No | 0 | |
| AWA 6 | 469400 | 3546797 | 467490 | 3543581 | TS, BP | No | No | 0 | |
| AWA 7 | 467486 | 3543579 | 463568 | 3536575 | TS, JD | No | No | 0 | |
| AWA 8 | 461458 | 3523011 | 456987 | 3519199 | TS, JD, SC, TL | No | No | 0 | |
| AWA 9 | 463120 | 3526918 | 462326 | 3523730 | TS, JD | No | No | 0 | |
| AWA 10 | 456689 | 3518874 | 453589 | 3517539 | SC, JD, TL | No | No | 0 | |
| AWA 11 | 483882 | 3558395 | 481163 | 3556808 | SC, RH, TL, JD, IH | Yes | Yes | 5 | **X** |
| AWA 12 | 481173 | 3556800 | 481165 | 3554166 | SC, JD, IH | Yes | Yes | 4 | |
| AWA 13 | 479578 | 3553154 | 478697 | 3552764 | RH, TL | Yes | Yes | 17 | |
| South of MP 38 | | | | | | Yes | Yes | 162 | |
| **Total** | | | | | | | | **299** | |

# APPENDIX D

## Sierrita Spring 2019 Noxious Weed Monitoring and Control Event, Selected Photographs




**Figure D.1.** Start of HDWA 1 (MP 6.3); view facing southwest.




**Figure D.2.** End of HDWA 2 (MP 8.2); view facing northeast.




**Figure D.3.** Start of HDWA 3 (MP 8.5); view facing west.




**Figure D.4.** End of HDWA 4 (MP 12.8); view facing northeast.




**Figure D.5.** Start of HDWA 5 (MP 14.6); view facing west.




**Figure D.6.** End of HDWA 6 (MP 15.1); view facing east.




**Figure D.7.** Start of HDWA 7 (MP 25.7); view facing south.




**Figure D.8.** Start of HDWA 8 (MP 26.5); view facing south.




**Figure D.9.** End of HDWA 9 (MP 28.6); view facing north.




**Figure D.10.** End of HDWA 10 (MP 31.7); view facing north.




**Figure D.11.** End of HDWA 11 (MP 36.0); view facing north.



**Figure D.12.** Start of AWA 1 (MP 1.3); view facing south.



**Figure D.13.** Overview of AWA 1 (MP 2.0).



**Figure D.14.** End of AWA 2 (MP 1.0); view facing northeast.



**Figure D.15.** Start of AWA 3 (MP 8.3); view facing southwest.




**Figure D.16.** Overview of AWA 4 (MP 10.0).




**Figure D.17.** Buffelgrass occurrence on ROW in AWA 4 (~MP 10.0).




**Figure D.18.** Buffelgrass occurrence off-ROW at AWA 4 (~MP 10.0).




**Figure D.19.** Start of AWA 5 (MP 12.9); view facing west.



**Figure D.20.** End of AWA 6 (MP 17.5); view facing north.




**Figure D.21.** Start of AWA 7 (MP 17.5); view facing south.




**Figure D.22.** End of AWA 8 (MP 35.7); view facing north.




**Figure D.23.** End of AWA 9 (MP 31.0); view facing north.




**Figure D.24.** End of AWA 10 (MP 38.2); view facing northeast.




**Figure D.25.** End of AWA 11 (MP 2); view facing east.




**Figure D.26.** Start of AWA 12 (MP 4.7); view facing south.




**Figure D.27.** Start of AWA 13 (MP 7.5); view facing southwest.




**Figure D.28.** Buffelgrass south of Brown Canyon (~MP 41.5).




**Figure D.29.** Overview of pipeline at MP 60; view facing north.



**Figure D.30.** Reseeding a portion of the former contractor's yard at ~MP 5.6.

# APPENDIX D

## Line-Point Intercept Database Fall 2019

## Sierrita Long Term Monitoring: Line-Point Intercept Summary Table- Fall 2018

| Date | Crew | Plot ID | Plot Vegetation Community | Plot Location | | Transect ID | Random Number | Start Location (UTM) | | End Location (UTM) | | Azimuth |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Easting | Northing | | | Easting | Northing | Easting | Northing | |
| 09/25/2018 | SC, BP, IH | 1 | Arizona upland, upland | 484244 | 3561093 | 1 | 20 | 484237 | 3561074 | 484264 | 3561061 | 102, 282 |
| 09/25/2018 | SC, BP, IH | 1 | Arizona upland, upland | 484244 | 3561093 | 2 | 40 | 484229 | 3561056 | 484257 | 3561044 | 102, 282 |
| 09/25/2018 | SC, BP, IH | 1 | Arizona upland, upland | 484244 | 3561093 | 3 | 93 | 484210 | 3561007 | 484237 | 3560995 | 102, 282 |
| 09/25/2018 | SC, BP, IH | 1 | Arizona upland, upland | 484244 | 3561093 | 4 | 6 | 484238 | 3561087 | 484212 | 3561099 | 282, 102 |
| 09/25/2018 | SC, BP, IH | 1 | Arizona upland, upland | 484244 | 3561093 | 5 | 7 | 484239 | 3561088 | 484211 | 3561098 | 282, 102 |
| 09/25/2018 | SC, BP, IH | 1 | Arizona upland, upland | 484244 | 3561093 | 6 | 81 | 484210 | 3561019 | 484182 | 3561029 | 282, 102 |
| 09/25/2018 | SC, BP, IH | 2 | Arizona upland, upland | 483763 | 3559675 | 1 | 6 | 483764 | 3559668 | 483793 | 3559666 | 81, 261 |
| 09/25/2018 | SC, BP, IH | 2 | Arizona upland, upland | 483763 | 3559675 | 2 | 69 | 483761 | 3559605 | 483791 | 3559605 | 81, 261 |
| 09/25/2018 | SC, BP, IH | 2 | Arizona upland, upland | 483763 | 3559675 | 3 | 87 | 483760 | 3559586 | 483790 | 3559587 | 81, 261 |
| 09/25/2018 | SC, BP, IH | 2 | Arizona upland, upland | 483763 | 3559675 | 4 | 53 | 483758 | 3559622 | 483727 | 3559622 | 261, 81 |
| 09/25/2018 | SC, BP, IH | 2 | Arizona upland, upland | 483763 | 3559675 | 5 | 60 | 483756 | 3559616 | 483727 | 3559615 | 261, 81 |
| 09/25/2018 | SC, BP, IH | 2 | Arizona upland, upland | 483763 | 3559675 | 6 | 96 | 483756 | 3559579 | 483729 | 3559578 | 261, 81 |
| 10/05/2018 | TS, JD, RH | 3 | Arizona upland, upland | 464560 | 3538562 | 1 | 3 | 464558 | 3538560 | 464582 | 3538544 | 110, 290 |
| 10/05/2018 | TS, JD, RH | 3 | Arizona upland, upland | 464560 | 3538562 | 2 | 47 | 464536 | 3538520 | 464561 | 3538506 | 110, 290 |
| 10/05/2018 | TS, JD, RH | 3 | Arizona upland, upland | 464560 | 3538562 | 3 | 99 | 464510 | 3538475 | 464536 | 3538461 | 110, 290 |
| 10/05/2018 | TS, JD, RH | 3 | Arizona upland, upland | 464560 | 3538562 | 4 | 23 | 464544 | 3538543 | 464518 | 3538557 | 290, 110 |
| 10/05/2018 | TS, JD, RH | 3 | Arizona upland, upland | 464560 | 3538562 | 5 | 32 | 464538 | 3538537 | 464515 | 3538551 | 290, 110 |
| 10/05/2018 | TS, JD, RH | 3 | Arizona upland, upland | 464560 | 3538562 | 6 | 62 | 464524 | 3538509 | 464499 | 3538522 | 290, 110 |
| 09/25/2018 | SC, BP, IH | 4 | Arizona upland, riparian | 483868 | 3559100 | 1 | 32 | 483866 | 3559081 | 483867 | 3559066 | 80, 260 |
| 09/25/2018 | SC, BP, IH | 4 | Arizona upland, riparian | 483868 | 3559100 | 2 | 73 | 483895 | 3559073 | 483900 | 3559022 | 80, 260 |
| 09/25/2018 | SC, BP, IH | 4 | Arizona upland, riparian | 483868 | 3559100 | 3 | 80 | 483869 | 3559027 | 483882 | 3559019 | 80, 260 |
| 09/25/2018 | SC, BP, IH | 4 | Arizona upland, riparian | 483868 | 3559100 | 4 | 38 | 483867 | 3559075 | 483839 | 3559057 | 260, 80 |
| 09/25/2018 | SC, BP, IH | 4 | Arizona upland, riparian | 483868 | 3559100 | 5 | 54 | 483856 | 3559063 | 483834 | 3559018 | 260, 80 |
| 09/25/2018 | SC, BP, IH | 4 | Arizona upland, riparian | 483868 | 3559100 | 6 | 86 | 483867 | 3559019 | 483847 | 3559017 | 260, 80 |
| 09/26/2018 | SC, BP, IH | 5 | Arizona upland, upland | 483869 | 3558982 | 1 | 25 | 483869 | 3558958 | 483896 | 3558957 | 84, 264 |
| 09/26/2018 | SC, BP, IH | 5 | Arizona upland, upland | 483869 | 3558982 | 2 | 30 | 483869 | 3558952 | 483899 | 3558953 | 84, 264 |
| 09/26/2018 | SC, BP, IH | 5 | Arizona upland, upland | 483869 | 3558982 | 3 | 99 | 483868 | 3558883 | 483898 | 3558883 | 84, 264 |
| 09/26/2018 | SC, BP, IH | 5 | Arizona upland, upland | 483869 | 3558982 | 4 | 55 | 483865 | 3558931 | 483837 | 3558929 | 264, 84 |
| 09/26/2018 | SC, BP, IH | 5 | Arizona upland, upland | 483869 | 3558982 | 5 | 85 | 483864 | 3558897 | 483834 | 3558898 | 264, 84 |
| 09/26/2018 | SC, BP, IH | 5 | Arizona upland, upland | 483869 | 3558982 | 6 | 90 | 483863 | 3558892 | 483834 | 3558894 | 264, 84 |
| 09/26/2018 | SC, BP, IH | 6 | Arizona upland, riparian | 483869 | 3558519 | 1 | 4 | 483869 | 3550515 | 483899 | 3558515 | 80, 260 |
| 09/26/2018 | SC, BP, IH | 6 | Arizona upland, riparian | 483869 | 3558519 | 2 | 24 | 483869 | 3558494 | 483898 | 3558494 | 80, 260 |
| 09/26/2018 | SC, BP, IH | 6 | Arizona upland, riparian | 483869 | 3558519 | 3 | 65 | 483867 | 3558463 | 483897 | 3558464 | 80, 260 |
| 09/26/2018 | SC, BP, IH | 6 | Arizona upland, riparian | 483869 | 3558519 | 4 | N/A* | 483861 | 3558466 | 483832 | 3558466 | 260, 80 |
| 09/26/2018 | SC, BP, IH | 6 | Arizona upland, riparian | 483869 | 3558519 | 5 | N/A* | 483862 | 3558463 | 483832 | 3558463 | 260, 80 |
| 09/26/2018 | SC, BP, IH | 6 | Arizona upland, riparian | 483869 | 3558519 | 6 | N/A* | 483862 | 3558461 | 483833 | 3558461 | 260, 80 |

## Sierrita Long Term Monitoring: Line-Point Intercept Summary Table- Fall 2018

| Date | Crew | Plot ID | Plot Vegetation Community | Plot Location | | Transect ID | Random Number | Start Location (UTM) | | End Location (UTM) | | Azimuth |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Easting | Northing | | | Easting | Northing | Easting | Northing | |
| 09/27/2018 | SC, BP, IH | 7 | Arizona upland, riparian | 483597 | 3558382 | 1 | 22 | 483576 | 3558382 | 483576 | 3558353 | 170, 350 |
| 09/27/2018 | SC, BP, IH | 7 | Arizona upland, riparian | 483597 | 3558382 | 2 | 89 | 483510 | 3558382 | 483509 | 3558351 | 170, 350 |
| 09/27/2018 | SC, BP, IH | 7 | Arizona upland, riparian | 483597 | 3558382 | 3 | 95 | 483503 | 3558382 | 483502 | 3558352 | 170, 350 |
| 09/27/2018 | SC, BP, IH | 7 | Arizona upland, riparian | 483597 | 3558382 | 4 | 3 | 483595 | 3558383 | 483594 | 3558397 | 350, 170 |
| 09/27/2018 | SC, BP, IH | 7 | Arizona upland, riparian | 483597 | 3558382 | 5 | 25 | 483578 | 3558391 | 483575 | 3558410 | 350, 170 |
| 09/27/2018 | SC, BP, IH | 7 | Arizona upland, riparian | 483597 | 3558382 | 6 | 53 | 483545 | 3558380 | 483546 | 3558403 | 350, 170 |
| 09/27/2018 | SC, BP, IH | 8 | Arizona upland, upland | 481129 | 3556140 | 1 | 17 | 481133 | 3556124 | 481104 | 3556116 | 65, 245 |
| 09/27/2018 | SC, BP, IH | 8 | Arizona upland, upland | 481129 | 3556140 | 2 | 23 | 481135 | 3556118 | 481106 | 3556109 | 65, 245 |
| 09/27/2018 | SC, BP, IH | 8 | Arizona upland, upland | 481129 | 3556140 | 3 | 99 | 481153 | 3556044 | 481124 | 3556038 | 65, 245 |
| 09/27/2018 | SC, BP, IH | 8 | Arizona upland, upland | 481129 | 3556140 | 4 | 9 | 481135 | 3556131 | 481164 | 3556139 | 245, 65 |
| 09/27/2018 | SC, BP, IH | 8 | Arizona upland, upland | 481129 | 3556140 | 5 | 53 | 481147 | 3556089 | 481175 | 3556098 | 245, 65 |
| 09/27/2018 | SC, BP, IH | 8 | Arizona upland, upland | 481129 | 3556140 | 6 | 63 | 481149 | 3556079 | 481177 | 3556087 | 245, 65 |
| 09/24/2018 | TS, JD, RH | 9 | Arizona upland, upland | 479110 | 3552963 | 1 | 36 | 479078 | 3552947 | 479091 | 3552920 | 142, 322 |
| 09/24/2018 | TS, JD, RH | 9 | Arizona upland, upland | 479110 | 3552963 | 2 | 39 | 479075 | 3552946 | 479088 | 3552919 | 142, 322 |
| 09/24/2018 | TS, JD, RH | 9 | Arizona upland, upland | 479110 | 3552963 | 3 | 76 | 479042 | 3552930 | 479055 | 3552902 | 142, 322 |
| 09/24/2018 | TS, JD, RH | 9 | Arizona upland, upland | 479110 | 3552963 | 4 | 17 | 479094 | 3552956 | 479081 | 3552981 | 322, 142 |
| 09/24/2018 | TS, JD, RH | 9 | Arizona upland, upland | 479110 | 3552963 | 5 | 67 | 479063 | 3552940 | 479050 | 3552967 | 322, 142 |
| 09/24/2018 | TS, JD, RH | 9 | Arizona upland, upland | 479110 | 3552963 | 6 | 83 | 479050 | 3552934 | 479037 | 3552961 | 322, 142 |
| 09/28/2018 | BP, TS, RH | 10 | Arizona upland, riparian | 465265 | 3539768 | 1 | 2 | 465264 | 3539767 | 465290 | 3539751 | 110 |
| 09/28/2018 | BP, TS, RH | 10 | Arizona upland, riparian | 465265 | 3539768 | 2 | 32 | 465219 | 3539741 | 465275 | 3539726 | 110 |
| 09/28/2018 | BP, TS, RH | 10 | Arizona upland, riparian | 465265 | 3539768 | 3 | 44 | 465243 | 3539730 | 465269 | 3539715 | 110 |
| 09/28/2018 | BP, TS, RH | 10 | Arizona upland, riparian | 465265 | 3539768 | 4 | 8 | 465255 | 3539762 | 465229 | 3539779 | 290 |
| 09/28/2018 | BP, TS, RH | 10 | Arizona upland, riparian | 465265 | 3539768 | 5 | 32 | 465244 | 3539744 | 465218 | 3539759 | 290 |
| 09/28/2018 | BP, TS, RH | 10 | Arizona upland, riparian | 465265 | 3539768 | 6 | 68 | 465226 | 3539713 | 465200 | 3539729 | 290 |
| 09/28/2018 | BP, TS, RH | 11 | Arizona upland, upland | 465879 | 3540830 | 1 | 20 | 465870 | 3540812 | 465896 | 3540799 | 110 |
| 09/28/2018 | BP, TS, RH | 11 | Arizona upland, upland | 465879 | 3540830 | 2 | 40 | 465860 | 3540795 | 465885 | 3540780 | 110 |
| 09/28/2018 | BP, TS, RH | 11 | Arizona upland, upland | 465879 | 3540830 | 3 | 96 | 465832 | 3540747 | 465858 | 3540732 | 110 |
| 09/28/2018 | BP, TS, RH | 11 | Arizona upland, upland | 465879 | 3540830 | 4 | 64 | 465841 | 3540779 | 465815 | 3540794 | 290 |
| 09/28/2018 | BP, TS, RH | 11 | Arizona upland, upland | 465879 | 3540830 | 5 | 69 | 465838 | 3540774 | 465812 | 3540788 | 290 |
| 09/28/2018 | BP, TS, RH | 11 | Arizona upland, upland | 465879 | 3540830 | 6 | 92 | 465830 | 3540753 | 465809 | 3540767 | 290 |
| 10/02/2018 | TS, JD, RH | 12 | Arizona upland, upland | 462991 | 3530057 | 1 | 13 | 462990 | 3530044 | 463019 | 3530040 | 87, 267 |
| 10/02/2018 | TS, JD, RH | 12 | Arizona upland, upland | 462991 | 3530057 | 2 | 45 | 462985 | 3530013 | 463013 | 3530007 | 87, 267 |
| 10/02/2018 | TS, JD, RH | 12 | Arizona upland, upland | 462991 | 3530057 | 3 | 60 | 462998 | 3529998 | 463013 | 3529993 | 87, 267 |
| 10/02/2018 | TS, JD, RH | 12 | Arizona upland, upland | 462991 | 3530057 | 4 | 59 | 462986 | 3530007 | 462958 | 3530005 | 267, 87 |
| 10/02/2018 | TS, JD, RH | 12 | Arizona upland, upland | 462991 | 3530057 | 5 | 62 | 462980 | 3529998 | 462954 | 3530001 | 267, 87 |
| 10/02/2018 | TS, JD, RH | 12 | Arizona upland, upland | 462991 | 3530057 | 6 | 68 | 462978 | 3529991 | 462948 | 3529993 | 267, 87 |

## Sierrita Long Term Monitoring: Line-Point Intercept Summary Table- Fall 2018

| Date | Crew | Plot ID | Plot Vegetation Community | Plot Location | | Transect ID | Random Number | Start Location (UTM) | | End Location (UTM) | | Azimuth |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Easting | Northing | | | Easting | Northing | Easting | Northing | |
| 10/05/2018 | TS, JD, RH | 13 | Arizona upland, upland | 463656 | 3536814 | 1 | 14 | 463651 | 3536801 | 463679 | 3536770 | 90 |
| 10/05/2018 | TS, JD, RH | 13 | Arizona upland, upland | 463656 | 3536814 | 2 | 47 | 463629 | 3536771 | 463666 | 3536760 | 90 |
| 10/05/2018 | TS, JD, RH | 13 | Arizona upland, upland | 463656 | 3536814 | 3 | 54 | 463636 | 3536765 | 463665 | 3536753 | 90 |
| 10/05/2018 | TS, JD, RH | 13 | Arizona upland, upland | 463656 | 3536814 | 4 | 40 | 463637 | 3536779 | 463607 | 3536782 | 270 |
| 10/05/2018 | TS, JD, RH | 13 | Arizona upland, upland | 463656 | 3536814 | 5 | 89 | 463621 | 3536733 | 463591 | 3636736 | 270 |
| 10/05/2018 | TS, JD, RH | 13 | Arizona upland, upland | 463656 | 3536814 | 6 | 98 | 463615 | 3536725 | 463585 | 3536727 | 270 |
| 10/02/2018 | TS, JD, RH | 14 | Arizona upland, upland | 462889 | 3529359 | 1 | 19 | 462886 | 3529341 | 462916 | 3529335 | 85, 265 |
| 10/02/2018 | TS, JD, RH | 14 | Arizona upland, upland | 462889 | 3529359 | 2 | 46 | 462883 | 3529314 | 462912 | 3529309 | 85, 265 |
| 10/02/2018 | TS, JD, RH | 14 | Arizona upland, upland | 462889 | 3529359 | 3 | 66 | 462880 | 3529294 | 462909 | 3529289 | 85, 265 |
| 10/02/2018 | TS, JD, RH | 14 | Arizona upland, upland | 462889 | 3529359 | 4 | 1 | 462884 | 3529353 | 462854 | 3529357 | 265, 85 |
| 10/02/2018 | TS, JD, RH | 14 | Arizona upland, upland | 462889 | 3529359 | 5 | 32 | 462880 | 3529328 | 462851 | 3529331 | 265, 85 |
| 10/02/2018 | TS, JD, RH | 14 | Arizona upland, upland | 462889 | 3529359 | 6 | 33 | 462880 | 3529327 | 462851 | 3529330 | 265, 85 |
| 10/01/2018 | TS, JD, RH | 15 | Arizona upland, upland | 463098 | 3528740 | 1 | 15 | 463100 | 3528726 | 463131 | 3528733 | 64, 244 |
| 10/01/2018 | TS, JD, RH | 15 | Arizona upland, upland | 463098 | 3528740 | 2 | 16 | 463101 | 3528726 | 463133 | 3528735 | 64, 244 |
| 10/02/2018 | TS, JD, RH | 15 | Arizona upland, upland | 463098 | 3528740 | 3 | 98 | 463107 | 3528709 | 463132 | 3528649 | 64, 244 |
| 10/02/2019 | TS, JD, RH | 15 | Arizona upland, upland | 463098 | 3528740 | 4 | 13 | 463097 | 3528743 | 463068 | 3528723 | 244, 64 |
| 10/02/2020 | TS, JD, RH | 15 | Arizona upland, upland | 463098 | 3528740 | 5 | 22 | 463080 | 3528717 | 463065 | 3528717 | 244, 64 |
| 10/02/2018 | TS, JD, RH | 15 | Arizona upland, upland | 463098 | 3528740 | 6 | 67 | 463108 | 3528706 | 463092 | 3528669 | 244, 64 |
| 10/03/2018 | TS, JD, RH | 16 | Semidesert grassland, upland | 459657 | 3521469 | 1 | 19 | 459641 | 3521459 | 459657 | 3521435 | 139, 319 |
| 10/03/2018 | TS, JD, RH | 16 | Semidesert grassland, upland | 459657 | 3521469 | 2 | 20 | 459640 | 3521459 | 459656 | 3521434 | 139, 319 |
| 10/03/2018 | TS, JD, RH | 16 | Semidesert grassland, upland | 459657 | 3521469 | 3 | 28 | 459633 | 3521455 | 459648 | 3521430 | 139, 319 |
| 10/03/2018 | TS, JD, RH | 16 | Semidesert grassland, upland | 459657 | 3521469 | 4 | 17 | 459638 | 3521465 | 459623 | 3521488 | 319, 139 |
| 10/03/2018 | TS, JD, RH | 16 | Semidesert grassland, upland | 459657 | 3521469 | 5 | 26 | 459632 | 3521459 | 459615 | 3521484 | 319, 139 |
| 10/03/2018 | TS, JD, RH | 16 | Semidesert grassland, upland | 459657 | 3521469 | 6 | 98 | 459571 | 3521422 | 459555 | 3521446 | 319, 139 |
| 10/03/2018 | TS, JD, RH | 17 | Semidesert grasslannd, riparian | 458835 | 3520982 | 1 | 69 | 458776 | 3520946 | 458793 | 3520923 | 140,320 |
| 10/03/2018 | TS, JD, RH | 17 | Semidesert grasslannd, riparian | 458835 | 3520982 | 2 | 71 | 458774 | 3520946 | 458790 | 3520921 | 140,320 |
| 10/03/2018 | TS, JD, RH | 17 | Semidesert grasslannd, riparian | 458835 | 3520982 | 3 | 72 | 458774 | 3520945 | 458789 | 3520920 | 140,320 |
| 10/03/2018 | TS, JD, RH | 17 | Semidesert grasslannd, riparian | 458835 | 3520982 | 4 | 36 | 458801 | 3520967 | 458786 | 3520993 | 320,140 |
| 10/03/2018 | TS, JD, RH | 17 | Semidesert grasslannd, riparian | 458835 | 3520982 | 5 | 49 | 458790 | 3520961 | 458775 | 3520986 | 320,140 |
| 10/03/2018 | TS, JD, RH | 17 | Semidesert grasslannd, riparian | 458835 | 3520982 | 6 | 78 | 458765 | 3520945 | 458748 | 3520970 | 320,140 |
| 10/03/2018 | TS, JD, RH | 18 | Semidesert grassland, upland | 456813 | 3518884 | 1 | 10 | 456803 | 3518885 | 456803 | 3518845 | 170, 360 |

## Sierrita Long Term Monitoring: Line-Point Intercept Summary Table- Fall 2018

| Date | Crew | Plot ID | Plot Vegetation Community | Plot Location | | Transect ID | Random Number | Start Location (UTM) | | End Location (UTM) | | Azimuth |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Easting | Northing | | | Easting | Northing | Easting | Northing | |
| 10/03/2018 | TS, JD, RH | 18 | Semidesert grassland, upland | 456813 | 3518884 | 2 | 43 | 456770 | 3518884 | 456770 | 3518854 | 170, 360 |
| 10/03/2018 | TS, JD, RH | 18 | Semidesert grassland, upland | 456813 | 3518884 | 3 | 71 | 456742 | 3518884 | 456743 | 3518854 | 170, 360 |
| 10/03/2018 | TS, JD, RH | 18 | Semidesert grassland, upland | 456813 | 3518884 | 4 | 7 | 456806 | 3518887 | 456806 | 3518917 | 360, 170 |
| 10/03/2018 | TS, JD, RH | 18 | Semidesert grassland, upland | 456813 | 3518884 | 5 | 12 | 456801 | 3518888 | 456803 | 3518918 | 360, 170 |
| 10/03/2018 | TS, JD, RH | 18 | Semidesert grassland, upland | 456813 | 3518884 | 6 | 89 | 456741 | 3518892 | 456739 | 3518921 | 360, 170 |
| 09/27/2018 | TS, JD, RH | 19 | Semidesert grassland, upland | 451238 | 3514209 | 1 | 1 | 451238 | 3514209 | 451267 | 3514209 | 83, 263 |
| 09/27/2018 | TS, JD, RH | 19 | Semidesert grassland, upland | 451238 | 3514209 | 2 | 25 | 451237 | 3514184 | 451265 | 3514184 | 83, 263 |
| 09/27/2018 | TS, JD, RH | 19 | Semidesert grassland, upland | 451238 | 3514209 | 3 | 40 | 451236 | 3514171 | 451266 | 3514171 | 83, 263 |
| 09/27/2018 | TS, JD, RH | 19 | Semidesert grassland, upland | 451238 | 3514209 | 4 | 56 | 451233 | 3514155 | 451204 | 3514155 | 263, 83 |
| 09/27/2018 | TS, JD, RH | 19 | Semidesert grassland, upland | 451238 | 3514209 | 5 | 89 | 451229 | 3514123 | 451200 | 3514122 | 263, 83 |
| 09/27/2018 | TS, JD, RH | 19 | Semidesert grassland, upland | 451238 | 3514209 | 6 | 100 | 451229 | 3514113 | 451200 | 3514114 | 263, 83 |
| 10/04/2018 | TS, JD, RH | 20 | Semidesert grassland, upland | 451137 | 3511168 | 1 | 2 | 451139 | 3511166 | 451139 | 3511166 | 91,271 |
| 10/04/2018 | TS, JD, RH | 20 | Semidesert grassland, upland | 451137 | 3511168 | 2 | 5 | 451140 | 3511166 | 451165 | 3511159 | 91,271 |
| 10/04/2018 | TS, JD, RH | 20 | Semidesert grassland, upland | 451137 | 3511168 | 3 | 61 | 451165 | 3511160 | 451126 | 3511110 | 91,271 |
| 10/04/2018 | TS, JD, RH | 20 | Semidesert grassland, upland | 451137 | 3511168 | 4 | 23 | 451131 | 3511147 | 451101 | 3511154 | 271,91 |
| 10/04/2018 | TS, JD, RH | 20 | Semidesert grassland, upland | 451137 | 3511168 | 5 | 32 | 451128 | 3511140 | 451099 | 3511145 | 271,91 |
| 10/04/2018 | TS, JD, RH | 20 | Semidesert grassland, upland | 451137 | 3511168 | 6 | 69 | 451119 | 3511101 | 451090 | 3511106 | 271,91 |
| 10/08/2018 | TS, JD, RH | 21 | Semidesert grassland, upland | 451029 | 3510963 | 1 | 29 | 451007 | 3510942 | 451031 | 3510923 | 123, 303 |
| 10/08/2018 | TS, JD, RH | 21 | Semidesert grassland, upland | 451029 | 3510963 | 2 | 75 | 450977 | 3510908 | 451001 | 3510889 | 123, 303 |
| 10/08/2018 | TS, JD, RH | 21 | Semidesert grassland, upland | 451029 | 3510963 | 3 | 94 | 450969 | 3510894 | 450988 | 3510874 | 123, 303 |
| 10/08/2018 | TS, JD, RH | 21 | Semidesert grassland, upland | 451029 | 3510963 | 4 | 8 | 451021 | 3510960 | 450997 | 3510980 | 303, 123 |
| 10/08/2018 | TS, JD, RH | 21 | Semidesert grassland, upland | 451029 | 3510963 | 5 | 27 | 451006 | 3510945 | 450985 | 3510966 | 303, 123 |
| 10/08/2018 | TS, JD, RH | 21 | Semidesert grassland, upland | 451029 | 3510963 | 6 | 100 | 450957 | 3510892 | 450935 | 3510912 | 303, 123 |
| 10/04/2018 | TS, JD, RH | 22 | Semidesert grassland, upland | 450743 | 3509904 | 1 | 32 | 450736 | 3509873 | 450765 | 3509866 | 91,271 |
| 10/04/2018 | TS, JD, RH | 22 | Semidesert grassland, upland | 450743 | 3509904 | 2 | 64 | 450730 | 3509842 | 450759 | 3509836 | 91,271 |
| 10/04/2018 | TS, JD, RH | 22 | Semidesert grassland, upland | 450743 | 3509904 | 3 | 76 | 450727 | 3509830 | 450757 | 3509824 | 91,271 |

## Sierrita Long Term Monitoring: Line-Point Intercept Summary Table- Fall 2018

| Date | Crew | Plot ID | Plot Vegetation Community | Plot Location | | Transect ID | Random Number | Start Location (UTM) | | End Location (UTM) | | Azimuth |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Easting | Northing | | | Easting | Northing | Easting | Northing | |
| 10/04/2018 | TS, JD, RH | 22 | Semidesert grassland, upland | 450743 | 3509904 | 4 | 45 | 450731 | 3509862 | 450701 | 3509866 | 271, 91 |
| 10/04/2018 | TS, JD, RH | 22 | Semidesert grassland, upland | 450743 | 3509904 | 5 | 65 | 450725 | 3509842 | 450695 | 3509845 | 271, 91 |
| 10/04/2018 | TS, JD, RH | 22 | Semidesert grassland, upland | 450743 | 3509904 | 6 | 77 | 450723 | 3509830 | 450694 | 3509835 | 271, 91 |
| 10/09/2018 | TS, JD, RH | 23 | Semidesert grasslannd, riparian | 449679 | 3504925 | 1 | 16 | 449676 | 3504910 | 449706 | 3504905 | 90, 270 |
| 10/09/2018 | TS, JD, RH | 23 | Semidesert grasslannd, riparian | 449679 | 3504925 | 2 | 34 | 449673 | 3504891 | 449703 | 3504886 | 90, 270 |
| 10/09/2018 | TS, JD, RH | 23 | Semidesert grasslannd, riparian | 449679 | 3504925 | 3 | 78 | 449665 | 3504848 | 449695 | 3504844 | 90, 270 |
| 10/09/2018 | TS, JD, RH | 23 | Semidesert grasslannd, riparian | 449679 | 3504925 | 4 | 90 | 449661 | 3504837 | 449631 | 3504840 | 270, 90 |
| 10/09/2018 | TS, JD, RH | 23 | Semidesert grasslannd, riparian | 449679 | 3504925 | 5 | 92 | 449659 | 3504835 | 449630 | 3504838 | 270, 90 |
| 10/09/2018 | TS, JD, RH | 23 | Semidesert grasslannd, riparian | 449679 | 3504925 | 6 | 93 | 449659 | 3504834 | 449630 | 3504837 | 270, 90 |
| 10/09/2018 | TS, JD, RH | 24 | Semidesert grassland, upland | 447987 | 3501467 | 1 | 65 | 447954 | 3501411 | 447997 | 3501388 | 110, 290 |
| 10/09/2018 | TS, JD, RH | 24 | Semidesert grassland, upland | 447987 | 3501467 | 2 | 71 | 447951 | 3501406 | 447994 | 3501382 | 110, 290 |
| 10/09/2018 | TS, JD, RH | 24 | Semidesert grassland, upland | 447987 | 3501467 | 3 | 99 | 447937 | 3501382 | 447981 | 3501359 | 110, 290 |
| 10/09/2018 | TS, JD, RH | 24 | Semidesert grassland, upland | 447987 | 3501467 | 4 | 40 | 447962 | 3501435 | 447920 | 3501461 | 290, 110 |
| 10/09/2018 | TS, JD, RH | 24 | Semidesert grassland, upland | 447987 | 3501467 | 5 | 43 | 447961 | 3501432 | 447918 | 3501458 | 290, 110 |
| 10/09/2018 | TS, JD, RH | 24 | Semidesert grassland, upland | 447987 | 3501467 | 6 | 61 | 447952 | 3501417 | 447909 | 3501441 | 290, 110 |
| 10/08/2018 | TS, JD, RH | 25 | Semidesert grassland, upland | 446256 | 3498223 | 1 | 25 | 446244 | 3498201 | 446272 | 3498189 | 107, 287 |
| 10/08/2018 | TS, JD, RH | 25 | Semidesert grassland, upland | 446256 | 3498223 | 2 | 34 | 446240 | 3498194 | 446267 | 3498181 | 107, 287 |
| 10/08/2018 | TS, JD, RH | 25 | Semidesert grassland, upland | 446256 | 3498223 | 3 | 44 | 446235 | 3498185 | 446261 | 3498172 | 107, 287 |
| 10/08/2018 | TS, JD, RH | 25 | Semidesert grassland, upland | 446256 | 3498223 | 4 | 4 | 446249 | 3498225 | 446225 | 3498238 | 287, 107 |
| 10/08/2018 | TS, JD, RH | 25 | Semidesert grassland, upland | 446256 | 3498223 | 5 | 7 | 446248 | 3498220 | 446223 | 3498235 | 287, 107 |
| 10/08/2018 | TS, JD, RH | 25 | Semidesert grassland, upland | 446256 | 3498223 | 6 | 63 | 446223 | 3498171 | 446197 | 3498184 | 287, 107 |
| 10/10/2018 | TS, JD, RH | 26 | Semidesert grasslannd, riparian | 445657 | 3497151 | 1 | 19 | 445658 | 3497132 | 445688 | 3497132 | 79, 259 |
| 10/10/2018 | TS, JD, RH | 26 | Semidesert grasslannd, riparian | 445657 | 3497151 | 2 | 27 | 445658 | 3497123 | 445688 | 3497123 | 79, 259 |
| 10/10/2018 | TS, JD, RH | 26 | Semidesert grasslannd, riparian | 445657 | 3497151 | 3 | 42 | 445658 | 3497108 | 445683 | 3497105 | 79, 259 |
| 10/10/2018 | TS, JD, RH | 26 | Semidesert grasslannd, riparian | 445657 | 3497151 | 4 | 3 | 445651 | 3497148 | 445623 | 3497145 | 259, 79 |
| 10/10/2018 | TS, JD, RH | 26 | Semidesert grasslannd, riparian | 445657 | 3497151 | 5 | 44 | 445651 | 3497107 | 445621 | 3497106 | 259, 79 |

## Sierrita Long Term Monitoring: Line-Point Intercept Summary Table- Fall 2018

| Date | Crew | Plot ID | Plot Vegetation Community | Plot Location | | Transect ID | Random Number | Start Location (UTM) | | End Location (UTM) | | Azimuth |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Easting | Northing | | | Easting | Northing | Easting | Northing | |
| 10/10/2018 | TS, JD, RH | 26 | Semidesert grasslannd, riparian | 445657 | 3497151 | 6 | 75 | 445649 | 3497077 | 445619 | 3497077 | 259, 79 |
| 10/10/2018 | TS, JD, RH | 27 | Semidesert grassland, upland | 445656 | 3496868 | 1 | 11 | 445655 | 3496857 | 445685 | 3496854 | 58, 238 |
| 10/10/2018 | TS, JD, RH | 27 | Semidesert grassland, upland | 445656 | 3496868 | 2 | 33 | 445656 | 3496835 | 445686 | 3496835 | 58, 238 |
| 10/10/2018 | TS, JD, RH | 27 | Semidesert grassland, upland | 445656 | 3496868 | 3 | 40 | 445656 | 3496828 | 445686 | 3496826 | 58, 238 |
| 10/10/2018 | TS, JD, RH | 27 | Semidesert grassland, upland | 445656 | 3496868 | 4 | 9 | 445652 | 3496859 | 445622 | 3596858 | 268, 58 |
| 10/10/2018 | TS, JD, RH | 27 | Semidesert grassland, upland | 445656 | 3496868 | 5 | 12 | 445651 | 3496857 | 445622 | 3496855 | 268, 58 |
| 10/10/2018 | TS, JD, RH | 27 | Semidesert grassland, upland | 445656 | 3496868 | 6 | 66 | 445650 | 3496800 | 445621 | 3496799 | 268, 58 |
| 10/11/2018 | TS, JD, RH | 28 | Semidesert grassland, upland | 445655 | 3494375 | 1 | 59 | 445655 | 3494317 | 445684 | 3494314 | 78, 258 |
| 10/11/2018 | TS, JD, RH | 28 | Semidesert grassland, upland | 445655 | 3494375 | 2 | 62 | 445655 | 3494314 | 445685 | 3494310 | 78, 258 |
| 10/11/2018 | TS, JD, RH | 28 | Semidesert grassland, upland | 445655 | 3494375 | 3 | 68 | 445655 | 3494308 | 445684 | 3494305 | 78, 258 |
| 10/11/2018 | TS, JD, RH | 28 | Semidesert grassland, upland | 445655 | 3494375 | 4 | 3 | 445650 | 3494373 | 445620 | 3494375 | 258, 78 |
| 10/11/2018 | TS, JD, RH | 28 | Semidesert grassland, upland | 445655 | 3494375 | 5 | 5 | 445650 | 3494318 | 445621 | 3494320 | 258, 78 |
| 10/11/2018 | TS, JD, RH | 28 | Semidesert grassland, upland | 445655 | 3494375 | 6 | 71 | 445650 | 3494308 | 445621 | 3494314 | 258, 78 |
| 09/26/2018 | TS, JD, RH | 29 | Semidesert grassland, upland | 445298 | 3488660 | 1 | 51 | 445300 | 3488610 | 445329 | 3488615 | 68, 248 |
| 09/26/2018 | TS, JD, RH | 29 | Semidesert grassland, upland | 445298 | 3488660 | 2 | 53 | 445300 | 3488608 | 445329 | 3488612 | 68, 248 |
| 09/26/2018 | TS, JD, RH | 29 | Semidesert grassland, upland | 445298 | 3488660 | 3 | 91 | 445312 | 3488572 | 445338 | 3488584 | 68, 248 |
| 09/26/2018 | TS, JD, RH | 29 | Semidesert grassland, upland | 445298 | 3488660 | 4 | 31 | 445296 | 3488629 | 445267 | 3488632 | 248, 68 |
| 09/26/2018 | TS, JD, RH | 29 | Semidesert grassland, upland | 445298 | 3488660 | 5 | 81 | 445307 | 3488581 | 445279 | 3488571 | 248, 68 |
| 09/26/2018 | TS, JD, RH | 29 | Semidesert grassland, upland | 445298 | 3488660 | 6 | 97 | 445309 | 3488565 | 445281 | 3488554 | 248, 68 |
| 09/25/2018 | TS, JD, RH | 30 | Semidesert grassland, upland | 445310 | 3486944 | 1 | 12 | 445311 | 3486932 | 445339 | 3486935 | 70, 250 |
| 09/25/2018 | TS, JD, RH | 30 | Semidesert grassland, upland | 445310 | 3486944 | 2 | 92 | 445326 | 3486869 | 445354 | 3486864 | 70, 250 |
| 09/25/2018 | TS, JD, RH | 30 | Semidesert grassland, upland | 445310 | 3486944 | 3 | 97 | 445327 | 3486850 | 445355 | 3486859 | 70, 250 |
| 09/25/2018 | TS, JD, RH | 30 | Semidesert grassland, upland | 445310 | 3486944 | 4 | 53 | 445315 | 3486892 | 445290 | 3486890 | 250, 70 |
| 09/25/2018 | TS, JD, RH | 30 | Semidesert grassland, upland | 445310 | 3486944 | 5 | 70 | 445310 | 3486875 | 445286 | 3486872 | 250, 70 |
| 09/25/2018 | TS, JD, RH | 30 | Semidesert grassland, upland | 445310 | 3486944 | 6 | 71 | 445319 | 3486874 | 445288 | 3486871 | 250, 70 |

*= Random number not known

# Plot 1- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | NONE | | | | S |
| 1 | NONE | | | | S |
| 1.5 | NONE | | | | R |
| 2 | NONE | | | | S |
| 2.5 | NONE | | | | S |
| 3 | BOUARI | | | | S |
| 3.5 | NONE | | | | S |
| 4 | NONE | L | | | S |
| 4.5 | BOUARI | | | | S |
| 5 | NONE | | | | S |
| 5.5 | BOUARI | | | | S |
| 6 | NONE | | | | S |
| 6.5 | NONE | | | | S |
| 7 | NONE | | | | S |
| 7.5 | NONE | | | | S |
| 8 | NONE | | | | S |
| 8.5 | NONE | | | | S |
| 9 | NONE | | | | S |
| 9.5 | NONE | | | | R |
| 10 | ZINACE | | | | S |
| 10.5 | SPHAMB | | | | S |
| 11 | NONE | L | | | S |
| 11.5 | NONE | L | | | S |
| 12 | NONE | | | | R |
| 12.5 | NONE | W | | | S |
| 13 | NONE | | | | S |
| 13.5 | NONE | W | | | S |
| 14 | NONE | | | | S |
| 14.5 | BOUARI | L | | | S |
| 15 | NONE | | | | S |
| 15.5 | NONE | L | | | S |
| 16 | NONE | | | | S |
| 16.5 | NONE | | | | R |
| 17 | NONE | | | | S |
| 17.5 | NONE | | | | S |
| 18 | NONE | | | | S |
| 18.5 | BOUARI | | | | S |
| 19 | BOUARI | | | | BOUARI |
| 19.5 | BOUARI | | | | BOUARI |
| 20 | NONE | | | | S |
| 20.5 | NONE | L | | | S |
| 21 | BOUARI | | | | S |
| 21.5 | NONE | L | | | S |
| 22 | NONE | | | | R |
| 22.5 | NONE | | | | S |
| 23 | BOUARI | | | | S |
| 23.5 | NONE | | | | S |
| 24 | NONE | | | | S |
| 24.5 | NONE | | | | S |
| 25 | NONE | | | | R |
| 25.5 | NONE | | | | S |
| 26 | BOUARI | | | | S |
| 26.5 | NONE | | | | S |
| 27 | NONE | | | | S |
| 27.5 | NONE | | | | S |
| 28 | NONE | | | | S |
| 28.5 | NONE | | | | S |
| 29 | NONE | L | | | S |
| 29.5 | PROVEL | | | | S |
| 30 | PROVEL | W | | | S |

| | |
|---|---|
| % Foliar Cover | 23.338 |
| % Bare Ground | 51.677 |
| % Basal Cover | 3.334 |

# Plot 1- on ROW, Line 2

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | NONE | | | | S |
| 1 | NONE | | | | S |
| 1.5 | NONE | | | | S |
| 2 | NONE | | | | S |
| 2.5 | NONE | | | | S |
| 3 | NONE | | | | S |
| 3.5 | SPHAMB | L | | | S |
| 4 | NONE | L | | | S |
| 4.5 | NONE | | | | S |
| 5 | CHAARI | L | | | S |
| 5.5 | NONE | | | | S |
| 6 | BOUARI | L | | | S |
| 6.5 | NONE | | | | S |
| 7 | NONE | L | | | S |
| 7.5 | NONE | L | | | S |
| 8 | NONE | L | | | S |
| 8.5 | NONE | W | | | S |
| 9 | BOUARI | | | | S |
| 9.5 | NONE | | | | S |
| 10 | CHAARI | | | | S |
| 10.5 | NONE | | | | S |
| 11 | NONE | | | | S |
| 11.5 | NONE | | | | S |
| 12 | NONE | | | | S |
| 12.5 | NONE | L | | | S |
| 13 | NONE | L | | | S |
| 13.5 | NONE | L | | | S |
| 14 | NONE | W | | | S |
| 14.5 | NONE | | | | S |
| 15 | NONE | | | | S |
| 15.5 | NONE | | | | S |
| 16 | NONE | | | | R |
| 16.5 | NONE | | | | S |
| 17 | NONE | | | | R |
| 17.5 | BOUARI | L | | | S |
| 18 | NONE | L | | | S |
| 18.5 | NONE | L | | | S |
| 19 | NONE | | | | S |
| 19.5 | NONE | | | | S |
| 20 | NONE | | | | S |
| 20.5 | NONE | L | | | S |
| 21 | NONE | L | | | S |
| 21.5 | BOUARI | | | | S |
| 22 | NONE | | | | S |
| 22.5 | NONE | L | | | S |
| 23 | NONE | | | | S |
| 23.5 | NONE | | | | S |
| 24 | NONE | | | | S |
| 24.5 | NONE | | | | R |
| 25 | NONE | | | | R |
| 25.5 | NONE | | | | S |
| 26 | NONE | | | | S |
| 26.5 | NONE | | | | S |
| 27 | NONE | | | | R |
| 27.5 | NONE | | | | S |
| 28 | NONE | | | | S |
| 28.5 | NONE | | | | S |
| 29 | BOUARI | | | | S |
| 29.5 | VACCON | L | | | S |
| 30 | VACCON | W | | | S |

| | |
|---|---|
| % Foliar Cover | 16.67 |
| % Bare Ground | 51.677 |
| % Basal Cover | 0 |

## Plot 1- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | R | 15.5 | NONE | | | | S |
| 1 | NONE | | | | S | 16 | NONE | | | | S |
| 1.5 | NONE | | | | S | 16.5 | Chaari | | | | S |
| 2 | NONE | | | | S | 17 | NONE | L | | | S |
| 2.5 | NONE | | | | S | 17.5 | NONE | | | | S |
| 3 | NONE | | | | S | 18 | NONE | | | | S |
| 3.5 | NONE | | | | S | 18.5 | NONE | L | | | S |
| 4 | NONE | | | | S | 19 | NONE | | | | S |
| 4.5 | NONE | | | | S | 19.5 | NONE | L | | | S |
| 5 | NONE | | | | R | 20 | NONE | | | | S |
| 5.5 | NONE | | | | S | 20.5 | NONE | | | | S |
| 6 | NONE | | | | S | 21 | NONE | | | | S |
| 6.5 | NONE | | | | S | 21.5 | NONE | | | | S |
| 7 | NONE | | | | S | 22 | NONE | L | | | S |
| 7.5 | NONE | L | | | S | 22.5 | NONE | | | | S |
| 8 | NONE | L | | | S | 23 | NONE | | | | S |
| 8.5 | NONE | | | | S | 23.5 | NONE | | | | S |
| 9 | BOUARI | | | | S | 24 | NONE | W | | | S |
| 9.5 | ARIPUR | | | | S | 24.5 | NONE | | | | S |
| 10 | NONE | | | | S | 25 | NONE | | | | S |
| 10.5 | NONE | | | | S | 25.5 | NONE | | | | S |
| 11 | NONE | | | | S | 26 | NONE | L | | | S |
| 11.5 | SPHAMB | | | | S | 26.5 | NONE | | | | S |
| 12 | NONE | L | | | S | 27 | NONE | | | | S |
| 12.5 | NONE | | | | S | 27.5 | NONE | | | | R |
| 13 | NONE | | | | S | 28 | NONE | | | | S |
| 13.5 | AMBACA | | | | S | 28.5 | NONE | | | | S |
| 14 | NONE | L | | | S | 29 | NONE | L | | | S |
| 14.5 | BOUARI | | | | S | 29.5 | NONE | | | | S |
| 15 | NONE | | | | S | 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 10.002 |
| % Bare Ground | 66.68 |
| % Basal Cover | 0 |

## Plot 1- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | R | 15.5 | NONE | | | | R |
| 1 | NONE | | | | S | 16 | NONE | | | | S |
| 1.5 | NONE | | | | R | 16.5 | NONE | | | | S |
| 2 | NONE | | | | S | 17 | NONE | | | | S |
| 2.5 | NONE | | | | S | 17.5 | NONE | | | | S |
| 3 | NONE | | | | R | 18 | NONE | | | | R |
| 3.5 | NONE | | | | R | 18.5 | NONE | | | | S |
| 4 | NONE | | | | S | 19 | NONE | | | | R |
| 4.5 | NONE | | | | S | 19.5 | NONE | | | | S |
| 5 | NONE | | | | S | 20 | NONE | | | | S |
| 5.5 | NONE | | | | S | 20.5 | NONE | | | | S |
| 6 | NONE | | | | S | 21 | NONE | | | | S |
| 6.5 | SENGRE | L | | | S | 21.5 | NONE | | | | S |
| 7 | NONE | | | | S | 22 | LARTRI | L | | | S |
| 7.5 | NONE | | | | S | 22.5 | NONE | L | | | S |
| 8 | NONE | | | | R | 23 | NONE | L | | | S |
| 8.5 | NONE | | | | R | 23.5 | NONE | | | | S |
| 9 | NONE | | | | S | 24 | NONE | | | | S |
| 9.5 | LARTRI | | | | S | 24.5 | NONE | L | | | S |
| 10 | PROVEL | | | | S | 25 | NONE | | | | R |
| 10.5 | PROVEL | L | | | S | 25.5 | NONE | | | | S |
| 11 | NONE | | | | S | 26 | NONE | | | | S |
| 11.5 | NONE | | | | S | 26.5 | NONE | | | | S |
| 12 | LARTRI | | | | S | 27 | NONE | | | | S |
| 12.5 | LARTRI | L | | | S | 27.5 | NONE | | | | S |
| 13 | LARTRI | L | | | S | 28 | NONE | | | | S |
| 13.5 | NONE | L | | | S | 28.5 | NONE | L | | | S |
| 14 | NONE | L | | | S | 29 | BOUARI | L | | | S |
| 14.5 | NONE | | | | S | 29.5 | NONE | | | | S |
| 15 | NONE | | | | S | 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 15.003 |
| % Bare Ground | 58.345 |
| % Basal Cover | 0 |

## Plot 1- off ROW, Line 6

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | R | 15.5 | NONE | | | | S |
| 1 | NONE | | | | S | 16 | NONE | | | | R |
| 1.5 | NONE | | | | S | 16.5 | NONE | | | | S |
| 2 | NONE | | | | S | 17 | NONE | | | | R |
| 2.5 | CHAARI | | | | S | 17.5 | NONE | | | | S |
| 3 | NONE | | | | S | 18 | NONE | | | | S |
| 3.5 | NONE | | | | S | 18.5 | NONE | | | | S |
| 4 | NONE | | | | R | 19 | NONE | | | | S |
| 4.5 | NONE | | | | S | 19.5 | NONE | L | | | S |
| 5 | NONE | | | | S | 20 | NONE | | | | S |
| 5.5 | NONE | L | | | S | 20.5 | NONE | | | | S |
| 6 | SENGRE | | | | S | 21 | NONE | | | | S |
| 6.5 | NONE | | | | S | 21.5 | NONE | L | | | S |
| 7 | LARTRI | L | | | S | 22 | NONE | L | | | S |
| 7.5 | SENGRE | L | | | S | 22.5 | NONE | | | | S |
| 8 | NONE | L | | | S | 23 | NONE | | | | S |
| 8.5 | NONE | | | | S | 23.5 | NONE | L | | | S |
| 9 | NONE | | | | S | 24 | LARTRI | L | | | S |
| 9.5 | NONE | | | | S | 24.5 | NONE | L | | | S |
| 10 | NONE | | | | S | 25 | LARTRI | L | | | S |
| 10.5 | NONE | | | | S | 25.5 | LARTRI | | | | S |
| 11 | NONE | | | | R | 26 | LARTRI | | | | S |
| 11.5 | NONE | | | | R | 26.5 | LARTRI | | | | S |
| 12 | NONE | | | | R | 27 | NONE | | | | S |
| 12.5 | NONE | | | | R | 27.5 | NONE | | | | S |
| 13 | NONE | | | | S | 28 | NONE | | | | S |
| 13.5 | LARTRI | L | | | S | 28.5 | NONE | | | | S |
| 14 | LARTRI | L | | | S | 29 | NONE | | | | S |
| 14.5 | LARTRI | | | | S | 29.5 | NONE | | | | R |
| 15 | NONE | | | | S | 30 | LARTRI | | | | S |

| | |
|---|---|
| % Foliar Cover | 21.671 |
| % Bare Ground | 51.677 |
| % Basal Cover | 0 |

## Plot 1- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | R | 15.5 | NONE | L | | | S |
| 1 | NONE | L | | | S | 16 | NONE | | | | S |
| 1.5 | NONE | | | | S | 16.5 | NONE | | | | R |
| 2 | NONE | | | | S | 17 | LARTRI | L | | | S |
| 2.5 | NONE | | | | S | 17.5 | NONE | | | | S |
| 3 | LARTRI | | | | S | 18 | NONE | | | | S |
| 3.5 | NONE | | | | S | 18.5 | NONE | | | | S |
| 4 | NONE | | | | S | 19 | NONE | | | | S |
| 4.5 | NONE | L | | | S | 19.5 | NONE | | | | S |
| 5 | NONE | | | | S | 20 | NONE | | | | S |
| 5.5 | NONE | | | | S | 20.5 | NONE | | | | S |
| 6 | NONE | L | | | S | 21 | NONE | | | | S |
| 6.5 | NONE | | | | S | 21.5 | NONE | L | | | S |
| 7 | NONE | | | | S | 22 | NONE | | | | S |
| 7.5 | NONE | | | | S | 22.5 | NONE | | | | S |
| 8 | NONE | | | | R | 23 | NONE | | | | R |
| 8.5 | NONE | | | | S | 23.5 | NONE | | | | R |
| 9 | LARTRI | | | | S | 24 | NONE | L | | | S |
| 9.5 | NONE | | | | S | 24.5 | NONE | | | | S |
| 10 | NONE | | | | S | 25 | NONE | | | | S |
| 10.5 | NONE | | | | S | 25.5 | NONE | | | | S |
| 11 | NONE | | | | R | 26 | NONE | L | | | S |
| 11.5 | NONE | L | | | S | 26.5 | NONE | | | | S |
| 12 | LARTRI | L | | | S | 27 | NONE | | | | S |
| 12.5 | LARTRI | L | | | S | 27.5 | NONE | | | | S |
| 13 | NONE | L | | | S | 28 | NONE | | | | S |
| 13.5 | NONE | L | | | S | 28.5 | NONE | | | | S |
| 14 | NONE | | | | S | 29 | NONE | | | | S |
| 14.5 | NONE | | | | S | 29.5 | NONE | | | | S |
| 15 | NONE | L | | | S | 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 8.335 |
| % Bare Ground | 63.346 |
| % Basal Cover | 0 |

## Summary - Plot 1

**% Average Foliar Cover**

| | |
|---|---|
| On ROW | 16.670 |
| Off ROW | 15.003 |

**% Average Bare Ground**

| | |
|---|---|
| On ROW | 56.678 |
| Off ROW | 57.789 |

**% Average Basal Cover**

| | |
|---|---|
| On ROW | 1.111 |
| Off ROW | 0.000 |

## Plot 2- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | NONE | L | | | S |
| 1 | NONE | | | | S | 16 | NONE | L | | | S |
| 1.5 | NONE | | | | S | 16.5 | ARIPUR | L | | | S |
| 2 | NONE | | | | R | 17 | NONE | L | | | S |
| 2.5 | NONE | L | | | S | 17.5 | NONE | | | | S |
| 3 | NONE | L | | | S | 18 | NONE | L | | | S |
| 3.5 | NONE | | | | S | 18.5 | NONE | | | | S |
| 4 | NONE | L | | | S | 19 | NONE | | | | S |
| 4.5 | PENCIL | L | | | S | 19.5 | ARIPUR | | | | S |
| 5 | NONE | L | | | S | 20 | NONE | | | | S |
| 5.5 | NONE | L | | | S | 20.5 | NONE | L | | | S |
| 6 | ATRPOL | L | | | S | 21 | NONE | L | | | S |
| 6.5 | NONE | L | | | S | 21.5 | NONE | | | | S |
| 7 | NONE | L | | | S | 22 | NONE | L | | | S |
| 7.5 | NONE | L | | | S | 22.5 | ARIPUR | L | | | S |
| 8 | NONE | L | | | S | 23 | NONE | | | | S |
| 8.5 | ARIPUR | L | | | S | 23.5 | NONE | L | | | S |
| 9 | NONE | | | | S | 24 | NONE | L | | | S |
| 9.5 | NONE | L | | | S | 24.5 | NONE | L | | | S |
| 10 | NONE | L | | | S | 25 | ARIPUR | L | | | S |
| 10.5 | NONE | L | | | S | 25.5 | ARIPUR | L | | | S |
| 11 | NONE | L | | | S | 26 | ARIPUR | | | | S |
| 11.5 | NONE | L | | | S | 26.5 | NONE | | | | S |
| 12 | NONE | L | | | S | 27 | CHAARI | L | | | S |
| 12.5 | NONE | | | | S | 27.5 | NONE | | | | S |
| 13 | NONE | L | | | S | 28 | NONE | | | | S |
| 13.5 | NONE | L | | | S | 28.5 | ARIPUR | | | | S |
| 14 | NONE | L | | | S | 29 | NONE | L | | | S |
| 14.5 | NONE | L | | | S | 29.5 | ARIPUR | L | | | S |
| 15 | NONE | L | | | S | 30 | ARIPUR | L | | | S |

| | |
|---|---|
| % Foliar Cover | 21.671 |
| % Bare Ground | 25.005 |
| % Basal Cover | 0 |

## Plot 2- on ROW, Line 2

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | NONE | L | | | S |
| 1 | NONE | | | | S | 16 | NONE | L | | | S |
| 1.5 | NONE | L | | | S | 16.5 | NONE | L | | | S |
| 2 | NONE | L | | | S | 17 | NONE | L | | | S |
| 2.5 | BOUARI | | | | S | 17.5 | NONE | | | | S |
| 3 | CHAARI | L | | | S | 18 | NONE | | | | S |
| 3.5 | NONE | L | | | S | 18.5 | NONE | | | | S |
| 4 | NONE | L | | | S | 19 | NONE | L | | | S |
| 4.5 | NONE | L | | | S | 19.5 | NONE | L | | | S |
| 5 | NONE | L | | | S | 20 | CHAARI | L | | | S |
| 5.5 | NONE | L | | | S | 20.5 | ARIPUR | L | | | S |
| 6 | NONE | L | | | S | 21 | ARIPUR | | | | S |
| 6.5 | NONE | L | | | S | 21.5 | CHAARI | L | | | S |
| 7 | NONE | L | | | S | 22 | NONE | L | | | S |
| 7.5 | PENCIL | L | | | S | 22.5 | ARIPUR | | | | S |
| 8 | NONE | L | | | S | 23 | CHAARI | | | | S |
| 8.5 | SPHAMB | L | | | S | 23.5 | NONE | | | | S |
| 9 | NONE | L | | | S | 24 | NONE | | | | S |
| 9.5 | NONE | L | | | S | 24.5 | NONE | | | | S |
| 10 | NONE | | | | S | 25 | ARIPUR | | | | S |
| 10.5 | NONE | L | | | S | 25.5 | NONE | L | | | S |
| 11 | NONE | | | | S | 26 | NONE | | | | S |
| 11.5 | NONE | | | | S | 26.5 | NONE | | | | S |
| 12 | NONE | | | | S | 27 | NONE | | | | S |
| 12.5 | NONE | | | | R | 27.5 | NONE | L | | | S |
| 13 | NONE | | | | S | 28 | NONE | | | | S |
| 13.5 | NONE | L | | | S | 28.5 | NONE | | | | S |
| 14 | NONE | | | | S | 29 | NONE | | | | S |
| 14.5 | NONE | | | | S | 29.5 | ARIPUR | | | | S |
| 15 | NONE | L | | | S | 30 | NONE | L | | | S |

| | |
|---|---|
| % Foliar Cover | 20.004 |
| % Bare Ground | 35.007 |
| % Basal Cover | 0 |

## Plot 2- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | NONE | L | | | S |
| 1 | NONE | L | | | S | 16 | NONE | L | | | S |
| 1.5 | NONE | | | | S | 16.5 | NONE | L | | | S |
| 2 | NONE | L | | | S | 17 | NONE | L | | | S |
| 2.5 | ARIPUR | | | | S | 17.5 | NONE | L | | | S |
| 3 | ARIPUR | | | | S | 18 | NONE | L | | | S |
| 3.5 | NONE | L | | | S | 18.5 | NONE | L | | | S |
| 4 | NONE | L | | | S | 19 | SPHAMB | L | | | S |
| 4.5 | NONE | L | | | S | 19.5 | NONE | L | | | S |
| 5 | ARIPUR | L | | | S | 20 | SPHAMB | L | | | S |
| 5.5 | CHAARI | L | | | S | 20.5 | NONE | L | | | S |
| 6 | NONE | L | | | S | 21 | ARIPUR | L | | | S |
| 6.5 | NONE | | | | S | 21.5 | NONE | L | | | S |
| 7 | NONE | | | | S | 22 | ARIPUR | L | | | S |
| 7.5 | NONE | L | | | S | 22.5 | ARIPUR | L | | | S |
| 8 | NONE | L | | | S | 23 | NONE | L | | | S |
| 8.5 | ATRPOL | L | | | S | 23.5 | NONE | | | | S |
| 9 | PENCIL | L | | | S | 24 | NONE | L | | | S |
| 9.5 | PENCIL | L | | | S | 24.5 | NONE | L | | | S |
| 10 | PENCIL | L | | | S | 25 | NONE | L | | | S |
| 10.5 | PENCIL | L | | | S | 25.5 | NONE | L | | | S |
| 11 | ATRPOL | L | | | S | 26 | NONE | L | | | S |
| 11.5 | ARIPUR | | | | S | 26.5 | NONE | | | | S |
| 12 | NONE | L | | | S | 27 | ARIPUR | | | | S |
| 12.5 | NONE | L | | | S | 27.5 | ARIPUR | L | | | S |
| 13 | NONE | L | | | S | 28 | ARIPUR | | | | S |
| 13.5 | NONE | L | | | S | 28.5 | ARIPUR | | | | S |
| 14 | SPHAMB | L | | | S | 29 | NONE | L | | | S |
| 14.5 | NONE | L | | | S | 29.5 | ARIPUR | L | | | S |
| 15 | NONE | L | | | S | 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 36.674 |
| % Bare Ground | 11.669 |
| % Basal Cover | 0 |

## Plot 2- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | L | | | S | 15.5 | LARTRI | L | | | S |
| 1 | NONE | | | | S | 16 | LARTRI | | | | S |
| 1.5 | NONE | W | | | S | 16.5 | LARTRI | BOUARI | | | S |
| 2 | NONE | | | | S | 17 | NONE | | | | S |
| 2.5 | NONE | | | | S | 17.5 | NONE | | | | S |
| 3 | NONE | | | | S | 18 | NONE | | | | S |
| 3.5 | NONE | L | | | S | 18.5 | NONE | | | | BSC |
| 4 | NONE | L | | | S | 19 | NONE | | | | S |
| 4.5 | NONE | L | | | S | 19.5 | NONE | | | | S |
| 5 | NONE | L | | | S | 20 | NONE | | | | S |
| 5.5 | NONE | L | | | S | 20.5 | NONE | | | | S |
| 6 | NONE | | | | S | 21 | NONE | | | | S |
| 6.5 | NONE | | | | BSC | 21.5 | NONE | | | | S |
| 7 | NONE | L | | | S | 22 | NONE | | | | S |
| 7.5 | NONE | | | | S | 22.5 | NONE | | | | S |
| 8 | NONE | | | | S | 23 | NONE | | | | S |
| 8.5 | NONE | L | | | S | 23.5 | NONE | | | | S |
| 9 | NONE | | | | S | 24 | NONE | | | | S |
| 9.5 | NONE | | | | S | 24.5 | NONE | | | | S |
| 10 | NONE | | | | S | 25 | NONE | | | | S |
| 10.5 | NONE | | | | S | 25.5 | NONE | | | | S |
| 11 | NONE | L | | | S | 26 | NONE | | | | S |
| 11.5 | NONE | L | | | S | 26.5 | NONE | L | | | S |
| 12 | NONE | | | | S | 27 | NONE | | | | S |
| 12.5 | NONE | L | | | S | 27.5 | NONE | | | | S |
| 13 | NONE | L | | | S | 28 | NONE | | | | S |
| 13.5 | NONE | | | | S | 28.5 | NONE | | | | S |
| 14 | NONE | | | | S | 29 | NONE | L | | | S |
| 14.5 | NONE | L | | | S | 29.5 | NONE | | | | S |
| 15 | LARTRI | L | | | S | 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 6.668 |
| % Bare Ground | 63.346 |
| % Basal Cover | 0 |

## Plot 2- off ROW, Line 6

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | NONE | | | | S |
| 1 | NONE | | | | S | 16 | NONE | | | | S |
| 1.5 | NONE | | | | S | 16.5 | NONE | | | | S |
| 2 | NONE | L | | | S | 17 | LARTRI | L | | | S |
| 2.5 | NONE | | | | R | 17.5 | LARTRI | L | | | S |
| 3 | NONE | L | | | S | 18 | LARTRI | | | | S |
| 3.5 | NONE | | | | S | 18.5 | NONE | | | | S |
| 4 | NONE | L | | | S | 19 | NONE | L | | | S |
| 4.5 | NONE | L | | | S | 19.5 | LARTRI | L | | | S |
| 5 | NONE | | | | R | 20 | NONE | | | | S |
| 5.5 | NONE | L | | | S | 20.5 | NONE | | | | S |
| 6 | NONE | L | | | S | 21 | NONE | | | | S |
| 6.5 | NONE | L | | | S | 21.5 | NONE | | | | S |
| 7 | NONE | L | | | S | 22 | NONE | | | | R |
| 7.5 | NONE | | | | S | 22.5 | NONE | | | | S |
| 8 | NONE | L | | | S | 23 | NONE | | | | S |
| 8.5 | NONE | | | | S | 23.5 | NONE | | | | S |
| 9 | NONE | | | | S | 24 | NONE | | | | BSC |
| 9.5 | NONE | L | | | S | 24.5 | NONE | L | | | S |
| 10 | NONE | | | | S | 25 | LARTRI | W | | | S |
| 10.5 | NONE | L | | | S | 25.5 | LARTRI | L | | | S |
| 11 | NONE | | | | S | 26 | NONE | | | | S |
| 11.5 | NONE | | | | S | 26.5 | NONE | L | | | S |
| 12 | NONE | | | | S | 27 | NONE | | | | S |
| 12.5 | NONE | | | | S | 27.5 | NONE | | | | S |
| 13 | NONE | | | | S | 28 | NONE | | | | S |
| 13.5 | NONE | | | | S | 28.5 | NONE | L | | | S |
| 14 | NONE | | | | S | 29 | NONE | | | | S |
| 14.5 | NONE | | | | S | 29.5 | NONE | | | | S |
| 15 | NONE | | | | S | 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 10.002 |
| % Bare Ground | 58.345 |
| % Basal Cover | 0 |

## Plot 2- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | NONE | | | | S |
| 1 | LARTRI | | | | S | 16 | NONE | | | | S |
| 1.5 | LARTRI | | | | S | 16.5 | NONE | | | | S |
| 2 | NONE | | | | S | 17 | NONE | L | | | S |
| 2.5 | NONE | | | | S | 17.5 | NONE | | | | S |
| 3 | NONE | | | | S | 18 | NONE | | | | S |
| 3.5 | NONE | L | | | S | 18.5 | NONE | L | | | S |
| 4 | NONE | L | | | S | 19 | NONE | | | | S |
| 4.5 | LARTRI | | | | S | 19.5 | NONE | | | | S |
| 5 | LARTRI | | | | S | 20 | NONE | L | | | S |
| 5.5 | LARTRI | L | | | S | 20.5 | NONE | | | | S |
| 6 | LARTRI | | | | S | 21 | NONE | | | | S |
| 6.5 | NONE | L | | | S | 21.5 | NONE | | | | S |
| 7 | NONE | | | | S | 22 | NONE | | | | S |
| 7.5 | NONE | | | | S | 22.5 | NONE | L | | | S |
| 8 | NONE | | | | S | 23 | NONE | | | | S |
| 8.5 | NONE | | | | S | 23.5 | NONE | | | | S |
| 9 | NONE | L | | | S | 24 | NONE | | | | S |
| 9.5 | NONE | | | | S | 24.5 | NONE | | | | S |
| 10 | NONE | L | | | S | 25 | NONE | | | | S |
| 10.5 | NONE | | | | S | 25.5 | NONE | | | | S |
| 11 | NONE | | | | S | 26 | NONE | | | | S |
| 11.5 | NONE | | | | S | 26.5 | NONE | | | | S |
| 12 | NONE | | | | S | 27 | NONE | L | | | S |
| 12.5 | NONE | L | | | S | 27.5 | NONE | | | | S |
| 13 | NONE | | | | S | 28 | NONE | | | | S |
| 13.5 | NONE | L | | | S | 28.5 | NONE | L | | | S |
| 14 | NONE | | | | S | 29 | NONE | L | | | S |
| 14.5 | NONE | | | | S | 29.5 | NONE | L | | | S |
| 15 | NONE | | | | S | 30 | NONE | L | | | S |

| | |
|---|---|
| % Foliar Cover | 10.002 |
| % Bare Ground | 63.346 |
| % Basal Cover | 0 |

## Summary - Plot 2

**% Average Foliar Cover**

| | |
|---|---|
| On ROW | 26.116 |
| Off ROW | 8.891 |

**% Average Bare Ground**

| | |
|---|---|
| On ROW | 23.894 |
| Off ROW | 61.679 |

**% Average Basal Cover**

| | |
|---|---|
| On ROW | 0.000 |
| Off ROW | 0.000 |

## Plot 3- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | BOUROT | BOUARI | L | | S | 15.5 | BOUARI | L | | | S |
| 1 | BOUARI | L | | | S | 16 | BOUARI | L | | | S |
| 1.5 | BOUROT | L | | | S | 16.5 | BOUARI | L | | | S |
| 2 | BOUARI | L | | | S | 17 | BOUARI | L | | | S |
| 2.5 | BOUARI | L | | | S | 17.5 | NONE | L | | | S |
| 3 | BOUARI | | | | S | 18 | BAIMUL | L | | | S |
| 3.5 | BOUARI | L | | | S | 18.5 | BOUROT | L | | | S |
| 4 | BOUARI | | | | S | 19 | BOUARI | L | | | S |
| 4.5 | BOUROT | BOUARI | | | S | 19.5 | NONE | L | | | S |
| 5 | BOUARI | L | | | S | 20 | BOUARI | L | | | S |
| 5.5 | BOUARI | L | | | S | 20.5 | BOUARI | L | | | S |
| 6 | BOUROT | L | | | S | 21 | BOUARI | L | | | S |
| 6.5 | BOEERE | L | | | S | 21.5 | BOUARI | L | | | S |
| 7 | BOUROT | L | | | S | 22 | BOUARI | L | | | S |
| 7.5 | BOUROT | L | | | S | 22.5 | BOUARI | L | | | S |
| 8 | BOUROT | L | | | S | 23 | BOUROT | | | | S |
| 8.5 | BOEERE | | | | S | 23.5 | BOUARI | L | | | S |
| 9 | BOUROT | L | | | S | 24 | BOUARI | L | | | S |
| 9.5 | BOUROT | BOEERE | L | | S | 24.5 | BOUARI | L | | | S |
| 10 | BOUROT | | | | S | 25 | BOUARI | L | | | S |
| 10.5 | BAIMUL | | | | S | 25.5 | NONE | L | | | S |
| 11 | BOUARI | L | | | S | 26 | BOUARI | L | | | S |
| 11.5 | BOUARI | L | | | S | 26.5 | BOUARI | L | | | S |
| 12 | BOUROT | | | | S | 27 | BOUARI | L | | | S |
| 12.5 | BOUROT | | | | S | 27.5 | BOUARI | | | | R |
| 13 | BOUROT | L | | | S | 28 | BOUARI | | | | S |
| 13.5 | BOUARI | L | | | S | 28.5 | BOUARI | | | | S |
| 14 | NONE | L | | | S | 29 | BOUARI | L | | | S |
| 14.5 | BOUARI | | | | R | 29.5 | BOUROT | L | | | S |
| 15 | BOUARI | | | | S | 30 | NICOBT | | | | S |

| | |
|---|---|
| % Foliar Cover | 93.352 |
| % Bare Ground | 0 |
| % Basal Cover | 0 |

## Plot 3- on ROW, Line 2

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | BOUARI | | | | S | 15.5 | BOUARI | L | | | S |
| 1 | BOUARI | L | | | S | 16 | BOUARI | L | | | S |
| 1.5 | BOUARI | L | | | S | 16.5 | BOUROT | BOUARI | L | | S |
| 2 | BOUROT | L | | | S | 17 | BOUARI | L | | | S |
| 2.5 | BOUARI | L | | | S | 17.5 | BAIMUL | L | | | S |
| 3 | BOUARI | L | | | S | 18 | BOUARI | | | | S |
| 3.5 | BOUARI | L | | | S | 18.5 | BOUARI | L | | | S |
| 4 | BAIMUL | L | | | S | 19 | BOUARI | L | | | S |
| 4.5 | BOUARI | | | | S | 19.5 | BOUARI | L | | | S |
| 5 | BOEERE | | | | S | 20 | BOUARI | L | | | S |
| 5.5 | BOUARI | L | | | S | 20.5 | BOUARI | L | | | S |
| 6 | BAIMUL | BOUARI | L | | S | 21 | BOUARI | L | | | S |
| 6.5 | BOUARI | L | | | S | 21.5 | BOUARI | L | | | S |
| 7 | BOUARI | L | | | S | 22 | BOUARI | | | | S |
| 7.5 | BOUARI | L | | | S | 22.5 | LARTRI | L | | | S |
| 8 | BOUARI | L | | | S | 23 | BOUARI | | | | S |
| 8.5 | BOUARI | L | | | S | 23.5 | NONE | L | | | S |
| 9 | BOUROT | L | | | S | 24 | NONE | W | | | S |
| 9.5 | NONE | | | | S | 24.5 | BOUARI | L | | | S |
| 10 | NONE | | | | S | 25 | BOUROT | | | | S |
| 10.5 | BOUROT | BOUARI | | | S | 25.5 | NONE | L | | | S |
| 11 | SPHAMB | BOUARI | L | | S | 26 | BOUARI | L | | | S |
| 11.5 | SPHAMB | L | | | S | 26.5 | BOUROT | BOUARI | L | | S |
| 12 | BOUARI | L | | | S | 27 | BOUARI | L | | | S |
| 12.5 | BOUARI | L | | | S | 27.5 | BOUARI | L | | | S |
| 13 | BOUARI | L | | | S | 28 | BOUARI | | | | S |
| 13.5 | NONE | L | | | S | 28.5 | NONE | | | | S |
| 14 | BOUARI | L | | | S | 29 | NONE | | | | S |
| 14.5 | BOUARI | L | | | S | 29.5 | BOUARI | | | | S |
| 15 | BOUARI | L | | | S | 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 87.924 |
| % Bare Ground | 8.62 |
| % Basal Cover | 0 |

## Plot 3- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | BOUROT | L | | | S |
| 1 | NONE | | | | R | 16 | BAIMUL | BOUROT | L | | S |
| 1.5 | NONE | | | | S | 16.5 | BOUARI | L | | | S |
| 2 | BOUARI | | | | S | 17 | BAIMUL | L | | | S |
| 2.5 | BOUARI | | | | S | 17.5 | BOUARI | L | | | S |
| 3 | BOUARI | | | | S | 18 | BOUARI | L | | | S |
| 3.5 | BOUROT | | | | S | 18.5 | BOUARI | L | | | S |
| 4 | NONE | | | | S | 19 | BOUARI | L | | | S |
| 4.5 | BOUARI | | | | S | 19.5 | BOUARI | L | | | S |
| 5 | NONE | | | | S | 20 | BOUARI | L | | | S |
| 5.5 | BOUARI | L | | | S | 20.5 | BOUARI | L | | | S |
| 6 | BOUARI | L | | | S | 21 | SPHAMB | L | | | S |
| 6.5 | NONE | L | | | S | 21.5 | SPHAMB | L | | | S |
| 7 | NONE | | | | S | 22 | SPHAMB | L | | | S |
| 7.5 | BOUROT | | | | S | 22.5 | BOUROT | L | | | S |
| 8 | BOUARI | | | | S | 23 | BOUROT | L | | | S |
| 8.5 | BOUARI | L | | | S | 23.5 | SPHAMB | BOUROT | L | | S |
| 9 | NONE | L | | | S | 24 | SPHAMB | L | | | S |
| 9.5 | BOUROT | L | | | S | 24.5 | BOUARI | L | | | S |
| 10 | NONE | L | | | S | 25 | BOUARI | L | | | S |
| 10.5 | BOUROT | L | | | S | 25.5 | BOUARI | L | | | S |
| 11 | BOUARI | L | | | S | 26 | ARIPUR | BOUARI | L | | S |
| 11.5 | BOUARI | | | | S | 26.5 | BOUARI | L | | | S |
| 12 | BOUARI | L | | | S | 27 | BOUARI | L | | | S |
| 12.5 | BOUARI | L | | | S | 27.5 | NONE | L | | | S |
| 13 | BOUARI | BOEERE | L | | S | 28 | NONE | | | | S |
| 13.5 | BOUROT | L | | | S | 28.5 | | | | | |
| 14 | NONE | | | | S | 29 | | | | | |
| 14.5 | BOUARI | L | | | S | 29.5 | | | | | |
| 15 | BOUROT | L | | | S | 30 | | | | | |

| | |
|---|---|
| % Foliar Cover | 76.798 |
| % Bare Ground | 12.502 |
| % Basal Cover | 0 |

## Plot 3- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | BOEERE | ERACIL | | | S | 15.5 | CHAFLO | L | | | S |
| 1 | BOECOC | | | | S | 16 | LARTRI | L | | | S |
| 1.5 | BOECOC | | | | S | 16.5 | LARTRI | L | | | S |
| 2 | CYLARB | | | | S | 17 | NONE | L | | | S |
| 2.5 | NONE | | | | S | 17.5 | NONE | L | | | S |
| 3 | NONE | L | | | S | 18 | LARTRI | VACCON | L | | S |
| 3.5 | NONE | | | | S | 18.5 | LARTRI | | | | S |
| 4 | NONE | | | | S | 19 | LARTRI | MUHPOR | | | S |
| 4.5 | NONE | | | | S | 19.5 | LARTRI | | | | S |
| 5 | NONE | | | | S | 20 | LARTRI | BOUARI | L | | S |
| 5.5 | NONE | | | | S | 20.5 | LARTRI | L | | | S |
| 6 | NONE | L | | | S | 21 | NONE | | | | S |
| 6.5 | NONE | | | | S | 21.5 | NONE | | | | S |
| 7 | NONE | | | | S | 22 | NONE | | | | S |
| 7.5 | BOEERE | | | | S | 22.5 | NONE | | | | S |
| 8 | NONE | L | | | S | 23 | NONE | | | | S |
| 8.5 | BOEERE | | | | S | 23.5 | BOUARI | | | | S |
| 9 | NONE | | | | S | 24 | BOUARI | | | | S |
| 9.5 | NONE | | | | S | 24.5 | NONE | | | | S |
| 10 | NONE | | | | S | 25 | BOUARI | | | | S |
| 10.5 | BOUARI | | | | S | 25.5 | NONE | | | | S |
| 11 | NONE | | | | S | 26 | BOUARI | L | | | S |
| 11.5 | NONE | | | | S | 26.5 | BOUARI | L | | | S |
| 12 | NONE | | | | S | 27 | NONE | | | | S |
| 12.5 | NONE | | | | S | 27.5 | NONE | | | | S |
| 13 | NONE | | | | S | 28 | NONE | L | | | S |
| 13.5 | NONE | | | | S | 28.5 | PROVEL | L | | | S |
| 14 | NONE | L | | | S | 29 | PROVEL | MUHPOR | L | | S |
| 14.5 | TIDLAN | | | | R | 29.5 | PROVEL | COMSCA | L | | S |
| 15 | BOUARI | | | | S | 30 | VACCON | L | | | S |

| | |
|---|---|
| % Foliar Cover | 45.009 |
| % Bare Ground | 43.342 |
| % Basal Cover | 0 |

## Plot 3- off ROW, Line 6

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | PROVEL | COMSCA | L | | S | 15.5 | VACCON | BOUARI | | | S |
| 1 | PROVEL | AMAFIM | L | | S | 16 | VACCON | BOUARI | L | | S |
| 1.5 | PROVEL | L | | | S | 16.5 | VACCON | L | | | S |
| 2 | PROVEL | L | | | S | 17 | VACCON | | | | S |
| 2.5 | PROVEL | | | | S | 17.5 | VACCON | | | | S |
| 3 | BOUARI | | | | S | 18 | VACCON | | | | S |
| 3.5 | BOUARI | L | | | S | 18.5 | VACCON | L | | | S |
| 4 | BOUARI | L | | | S | 19 | VACCON | | | | S |
| 4.5 | LARTRI | ARIPUR | L | | S | 19.5 | NONE | | | | S |
| 5 | LARTRI | ARAFIM | | | S | 20 | BOUARI | L | | | S |
| 5.5 | LARTRI | BOEERE | L | | S | 20.5 | BOUARI | | | | S |
| 6 | LARTRI | TIDLAN | BOUARI | L | S | 21 | BOUARI | L | | | S |
| 6.5 | BOEERE | | | | S | 21.5 | NONE | | | | S |
| 7 | BOUARI | L | | | S | 22 | NONE | | | | S |
| 7.5 | BOUARI | L | | | S | 22.5 | NONE | | | | S |
| 8 | BOUARI | L | | | S | 23 | NONE | | | | S |
| 8.5 | NONE | | | | S | 23.5 | NONE | | | | S |
| 9 | BOUARI | L | | | S | 24 | NONE | | | | S |
| 9.5 | PANHAL | L | | | S | 24.5 | NONE | | | | S |
| 10 | VACCON | L | | | S | 25 | NONE | | | | S |
| 10.5 | AMAFIM | L | | | S | 25.5 | BOUARI | | | | S |
| 11 | VACCON | BOEERE | | | S | 26 | CYLFUL | BOEERE | BOUARI | L | S |
| 11.5 | VACCON | BOEERE | L | | S | 26.5 | BOUARI | | | | S |
| 12 | NONE | L | | | S | 27 | BOUARI | | | | S |
| 12.5 | VACCON | BOEERE | | | S | 27.5 | BOUARI | L | | | S |
| 13 | VACCON | BOEERE | TIDLAN | L | S | 28 | BOUARI | | | | S |
| 13.5 | BOUARI | W | | | S | 28.5 | BOUARI | | | | S |
| 14 | NONE | | | | S | 29 | NONE | | | | S |
| 14.5 | BOUARI | L | | | S | 29.5 | NONE | | | | S |
| 15 | BOUARI | L | | | S | 30 | BOUARI | L | | | S |

| | |
|---|---|
| % Foliar Cover | 76.682 |
| % Bare Ground | 21.671 |
| % Basal Cover | 0 |

## Plot 3- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | BOEERE | L | | | S | 15.5 | BOUARI | L | | | S |
| 1 | BOUARI | L | | | S | 16 | BOUARI | L | | | S |
| 1.5 | BOEERE | L | | | S | 16.5 | BOUARI | L | | | S |
| 2 | BOEERE | L | | | S | 17 | BOUARI | L | | | S |
| 2.5 | NONE | | | | S | 17.5 | BOUARI | L | | | S |
| 3 | PARMIC | | | | S | 18 | BOUARI | L | | | S |
| 3.5 | PARMIC | L | | | S | 18.5 | BOUARI | L | | | S |
| 4 | PARMIC | | | | S | 19 | BOUARI | L | | | S |
| 4.5 | BOUARI | L | | | S | 19.5 | BOUARI | L | | | S |
| 5 | NONE | L | | | S | 20 | NONE | L | | | S |
| 5.5 | NONE | L | | | S | 20.5 | NONE | L | | | S |
| 6 | BOUARI | L | | | S | 21 | BOUARI | L | | | S |
| 6.5 | BOUARI | L | | | S | 21.5 | BOUARI | L | | | S |
| 7 | BOUARI | L | | | S | 22 | BOUARI | L | | | S |
| 7.5 | BOEERE | L | | | S | 22.5 | BOUARI | L | | | S |
| 8 | NONE | L | | | S | 23 | BOUARI | | | | S |
| 8.5 | MUHPOR | L | | | S | 23.5 | BOUARI | | | | S |
| 9 | VACCON | PANHAL | L | | S | 24 | NONE | | | | S |
| 9.5 | VACCON | BOEERE | L | | S | 24.5 | NONE | L | | | S |
| 10 | VACCON | BOEERE | L | | S | 25 | PARFLO | ARIPUR | L | | S |
| 10.5 | NONE | L | | | S | 25.5 | PARFLO | ARIPUR | L | | S |
| 11 | BOUARI | L | | | S | 26 | PARFLO | ARIPUR | L | | S |
| 11.5 | BOUARI | L | | | S | 26.5 | PARFLO | AMBFIM | L | | S |
| 12 | BOUARI | | | | S | 27 | PARFLO | AMBFIM | L | | S |
| 12.5 | NONE | | | | S | 27.5 | PARFLO | BOUARI | L | | S |
| 13 | NONE | | | | S | 28 | PARFLO | L | | | S |
| 13.5 | NONE | L | | | S | 28.5 | BOEERE | L | | | S |
| 14 | BOUARI | L | | | S | 29 | BOUARI | L | | | S |
| 14.5 | BOUARI | L | | | S | 29.5 | BOUARI | L | | | S |
| 15 | BOUARI | L | | | S | 30 | BOUARI | L | | | S |

| | |
|---|---|
| % Foliar Cover | 80.016 |
| % Bare Ground | 6.668 |
| % Basal Cover | 0 |

## Summary - Plot 3

**% Average Foliar Cover**

| | |
|---|---|
| On ROW | 86.025 |
| Off ROW | 67.236 |

**% Average Bare Ground**

| | |
|---|---|
| On ROW | 7.041 |
| Off ROW | 23.894 |

**% Average Basal Cover**

| | |
|---|---|
| On ROW | 0.000 |
| Off ROW | 0.000 |

## Plot 4- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | SALTRA | L | | | S | 15.5 | NONE | | | | S |
| 1 | NONE | | | | R | 16 | SALTRA | L | | | S |
| 1.5 | NONE | L | | | S | 16.5 | NONE | L | | | S |
| 2 | NONE | | | | S | 17 | NONE | L | | | S |
| 2.5 | NONE | | | | S | 17.5 | CYNDAC | | | | S |
| 3 | NONE | | | | S | 18 | CYNDAC | L | | | S |
| 3.5 | NONE | L | | | S | 18.5 | NONE | L | | | S |
| 4 | ARIPUR | | | | S | 19 | NONE | L | | | S |
| 4.5 | SALTRA | | | | S | 19.5 | NONE | L | | | S |
| 5 | ARIPUR | | | | S | 20 | CYNDAC | | | | S |
| 5.5 | ARIPUR | | | | S | 20.5 | CYNDAC | L | | | S |
| 6 | NONE | L | | | S | 21 | NONE | | | | S |
| 6.5 | NONE | | | | S | 21.5 | NONE | | | | S |
| 7 | NONE | L | | | S | 22 | NONE | | | | S |
| 7.5 | ARIPUR | | | | S | 22.5 | NONE | | | | S |
| 8 | ARIPUR | | | | S | 23 | NONE | | | | S |
| 8.5 | BOEINT | ARIPUR | | | S | 23.5 | ANDOCC | | | | S |
| 9 | ARIPUR | | | | S | 24 | ANDOCC | | | | S |
| 9.5 | NONE | L | | | S | 24.5 | NONE | | | | S |
| 10 | ARIPUR | L | | | S | 25 | NONE | | | | S |
| 10.5 | NONE | L | | | S | 25.5 | AMAPAL | | | | S |
| 11 | NONE | L | | | S | 26 | CYNDAC | L | | | S |
| 11.5 | NONE | L | | | S | 26.5 | NONE | L | | | S |
| 12 | SALTRA | L | | | S | 27 | NONE | | | | S |
| 12.5 | SALTRA | L | | | S | 27.5 | AMAPAL | | | | S |
| 13 | NONE | | | | S | 28 | AMAPAL | | | | S |
| 13.5 | NONE | L | | | S | 28.5 | NONE | L | | | S |
| 14 | NONE | | | | S | 29 | ATRCAN | L | | | S |
| 14.5 | NONE | | | | S | 29.5 | NONE | | | | S |
| 15 | NONE | | | | S | 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 40.008 |
| % Bare Ground | 31.673 |
| % Basal Cover | 0 |

## Plot 4- on ROW, Line 2

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | L | | | S | 15.5 | NONE | | | | S |
| 1 | NONE | L | | | S | 16 | NONE | L | | | S |
| 1.5 | NONE | | | | S | 16.5 | ATRCAN | | | | S |
| 2 | NONE | L | | | S | 17 | NONE | | | | S |
| 2.5 | NONE | L | | | S | 17.5 | NONE | | | | S |
| 3 | NONE | L | | | S | 18 | NONE | | | | S |
| 3.5 | NONE | L | | | S | 18.5 | NONE | | | | S |
| 4 | NONE | L | | | S | 19 | NONE | | | | S |
| 4.5 | NONE | | | | S | 19.5 | NONE | | | | S |
| 5 | ATRCAN | L | | | S | 20 | ATRPOL | | | | S |
| 5.5 | NONE | | | | S | 20.5 | NONE | | | | S |
| 6 | NONE | | | | S | 21 | AMAPAL | | | | S |
| 6.5 | NONE | | | | S | 21.5 | NONE | | | | S |
| 7 | NONE | | | | S | 22 | NONE | | | | S |
| 7.5 | NONE | L | | | S | 22.5 | NONE | L | | | S |
| 8 | NONE | | | | S | 23 | NONE | | | | S |
| 8.5 | NONE | | | | S | 23.5 | NONE | | | | S |
| 9 | NONE | | | | S | 24 | NONE | | | | S |
| 9.5 | NONE | | | | S | 24.5 | NONE | | | | S |
| 10 | NONE | | | | S | 25 | ATRCAN | L | | | S |
| 10.5 | NONE | | | | S | 25.5 | ATRCAN | L | | | S |
| 11 | NONE | | | | S | 26 | ATRCAN | L | | | S |
| 11.5 | NONE | | | | S | 26.5 | ATRCAN | L | | | S |
| 12 | NONE | L | | | S | 27 | ATRCAN | L | | | S |
| 12.5 | NONE | | | | S | 27.5 | NONE | L | | | S |
| 13 | NONE | L | | | S | 28 | NONE | L | | | S |
| 13.5 | NONE | W | | | S | 28.5 | NONE | | | | S |
| 14 | NONE | | | | S | 29 | NONE | | | | S |
| 14.5 | NONE | | | | S | 29.5 | ATRCAN | L | | | S |
| 15 | NONE | | | | S | 30 | ATRCAN | L | | | S |

| | |
|---|---|
| % Foliar Cover | 18.337 |
| % Bare Ground | 56.678 |
| % Basal Cover | 0 |

## Plot 4- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | NONE | | | | S |
| 1 | NONE | | | | S | 16 | NONE | L | | | S |
| 1.5 | NONE | | | | S | 16.5 | NONE | L | | | S |
| 2 | NONE | | | | S | 17 | NONE | L | | | S |
| 2.5 | NONE | | | | S | 17.5 | NONE | L | | | S |
| 3 | NONE | | | | S | 18 | NONE | | | | S |
| 3.5 | NONE | | | | S | 18.5 | NONE | | | | S |
| 4 | NONE | | | | S | 19 | NONE | | | | S |
| 4.5 | NONE | | | | S | 19.5 | NONE | | | | S |
| 5 | NONE | | | | S | 20 | NONE | | | | S |
| 5.5 | NONE | | | | S | 20.5 | NONE | | | | S |
| 6 | NONE | | | | S | 21 | NONE | | | | S |
| 6.5 | BOUARI | | | | S | 21.5 | NONE | L | | | S |
| 7 | NONE | | | | S | 22 | NONE | | | | S |
| 7.5 | NONE | L | | | S | 22.5 | NONE | L | | | S |
| 8 | SPOCRY | | | | S | 23 | NONE | | | | S |
| 8.5 | BOUARI | L | | | S | 23.5 | NONE | L | | | S |
| 9 | BOUARI | | | | S | 24 | NONE | | | | R |
| 9.5 | NONE | | | | S | 24.5 | NONE | | | | S |
| 10 | NONE | L | | | S | 25 | NONE | | | | S |
| 10.5 | NONE | | | | S | 25.5 | NONE | L | | | S |
| 11 | NONE | | | | S | 26 | NONE | L | | | S |
| 11.5 | NONE | | | | S | 26.5 | NONE | | | | S |
| 12 | NONE | L | | | S | 27 | ATRCAN | L | | | S |
| 12.5 | NONE | | | | S | 27.5 | NONE | L | | | S |
| 13 | NONE | | | | S | 28 | NONE | | | | S |
| 13.5 | NONE | | | | S | 28.5 | ATRCAN | L | | | S |
| 14 | NONE | | | | S | 29 | ATRCAN | L | | | S |
| 14.5 | NONE | | | | S | 29.5 | NONE | L | | | S |
| 15 | NONE | | | | S | 30 | NONE | L | | | S |

| | |
|---|---|
| % Foliar Cover | 11.669 |
| % Bare Ground | 61.679 |
| % Basal Cover | 0 |

## Plot 4- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | VACCON | | | | S | 15.5 | NONE | | | | S |
| 1 | VACCON | L | | | S | 16 | NONE | L | | | S |
| 1.5 | NONE | L | | | S | 16.5 | NONE | L | | | S |
| 2 | NONE | | | | S | 17 | PROVEL | L | | | S |
| 2.5 | NONE | | | | S | 17.5 | NONE | L | | | S |
| 3 | NONE | L | | | S | 18 | PROVEL | BOTBAR | L | | S |
| 3.5 | PROVEL | | | | S | 18.5 | PROVEL | | | | S |
| 4 | PROVEL | L | | | S | 19 | NONE | | | | S |
| 4.5 | PROVEL | L | | | S | 19.5 | NONE | L | | | S |
| 5 | NONE | | | | S | 20 | NONE | | | | S |
| 5.5 | NONE | L | | | S | 20.5 | NONE | | | | S |
| 6 | NONE | L | | | S | 21 | NONE | L | | | S |
| 6.5 | PROVEL | L | | | S | 21.5 | NONE | | | | S |
| 7 | PROVEL | | | | S | 22 | NONE | L | | | S |
| 7.5 | NONE | L | | | S | 22.5 | NONE | | | | S |
| 8 | NONE | W | | | S | 23 | NONE | | | | S |
| 8.5 | NONE | | | | S | 23.5 | NONE | | | | S |
| 9 | NONE | L | | | S | 24 | NONE | | | | S |
| 9.5 | NONE | | | | S | 24.5 | NONE | | | | S |
| 10 | NONE | | | | S | 25 | NONE | | | | S |
| 10.5 | NONE | L | | | S | 25.5 | NONE | | | | S |
| 11 | NONE | L | | | S | 26 | NONE | | | | S |
| 11.5 | NONE | L | | | S | 26.5 | NONE | | | | S |
| 12 | NONE | | | | S | 27 | NONE | L | | | S |
| 12.5 | NONE | | | | S | 27.5 | NONE | | | | S |
| 13 | NONE | | | | S | 28 | NONE | | | | S |
| 13.5 | NONE | | | | S | 28.5 | NONE | | | | S |
| 14 | NONE | | | | S | 29 | NONE | | | | S |
| 14.5 | NONE | L | | | S | 29.5 | | | | | |
| 15 | NONE | | | | S | 30 | | | | | |

| | |
|---|---|
| % Foliar Cover | 16.67 |
| % Bare Ground | 50.01 |
| % Basal Cover | 0 |

# Plot 4- off ROW, Line 6

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | PROVEL | L | | | S |
| 1 | NONE | | | | S | 16 | NONE | L | | | S |
| 1.5 | NONE | | | | S | 16.5 | PROVEL | LYCAND | L | | S |
| 2 | NONE | | | | S | 17 | PROVEL | L | | | S |
| 2.5 | LYCAND | L | | | S | 17.5 | PROVEL | L | | | S |
| 3 | LYCAND | | | | S | 18 | PROVEL | L | | | S |
| 3.5 | NONE | L | | | S | 18.5 | PROVEL | | | | S |
| 4 | PROVEL | L | | | S | 19 | PROVEL | | | | S |
| 4.5 | PROVEL | L | | | S | 19.5 | NONE | L | | | S |
| 5 | PROVEL | BOTBAR | L | | S | 20 | NONE | | | | S |
| 5.5 | PROVEL | | | | S | 20.5 | NONE | | | | S |
| 6 | NONE | | | | S | 21 | NONE | | | | S |
| 6.5 | NONE | | | | S | 21.5 | NONE | | | | S |
| 7 | NONE | | | | S | 22 | NONE | | | | S |
| 7.5 | NONE | | | | S | 22.5 | NONE | | | | S |
| 8 | NONE | | | | S | 23 | PROVEL | | | | S |
| 8.5 | NONE | | | | S | 23.5 | PROVEL | L | | | S |
| 9 | NONE | L | | | S | 24 | PROVEL | | | | S |
| 9.5 | NONE | | | | S | 24.5 | PROVEL | L | | | S |
| 10 | NONE | | | | S | 25 | PROVEL | | | | S |
| 10.5 | NONE | L | | | S | 25.5 | PROVEL | L | | | S |
| 11 | NONE | | | | S | 26 | PROVEL | | | | S |
| 11.5 | NONE | | | | S | 26.5 | PROVEL | | | | S |
| 12 | NONE | | | | S | 27 | PROVEL | | | | S |
| 12.5 | NONE | | | | S | 27.5 | NONE | L | | | S |
| 13 | NONE | L | | | S | 28 | NONE | | | | S |
| 13.5 | VACCON | L | | | S | 28.5 | NONE | | | | S |
| 14 | VACCON | L | | | S | 29 | NONE | | | | S |
| 14.5 | VACCON | L | | | S | 29.5 | NONE | L | | | S |
| 15 | NONE | W | | | S | 30 | | | | | |

| | |
|---|---|
| % Foliar Cover | 41.675 |
| % Bare Ground | 41.675 |
| % Basal Cover | 0 |

## Plot 4- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | NONE | | | | S |
| 1 | NONE | | | | S | 16 | NONE | L | | | S |
| 1.5 | NONE | | | | R | 16.5 | NONE | | | | S |
| 2 | NONE | | | | S | 17 | NONE | | | | S |
| 2.5 | NONE | | | | S | 17.5 | VACCON | | | | S |
| 3 | NONE | | | | S | 18 | VACCON | | | | S |
| 3.5 | NONE | L | | | S | 18.5 | VACCON | | | | S |
| 4 | NONE | | | | S | 19 | NONE | | | | S |
| 4.5 | NONE | | | | S | 19.5 | NONE | | | | S |
| 5 | NONE | | | | S | 20 | NONE | | | | S |
| 5.5 | NONE | | | | S | 20.5 | NONE | | | | S |
| 6 | NONE | | | | R | 21 | NONE | | | | S |
| 6.5 | VACCON | | | | S | 21.5 | NONE | | | | S |
| 7 | NONE | | | | S | 22 | NONE | | | | S |
| 7.5 | VACCON | L | | | S | 22.5 | NONE | | | | S |
| 8 | VACCON | | | | S | 23 | NONE | L | | | S |
| 8.5 | NONE | | | | S | 23.5 | NONE | L | | | S |
| 9 | NONE | L | | | S | 24 | NONE | | | | S |
| 9.5 | NONE | | | | S | 24.5 | VACCON | L | | | S |
| 10 | NONE | | | | S | 25 | VACCON | | | | S |
| 10.5 | NONE | | | | S | 25.5 | NONE | | | | S |
| 11 | PROVEL | | | | S | 26 | NONE | | | | S |
| 11.5 | PROVEL | L | | | S | 26.5 | NONE | | | | S |
| 12 | PROVEL | | | | S | 27 | NONE | | | | S |
| 12.5 | PROVEL | | | | S | 27.5 | NONE | | | | S |
| 13 | NONE | | | | S | 28 | NONE | | | | S |
| 13.5 | NONE | | | | S | 28.5 | NONE | L | | | S |
| 14 | NONE | | | | S | 29 | NONE | | | | S |
| 14.5 | NONE | | | | S | 29.5 | NONE | | | | S |
| 15 | NONE | | | | S | 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 20.004 |
| % Bare Ground | 66.68 |
| % Basal Cover | 0 |

## Summary - Plot 4

**% Average Foliar Cover**

| | |
|---|---|
| On ROW | 23.338 |
| Off ROW | 26.116 |

**% Average Bare Ground**

| | |
|---|---|
| On ROW | 50.010 |
| Off ROW | 52.788 |

**% Average Basal Cover**

| | |
|---|---|
| On ROW | 0.000 |
| Off ROW | 0.000 |

# Plot 5- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | NONE | L | | | S |
| 1 | NONE | | | | S | 16 | NONE | L | | | S |
| 1.5 | NONE | | | | S | 16.5 | NONE | L | | | S |
| 2 | NONE | | | | S | 17 | NONE | L | | | S |
| 2.5 | NONE | | | | S | 17.5 | NONE | L | | | S |
| 3 | PROVEL | | | | S | 18 | NONE | | | | S |
| 3.5 | PROVEL | | | | S | 18.5 | NONE | | | | S |
| 4 | PROVEL | L | | | S | 19 | NONE | | | | S |
| 4.5 | PROVEL | L | | | S | 19.5 | NONE | | | | S |
| 5 | PROVEL | | | | S | 20 | NONE | | | | S |
| 5.5 | NONE | | | | S | 20.5 | NONE | L | | | S |
| 6 | NONE | | | | S | 21 | NONE | | | | S |
| 6.5 | NONE | | | | S | 21.5 | NONE | | | | S |
| 7 | NONE | | | | S | 22 | NONE | L | | | S |
| 7.5 | NONE | | | | S | 22.5 | BOUARI | | | | S |
| 8 | NONE | | | | S | 23 | NONE | | | | S |
| 8.5 | NONE | | | | S | 23.5 | NONE | | | | S |
| 9 | NONE | L | | | S | 24 | NONE | | | | S |
| 9.5 | NONE | L | | | S | 24.5 | ATRCAN | L | | | S |
| 10 | NONE | | | | S | 25 | NONE | | | | S |
| 10.5 | NONE | L | | | S | 25.5 | NONE | | | | S |
| 11 | NONE | L | | | S | 26 | NONE | | | | S |
| 11.5 | NONE | L | | | S | 26.5 | NONE | W | | | S |
| 12 | NONE | | | | S | 27 | NONE | | | | S |
| 12.5 | NONE | | | | S | 27.5 | | | | | |
| 13 | NONE | | | | R | 28 | | | | | |
| 13.5 | NONE | | | | S | 28.5 | | | | | |
| 14 | NONE | L | | | S | 29 | | | | | |
| 14.5 | NONE | L | | | S | 29.5 | | | | | |
| 15 | NONE | | | | S | 30 | | | | | |

| | |
|---|---|
| % Foliar Cover | 12.964 |
| % Bare Ground | 57.412 |
| % Basal Cover | 0 |

# Plot 5- on ROW, Line 2

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | NONE | L | | | S |
| 1 | NONE | | | | S | 16 | AMBACA | L | | | S |
| 1.5 | NONE | | | | S | 16.5 | NONE | L | | | S |
| 2 | NONE | | | | S | 17 | NONE | L | | | S |
| 2.5 | NONE | | | | S | 17.5 | NONE | L | | | S |
| 3 | NONE | | | | S | 18 | NONE | L | | | S |
| 3.5 | NONE | | | | S | 18.5 | NONE | L | | | S |
| 4 | NONE | | | | S | 19 | ATRCAN | L | | | S |
| 4.5 | NONE | | | | S | 19.5 | ATRCAN | L | | | S |
| 5 | NONE | | | | S | 20 | NONE | L | | | S |
| 5.5 | NONE | | | | S | 20.5 | NONE | L | | | S |
| 6 | NONE | | | | S | 21 | ATRPOL | L | | | S |
| 6.5 | NONE | | | | S | 21.5 | NONE | L | | | S |
| 7 | NONE | L | | | S | 22 | NONE | | | | S |
| 7.5 | NONE | | | | S | 22.5 | BOECOC | | | | S |
| 8 | NONE | L | | | S | 23 | NONE | L | | | S |
| 8.5 | SPHAMB | | | | S | 23.5 | NONE | L | | | S |
| 9 | NONE | L | | | S | 24 | NONE | | | | S |
| 9.5 | NONE | | | | S | 24.5 | NONE | | | | S |
| 10 | NONE | | | | S | 25 | NONE | | | | S |
| 10.5 | NONE | | | | S | 25.5 | NONE | | | | S |
| 11 | SPOCRY | L | | | S | 26 | NONE | L | | | S |
| 11.5 | NONE | L | | | S | 26.5 | NONE | | | | S |
| 12 | SPOCRY | L | | | S | 27 | NONE | | | | S |
| 12.5 | NONE | | | | S | 27.5 | NONE | L | | | S |
| 13 | NONE | | | | S | 28 | NONE | | | | S |
| 13.5 | NONE | | | | S | 28.5 | NONE | | | | S |
| 14 | ARIPUR | | | | S | 29 | NONE | | | | S |
| 14.5 | NONE | L | | | S | 29.5 | NONE | | | | S |
| 15 | NONE | L | | | S | 30 | VACCON | | | | S |

| | |
|---|---|
| % Foliar Cover | 16.67 |
| % Bare Ground | 51.677 |
| % Basal Cover | 0 |

# Plot 5- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | NONE | L | | | S |
| 1 | NONE | | | | S | 16 | NONE | L | | | S |
| 1.5 | NONE | | | | S | 16.5 | NONE | L | | | S |
| 2 | NONE | | | | S | 17 | NONE | L | | | S |
| 2.5 | NONE | | | | S | 17.5 | NONE | L | | | S |
| 3 | NONE | L | | | S | 18 | ATRCAN | | | | S |
| 3.5 | NONE | | | | S | 18.5 | NONE | | | | S |
| 4 | NONE | | | | S | 19 | NONE | | | | S |
| 4.5 | NONE | | | | S | 19.5 | NONE | | | | S |
| 5 | NONE | L | | | S | 20 | NONE | | | | S |
| 5.5 | NONE | | | | S | 20.5 | NONE | L | | | S |
| 6 | NONE | | | | S | 21 | NONE | | | | S |
| 6.5 | NONE | | | | S | 21.5 | NONE | | | | S |
| 7 | NONE | L | | | S | 22 | NONE | | | | S |
| 7.5 | NONE | L | | | S | 22.5 | NONE | L | | | S |
| 8 | NONE | L | | | S | 23 | NONE | L | | | S |
| 8.5 | NONE | | | | S | 23.5 | NONE | L | | | S |
| 9 | NONE | L | | | S | 24 | NONE | | | | S |
| 9.5 | NONE | L | | | S | 24.5 | NONE | | | | S |
| 10 | NONE | | | | S | 25 | NONE | L | | | S |
| 10.5 | NONE | | | | S | 25.5 | NONE | L | | | S |
| 11 | NONE | | | | S | 26 | NONE | | | | S |
| 11.5 | NONE | | | | S | 26.5 | NONE | | | | S |
| 12 | NONE | L | | | S | 27 | NONE | L | | | S |
| 12.5 | NONE | | | | S | 27.5 | NONE | | | | S |
| 13 | NONE | | | | S | 28 | NONE | L | | | S |
| 13.5 | NONE | L | | | S | 28.5 | NONE | | | | S |
| 14 | NONE | L | | | S | 29. | VACCON | | | | S |
| 14.5 | NONE | | | | S | 29.5 | VACCON | | | | S |
| 15 | NONE | | | | S | 30 | VACCON | L | | | S |

| | |
|---|---|
| % Foliar Cover | 6.668 |
| % Bare Ground | 55.011 |
| % Basal Cover | 0 |

# Plot 5- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | NONE | | | | S |
| 1 | NONE | | | | S | 16 | NONE | | | | S |
| 1.5 | NONE | | | | S | 16.5 | NONE | | | | S |
| 2 | NONE | | | | S | 17 | ATRCAN | L | | | S |
| 2.5 | NONE | | | | S | 17.5 | NONE | | | | S |
| 3 | NONE | | | | S | 18 | NONE | | | | S |
| 3.5 | NONE | | | | S | 18.5 | NONE | | | | S |
| 4 | NONE | | | | S | 19 | NONE | L | | | S |
| 4.5 | NONE | | | | S | 19.5 | NONE | | | | S |
| 5 | NONE | | | | S | 20 | NONE | L | | | S |
| 5.5 | NONE | L | | | S | 20.5 | NONE | | | | S |
| 6 | NONE | | | | S | 21 | NONE | L | | | S |
| 6.5 | NONE | | | | S | 21.5 | NONE | L | | | S |
| 7 | NONE | | | | S | 22 | NONE | | | | S |
| 7.5 | NONE | | | | S | 22.5 | NONE | | | | S |
| 8 | NONE | W | | | S | 23 | NONE | L | | | S |
| 8.5 | NONE | L | | | S | 23.5 | NONE | | | | S |
| 9 | NONE | | | | S | 24 | NONE | L | | | S |
| 9.5 | NONE | | | | S | 24.5 | NONE | L | | | S |
| 10 | NONE | | | | S | 25 | NONE | | | | S |
| 10.5 | NONE | | | | S | 25.5 | NONE | | | | S |
| 11 | NONE | | | | S | 26 | NONE | | | | S |
| 11.5 | NONE | | | | S | 26.5 | NONE | L | | | S |
| 12 | NONE | | | | S | 27 | NONE | L | | | S |
| 12.5 | PROVEL | | | | S | 27.5 | NONE | | | | S |
| 13 | NONE | L | | | S | 28 | NONE | L | | | S |
| 13.5 | PROVEL | | | | S | 28.5 | NONE | | | | S |
| 14 | PROVEL | | | | S | 29 | NONE | L | | | S |
| 14.5 | PROVEL | L | | | S | 29.5 | PROVEL | L | | | S |
| 15 | PROVEL | L | | | S | 30 | PROVEL | L | | | S |

| | |
|---|---|
| % Foliar Cover | 13.336 |
| % Bare Ground | 61.679 |
| % Basal Cover | 0 |

# Plot 5- off ROW, Line 6

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | L | | | S | 15.5 | NONE | | | | S |
| 1 | NONE | L | | | S | 16 | NONE | | | | S |
| 1.5 | NONE | L | | | S | 16.5 | NONE | | | | S |
| 2 | NONE | | | | S | 17 | NONE | | | | S |
| 2.5 | NONE | | | | S | 17.5 | NONE | | | | S |
| 3 | NONE | L | | | S | 18 | NONE | | | | S |
| 3.5 | NONE | | | | S | 18.5 | NONE | | | | S |
| 4 | NONE | L | | | S | 19 | NONE | | | | S |
| 4.5 | NONE | | | | S | 19.5 | NONE | | | | S |
| 5 | NONE | | | | S | 20 | NONE | | | | S |
| 5.5 | NONE | L | | | S | 20.5 | NONE | | | | S |
| 6 | PROVEL | L | | | S | 21 | NONE | L | | | S |
| 6.5 | PROVEL | L | | | S | 21.5 | NONE | L | | | S |
| 7 | PROVEL | L | | | S | 22 | NONE | L | | | S |
| 7.5 | PROVEL | | | | S | 22.5 | NONE | | | | S |
| 8 | PROVEL | | | | S | 23 | NONE | | | | S |
| 8.5 | PROVEL | L | | | S | 23.5 | NONE | L | | | S |
| 9 | PROVEL | W | | | S | 24 | NONE | | | | S |
| 9.5 | PROVEL | L | | | S | 24.5 | NONE | L | | | S |
| 10 | NONE | | | | S | 25 | NONE | L | | | S |
| 10.5 | NONE | L | | | S | 25.5 | NONE | L | | | S |
| 11 | NONE | L | | | S | 26 | NONE | | | | S |
| 11.5 | PROVEL | | | | S | 26.5 | NONE | | | | S |
| 12 | PROVEL | L | | | S | 27 | NONE | L | | | S |
| 12.5 | NONE | | | | S | 27.5 | NONE | | | | S |
| 13 | NONE | | | | S | 28 | NONE | | | | S |
| 13.5 | NONE | | | | S | 28.5 | NONE | | | | S |
| 14 | NONE | | | | S | 29 | NONE | | | | S |
| 14.5 | NONE | | | | S | 29.5 | NONE | | | | S |
| 15 | NONE | | | | S | 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 16.67 |
| % Bare Ground | 56.678 |
| % Basal Cover | 0 |

## Plot 5- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | PROVEL | L | | | S | 15.5 | NONE | | | | S |
| 1 | PROVEL | | | | S | 16 | NONE | L | | | S |
| 1.5 | NONE | | | | S | 16.5 | NONE | | | | S |
| 2 | NONE | | | | S | 17 | NONE | L | | | S |
| 2.5 | NONE | | | | S | 17.5 | NONE | | | | S |
| 3 | NONE | | | | S | 18 | NONE | | | | S |
| 3.5 | NONE | | | | S | 18.5 | NONE | | | | S |
| 4 | NONE | | | | S | 19 | NONE | | | | S |
| 4.5 | NONE | | | | S | 19.5 | NONE | | | | S |
| 5 | NONE | | | | S | 20 | NONE | L | | | S |
| 5.5 | NONE | | | | S | 20.5 | NONE | | | | S |
| 6 | NONE | | | | S | 21 | PROVEL | L | | | S |
| 6.5 | NONE | | | | S | 21.5 | PROVEL | L | | | S |
| 7 | NONE | L | | | S | 22 | PROVEL | L | | | S |
| 7.5 | NONE | L | | | S | 22.5 | PROVEL | L | | | S |
| 8 | PROVEL | L | | | S | 23 | PROVEL | L | | | S |
| 8.5 | PROVEL | L | | | S | 23.5 | NONE | L | | | S |
| 9 | NONE | | | | S | 24 | PROVEL | L | | | S |
| 9.5 | AMBDEL | | | | S | 24.5 | PROVEL | ATRCAN | | | S |
| 10 | NONE | | | | S | 25 | PROVEL | | | | S |
| 10.5 | NONE | | | | S | 25.5 | PROVEL | | | | S |
| 11 | NONE | | | | S | 26 | PROVEL | | | | S |
| 11.5 | NONE | | | | S | 26.5 | NONE | L | | | S |
| 12 | NONE | | | | S | 27 | NONE | L | | | S |
| 12.5 | NONE | | | | S | 27.5 | NONE | | | | S |
| 13 | LYCAND | L | | | S | 28 | NONE | | | | S |
| 13.5 | LYCAND | L | | | S | 28.5 | PROVEL | | | | S |
| 14 | NONE | | | | S | 29 | NONE | L | | | S |
| 14.5 | NONE | | | | R | 29.5 | NONE | | | | S |
| 15 | NONE | | | | S | 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 30.006 |
| % Bare Ground | 53.344 |
| % Basal Cover | 0 |

## Summary - Plot 5

**% Average Foliar Cover**

| | |
|---|---|
| On ROW | 12.101 |
| Off ROW | 20.004 |

**% Average Bare Ground**

| | |
|---|---|
| On ROW | 54.700 |
| Off ROW | 57.234 |

**% Average Basal Cover**

| | |
|---|---|
| On ROW | 0.000 |
| Off ROW | 0.000 |

## Plot 6- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | L | | | S | 15.5 | NONE | L | | | S |
| 1 | NONE | L | | | S | 16 | PROVEL | L | | | S |
| 1.5 | NONE | L | | | S | 16.5 | PROVEL | L | | | S |
| 2 | NONE | | | | S | 17 | NONE | L | | | S |
| 2.5 | NONE | L | | | S | 17.5 | NONE | L | | | S |
| 3 | NONE | | | | S | 18 | NONE | L | | | S |
| 3.5 | NONE | | | | S | 18.5 | NONE | W | | | S |
| 4 | NONE | | | | S | 19 | NONE | L | | | S |
| 4.5 | NONE | | | | S | 19.5 | PROVEL | L | | | S |
| 5 | PROVEL | | | | S | 20 | PROVEL | AMBACA | L | | S |
| 5.5 | NONE | L | | | S | 20.5 | NONE | L | | | S |
| 6 | ERIACU | | | | S | 21 | NONE | | | | S |
| 6.5 | ERIACU | | | | S | 21.5 | PROVEL | L | | | S |
| 7 | ERIACU | | | | S | 22 | NONE | L | | | S |
| 7.5 | NONE | | | | S | 22.5 | NONE | | | | S |
| 8 | PROVEL | L | | | S | 23 | NONE | L | | | S |
| 8.5 | NONE | L | | | S | 23.5 | AMAPAL | L | | | S |
| 9 | NONE | L | | | S | 24 | NONE | L | | | S |
| 9.5 | NONE | W | | | S | 24.5 | SENGRE | L | | | S |
| 10 | NONE | L | | | S | 25 | PROVEL | | | | S |
| 10.5 | NONE | L | | | S | 25.5 | NONE | | | | S |
| 11 | NONE | L | | | S | 26 | NONE | | | | S |
| 11.5 | NONE | | | | S | 26.5 | NONE | | | | S |
| 12 | NONE | L | | | S | 27 | NONE | L | | | S |
| 12.5 | NONE | | | | S | 27.5 | NONE | L | | | S |
| 13 | NONE | L | | | S | 28 | ATRCAN | L | | | S |
| 13.5 | NONE | L | | | S | 28.5 | ATRCAN | L | | | S |
| 14 | NONE | L | | | S | 29 | NONE | L | | | S |
| 14.5 | NONE | | | | S | 29.5 | NONE | L | | | S |
| 15 | NONE | L | | | S | 30 | PROVEL | L | | | S |

| | |
|---|---|
| % Foliar Cover | 26.672 |
| % Bare Ground | 23.338 |
| % Basal Cover | 0 |

## Plot 6- on ROW, Line 2

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | NONE | L | | | S |
| 1 | NONE | | | | S |
| 1.5 | NONE | L | | | S |
| 2 | NONE | | | | S |
| 2.5 | NONE | | | | S |
| 3 | NONE | | | | S |
| 3.5 | NONE | | | | S |
| 4 | NONE | L | | | S |
| 4.5 | NONE | L | | | S |
| 5 | NONE | | | | S |
| 5.5 | NONE | | | | S |
| 6 | NONE | | | | S |
| 6.5 | NONE | | | | S |
| 7 | NONE | | | | S |
| 7.5 | NONE | | | | S |
| 8 | NONE | | | | S |
| 8.5 | NONE | | | | S |
| 9 | NONE | | | | S |
| 9.5 | PROVEL | L | | | S |
| 10 | NONE | L | | | S |
| 10.5 | NONE | | | | S |
| 11 | NONE | L | | | S |
| 11.5 | NONE | | | | S |
| 12 | PROVEL | L | | | S |
| 12.5 | NONE | L | | | S |
| 13 | PROVEL | L | | | S |
| 13.5 | PROVEL | SORHAL | L | | S |
| 14 | PROVEL | SORHAL | L | | S |
| 14.5 | NONE | L | | | S |
| 15 | SORHAL | W | | | S |
| 15.5 | SORHAL | L | | | S |
| 16 | NONE | L | | | S |
| 16.5 | SORHAL | L | | | S |
| 17 | NONE | L | | | S |
| 17.5 | PROVEL | L | | | S |
| 18 | SORHAL | L | | | S |
| 18.5 | NONE | L | | | S |
| 19 | NONE | L | | | S |
| 19.5 | NONE | L | | | S |
| 20 | ATRCAN | SORHAL | L | | S |
| 20.5 | ATRCAN | PROVEL | L | | S |
| 21 | ATRCAN | PROVEL | L | | S |
| 21.5 | ATRCAN | | | | ATRCAN |
| 22 | ATRCAN | L | | | S |
| 22.5 | ATRCAN | SORHAL | L | | S |
| 23 | PROVEL | L | | | S |
| 23.5 | PROVEL | L | | | S |
| 24 | PROVEL | L | | | S |
| 24.5 | NONE | L | | | S |
| 25 | PROVEL | ERIACU | L | | S |
| 25.5 | NONE | L | | | S |
| 26 | ERIACU | L | | | S |
| 26.5 | PROVEL | L | | | S |
| 27 | NONE | L | | | S |
| 27.5 | ERIACU | L | | | S |
| 28 | NONE | L | | | S |
| 28.5 | SORHAL | L | | | S |
| 29 | SORHAL | L | | | S |
| 29.5 | SORHAL | L | | | S |
| 30 | NONE | L | | | S |

| | |
|---|---|
| % Foliar Cover | 43.342 |
| % Bare Ground | 26.672 |
| % Basal Cover | 1.667 |

## Plot 6- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | L | | | S | 15.5 | ATRLEN | PROVEL | L | | S |
| 1 | PROVEL | L | | | S | 16 | ATRLEN | PROVEL | L | | S |
| 1.5 | NONE | W | | | S | 16.5 | PROVEL | L | | | S |
| 2 | NONE | L | | | S | 17 | PROVEL | L | | | S |
| 2.5 | NONE | L | | | S | 17.5 | PROVEL | L | | | S |
| 3 | PROVEL | L | | | S | 18 | PROVEL | L | | | S |
| 3.5 | PROVEL | L | | | S | 18.5 | PROVEL | L | | | S |
| 4 | PROVEL | L | | | S | 19 | PROVEL | L | | | S |
| 4.5 | PROVEL | L | | | S | 19.5 | PROVEL | L | | | S |
| 5 | PROVEL | L | | | S | 20 | PROVEL | L | | | S |
| 5.5 | PROVEL | L | | | S | 20.5 | PROVEL | L | | | S |
| 6 | PROVEL | L | | | S | 21 | PROVEL | L | | | S |
| 6.5 | PROVEL | L | | | S | 21.5 | PROVEL | L | | | S |
| 7 | PROVEL | L | | | S | 22 | PROVEL | L | | | S |
| 7.5 | PROVEL | L | | | S | 22.5 | PROVEL | L | | | S |
| 8 | PROVEL | L | | | S | 23 | PROVEL | L | | | S |
| 8.5 | PROVEL | L | | | S | 23.5 | PROVEL | L | | | S |
| 9 | PROVEL | L | | | S | 24 | PROVEL | L | | | S |
| 9.5 | ATRLEN | L | | | S | 24.5 | PROVEL | L | | | S |
| 10 | ATRLEN | L | | | S | 25 | PROVEL | L | | | S |
| 10.5 | ATRLEN | L | | | S | 25.5 | PROVEL | L | | | S |
| 11 | ATRLEN | L | | | S | 26 | PROVEL | L | | | S |
| 11.5 | ATRLEN | L | | | S | 26.5 | NONE | L | | | S |
| 12 | ATRLEN | L | | | S | 27 | PROVEL | L | | | S |
| 12.5 | ATRLEN | L | | | S | 27.5 | NONE | L | | | S |
| 13 | ATRLEN | L | | | S | 28 | NONE | L | | | S |
| 13.5 | ATRLEN | L | | | S | 28.5 | PROVEL | L | | | S |
| 14 | ATRLEN | L | | | S | 29 | PROVEL | L | | | S |
| 14.5 | ATRLEN | PROVEL | L | | S | 29.5 | PROVEL | | | | S |
| 15 | PROVEL | ATRLEN | L | | S | 30 | PROVEL | L | | | S |

| | |
|---|---|
| % Foliar Cover | 88.351 |
| % Bare Ground | 0 |
| % Basal Cover | 0 |

## Plot 6- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | ATRCAN | | | | ATRCAN | 15.5 | NONE | L | | | S |
| 1 | ATRCAN | L | | | S | 16 | NONE | L | | | S |
| 1.5 | ATRCAN | L | | | S | 16.5 | NONE | L | | | S |
| 2 | NONE | L | | | S | 17 | NONE | L | | | S |
| 2.5 | NONE | L | | | S | 17.5 | NONE | L | | | S |
| 3 | NONE | L | | | S | 18 | PROVEL | L | | | S |
| 3.5 | ERIACU | L | | | S | 18.5 | ATRCAN | L | | | S |
| 4 | NONE | L | | | S | 19 | PROVEL | L | | | S |
| 4.5 | NONE | L | | | S | 19.5 | PROVEL | L | | | S |
| 5 | NONE | L | | | S | 20 | PROVEL | L | | | S |
| 5.5 | NONE | L | | | S | 20.5 | PROVEL | L | | | S |
| 6 | IPOHED | L | | | S | 21 | PROVEL | L | | | S |
| 6.5 | NONE | L | | | S | 21.5 | NONE | L | | | S |
| 7 | NONE | L | | | S | 22 | NONE | L | | | S |
| 7.5 | NONE | L | | | S | 22.5 | NONE | L | | | S |
| 8 | IPOHED | L | | | S | 23 | NONE | L | | | S |
| 8.5 | NONE | L | | | S | 23.5 | NONE | L | | | S |
| 9 | PROVEL | IPOHED | L | | S | 24 | ERIACU | L | | | S |
| 9.5 | PROVEL | L | | | S | 24.5 | NONE | | | | S |
| 10 | PROVEL | L | | | S | 25 | NONE | L | | | S |
| 10.5 | PROVEL | L | | | S | 25.5 | NONE | L | | | S |
| 11 | PROVEL | L | | | S | 26 | AMBACA | L | | | S |
| 11.5 | PROVEL | L | | | S | 26.5 | NONE | L | | | S |
| 12 | PROVEL | L | | | S | 27 | NONE | | | | S |
| 12.5 | PROVEL | L | | | S | 27.5 | NONE | L | | | S |
| 13 | PROVEL | L | | | S | 28 | NONE | | | | S |
| 13.5 | PROVEL | L | | | S | 28.5 | NONE | L | | | S |
| 14 | PROVEL | L | | | S | 29 | AMBACA | L | | | S |
| 14.5 | PROVEL | L | | | S | 29.5 | ERIACU | L | | | S |
| 15 | PROVEL | L | | | S | 30 | NONE | L | | | S |

| | |
|---|---|
| % Foliar Cover | 50.01 |
| % Bare Ground | 5.001 |
| % Basal Cover | 1.667 |

## Plot 6- off ROW, Line 6

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | PROVEL | L | | | S | 15.5 | PROVEL | SETMAC | L | | S |
| 1 | PROVEL | L | | | S | 16 | PROVEL | SETMAC | L | | S |
| 1.5 | PROVEL | L | | | S | 16.5 | PROVEL | L | | | S |
| 2 | PROVEL | L | | | S | 17 | PROVEL | SETMAC | L | | S |
| 2.5 | PROVEL | L | | | S | 17.5 | PROVEL | L | | | S |
| 3 | PROVEL | L | | | S | 18 | NONE | L | | | S |
| 3.5 | PROVEL | L | | | S | 18.5 | PROVEL | L | | | S |
| 4 | PROVEL | L | | | S | 19 | PROVEL | L | | | S |
| 4.5 | PROVEL | L | | | S | 19.5 | CHAARI | PROVEL | L | | S |
| 5 | PROVEL | L | | | S | 20 | NONE | L | | | S |
| 5.5 | NONE | L | | | S | 20.5 | NONE | L | | | S |
| 6 | PROVEL | SETMAC | L | | S | 21 | NONE | L | | | S |
| 6.5 | PROVEL | L | | | S | 21.5 | PROVEL | L | | | S |
| 7 | NONE | L | | | S | 22 | PROVEL | L | | | S |
| 7.5 | PROVEL | L | | | S | 22.5 | PROVEL | L | | | S |
| 8 | NONE | L | | | S | 23 | SETMAC | L | | | S |
| 8.5 | PROVEL | L | | | S | 23.5 | ATRCAN | L | | | S |
| 9 | PROVEL | L | | | S | 24 | ATRCAN | CYNDAC | L | | S |
| 9.5 | PROVEL | L | | | S | 24.5 | NONE | L | | | S |
| 10 | PROVEL | L | | | S | 25 | CYNDAC | L | | | S |
| 10.5 | NONE | L | | | S | 25.5 | NONE | L | | | S |
| 11 | PROVEL | L | | | S | 26 | NONE | | | | S |
| 11.5 | PROVEL | L | | | S | 26.5 | NONE | L | | | S |
| 12 | PROVEL | L | | | S | 27 | NONE | L | | | S |
| 12.5 | BACSAR | PROVEL | L | | S | 27.5 | NONE | W | | | S |
| 13 | PROVEL | L | | | S | 28 | IPOHED | | | | S |
| 13.5 | PROVEL | L | | | S | 28.5 | NONE | L | | | S |
| 14 | PROVEL | L | | | S | 29 | NONE | | | | S |
| 14.5 | PROVEL | L | | | S | 29.5 | ATRCAN | L | | | S |
| 15 | BASCAR | W | | | S | 30 | ATRCAN | L | | | S |

| | |
|---|---|
| % Foliar Cover | 73.348 |
| % Bare Ground | 3.334 |
| % Basal Cover | 0 |

## Plot 6- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | PROVEL | L | | | S | 15.5 | PROVEL | BASCAR | L | | S |
| 1 | PROVEL | L | | | S | 16 | PROVEL | SETMAC | IPOHED | L | S |
| 1.5 | PROVEL | L | | | S | 16.5 | PROVEL | L | | | S |
| 2 | PROVEL | L | | | S | 17 | PROVEL | L | | | S |
| 2.5 | PROVEL | L | | | S | 17.5 | NONE | L | | | S |
| 3 | PROVEL | L | | | S | 18 | NONE | L | | | S |
| 3.5 | PROVEL | AMBACA | L | | S | 18.5 | PROVEL | SETMAC | L | | S |
| 4 | PROVEL | L | | | S | 19 | PROVEL | BASCAR | L | | S |
| 4.5 | SETMAC | L | | | S | 19.5 | PROVEL | L | | | S |
| 5 | PROVEL | ERIACU | L | | S | 20 | PROVEL | L | | | S |
| 5.5 | PROVEL | L | | | S | 20.5 | NONE | L | | | S |
| 6 | PROVEL | L | | | S | 21 | PROVEL | L | | | S |
| 6.5 | PROVEL | L | | | S | 21.5 | NONE | L | | | S |
| 7 | PROVEL | IPOHED | L | | S | 22 | IPOHED | L | | | S |
| 7.5 | PROVEL | L | | | S | 22.5 | PROVEL | IPOHED | L | | S |
| 8 | PROVEL | L | | | S | 23 | SETMAC | L | | | S |
| 8.5 | PROVEL | L | | | S | 23.5 | NONE | L | | | S |
| 9 | PROVEL | L | | | S | 24 | SETMAC | L | | | S |
| 9.5 | PROVEL | L | | | S | 24.5 | CYNDAC | L | | | S |
| 10 | PROVEL | L | | | S | 25 | CYNDAC | L | | | S |
| 10.5 | PROVEL | L | | | S | 25.5 | NONE | L | | | S |
| 11 | PROVEL | L | | | S | 26 | CYNDAC | L | | | S |
| 11.5 | PROVEL | L | | | S | 26.5 | NONE | | | | S |
| 12 | PROVEL | L | | | S | 27 | NONE | L | | | S |
| 12.5 | PROVEL | L | | | S | 27.5 | ATRCAN | AMBACA | L | | S |
| 13 | PROVEL | IPOHED | L | | S | 28 | NONE | L | | | S |
| 13.5 | PROVEL | L | | | S | 28.5 | ENEDES | L | | | S |
| 14 | PROVEL | LYCAND | L | | S | 29 | ENEDES | L | | | S |
| 14.5 | PROVEL | W | | | S | 29.5 | AMBACA | | | | S |
| 15 | PROVEL | L | | | S | 30 | NONE | L | | | S |

| | |
|---|---|
| % Foliar Cover | 83.35 |
| % Bare Ground | 1.667 |
| % Basal Cover | 0 |

## Summary - Plot 6

**% Average Foliar Cover**

| | |
|---|---|
| On ROW | 52.788 |
| Off ROW | 68.903 |

**% Average Bare Ground**

| | |
|---|---|
| On ROW | 16.670 |
| Off ROW | 3.334 |

**% Average Basal Cover**

| | |
|---|---|
| On ROW | 0.556 |
| Off ROW | 0.556 |

## Plot 7- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | ATRLEN | AMBACA | L | | S |
| 1 | ATRLEN | L | | | S |
| 1.5 | ATRLEN | L | | | S |
| 2 | NONE | L | | | S |
| 2.5 | NONE | L | | | S |
| 3 | NONE | L | | | S |
| 3.5 | NONE | L | | | S |
| 4 | NONE | | | | S |
| 4.5 | NONE | L | | | S |
| 5 | IPOHED | L | | | S |
| 5.5 | NONE | L | | | S |
| 6 | NONE | L | | | S |
| 6.5 | ATRCAN | L | | | S |
| 7 | NONE | L | | | S |
| 7.5 | NONE | L | | | S |
| 8 | NONE | L | | | S |
| 8.5 | PROVEL | L | | | S |
| 9 | NONE | L | | | S |
| 9.5 | NONE | L | | | S |
| 10 | ATRLEN | L | | | S |
| 10.5 | ATRLEN | L | | | S |
| 11 | ATRLEN | L | | | S |
| 11.5 | ATRLEN | | | | S |
| 12 | ATRLEN | L | | | S |
| 12.5 | ATRLEN | L | | | S |
| 13 | ATRLEN | L | | | S |
| 13.5 | ATRLEN | L | | | S |
| 14 | NONE | L | | | S |
| 14.5 | NONE | L | | | S |
| 15 | NONE | W | | | S |
| 15.5 | NONE | L | | | S |
| 16 | PROVEL | L | | | S |
| 16.5 | NONE | L | | | S |
| 17 | ATRCAN | L | | | S |
| 17.5 | ATRCAN | L | | | S |
| 18 | ATRCAN | L | | | S |
| 18.5 | PROVEL | L | | | S |
| 19 | NONE | | | | S |
| 19.5 | NONE | | | | S |
| 20 | NONE | | | | S |
| 20.5 | NONE | | | | S |
| 21 | NONE | L | | | S |
| 21.5 | NONE | L | | | S |
| 22 | NONE | L | | | S |
| 22.5 | PROVEL | L | | | S |
| 23 | PROVEL | L | | | S |
| 23.5 | PROVEL | L | | | S |
| 24 | PROVEL | L | | | S |
| 24.5 | PROVEL | L | | | S |
| 25 | PROVEL | L | | | S |
| 25.5 | PROVEL | L | | | S |
| 26 | NONE | | | | S |
| 26.5 | NONE | L | | | S |
| 27 | NONE | L | | | S |
| 27.5 | NONE | L | | | S |
| 28 | IPOHED | L | | | S |
| 28.5 | NONE | L | | | S |
| 29 | NONE | L | | | S |
| 29.5 | NONE | L | | | S |
| 30 | NONE | L | | | S |

| | |
|---|---|
| % Foliar Cover | 45.009 |
| % Bare Ground | 10.002 |
| % Basal Cover | 0 |

# Plot 7- on ROW, Line 2

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | PROVEL | L | | | S |
| 1 | PROVEL | L | | | S |
| 1.5 | NONE | L | | | S |
| 2 | PROVEL | L | | | S |
| 2.5 | PROVEL | L | | | S |
| 3 | PROVEL | L | | | S |
| 3.5 | PROVEL | L | | | S |
| 4 | PROVEL | L | | | S |
| 4.5 | PROVEL | L | | | S |
| 5 | PROVEL | L | | | S |
| 5.5 | PROVEL | L | | | S |
| 6 | NONE | L | | | S |
| 6.5 | PROVEL | L | | | S |
| 7 | PROVEL | L | | | S |
| 7.5 | PROVEL | L | | | S |
| 8 | PROVEL | L | | | S |
| 8.5 | PROVEL | L | | | S |
| 9 | NONE | L | | | S |
| 9.5 | NONE | L | | | S |
| 10 | NONE | L | | | S |
| 10.5 | PROVEL | L | | | S |
| 11 | NONE | L | | | S |
| 11.5 | NONE | L | | | S |
| 12 | NONE | L | | | S |
| 12.5 | NONE | L | | | S |
| 13 | NONE | L | | | S |
| 13.5 | PANHAL | | | | S |
| 14 | NONE | | | | S |
| 14.5 | NONE | | | | S |
| 15 | NONE | | | | S |
| 15.5 | NONE | | | | S |
| 16 | NONE | | | | S |
| 16.5 | NONE | L | | | S |
| 17 | NONE | L | | | S |
| 17.5 | NONE | L | | | S |
| 18 | NONE | L | | | S |
| 18.5 | NONE | L | | | S |
| 19 | NONE | L | | | S |
| 19.5 | NONE | L | | | S |
| 20 | PANHAL | | | | S |
| 20.5 | NONE | L | | | S |
| 21 | NONE | L | | | S |
| 21.5 | NONE | L | | | S |
| 22 | NONE | L | | | S |
| 22.5 | NONE | L | | | S |
| 23 | NONE | L | | | S |
| 23.5 | BACSAR | W | | | S |
| 24 | BACSAR | L | | | S |
| 24.5 | BACSAR | L | | | S |
| 25 | BACSAR | PROVEL | L | | S |
| 25.5 | BACSAR | PROVEL | L | | S |
| 26 | BACSAR | L | | | S |
| 26.5 | BACSAR | L | | | S |
| 27 | BACSAR | AMBACA | L | | S |
| 27.5 | PROVEL | L | | | S |
| 28 | NONE | L | | | S |
| 28.5 | NONE | L | | | S |
| 29 | NONE | | | | S |
| 29.5 | ATRCAN | L | | | S |
| 30 | ATRCAN | L | | | S |

| | |
|---|---|
| % Foliar Cover | 48.343 |
| % Bare Ground | 10.002 |
| % Basal Cover | 0 |

# Plot 7- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | PANHAL | | | | S |
| 1 | NONE | | | | S |
| 1.5 | NONE | | | | S |
| 2 | NONE | | | | S |
| 2.5 | NONE | | | | S |
| 3 | NONE | L | | | S |
| 3.5 | NONE | L | | | S |
| 4 | BACSAR | | | | S |
| 4.5 | NONE | L | | | S |
| 5 | NONE | | | | S |
| 5.5 | NONE | | | | S |
| 6 | BACSAR | | | | S |
| 6.5 | NONE | | | | S |
| 7 | NONE | | | | S |
| 7.5 | NONE | | | | S |
| 8 | NONE | | | | S |
| 8.5 | NONE | | | | S |
| 9 | BACSAR | | | | S |
| 9.5 | NONE | | | | S |
| 10 | NONE | | | | S |
| 10.5 | PANHAL | | | | S |
| 11 | NONE | L | | | S |
| 11.5 | NONE | | | | S |
| 12 | NONE | | | | S |
| 12.5 | NONE | L | | | S |
| 13 | PROVEL | L | | | S |
| 13.5 | PROVEL | L | | | S |
| 14 | PROVEL | L | | | S |
| 14.5 | PROVEL | L | | | S |
| 15 | PROVEL | L | | | S |
| 15.5 | PROVEL | L | | | S |
| 16 | PROVEL | L | | | S |
| 16.5 | NONE | L | | | S |
| 17 | NONE | L | | | S |
| 17.5 | NONE | L | | | S |
| 18 | PROVEL | L | | | S |
| 18.5 | PROVEL | L | | | S |
| 19 | PANHAL | L | | | S |
| 19.5 | PROVEL | L | | | S |
| 20 | PROVEL | L | | | S |
| 20.5 | PROVEL | L | | | S |
| 21 | PROVEL | L | | | S |
| 21.5 | NONE | L | | | S |
| 22 | PROVEL | L | | | S |
| 22.5 | PROVEL | L | | | S |
| 23 | PROVEL | L | | | S |
| 23.5 | PROVEL | L | | | S |
| 24 | PROVEL | BASCAR | L | | S |
| 24.5 | NONE | L | | | S |
| 25 | NONE | | | | S |
| 25.5 | NONE | L | | | S |
| 26 | NONE | L | | | S |
| 26.5 | NONE | | | | S |
| 27 | PROVEL | L | | | S |
| 27.5 | NONE | L | | | S |
| 28 | NONE | L | | | S |
| 28.5 | NONE | L | | | S |
| 29 | NONE | L | | | S |
| 29.5 | PROVEL | L | | | S |
| 30 | PROVEL | L | | | S |

| | |
|---|---|
| % Foliar Cover | 45.009 |
| % Bare Ground | 28.339 |
| % Basal Cover | 0 |

## Plot 7- off ROW, Line 6

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | PROVEL | LYCAND | L | | S | 15.5 | NONE | L | | | S |
| 1 | PROVEL | L | | | S | 16 | NONE | L | | | S |
| 1.5 | PROVEL | VACCON | L | | S | 16.5 | NONE | L | | | S |
| 2 | PROVEL | L | | | S | 17 | NONE | L | | | S |
| 2.5 | PROVEL | L | | | S | 17.5 | NONE | L | | | S |
| 3 | PROVEL | L | | | S | 18 | NONE | | | | S |
| 3.5 | PROVEL | IPOHED | L | | S | 18.5 | NONE | L | | | S |
| 4 | PROVEL | L | | | S | 19 | NONE | L | | | S |
| 4.5 | PROVEL | L | | | S | 19.5 | PROVEL | L | | | S |
| 5 | PROVEL | L | | | S | 20 | PROVEL | L | | | S |
| 5.5 | PROVEL | L | | | S | 20.5 | PROVEL | L | | | S |
| 6 | PROVEL | L | | | S | 21 | PROVEL | L | | | S |
| 6.5 | PROVEL | L | | | S | 21.5 | PROVEL | L | | | S |
| 7 | PROVEL | IPOHED | L | | S | 22 | PROVEL | L | | | S |
| 7.5 | PROVEL | L | | | S | 22.5 | PROVEL | W | | | S |
| 8 | PROVEL | L | | | S | 23 | PROVEL | L | | | S |
| 8.5 | PROVEL | L | | | S | 23.5 | PROVEL | L | | | S |
| 9 | NONE | W | | | S | 24 | PROVEL | IPOHED | L | | S |
| 9.5 | NONE | L | | | S | 24.5 | NONE | L | | | S |
| 10 | NONE | L | | | S | 25 | PROVEL | | | | S |
| 10.5 | NONE | L | | | S | 25.5 | NONE | | | | S |
| 11 | NONE | L | | | S | 26 | AMBACA | L | | | S |
| 11.5 | NONE | L | | | S | 26.5 | NONE | L | | | S |
| 12 | NONE | L | | | S | 27 | AMBACA | L | | | S |
| 12.5 | NONE | L | | | S | 27.5 | PROVEL | | | | S |
| 13 | NONE | L | | | S | 28 | PROVEL | L | | | S |
| 13.5 | NONE | L | | | S | 28.5 | PROVEL | L | | | S |
| 14 | NONE | | | | S | 29 | PROVEL | L | | | S |
| 14.5 | NONE | L | | | S | 29.5 | PROVEL | L | | | S |
| 15 | NONE | L | | | S | 30 | PROVEL | L | | | S |

| | |
|---|---|
| % Foliar Cover | 59.325 |
| % Bare Ground | 5.085 |
| % Basal Cover | 0 |

## Plot 7- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | NONE | L | | | S |
| 1 | NONE | | | | S |
| 1.5 | NONE | L | | | S |
| 2 | NONE | L | | | S |
| 2.5 | NONE | L | | | S |
| 3 | NONE | L | | | S |
| 3.5 | AMBACA | L | | | S |
| 4 | NONE | L | | | S |
| 4.5 | NONE | L | | | S |
| 5 | NONE | | | | S |
| 5.5 | AMBACA | L | | | S |
| 6 | NONE | L | | | S |
| 6.5 | BACSAR | L | | | S |
| 7 | NONE | | | | S |
| 7.5 | NONE | | | | S |
| 8 | NONE | | | | S |
| 8.5 | NONE | | | | S |
| 9 | NONE | | | | S |
| 9.5 | NONE | | | | S |
| 10 | AMBACA | | | | S |
| 10.5 | NONE | L | | | S |
| 11 | NONE | L | | | S |
| 11.5 | LYCAND | AMBACA | L | | S |
| 12 | LYCAND | L | | | S |
| 12.5 | LYCAND | AMBACA | RUENUD | L | S |
| 13 | PROVEL | AMBACA | RUENUD | L | S |
| 13.5 | LYCAND | PROVEL | L | | S |
| 14 | PROVEL | AMBACA | L | | S |
| 14.5 | LYCAND | IPOHED | L | | S |
| 15 | PROVEL | L | | | S |
| 15.5 | LYCAND | L | | | S |
| 16 | PROVEL | BACSAR | LYCAND | L | S |
| 16.5 | PROVEL | L | | | S |
| 17 | PROVEL | AMBACA | L | | S |
| 17.5 | PROVEL | BACSAR | L | | S |
| 18 | PROVEL | BACSAR | L | | S |
| 18.5 | PROVEL | L | | | S |
| 19 | PROVEL | BACSAR | L | | S |
| 19.5 | PROVEL | BACSAR | L | | S |
| 20 | PROVEL | | | | S |
| 20.5 | PROVEL | L | | | S |
| 21 | PROVEL | BACSAR | L | | S |
| 21.5 | PROVEL | L | | | S |
| 22 | PROVEL | L | | | S |
| 22.5 | NONE | L | | | S |
| 23 | IPOHED | L | | | S |
| 23.5 | AMBACA | L | | | S |
| 24 | NONE | L | | | S |
| 24.5 | NONE | L | | | S |
| 25 | NONE | L | | | S |
| 25.5 | NONE | | | | S |
| 26 | NONE | | | | S |
| 26.5 | NONE | | | | S |
| 27 | NONE | L | | | S |
| 27.5 | NONE | L | | | S |
| 28 | LYCAND | L | | | S |
| 28.5 | NONE | W | | | S |
| 29 | NONE | L | | | S |
| 29.5 | PROVEL | L | | | S |
| 30 | NONE | L | | | S |

| | |
|---|---|
| % Foliar Cover | 50.01 |
| % Bare Ground | 18.337 |
| % Basal Cover | 0 |

## Plot 7- off ROW, Line 6

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | IPOHED | L | | | S | 15.5 | IPOHED | L | | | S |
| 1 | AMBACA | L | | | S | 16 | NONE | L | | | S |
| 1.5 | IPOHED | L | | | S | 16.5 | ARIPUR | AMBACA | L | | S |
| 2 | NONE | L | | | S | 17 | AMBACA | | | | S |
| 2.5 | NONE | L | | | S | 17.5 | NONE | L | | | S |
| 3 | NONE | L | | | S | 18 | NONE | L | | | S |
| 3.5 | NONE | | | | S | 18.5 | NONE | L | | | S |
| 4 | NONE | | | | S | 19 | NONE | L | | | S |
| 4.5 | NONE | L | | | S | 19.5 | AMBACA | L | | | S |
| 5 | ATRCAN | L | | | S | 20 | NONE | L | | | S |
| 5.5 | ATRCAN | L | | | S | 20.5 | NONE | L | | | S |
| 6 | ATRCAN | L | | | S | 21 | PROVEL | L | | | S |
| 6.5 | ATRCAN | L | | | S | 21.5 | NONE | L | | | S |
| 7 | ATRCAN | L | | | S | 22 | NONE | | | | S |
| 7.5 | ATRCAN | L | | | S | 22.5 | NONE | L | | | S |
| 8 | ATRCAN | L | | | S | 23 | NONE | L | | | S |
| 8.5 | AMBACA | L | | | S | 23.5 | NONE | | | | S |
| 9 | NONE | L | | | S | 24 | NONE | L | | | S |
| 9.5 | LYCAND | AMBACA | | | S | 24.5 | LYCAND | | | | S |
| 10 | LYCAND | AMBACA | L | | S | 25 | LYCAND | | | | S |
| 10.5 | LYCAND | L | | | S | 25.5 | LYCAND | L | | | S |
| 11 | NONE | L | | | S | 26 | NONE | L | | | S |
| 11.5 | NONE | L | | | S | 26.5 | NONE | L | | | S |
| 12 | AMBACA | L | | | S | 27 | NONE | L | | | S |
| 12.5 | NONE | L | | | S | 27.5 | NONE | L | | | S |
| 13 | NONE | L | | | S | 28 | NONE | L | | | S |
| 13.5 | NONE | L | | | S | 28.5 | PROVEL | L | | | S |
| 14 | AMBACA | L | | | S | 29 | PROVEL | LYCAND | L | | S |
| 14.5 | NONE | L | | | S | 29.5 | PROVEL | LYCAND | L | | S |
| 15 | AMBACA | L | | | S | 30 | PROVEL | L | | | S |

| | |
|---|---|
| % Foliar Cover | 48.343 |
| % Bare Ground | 6.668 |
| % Basal Cover | 0 |

## Summary - Plot 7

**% Average Foliar Cover**

| | |
|---|---|
| On ROW | 46.120 |
| Off ROW | 52.559 |

**% Average Bare Ground**

| | |
|---|---|
| On ROW | 16.114 |
| Off ROW | 10.030 |

**% Average Basal Cover**

| | |
|---|---|
| On ROW | 0.000 |
| Off ROW | 0.000 |

## Plot 8- on ROW, Line 2

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | W | | | S | 15.5 | NONE | L | | | S |
| 1 | NONE | L | | | S | 16 | NONE | | | | S |
| 1.5 | PROVEL | | | | S | 16.5 | NONE | L | | | S |
| 2 | NONE | L | | | S | 17 | NONE | | | | S |
| 2.5 | NONE | | | | S | 17.5 | NONE | L | | | S |
| 3 | NONE | | | | S | 18 | NONE | | | | S |
| 3.5 | NONE | L | | | S | 18.5 | NONE | W | | | S |
| 4 | NONE | | | | S | 19 | NONE | L | | | S |
| 4.5 | NONE | | | | S | 19.5 | NONE | L | | | S |
| 5 | NONE | L | | | S | 20 | NONE | | | | S |
| 5.5 | NONE | | | | S | 20.5 | NONE | W | | | S |
| 6 | NONE | | | | S | 21 | NONE | L | | | S |
| 6.5 | NONE | L | | | S | 21.5 | NONE | L | | | S |
| 7 | NONE | L | | | S | 22 | NONE | | | | S |
| 7.5 | NONE | L | | | S | 22.5 | NONE | | | | S |
| 8 | NONE | | | | S | 23 | NONE | | | | S |
| 8.5 | NONE | | | | S | 23.5 | NONE | | | | S |
| 9 | NONE | | | | S | 24 | NONE | L | | | S |
| 9.5 | NONE | | | | S | 24.5 | NONE | L | | | S |
| 10 | NONE | L | | | S | 25 | NONE | L | | | S |
| 10.5 | NONE | L | | | S | 25.5 | NONE | | | | S |
| 11 | NONE | L | | | S | 26 | NONE | L | | | S |
| 11.5 | NONE | L | | | S | 26.5 | NONE | | | | S |
| 12 | NONE | L | | | S | 27 | NONE | | | | S |
| 12.5 | NONE | L | | | S | 27.5 | NONE | | | | S |
| 13 | NONE | L | | | S | 28 | PROVEL | | | | S |
| 13.5 | NONE | L | | | S | 28.5 | PROVEL | | | | S |
| 14 | NONE | L | | | S | 29 | PROVEL | L | | | S |
| 14.5 | NONE | L | | | S | 29.5 | PROVEL | L | | | S |
| 15 | NONE | L | | | S | 30 | PROVEL | L | | | S |

| | |
|---|---|
| % Foliar Cover | 10.002 |
| % Bare Ground | 36.674 |
| % Basal Cover | 0 |

## Plot 8- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | NONE | | | | S |
| 1 | NONE | L | | | S | 16 | NONE | L | | | S |
| 1.5 | NONE | | | | S | 16.5 | NONE | L | | | S |
| 2 | NONE | L | | | S | 17 | NONE | L | | | S |
| 2.5 | NONE | | | | S | 17.5 | NONE | L | | | S |
| 3 | NONE | L | | | S | 18 | NONE | | | | S |
| 3.5 | NONE | | | | S | 18.5 | NONE | | | | S |
| 4 | NONE | L | | | S | 19 | NONE | L | | | S |
| 4.5 | NONE | | | | S | 19.5 | NONE | L | | | S |
| 5 | NONE | L | | | S | 20 | NONE | L | | | S |
| 5.5 | NONE | L | | | S | 20.5 | NONE | | | | S |
| 6 | NONE | L | | | S | 21 | NONE | | | | R |
| 6.5 | NONE | L | | | S | 21.5 | NONE | L | | | S |
| 7 | NONE | L | | | S | 22 | NONE | | | | S |
| 7.5 | NONE | L | | | S | 22.5 | NONE | L | | | S |
| 8 | NONE | L | | | S | 23 | NONE | L | | | S |
| 8.5 | NONE | L | | | S | 23.5 | NONE | | | | S |
| 9 | NONE | L | | | S | 24 | NONE | L | | | S |
| 9.5 | NONE | L | | | S | 24.5 | NONE | W | | | S |
| 10 | NONE | L | | | S | 25 | NONE | | | | S |
| 10.5 | NONE | | | | S | 25.5 | NONE | | | | S |
| 11 | NONE | L | | | S | 26 | NONE | W | | | S |
| 11.5 | NONE | L | | | S | 26.5 | NONE | | | | S |
| 12 | NONE | | | | S | 27 | NONE | L | | | S |
| 12.5 | NONE | | | | S | 27.5 | NONE | | | | S |
| 13 | NONE | L | | | S | 28 | NONE | | | | S |
| 13.5 | NONE | L | | | S | 28.5 | NONE | | | | S |
| 14 | NONE | L | | | S | 29 | NONE | L | | | S |
| 14.5 | NONE | | | | S | 29.5 | NONE | | | | S |
| 15 | NONE | | | | S | 30 | NONE | L | | | S |

| | |
|---|---|
| % Foliar Cover | 0 |
| % Bare Ground | 38.341 |
| % Basal Cover | 0 |

## Plot 8- on ROW, Line 2

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | L | | | S | 15.5 | NONE | L | | | S |
| 1 | NONE | | | | S | 16 | NONE | L | | | S |
| 1.5 | NONE | | | | S | 16.5 | NONE | L | | | S |
| 2 | NONE | | | | S | 17 | NONE | L | | | S |
| 2.5 | NONE | L | | | S | 17.5 | NONE | L | | | S |
| 3 | NONE | | | | S | 18 | NONE | L | | | S |
| 3.5 | NONE | L | | | S | 18.5 | NONE | L | | | S |
| 4 | NONE | L | | | S | 19 | NONE | | | | S |
| 4.5 | NONE | | | | S | 19.5 | NONE | | | | S |
| 5 | NONE | L | | | S | 20 | NONE | L | | | S |
| 5.5 | NONE | L | | | S | 20.5 | NONE | L | | | S |
| 6 | NONE | L | | | S | 21 | NONE | | | | S |
| 6.5 | NONE | L | | | S | 21.5 | NONE | | | | S |
| 7 | NONE | L | | | S | 22 | NONE | L | | | S |
| 7.5 | NONE | L | | | S | 22.5 | NONE | | | | S |
| 8 | NONE | L | | | S | 23 | NONE | L | | | S |
| 8.5 | NONE | | | | S | 23.5 | NONE | L | | | S |
| 9 | NONE | L | | | S | 24 | NONE | | | | S |
| 9.5 | NONE | L | | | S | 24.5 | NONE | L | | | S |
| 10 | NONE | L | | | S | 25 | NONE | L | | | S |
| 10.5 | NONE | L | | | S | 25.5 | NONE | L | | | S |
| 11 | NONE | L | | | S | 26 | NONE | L | | | S |
| 11.5 | NONE | L | | | S | 26.5 | NONE | L | | | S |
| 12 | NONE | L | | | S | 27 | NONE | L | | | S |
| 12.5 | NONE | L | | | S | 27.5 | NONE | L | | | S |
| 13 | NONE | L | | | S | 28 | NONE | | | | S |
| 13.5 | NONE | L | | | S | 28.5 | NONE | L | | | S |
| 14 | NONE | L | | | S | 29 | NONE | | | | S |
| 14.5 | NONE | L | | | S | 29.5 | NONE | L | | | S |
| 15 | NONE | L | | | S | 30 | NONE | L | | | S |

| | |
|---|---|
| % Foliar Cover | 0 |
| % Bare Ground | 23.338 |
| % Basal Cover | 0 |

## Plot 8- off ROW, Line 6

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | L | | | S | 15.5 | PROVEL | | | | S |
| 1 | PROVEL | | | | S | 16 | NONE | | | | S |
| 1.5 | PROVEL | | | | BSC | 16.5 | NONE | L | | | S |
| 2 | NONE | | | | S | 17 | NONE | | | | S |
| 2.5 | NONE | | | | S | 17.5 | NONE | | | | S |
| 3 | NONE | | | | S | 18 | NONE | | | | BSC |
| 3.5 | NONE | | | | S | 18.5 | NONE | | | | BSC |
| 4 | NONE | | | | S | 19 | NONE | | | | S |
| 4.5 | NONE | | | | S | 19.5 | NONE | | | | BSC |
| 5 | NONE | | | | S | 20 | NONE | | | | S |
| 5.5 | ZINACE | | | | S | 20.5 | NONE | | | | S |
| 6 | NONE | | | | S | 21 | NONE | | | | S |
| 6.5 | NONE | | | | S | 21.5 | NONE | | | | S |
| 7 | NONE | | | | S | 22 | NONE | | | | BSC |
| 7.5 | NONE | | | | S | 22.5 | NONE | | | | S |
| 8 | NONE | | | | S | 23 | NONE | | | | S |
| 8.5 | NONE | | | | BSC | 23.5 | NONE | | | | S |
| 9 | NONE | | | | BSC | 24 | NONE | | | | S |
| 9.5 | NONE | | | | BSC | 24.5 | NONE | | | | S |
| 10 | NONE | | | | S | 25 | NONE | | | | BSC |
| 10.5 | NONE | L | | | S | 25.5 | PROVEL | | | | S |
| 11 | NONE | | | | S | 26 | PROVEL | L | | | S |
| 11.5 | NONE | | | | S | 26.5 | PROVEL | L | | | S |
| 12 | NONE | | | | S | 27 | PROVEL | | | | S |
| 12.5 | NONE | | | | S | 27.5 | PROVEL | | | | S |
| 13 | NONE | | | | S | 28 | PROVEL | L | | | S |
| 13.5 | PROVEL | | | | S | 28.5 | PROVEL | | | | S |
| 14 | PROVEL | | | | S | 29 | PROVEL | | | | S |
| 14.5 | PROVEL | | | | S | 29.5 | PROVEL | | | | S |
| 15 | PROVEL | W | | | S | 30 | PROVEL | | | | S |

| | |
|---|---|
| % Foliar Cover | 30.006 |
| % Bare Ground | 51.677 |
| % Basal Cover | 0 |

## Plot 8- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | GUTSAR | PROVEL | L | | S | 15.5 | NONE | | | | S |
| 1 | NONE | L | | | S | 16 | PROVEL | | | | S |
| 1.5 | NONE | | | | S | 16.5 | PROVEL | L | | | S |
| 2 | NONE | | | | S | 17 | NONE | | | | S |
| 2.5 | GUTSAR | | | | S | 17.5 | PROVEL | L | | | S |
| 3 | NONE | | | | S | 18 | PROVEL | L | | | S |
| 3.5 | NONE | | | | S | 18.5 | PROVEL | W | | | S |
| 4 | NONE | | | | S | 19 | PROVEL | L | | | S |
| 4.5 | PROVEL | | | | S | 19.5 | PROVEL | L | | | S |
| 5 | PROVEL | L | | | S | 20 | NONE | L | | | S |
| 5.5 | NONE | | | | S | 20.5 | NONE | L | | | S |
| 6 | NONE | | | | S | 21 | PROVEL | | | | S |
| 6.5 | NONE | | | | S | 21.5 | PROVEL | L | | | S |
| 7 | NONE | | | | S | 22 | PROVEL | | | | S |
| 7.5 | NONE | | | | S | 22.5 | PROVEL | L | | | S |
| 8 | VACCON | | | | S | 23 | NONE | | | | S |
| 8.5 | CYLFUL | | | | S | 23.5 | NONE | | | | S |
| 9 | CYLFUL | L | | | S | 24 | NONE | | | | S |
| 9.5 | NONE | | | | S | 24.5 | NONE | | | | S |
| 10 | NONE | | | | S | 25 | NONE | | | | S |
| 10.5 | NONE | L | | | S | 25.5 | NONE | | | | S |
| 11 | NONE | | | | S | 26 | NONE | | | | S |
| 11.5 | PROVEL | L | | | S | 26.5 | NONE | | | | S |
| 12 | PROVEL | L | | | S | 27 | NONE | | | | S |
| 12.5 | NONE | L | | | S | 27.5 | NONE | | | | S |
| 13 | NONE | L | | | S | 28 | NONE | | | | S |
| 13.5 | PROVEL | L | | | S | 28.5 | NONE | | | | S |
| 14 | PROVEL | L | | | S | 29 | NONE | | | | S |
| 14.5 | PROVEL | L | | | S | 29.5 | NONE | | | | S |
| 15 | PROVEL | L | | | S | 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 40.008 |
| % Bare Ground | 50.01 |
| % Basal Cover | 0 |

## Plot 8- off ROW, Line 6

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | NONE | | | | S |
| 1 | ISOTEN | | | | S | 16 | PROVEL | | | | S |
| 1.5 | PROVEL | | | | S | 16.5 | NONE | | | | S |
| 2 | PROVEL | | | | S | 17 | NONE | | | | S |
| 2.5 | NONE | | | | S | 17.5 | NONE | | | | S |
| 3 | NONE | L | | | S | 18 | NONE | | | | S |
| 3.5 | NONE | | | | S | 18.5 | NONE | | | | S |
| 4 | NONE | | | | S | 19 | PROVEL | | | | S |
| 4.5 | NONE | | | | S | 19.5 | PROVEL | | | | S |
| 5 | NONE | | | | S | 20 | NONE | L | | | S |
| 5.5 | GUTSAR | | | | S | 20.5 | NONE | | | | S |
| 6 | NONE | | | | S | 21 | PROVEL | L | | | S |
| 6.5 | PROVEL | | | | S | 21.5 | PROVEL | L | | | S |
| 7 | NONE | | | | S | 22 | PROVEL | | | | S |
| 7.5 | PROVEL | | | | S | 22.5 | NONE | L | | | S |
| 8 | NONE | | | | S | 23 | VACCON | L | | | S |
| 8.5 | PROVEL | | | | S | 23.5 | NONE | L | | | S |
| 9 | PROVEL | L | | | S | 24 | PROVEL | | | | S |
| 9.5 | PROVEL | | | | S | 24.5 | NONE | | | | S |
| 10 | NONE | | | | S | 25 | NONE | L | | | S |
| 10.5 | NONE | | | | S | 25.5 | NONE | W | | | S |
| 11 | NONE | | | | S | 26 | NONE | | | | S |
| 11.5 | NONE | | | | S | 26.5 | NONE | | | | S |
| 12 | NONE | | | | S | 27 | NONE | | | | S |
| 12.5 | NONE | | | | S | 27.5 | NONE | | | | S |
| 13 | NONE | | | | S | 28 | NONE | L | | | S |
| 13.5 | NONE | | | | S | 28.5 | PROVEL | | | | S |
| 14 | NONE | | | | S | 29 | PROVEL | | | | S |
| 14.5 | NONE | | | | S | 29.5 | PROVEL | | | | S |
| 15 | NONE | | | | S | 30 | | | | | |

| | |
|---|---|
| % Foliar Cover | 33.9 |
| % Bare Ground | 54.24 |
| % Basal Cover | 0 |

## Summary - Plot 8

**% Average Foliar Cover**

| | |
|---|---|
| On ROW | 3.334 |
| Off ROW | 34.638 |

**% Average Bare Ground**

| | |
|---|---|
| On ROW | 32.784 |
| Off ROW | 51.976 |

**% Average Basal Cover**

| | |
|---|---|
| On ROW | 0.000 |
| Off ROW | 0.000 |

## Plot 9- on ROW, Line 2

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | ATRCAN | L | | | S | 15.5 | NONE | | | | S |
| 1 | BOUARI | L | | | S | 16 | NONE | L | | | S |
| 1.5 | NONE | L | | | S | 16.5 | NONE | | | | S |
| 2 | BOUARI | | | | S | 17 | NONE | L | | | S |
| 2.5 | NONE | | | | S | 17.5 | NONE | L | | | S |
| 3 | NONE | | | | S | 18 | NONE | L | | | S |
| 3.5 | BOUARI | | | | S | 18.5 | NONE | L | | | S |
| 4 | BOUARI | L | | | S | 19 | NONE | L | | | S |
| 4.5 | NONE | | | | S | 19.5 | ATRPOL | BOUARI | L | | S |
| 5 | BOUROT | | | | S | 20 | ATRPOL | SPOCRY | L | | S |
| 5.5 | NONE | | | | BSC | 20.5 | NONE | L | | | S |
| 6 | BOUARI | | | | BSC | 21 | BOUARI | | | | S |
| 6.5 | BUOARI | L | | | S | 21.5 | NONE | L | | | S |
| 7 | NONE | | | | S | 22 | BOUARI | L | | | S |
| 7.5 | NONE | | | | S | 22.5 | NONE | L | | | S |
| 8 | NONE | L | | | S | 23 | BOUARI | | | | S |
| 8.5 | NONE | L | | | S | 23.5 | NONE | | | | S |
| 9 | NONE | L | | | S | 24 | BOUARI | | | | S |
| 9.5 | NONE | L | | | S | 24.5 | NONE | | | | S |
| 10 | BOUARI | L | | | S | 25 | BOUARI | L | | | S |
| 10.5 | NONE | | | | S | 25.5 | BOUARI | L | | | S |
| 11 | BOUARI | L | | | S | 26 | NONE | | | | S |
| 11.5 | NONE | | | | S | 26.5 | NONE | L | | | S |
| 12 | NONE | L | | | S | 27 | NONE | | | | S |
| 12.5 | NONE | L | | | S | 27.5 | BOUARI | L | | | S |
| 13 | NONE | L | | | S | 28 | BOUARI | | | | S |
| 13.5 | NONE | L | | | S | 28.5 | NONE | | | | S |
| 14 | BOUARI | | | | S | 29 | BOUARI | | | | S |
| 14.5 | NONE | L | | | S | 29.5 | NONE | | | | S |
| 15 | BOUARI | L | | | S | 30 | ISOTEN | L | | | S |

| | |
|---|---|
| % Foliar Cover | 40.008 |
| % Bare Ground | 25.005 |
| % Basal Cover | 0 |

## Plot 9- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | ATRPOL | L | | | S | 15.5 | NONE | | | | S |
| 1 | BOUARI | | | | S | 16 | NONE | | | | S |
| 1.5 | BOUARI | | | | S | 16.5 | BOUARI | L | | | S |
| 2 | NONE | | | | S | 17 | NONE | L | | | S |
| 2.5 | BOUARI | | | | S | 17.5 | NONE | L | | | S |
| 3 | BOUARI | L | | | S | 18 | NONE | | | | S |
| 3.5 | NONE | | | | S | 18.5 | NONE | L | | | S |
| 4 | NONE | | | | S | 19 | BOUROT | L | | | S |
| 4.5 | NONE | | | | S | 19.5 | NONE | | | | S |
| 5 | NONE | | | | S | 20 | NONE | L | | | S |
| 5.5 | NONE | L | | | S | 20.5 | BOUARI | L | | | S |
| 6 | NONE | L | | | S | 21 | NONE | | | | S |
| 6.5 | BOUROT | | | | S | 21.5 | BOUARI | | | | S |
| 7 | NONE | | | | S | 22 | NONE | | | | S |
| 7.5 | BOUROT | L | | | S | 22.5 | NONE | | | | S |
| 8 | ATRCAN | | | | S | 23 | NONE | | | | S |
| 8.5 | BOUROT | L | | | S | 23.5 | NONE | | | | S |
| 9 | BOUARI | | | | S | 24 | NONE | L | | | S |
| 9.5 | NONE | L | | | S | 24.5 | ATRCAN | L | | | S |
| 10 | NONE | | | | S | 25 | NONE | | | | S |
| 10.5 | NONE | L | | | S | 25.5 | NONE | L | | | S |
| 11 | NONE | | | | S | 26 | NONE | | | | S |
| 11.5 | NONE | W | | | S | 26.5 | NONE | L | | | S |
| 12 | NONE | | | | S | 27 | BOUARI | | | | S |
| 12.5 | NONE | L | | | S | 27.5 | NONE | | | | S |
| 13 | BOUARI | | | | S | 28 | NONE | | | | S |
| 13.5 | BOUROT | | | | S | 28.5 | NONE | | | | S |
| 14 | NONE | L | | | S | 29 | BOUARI | | | | S |
| 14.5 | ISOTEN | | | | S | 29.5 | NONE | | | | S |
| 15 | NONE | | | | S | 30 | BOUARI | | | | S |

| | |
|---|---|
| % Foliar Cover | 35.007 |
| % Bare Ground | 41.675 |
| % Basal Cover | 0 |

## Plot 9- on ROW, Line 2

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | L | | | S | 15.5 | NONE | | | | S |
| 1 | NONE | L | | | S | 16 | NONE | L | | | S |
| 1.5 | NONE | L | | | S | 16.5 | NONE | L | | | S |
| 2 | NONE | | | | S | 17 | NONE | L | | | S |
| 2.5 | BOUARI | | | | S | 17.5 | ATRPOL | SPOCRY | L | | S |
| 3 | NONE | | | | S | 18 | NONE | | | | S |
| 3.5 | BOUARI | L | | | S | 18.5 | ATRCAN | L | | | S |
| 4 | BOUARI | L | | | S | 19 | ATRCAN | L | | | S |
| 4.5 | BOUARI | L | | | S | 19.5 | NONE | L | | | S |
| 5 | BOUARI | L | | | S | 20 | NONE | L | | | S |
| 5.5 | BOUROT | L | | | S | 20.5 | NONE | L | | | S |
| 6 | CHEALB | | | | S | 21 | NONE | L | | | S |
| 6.5 | ATRCAN | L | | | S | 21.5 | ATRPOL | L | | | S |
| 7 | ATRCAN | L | | | S | 22 | NONE | | | | S |
| 7.5 | NONE | L | | | S | 22.5 | NONE | L | | | S |
| 8 | NONE | | | | S | 23 | ATRCAN | L | | | S |
| 8.5 | BOUROT | L | | | S | 23.5 | ATRCAN | L | | | S |
| 9 | NONE | L | | | S | 24 | BOUROT | | | | S |
| 9.5 | NONE | L | | | S | 24.5 | NONE | L | | | S |
| 10 | ATRCAN | L | | | S | 25 | NONE | | | | S |
| 10.5 | NONE | L | | | S | 25.5 | NONE | | | | S |
| 11 | ATRPOL | CHEALB | | | S | 26 | NONE | L | | | S |
| 11.5 | NONE | L | | | S | 26.5 | NONE | L | | | S |
| 12 | NONE | L | | | S | 27 | NONE | L | | | S |
| 12.5 | NONE | | | | S | 27.5 | NONE | L | | | S |
| 13 | CHEALB | | | | S | 28 | NONE | | | | S |
| 13.5 | NONE | L | | | S | 28.5 | NONE | | | | S |
| 14 | SPHAMB | | | | S | 29 | NONE | L | | | S |
| 14.5 | SPHAMB | | | | S | 29.5 | NONE | | | | S |
| 15 | SPHAMB | L | | | S | 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 38.341 |
| % Bare Ground | 21.671 |
| % Basal Cover | 0 |

## Plot 9- off ROW, Line 6

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | L | | | S | 15.5 | NONE | | | | S |
| 1 | BOUARI | | | | S | 16 | NONE | | | | S |
| 1.5 | NONE | | | | S | 16.5 | NONE | | | | S |
| 2 | NONE | | | | BSC | 17 | NONE | L | | | S |
| 2.5 | NONE | | | | BSC | 17.5 | NONE | | | | S |
| 3 | NONE | | | | S | 18 | NONE | L | | | S |
| 3.5 | NONE | | | | S | 18.5 | NONE | L | | | S |
| 4 | NONE | L | | | S | 19 | NONE | | | | S |
| 4.5 | NONE | | | | S | 19.5 | NONE | | | | BSC |
| 5 | NONE | | | | S | 20 | NONE | | | | S |
| 5.5 | NONE | | | | S | 20.5 | NONE | | | | S |
| 6 | BOUARI | | | | S | 21 | NONE | | | | S |
| 6.5 | NONE | | | | S | 21.5 | NONE | L | | | S |
| 7 | NONE | | | | S | 22 | NONE | | | | S |
| 7.5 | NONE | | | | S | 22.5 | NONE | | | | S |
| 8 | NONE | | | | S | 23 | NONE | | | | S |
| 8.5 | NONE | | | | S | 23.5 | NONE | L | | | S |
| 9 | NONE | L | | | S | 24 | NONE | L | | | S |
| 9.5 | NONE | | | | S | 24.5 | SETMAC | L | | | S |
| 10 | NONE | | | | S | 25 | NONE | L | | | S |
| 10.5 | NONE | | | | BSC | 25.5 | SETMAC | L | | | S |
| 11 | NONE | | | | BSC | 26 | CYLFUL | L | | | S |
| 11.5 | NONE | | | | BSC | 26.5 | SETMAC | L | | | S |
| 12 | NONE | | | | BSC | 27 | NONE | | | | S |
| 12.5 | NONE | | | | BSC | 27.5 | PROVEL | L | | | S |
| 13 | NONE | | | | S | 28 | PROVEL | L | | | S |
| 13.5 | PROVEL | | | | S | 28.5 | NONE | | | | S |
| 14 | PROVEL | | | | S | 29 | PROVEL | L | | | S |
| 14.5 | NONE | | | | S | 29.5 | NONE | L | | | S |
| 15 | NONE | | | | S | 30 | | | | | |

| | |
|---|---|
| % Foliar Cover | 18.337 |
| % Bare Ground | 48.343 |
| % Basal Cover | 0 |

## Plot 9- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | NONE | | | | S |
| 1 | NONE | | | | BSC | 16 | NONE | | | | S |
| 1.5 | NONE | | | | S | 16.5 | NONE | | | | S |
| 2 | NONE | | | | S | 17 | NONE | | | | S |
| 2.5 | NONE | | | | S | 17.5 | NONE | | | | S |
| 3 | NONE | | | | BSC | 18 | NONE | | | | BSC |
| 3.5 | NONE | | | | S | 18.5 | NONE | | | | BSC |
| 4 | NONE | | | | S | 19 | NONE | | | | S |
| 4.5 | NONE | | | | S | 19.5 | NONE | | | | S |
| 5 | NONE | | | | BSC | 20 | NONE | | | | S |
| 5.5 | NONE | L | | | S | 20.5 | NONE | | | | S |
| 6 | NONE | | | | BSC | 21 | NONE | | | | S |
| 6.5 | NONE | L | | | S | 21.5 | NONE | | | | S |
| 7 | NONE | | | | S | 22 | NONE | | | | S |
| 7.5 | NONE | | | | S | 22.5 | ISOTEN | | | | S |
| 8 | PROVEL | L | | | S | 23 | NONE | | | | S |
| 8.5 | NONE | | | | S | 23.5 | NONE | | | | S |
| 9 | PROVEL | L | | | S | 24 | NONE | | | | BSC |
| 9.5 | PROVEL | L | | | S | 24.5 | NONE | | | | S |
| 10 | NONE | L | | | S | 25 | PROVEL | | | | S |
| 10.5 | NONE | L | | | S | 25.5 | PROVEL | L | | | S |
| 11 | NONE | L | | | S | 26 | PROVEL | L | | | S |
| 11.5 | NONE | | | | S | 26.5 | PROVEL | ISOTEN | L | | S |
| 12 | NONE | | | | S | 27 | NONE | | | | S |
| 12.5 | NONE | | | | S | 27.5 | PROVEL | | | | S |
| 13 | NONE | L | | | S | 28 | NONE | | | | S |
| 13.5 | NONE | | | | S | 28.5 | NONE | | | | S |
| 14 | NONE | | | | S | 29 | NONE | | | | BSC |
| 14.5 | NONE | | | | S | 29.5 | NONE | | | | BSC |
| 15 | NONE | | | | S | 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 15.003 |
| % Bare Ground | 60.012 |
| % Basal Cover | 0 |

## Plot 9- off ROW, Line 6

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | NONE | L | | | S |
| 1 | NONE | | | | S | 16 | PROVEL | | | | S |
| 1.5 | BOUARI | | | | S | 16.5 | PROVEL | | | | S |
| 2 | NONE | | | | S | 17 | PROVEL | L | | | S |
| 2.5 | NONE | | | | S | 17.5 | ISOTEN | L | | | S |
| 3 | NONE | | | | S | 18 | PROVEL | L | | | S |
| 3.5 | NONE | | | | S | 18.5 | PROVEL | | | | S |
| 4 | NONE | | | | S | 19 | NONE | | | | S |
| 4.5 | BOUARI | L | | | S | 19.5 | NONE | L | | | S |
| 5 | ISOTEN | | | | S | 20 | NONE | | | | S |
| 5.5 | NONE | | | | S | 20.5 | NONE | | | | S |
| 6 | NONE | | | | S | 21 | NONE | L | | | S |
| 6.5 | NONE | | | | S | 21.5 | ISOTEN | | | | S |
| 7 | NONE | | | | S | 22 | NONE | | | | S |
| 7.5 | NONE | | | | S | 22.5 | NONE | L | | | S |
| 8 | NONE | L | | | S | 23 | ISOTEN | | | | S |
| 8.5 | NONE | L | | | S | 23.5 | ISOTEN | L | | | S |
| 9 | NONE | | | | S | 24 | NONE | | | | S |
| 9.5 | ISOTEN | | | | S | 24.5 | NONE | | | | S |
| 10 | NONE | | | | S | 25 | NONE | | | | BSC |
| 10.5 | NONE | | | | S | 25.5 | NONE | | | | S |
| 11 | NONE | | | | S | 26 | ISOTEN | | | | S |
| 11.5 | NONE | L | | | S | 26.5 | ISOTEN | ARIPUR | | | S |
| 12 | NONE | | | | S | 27 | NONE | | | | BSC |
| 12.5 | NONE | | | | BSC | 27.5 | NONE | | | | S |
| 13 | NONE | | | | BSC | 28 | NONE | | | | S |
| 13.5 | NONE | | | | BSC | 28.5 | NONE | L | | | S |
| 14 | NONE | | | | S | 29 | PROVEL | | | | S |
| 14.5 | NONE | | | | S | 29.5 | NONE | | | | S |
| 15 | NONE | | | | BSC | 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 26.672 |
| % Bare Ground | 50.01 |
| % Basal Cover | 0 |

## Summary - Plot 9

**% Average Foliar Cover**

| | |
|---|---|
| On ROW | 37.785 |
| Off ROW | 20.004 |

**% Average Bare Ground**

| | |
|---|---|
| On ROW | 29.450 |
| Off ROW | 52.788 |

**% Average Basal Cover**

| | |
|---|---|
| On ROW | 0.000 |
| Off ROW | 0.000 |

## Plot 10- on ROW, Line 2

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | BOUROT | | | | S | 15.5 | BOUROT | | | | S |
| 1 | BOEERE | L | | | S | 16 | NONE | L | | | S |
| 1.5 | BOUROT | L | | | S | 16.5 | BOUROT | L | | | S |
| 2 | BOUROT | L | | | S | 17 | BAIMUL | | | | S |
| 2.5 | BOUARI | | | | S | 17.5 | BOUROT | | | | S |
| 3 | BOUARI | L | | | S | 18 | BOUROT | | | | S |
| 3.5 | BOUARI | L | | | S | 18.5 | ISOTEN | L | | | S |
| 4 | NONE | L | | | S | 19 | BOUROT | | | | S |
| 4.5 | XANTEX | BOUARI | L | | S | 19.5 | NONE | | | | S |
| 5 | BOUARI | L | | | S | 20 | BAIMUL | L | | | S |
| 5.5 | BOUARI | L | | | S | 20.5 | BOUROT | | | | S |
| 6 | BOUARI | L | | | S | 21 | BOUROT | | | | S |
| 6.5 | BOUARI | L | | | S | 21.5 | BOUROT | | | | S |
| 7 | BAIMUL | L | | | S | 22 | BOEERE | | | | R |
| 7.5 | BOUROT | BOUARI | L | | S | 22.5 | BAIMUL | L | | | S |
| 8 | BOUROT | L | | | S | 23 | BOUARI | L | | | S |
| 8.5 | BOUARI | | | | S | 23.5 | BAIMUL | L | | | S |
| 9 | BAIMUL | L | | | S | 24 | BOUARI | | | | S |
| 9.5 | BOUROT | L | | | S | 24.5 | BOUARI | L | | | S |
| 10 | NONE | L | | | S | 25 | BOUARI | | | | S |
| 10.5 | BAIMUL | | | | S | 25.5 | BOUROT | | | | S |
| 11 | BOUROT | L | | | S | 26 | NONE | L | | | S |
| 11.5 | NONE | L | | | S | 26.5 | BOEERE | BOUARI | | | S |
| 12 | BOUROT | L | | | S | 27 | BOUARI | | | | R |
| 12.5 | BOUARI | L | | | S | 27.5 | BAIMUL | | | | S |
| 13 | BOUROT | L | | | S | 28 | NONE | L | | | S |
| 13.5 | BOUROT | | | | S | 28.5 | BOUARI | | | | S |
| 14 | NONE | | | | S | 29 | BOUROT | L | | | R |
| 14.5 | BOEERE | | | | S | 29.5 | BOUARI | L | | | S |
| 15 | ISOTEN | L | | | S | 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 85.017 |
| % Bare Ground | 5.001 |
| % Basal Cover | 0 |

# Plot 10- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | BOUROT | L | | | S | 15.5 | BAIMUL | BOUARI | | | S |
| 1 | BOUROT | L | | | S | 16 | NONE | L | | | S |
| 1.5 | BOUROT | L | | | S | 16.5 | BOUROT | L | | | S |
| 2 | BOUROT | L | | | S | 17 | NONE | L | | | S |
| 2.5 | BOUROT | L | | | R | 17.5 | BOUARI | | | | S |
| 3 | BOUARI | L | | | S | 18 | NONE | WL | | | S |
| 3.5 | BOEERE | L | | | S | 18.5 | NONE | WL | | | S |
| 4 | BOEERE | L | | | S | 19 | BOUARI | | | | S |
| 4.5 | BOUARI | | | | S | 19.5 | BOUARI | | | | S |
| 5 | BOUROT | L | | | S | 20 | BOUARI | | | | S |
| 5.5 | BOEERE | L | | | S | 20.5 | BAIMUL | BOUARI | | | S |
| 6 | BOUROT | L | | | S | 21 | BOUROT | | | | S |
| 6.5 | BOEERE | | | | S | 21.5 | BOUROT | | | | S |
| 7 | BOEERE | L | | | S | 22 | NONE | | | | S |
| 7.5 | BOEERE | L | | | S | 22.5 | NONE | | | | S |
| 8 | BOUARI | L | | | S | 23 | NONE | | | | S |
| 8.5 | BOEERE | BOUROT | L | | S | 23.5 | NONE | | | | S |
| 9 | BOEERE | L | | | S | 24 | NONE | | | | S |
| 9.5 | BOUROT | L | | | S | 24.5 | NONE | | | | S |
| 10 | BOUARI | L | | | S | 25 | NONE | L | | | S |
| 10.5 | NONE | | | | S | 25.5 | NONE | | | | S |
| 11 | NONE | L | | | S | 26 | NONE | | | | R |
| 11.5 | BOEERE | L | | | S | 26.5 | BAIMUL | BOUROT | L | | S |
| 12 | BOEERE | | | | R | 27 | BOUARI | L | | | S |
| 12.5 | BOEERE | BOUROT | L | | S | 27.5 | BOUARI | L | | | S |
| 13 | NONE | | | | S | 28 | NONE | | | | S |
| 13.5 | BOEERE | L | | | S | 28.5 | BOUARI | L | | | S |
| 14 | BOUARI | | | | S | 29 | BOUARI | L | | | S |
| 14.5 | BOUROT | | | | S | 29.5 | BOUARI | | | | S |
| 15 | BOUROT | | | | S | 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 70.014 |
| % Bare Ground | 18.337 |
| % Basal Cover | 0 |

## Plot 10- on ROW, Line 2

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | BOUARI | L | | | S | 15.5 | BOUARI | L | | | S |
| 1 | BOUROT | L | | | S | 16 | NONE | | | | R |
| 1.5 | BOEERE | L | | | S | 16.5 | BAIMUL | | | | S |
| 2 | BOUROT | | | | S | 17 | NONE | | | | S |
| 2.5 | BOEERE | | | | S | 17.5 | NONE | | | | S |
| 3 | BOEERE | BOUROT | | | S | 18 | NONE | L | | | S |
| 3.5 | BOEERE | | | | S | 18.5 | NONE | | | | R |
| 4 | BOUROT | L | | | S | 19 | NONE | | | | S |
| 4.5 | BOUROT | L | | | S | 19.5 | NONE | | | | S |
| 5 | BOUROT | | | | S | 20 | BOUARI | L | | | S |
| 5.5 | BOUROT | | | | S | 20.5 | NONE | | | | S |
| 6 | NONE | | | | S | 21 | NONE | | | | S |
| 6.5 | NONE | L | | | S | 21.5 | BOUARI | | | | S |
| 7 | SPHAMB | | | | S | 22 | BOUROT | L | | | S |
| 7.5 | SPHAMB | | | | S | 22.5 | NONE | L | | | S |
| 8 | BOUROT | | | | S | 23 | NONE | | | | S |
| 8.5 | BOUROT | | | | S | 23.5 | BOUARI | L | | | S |
| 9 | BOUROT | L | | | S | 24 | NONE | | | | S |
| 9.5 | NONE | | | | S | 24.5 | NONE | | | | S |
| 10 | NONE | | | | S | 25 | NONE | | | | S |
| 10.5 | NONE | | | | S | 25.5 | NONE | | | | S |
| 11 | BAIMUL | | | | S | 26 | NONE | | | | R |
| 11.5 | BOUROT | | | | S | 26.5 | NONE | | | | S |
| 12 | BOEERE | BOUARI | | | S | 27 | NONE | L | | | S |
| 12.5 | BOUROT | L | | | S | 27.5 | PARMIC | | | | S |
| 13 | NONE | L | | | S | 28 | | | | | |
| 13.5 | NONE | | | | S | 28.5 | | | | | |
| 14 | SPHAMB | L | | | S | 29 | | | | | |
| 14.5 | NONE | | | | R | 29.5 | | | | | |
| 15 | BAIMUL | | | | S | 30 | | | | | |

| | |
|---|---|
| % Foliar Cover | 48.343 |
| % Bare Ground | 28.339 |
| % Basal Cover | 0 |

# Plot 10- off ROW, Line 6

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | L | | | S | 15.5 | NONE | | | | S |
| 1 | LARTRI | | | | S | 16 | NONE | | | | S |
| 1.5 | NONE | | | | S | 16.5 | NONE | | | | S |
| 2 | NONE | | | | S | 17 | LARTRI | | | | S |
| 2.5 | NONE | L | | | S | 17.5 | NONE | | | | S |
| 3 | NONE | L | | | S | 18 | LARTRI | L | | | S |
| 3.5 | LARTRI | | | | S | 18.5 | LARTRI | L | | | S |
| 4 | NONE | L | | | S | 19 | LARTRI | L | | | S |
| 4.5 | LARTRI | L | | | S | 19.5 | LARTRI | L | | | S |
| 5 | NONE | | | | S | 20 | NONE | | | | S |
| 5.5 | LARTRI | BOEERE | L | | S | 20.5 | NONE | | | | S |
| 6 | NONE | L | | | S | 21 | NONE | L | | | S |
| 6.5 | NONE | | | | S | 21.5 | LARTRI | L | | | S |
| 7 | BOEERE | L | | | S | 22 | NONE | L | | | S |
| 7.5 | NONE | | | | S | 22.5 | NONE | | | | R |
| 8 | NONE | | | | S | 23 | NONE | | | | S |
| 8.5 | BOEERE | | | | S | 23.5 | NONE | | | | S |
| 9 | NONE | | | | S | 24 | NONE | | | | R |
| 9.5 | NONE | | | | S | 24.5 | NONE | | | | S |
| 10 | NONE | | | | S | 25 | NONE | L | | | S |
| 10.5 | NONE | | | | S | 25.5 | NONE | L | | | S |
| 11 | NONE | | | | S | 26 | LARTRI | L | | | S |
| 11.5 | NONE | L | | | S | 26.5 | LARTRI | BOUROT | L | | S |
| 12 | NONE | L | | | S | 27 | NONE | | | | S |
| 12.5 | NONE | L | | | S | 27.5 | NONE | | | | S |
| 13 | NONE | L | | | S | 28 | NONE | | | | S |
| 13.5 | BOEERE | | | | S | 28.5 | LARTRI | L | | | S |
| 14 | NONE | | | | S | 29 | LARTRI | L | | | S |
| 14.5 | NONE | | | | S | 29.5 | NONE | L | | | S |
| 15 | NONE | | | | S | 30 | LARTRI | | | | S |

| | |
|---|---|
| % Foliar Cover | 30.006 |
| % Bare Ground | 43.342 |
| % Basal Cover | 0 |

## Plot 10- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | LARTRI | | | | S | 15.5 | NONE | L | | | S |
| 1 | NONE | | | | S | 16 | NONE | L | | | S |
| 1.5 | NONE | | | | S | 16.5 | LARTRI | | | | S |
| 2 | NONE | | | | S | 17 | LARTRI | | | | S |
| 2.5 | NONE | | | | S | 17.5 | LARTRI | | | | S |
| 3 | NONE | | | | S | 18 | NONE | | | | S |
| 3.5 | NONE | | | | S | 18.5 | NONE | | | | R |
| 4 | NONE | | | | S | 19 | PARMIC | | | | R |
| 4.5 | NONE | | | | S | 19.5 | PARMIC | | | | S |
| 5 | NONE | L | | | S | 20 | PARMIC | | | | S |
| 5.5 | NONE | L | | | S | 20.5 | PARMIC | MUHPOR | | | S |
| 6 | NONE | | | | S | 21 | PARMIC | | | | S |
| 6.5 | LARTRI | | | | S | 21.5 | NONE | | | | S |
| 7 | LARTRI | L | | | S | 22 | NONE | | | | S |
| 7.5 | LARTRI | | | | S | 22.5 | NONE | | | | S |
| 8 | NONE | | | | S | 23 | NONE | | | | S |
| 8.5 | NONE | | | | R | 23.5 | LARTRI | | | | S |
| 9 | NONE | | | | R | 24 | NONE | | | | S |
| 9.5 | LARTRI | L | | | S | 24.5 | NONE | | | | S |
| 10 | LARTRI | | | | S | 25 | NONE | | | | S |
| 10.5 | LARTRI | | | | S | 25.5 | NONE | | | | S |
| 11 | LARTRI | | | | S | 26 | NONE | | | | R |
| 11.5 | NONE | | | | S | 26.5 | NONE | | | | R |
| 12 | LARTRI | | | | S | 27 | NONE | L | | | S |
| 12.5 | NONE | | | | S | 27.5 | PARMIC | L | | | S |
| 13 | NONE | | | | S | 28 | NONE | L | | | S |
| 13.5 | NONE | | | | S | 28.5 | NONE | W | | | S |
| 14 | NONE | | | | S | 29 | NONE | | | | S |
| 14.5 | LARTRI | | | | S | 29.5 | LARTRI | BOUARI | L | | S |
| 15 | LARTRI | L | | | S | 30 | LARTRI | | | | S |

| | |
|---|---|
| % Foliar Cover | 38.341 |
| % Bare Ground | 41.675 |
| % Basal Cover | 0 |

# Plot 10- off ROW, Line 6

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | BOEERE | | | | S |
| 1 | NONE | | | | S |
| 1.5 | NONE | | | | S |
| 2 | NONE | | | | S |
| 2.5 | NONE | | | | S |
| 3 | NONE | | | | S |
| 3.5 | NONE | | | | S |
| 4 | LARTRI | | | | S |
| 4.5 | LARTRI | | | | S |
| 5 | LARTRI | BOEERE | | | S |
| 5.5 | LARTRI | | | | S |
| 6 | NONE | | | | S |
| 6.5 | NONE | | | | S |
| 7 | NONE | | | | S |
| 7.5 | NONE | | | | S |
| 8 | NONE | | | | S |
| 8.5 | NONE | | | | S |
| 9 | PROVEL | | | | S |
| 9.5 | MUHPOR | | | | S |
| 10 | PROVEL | L | | | S |
| 10.5 | BOEERE | L | | | S |
| 11 | BOEERE | L | | | S |
| 11.5 | NONE | | | | S |
| 12 | NONE | | | | S |
| 12.5 | NONE | | | | S |
| 13 | NONE | | | | R |
| 13.5 | NONE | | | | S |
| 14 | NONE | | | | S |
| 14.5 | PROVEL | L | | | S |
| 15 | PROVEL | MUHPOR | L | | S |
| 15.5 | PROVEL | L | | | S |
| 16 | PROVEL | L | | | S |
| 16.5 | PROVEL | L | | | S |
| 17 | PROVEL | | | | S |
| 17.5 | NONE | W | | | S |
| 18 | VACCON | | | | S |
| 18.5 | NONE | L | | | S |
| 19 | NONE | | | | S |
| 19.5 | NONE | | | | S |
| 20 | NONE | | | | S |
| 20.5 | NONE | | | | S |
| 21 | NONE | | | | S |
| 21.5 | LARTRI | | | | S |
| 22 | NONE | | | | S |
| 22.5 | LARTRI | L | | | S |
| 23 | LARTRI | W | | | S |
| 23.5 | LARTRI | L | | | S |
| 24 | LARTRI | | | | S |
| 24.5 | NONE | W | | | S |
| 25 | NONE | L | | | S |
| 25.5 | | | | | S |
| 26 | NONE | | | | S |
| 26.5 | PROVEL | BOEERE | | | S |
| 27 | PROVEL | | | | S |
| 27.5 | PROVEL | | | | S |
| 28 | NONE | | | | S |
| 28.5 | NONE | | | | R |
| 29 | NONE | | | | S |
| 29.5 | NONE | | | | S |
| 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 41.675 |
| % Bare Ground | 46.676 |
| % Basal Cover | 0 |

## Summary - Plot 10

**% Average Foliar Cover**

| | |
|---|---|
| On ROW | 67.791 |
| Off ROW | 36.674 |

**% Average Bare Ground**

| | |
|---|---|
| On ROW | 17.226 |
| Off ROW | 43.898 |

**% Average Basal Cover**

| | |
|---|---|
| On ROW | 0.000 |
| Off ROW | 0.000 |

## Plot 11- on ROW, Line 2

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | BOUARI | L | | | S | 15.5 | BOUARI | L | | | S |
| 1 | BOUARI | L | | | S | 16 | BOUARI | | | | S |
| 1.5 | BOUARI | L | | | S | 16.5 | BOUROT | BOUARI | L | | S |
| 2 | NONE | | | | S | 17 | BOUROT | L | | | S |
| 2.5 | BOUARI | | | | S | 17.5 | BOUROT | L | | | S |
| 3 | BOUROT | | | | S | 18 | BOUROT | BOUARI | L | | S |
| 3.5 | BAIMUL | BOUARI | L | | S | 18.5 | BOUARI | | | | S |
| 4 | BOUARI | L | | | S | 19 | BOUARI | | | | S |
| 4.5 | BAIMUL | BOUARI | L | | S | 19.5 | BOUARI | L | | | S |
| 5 | BAIMUL | L | | | S | 20 | NONE | | | | S |
| 5.5 | BOUARI | BOECOC | L | | S | 20.5 | NONE | | | | S |
| 6 | BOEERE | L | | | S | 21 | BOUARI | L | | | S |
| 6.5 | NONE | L | | | S | 21.5 | BOUARI | L | | | S |
| 7 | BOUARI | L | | | S | 22 | BOUARI | | | | S |
| 7.5 | BOUARI | L | | | S | 22.5 | BOUARI | | | | S |
| 8 | NONE | L | | | S | 23 | BOUARI | | | | S |
| 8.5 | BOUARI | L | | | S | 23.5 | BOUARI | L | | | S |
| 9 | BAIMUL | L | | | S | 24 | BOUARI | | | | S |
| 9.5 | BOUARI | L | | | S | 24.5 | SPHAMB | | | | S |
| 10 | BOUARI | L | | | S | 25 | NONE | W | | | S |
| 10.5 | BOUARI | L | | | S | 25.5 | BOUARI | L | | | S |
| 11 | BOUARI | | | | S | 26 | NONE | L | | | S |
| 11.5 | BOUARI | | | | S | 26.5 | BOUARI | L | | | S |
| 12 | BOUARI | L | | | S | 27 | BOUARI | L | | | S |
| 12.5 | BOUARI | L | | | S | 27.5 | BOUARI | L | | | S |
| 13 | BOEERE | L | | | S | 28 | BOUARI | | | | S |
| 13.5 | NONE | L | | | S | 28.5 | BOUARI | L | | | S |
| 14 | BAIMUL | L | | | S | 29 | BOUARI | | | | S |
| 14.5 | BOUARI | L | | | S | 29.5 | BOUARI | | | | S |
| 15 | BOUARI | L | | | S | 30 | BOUARI | | | | S |

| | |
|---|---|
| % Foliar Cover | 86.684 |
| % Bare Ground | 5.001 |
| % Basal Cover | 0 |

# Plot 11- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | BOEERE | BOUARI | | | S |
| 1 | BOUARI | L | | | S |
| 1.5 | BOUARI | L | | | S |
| 2 | NONE | L | | | S |
| 2.5 | BOUROT | L | | | S |
| 3 | BOUARI | L | | | S |
| 3.5 | NONE | L | | | S |
| 4 | NONE | L | | | S |
| 4.5 | NONE | L | | | S |
| 5 | BOUROT | L | | | S |
| 5.5 | NONE | L | | | S |
| 6 | NONE | | | | S |
| 6.5 | BOUARI | | | | S |
| 7 | BOUARI | | | | S |
| 7.5 | BOUARI | | | | S |
| 8 | BOUARI | | | | S |
| 8.5 | BOUARI | L | | | S |
| 9 | NONE | | | | S |
| 9.5 | BOUARI | | | | S |
| 10 | BOUARI | L | | | S |
| 10.5 | BOUARI | L | | | S |
| 11 | BOUARI | L | | | S |
| 11.5 | BOUARI | L | | | S |
| 12 | BOUARI | | | | S |
| 12.5 | NONE | | | | S |
| 13 | BOEERE | L | | | S |
| 13.5 | BOUARI | L | | | S |
| 14 | BOUARI | | | | S |
| 14.5 | BOUARI | L | | | S |
| 15 | BOUARI | | | | S |
| 15.5 | BOUARI | | | | S |
| 16 | BOUROT | BOUARI | L | | S |
| 16.5 | BOUARI | L | | | S |
| 17 | BOUARI | L | | | S |
| 17.5 | BOUARI | | | | S |
| 18 | BOUROT | | | | S |
| 18.5 | BOUROT | | | | S |
| 19 | NONE | L | | | S |
| 19.5 | BOUROT | | | | S |
| 20 | NONE | | | | S |
| 20.5 | BAIMUL | L | | | S |
| 21 | NONE | | | | S |
| 21.5 | BOUARI | L | | | S |
| 22 | BOUARI | | | | S |
| 22.5 | NONE | | | | S |
| 23 | BOUROT | | | | S |
| 23.5 | BOUROT | | | | S |
| 24 | BOUARI | | | | S |
| 24.5 | BOUROT | | | | S |
| 25 | BOUROT | | | | S |
| 25.5 | NONE | L | | | S |
| 26 | BOUARI | | | | S |
| 26.5 | BOUARI | | | | S |
| 27 | NONE | | | | S |
| 27.5 | NONE | | | | R |
| 28 | NONE | | | | S |
| 28.5 | BOEERE | | | | S |
| 29 | BOEERE | | | | S |
| 29.5 | BOEERE | BOUARI | | | S |
| 30 | NONE | | | | R |

| | |
|---|---|
| % Foliar Cover | 71.681 |
| % Bare Ground | 13.336 |
| % Basal Cover | 0 |

## Plot 11- on ROW, Line 2

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | L | | | S | 15.5 | BOUARI | | | | S |
| 1 | BOUARI | L | | | S | 16 | BOUARI | | | | S |
| 1.5 | BOEERE | L | | | S | 16.5 | BOUARI | | | | S |
| 2 | BOUARI | L | | | S | 17 | SPHAMB | BOEERE | BOUARI | L | S |
| 2.5 | ARIPUR | L | | | S | 17.5 | BOUERE | L | | | S |
| 3 | BOUARI | L | | | S | 18 | BOUROT | L | | | S |
| 3.5 | NONE | | | | S | 18.5 | BOUARI | L | | | S |
| 4 | NONE | | | | S | 19 | BOUROT | | | | S |
| 4.5 | BOEERE | ARIPUR | | | S | 19.5 | BOUARI | L | | | S |
| 5 | BOECOC | L | | | S | 20 | BAIMUL | L | | | S |
| 5.5 | BOUARI | L | | | S | 20.5 | BOUARI | L | | | S |
| 6 | BOUARI | L | | | S | 21 | BOUARI | L | | | S |
| 6.5 | BOUARI | L | | | S | 21.5 | BOUARI | L | | | S |
| 7 | SPHAMB | BOUARI | | | S | 22 | BOUARI | L | | | S |
| 7.5 | SPHAMB | BOUARI | | | S | 22.5 | BOEERE | L | | | S |
| 8 | BOUARI | L | | | S | 23 | BOUARI | | | | S |
| 8.5 | BOUARI | | | | S | 23.5 | NONE | L | | | S |
| 9 | BOUARI | | | | S | 24 | BOUARI | | | | S |
| 9.5 | BOUARI | L | | | S | 24.5 | BOUARI | | | | S |
| 10 | NONE | L | | | S | 25 | BOUARI | L | | | S |
| 10.5 | NONE | L | | | S | 25.5 | BOUARI | L | | | S |
| 11 | BOUARI | L | | | S | 26 | BOUROT | L | | | S |
| 11.5 | BOUROT | L | | | S | 26.5 | BOUARI | L | | | S |
| 12 | BOUARI | | | | S | 27 | BOUARI | L | | | S |
| 12.5 | BAIMUL | L | | | S | 27.5 | BOUARI | L | | | S |
| 13 | BOUARI | L | | | S | 28 | BOUARI | L | | | S |
| 13.5 | BOUARI | | | | S | 28.5 | BOUARI | | | | S |
| 14 | BOEERE | L | | | S | 29 | BOUARI | L | | | S |
| 14.5 | BOUARI | L | | | S | 29.5 | BOEERE | | | | S |
| 15 | BOUARI | | | | S | 30 | ARITER | | | | S |

| | |
|---|---|
| % Foliar Cover | 90.018 |
| % Bare Ground | 3.334 |
| % Basal Cover | 0 |

# Plot 11- off ROW, Line 6

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | BOEERE | L | | | S | 15.5 | BOUARI | | | | S |
| 1 | NONE | | | | S | 16 | BOUARI | L | | | S |
| 1.5 | BOEERE | | | | S | 16.5 | BOUARI | L | | | S |
| 2 | NONE | | | | S | 17 | BOUARI | | | | S |
| 2.5 | NONE | | | | S | 17.5 | BOUARI | | | | S |
| 3 | NONE | | | | S | 18 | CHAABR | L | | | S |
| 3.5 | BOUARI | | | | S | 18.5 | BOUARI | L | | | S |
| 4 | BOEERE | | | | S | 19 | BOUARI | | | | S |
| 4.5 | NONE | | | | S | 19.5 | BOUARI | L | | | S |
| 5 | BOUARI | | | | R | 20 | ARIPUR | L | | | S |
| 5.5 | BOEERE | | | | S | 20.5 | BOUARI | | | | S |
| 6 | BOUARI | L | | | S | 21 | BOUARI | L | | | S |
| 6.5 | BOUARI | | | | S | 21.5 | PROVEL | BOUARI | L | | S |
| 7 | BOUARI | | | | S | 22 | PROVEL | W | | | S |
| 7.5 | BOUARI | | | | S | 22.5 | NONE | L | | | S |
| 8 | BOUARI | | | | S | 23 | NONE | L | | | S |
| 8.5 | BOUARI | | | | S | 23.5 | NONE | | | | S |
| 9 | BOUARI | L | | | S | 24 | NONE | L | | | S |
| 9.5 | SENGRE | | | | S | 24.5 | NONE | | | | S |
| 10 | SENGRE | L | | | S | 25 | NONE | L | | | S |
| 10.5 | NONE | L | | | S | 25.5 | SENGRE | | | | S |
| 11 | BOEERE | | | | S | 26 | NONE | L | | | S |
| 11.5 | BOUARI | L | | | S | 26.5 | SENGRE | | | | S |
| 12 | BOUARI | | | | S | 27 | TIDLAN | | | | S |
| 12.5 | BOUARI | L | | | S | 27.5 | NONE | L | | | S |
| 13 | BOUARI | | | | S | 28 | BOUARI | L | | | S |
| 13.5 | BOUARI | | | | S | 28.5 | BOUARI | L | | | S |
| 14 | BOUARI | | | | S | 29 | BOUARI | L | | | S |
| 14.5 | BOUARI | | | | S | 29.5 | VACCON | L | | | S |
| 15 | BOUARI | L | | | S | 30 | VACCON | BOUARI | L | | S |

| | |
|---|---|
| % Foliar Cover | 76.682 |
| % Bare Ground | 11.669 |
| % Basal Cover | 0 |

## Plot 11- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | BOUARI | L | | | S |
| 1 | BOEERE | | | | S | 16 | NONE | | | | S |
| 1.5 | NONE | | | | S | 16.5 | NONE | L | | | S |
| 2 | BOUARI | | | | S | 17 | NONE | | | | S |
| 2.5 | BOUARI | L | | | S | 17.5 | NONE | | | | S |
| 3 | NONE | | | | S | 18 | BOUARI | L | | | S |
| 3.5 | CYLSPI | | | | S | 18.5 | BOUARI | L | | | S |
| 4 | CYLSPI | | | | S | 19 | BOUARI | | | | S |
| 4.5 | CYLSPI | L | | | S | 19.5 | BOUARI | | | | S |
| 5 | NONE | L | | | S | 20 | BOUARI | | | | S |
| 5.5 | VACCON | | | | S | 20.5 | BOUARI | L | | | S |
| 6 | VACCON | L | | | S | 21 | NONE | | | | S |
| 6.5 | NONE | L | | | S | 21.5 | NONE | L | | | S |
| 7 | NONE | | | | S | 22 | ARIPUR | L | | | S |
| 7.5 | BOUARI | | | | S | 22.5 | NONE | | | | S |
| 8 | BOUARI | | | | S | 23 | BOUARI | | | | S |
| 8.5 | BOUARI | L | | | S | 23.5 | NONE | | | | S |
| 9 | BOUARI | L | | | S | 24 | NONE | | | | S |
| 9.5 | BOUARI | | | | S | 24.5 | NONE | | | | S |
| 10 | BOUARI | L | | | S | 25 | NONE | L | | | S |
| 10.5 | BOUARI | L | | | S | 25.5 | NONE | | | | S |
| 11 | BOUARI | L | | | S | 26 | NONE | L | | | S |
| 11.5 | BOUARI | L | | | S | 26.5 | LARTRI | L | | | S |
| 12 | BOUARI | L | | | S | 27 | LARTRI | L | | | S |
| 12.5 | BOUARI | L | | | S | 27.5 | LARTRI | L | | | S |
| 13 | BOUARI | L | | | S | 28 | LARTRI | PANHAL | L | | S |
| 13.5 | NONE | | | | S | 28.5 | LARTRI | L | | | S |
| 14 | NONE | | | | S | 29 | PARMIC | L | | | S |
| 14.5 | NONE | | | | S | 29.5 | NONE | L | | | S |
| 15 | NONE | L | | | S | 30 | NONE | L | | | S |

| | |
|---|---|
| % Foliar Cover | 59.325 |
| % Bare Ground | 27.12 |
| % Basal Cover | 0 |

## Plot 11- off ROW, Line 6

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | VACCON | | | | S | 15.5 | NONE | | | | S |
| 1 | VACCON | BOECOC | | | S | 16 | NONE | | | | S |
| 1.5 | NONE | | | | S | 16.5 | PROVEL | | | | S |
| 2 | BOUARI | | | | S | 17 | PROVEL | L | | | S |
| 2.5 | BOUARI | | | | S | 17.5 | PROVEL | L | | | S |
| 3 | BOUARI | L | | | S | 18 | PROVEL | L | | | S |
| 3.5 | NONE | L | | | S | 18.5 | PROVEL | L | | | S |
| 4 | NONE | | | | S | 19 | PROVEL | | | | S |
| 4.5 | BOEERE | BOUARI | | | S | 19.5 | NONE | W | | | S |
| 5 | BOUARI | L | | | S | 20 | NONE | | | | S |
| 5.5 | BOUARI | | | | S | 20.5 | VACCON | | | | S |
| 6 | NONE | | | | S | 21 | VACCON | | | | S |
| 6.5 | NONE | | | | S | 21.5 | VACCON | L | | | S |
| 7 | VACCON | BOEERE | | | S | 22 | VACCON | | | | S |
| 7.5 | VACCON | | | | S | 22.5 | VACCON | | | | S |
| 8 | VACCON | | | | S | 23 | VACCON | L | | | S |
| 8.5 | VACCON | L | | | S | 23.5 | VACCON | | | | S |
| 9 | VACCON | L | | | S | 24 | NONE | L | | | S |
| 9.5 | NONE | L | | | S | 24.5 | NONE | | | | S |
| 10 | NONE | L | | | S | 25 | BOECOC | L | | | S |
| 10.5 | NONE | L | | | S | 25.5 | BOUARI | L | | | S |
| 11 | NONE | | | | S | 26 | BOUARI | L | | | S |
| 11.5 | BOEERE | L | | | S | 26.5 | BOUARI | L | | | S |
| 12 | BOEERE | | | | S | 27 | NONE | | | | S |
| 12.5 | NONE | | | | S | 27.5 | BOUARI | L | | | S |
| 13 | BOEERE | L | | | S | 28 | BOUARI | | | | S |
| 13.5 | BOUARI | L | | | S | 28.5 | BOUARI | | | | S |
| 14 | BOUARI | | | | S | 29 | BOUARI | | | | S |
| 14.5 | BOUARI | L | | | S | 29.5 | BOUARI | L | | | S |
| 15 | NONE | | | | S | 30 | BOUARI | | | | S |

| | |
|---|---|
| % Foliar Cover | 70.014 |
| % Bare Ground | 20.004 |
| % Basal Cover | 0 |

## Summary - Plot 11

**% Average Foliar Cover**

| | |
|---|---|
| On ROW | 82.794 |
| Off ROW | 68.674 |

**% Average Bare Ground**

| | |
|---|---|
| On ROW | 7.224 |
| Off ROW | 19.598 |

**% Average Basal Cover**

| | |
|---|---|
| On ROW | 0.000 |
| Off ROW | 0.000 |

## Plot 12- on ROW, Line 2

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | BOUARI | | | | S |
| 1 | NONE | | | | S | 16 | BOUARI | L | | | S |
| 1.5 | NONE | | | | S | 16.5 | BOUARI | L | | | S |
| 2 | NONE | | | | S | 17 | NONE | W | | | S |
| 2.5 | NONE | | | | R | 17.5 | NONE | | | | S |
| 3 | NONE | L | | | S | 18 | NONE | | | | S |
| 3.5 | NONE | | | | S | 18.5 | NONE | | | | S |
| 4 | NONE | L | | | S | 19 | NONE | | | | S |
| 4.5 | NONE | L | | | S | 19.5 | NONE | | | | S |
| 5 | NONE | L | | | S | 20 | AMBACA | | | | S |
| 5.5 | NONE | | | | S | 20.5 | NONE | | | | S |
| 6 | NONE | L | | | S | 21 | NONE | L | | | S |
| 6.5 | NONE | | | | R | 21.5 | NONE | | | | S |
| 7 | NONE | L | | | S | 22 | NONE | L | | | S |
| 7.5 | BOUARI | | | | S | 22.5 | NONE | | | | S |
| 8 | NONE | L | | | S | 23 | NONE | | | | S |
| 8.5 | NONE | L | | | S | 23.5 | NONE | L | | | S |
| 9 | BOUARI | L | | | R | 24 | NONE | | | | S |
| 9.5 | BOUARI | L | | | S | 24.5 | NONE | | | | S |
| 10 | NONE | L | | | S | 25 | NONE | | | | S |
| 10.5 | BOUARI | L | | | S | 25.5 | NONE | | | | S |
| 11 | NONE | L | | | S | 26 | NONE | | | | S |
| 11.5 | VACCON | L | | | S | 26.5 | NONE | | | | S |
| 12 | NONE | L | | | S | 27 | NONE | | | | S |
| 12.5 | NONE | L | | | S | 27.5 | NONE | L | | | S |
| 13 | NONE | | | | S | 28 | NONE | | | | R |
| 13.5 | NONE | L | | | S | 28.5 | PROVEL | L | | | S |
| 14 | PROVEL | L | | | S | 29 | PROVEL | L | | | S |
| 14.5 | NONE | | | | R | 29.5 | PROVEL | L | | | S |
| 15 | NONE | | | | S | 30 | PROVEL | L | | | S |

| | |
|---|---|
| % Foliar Cover | 24.136 |
| % Bare Ground | 41.376 |
| % Basal Cover | 0 |

## Plot 12- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | PROVEL | BOUARI | L | | S | 15.5 | NONE | L | | | S |
| 1 | BOUARI | L | | | S | 16 | NONE | L | | | S |
| 1.5 | BOEERE | L | | | S | 16.5 | NONE | | | | S |
| 2 | NONE | | | | S | 17 | BOUARI | | | | S |
| 2.5 | NONE | L | | | S | 17.5 | BOUARI | L | | | S |
| 3 | NONE | L | | | S | 18 | BOUARI | L | | | S |
| 3.5 | NONE | L | | | S | 18.5 | NONE | | | | S |
| 4 | BOUARI | | | | R | 19 | NONE | L | | | S |
| 4.5 | NONE | L | | | S | 19.5 | BOUARI | | | | S |
| 5 | NONE | L | | | S | 20 | ISOTEN | BOUARI | L | | S |
| 5.5 | NONE | L | | | S | 20.5 | BOUARI | | | | S |
| 6 | BOUARI | L | | | S | 21 | BOUARI | L | | | S |
| 6.5 | NONE | | | | S | 21.5 | BOUARI | L | | | S |
| 7 | NONE | | | | S | 22 | NONE | | | | S |
| 7.5 | BOUARI | | | | S | 22.5 | NONE | | | | S |
| 8 | BOUARI | | | | S | 23 | NONE | | | | S |
| 8.5 | NONE | | | | S | 23.5 | BOUARI | L | | | S |
| 9 | BOUARI | | | | S | 24 | NONE | | | | S |
| 9.5 | NONE | L | | | S | 24.5 | NONE | | | | R |
| 10 | NONE | | | | S | 25 | NONE | | | | R |
| 10.5 | BOUARI | | | | S | 25.5 | NONE | | | | S |
| 11 | NONE | | | | S | 26 | NONE | | | | R |
| 11.5 | BOUARI | | | | S | 26.5 | NONE | | | | S |
| 12 | BOUARI | | | | S | 27 | NONE | | | | R |
| 12.5 | BOUARI | | | | S | 27.5 | NONE | | | | S |
| 13 | NONE | | | | S | 28 | PROVEL | | | | S |
| 13.5 | NONE | | | | S | 28.5 | NONE | | | | S |
| 14 | BOEERE | | | | S | 29 | PROVEL | | | | S |
| 14.5 | ISOTEN | L | | | S | 29.5 | PROVEL | | | | S |
| 15 | NONE | | | | S | 30 | PROVEL | | | | S |

| | |
|---|---|
| % Foliar Cover | 48.222 |
| % Bare Ground | 33.934 |
| % Basal Cover | 0 |

## Plot 12- on ROW, Line 2

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | BOUARI | | | | S |
| 1 | NONE | L | | | S | 16 | BOUARI | | | | S |
| 1.5 | BOUARI | L | | | S | 16.5 | NONE | | | | S |
| 2 | BOUARI | | | | S | 17 | NONE | L | | | S |
| 2.5 | NONE | | | | S | 17.5 | NONE | L | | | S |
| 3 | NONE | L | | | S | 18 | NONE | L | | | S |
| 3.5 | NONE | L | | | S | 18.5 | NONE | | | | R |
| 4 | BOUARI | L | | | S | 19 | NONE | | | | R |
| 4.5 | NONE | L | | | S | 19.5 | NONE | | | | S |
| 5 | NONE | | | | S | 20 | NONE | W | | | S |
| 5.5 | NONE | L | | | S | 20.5 | BOUARI | | | | S |
| 6 | NONE | L | | | S | 21 | NONE | | | | R |
| 6.5 | NONE | | | | S | 21.5 | NONE | | | | R |
| 7 | NONE | | | | S | 22 | NONE | | | | S |
| 7.5 | NONE | L | | | S | 22.5 | BOUARI | | | | S |
| 8 | NONE | L | | | S | 23 | NONE | | | | S |
| 8.5 | NONE | L | | | S | 23.5 | NONE | | | | S |
| 9 | NONE | L | | | S | 24 | NONE | | | | R |
| 9.5 | BOUARI | L | | | S | 24.5 | NONE | | | | S |
| 10 | NONE | L | | | S | 25 | PROVEL | | | | S |
| 10.5 | NONE | | | | S | 25.5 | PROVEL | | | | S |
| 11 | NONE | L | | | S | 26 | | | | | |
| 11.5 | BOUARI | | | | S | 26.5 | | | | | |
| 12 | BOUARI | L | | | S | 27 | | | | | |
| 12.5 | BOUARI | | | | S | 27.5 | | | | | |
| 13 | BOUARI | | | | S | 28 | | | | | |
| 13.5 | NONE | | | | S | 28.5 | | | | | |
| 14 | NONE | | | | S | 29 | | | | | |
| 14.5 | NONE | | | | S | 29.5 | | | | | |
| 15 | NONE | | | | S | 30 | | | | | |

| | |
|---|---|
| % Foliar Cover | 26.922 |
| % Bare Ground | 30.768 |
| % Basal Cover | 0 |

## Plot 12- off ROW, Line 6

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | NONE | | | | S |
| 1 | NONE | | | | S | 16 | NONE | | | | S |
| 1.5 | BOUARI | | | | S | 16.5 | NONE | | | | R |
| 2 | NONE | | | | S | 17 | NONE | | | | S |
| 2.5 | NONE | L | | | S | 17.5 | BOUARI | | | | S |
| 3 | NONE | L | | | S | 18 | NONE | | | | S |
| 3.5 | VACCON | L | | | S | 18.5 | NONE | | | | S |
| 4 | VACCON | L | | | S | 19 | PROVEL | | | | S |
| 4.5 | NONE | | | | S | 19.5 | NONE | | | | S |
| 5 | VACCON | | | | S | 20 | NONE | L | | | S |
| 5.5 | NONE | | | | S | 20.5 | PROVEL | W | | | S |
| 6 | NONE | L | | | S | 21 | PROVEL | | | | S |
| 6.5 | NONE | L | | | S | 21.5 | PROVEL | L | | | S |
| 7 | BOUARI | L | | | S | 22 | PROVEL | | | | S |
| 7.5 | NONE | | | | S | 22.5 | NONE | | | | R |
| 8 | NONE | | | | S | 23 | BOUARI | | | | S |
| 8.5 | NONE | | | | S | 23.5 | NONE | | | | S |
| 9 | NONE | | | | S | 24 | NONE | | | | S |
| 9.5 | NONE | | | | R | 24.5 | NONE | | | | S |
| 10 | NONE | | | | R | 25 | NONE | | | | S |
| 10.5 | NONE | | | | S | 25.5 | NONE | | | | S |
| 11 | NONE | | | | S | 26 | NONE | | | | S |
| 11.5 | BOUARI | L | | | S | 26.5 | NONE | | | | S |
| 12 | NONE | | | | S | 27 | NONE | | | | S |
| 12.5 | BOUARI | | | | S | 27.5 | NONE | | | | S |
| 13 | NONE | | | | S | 28 | NONE | | | | S |
| 13.5 | NONE | | | | S | 28.5 | NONE | | | | S |
| 14 | NONE | | | | S | 29 | NONE | | | | S |
| 14.5 | NONE | | | | S | 29.5 | NONE | | | | S |
| 15 | NONE | L | | | S | 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 23.338 |
| % Bare Ground | 60.012 |
| % Basal Cover | 0 |

## Plot 12- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | R | 15.5 | BOUARI | | | | S |
| 1 | NONE | L | | | S | 16 | NONE | | | | S |
| 1.5 | NONE | | | | S | 16.5 | BOUARI | | | | S |
| 2 | PARFLO | | | | S | 17 | NONE | | | | S |
| 2.5 | PARFLO | | | | S | 17.5 | NONE | | | | S |
| 3 | PARFLO | | | | S | 18 | NONE | | | | S |
| 3.5 | NONE | | | | S | 18.5 | NONE | | | | S |
| 4 | NONE | | | | S | 19 | NONE | L | | | S |
| 4.5 | NONE | L | | | S | 19.5 | NONE | | | | R |
| 5 | NONE | | | | S | 20 | NONE | | | | S |
| 5.5 | NONE | | | | S | 20.5 | BOUARI | | | | S |
| 6 | BOUARI | L | | | S | 21 | NONE | | | | S |
| 6.5 | BOUARI | | | | S | 21.5 | NONE | | | | S |
| 7 | FUNCYN | | | | S | 22 | BOUARI | | | | S |
| 7.5 | NONE | L | | | S | 22.5 | BOUARI | | | | S |
| 8 | NONE | | | | R | 23 | BOUARI | | | | S |
| 8.5 | NONE | | | | S | 23.5 | BOUARI | | | | S |
| 9 | NONE | | | | S | 24 | NONE | | | | R |
| 9.5 | BOUARI | | | | S | 24.5 | NONE | | | | S |
| 10 | NONE | | | | S | 25 | NONE | | | | S |
| 10.5 | NONE | L | | | S | 25.5 | NONE | | | | S |
| 11 | NONE | | | | S | 26 | ISOTEN | | | | S |
| 11.5 | NONE | | | | S | 26.5 | NONE | | | | R |
| 12 | NONE | L | | | S | 27 | ISOTEN | | | | S |
| 12.5 | NONE | | | | S | 27.5 | NONE | L | | | S |
| 13 | BOUARI | | | | S | 28 | BOEERE | | | | S |
| 13.5 | NONE | L | | | S | 28.5 | NONE | L | | | S |
| 14 | NONE | | | | S | 29 | NONE | W | | | S |
| 14.5 | NONE | L | | | S | 29.5 | PROVEL | L | | | S |
| 15 | NONE | | | | S | 30 | PROVEL | L | | | S |

| | |
|---|---|
| % Foliar Cover | 33.34 |
| % Bare Ground | 40.008 |
| % Basal Cover | 0 |

## Plot 12- off ROW, Line 6

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | NONE | | | | S |
| 1 | NONE | | | | S | 16 | ISOTEN | | | | S |
| 1.5 | NONE | | | | S | 16.5 | NONE | | | | S |
| 2 | BOUARI | L | | | S | 17 | NONE | | | | R |
| 2.5 | NONE | | | | S | 17.5 | NONE | L | | | S |
| 3 | BOUARI | L | | | S | 18 | NONE | | | | S |
| 3.5 | NONE | | | | S | 18.5 | NONE | | | | S |
| 4 | NONE | | | | R | 19 | NONE | | | | S |
| 4.5 | NONE | | | | R | 19.5 | NONE | L | | | S |
| 5 | NONE | | | | S | 20 | NONE | | | | S |
| 5.5 | NONE | L | | | S | 20.5 | NONE | | | | S |
| 6 | BOUARI | | | | S | 21 | NONE | L | | | S |
| 6.5 | NONE | | | | S | 21.5 | NONE | | | | S |
| 7 | BOUARI | | | | S | 22 | BOUARI | | | | S |
| 7.5 | NONE | | | | S | 22.5 | NONE | | | | S |
| 8 | NONE | L | | | S | 23 | BOUARI | | | | S |
| 8.5 | NONE | L | | | S | 23.5 | BOUARI | | | | S |
| 9 | NONE | L | | | S | 24 | NONE | | | | S |
| 9.5 | NONE | | | | S | 24.5 | BOUARI | L | | | S |
| 10 | BOUARI | L | | | S | 25 | NONE | | | | S |
| 10.5 | NONE | L | | | S | 25.5 | NONE | | | | S |
| 11 | BOUARI | L | | | S | 26 | BOUARI | L | | | S |
| 11.5 | BOUARI | L | | | S | 26.5 | BOUARI | L | | | S |
| 12 | NONE | | | | S | 27 | NONE | | | | S |
| 12.5 | NONE | | | | S | 27.5 | NONE | | | | S |
| 13 | NONE | | | | S | 28 | NONE | | | | S |
| 13.5 | NONE | | | | S | 28.5 | NONE | L | | | S |
| 14 | NONE | | | | S | 29 | BOUARI | L | | | S |
| 14.5 | ISOTEN | L | | | S | 29.5 | BOUARI | | | | S |
| 15 | NONE | | | | S | 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 28.339 |
| % Bare Ground | 51.677 |
| % Basal Cover | 0 |

## Summary - Plot 12

**% Average Foliar Cover**

| | |
|---|---|
| On ROW | 33.093 |
| Off ROW | 28.339 |

**% Average Bare Ground**

| | |
|---|---|
| On ROW | 35.359 |
| Off ROW | 50.566 |

**% Average Basal Cover**

| | |
|---|---|
| On ROW | 0.000 |
| Off ROW | 0.000 |

## Plot 13- on ROW, Line 2

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | L | | | S | 15.5 | NONE | | | | S |
| 1 | NONE | | | | S | 16 | NONE | | | | S |
| 1.5 | BOEERE | L | | | S | 16.5 | NONE | L | | | S |
| 2 | NONE | | | | S | 17 | BOUARI | | | | S |
| 2.5 | NONE | L | | | S | 17.5 | NONE | | | | S |
| 3 | BOUARI | | | | S | 18 | BOEERE | | | | R |
| 3.5 | NONE | | | | S | 18.5 | NONE | | | | S |
| 4 | BOUARI | L | | | S | 19 | NONE | | | | S |
| 4.5 | NONE | | | | S | 19.5 | NONE | | | | S |
| 5 | NONE | L | | | S | 20 | NONE | | | | S |
| 5.5 | BOUARI | L | | | S | 20.5 | NONE | | | | S |
| 6 | NONE | | | | S | 21 | BOUARI | L | | | S |
| 6.5 | NONE | | | | S | 21.5 | BOUARI | | | | S |
| 7 | NONE | | | | S | 22 | NONE | | | | S |
| 7.5 | BOUARI | | | | S | 22.5 | NONE | | | | S |
| 8 | NONE | | | | S | 23 | NONE | L | | | S |
| 8.5 | NONE | L | | | S | 23.5 | NONE | | | | R |
| 9 | BOUARI | | | | S | 24 | NONE | | | | S |
| 9.5 | NONE | | | | S | 24.5 | BOEERE | | | | S |
| 10 | NONE | L | | | S | 25 | NONE | | | | S |
| 10.5 | LARTRI | | | | S | 25.5 | NONE | L | | | S |
| 11 | NONE | | | | R | 26 | NONE | L | | | S |
| 11.5 | BOUARI | | | | S | 26.5 | NONE | L | | | S |
| 12 | NONE | | | | S | 27 | BOEERE | L | | | S |
| 12.5 | NONE | | | | S | 27.5 | NONE | | | | S |
| 13 | BOUARI | | | | S | 28 | NONE | | | | S |
| 13.5 | NONE | | | | S | 28.5 | LARTRI | | | | S |
| 14 | NONE | | | | S | 29 | LARTRI | BOUARI | L | | S |
| 14.5 | ISOTEN | L | | | S | 29.5 | LARTRI | BOUARI | l | | S |
| 15 | NONE | | | | S | 30 | BOUARI | | | | S |

| | |
|---|---|
| % Foliar Cover | 30.006 |
| % Bare Ground | 46.676 |
| % Basal Cover | 0 |

## Plot 13- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | BOEERE | | | | S |
| 1 | NONE | | | | S | 16 | BOUROT | BOEERE | L | | S |
| 1.5 | NONE | | | | S | 16.5 | BOUROT | L | | | S |
| 2 | NONE | | | | S | 17 | NONE | | | | S |
| 2.5 | NONE | | | | S | 17.5 | BOEERE | | | | S |
| 3 | NONE | | | | S | 18 | NONE | | | | S |
| 3.5 | NONE | | | | S | 18.5 | NONE | | | | S |
| 4 | NONE | | | | S | 19 | SPHAMB | | | | S |
| 4.5 | BOEERE | L | | | S | 19.5 | BOUROT | L | | | S |
| 5 | NONE | | | | S | 20 | BOUARI | L | | | S |
| 5.5 | BOUROT | L | | | S | 20.5 | BOUARI | | | | S |
| 6 | BOEERE | BOUARI | L | | S | 21 | NONE | | | | S |
| 6.5 | SPOCRY | TIDLAN | L | | S | 21.5 | BOUARI | L | | | S |
| 7 | BOUROT | BOUARI | L | | S | 22 | NONE | L | | | S |
| 7.5 | NONE | L | | | S | 22.5 | NONE | | | | S |
| 8 | ARIPUR | L | | | S | 23 | NONE | | | | S |
| 8.5 | SPOCRY | L | | | S | 23.5 | NONE | | | | S |
| 9 | VACCON | SPOCRY | L | | S | 24 | BOUARI | L | | | S |
| 9.5 | SPOCRY | L | | | S | 24.5 | BOUARI | | | | S |
| 10 | SPOCRY | | | | S | 25 | NONE | | | | S |
| 10.5 | SPHAMB | SPOCRY | L | | S | 25.5 | BOUARI | | | | S |
| 11 | SPHAMB | L | | | S | 26 | NONE | | | | S |
| 11.5 | BOUROT | BOUARI | L | | S | 26.5 | NONE | | | | S |
| 12 | BOUROT | L | | | S | 27 | BOECOC | L | | | S |
| 12.5 | BOUROT | L | | | S | 27.5 | NONE | | | | S |
| 13 | BOUROT | BOUARI | L | | S | 28 | NONE | | | | S |
| 13.5 | BOUARI | L | | | S | 28.5 | NONE | | | | S |
| 14 | NONE | | | | S | 29 | NONE | | | | S |
| 14.5 | BOUARI | L | | | S | 29.5 | NONE | | | | S |
| 15 | NONE | L | | | S | 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 51.677 |
| % Bare Ground | 43.342 |
| % Basal Cover | 0 |

## Plot 13- on ROW, Line 2

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | SPOCRY | L | | | S | 15.5 | BOEERE | | | | S |
| 1 | SPOCRY | L | | | S | 16 | BOEERE | | | | S |
| 1.5 | SETMAC | L | | | S | 16.5 | SPOCRY | | | | S |
| 2 | SETMAC | L | | | S | 17 | BOEERE | L | | | S |
| 2.5 | NONE | L | | | S | 17.5 | NONE | | | | S |
| 3 | SPOCRY | L | | | S | 18 | NONE | | | | S |
| 3.5 | SPOCRY | L | | | S | 18.5 | NONE | | | | S |
| 4 | SPOCRY | L | | | S | 19 | NONE | L | | | S |
| 4.5 | SPOCRY | L | | | S | 19.5 | NONE | | | | S |
| 5 | NONE | L | | | S | 20 | BOEERE | L | | | S |
| 5.5 | SPOCRY | L | | | S | 20.5 | BOEERE | L | | | S |
| 6 | SPHAMB | L | | | S | 21 | NONE | L | | | S |
| 6.5 | SPOCRY | L | | | S | 21.5 | NONE | | | | S |
| 7 | SPHAMB | L | | | S | 22 | NONE | | | | S |
| 7.5 | SPOCRY | L | | | S | 22.5 | NONE | L | | | S |
| 8 | SPOCRY | L | | | S | 23 | NONE | | | | S |
| 8.5 | SPHAMB | L | | | S | 23.5 | NONE | L | | | S |
| 9 | SPOCRY | L | | | S | 24 | BOUARI | L | | | S |
| 9.5 | ARIPUR | L | | | S | 24.5 | NONE | | | | S |
| 10 | NONE | L | | | S | 25 | NONE | | | | S |
| 10.5 | NONE | | | | S | 25.5 | BOUARI | | | | S |
| 11 | SPOCRY | L | | | S | 26 | NONE | | | | S |
| 11.5 | LARTRI | SPOCRY | L | | S | 26.5 | NONE | | | | S |
| 12 | LARTRI | BOUARI | L | | S | 27 | NONE | | | | S |
| 12.5 | BOUROT | L | | | S | 27.5 | NONE | | | | S |
| 13 | BOUROT | L | | | S | 28 | NONE | | | | S |
| 13.5 | BOUROT | | | | R | 28.5 | NONE | | | | S |
| 14 | NONE | | | | S | 29 | NONE | | | | S |
| 14.5 | NONE | | | | S | 29.5 | NONE | | | | S |
| 15 | NONE | | | | S | 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 53.444 |
| % Bare Ground | 34.48 |
| % Basal Cover | 0 |

## Plot 13- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | NONE | | | | S |
| 1 | NONE | | | | S | 16 | LARTRI | | | | S |
| 1.5 | NONE | | | | S | 16.5 | NONE | | | | S |
| 2 | NONE | | | | S | 17 | NONE | | | | S |
| 2.5 | NONE | L | | | S | 17.5 | NONE | | | | S |
| 3 | NONE | | | | S | 18 | NONE | | | | S |
| 3.5 | NONE | | | | S | 18.5 | NONE | | | | S |
| 4 | NONE | | | | S | 19 | NONE | | | | S |
| 4.5 | NONE | | | | S | 19.5 | NONE | | | | S |
| 5 | NONE | | | | S | 20 | NONE | | | | S |
| 5.5 | NONE | | | | S | 20.5 | NONE | | | | S |
| 6 | NONE | | | | S | 21 | NONE | | | | S |
| 6.5 | NONE | | | | S | 21.5 | NONE | | | | S |
| 7 | NONE | | | | S | 22 | NONE | | | | S |
| 7.5 | NONE | | | | R | 22.5 | NONE | | | | S |
| 8 | NONE | | | | R | 23 | NONE | | | | S |
| 8.5 | NONE | | | | S | 23.5 | NONE | | | | S |
| 9 | NONE | | | | R | 24 | NONE | | | | S |
| 9.5 | NONE | | | | S | 24.5 | NONE | | | | S |
| 10 | NONE | | | | S | 25 | NONE | | | | S |
| 10.5 | LARTRI | | | | S | 25.5 | NONE | | | | S |
| 11 | LARTRI | | | | S | 26 | NONE | | | | S |
| 11.5 | LARTRI | L | | | S | 26.5 | NONE | | | | S |
| 12 | LARTRI | L | | | S | 27 | NONE | | | | S |
| 12.5 | NONE | | | | S | 27.5 | NONE | | | | S |
| 13 | NONE | | | | S | 28 | NONE | | | | S |
| 13.5 | NONE | | | | S | 28.5 | NONE | | | | S |
| 14 | NONE | | | | S | 29 | NONE | | | | S |
| 14.5 | NONE | L | | | S | 29.5 | NONE | | | | S |
| 15 | LARTRI | | | | S | 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 10.002 |
| % Bare Ground | 81.683 |
| % Basal Cover | 0 |

## Plot 13- off ROW, Line 6

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | W | | | S | 15.5 | BOUARI | L | | | S |
| 1 | NONE | L | | | S | 16 | BOUARI | L | | | S |
| 1.5 | NONE | | | | S | 16.5 | BOUARI | | | | S |
| 2 | BOUARI | | | | S | 17 | BOUARI | | | | S |
| 2.5 | BOUARI | | | | S | 17.5 | BOUARI | | | | S |
| 3 | BOUARI | | | | S | 18 | BOUARI | | | | S |
| 3.5 | BOUARI | | | | S | 18.5 | BOUARI | | | | S |
| 4 | BOUARI | | | | S | 19 | BOUARI | | | | S |
| 4.5 | BOUARI | | | | S | 19.5 | BOUARI | L | | | S |
| 5 | BOEERE | BOUARI | | | S | 20 | NONE | | | | S |
| 5.5 | NONE | | | | S | 20.5 | BOUARI | | | | S |
| 6 | BOEERE | | | | S | 21 | NONE | | | | S |
| 6.5 | NONE | | | | S | 21.5 | NONE | | | | S |
| 7 | NONE | | | | S | 22 | NONE | L | | | S |
| 7.5 | BOUARI | | | | S | 22.5 | BOUARI | | | | S |
| 8 | BOUARI | L | | | S | 23 | NONE | | | | S |
| 8.5 | BOUARI | | | | S | 23.5 | NONE | L | | | S |
| 9 | NONE | | | | S | 24 | PROVEL | L | | | S |
| 9.5 | BOUARI | L | | | S | 24.5 | PROVEL | L | | | S |
| 10 | NONE | L | | | S | 25 | PROVEL | BOUARI | | | R |
| 10.5 | BOUARI | L | | | S | 25.5 | PROVEL | L | | | S |
| 11 | BOUARI | L | | | S | 26 | PROVEL | | | | S |
| 11.5 | NONE | | | | S | 26.5 | PROVEL | | | | S |
| 12 | BOUARI | | | | S | 27 | PROVEL | | | | R |
| 12.5 | NONE | L | | | S | 27.5 | PROVEL | L | | | S |
| 13 | NONE | L | | | S | 28 | NONE | | | | S |
| 13.5 | BOUARI | L | | | S | 28.5 | NONE | | | | S |
| 14 | BOUARI | | | | S | 29 | NONE | | | | S |
| 14.5 | BOUARI | | | | S | 29.5 | NONE | | | | S |
| 15 | NONE | | | | S | 30 | BOUARI | | | | S |

| | |
|---|---|
| % Foliar Cover | 63.346 |
| % Bare Ground | 25.005 |
| % Basal Cover | 0 |

## Plot 13- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | BOUARI | L | | | S |
| 1 | NONE | | | | R | 16 | BOUARI | | | | S |
| 1.5 | NONE | | | | S | 16.5 | NONE | | | | S |
| 2 | NONE | | | | S | 17 | NONE | | | | S |
| 2.5 | BOUARI | | | | S | 17.5 | BOUARI | L | | | S |
| 3 | BOUARI | | | | S | 18 | NONE | | | | S |
| 3.5 | NONE | L | | | S | 18.5 | BOUARI | | | | S |
| 4 | BOUARI | L | | | S | 19 | BOUARI | | | | S |
| 4.5 | NONE | | | | S | 19.5 | BOUARI | L | | | S |
| 5 | BOUARI | | | | S | 20 | NONE | | | | R |
| 5.5 | BOUARI | L | | | S | 20.5 | NONE | | | | S |
| 6 | BOUARI | L | | | S | 21 | NONE | | | | S |
| 6.5 | BOUARI | L | | | S | 21.5 | NONE | | | | S |
| 7 | BOUARI | L | | | S | 22 | NONE | L | | | S |
| 7.5 | NONE | L | | | S | 22.5 | NONE | | | | S |
| 8 | BOUARI | L | | | S | 23 | NONE | L | | | S |
| 8.5 | PROVEL | BOUARI | L | | S | 23.5 | MUHPOR | | | | S |
| 9 | PROVEL | BOUARI | | | S | 24 | BOUARI | | | | S |
| 9.5 | NONE | | | | S | 24.5 | NONE | | | | S |
| 10 | BOUARI | L | | | S | 25 | NONE | | | | S |
| 10.5 | ATRCAN | | | | S | 25.5 | NONE | | | | S |
| 11 | ATRCAN | | | | S | 26 | NONE | | | | S |
| 11.5 | NONE | L | | | S | 26.5 | BOUARI | L | | | S |
| 12 | NONE | L | | | S | 27 | NONE | | | | S |
| 12.5 | BOUARI | L | | | S | 27.5 | NONE | | | | S |
| 13 | BOUARI | L | | | S | 28 | BOUARI | L | | | S |
| 13.5 | NONE | | | | S | 28.5 | NONE | | | | S |
| 14 | NONE | | | | S | 29 | BOUARI | | | | S |
| 14.5 | BOUARI | L | | | S | 29.5 | BOUARI | L | | | S |
| 15 | NONE | | | | S | 30 | NONE | L | | | S |

| | |
|---|---|
| % Foliar Cover | 48.343 |
| % Bare Ground | 36.674 |
| % Basal Cover | 0 |

## Summary - Plot 13

**% Average Foliar Cover**

| | |
|---|---|
| On ROW | 45.042 |
| Off ROW | 40.564 |

**% Average Bare Ground**

| | |
|---|---|
| On ROW | 41.499 |
| Off ROW | 47.787 |

**% Average Basal Cover**

| | |
|---|---|
| On ROW | 0.000 |
| Off ROW | 0.000 |

## Plot 14- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | NONE | | | | S |
| 1 | NONE | L | | | S | 16 | ISOTEN | | | | S |
| 1.5 | NONE | L | | | S | 16.5 | BOUROT | L | | | S |
| 2 | NONE | | | | S | 17 | BOUARI | L | | | S |
| 2.5 | ISOTEN | L | | | S | 17.5 | BOUARI | L | | | S |
| 3 | BOUARI | | | | S | 18 | NONE | W | | | S |
| 3.5 | NONE | | | | S | 18.5 | NONE | | | | S |
| 4 | NONE | L | | | S | 19 | BOUARI | L | | | S |
| 4.5 | NONE | L | | | S | 19.5 | ISOTEN | | | | ISOTEN |
| 5 | NONE | L | | | S | 20 | BOUARI | L | | | S |
| 5.5 | NONE | | | | S | 20.5 | BOUARI | L | | | S |
| 6 | NONE | | | | S | 21 | BOUARI | L | | | S |
| 6.5 | NONE | L | | | S | 21.5 | BOUARI | L | | | S |
| 7 | BOUARI | | | | S | 22 | ATRCAN | L | | | S |
| 7.5 | NONE | L | | | S | 22.5 | BOUARI | L | | | S |
| 8 | BOUARI | | | | S | 23 | BOUARI | L | | | S |
| 8.5 | BOUARI | L | | | S | 23.5 | BOUARI | L | | | S |
| 9 | NONE | | | | S | 24 | BOUARI | L | | | S |
| 9.5 | BOUARI | L | | | S | 24.5 | NONE | L | | | S |
| 10 | BOUARI | | | | S | 25 | BOUARI | L | | | S |
| 10.5 | ISOTEN | L | | | S | 25.5 | BOUARI | L | | | S |
| 11 | ISOTEN | L | | | S | 26 | BOUARI | L | | | S |
| 11.5 | NONE | | | | S | 26.5 | NONE | L | | | S |
| 12 | BOUARI | | | | S | 27 | NONE | | | | S |
| 12.5 | NONE | L | | | S | 27.5 | NONE | | | | R |
| 13 | BOUARI | L | | | S | 28 | NONE | | | | S |
| 13.5 | SPHAMB | L | | | S | 28.5 | BOUARI | | | | S |
| 14 | BOUROT | | | | S | 29 | NONE | | | | S |
| 14.5 | BOUARI | L | | | S | 29.5 | BOUARI | | | | S |
| 15 | NONE | | | | S | 30 | ISOTEN | L | | | S |

| | |
|---|---|
| % Foliar Cover | 58.345 |
| % Bare Ground | 21.671 |
| % Basal Cover | 1.667 |

# Plot 14- on ROW, Line 2

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | W | | | S | 15.5 | ISOTEN | | | | S |
| 1 | NONE | | | | S | 16 | ISOTEN | L | | | S |
| 1.5 | BOUARI | | | | S | 16.5 | NONE | L | | | S |
| 2 | NONE | | | | S | 17 | NONE | L | | | S |
| 2.5 | NONE | | | | S | 17.5 | ISOTEN | L | | | S |
| 3 | NONE | | | | S | 18 | NONE | L | | | S |
| 3.5 | NONE | | | | S | 18.5 | NONE | L | | | S |
| 4 | NONE | | | | S | 19 | BOUROT | | | | S |
| 4.5 | NONE | | | | S | 19.5 | ISOTEN | L | | | S |
| 5 | NONE | | | | S | 20 | NONE | | | | S |
| 5.5 | NONE | | | | S | 20.5 | BOUARI | | | | S |
| 6 | NONE | | | | S | 21 | NONE | L | | | S |
| 6.5 | NONE | L | | | S | 21.5 | NONE | L | | | S |
| 7 | NONE | | | | S | 22 | NONE | L | | | S |
| 7.5 | NONE | L | | | S | 22.5 | BOUARI | L | | | S |
| 8 | BOUARI | L | | | S | 23 | BOUARI | L | | | S |
| 8.5 | NONE | | | | R | 23.5 | BOUARI | L | | | S |
| 9 | NONE | L | | | S | 24 | NONE | L | | | S |
| 9.5 | NONE | | | | S | 24.5 | BOUARI | L | | | S |
| 10 | NONE | | | | S | 25 | NONE | | | | S |
| 10.5 | BOUARI | | | | S | 25.5 | NONE | | | | S |
| 11 | BOUARI | L | | | S | 26 | NONE | | | | S |
| 11.5 | NONE | | | | S | 26.5 | ISOTEN | | | | S |
| 12 | BOUARI | L | | | S | 27 | NONE | | | | S |
| 12.5 | NONE | | | | R | 27.5 | NONE | | | | S |
| 13 | ISOTEN | | | | S | 28 | NONE | L | | | S |
| 13.5 | BOUARI | | | | S | 28.5 | BOUARI | L | | | S |
| 14 | NONE | | | | S | 29 | NONE | L | | | S |
| 14.5 | BOUARI | | | | S | 29.5 | NONE | L | | | S |
| 15 | BOUARI | | | | S | 30 | NONE | L | | | S |

| | |
|---|---|
| % Foliar Cover | 35.007 |
| % Bare Ground | 35.007 |
| % Basal Cover | 0 |

## Plot 14- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | NONE | | | | R |
| 1 | NONE | | | | S | 16 | NONE | L | | | S |
| 1.5 | NONE | | | | S | 16.5 | NONE | L | | | S |
| 2 | NONE | | | | S | 17 | NONE | L | | | S |
| 2.5 | NONE | | | | S | 17.5 | NONE | | | | S |
| 3 | NONE | | | | R | 18 | NONE | | | | S |
| 3.5 | NONE | | | | S | 18.5 | NONE | | | | S |
| 4 | NONE | | | | S | 19 | NONE | | | | S |
| 4.5 | NONE | | | | S | 19.5 | BOUARI | | | | S |
| 5 | NONE | | | | S | 20 | BOUROT | | | | S |
| 5.5 | NONE | | | | S | 20.5 | NONE | L | | | S |
| 6 | NONE | L | | | S | 21 | NONE | | | | R |
| 6.5 | NONE | | | | S | 21.5 | ISOTEN | | | | S |
| 7 | NONE | | | | S | 22 | NONE | | | | S |
| 7.5 | NONE | | | | S | 22.5 | BOUARI | | | | S |
| 8 | NONE | L | | | S | 23 | BOUARI | | | | S |
| 8.5 | NONE | | | | S | 23.5 | ISOTEN | | | | S |
| 9 | NONE | | | | R | 24 | ISOTEN | | | | S |
| 9.5 | NONE | | | | S | 24.5 | NONE | | | | S |
| 10 | BOUARI | | | | S | 25 | NONE | | | | S |
| 10.5 | BOUARI | | | | S | 25.5 | NONE | | | | S |
| 11 | BOUARI | L | | | S | 26 | BOUARI | L | | | S |
| 11.5 | NONE | | | | R | 26.5 | NONE | | | | R |
| 12 | DITNEO | L | | | S | 27 | NONE | | | | R |
| 12.5 | BOUARI | L | | | S | 27.5 | BOUARI | | | | R |
| 13 | BOUARI | L | | | S | 28 | NONE | | | | S |
| 13.5 | BOUARI | L | | | S | 28.5 | ISOTEN | | | | S |
| 14 | BOUARI | | | | S | 29 | NONE | | | | S |
| 14.5 | NONE | L | | | S | 29.5 | NONE | | | | S |
| 15 | BOUARI | L | | | S | 30 | ISOTEN | L | | | S |

| | |
|---|---|
| % Foliar Cover | 33.34 |
| % Bare Ground | 43.342 |
| % Basal Cover | 0 |

## Plot 14- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | NONE | | | | S |
| 1 | CYLSPI | | | | S | 16 | NONE | | | | S |
| 1.5 | CYLSPI | | | | S | 16.5 | NONE | | | | S |
| 2 | NONE | | | | S | 17 | NONE | | | | S |
| 2.5 | NONE | | | | S | 17.5 | NONE | | | | S |
| 3 | NONE | | | | S | 18 | NONE | | | | S |
| 3.5 | NONE | | | | S | 18.5 | NONE | | | | S |
| 4 | NONE | | | | S | 19 | NONE | | | | S |
| 4.5 | NONE | | | | S | 19.5 | NONE | | | | S |
| 5 | PROVEL | | | | S | 20 | NONE | | | | S |
| 5.5 | BOUARI | | | | S | 20.5 | NONE | | | | S |
| 6 | NONE | | | | S | 21 | NONE | | | | S |
| 6.5 | NONE | | | | S | 21.5 | NONE | | | | S |
| 7 | ISOTEN | | | | S | 22 | NONE | | | | S |
| 7.5 | NONE | | | | S | 22.5 | NONE | | | | S |
| 8 | NONE | | | | S | 23 | NONE | | | | S |
| 8.5 | NONE | | | | S | 23.5 | NONE | | | | S |
| 9 | NONE | | | | R | 24 | PROVEL | | | | S |
| 9.5 | NONE | | | | R | 24.5 | NONE | | | | S |
| 10 | NONE | | | | S | 25 | PROVEL | | | | S |
| 10.5 | NONE | L | | | S | 25.5 | PROVEL | | | | S |
| 11 | PROVEL | | | | S | 26 | NONE | | | | S |
| 11.5 | NONE | L | | | S | 26.5 | NONE | | | | S |
| 12 | NONE | | | | S | 27 | NONE | | | | S |
| 12.5 | NONE | L | | | S | 27.5 | NONE | | | | S |
| 13 | NONE | | | | S | 28 | NONE | | | | S |
| 13.5 | NONE | | | | S | 28.5 | NONE | | | | S |
| 14 | NONE | | | | S | 29 | NONE | | | | R |
| 14.5 | SENGRE | | | | S | 29.5 | NONE | | | | S |
| 15 | SENGRE | L | | | S | 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 18.337 |
| % Bare Ground | 71.681 |
| % Basal Cover | 0 |

## Plot 14- off ROW, Line 6

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | NONE | W | | | S |
| 1 | NONE | | | | S | 16 | NONE | | | | S |
| 1.5 | NONE | | | | S | 16.5 | NONE | | | | S |
| 2 | BOUARI | | | | S | 17 | NONE | | | | S |
| 2.5 | NONE | | | | S | 17.5 | NONE | L | | | R |
| 3 | NONE | L | | | S | 18 | NONE | | | | S |
| 3.5 | NONE | | | | S | 18.5 | BOUARI | | | | S |
| 4 | NONE | | | | S | 19 | NONE | | | | S |
| 4.5 | NONE | | | | S | 19.5 | NONE | | | | S |
| 5 | NONE | | | | S | 20 | NONE | | | | S |
| 5.5 | NONE | | | | S | 20.5 | NONE | L | | | S |
| 6 | NONE | | | | S | 21 | ISOTEN | BOUARI | L | | S |
| 6.5 | NONE | L | | | S | 21.5 | NONE | L | | | S |
| 7 | NONE | L | | | S | 22 | NONE | L | | | S |
| 7.5 | NONE | | | | S | 22.5 | PROVEL | L | | | S |
| 8 | NONE | L | | | S | 23 | PROVEL | L | | | S |
| 8.5 | PROVEL | L | | | S | 23.5 | PROVEL | L | | | S |
| 9 | NONE | L | | | S | 24 | PROVEL | L | | | S |
| 9.5 | PROVEL | L | | | S | 24.5 | PROVEL | L | | | S |
| 10 | PROVEL | L | | | S | 25 | PROVEL | L | | | S |
| 10.5 | PROVEL | L | | | S | 25.5 | PROVEL | L | | | S |
| 11 | PROVEL | L | | | S | 26 | PROVEL | L | | | S |
| 11.5 | PROVEL | | | | S | 26.5 | PROVEL | | | | S |
| 12 | PROVEL | | | | S | 27 | NONE | | | | S |
| 12.5 | PROVEL | | | | S | 27.5 | NONE | | | | S |
| 13 | NONE | | | | R | 28 | NONE | | | | S |
| 13.5 | NONE | | | | S | 28.5 | NONE | | | | R |
| 14 | NONE | | | | S | 29 | VACCON | L | | | S |
| 14.5 | NONE | | | | S | 29.5 | NONE | | | | S |
| 15 | NONE | | | | S | 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 35.007 |
| % Bare Ground | 45.009 |
| % Basal Cover | 0 |

## Plot 14- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | NONE | | | | S |
| 1 | NONE | | | | S | 16 | NONE | | | | S |
| 1.5 | NONE | | | | S | 16.5 | NONE | | | | S |
| 2 | NONE | | | | S | 17 | NONE | | | | S |
| 2.5 | NONE | | | | S | 17.5 | BOUARI | | | | S |
| 3 | NONE | | | | S | 18 | BOUARI | | | | S |
| 3.5 | NONE | L | | | S | 18.5 | NONE | | | | S |
| 4 | BOUARI | L | | | S | 19 | NONE | | | | S |
| 4.5 | NONE | | | | S | 19.5 | NONE | | | | S |
| 5 | NONE | | | | S | 20 | NONE | L | | | S |
| 5.5 | NONE | | | | S | 20.5 | NONE | | | | R |
| 6 | NONE | | | | S | 21 | NONE | | | | R |
| 6.5 | NONE | | | | S | 21.5 | NONE | | | | S |
| 7 | NONE | | | | S | 22 | ISOTEN | L | | | S |
| 7.5 | BOUARI | L | | | S | 22.5 | PROVEL | ISOTEN | L | | S |
| 8 | PROVEL | L | | | S | 23 | NONE | L | | | S |
| 8.5 | NONE | | | | S | 23.5 | NONE | L | | | S |
| 9 | PROVEL | | | | S | 24 | PROVEL | L | | | S |
| 9.5 | NONE | | | | S | 24.5 | PROVEL | L | | | S |
| 10 | PROVEL | L | | | S | 25 | PROVEL | L | | | S |
| 10.5 | NONE | | | | S | 25.5 | PROVEL | | | | S |
| 11 | NONE | | | | S | 26 | PROVEL | | | | S |
| 11.5 | NONE | | | | S | 26.5 | NONE | | | | S |
| 12 | NONE | | | | S | 27 | NONE | | | | S |
| 12.5 | NONE | | | | S | 27.5 | NONE | | | | S |
| 13 | NONE | | | | S | 28 | NONE | | | | S |
| 13.5 | NONE | | | | S | 28.5 | NONE | | | | S |
| 14 | NONE | | | | S | 29 | NONE | | | | S |
| 14.5 | NONE | | | | S | 29.5 | NONE | | | | S |
| 15 | NONE | | | | S | 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 23.338 |
| % Bare Ground | 66.68 |
| % Basal Cover | 0 |

## Summary - Plot 14

**% Average Foliar Cover**

| | |
|---|---|
| On ROW | 42.231 |
| Off ROW | 25.561 |

**% Average Bare Ground**

| | |
|---|---|
| On ROW | 33.340 |
| Off ROW | 61.123 |

**% Average Basal Cover**

| | |
|---|---|
| On ROW | 0.556 |
| Off ROW | 0.000 |

## Plot 15, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | BOUROT | | | | S | 15.5 | NONE | | | | R |
| 1 | BOUROT | | | | S | 16 | VACCON | L | | | S |
| 1.5 | NONE | | | | S | 16.5 | NONE | | | | R |
| 2 | BOUROT | L | | | S | 17 | NONE | | | | R |
| 2.5 | BOUROT | | | | S | 17.5 | BOUROT | | | | S |
| 3 | NONE | L | | | S | 18 | BOUROT | | | | S |
| 3.5 | BOUROT | L | | | S | 18.5 | BOUROT | | | | S |
| 4 | NONE | L | | | S | 19 | BOUARI | | | | S |
| 4.5 | NONE | | | | S | 19.5 | NONE | L | | | S |
| 5 | NONE | | | | S | 20 | NONE | L | | | S |
| 5.5 | BOUROT | | | | S | 20.5 | NONE | | | | R |
| 6 | NONE | | | | S | 21 | NONE | L | | | S |
| 6.5 | NONE | L | | | S | 21.5 | ARITER | | | | S |
| 7 | NONE | | | | R | 22 | NONE | | | | R |
| 7.5 | BOUROT | L | | | S | 22.5 | BOUROT | L | | | S |
| 8 | ARIPUR | L | | | S | 23 | BOUROT | L | | | S |
| 8.5 | BOUROT | | | | S | 23.5 | BOUARI | | | | R |
| 9 | NONE | | | | S | 24 | BOUARI | L | | | S |
| 9.5 | BOUROT | | | | S | 24.5 | NONE | | | | S |
| 10 | NONE | L | | | S | 25 | NONE | L | | | S |
| 10.5 | BOUROT | L | | | S | 25.5 | NONE | L | | | S |
| 11 | NONE | | | | S | 26 | NONE | L | | | S |
| 11.5 | BOUROT | | | | S | 26.5 | NONE | | | | R |
| 12 | NONE | | | | S | 27 | BOUARI | | | | S |
| 12.5 | NONE | L | | | S | 27.5 | NONE | | | | S |
| 13 | BOUROT | | | | S | 28 | NONE | | | | S |
| 13.5 | BOUROT | L | | | S | 28.5 | PROVEL | L | | | S |
| 14 | NONE | | | | R | 29 | MUHPOR | | | | S |
| 14.5 | NONE | L | | | S | 29.5 | | | | | |
| 15 | NONE | | | | S | 30 | | | | | |

| | |
|---|---|
| % Foliar Cover | 46.548 |
| % Bare Ground | 18.964 |
| % Basal Cover | 0 |

# Plot 15, Line 2

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | NONE | | | | R |
| 1 | NONE | | | | R |
| 1.5 | NONE | L | | | S |
| 2 | BOUROT | L | | | S |
| 2.5 | NONE | | | | R |
| 3 | BOUROT | L | | | S |
| 3.5 | NONE | L | | | S |
| 4 | BOUROT | L | | | S |
| 4.5 | NONE | L | | | S |
| 5 | NONE | | | | R |
| 5.5 | BOUROT | L | | | S |
| 6 | NONE | | | | S |
| 6.5 | BOUROT | | | | S |
| 7 | NONE | | | | S |
| 7.5 | NONE | | | | R |
| 8 | BOUROT | | | | R |
| 8.5 | NONE | L | | | S |
| 9 | NONE | | | | S |
| 9.5 | NONE | | | | S |
| 10 | BOUROT | | | | S |
| 10.5 | NONE | | | | R |
| 11 | NONE | | | | S |
| 11.5 | NONE | | | | R |
| 12 | BOUROT | L | | | S |
| 12.5 | NONE | | | | S |
| 13 | XANTEX | | | | S |
| 13.5 | BOUROT | | | | S |
| 14 | BOUROT | L | | | S |
| 14.5 | NONE | L | | | S |
| 15 | NONE | | | | R |
| 15.5 | BOUROT | | | | S |
| 16 | BOUROT | | | | S |
| 16.5 | BOUROT | | | | S |
| 17 | NONE | | | | S |
| 17.5 | BOUROT | L | | | S |
| 18 | NONE | L | | | S |
| 18.5 | NONE | | | | S |
| 19 | BOUROT | L | | | S |
| 19.5 | NONE | L | | | S |
| 20 | NONE | | | | R |
| 20.5 | NONE | | | | S |
| 21 | BOUROT | | | | S |
| 21.5 | NONE | | | | S |
| 22 | BOUARI | L | | | S |
| 22.5 | NONE | | | | S |
| 23 | BOUROT | L | | | S |
| 23.5 | BOUARI | L | | | S |
| 24 | BOUARI | | | | S |
| 24.5 | NONE | | | | S |
| 25 | NONE | L | | | S |
| 25.5 | NONE | | | | R |
| 26 | NONE | L | | | S |
| 26.5 | NONE | | | | S |
| 27 | BOUROT | L | | | S |
| 27.5 | NONE | | | | R |
| 28 | NONE | | | | S |
| 28.5 | PROVEL | | | | S |
| 29 | PROVEL | L | | | S |
| 29.5 | PROVEL | | | | S |
| 30 | PROVEL | BOUROT | L | | S |

| | |
|---|---|
| % Foliar Cover | 44.824 |
| % Bare Ground | 24.136 |
| % Basal Cover | 0 |

## Plot 15, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | BOUROT | L | | | S |
| 1 | NONE | L | | | S | 16 | ATRCAN | L | | | S |
| 1.5 | NONE | W | | | S | 16.5 | ATRCAN | L | | | S |
| 2 | NONE | L | | | S | 17 | NONE | | | | S |
| 2.5 | NONE | L | | | S | 17.5 | NONE | L | | | S |
| 3 | NONE | | | | S | 18 | NONE | L | | | S |
| 3.5 | NONE | L | | | S | 18.5 | NONE | L | | | S |
| 4 | NONE | | | | S | 19 | NONE | L | | | S |
| 4.5 | NONE | | | | R | 19.5 | NONE | L | | | S |
| 5 | BOUARI | L | | | S | 20 | BOUARI | L | | | S |
| 5.5 | BOUARI | L | | | S | 20.5 | BOUROT | L | | | S |
| 6 | NONE | | | | S | 21 | BAIMUL | L | | | S |
| 6.5 | NONE | L | | | S | 21.5 | BOUARI | L | | | S |
| 7 | NONE | L | | | S | 22 | BOUARI | L | | | S |
| 7.5 | NONE | L | | | S | 22.5 | BOUARI | L | | | S |
| 8 | NONE | L | | | S | 23 | BOUARI | L | | | S |
| 8.5 | NONE | L | | | S | 23.5 | NONE | L | | | S |
| 9 | NONE | L | | | S | 24 | NONE | L | | | S |
| 9.5 | NONE | L | | | S | 24.5 | NONE | | | | S |
| 10 | NONE | L | | | S | 25 | BOUARI | L | | | S |
| 10.5 | NONE | L | | | S | 25.5 | BOUARI | L | | | S |
| 11 | NONE | L | | | S | 26 | NONE | | | | S |
| 11.5 | NONE | L | | | S | 26.5 | BOUARI | L | | | S |
| 12 | NONE | | | | S | 27 | NONE | | | | S |
| 12.5 | NONE | | | | S | 27.5 | BOUARI | L | | | S |
| 13 | NONE | L | | | S | 28 | NONE | W | | | S |
| 13.5 | BOUROT | L | | | S | 28.5 | NONE | L | | | S |
| 14 | NONE | L | | | S | 29 | BOUARI | L | | | S |
| 14.5 | NICOBT | BOUARI | | | S | 29.5 | BOUROT | L | | | S |
| 15 | NONE | L | | | S | 30 | BOUARI | L | | | S |

| | |
|---|---|
| % Foliar Cover | 35.007 |
| % Bare Ground | 16.67 |
| % Basal Cover | 0 |

## Plot 15, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | L | | | S | 15.5 | VACCON | L | | | S |
| 1 | BOEERE | | | | S | 16 | VACCON | L | | | S |
| 1.5 | NONE | | | | S | 16.5 | ARITER | MACTAN | L | | S |
| 2 | NONE | | | | S | 17 | NONE | | | | R |
| 2.5 | NONE | | | | S | 17.5 | NONE | | | | R |
| 3 | CYLFUL | L | | | S | 18 | NONE | | | | S |
| 3.5 | CYLFUL | | | | S | 18.5 | NONE | W | | | S |
| 4 | NONE | | | | S | 19 | NONE | | | | S |
| 4.5 | NONE | | | | R | 19.5 | NONE | | | | S |
| 5 | NONE | | | | R | 20 | NONE | L | | | S |
| 5.5 | NONE | | | | S | 20.5 | NONE | | | | S |
| 6 | NONE | | | | R | 21 | NONE | | | | S |
| 6.5 | NONE | | | | R | 21.5 | NONE | | | | R |
| 7 | VACCON | | | | S | 22 | NONE | | | | R |
| 7.5 | COTGRA | L | | | S | 22.5 | NONE | | | | R |
| 8 | EPHTRI | | | | S | 23 | NONE | | | | R |
| 8.5 | NONE | L | | | S | 23.5 | NONE | | | | R |
| 9 | NONE | | | | R | 24 | NONE | | | | R |
| 9.5 | NONE | | | | S | 24.5 | NONE | L | | | S |
| 10 | NONE | | | | S | 25 | VACCON | L | | | S |
| 10.5 | NONE | | | | R | 25.5 | VACCON | | | | S |
| 11 | NONE | | | | S | 26 | NONE | | | | S |
| 11.5 | NONE | | | | R | 26.5 | NONE | | | | R |
| 12 | NONE | | | | S | 27 | NONE | | | | R |
| 12.5 | NONE | L | | | S | 27.5 | NONE | | | | S |
| 13 | NONE | | | | S | 28 | NONE | | | | S |
| 13.5 | NONE | | | | S | 28.5 | NONE | | | | S |
| 14 | NONE | | | | S | 29 | NONE | | | | R |
| 14.5 | MACTAN | | | | S | 29.5 | VACCON | L | | | S |
| 15 | VACCON | | | | R | 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 23.338 |
| % Bare Ground | 36.674 |
| % Basal Cover | 0 |

# Plot 15, Line 6

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | NONE | | | | S |
| 1 | NONE | | | | S | 16 | NONE | | | | R |
| 1.5 | NONE | | | | S | 16.5 | NONE | | | | S |
| 2 | NONE | | | | R | 17 | PROVEL | BOEERE | L | | S |
| 2.5 | NONE | | | | S | 17.5 | NONE | | | | R |
| 3 | NONE | | | | S | 18 | PROVEL | MUHPOR | L | | S |
| 3.5 | NONE | | | | S | 18.5 | PROVEL | MUHPOR | L | | S |
| 4 | NONE | | | | S | 19 | NONE | | | | R |
| 4.5 | VACCON | | | | S | 19.5 | NONE | | | | S |
| 5 | VACCON | | | | S | 20 | AMBACA | | | | S |
| 5.5 | VACCON | | | | S | 20.5 | NONE | | | | S |
| 6 | VACCON | | | | R | 21 | VACCON | | | | S |
| 6.5 | NONE | | | | S | 21.5 | VACCON | | | | R |
| 7 | NONE | | | | R | 22 | VACCON | | | | R |
| 7.5 | VACCON | | | | S | 22.5 | NONE | | | | S |
| 8 | VACCON | | | | S | 23 | NONE | | | | R |
| 8.5 | VACCON | ARITER | | | S | 23.5 | NONE | | | | S |
| 9 | NONE | | | | S | 24 | NONE | | | | R |
| 9.5 | MUHPOR | L | | | S | 24.5 | NONE | | | | R |
| 10 | MUHPOR | | | | S | 25 | VACCON | MUHPOR | L | | S |
| 10.5 | NONE | | | | R | 25.5 | VACCON | MUHPOR | L | | S |
| 11 | NONE | | | | R | 26 | VACCON | | | | S |
| 11.5 | NONE | | | | S | 26.5 | NONE | L | | | S |
| 12 | NONE | | | | R | 27 | NONE | | | | S |
| 12.5 | NONE | | | | R | 27.5 | NONE | | | | S |
| 13 | VACCON | | | | S | 28 | NONE | L | | | S |
| 13.5 | NONE | | | | S | 28.5 | NONE | | | | S |
| 14 | NONE | | | | S | 29 | NONE | | | | R |
| 14.5 | NONE | | | | S | 29.5 | NONE | | | | R |
| 15 | NONE | | | | S | 30 | NONE | | | | R |

| | |
|---|---|
| % Foliar Cover | 33.34 |
| % Bare Ground | 38.341 |
| % Basal Cover | 0 |

## Plot 15, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | R | 15.5 | VACCON | L | | | S |
| 1 | VACCON | L | | | S | 16 | NONE | L | | | S |
| 1.5 | VACCON | | | | S | 16.5 | VACCON | L | | | S |
| 2 | BOUARI | | | | S | 17 | PROVEL | L | | | S |
| 2.5 | NONE | | | | S | 17.5 | PROVEL | L | | | S |
| 3 | BOUARI | | | | S | 18 | PROVEL | L | | | S |
| 3.5 | NONE | L | | | S | 18.5 | NONE | L | | | S |
| 4 | NONE | L | | | S | 19 | NONE | | | | S |
| 4.5 | BOUARI | L | | | S | 19.5 | NONE | | | | S |
| 5 | NONE | L | | | S | 20 | NONE | | | | S |
| 5.5 | NONE | L | | | S | 20.5 | NONE | | | | S |
| 6 | NONE | L | | | S | 21 | NONE | | | | S |
| 6.5 | NONE | L | | | S | 21.5 | NONE | | | | S |
| 7 | NONE | L | | | S | 22 | POROLE | L | | | S |
| 7.5 | NONE | L | | | S | 22.5 | NONE | L | | | S |
| 8 | MUHPOR | L | | | S | 23 | NONE | L | | | S |
| 8.5 | VACCON | | | | S | 23.5 | NONE | L | | | S |
| 9 | NONE | L | | | S | 24 | VACCON | IPOHED | L | | S |
| 9.5 | POROLE | | | | S | 24.5 | VACCON | L | | | S |
| 10 | NONE | L | | | S | 25 | NONE | | | | S |
| 10.5 | NONE | L | | | S | 25.5 | SENGRE | L | | | S |
| 11 | NONE | | | | S | 26 | SENGRE | L | | | S |
| 11.5 | NONE | | | | S | 26.5 | SENGRE | L | | | S |
| 12 | NONE | | | | S | 27 | SENGRE | L | | | S |
| 12.5 | NONE | | | | S | 27.5 | SENGRE | L | | | S |
| 13 | NONE | L | | | S | 28 | SENGRE | ATRELE | L | | S |
| 13.5 | NONE | | | | R | 28.5 | NONE | | | | S |
| 14 | NONE | | | | R | 29 | NONE | L | | | S |
| 14.5 | POROLE | | | | S | 29.5 | | | | | |
| 15 | NONE | | | | S | 30 | | | | | |

| | |
|---|---|
| % Foliar Cover | 38.341 |
| % Bare Ground | 23.338 |
| % Basal Cover | 0 |

## Summary - Plot 15

**% Average Foliar Cover**

| | |
|---|---|
| On ROW | 42.126 |
| Off ROW | 31.673 |

**% Average Bare Ground**

| | |
|---|---|
| On ROW | 19.923 |
| Off ROW | 32.784 |

**% Average Basal Cover**

| | |
|---|---|
| On ROW | 0.000 |
| Off ROW | 0.000 |

## Plot 16- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | NONE | | | | S |
| 1 | NONE | | | | S | 16 | NONE | | | | S |
| 1.5 | NONE | | | | S | 16.5 | NONE | | | | S |
| 2 | NONE | | | | S | 17 | NONE | | | | S |
| 2.5 | NONE | | | | S | 17.5 | NONE | | | | S |
| 3 | NONE | | | | R | 18 | NONE | | | | S |
| 3.5 | NONE | | | | S | 18.5 | CHLVIR | | | | S |
| 4 | NONE | | | | S | 19 | BOUROT | | | | S |
| 4.5 | NONE | | | | S | 19.5 | VACCON | | | | S |
| 5 | SALTRA | L | | | S | 20 | VACCON | | | | S |
| 5.5 | NONE | | | | S | 20.5 | NONE | | | | S |
| 6 | NONE | L | | | S | 21 | NONE | L | | | S |
| 6.5 | SALTRA | L | | | S | 21.5 | NONE | | | | S |
| 7 | CHLVIR | L | | | S | 22 | NONE | W | | | S |
| 7.5 | GUTSAR | | | | GUTSAR | 22.5 | NONE | | | | S |
| 8 | NONE | L | | | S | 23 | NONE | L | | | S |
| 8.5 | BOUARI | L | | | S | 23.5 | NONE | L | | | S |
| 9 | NONE | | | | S | 24 | POROLE | | | | S |
| 9.5 | SALTRA | | | | S | 24.5 | NONE | | | | S |
| 10 | NONE | L | | | S | 25 | NONE | L | | | S |
| 10.5 | NONE | L | | | S | 25.5 | NONE | L | | | S |
| 11 | NONE | | | | S | 26 | NONE | | | | S |
| 11.5 | NONE | | | | S | 26.5 | NONE | L | | | S |
| 12 | NONE | | | | S | 27 | NONE | | | | S |
| 12.5 | NONE | | | | S | 27.5 | NONE | | | | S |
| 13 | NONE | | | | S | 28 | NONE | | | | S |
| 13.5 | NONE | L | | | S | 28.5 | BOUARI | | | | S |
| 14 | NONE | | | | S | 29 | NONE | L | | | S |
| 14.5 | NONE | | | | S | 29.5 | NONE | | | | S |
| 15 | NONE | | | | S | 30 | BOUARI | | | | S |

| | |
|---|---|
| % Foliar Cover | 21.671 |
| % Bare Ground | 55.011 |
| % Basal Cover | 1.667 |

## Plot 16- on ROW, Line 2

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | BOUARI | | | | S | 15.5 | NONE | | | | S |
| 1 | NONE | L | | | S | 16 | NONE | | | | S |
| 1.5 | NONE | | | | S | 16.5 | NONE | | | | S |
| 2 | NONE | | | | S | 17 | ATRICAN | L | | | S |
| 2.5 | NONE | | | | S | 17.5 | NONE | L | | | S |
| 3 | NONE | | | | S | 18 | NONE | L | | | S |
| 3.5 | AMBACA | | | | S | 18.5 | NONE | W | | | S |
| 4 | AMBACA | | | | S | 19 | BOUROT | L | | | S |
| 4.5 | NONE | | | | S | 19.5 | NONE | | | | S |
| 5 | NONE | L | | | S | 20 | NONE | | | | S |
| 5.5 | NONE | | | | S | 20.5 | NONE | L | | | S |
| 6 | NONE | L | | | S | 21 | SALTRA | | | | S |
| 6.5 | NONE | W | | | S | 21.5 | NONE | | | | S |
| 7 | NONE | L | | | S | 22 | NONE | L | | | S |
| 7.5 | NONE | L | | | S | 22.5 | NONE | | | | S |
| 8 | NONE | L | | | S | 23 | NONE | L | | | S |
| 8.5 | BOUARI | L | | | S | 23.5 | NONE | | | | S |
| 9 | NONE | | | | S | 24 | NONE | | | | S |
| 9.5 | BOUARI | | | | S | 24.5 | NONE | | | | S |
| 10 | NONE | L | | | S | 25 | NONE | | | | S |
| 10.5 | NONE | L | | | S | 25.5 | NONE | | | | S |
| 11 | NONE | L | | | S | 26 | NONE | | | | S |
| 11.5 | NONE | | | | S | 26.5 | NONE | L | | | S |
| 12 | NONE | L | | | S | 27 | NONE | | | | S |
| 12.5 | NONE | | | | S | 27.5 | NONE | L | | | S |
| 13 | NONE | | | | S | 28 | NONE | | | | S |
| 13.5 | NONE | L | | | S | 28.5 | NONE | L | | | S |
| 14 | NONE | | | | S | 29 | NONE | L | | | S |
| 14.5 | NONE | | | | S | 29.5 | NONE | | | | S |
| 15 | NONE | | | | S | 30 | SALTRA | L | | | S |

| | |
|---|---|
| % Foliar Cover | 13.336 |
| % Bare Ground | 48.343 |
| % Basal Cover | 0 |

# Plot 16- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | ATRPOL | L | | | S | 15.5 | NONE | | | | S |
| 1 | NONE | | | | S | 16 | NONE | L | | | S |
| 1.5 | NONE | | | | S | 16.5 | NONE | W | | | S |
| 2 | NONE | | | | S | 17 | BOUARI | L | | | S |
| 2.5 | NONE | | | | S | 17.5 | NONE | | | | S |
| 3 | ECHCOL | | | | S | 18 | NONE | | | | S |
| 3.5 | NONE | L | | | S | 18.5 | NONE | | | | S |
| 4 | NONE | L | | | S | 19 | NONE | L | | | S |
| 4.5 | NONE | | | | S | 19.5 | NONE | | | | S |
| 5 | NONE | | | | S | 20 | NONE | | | | S |
| 5.5 | BOUARI | L | | | S | 20.5 | BOUARI | | | | S |
| 6 | NONE | | | | S | 21 | BOUARI | L | | | S |
| 6.5 | NONE | | | | S | 21.5 | BOUARI | L | | | S |
| 7 | NONE | | | | S | 22 | NONE | L | | | S |
| 7.5 | BOUARI | L | | | S | 22.5 | NONE | | | | S |
| 8 | NONE | L | | | S | 23 | NONE | | | | S |
| 8.5 | BOUARI | L | | | S | 23.5 | NONE | | | | S |
| 9 | BOUARI | AMAPAL | L | | S | 24 | NONE | | | | S |
| 9.5 | BOUARI | L | | | S | 24.5 | NONE | L | | | S |
| 10 | BOUARI | L | | | S | 25 | NONE | | | | S |
| 10.5 | BOUROT | L | | | S | 25.5 | NONE | L | | | S |
| 11 | NONE | | | | S | 26 | NONE | | | | S |
| 11.5 | NONE | | | | S | 26.5 | NONE | | | | S |
| 12 | NONE | | | | R | 27 | NONE | | | | S |
| 12.5 | NONE | | | | S | 27.5 | NONE | | | | S |
| 13 | NONE | | | | S | 28 | NONE | L | | | S |
| 13.5 | BOUARI | | | | S | 28.5 | NONE | | | | S |
| 14 | NONE | L | | | S | 29 | NONE | L | | | S |
| 14.5 | NONE | | | | S | 29.5 | BOUARI | | | | S |
| 15 | NONE | | | | S | 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 25.005 |
| % Bare Ground | 53.344 |
| % Basal Cover | 0 |

# Plot 16- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | BOUARI | L | | | S |
| 1 | NONE | | | | S | 16 | NONE | | | | S |
| 1.5 | NONE | L | | | S | 16.5 | NONE | | | | S |
| 2 | NONE | | | | S | 17 | NONE | | | | S |
| 2.5 | BOUARI | | | | S | 17.5 | NONE | | | | S |
| 3 | NONE | L | | | S | 18 | NONE | | | | S |
| 3.5 | BOUARI | L | | | S | 18.5 | NONE | | | | S |
| 4 | NONE | L | | | S | 19 | NONE | | | | S |
| 4.5 | BOUARI | L | | | S | 19.5 | NONE | | | | S |
| 5 | NONE | | | | S | 20 | NONE | | | | S |
| 5.5 | NONE | | | | S | 20.5 | NONE | | | | S |
| 6 | NONE | | | | S | 21 | NONE | | | | S |
| 6.5 | NONE | | | | S | 21.5 | NONE | | | | S |
| 7 | NONE | | | | S | 22 | NONE | | | | S |
| 7.5 | BOUARI | | | | S | 22.5 | NONE | | | | S |
| 8 | NONE | | | | S | 23 | NONE | | | | S |
| 8.5 | NONE | | | | S | 23.5 | NONE | | | | S |
| 9 | NONE | | | | S | 24 | NONE | | | | S |
| 9.5 | NONE | | | | S | 24.5 | NONE | | | | S |
| 10 | NONE | L | | | S | 25 | NONE | | | | S |
| 10.5 | NONE | | | | S | 25.5 | NONE | | | | S |
| 11 | NONE | | | | S | 26 | NONE | W | | | S |
| 11.5 | NONE | | | | S | 26.5 | SALTRA | L | | | S |
| 12 | NONE | | | | S | 27 | NONE | | | | S |
| 12.5 | NONE | L | | | S | 27.5 | BOUARI | L | | | S |
| 13 | NONE | | | | S | 28 | NONE | | | | S |
| 13.5 | BOUARI | | | | S | 28.5 | BOUARI | | | | S |
| 14 | NONE | L | | | S | 29 | NONE | L | | | S |
| 14.5 | NONE | | | | S | 29.5 | NONE | | | | S |
| 15 | BOUARI | L | | | S | 30 | BOUARI | L | | | S |

| | |
|---|---|
| % Foliar Cover | 18.337 |
| % Bare Ground | 68.347 |
| % Basal Cover | 0 |

# Plot 16- off ROW, Line 6

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | PROVEL | L | | | S | 15.5 | NONE | | | | S |
| 1 | PROVEL | | | | S | 16 | NONE | | | | S |
| 1.5 | BOUARI | | | | S | 16.5 | NONE | | | | S |
| 2 | BOEERE | | | | S | 17 | NONE | | | | S |
| 2.5 | NONE | | | | S | 17.5 | NONE | | | | S |
| 3 | NONE | L | | | S | 18 | NONE | | | | S |
| 3.5 | PROVEL | L | | | S | 18.5 | NONE | | | | S |
| 4 | PROVEL | L | | | S | 19 | NONE | | | | S |
| 4.5 | NONE | L | | | S | 19.5 | NONE | | | | S |
| 5 | NONE | L | | | S | 20 | NONE | | | | S |
| 5.5 | NONE | | | | S | 20.5 | NONE | | | | S |
| 6 | NONE | | | | S | 21 | NONE | | | | S |
| 6.5 | NONE | | | | S | 21.5 | NONE | | | | S |
| 7 | BOUARI | L | | | S | 22 | NONE | | | | S |
| 7.5 | NONE | L | | | S | 22.5 | NONE | | | | S |
| 8 | NONE | | | | S | 23 | NONE | | | | S |
| 8.5 | NONE | | | | S | 23.5 | NONE | | | | S |
| 9 | NONE | L | | | S | 24 | NONE | | | | S |
| 9.5 | SALTRA | L | | | S | 24.5 | NONE | | | | S |
| 10 | NONE | L | | | S | 25 | NONE | | | | S |
| 10.5 | BOEERE | | | | S | 25.5 | NONE | | | | S |
| 11 | NONE | | | | S | 26 | NONE | L | | | S |
| 11.5 | BOUARI | L | | | S | 26.5 | NONE | | | | S |
| 12 | NONE | | | | S | 27 | BOUARI | | | | S |
| 12.5 | NONE | L | | | S | 27.5 | BOUARI | | | | S |
| 13 | BOUARI | L | | | S | 28 | BOUARI | | | | S |
| 13.5 | NONE | | | | S | 28.5 | BOUARI | L | | | S |
| 14 | PORSUF | | | | S | 29 | NONE | | | | S |
| 14.5 | NONE | L | | | S | 29.5 | BOUARI | | | | S |
| 15 | NONE | | | | S | 30 | BOUARI | L | | | S |

| | |
|---|---|
| % Foliar Cover | 30.006 |
| % Bare Ground | 55.011 |
| % Basal Cover | 0 |

## Plot 16- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | BOUARI | L | | | S | 15.5 | SALTRA | L | | | S |
| 1 | BOUARI | L | | | S | 16 | PROVEL | PHEAUR | L | | S |
| 1.5 | NONE | | | | S | 16.5 | PROVEL | L | | | S |
| 2 | NONE | | | | S | 17 | NONE | L | | | S |
| 2.5 | NONE | L | | | S | 17.5 | NONE | | | | S |
| 3 | NONE | | | | S | 18 | NONE | L | | | S |
| 3.5 | NONE | | | | S | 18.5 | BOUARI | | | | S |
| 4 | NONE | | | | S | 19 | NONE | L | | | S |
| 4.5 | NONE | | | | S | 19.5 | NONE | L | | | S |
| 5 | NONE | L | | | S | 20 | NONE | | | | S |
| 5.5 | NONE | | | | S | 20.5 | PROVEL | L | | | S |
| 6 | NONE | | | | S | 21 | NONE | | | | S |
| 6.5 | NONE | | | | S | 21.5 | BOUARI | | | | S |
| 7 | NONE | L | | | S | 22 | BOEEARE | | | | S |
| 7.5 | NONE | L | | | S | 22.5 | NONE | | | | S |
| 8 | NONE | L | | | S | 23 | NONE | | | | S |
| 8.5 | NONE | L | | | S | 23.5 | NONE | | | | S |
| 9 | NONE | L | | | S | 24 | NONE | | | | S |
| 9.5 | NONE | L | | | S | 24.5 | NONE | | | | S |
| 10 | NONE | L | | | S | 25 | NONE | | | | S |
| 10.5 | NONE | L | | | S | 25.5 | NONE | | | | S |
| 11 | NONE | | | | S | 26 | NONE | | | | S |
| 11.5 | BOUARI | | | | S | 26.5 | NONE | L | | | S |
| 12 | NONE | | | | S | 27 | NONE | | | | S |
| 12.5 | BOUARI | | | | S | 27.5 | PROVEL | L | | | S |
| 13 | NONE | L | | | S | 28 | PROVEL | L | | | S |
| 13.5 | NONE | | | | S | 28.5 | NONE | L | | | S |
| 14 | NONE | L | | | S | 29 | NONE | | | | S |
| 14.5 | NONE | L | | | S | 29.5 | NONE | L | | | S |
| 15 | BOUARI | L | | | S | 30 | NONE | L | | | S |

| | |
|---|---|
| % Foliar Cover | 21.671 |
| % Bare Ground | 41.675 |
| % Basal Cover | 0 |

## Summary - Plot 16

**% Average Foliar Cover**

| | |
|---|---|
| On ROW | 20.004 |
| Off ROW | 23.338 |

**% Average Bare Ground**

| | |
|---|---|
| On ROW | 52.233 |
| Off ROW | 55.011 |

**% Average Basal Cover**

| | |
|---|---|
| On ROW | 0.556 |
| Off ROW | 0.000 |

# Plot 17- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | SALTRA | L | | | S |
| 1 | NONE | | | | S | 16 | SALTRA | L | | | S |
| 1.5 | SALTRA | | | | S | 16.5 | BOUROT | L | | | S |
| 2 | NONE | | | | S | 17 | BOUARI | L | | | S |
| 2.5 | NONE | L | | | S | 17.5 | BOUROT | L | | | S |
| 3 | NONE | | | | S | 18 | BOUARI | L | | | S |
| 3.5 | NONE | | | | R | 18.5 | NONE | L | | | S |
| 4 | BOUARI | L | | | S | 19 | BOUARI | L | | | S |
| 4.5 | BOUARI | L | | | S | 19.5 | BOUARI | L | | | S |
| 5 | NONE | L | | | S | 20 | BOUARI | L | | | S |
| 5.5 | SALTRA | L | | | S | 20.5 | NONE | L | | | S |
| 6 | NONE | L | | | S | 21 | NONE | L | | | S |
| 6.5 | NONE | L | | | S | 21.5 | NONE | L | | | S |
| 7 | NONE | | | | S | 22 | NONE | L | | | S |
| 7.5 | NONE | | | | S | 22.5 | NONE | L | | | S |
| 8 | NONE | | | | S | 23 | NONE | L | | | S |
| 8.5 | NONE | | | | S | 23.5 | PROVEL | L | | | S |
| 9 | NONE | L | | | S | 24 | NONE | L | | | S |
| 9.5 | NONE | | | | S | 24.5 | NONE | L | | | S |
| 10 | BOUARI | | | | S | 25 | CHLVIR | L | | | S |
| 10.5 | NONE | L | | | S | 25.5 | NONE | | | | S |
| 11 | NONE | | | | S | 26 | CHLVIR | L | | | S |
| 11.5 | NONE | | | | S | 26.5 | NONE | L | | | S |
| 12 | NONE | | | | S | 27 | BOUARI | L | | | S |
| 12.5 | NONE | | | | S | 27.5 | BOUARI | L | | | S |
| 13 | NONE | | | | R | 28 | BOUARI | L | | | S |
| 13.5 | SALTRA | L | | | S | 28.5 | NONE | L | | | S |
| 14 | BOUARI | | | | S | 29 | NONE | | | | S |
| 14.5 | BOUARI | | | | S | 29.5 | NONE | L | | | S |
| 15 | NONE | L | | | S | 30 | NONE | L | | | S |

| | |
|---|---|
| % Foliar Cover | 38.341 |
| % Bare Ground | 25.005 |
| % Basal Cover | 0 |

# Plot 17- on ROW, Line 2

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | W | | | S | 15.5 | NONE | L | | | S |
| 1 | NONE | L | | | S | 16 | NONE | L | | | S |
| 1.5 | NONE | L | | | S | 16.5 | NONE | L | | | S |
| 2 | NONE | | | | S | 17 | NONE | L | | | S |
| 2.5 | NONE | | | | S | 17.5 | NONE | L | | | S |
| 3 | NONE | | | | S | 18 | NONE | L | | | S |
| 3.5 | PROVEL | L | | | S | 18.5 | BOUROT | L | | | S |
| 4 | NONE | L | | | S | 19 | BOUROT | L | | | S |
| 4.5 | NONE | | | | S | 19.5 | NONE | L | | | S |
| 5 | NONE | L | | | S | 20 | NONE | | | | S |
| 5.5 | BOUARI | L | | | S | 20.5 | NONE | | | | S |
| 6 | BOUROT | L | | | S | 21 | NONE | L | | | S |
| 6.5 | NONE | L | | | S | 21.5 | NONE | L | | | S |
| 7 | AMAPAL | L | | | S | 22 | NONE | | | | S |
| 7.5 | AMAPAL | L | | | S | 22.5 | SALTRA | L | | | S |
| 8 | NONE | L | | | S | 23 | BOUARI | L | | | S |
| 8.5 | GUTSAR | | | | S | 23.5 | BOUARI | L | | | S |
| 9 | NONE | | | | S | 24 | NONE | L | | | S |
| 9.5 | NONE | | | | S | 24.5 | BOUARI | L | | | S |
| 10 | NONE | | | | R | 25 | NONE | L | | | S |
| 10.5 | NONE | L | | | S | 25.5 | NONE | L | | | S |
| 11 | ATRELE | BOUARI | L | | S | 26 | NONE | | | | S |
| 11.5 | AMAPAL | L | | | S | 26.5 | NONE | | | | S |
| 12 | BOUARI | L | | | S | 27 | NONE | | | | S |
| 12.5 | BOUARI | L | | | S | 27.5 | NONE | L | | | S |
| 13 | NONE | L | | | S | 28 | BOUARI | | | | S |
| 13.5 | NONE | | | | S | 28.5 | NONE | | | | S |
| 14 | NONE | L | | | S | 29 | NONE | | | | S |
| 14.5 | NONE | | | | S | 29.5 | NONE | L | | | S |
| 15 | NONE | L | | | S | 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 28.339 |
| % Bare Ground | 28.339 |
| % Basal Cover | 0 |

## Plot 17- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | BOUARI | L | | | S | 15.5 | NONE | L | | | S |
| 1 | BOUARI | L | | | S | 16 | NONE | L | | | S |
| 1.5 | NONE | | | | S | 16.5 | NONE | L | | | S |
| 2 | NONE | L | | | S | 17 | NONE | L | | | S |
| 2.5 | NONE | L | | | S | 17.5 | GUTSAR | L | | | S |
| 3 | NONE | L | | | S | 18 | NONE | L | | | S |
| 3.5 | ATRCAN | L | | | S | 18.5 | ARIPUR | L | | | S |
| 4 | SALTRA | L | | | S | 19 | GUTSAR | BOUARI | L | | S |
| 4.5 | NONE | | | | S | 19.5 | NONE | L | | | S |
| 5 | NONE | L | | | S | 20 | NONE | L | | | S |
| 5.5 | NONE | L | | | S | 20.5 | NONE | L | | | S |
| 6 | NONE | L | | | S | 21 | NONE | | | | S |
| 6.5 | NONE | L | | | S | 21.5 | NONE | L | | | S |
| 7 | NONE | L | | | S | 22 | NONE | | | | S |
| 7.5 | NONE | L | | | S | 22.5 | NONE | | | | R |
| 8 | NONE | L | | | S | 23 | NONE | | | | S |
| 8.5 | NONE | L | | | S | 23.5 | CHLVIR | L | | | S |
| 9 | NONE | | | | R | 24 | BOUARI | L | | | S |
| 9.5 | SALTRA | BOUARI | L | | S | 24.5 | BOUARI | L | | | S |
| 10 | BOUARI | L | | | S | 25 | NONE | L | | | S |
| 10.5 | BOUARI | L | | | S | 25.5 | NONE | | | | S |
| 11 | NONE | L | | | S | 26 | NONE | L | | | S |
| 11.5 | NONE | L | | | S | 26.5 | BOUARI | L | | | S |
| 12 | BOUARI | L | | | S | 27 | BOUARI | | | | S |
| 12.5 | NONE | L | | | S | 27.5 | ISOTEN | L | | | S |
| 13 | NONE | L | | | S | 28 | ISOTEN | L | | | S |
| 13.5 | NONE | | | | S | 28.5 | NONE | L | | | S |
| 14 | NONE | | | | S | 29 | NONE | | | | S |
| 14.5 | NONE | L | | | S | 29.5 | BOUARI | | | | S |
| 15 | BOUARI | L | | | S | 30 | NONE | L | | | S |

| | |
|---|---|
| % Foliar Cover | 33.34 |
| % Bare Ground | 15.003 |
| % Basal Cover | 0 |

# Plot 17- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | NONE | | | | S |
| 1 | NONE | | | | S | 16 | NONE | | | | S |
| 1.5 | SALTRA | | | | S | 16.5 | NONE | | | | S |
| 2 | NONE | | | | S | 17 | NONE | | | | S |
| 2.5 | NONE | L | | | S | 17.5 | NONE | | | | S |
| 3 | NONE | L | | | S | 18 | NONE | | | | S |
| 3.5 | NONE | L | | | S | 18.5 | NONE | L | | | S |
| 4 | NONE | L | | | S | 19 | PROVEL | L | | | S |
| 4.5 | NONE | L | | | S | 19.5 | PROVEL | SALTRA | L | | S |
| 5 | NONE | L | | | S | 20 | PROVEL | L | | | S |
| 5.5 | PROVEL | | | | S | 20.5 | PROVEL | | | | S |
| 6 | PROVEL | L | | | S | 21 | NONE | L | | | S |
| 6.5 | PROVEL | GUTSAR | L | | S | 21.5 | NONE | | | | S |
| 7 | PROVEL | | | | S | 22 | NONE | | | | S |
| 7.5 | PROVEL | L | | | S | 22.5 | NONE | | | | S |
| 8 | GUTSAR | L | | | S | 23 | NONE | | | | S |
| 8.5 | PROVEL | | | | S | 23.5 | NONE | | | | S |
| 9 | NONE | | | | S | 24 | SALTRA | | | | S |
| 9.5 | NONE | | | | S | 24.5 | SALTRA | | | | S |
| 10 | NONE | | | | S | 25 | NONE | | | | S |
| 10.5 | NONE | | | | S | 25.5 | NONE | | | | S |
| 11 | NONE | L | | | S | 26 | NONE | | | | S |
| 11.5 | NONE | | | | S | 26.5 | NONE | | | | S |
| 12 | NONE | | | | S | 27 | NONE | | | | S |
| 12.5 | NONE | | | | S | 27.5 | NONE | | | | S |
| 13 | NONE | | | | S | 28 | NONE | | | | S |
| 13.5 | NONE | | | | S | 28.5 | NONE | | | | S |
| 14 | NONE | | | | S | 29 | NONE | | | | S |
| 14.5 | NONE | | | | S | 29.5 | NONE | | | | S |
| 15 | NONE | L | | | S | 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 23.338 |
| % Bare Ground | 60.012 |
| % Basal Cover | 0 |

# Plot 17- off ROW, Line 6

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | BOUARI | | | | S | 15.5 | NONE | | | | S |
| 1 | NONE | L | | | S | 16 | NONE | | | | S |
| 1.5 | NONE | | | | S | 16.5 | NONE | | | | S |
| 2 | ISOTEN | L | | | S | 17 | NONE | | | | S |
| 2.5 | ISOTEN | | | | S | 17.5 | NONE | | | | S |
| 3 | NONE | L | | | S | 18 | NONE | L | | | S |
| 3.5 | BOUARI | L | | | S | 18.5 | PROVEL | L | | | S |
| 4 | NONE | | | | S | 19 | PROVEL | L | | | S |
| 4.5 | NONE | | | | S | 19.5 | PROVEL | | | | S |
| 5 | NONE | | | | S | 20 | PROVEL | | | | S |
| 5.5 | NONE | | | | S | 20.5 | PROVEL | L | | | S |
| 6 | NONE | | | | S | 21 | NONE | | | | S |
| 6.5 | NONE | L | | | S | 21.5 | NONE | | | | S |
| 7 | NONE | | | | S | 22 | NONE | L | | | S |
| 7.5 | NONE | L | | | S | 22.5 | NONE | L | | | S |
| 8 | NONE | L | | | S | 23 | NONE | | | | S |
| 8.5 | ISOTEN | L | | | S | 23.5 | NONE | | | | S |
| 9 | NONE | | | | S | 24 | NONE | | | | S |
| 9.5 | NONE | | | | S | 24.5 | NONE | | | | S |
| 10 | NONE | | | | R | 25 | SALTRA | L | | | S |
| 10.5 | ISOTEN | | | | S | 25.5 | NONE | L | | | S |
| 11 | NONE | | | | S | 26 | PROVEL | L | | | S |
| 11.5 | NONE | | | | S | 26.5 | PROVEL | L | | | S |
| 12 | NONE | | | | S | 27 | PROVEL | L | | | S |
| 12.5 | NONE | | | | R | 27.5 | NONE | L | | | S |
| 13 | NONE | | | | S | 28 | NONE | | | | S |
| 13.5 | NONE | | | | S | 28.5 | NONE | | | | S |
| 14 | NONE | | | | S | 29 | ISOTEN | L | | | S |
| 14.5 | NONE | | | | S | 29.5 | BOUARI | L | | | S |
| 15 | NONE | | | | S | 30 | NONE | L | | | S |

| | |
|---|---|
| % Foliar Cover | 28.339 |
| % Bare Ground | 50.01 |
| % Basal Cover | 0 |

## Plot 17- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | NONE | | | | S |
| 1 | NONE | | | | S | 16 | NONE | | | | S |
| 1.5 | NONE | L | | | S | 16.5 | NONE | | | | S |
| 2 | NONE | L | | | S | 17 | NONE | | | | S |
| 2.5 | NONE | L | | | S | 17.5 | SALTRA | | | | S |
| 3 | NONE | | | | S | 18 | NONE | | | | S |
| 3.5 | NONE | L | | | S | 18.5 | NONE | | | | S |
| 4 | NONE | L | | | S | 19 | SALTRA | | | | S |
| 4.5 | BOUARI | L | | | S | 19.5 | NONE | | | | S |
| 5 | NONE | | | | S | 20 | NONE | | | | S |
| 5.5 | NONE | | | | S | 20.5 | NONE | | | | S |
| 6 | NONE | | | | S | 21 | NONE | | | | S |
| 6.5 | ISOTEN | L | | | S | 21.5 | NONE | | | | S |
| 7 | NONE | | | | S | 22 | NONE | | | | S |
| 7.5 | ISOTEN | | | | S | 22.5 | NONE | | | | S |
| 8 | NONE | | | | S | 23 | NONE | | | | S |
| 8.5 | NONE | L | | | S | 23.5 | PROVEL | | | | S |
| 9 | NONE | L | | | S | 24 | PROVEL | L | | | S |
| 9.5 | PROVEL | L | | | S | 24.5 | PROVEL | L | | | S |
| 10 | PROVEL | L | | | S | 25 | NONE | L | | | S |
| 10.5 | PROVEL | L | | | S | 25.5 | NONE | | | | S |
| 11 | PROVEL | | | | S | 26 | NONE | | | | S |
| 11.5 | NONE | L | | | S | 26.5 | NONE | L | | | S |
| 12 | NONE | | | | S | 27 | NONE | | | | S |
| 12.5 | NONE | | | | S | 27.5 | NONE | | | | S |
| 13 | NONE | | | | S | 28 | NONE | | | | S |
| 13.5 | NONE | | | | S | 28.5 | NONE | | | | S |
| 14 | NONE | | | | S | 29 | NONE | | | | S |
| 14.5 | NONE | | | | S | 29.5 | NONE | | | | S |
| 15 | NONE | | | | S | 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 20.004 |
| % Bare Ground | 63.346 |
| % Basal Cover | 0 |

## Summary - Plot 17

**% Average Foliar Cover**

| | |
|---|---|
| On ROW | 33.340 |
| Off ROW | 23.894 |

**% Average Bare Ground**

| | |
|---|---|
| On ROW | 22.782 |
| Off ROW | 57.789 |

**% Average Basal Cover**

| | |
|---|---|
| On ROW | 0.000 |
| Off ROW | 0.000 |

## Plot 18- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | NONE | W | | | S |
| 1 | NONE | | | | S |
| 1.5 | NONE | | | | S |
| 2 | NONE | | | | S |
| 2.5 | NONE | | | | S |
| 3 | NONE | | | | S |
| 3.5 | NONE | | | | S |
| 4 | NONE | | | | S |
| 4.5 | ATRELE | | | | S |
| 5 | NONE | | | | R |
| 5.5 | NONE | | | | S |
| 6 | NONE | L | | | S |
| 6.5 | NONE | | | | S |
| 7 | NONE | | | | S |
| 7.5 | GUTSAR | | | | S |
| 8 | ATRELE | L | | | S |
| 8.5 | SPOCRY | L | | | S |
| 9 | NONE | L | | | S |
| 9.5 | CHLVIR | L | | | S |
| 10 | ERIWRI | L | | | S |
| 10.5 | GUTSAR | ERIWRI | BOUARI | L | S |
| 11 | CHLVIR | BOUARI | L | | S |
| 11.5 | NONE | L | | | S |
| 12 | NONE | L | | | S |
| 12.5 | BOUARI | L | | | S |
| 13 | NONE | L | | | S |
| 13.5 | NONE | L | | | S |
| 14 | ATRELE | L | | | S |
| 14.5 | NONE | L | | | S |
| 15 | ATRELE | L | | | S |
| 15.5 | L | | | | S |
| 16 | L | | | | S |
| 16.5 | NONE | | | | S |
| 17 | NONE | | | | R |
| 17.5 | NONE | L | L | | S |
| 18 | NONE | | | | S |
| 18.5 | NONE | L | | | S |
| 19 | NONE | | | | S |
| 19.5 | NONE | L | | | S |
| 20 | ISOTEN | L | | | S |
| 20.5 | GUTSAR | BOUARI | | | S |
| 21 | NONE | L | | | S |
| 21.5 | NONE | | | | S |
| 22 | NONE | | | | R |
| 22.5 | NONE | W | | | S |
| 23 | NONE | L | | | S |
| 23.5 | NONE | | | | S |
| 24 | NONE | | | | S |
| 24.5 | NONE | | | | S |
| 25 | NONE | | | | S |
| 25.5 | NONE | | | | S |
| 26 | ATRELE | L | | | S |
| 26.5 | | | | | S |
| 27 | NONE | L | | | S |
| 27.5 | NONE | L | | | S |
| 28 | GUTSAR | L | | | S |
| 28.5 | ERALEH | L | | | S |
| 29 | NONE | L | | | S |
| 29.5 | NONE | L | | | S |
| 30 | ERALEH | L | | | S |

| | |
|---|---|
| % Foliar Cover | 28.339 |
| % Bare Ground | 31.673 |
| % Basal Cover | 0 |

## Plot 18- on ROW, Line 2

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | PROVEL | L | | | S | 15.5 | NONE | L | | | S |
| 1 | NONE | | | | S | 16 | NONE | | | | S |
| 1.5 | NONE | | | | S | 16.5 | CYNDAC | L | | | S |
| 2 | NONE | | | | S | 17 | CYNDAC | L | | | S |
| 2.5 | NONE | | | | S | 17.5 | CYNDAC | ERIWRI | L | | S |
| 3 | NONE | L | | | S | 18 | CYNDAC | L | | | S |
| 3.5 | NONE | | | | S | 18.5 | NONE | L | | | S |
| 4 | NONE | | | | S | 19 | CYNDAC | L | | | S |
| 4.5 | NONE | | | | S | 19.5 | ARITER | AMBACA | L | | S |
| 5 | NONE | | | | S | 20 | AMBANG | L | | | S |
| 5.5 | NONE | | | | S | 20.5 | NONE | L | | | S |
| 6 | NONE | | | | S | 21 | NONE | L | | | S |
| 6.5 | BOUROT | L | | | S | 21.5 | NONE | L | | | S |
| 7 | BOUARI | L | | | S | 22 | ARITER | L | | | S |
| 7.5 | NONE | L | | | S | 22.5 | NONE | L | | | S |
| 8 | NONE | L | | | S | 23 | BOUARI | L | | | S |
| 8.5 | NONE | L | | | S | 23.5 | NONE | | | | S |
| 9 | NONE | L | | | S | 24 | NONE | | | | S |
| 9.5 | NONE | L | | | S | 24.5 | NONE | L | | | S |
| 10 | NONE | L | | | S | 25 | NONE | L | | | S |
| 10.5 | BOUARI | L | | | S | 25.5 | BOUARI | L | | | S |
| 11 | NONE | | | | S | 26 | BOUARI | L | | | S |
| 11.5 | NONE | | | | S | 26.5 | NONE | L | | | S |
| 12 | NONE | | | | S | 27 | ATRCAN | BOUARI | L | | S |
| 12.5 | NONE | | | | S | 27.5 | NONE | L | | | S |
| 13 | BOUARI | L | | | S | 28 | NONE | L | | | S |
| 13.5 | NONE | L | | | S | 28.5 | GUTSAR | L | | | S |
| 14 | BOUARI | L | | | S | 29 | NONE | | | | S |
| 14.5 | CHANIC | L | | | S | 29.5 | NONE | | | | S |
| 15 | NONE | L | | | S | 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 31.673 |
| % Bare Ground | 33.34 |
| % Basal Cover | 0 |

# Plot 18- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | NONE | L | | | S |
| 1 | NONE | | | | S | 16 | NONE | L | | | S |
| 1.5 | NONE | L | | | S | 16.5 | CYNDAC | | | | S |
| 2 | NONE | | | | S | 17 | CYNDAC | L | | | S |
| 2.5 | NONE | L | | | S | 17.5 | NONE | L | | | S |
| 3 | NONE | L | | | S | 18 | CYNDAC | L | | | S |
| 3.5 | NONE | | | | S | 18.5 | BACSAR | L | | | S |
| 4 | NONE | L | | | S | 19 | BACSAR | L | | | S |
| 4.5 | NONE | L | | | S | 19.5 | BACSAR | L | | | S |
| 5 | NONE | L | | | S | 20 | ARITER | L | | | S |
| 5.5 | NONE | L | | | S | 20.5 | ARITER | L | | | S |
| 6 | NONE | L | | | S | 21 | NONE | L | | | S |
| 6.5 | NONE | | | | S | 21.5 | BOUARI | L | | | S |
| 7 | NONE | L | | | S | 22 | NONE | L | | | S |
| 7.5 | NONE | L | | | S | 22.5 | BOUARI | L | | | S |
| 8 | NONE | L | | | S | 23 | NONE | | | | S |
| 8.5 | NONE | L | | | S | 23.5 | NONE | | | | S |
| 9 | NONE | L | | | S | 24 | NONE | | | | S |
| 9.5 | NONE | L | | | S | 24.5 | NONE | L | | | S |
| 10 | NONE | L | | | S | 25 | ARIPUR | W | | | S |
| 10.5 | NONE | | | | S | 25.5 | ARIPUR | L | | | S |
| 11 | NONE | | | | S | 26 | N | L | | | S |
| 11.5 | NONE | L | | | S | 26.5 | NONE | L | | | S |
| 12 | NONE | | | | S | 27 | CYNDAC | L | | | S |
| 12.5 | NONE | L | | | S | 27.5 | CYNDAC | L | | | S |
| 13 | ATRELE | L | | | S | 28 | BOUARI | L | | | S |
| 13.5 | NONE | | | | S | 28.5 | NONE | L | | | S |
| 14 | NONE | | | | S | 29 | NONE | | | | S |
| 14.5 | NONE | L | | | S | 29.5 | ARITER | L | | | S |
| 15 | BOUARI | | | | S | 30 | ARIPUR | | | | ARIPUR |

| | |
|---|---|
| % Foliar Cover | 31.673 |
| % Bare Ground | 23.338 |
| % Basal Cover | 1.667 |

## Plot 18- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | PROVEL | CYNDAC | L | | S | 15.5 | NONE | L | | | S |
| 1 | GUTSAR | L | | | S | 16 | NONE | L | | | S |
| 1.5 | GUTSAR | L | | | S | 16.5 | NONE | | | | S |
| 2 | NONE | L | | | S | 17 | NONE | L | | | S |
| 2.5 | NONE | L | | | S | 17.5 | NONE | | | | S |
| 3 | NONE | L | | | S | 18 | NONE | | | | S |
| 3.5 | NONE | L | | | S | 18.5 | NONE | | | | S |
| 4 | NONE | | | | S | 19 | NONE | | | | S |
| 4.5 | GUTSAR | L | | | S | 19.5 | NONE | | | | S |
| 5 | NONE | L | | | S | 20 | NONE | | | | S |
| 5.5 | NONE | | | | S | 20.5 | NONE | | | | S |
| 6 | NONE | | | | S | 21 | NONE | L | | | S |
| 6.5 | NONE | L | | | S | 21.5 | NONE | | | | S |
| 7 | NONE | L | | | S | 22 | NONE | | | | S |
| 7.5 | NONE | L | | | S | 22.5 | NONE | | | | S |
| 8 | NONE | L | | | S | 23 | NONE | L | | | S |
| 8.5 | GUTSAR | L | | | S | 23.5 | NONE | | | | S |
| 9 | NONE | L | | | S | 24 | NONE | | | | S |
| 9.5 | NONE | L | | | S | 24.5 | NONE | L | | | S |
| 10 | PROVEL | L | | | S | 25 | BOUARI | | | | S |
| 10.5 | PROVEL | L | | | S | 25.5 | BOUARI | | | | S |
| 11 | NONE | L | | | S | 26 | NONE | | | | S |
| 11.5 | NONE | | | | S | 26.5 | BOUARI | | | | S |
| 12 | NONE | | | | S | 27 | NONE | L | | | S |
| 12.5 | NONE | L | | | S | 27.5 | NONE | L | | | S |
| 13 | NONE | | | | S | 28 | NONE | L | | | S |
| 13.5 | NONE | | | | S | 28.5 | NONE | L | | | S |
| 14 | GUTSAR | L | | | S | 29 | NONE | | | | S |
| 14.5 | NONE | L | | | S | 29.5 | BOUARI | L | | | S |
| 15 | NONE | L | | | S | 30 | BOUARI | L | | | S |

| | |
|---|---|
| % Foliar Cover | 21.671 |
| % Bare Ground | 36.674 |
| % Basal Cover | 0 |

## Plot 18- off ROW, Line 6

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | PROVEL | L | | | S | 15.5 | NONE | L | | | S |
| 1 | NONE | | | | S | 16 | ARITER | BOUARI | L | | S |
| 1.5 | SPOCRY | | | | S | 16.5 | NONE | L | | | S |
| 2 | SPOCRY | L | | | S | 17 | NONE | L | | | S |
| 2.5 | SPOCRY | | | | S | 17.5 | NONE | L | | | S |
| 3 | NONE | | | | S | 18 | NONE | | | | S |
| 3.5 | NONE | L | | | S | 18.5 | BOUARI | L | | | S |
| 4 | NONE | | | | S | 19 | BOUARI | L | | | S |
| 4.5 | NONE | L | | | S | 19.5 | BOUARI | L | | | S |
| 5 | NONE | | | | S | 20 | NONE | L | | | S |
| 5.5 | NONE | | | | S | 20.5 | BOUARI | L | | | S |
| 6 | NONE | L | | | S | 21 | BOUARI | L | | | S |
| 6.5 | NONE | | | | S | 21.5 | NONE | | | | S |
| 7 | NONE | | | | S | 22 | BOUARI | L | | | S |
| 7.5 | NONE | L | | | S | 22.5 | NONE | L | | | S |
| 8 | NONE | L | | | S | 23 | BOUARI | L | | | S |
| 8.5 | NONE | L | | | S | 23.5 | NONE | | | | S |
| 9 | BOUARI | L | | | S | 24 | NONE | L | | | S |
| 9.5 | NONE | | | | S | 24.5 | NONE | L | | | S |
| 10 | NONE | | | | S | 25 | NONE | | | | S |
| 10.5 | NONE | L | | | S | 25.5 | NONE | L | | | S |
| 11 | GUTSAR | L | | | S | 26 | NONE | L | | | S |
| 11.5 | NONE | L | | | S | 26.5 | NONE | L | | | S |
| 12 | NONE | | | | S | 27 | BOUARI | L | | | S |
| 12.5 | NONE | | | | S | 27.5 | NONE | | | | S |
| 13 | NONE | | | | S | 28 | NONE | | | | S |
| 13.5 | NONE | | | | S | 28.5 | NONE | L | | | S |
| 14 | NONE | L | | | S | 29 | BOUARI | L | | | S |
| 14.5 | NONE | L | | | S | 29.5 | NONE | | | | S |
| 15 | NONE | L | | | S | 30 | NONE | L | | | S |

| | |
|---|---|
| % Foliar Cover | 26.672 |
| % Bare Ground | 33.34 |
| % Basal Cover | 0 |

## Plot 18- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | L | | | S | 15.5 | NONE | | | | S |
| 1 | NONE | | | | S | 16 | NONE | | | | S |
| 1.5 | NONE | | | | S | 16.5 | NONE | | | | S |
| 2 | NONE | L | | | S | 17 | NONE | | | | S |
| 2.5 | NONE | | | | S | 17.5 | NONE | | | | S |
| 3 | NONE | L | | | S | 18 | NONE | | | | S |
| 3.5 | NONE | L | | | S | 18.5 | NONE | | | | S |
| 4 | BOUARI | L | | | S | 19 | NONE | | | | S |
| 4.5 | NONE | | | | S | 19.5 | NONE | | | | S |
| 5 | NONE | L | | | S | 20 | NONE | | | | S |
| 5.5 | NONE | L | | | S | 20.5 | NONE | | | | S |
| 6 | NONE | | | | S | 21 | NONE | | | | S |
| 6.5 | NONE | L | | | S | 21.5 | NONE | | | | S |
| 7 | NONE | | | | S | 22 | NONE | | | | S |
| 7.5 | NONE | | | | S | 22.5 | NONE | | | | S |
| 8 | NONE | | | | S | 23 | NONE | | | | S |
| 8.5 | NONE | | | | S | 23.5 | NONE | | | | S |
| 9 | NONE | | | | S | 24 | NONE | | | | S |
| 9.5 | NONE | L | | | S | 24.5 | NONE | | | | S |
| 10 | NONE | | | | S | 25 | NONE | | | | S |
| 10.5 | NONE | | | | S | 25.5 | NONE | | | | S |
| 11 | NONE | L | | | S | 26 | NONE | L | | | S |
| 11.5 | NONE | | | | S | 26.5 | NONE | | | | S |
| 12 | NONE | L | | | S | 27 | NONE | | | | S |
| 12.5 | NONE | | | | S | 27.5 | GUTSAR | | | | S |
| 13 | NONE | | | | S | 28 | NONE | L | | | S |
| 13.5 | NONE | | | | S | 28.5 | NONE | | | | S |
| 14 | NONE | | | | S | 29 | NONE | L | | | S |
| 14.5 | NONE | | | | S | 29.5 | NONE | | | | S |
| 15 | NONE | | | | S | 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 3.334 |
| % Bare Ground | 75.015 |
| % Basal Cover | 0 |

## Summary - Plot 18

**% Average Foliar Cover**

| | |
|---|---|
| On ROW | 30.562 |
| Off ROW | 17.226 |

**% Average Bare Ground**

| | |
|---|---|
| On ROW | 29.450 |
| Off ROW | 48.343 |

**% Average Basal Cover**

| | |
|---|---|
| On ROW | 0.556 |
| Off ROW | 0.000 |

## Plot 19- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | ERALEH | L | | | S |
| 1 | ERALEH | | | | ERALEH |
| 1.5 | ERALEH | L | | | S |
| 2 | ERALEH | L | | | S |
| 2.5 | ERALEH | L | | | S |
| 3 | ERALEH | L | | | S |
| 3.5 | ATRCAN | ERALEH | L | | S |
| 4 | ATRCAN | ERALEH | L | | S |
| 4.5 | ATRCAN | ERALEH | L | | S |
| 5 | ATRCAN | ERALEH | L | | S |
| 5.5 | ATRCAN | ERALEH | L | | S |
| 6 | ATRCAN | ERALEH | L | | S |
| 6.5 | ERALEH | L | | | S |
| 7 | ERALEH | L | | | S |
| 7.5 | ERALEH | L | | | S |
| 8 | ATRCAN | ERALEH | L | | S |
| 8.5 | ERALEH | L | | | S |
| 9 | DIGCAL | ERALEH | | | R |
| 9.5 | ERALEH | L | | | S |
| 10 | ARITER | L | | | S |
| 10.5 | ATRPOL | L | | | S |
| 11 | NONE | L | | | S |
| 11.5 | DIGCAL | L | | | S |
| 12 | ERALEH | | | | R |
| 12.5 | ERALEH | | | | R |
| 13 | ERALEH | L | | | S |
| 13.5 | ARITER | ERALEH | L | | S |
| 14 | ARITER | L | | | S |
| 14.5 | ARITER | ERALEH | DIGCAL | L | S |
| 15 | ATRCAN | SETMAC | L | | S |
| 15.5 | ATRCAN | SETMAC | L | | S |
| 16 | NONE | L | | | S |
| 16.5 | ATRCAN | SETMAC | L | | S |
| 17 | ATRCAN | L | | | S |
| 17.5 | ATRCAN | SETMAC | L | | S |
| 18 | ATRCAN | SETMAC | | | R |
| 18.5 | NONE | | | | S |
| 19 | NONE | L | | | S |
| 19.5 | NONE | L | | | S |
| 20 | ARITER | L | | | S |
| 20.5 | ARITER | L | | | S |
| 21 | NONE | L | | | S |
| 21.5 | SPOCRY | ARITER | L | | S |
| 22 | SPOCRY | L | | | S |
| 22.5 | SPOCRY | | | | S |
| 23 | SALTRA | | | | S |
| 23.5 | NONE | L | | | S |
| 24 | SALTRA | L | | | S |
| 24.5 | SALTRA | L | | | S |
| 25 | SALTRA | L | | | S |
| 25.5 | ATRCAN | SETMAC | L | | S |
| 26 | ATRCAN | SALTRA | L | | S |
| 26.5 | SALTRA | L | | | S |
| 27 | ERALEH | L | | | S |
| 27.5 | SETMAC | L | | | S |
| 28 | SALTRA | L | | | S |
| 28.5 | NONE | L | | | S |
| 29 | ERALEH | SPOCRY | L | | S |
| 29.5 | SPOCRY | | | | R |
| 30 | ARITER | L | | | S |

| | |
|---|---|
| % Foliar Cover | 86.684 |
| % Bare Ground | 1.667 |
| % Basal Cover | 1.667 |

# Plot 19- on ROW, Line 2

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | HETCON | | | | R |
| 1 | ERALEH | L | | | S |
| 1.5 | NONE | L | | | S |
| 2 | MELREP | L | | | S |
| 2.5 | NONE | L | | | S |
| 3 | MELREP | L | | | S |
| 3.5 | NONE | | | | S |
| 4 | MELREP | L | | | S |
| 4.5 | ERALEH | L | | | S |
| 5 | ATRCAN | SETMAC | ERALEH | L | S |
| 5.5 | ATRCAN | SETMAC | L | | S |
| 6 | NONE | L | | | S |
| 6.5 | SETMAC | L | | | S |
| 7 | LEPDUB | L | | | S |
| 7.5 | NONE | L | | | S |
| 8 | NONE | | | | R |
| 8.5 | ERALEH | | | | R |
| 9 | NONE | L | | | S |
| 9.5 | ATRCAN | DIGCAL | L | | S |
| 10 | MELREP | L | | | S |
| 10.5 | ERALEH | L | | | S |
| 11 | ERALEH | L | | | S |
| 11.5 | ERALEH | L | | | S |
| 12 | ERALEH | | | | R |
| 12.5 | ERALEH | L | | | S |
| 13 | ERALEH | CALERI | L | | S |
| 13.5 | ERALEH | L | | | S |
| 14 | ERALEH | L | | | S |
| 14.5 | ERALEH | L | | | S |
| 15 | ERALEH | L | | | S |
| 15.5 | ERALEH | L | | | S |
| 16 | ERALEH | L | | | S |
| 16.5 | ERALEH | | | | S |
| 17 | ERALEH | | | | R |
| 17.5 | PROVEL | ERALEH | | | S |
| 18 | ERALEH | | | | S |
| 18.5 | ERALEH | | | | S |
| 19 | PROVEL | ERALEH | | | S |
| 19.5 | ERALEH | L | | | S |
| 20 | ERALEH | L | | | S |
| 20.5 | ERALEH | L | | | S |
| 21 | ERALEH | L | | | S |
| 21.5 | ERALEH | L | | | S |
| 22 | ERALEH | L | | | S |
| 22.5 | ERALEH | | | | R |
| 23 | NONE | L | | | S |
| 23.5 | VACCON | L | | | S |
| 24 | VACCON | ERALEH | L | | S |
| 24.5 | ERALEH | L | | | S |
| 25 | VACCON | ARITER | L | | S |
| 25.5 | ARITER | L | | | S |
| 26 | NONE | | | | S |
| 26.5 | NONE | L | | | S |
| 27 | ERALEH | | | | S |
| 27.5 | LEPDUB | L | | | S |
| 28 | ERALEH | L | | | S |
| 28.5 | ERALEH | L | | | S |
| 29 | ATRCAN | L | | | S |
| 29.5 | ATRCAN | L | | | S |
| 30 | ATRCAN | L | | | S |

| | |
|---|---|
| % Foliar Cover | 83.35 |
| % Bare Ground | 3.334 |
| % Basal Cover | 0 |

## Plot 19- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | ERALEH | | | | R | 15.5 | LEPDUB | | | | R |
| 1 | NONE | | | | S | 16 | LEPDUB | L | | | S |
| 1.5 | SETMAC | L | | | S | 16.5 | DIGCAL | L | | | S |
| 2 | NONE | W | | | S | 17 | DIGCAL | L | | | S |
| 2.5 | NONE | W | | | S | 17.5 | ATRPOL | L | | | S |
| 3 | NONE | | | | R | 18 | DIGCAL | L | | | S |
| 3.5 | NONE | | | | R | 18.5 | NONE | | | | S |
| 4 | ERALEH | | | | S | 19 | SETMAC | L | | | S |
| 4.5 | ERALEH | L | | | S | 19.5 | ERALEH | L | | | S |
| 5 | ERALEH | L | | | S | 20 | SETMAC | L | | | S |
| 5.5 | ERALEH | L | | | S | 20.5 | LEPDUB | L | | | S |
| 6 | ERALEH | L | | | S | 21 | ATRPOL | L | | | S |
| 6.5 | ATRCAN | ERALEH | | | R | 21.5 | ATRPOL | L | | | S |
| 7 | ATRCAN | ERALEH | L | | S | 22 | ATRPOL | L | | | S |
| 7.5 | ERALEH | L | | | S | 22.5 | ERALEH | L | | | S |
| 8 | ERALEH | L | | | S | 23 | ATRPOL | | | | R |
| 8.5 | SPHAMB | | | | R | 23.5 | NONE | L | | | S |
| 9 | ATRCAN | ERALEH | L | | S | 24 | ATRPOL | DIGCAL | L | | S |
| 9.5 | ERALEH | SENGRE | L | | S | 24.5 | ATRPOL | DIGCAL | L | | S |
| 10 | NONE | | | | R | 25 | NONE | L | | | S |
| 10.5 | ERALEH | L | | | S | 25.5 | ARITER | L | | | S |
| 11 | ATRCAN | DIGCAL | L | | S | 26 | ERALEH | L | | | S |
| 11.5 | ATRCAN | SETMAC | L | | S | 26.5 | NONE | L | | | S |
| 12 | DIGCAL | L | | | S | 27 | DIGCAL | L | | | S |
| 12.5 | DIGCAL | L | | | S | 27.5 | ATRCAN | DIGCAL | L | | S |
| 13 | ATRCAN | DIGCAL | L | | S | 28 | ATRCAN | DIGCAL | | | R |
| 13.5 | ATRCAN | L | | | S | 28.5 | ATRCAN | DIGCAL | L | | S |
| 14 | ATRCAN | DIGCAL | L | | S | 29 | DIGCAL | ATRCAN | L | | S |
| 14.5 | NONE | L | | | S | 29.5 | ATRCAN | SETMAC | L | | S |
| 15 | SETMAC | L | | | S | 30 | NONE | L | | | S |

| | |
|---|---|
| % Foliar Cover | 80.016 |
| % Bare Ground | 3.334 |
| % Basal Cover | 0 |

## Plot 19- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | ARITER | L | | | S |
| 1 | ERALEH | L | | | S |
| 1.5 | ERALEH | | | | R |
| 2 | TETNER | ERALEH | L | | S |
| 2.5 | BOUCUR | L | | | S |
| 3 | BOUCUR | L | | | S |
| 3.5 | ERALEH | L | | | S |
| 4 | BOUCUR | L | | | S |
| 4.5 | NONE | | | | R |
| 5 | TETNER | | | | R |
| 5.5 | NONE | | | | R |
| 6 | ERALEH | | | | R |
| 6.5 | NONE | L | | | S |
| 7 | ERALEH | L | | | S |
| 7.5 | SENGRE | | | | R |
| 8 | SENGRE | L | | | S |
| 8.5 | SENGRE | L | | | S |
| 9 | SENGRE | L | | | S |
| 9.5 | NONE | | | | S |
| 10 | ERALEH | | | | S |
| 10.5 | ERALEH | L | | | S |
| 11 | ERALEH | L | | | S |
| 11.5 | ERALEH | | | | R |
| 12 | ERALEH | L | | | S |
| 12.5 | SENGRE | L | | | S |
| 13 | COMSCA | | | | R |
| 13.5 | COMSCA | L | | | S |
| 14 | NONE | W | | | S |
| 14.5 | SENGRE | COMSCA | L | | S |
| 15 | NONE | | | | S |
| 15.5 | NONE | | | | S |
| 16 | NONE | L | | | S |
| 16.5 | SIMCHI | L | | | S |
| 17 | SIMCHI | L | | | S |
| 17.5 | SENGRE | SIMCHI | L | | S |
| 18 | SENGRE | L | | | S |
| 18.5 | SENGRE | | | | R |
| 19 | ERALEH | L | | | S |
| 19.5 | ERALEH | | | | S |
| 20 | ERALEH | L | | | S |
| 20.5 | ERALEH | | | | R |
| 21 | ERALEH | | | | S |
| 21.5 | ERALEH | | | | S |
| 22 | CALER | | | | S |
| 22.5 | CALERI | | | | S |
| 23 | NONE | | | | S |
| 23.5 | ERALEH | L | | | S |
| 24 | ERALEH | L | | | S |
| 24.5 | ERALEH | L | | | S |
| 25 | ERALEH | | | | R |
| 25.5 | ERALEH | L | | | S |
| 26 | NONE | | | | R |
| 26.5 | ERALEH | L | | | S |
| 27 | ERALEH | | | | S |
| 27.5 | ERALEH | L | | | S |
| 28 | ERALEH | | | | S |
| 28.5 | ERALEH | L | | | S |
| 29 | ERALEH | L | | | S |
| 29.5 | ERALEH | L | | | S |
| 30 | NONE | L | | | S |

| | |
|---|---|
| % Foliar Cover | 80.016 |
| % Bare Ground | 6.668 |
| % Basal Cover | 0 |

## Plot 19- off ROW, Line 6

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | BOUCUR | L | | | S |
| 1 | BOUCUR | L | | | S |
| 1.5 | ERALEH | | | | R |
| 2 | ARITER | L | | | S |
| 2.5 | NONE | | | | R |
| 3 | BOUCUR | L | | | S |
| 3.5 | BOUCUR | | | | R |
| 4 | COMSCA | | | | R |
| 4.5 | NONE | | | | R |
| 5 | COMSCA | L | | | S |
| 5.5 | COMSCA | | | | R |
| 6 | PROVEL | COMSCA | L | | S |
| 6.5 | PROVEL | W | | | S |
| 7 | PROVEL | W | | | S |
| 7.5 | PROVEL | | | | R |
| 8 | NONE | L | | | R |
| 8.5 | CELEHR | COMSCA | L | | S |
| 9 | CELEHR | COMSCA | L | | S |
| 9.5 | CELEHR | | | | R |
| 10 | CELEHR | L | | | S |
| 10.5 | CELEHR | L | | | S |
| 11 | CELEHR | L | | | S |
| 11.5 | CELEHR | L | | | S |
| 12 | NONE | | | | R |
| 12.5 | NONE | W | | | S |
| 13 | SENGRE | | | | S |
| 13.5 | NONE | | | | R |
| 14 | PROVEL | COMSCA | L | | S |
| 14.5 | NONE | L | | | S |
| 15 | NONE | | | | R |
| 15.5 | COMSCA | | | | R |
| 16 | COMSCA | | | | S |
| 16.5 | PROVEL | COMSCA | BOUCUR | L | S |
| 17 | PROVEL | COMSCA | L | | S |
| 17.5 | PROVEL | COMSCA | L | | S |
| 18 | COMSCA | L | | | S |
| 18.5 | NONE | L | | | S |
| 19 | NONE | | | | R |
| 19.5 | COMSCA | SETMAC | L | | S |
| 20 | NONE | L | | | S |
| 20.5 | BOUCUR | L | | | S |
| 21 | NONE | | | | R |
| 21.5 | BOUCUR | L | | | S |
| 22 | SENGRE | | | | R |
| 22.5 | NONE | | | | R |
| 23 | COMSCA | | | | R |
| 23.5 | SETMAC | | | | S |
| 24 | COMSCA | L | | | S |
| 24.5 | COMSCA | L | | | S |
| 25 | CELEHR | L | | | S |
| 25.5 | NONE | L | | | S |
| 26 | NONE | L | | | S |
| 26.5 | PROVEL | COMSCA | L | | S |
| 27 | PROVEL | COMSCA | L | | S |
| 27.5 | PROVEL | COMSCA | L | | S |
| 28 | PROVEL | L | | | S |
| 28.5 | PROVEL | L | | | S |
| 29 | PROVEL | L | | | S |
| 29.5 | PROVEL | L | | | S |
| 30 | PROVEL | BOUCUR | L | | S |

| | |
|---|---|
| % Foliar Cover | 75.015 |
| % Bare Ground | 0 |
| % Basal Cover | 0 |

## Plot 19- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | ARITER | L | | | S |
| 1 | ARITER | L | | | S |
| 1.5 | COMSCA | L | | | S |
| 2 | COMSCA | SENGRE | L | | S |
| 2.5 | ANITHU | L | | | S |
| 3 | ANITHU | L | | | S |
| 3.5 | ANITHU | L | | | S |
| 4 | SENGRE | COMSCA | L | | S |
| 4.5 | COMSCA | L | | | S |
| 5 | PROVEL | COMSCA | L | | S |
| 5.5 | NONE | L | | | S |
| 6 | COMSCA | | | | R |
| 6.5 | COMSCA | CALERI | L | | S |
| 7 | NONE | | | | R |
| 7.5 | NONE | | | | R |
| 8 | NONE | | | | R |
| 8.5 | COMSCA | L | | | S |
| 9 | CELEHR | L | | | S |
| 9.5 | CELEHR | L | | | S |
| 10 | CELEHR | L | | | S |
| 10.5 | CELEHR | COMSCA | L | | S |
| 11 | CELEHR | L | | | S |
| 11.5 | NONE | L | | | S |
| 12 | NONE | W | | | S |
| 12.5 | PROVEL | | | | R |
| 13 | PROVEL | COMSCA | L | | S |
| 13.5 | NONE | L | | | S |
| 14 | BOUCUR | | | | S |
| 14.5 | SIMCHI | | | | S |
| 15 | NONE | | | | R |
| 15.5 | NONE | | | | R |
| 16 | SIMCHI | SENGRE | L | | S |
| 16.5 | NONE | | | | S |
| 17 | COMSCA | L | | | S |
| 17.5 | SENGRE | | | | S |
| 18 | BOUCUR | L | | | S |
| 18.5 | NONE | | | | S |
| 19 | NONE | | | | S |
| 19.5 | NONE | L | | | S |
| 20 | SIMCHI | L | | | S |
| 20.5 | ZIZOBT | COMSCA | L | | S |
| 21 | PROVEL | L | | | S |
| 21.5 | PROVEL | L | | | S |
| 22 | PROVEL | COMSCA | | | S |
| 22.5 | PROVEL | COMSCA | L | | S |
| 23 | COMSCA | | | | R |
| 23.5 | COMSCA | | | | R |
| 24 | COMSCA | | | | S |
| 24.5 | COMSCA | | | | R |
| 25 | NONE | | | | R |
| 25.5 | NONE | | | | R |
| 26 | NONE | | | | R |
| 26.5 | NONE | | | | R |
| 27 | PROVEL | | | | S |
| 27.5 | PROVEL | | | | R |
| 28 | COMSCA | | | | S |
| 28.5 | COMSCA | | | | S |
| 29 | NONE | | | | R |
| 29.5 | COMSCA | | | | R |
| 30 | ARITER | | | | R |

| | |
|---|---|
| % Foliar Cover | 70.014 |
| % Bare Ground | 5.001 |
| % Basal Cover | 0 |

## Summary - Plot 19

**% Average Foliar Cover**

| | |
|---|---|
| On ROW | 83.350 |
| Off ROW | 75.015 |

**% Average Bare Ground**

| | |
|---|---|
| On ROW | 2.778 |
| Off ROW | 3.890 |

**% Average Basal Cover**

| | |
|---|---|
| On ROW | 0.556 |
| Off ROW | 0.000 |

# Plot 20- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | NONE | L | | | S |
| 1 | NONE | L | | | S |
| 1.5 | NONE | L | | | S |
| 2 | NONE | L | | | S |
| 2.5 | NONE | L | | | S |
| 3 | NONE | L | | | S |
| 3.5 | NONE | L | | | S |
| 4 | NONE | L | | | S |
| 4.5 | NONE | L | | | S |
| 5 | NONE | | | | S |
| 5.5 | NONE | L | | | S |
| 6 | DIGCAL | L | | | S |
| 6.5 | CHLVIR | L | | | S |
| 7 | NONE | L | | | S |
| 7.5 | NONE | | | | R |
| 8 | ATRCAN | CHLVIR | L | | S |
| 8.5 | ATRCAN | L | | | S |
| 9 | ATRCAN | CHLVIR | L | | S |
| 9.5 | NONE | L | | | S |
| 10 | PANHIR | L | | | S |
| 10.5 | PANHIR | L | | | S |
| 11 | NONE | L | | | S |
| 11.5 | GUTSAR | L | | | S |
| 12 | NONE | L | | | S |
| 12.5 | NONE | L | | | S |
| 13 | NONE | L | | | S |
| 13.5 | ISOTEN | L | | | S |
| 14 | PANHIR | L | | | S |
| 14.5 | NONE | L | | | S |
| 15 | GUTSAR | L | | | S |
| 15.5 | GUTSAR | L | | | S |
| 16 | AMBACA | L | | | S |
| 16.5 | ISOTEN | L | | | S |
| 17 | NONE | L | | | S |
| 17.5 | ATRCAN | ISOTEN | L | | S |
| 18 | ATRCAN | ISOTEN | L | | S |
| 18.5 | ATRCAN | L | | | S |
| 19 | ATRCAN | L | | | S |
| 19.5 | GUTSAR | L | | | S |
| 20 | NONE | L | | | S |
| 20.5 | NONE | L | | | S |
| 21 | NONE | L | | | S |
| 21.5 | NONE | | | | S |
| 22 | NONE | L | | | S |
| 22.5 | NONE | | | | R |
| 23 | NONE | L | | | S |
| 23.5 | NONE | L | | | S |
| 24 | NONE | | | | S |
| 24.5 | NONE | L | | | S |
| 25 | NONE | | | | S |
| 25.5 | NONE | | | | S |
| 26 | NONE | | | | S |
| 26.5 | NONE | | | | S |
| 27 | NONE | L | | | S |
| 27.5 | NONE | L | | | S |
| 28 | NONE | | | | S |
| 28.5 | SALTRA | | | | S |
| 29 | NONE | | | | R |
| 29.5 | NONE | | | | R |
| 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 33.34 |
| % Bare Ground | 15.003 |
| % Basal Cover | 0 |

# Plot 20- on ROW, Line 2

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | NONE | | | | S |
| 1 | NONE | | | | S |
| 1.5 | ERALEH | L | | | S |
| 2 | NONE | | | | S |
| 2.5 | NONE | L | | | S |
| 3 | NONE | L | | | S |
| 3.5 | NONE | L | | | S |
| 4 | NONE | | | | S |
| 4.5 | NONE | L | | | S |
| 5 | NONE | L | | | S |
| 5.5 | ISOTEN | L | | | S |
| 6 | NONE | L | | | S |
| 6.5 | NONE | L | | | S |
| 7 | AMBACA | L | | | S |
| 7.5 | NONE | W | | | S |
| 8 | NONE | L | | | S |
| 8.5 | AMBACA | L | | | S |
| 9 | LEPDUB | L | | | S |
| 9.5 | PANHIR | L | | | S |
| 10 | NONE | | | | S |
| 10.5 | NONE | | | | S |
| 11 | ISOTEN | L | | | S |
| 11.5 | VACCON | ISOTEN | L | | S |
| 12 | ISOTEN | L | | | S |
| 12.5 | ISOTEN | | | | S |
| 13 | ISOTEN | LEPDUB | L | | S |
| 13.5 | NONE | L | | | S |
| 14 | LEPDUB | ISOTEN | L | | S |
| 14.5 | LEPDUB | AMBACA | L | | S |
| 15 | NONE | L | | | S |
| 15.5 | AMBACA | L | | | S |
| 16 | AMBACA | L | | | S |
| 16.5 | NONE | L | | | S |
| 17 | AMBACA | L | | | S |
| 17.5 | AMBACA | L | | | S |
| 18 | NONE | L | | | S |
| 18.5 | CHLVIR | L | | | S |
| 19 | NONE | L | | | S |
| 19.5 | AMBACA | | | | S |
| 20 | AMBACA | L | | | S |
| 20.5 | NONE | | | | S |
| 21 | NONE | | | | S |
| 21.5 | NONE | L | | | S |
| 22 | NONE | L | | | S |
| 22.5 | NONE | L | | | S |
| 23 | ISOTEN | L | | | S |
| 23.5 | ISOTEN | SETMAC | L | | S |
| 24 | NONE | L | | | S |
| 24.5 | NONE | L | | | S |
| 25 | NONE | L | | | S |
| 25.5 | NONE | | | | S |
| 26 | NONE | L | | | S |
| 26.5 | NONE | | | | R |
| 27 | NONE | | | | S |
| 27.5 | NONE | | | | S |
| 28 | NONE | | | | R |
| 28.5 | NONE | | | | R |
| 29 | NONE | | | | S |
| 29.5 | NONE | | | | S |
| 30 | NONE | | | | R |

| | |
|---|---|
| % Foliar Cover | 36.674 |
| % Bare Ground | 21.671 |
| % Basal Cover | 0 |

# Plot 20- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | NONE | | | | S |
| 1 | NONE | | | | S |
| 1.5 | NONE | | | | S |
| 2 | NONE | | | | S |
| 2.5 | SALTRA | L | | | S |
| 3 | NONE | | | | R |
| 3.5 | NONE | | | | S |
| 4 | NONE | | | | R |
| 4.5 | BOUROT | L | | | S |
| 5 | NONE | L | | | S |
| 5.5 | SALTRA | L | | | S |
| 6 | SALTRA | L | | | S |
| 6.5 | NONE | L | | | S |
| 7 | ERALEH | L | | | S |
| 7.5 | CHLVIR | L | | | S |
| 8 | NONE | L | | | S |
| 8.5 | NONE | L | | | S |
| 9 | NONE | L | | | S |
| 9.5 | NONE | L | | | S |
| 10 | NONE | L | | | S |
| 10.5 | NONE | L | | | S |
| 11 | NONE | | | | R |
| 11.5 | CHLVIR | L | | | S |
| 12 | CHLVIR | L | | | S |
| 12.5 | CHLVIR | L | | | S |
| 13 | NONE | L | | | S |
| 13.5 | NONE | L | | | S |
| 14 | GUTSAR | L | | | S |
| 14.5 | GUTSAR | L | | | S |
| 15 | ISOTEN | L | | | S |
| 15.5 | ISOTEN | L | | | S |
| 16 | ISOTEN | L | | | S |
| 16.5 | ISOTEN | L | | | S |
| 17 | NONE | L | | | S |
| 17.5 | NONE | L | | | S |
| 18 | NONE | L | | | S |
| 18.5 | ERALEH | L | | | S |
| 19 | ATRCAN | L | | | S |
| 19.5 | ATRCAN | L | | | S |
| 20 | ATRCAN | L | | | S |
| 20.5 | NONE | L | | | S |
| 21 | ISOTEN | L | | | S |
| 21.5 | NONE | L | | | S |
| 22 | SALTRA | L | | | S |
| 22.5 | NONE | | | | S |
| 23 | NONE | | | | S |
| 23.5 | NONE | | | | S |
| 24 | NONE | | | | R |
| 24.5 | NONE | | | | S |
| 25 | NONE | | | | S |
| 25.5 | NONE | L | | | S |
| 26 | SENGRE | | | | S |
| 26.5 | NONE | | | | S |
| 27 | NONE | | | | R |
| 27.5 | NONE | | | | S |
| 28 | PROVEL | ISOTEN | L | | S |
| 28.5 | | | | | |
| 29 | | | | | |
| 29.5 | | | | | |
| 30 | | | | | |

| | |
|---|---|
| % Foliar Cover | 41.078 |
| % Bare Ground | 21.432 |
| % Basal Cover | 0 |

# Plot 20- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | L | | | S | 15.5 | NONE | | | | S |
| 1 | NONE | L | | | S | 16 | NONE | | | | S |
| 1.5 | NONE | L | | | S | 16.5 | NONE | | | | S |
| 2 | ERALEH | L | | | S | 17 | NONE | | | | S |
| 2.5 | ERALEH | L | | | S | 17.5 | NONE | | | | S |
| 3 | NONE | | | | S | 18 | NONE | L | | | S |
| 3.5 | NONE | L | | | S | 18.5 | NONE | | | | S |
| 4 | GUTSAR | L | | | S | 19 | SALTRA | | | | S |
| 4.5 | ISOTEN | L | | | S | 19.5 | NONE | | | | S |
| 5 | NONE | L | | | S | 20 | NONE | | | | S |
| 5.5 | NONE | | | | S | 20.5 | NONE | | | | S |
| 6 | NONE | | | | S | 21 | SALTRA | L | | | S |
| 6.5 | NONE | | | | S | 21.5 | NONE | | | | S |
| 7 | NONE | L | | | S | 22 | NONE | | | | S |
| 7.5 | NONE | L | | | S | 22.5 | NONE | | | | S |
| 8 | NONE | | | | S | 23 | NONE | | | | S |
| 8.5 | NONE | | | | S | 23.5 | SALTRA | L | | | S |
| 9 | NONE | | | | S | 24 | NONE | | | | S |
| 9.5 | NONE | L | | | S | 24.5 | NONE | | | | S |
| 10 | NONE | | | | S | 25 | ISOTEN | | | | S |
| 10.5 | BOUARI | L | | | S | 25.5 | ISOTEN | | | | S |
| 11 | ISOTEN | L | | | S | 26 | NONE | | | | S |
| 11.5 | NONE | L | | | S | 26.5 | PROVEL | SALTRA | | | S |
| 12 | BOUARI | L | | | S | 27 | NONE | L | | | S |
| 12.5 | NONE | | | | S | 27.5 | NONE | | | | S |
| 13 | SALTRA | L | | | S | 28 | NONE | | | | S |
| 13.5 | NONE | | | | S | 28.5 | NONE | | | | S |
| 14 | NONE | | | | S | 29 | NONE | | | | S |
| 14.5 | NONE | | | | S | 29.5 | NONE | L | | | S |
| 15 | NONE | | | | R | 30 | NONE | L | | | S |

| | |
|---|---|
| % Foliar Cover | 23.338 |
| % Bare Ground | 53.344 |
| % Basal Cover | 0 |

# Plot 20- off ROW, Line 6

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | NONE | | | | S |
| 1 | NONE | | | | S | 16 | NONE | | | | S |
| 1.5 | NONE | L | | | S | 16.5 | NONE | | | | S |
| 2 | GUTSAR | L | | | S | 17 | GUTSAR | | | | S |
| 2.5 | NONE | L | | | S | 17.5 | ISOTEN | | | | S |
| 3 | CHLVIR | L | | | S | 18 | NONE | L | | | S |
| 3.5 | NONE | L | | | S | 18.5 | NONE | | | | S |
| 4 | NONE | | | | S | 19 | SALTRA | L | | | S |
| 4.5 | NONE | L | | | S | 19.5 | NONE | L | | | S |
| 5 | NONE | W | | | S | 20 | NONE | L | | | S |
| 5.5 | NONE | L | | | S | 20.5 | NONE | L | | | S |
| 6 | NONE | L | | | S | 21 | NONE | | | | S |
| 6.5 | NONE | L | | | S | 21.5 | NONE | L | | | S |
| 7 | NONE | L | | | S | 22 | NONE | L | | | S |
| 7.5 | GUTSAR | L | | | S | 22.5 | PROVEL | L | | | S |
| 8 | NONE | L | | | S | 23 | NONE | L | | | S |
| 8.5 | GUTSAR | L | | | S | 23.5 | PROVEL | | | | S |
| 9 | NONE | L | | | S | 24 | NONE | | | | S |
| 9.5 | NONE | L | | | S | 24.5 | NONE | | | | S |
| 10 | GUTSAR | L | | | S | 25 | NONE | | | | S |
| 10.5 | NONE | | | | S | 25.5 | NONE | | | | S |
| 11 | NONE | L | | | S | 26 | NONE | | | | S |
| 11.5 | ERALEH | L | | | S | 26.5 | NONE | | | | S |
| 12 | NONE | L | | | S | 27 | NONE | | | | S |
| 12.5 | SALTRA | L | | | S | 27.5 | NONE | | | | R |
| 13 | ERALEH | L | | | S | 28 | NONE | | | | S |
| 13.5 | NONE | L | | | S | 28.5 | NONE | | | | S |
| 14 | NONE | | | | S | 29 | NONE | | | | S |
| 14.5 | NONE | | | | S | 29.5 | NONE | L | | | S |
| 15 | NONE | | | | S | 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 21.671 |
| % Bare Ground | 38.341 |
| % Basal Cover | 0 |

## Plot 20- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | PROVEL | ISOTEN | L | | S | 15.5 | NONE | | | | S |
| 1 | ISOTEN | L | | | S | 16 | NONE | L | | | S |
| 1.5 | NONE | L | | | S | 16.5 | NONE | | | | S |
| 2 | NONE | L | | | S | 17 | NONE | L | | | S |
| 2.5 | NONE | L | | | S | 17.5 | NONE | | | | S |
| 3 | GUTSAR | L | | | S | 18 | NONE | L | | | S |
| 3.5 | NONE | L | | | S | 18.5 | NONE | | | | S |
| 4 | NONE | L | | | S | 19 | BOUARI | | | | S |
| 4.5 | NONE | L | | | S | 19.5 | NONE | | | | S |
| 5 | PROVEL | ISOTEN | L | | S | 20 | NONE | | | | S |
| 5.5 | PROVEL | L | | | S | 20.5 | NONE | L | | | S |
| 6 | NONE | L | | | S | 21 | NONE | L | | | S |
| 6.5 | NONE | L | | | S | 21.5 | NONE | L | | | S |
| 7 | PROVEL | ISOTEN | L | | S | 22 | NONE | | | | S |
| 7.5 | ISOTEN | L | | | S | 22.5 | NONE | | | | S |
| 8 | NONE | L | | | S | 23 | SALTRA | BOUARI | | | S |
| 8.5 | GUTSAR | L | | | S | 23.5 | NONE | | | | S |
| 9 | PROVEL | SETMAC | L | | S | 24 | BOUARI | | | | S |
| 9.5 | NONE | L | | | S | 24.5 | NONE | | | | S |
| 10 | NONE | L | | | S | 25 | NONE | | | | S |
| 10.5 | PROVEL | L | | | S | 25.5 | NONE | | | | S |
| 11 | PROVEL | SETMAC | L | | S | 26 | NONE | | | | S |
| 11.5 | PROVEL | L | | | S | 26.5 | SALTRA | | | | S |
| 12 | NONE | L | | | S | 27 | NONE | L | | | S |
| 12.5 | NONE | L | | | S | 27.5 | NONE | | | | S |
| 13 | NONE | W | | | S | 28 | NONE | L | | | S |
| 13.5 | NONE | L | | | S | 28.5 | SALTRA | L | | | S |
| 14 | NONE | L | | | S | 29 | NONE | | | | S |
| 14.5 | NONE | L | | | S | 29.5 | NONE | | | | S |
| 15 | SALTRA | | | | S | 30 | NONE | L | | | S |

| | |
|---|---|
| % Foliar Cover | 30.006 |
| % Bare Ground | 26.672 |
| % Basal Cover | 0 |

## Summary - Plot 20

**% Average Foliar Cover**

| | |
|---|---|
| On ROW | 37.031 |
| Off ROW | 25.005 |

**% Average Bare Ground**

| | |
|---|---|
| On ROW | 19.369 |
| Off ROW | 39.452 |

**% Average Basal Cover**

| | |
|---|---|
| On ROW | 0.000 |
| Off ROW | 0.000 |

## Plot 21- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | ERALEH | | | | S | 15.5 | NONE | | | | S |
| 1 | NONE | | | | S | 16 | VACCON | L | | | S |
| 1.5 | NONE | L | | | S | 16.5 | NONE | L | | | S |
| 2 | NONE | L | | | S | 17 | NONE | L | | | S |
| 2.5 | NONE | | | | S | 17.5 | NONE | L | | | S |
| 3 | NONE | L | | | S | 18 | NONE | | | | S |
| 3.5 | ISOTEN | L | | | S | 18.5 | NONE | L | | | S |
| 4 | NONE | L | | | S | 19 | ERIWRI | L | | | S |
| 4.5 | NONE | L | | | S | 19.5 | NONE | | | | S |
| 5 | NONE | L | | | S | 20 | GUTSAR | L | | | S |
| 5.5 | GUTSAR | L | | | S | 20.5 | NONE | L | | | S |
| 6 | GUTSAR | L | | | S | 21 | NONE | L | | | S |
| 6.5 | GUTSAR | L | | | S | 21.5 | ATRCAN | L | | | S |
| 7 | GUTSAR | L | | | S | 22 | ATRCAN | | | | S |
| 7.5 | GUTSAR | L | | | S | 22.5 | NONE | | | | S |
| 8 | ATRCAN | L | | | S | 23 | NONE | L | | | S |
| 8.5 | ATRCAN | GUTSAR | L | | S | 23.5 | NONE | | | | S |
| 9 | GUTSAR | L | | | S | 24 | NONE | | | | R |
| 9.5 | NONE | L | | | S | 24.5 | NONE | | | | S |
| 10 | NONE | L | | | S | 25 | ARIPUR | L | | | S |
| 10.5 | GUTSAR | L | | | S | 25.5 | ARIPUR | L | | | S |
| 11 | NONE | L | | | S | 26 | BOUROT | L | | | S |
| 11.5 | NONE | L | | | S | 26.5 | NONE | | | | S |
| 12 | NONE | L | | | S | 27 | NONE | | | | S |
| 12.5 | NONE | | | | S | 27.5 | NONE | | | | S |
| 13 | NONE | L | | | S | 28 | NONE | | | | S |
| 13.5 | NONE | W | | | S | 28.5 | NONE | | | | S |
| 14 | NONE | L | | | S | 29 | SALTRA | | | | S |
| 14.5 | NONE | L | | | S | 29.5 | NONE | | | | S |
| 15 | NONE | L | | | S | 30 | NONE | W | | | S |

| | |
|---|---|
| % Foliar Cover | 33.34 |
| % Bare Ground | 25.005 |
| % Basal Cover | 0 |

# Plot 21- on ROW, Line 2

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | NONE | L | | | S |
| 1 | NONE | | | | S | 16 | SPHAMB | L | | | S |
| 1.5 | NONE | L | | | S | 16.5 | NONE | L | | | S |
| 2 | NONE | | | | S | 17 | ATRCAN | L | | | S |
| 2.5 | NONE | | | | S | 17.5 | ATRCAN | GUTSAR | L | | S |
| 3 | NONE | L | | | S | 18 | GUTSAR | L | | | S |
| 3.5 | NONE | L | | | S | 18.5 | GUTSAR | L | | | S |
| 4 | BOUARI | L | | | S | 19 | GUTSAR | L | | | S |
| 4.5 | NONE | L | | | S | 19.5 | NONE | L | | | S |
| 5 | NONE | L | | | S | 20 | GUTSAR | L | | | S |
| 5.5 | NONE | L | | | S | 20.5 | NONE | L | | | S |
| 6 | NONE | L | | | S | 21 | NONE | L | | | S |
| 6.5 | CHLVIR | L | | | S | 21.5 | NONE | L | | | S |
| 7 | ERIWRI | L | | | S | 22 | NONE | L | | | S |
| 7.5 | ERIWRI | L | | | S | 22.5 | NONE | L | | | S |
| 8 | GUTSAR | L | | | S | 23 | NONE | L | | | S |
| 8.5 | GUTSAR | L | | | S | 23.5 | NONE | L | | | S |
| 9 | CHLVIR | L | | | S | 24 | GUTSAR | L | | | S |
| 9.5 | NONE | L | | | S | 24.5 | NONE | L | | | S |
| 10 | GUTSAR | L | | | S | 25 | NONE | L | | | S |
| 10.5 | GUTSAR | | | | GUTSAR | 25.5 | NONE | | | | S |
| 11 | NONE | L | | | S | 26 | NONE | L | | | S |
| 11.5 | GUTSAR | L | | | S | 26.5 | NONE | L | | | S |
| 12 | NONE | L | | | S | 27 | NONE | | | | S |
| 12.5 | GUTSAR | L | | | S | 27.5 | NONE | | | | R |
| 13 | GUTSAR | L | | | S | 28 | ATRCAN | L | | | S |
| 13.5 | NONE | | | | S | 28.5 | NONE | L | | | S |
| 14 | NONE | L | | | S | 29 | NONE | | | | S |
| 14.5 | NONE | L | | | S | 29.5 | NONE | | | | S |
| 15 | NONE | L | | | S | 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 35.007 |
| % Bare Ground | 16.67 |
| % Basal Cover | 1.667 |

## Plot 21- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | NONE | L | | | S |
| 1 | NONE | | | | R | 16 | NONE | L | | | S |
| 1.5 | SALTRA | | | | S | 16.5 | ERIWRI | L | | | S |
| 2 | NONE | | | | S | 17 | NONE | L | | | S |
| 2.5 | GUTSAR | L | | | S | 17.5 | CONCAN | L | | | S |
| 3 | GUTSAR | L | | | S | 18 | NONE | L | | | S |
| 3.5 | NONE | L | | | S | 18.5 | NONE | L | | | S |
| 4 | NONE | L | | | S | 19 | GUTSAR | L | | | S |
| 4.5 | NONE | L | | | S | 19.5 | GUTSAR | L | | | S |
| 5 | NONE | L | | | S | 20 | NONE | L | | | S |
| 5.5 | NONE | L | | | S | 20.5 | NONE | L | | | S |
| 6 | ERIWRI | L | | | S | 21 | NONE | | | | S |
| 6.5 | ERIWRI | L | | | S | 21.5 | NONE | | | | S |
| 7 | NONE | L | | | S | 22 | NONE | L | | | S |
| 7.5 | NONE | L | | | S | 22.5 | NONE | L | | | S |
| 8 | NONE | L | | | S | 23 | NONE | L | | | S |
| 8.5 | NONE | L | | | S | 23.5 | NONE | L | | | S |
| 9 | CHLVIR | L | | | S | 24 | ERALEH | L | | | S |
| 9.5 | NONE | L | | | S | 24.5 | NONE | L | | | S |
| 10 | NONE | L | | | S | 25 | NONE | L | | | S |
| 10.5 | NONE | L | | | S | 25.5 | BOUARI | L | | | S |
| 11 | NONE | L | | | S | 26 | NONE | L | | | S |
| 11.5 | NONE | L | | | S | 26.5 | SPHAMB | L | | | S |
| 12 | NONE | L | | | S | 27 | NONE | L | | | S |
| 12.5 | NONE | L | | | S | 27.5 | NONE | L | | | S |
| 13 | NONE | L | | | S | 28 | BOEERE | L | | | S |
| 13.5 | NONE | L | | | S | 28.5 | NONE | L | | | S |
| 14 | GUTSAR | L | | | S | 29 | CALERI | L | | | S |
| 14.5 | GUTSAR | L | | | S | 29.5 | NONE | L | | | S |
| 15 | GUTSAR | L | | | S | 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 30.006 |
| % Bare Ground | 8.335 |
| % Basal Cover | 0 |

# Plot 21- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | NONE | L | | | S |
| 1 | NONE | | | | R |
| 1.5 | ERALEH | LEPDUB | L | | S |
| 2 | LEPDUB | L | | | S |
| 2.5 | ISOTEN | L | | | S |
| 3 | NONE | | | | S |
| 3.5 | NONE | | | | S |
| 4 | ISOTEN | L | | | S |
| 4.5 | NONE | | | | S |
| 5 | NONE | | | | S |
| 5.5 | ERALEH | L | | | S |
| 6 | ERALEH | L | | | S |
| 6.5 | NONE | L | | | S |
| 7 | NONE | L | | | S |
| 7.5 | NONE | L | | | S |
| 8 | NONE | L | | | S |
| 8.5 | NONE | L | | | S |
| 9 | NONE | L | | | S |
| 9.5 | NONE | L | | | S |
| 10 | NONE | L | | | S |
| 10.5 | NONE | L | | | S |
| 11 | GUTSAR | | | | GUTSAR |
| 11.5 | ERALEH | L | | | S |
| 12 | GUTSAR | | | | S |
| 12.5 | NONE | | | | S |
| 13 | GUTSAR | | | | S |
| 13.5 | NONE | L | | | S |
| 14 | ISOTEN | L | | | S |
| 14.5 | NONE | L | | | S |
| 15 | NONE | L | | | S |
| 15.5 | NONE | L | | | S |
| 16 | NONE | | | | S |
| 16.5 | ISOTEN | L | | | S |
| 17 | ISOTEN | L | | | S |
| 17.5 | NONE | L | | | S |
| 18 | NONE | | | | S |
| 18.5 | NONE | L | | | S |
| 19 | NONE | | | | S |
| 19.5 | ISOTEN | SETMAC | L | | S |
| 20 | PROVEL | GUTSAR | SETMAC | L | S |
| 20.5 | PROVEL | L | | | S |
| 21 | PROVEL | SETMAC | L | | S |
| 21.5 | PROVEL | SETMAC | L | | S |
| 22 | PROVEL | GUTSAR | L | | S |
| 22.5 | PROVEL | L | | | S |
| 23 | NONE | L | | | S |
| 23.5 | PROVEL | ISOTEN | L | | S |
| 24 | PROVEL | L | | | S |
| 24.5 | NONE | | | | S |
| 25 | NONE | | | | S |
| 25.5 | NONE | | | | S |
| 26 | NONE | | | | S |
| 26.5 | ISOTEN | | | | R |
| 27 | ISOTEN | L | | | S |
| 27.5 | NONE | | | | S |
| 28 | NONE | | | | S |
| 28.5 | NONE | | | | S |
| 29 | NONE | | | | S |
| 29.5 | NONE | | | | S |
| 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 40.008 |
| % Bare Ground | 30.006 |
| % Basal Cover | 1.667 |

# Plot 21- off ROW, Line 6

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | L | | | S | 15.5 | GUTSAR | L | | | S |
| 1 | NONE | L | | | S | 16 | NONE | L | | | S |
| 1.5 | NONE | L | | | S | 16.5 | PROVEL | L | | | S |
| 2 | BOUROT | L | | | S | 17 | NONE | L | | | S |
| 2.5 | NONE | L | | | S | 17.5 | SETMAC | L | | | S |
| 3 | NONE | L | | | S | 18 | NONE | L | | | S |
| 3.5 | NONE | | | | S | 18.5 | NONE | | | | S |
| 4 | NONE | | | | S | 19 | NONE | | | | S |
| 4.5 | NONE | | | | S | 19.5 | NONE | | | | S |
| 5 | NONE | | | | S | 20 | NONE | | | | S |
| 5.5 | NONE | L | | | S | 20.5 | NONE | | | | S |
| 6 | NONE | L | | | S | 21 | NONE | | | | R |
| 6.5 | NONE | L | | | S | 21.5 | NONE | | | | S |
| 7 | NONE | L | | | S | 22 | NONE | | | | S |
| 7.5 | BOUARI | L | | | S | 22.5 | NONE | | | | R |
| 8 | NONE | L | | | S | 23 | NONE | L | | | S |
| 8.5 | BOUARI | L | | | S | 23.5 | NONE | | | | S |
| 9 | GUTSAR | | | | S | 24 | NONE | L | | | S |
| 9.5 | NONE | | | | S | 24.5 | PROVEL | L | | | S |
| 10 | NONE | | | | S | 25 | PROVEL | SETMAC | L | | S |
| 10.5 | NONE | | | | S | 25.5 | PROVEL | ISOTEN | L | | S |
| 11 | NONE | | | | S | 26 | PROVEL | SETMAC | L | | S |
| 11.5 | NONE | | | | S | 26.5 | PROVEL | L | | | S |
| 12 | NONE | | | | S | 27 | PROVEL | ERALEH | L | | S |
| 12.5 | NONE | | | | S | 27.5 | PROVEL | L | | | S |
| 13 | NONE | | | | S | 28 | NONE | L | | | S |
| 13.5 | NONE | | | | S | 28.5 | NONE | L | | | S |
| 14 | NONE | | | | S | 29 | NONE | L | | | S |
| 14.5 | NONE | | | | S | 29.5 | NONE | | | | S |
| 15 | NONE | | | | S | 30 | PROVEL | SALTRA | L | | S |

| | |
|---|---|
| % Foliar Cover | 25.005 |
| % Bare Ground | 41.675 |
| % Basal Cover | 0 |

# Plot 21- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | NONE | L | | | S |
| 1 | NONE | L | | | S |
| 1.5 | NONE | L | | | S |
| 2 | NONE | L | | | S |
| 2.5 | NONE | L | | | S |
| 3 | GUTSAR | L | | | S |
| 3.5 | SETMAC | L | | | S |
| 4 | NONE | L | | | S |
| 4.5 | NONE | L | | | S |
| 5 | ERALEH | | | | S |
| 5.5 | NONE | | | | S |
| 6 | NONE | L | | | S |
| 6.5 | GUTSAR | L | | | S |
| 7 | GUTSAR | L | | | S |
| 7.5 | ERALEH | L | | | S |
| 8 | NONE | L | | | S |
| 8.5 | ERALEH | L | | | S |
| 9 | NONE | L | | | S |
| 9.5 | SIDABU | L | | | S |
| 10 | NONE | L | | | S |
| 10.5 | ERALEH | L | | | S |
| 11 | GUTSAR | L | | | S |
| 11.5 | ERALEH | L | | | S |
| 12 | NONE | L | | | S |
| 12.5 | NONE | L | | | S |
| 13 | NONE | | | | S |
| 13.5 | NONE | L | | | S |
| 14 | NONE | L | | | S |
| 14.5 | PHEAUR | L | | | S |
| 15 | NONE | | | | S |
| 15.5 | NONE | L | | | S |
| 16 | NONE | L | | | S |
| 16.5 | NONE | L | | | S |
| 17 | NONE | L | | | S |
| 17.5 | NONE | L | | | S |
| 18 | GUTSAR | SETMAC | L | | S |
| 18.5 | GUTSAR | SETMAC | L | | S |
| 19 | SETMAC | L | | | S |
| 19.5 | NONE | L | | | S |
| 20 | NONE | | | | S |
| 20.5 | ERALEH | L | | | S |
| 21 | ERALEH | L | | | S |
| 21.5 | ERALEH | L | | | S |
| 22 | NONE | | | | S |
| 22.5 | ARITER | GUTSAR | L | | S |
| 23 | GUTSAR | L | | | S |
| 23.5 | CALERI | | | | S |
| 24 | NONE | L | | | S |
| 24.5 | NONE | | | | S |
| 25 | NONE | | | | S |
| 25.5 | SALTRA | | | | S |
| 26 | SALTRA | L | | | S |
| 26.5 | NONE | | | | S |
| 27 | ISOTEN | | | | S |
| 27.5 | NONE | L | | | S |
| 28 | NONE | L | | | S |
| 28.5 | PROVEL | L | | | S |
| 29 | NONE | L | | | S |
| 29.5 | NONE | L | | | S |
| 30 | NONE | L | | | S |

| | |
|---|---|
| % Foliar Cover | 41.675 |
| % Bare Ground | 13.336 |
| % Basal Cover | 0 |

## Summary - Plot 21

**% Average Foliar Cover**

| | |
|---|---|
| On ROW | 32.784 |
| Off ROW | 35.563 |

**% Average Bare Ground**

| | |
|---|---|
| On ROW | 16.670 |
| Off ROW | 28.339 |

**% Average Basal Cover**

| | |
|---|---|
| On ROW | 0.556 |
| Off ROW | 0.556 |

# Plot 22- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | ERALEH | | | | S | 15.5 | ERALEH | L | | | S |
| 1 | ERALEH | L | | | S | 16 | ERALEH | L | | | S |
| 1.5 | NONE | L | | | S | 16.5 | NONE | L | | | S |
| 2 | ERALEH | L | | | S | 17 | ERALEH | L | | | S |
| 2.5 | NONE | L | | | S | 17.5 | ATRCAN | ERALEH | L | | S |
| 3 | NONE | L | | | S | 18 | NONE | | | | R |
| 3.5 | NONE | L | | | S | 18.5 | NONE | | | | S |
| 4 | ERALEH | L | | | S | 19 | ERALEH | L | | | S |
| 4.5 | ERALEH | L | | | S | 19.5 | ERALEH | L | | | S |
| 5 | ERALEH | L | | | S | 20 | ERALEH | L | | | S |
| 5.5 | NONE | L | | | S | 20.5 | ERALEH | L | | | S |
| 6 | NONE | | | | S | 21 | ERALEH | L | | | S |
| 6.5 | NONE | L | | | S | 21.5 | NONE | L | | | S |
| 7 | ERALEH | L | | | S | 22 | ARITER | L | | | S |
| 7.5 | BOUCUR | L | | | S | 22.5 | ERALEH | | | | S |
| 8 | ATRCAN | ERALEH | L | | S | 23 | NONE | L | | | S |
| 8.5 | ERALEH | | | | R | 23.5 | ERALEH | L | | | S |
| 9 | ERALEH | | | | R | 24 | ERALEH | L | | | S |
| 9.5 | NONE | | | | S | 24.5 | NONE | L | | | S |
| 10 | NONE | | | | R | 25 | NONE | L | | | S |
| 10.5 | ERALEH | ERIFAS | | | S | 25.5 | NONE | L | | | S |
| 11 | ERALEH | | | | R | 26 | NONE | | | | S |
| 11.5 | ERALEH | | | | S | 26.5 | NONE | | | | R |
| 12 | ERALEH | L | | | S | 27 | ERALEH | L | | | S |
| 12.5 | NONE | | | | R | 27.5 | NONE | | | | S |
| 13 | ERALEH | L | | | S | 28 | ERALEH | | | | S |
| 13.5 | ATRCAN | ERALEH | VACCON | | S | 28.5 | ERALEH | L | | | S |
| 14 | NONE | | | | S | 29 | ERALEH | L | | | S |
| 14.5 | NONE | | | | R | 29.5 | ERALEH | | | | S |
| 15 | NONE | | | | S | 30 | ERALEH | L | | | S |

| | |
|---|---|
| % Foliar Cover | 60.012 |
| % Bare Ground | 11.669 |
| % Basal Cover | 0 |

## Plot 22- on ROW, Line 2

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | R | 15.5 | ATRCAN | ERALEH | L | | S |
| 1 | NONE | L | | | S | 16 | ATRCAN | ERALEH | L | | S |
| 1.5 | BOUARI | | | | S | 16.5 | N | L | | | S |
| 2 | ARIPUR | L | | | S | 17 | N | | | | S |
| 2.5 | NONE | L | | | S | 17.5 | ERALEH | L | | | S |
| 3 | NONE | L | | | S | 18 | NONE | | | | R |
| 3.5 | NONE | | | | S | 18.5 | ERALEH | | | | S |
| 4 | ARIPUR | L | | | S | 19 | ERALEH | L | | | S |
| 4.5 | BOUARI | L | | | S | 19.5 | ERALEH | L | | | S |
| 5 | NONE | | | | S | 20 | ARITER | ERALEH | L | | S |
| 5.5 | NONE | L | | | S | 20.5 | ERALEH | VACCON | L | | S |
| 6 | NONE | | | | S | 21 | N | L | | | S |
| 6.5 | ERALEH | L | | | S | 21.5 | ERALEH | L | | | S |
| 7 | VACCON | ERILEH | L | | S | 22 | ERALEH | L | | | S |
| 7.5 | ERALEH | L | | | S | 22.5 | ERALEH | L | | | S |
| 8 | NONE | L | | | S | 23 | ERALEH | | | | S |
| 8.5 | NONE | L | | | S | 23.5 | HETCON | ERALEH | L | | S |
| 9 | NONE | L | | | S | 24 | HETCON | ERALEH | L | | S |
| 9.5 | ERALEH | L | | | S | 24.5 | BOUCUR | L | | | S |
| 10 | ERALEH | L | | | S | 25 | VACCON | ERALEH | L | | S |
| 10.5 | NONE | L | | | S | 25.5 | SPHAMB | | | | R |
| 11 | NONE | | | | S | 26 | ERALEH | L | | | S |
| 11.5 | ATRCAN | ERILEH | L | | S | 26.5 | NONE | L | | | S |
| 12 | ERALEH | L | | | S | 27 | SPHAMB | L | | | S |
| 12.5 | ERALEH | | | | R | 27.5 | ERALEH | L | | | S |
| 13 | NONE | | | | S | 28 | ATRCAN | ERALEH | L | | S |
| 13.5 | NONE | | | | S | 28.5 | ATRCAN | ERALEH | L | | S |
| 14 | NONE | L | | | S | 29 | NONE | | | | S |
| 14.5 | NONE | | | | S | 29.5 | ERALEH | L | | | S |
| 15 | NONE | L | | | S | 30 | ERALEH | L | | | S |

| | |
|---|---|
| % Foliar Cover | 60.012 |
| % Bare Ground | 13.336 |
| % Basal Cover | 0 |

# Plot 22- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | L | | | S | 15.5 | NONE | | | | S |
| 1 | NONE | | | | S | 16 | ERALEH | L | | | S |
| 1.5 | ERALEH | L | | | S | 16.5 | ERALEH | | | | S |
| 2 | NONE | | | | S | 17 | NONE | L | | | S |
| 2.5 | NONE | | | | S | 17.5 | ERALEH | L | | | S |
| 3 | NONE | L | | | S | 18 | NONE | L | | | S |
| 3.5 | NONE | | | | R | 18.5 | NONE | | | | R |
| 4 | NONE | | | | S | 19 | NONE | L | | | S |
| 4.5 | NONE | W | | | S | 19.5 | ERALEH | | | | S |
| 5 | NONE | L | | | S | 20 | NONE | L | | | S |
| 5.5 | NONE | | | | R | 20.5 | ERALEH | L | | | S |
| 6 | NONE | | | | S | 21 | ERALEH | L | | | S |
| 6.5 | BOUARI | L | | | S | 21.5 | ERALEH | L | | | S |
| 7 | ERALEH | BOUARI | L | | S | 22 | NONE | L | | | S |
| 7.5 | BOUARI | L | | | S | 22.5 | ERALEH | L | | | S |
| 8 | BOUARI | L | | | S | 23 | NONE | | | | S |
| 8.5 | NONE | | | | S | 23.5 | NONE | L | | | S |
| 9 | BOUARI | L | | | S | 24 | ERALEH | L | | | S |
| 9.5 | ERALEH | L | | | S | 24.5 | BOUCUR | L | | | S |
| 10 | NONE | L | | | S | 25 | ERALEH | L | | | S |
| 10.5 | BOUARI | | | | R | 25.5 | ERALEH | L | | | S |
| 11 | BOUARI | | | | S | 26 | VACCON | L | | | S |
| 11.5 | NONE | | | | S | 26.5 | ERALEH | L | | | S |
| 12 | ERALEH | L | | | S | 27 | SPHAMB | L | | | S |
| 12.5 | ERALEH | L | | | S | 27.5 | ERALEH | L | | | S |
| 13 | BOUARI | | | | S | 28 | ERALEH | L | | | S |
| 13.5 | NONE | | | | S | 28.5 | ERALEH | L | | | S |
| 14 | ERALEH | | | | S | 29 | ERALEH | L | | | S |
| 14.5 | ERALEH | L | | | S | 29.5 | ERALEH | L | | | S |
| 15 | NONE | L | | | S | 30 | ERALEH | L | | | S |

| | |
|---|---|
| % Foliar Cover | 58.345 |
| % Bare Ground | 16.67 |
| % Basal Cover | 0 |

**Summary**

| | |
|---|---|
| % Average Foliar Cover | 59.456 |
| % Average Bare Ground | 13.892 |
| % Average Basal Cover | 0 |

## Plot 22- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | CALERI | L | | | S | 15.5 | MIMHAE | L | | | S |
| 1 | NONE | L | | | S | 16 | NONE | L | | | S |
| 1.5 | ARITER | CALERI | L | | S | 16.5 | ERALEH | | | | S |
| 2 | NONE | L | | | S | 17 | NONE | L | | | S |
| 2.5 | ERITER | L | | | S | 17.5 | NONE | L | | | S |
| 3 | NONE | L | | | S | 18 | NONE | L | | | S |
| 3.5 | NONE | L | | | S | 18.5 | CALERI | L | | | S |
| 4 | NONE | L | | | S | 19 | NONE | L | | | S |
| 4.5 | NONE | L | | | S | 19.5 | ERALEH | L | | | S |
| 5 | NONE | L | | | S | 20 | ERALEH | L | | | S |
| 5.5 | GUTSAR | L | | | S | 20.5 | MIMHAE | L | | | S |
| 6 | AMBACA | L | | | S | 21 | MIMHAE | L | | | S |
| 6.5 | NONE | L | | | S | 21.5 | MIMHAE | L | | | S |
| 7 | ERILEH | L | | | S | 22 | NONE | L | | | S |
| 7.5 | NONE | L | | | S | 22.5 | CALERI | L | | | S |
| 8 | NONE | L | | | S | 23 | NONE | L | | | S |
| 8.5 | ARITER | L | | | S | 23.5 | NONE | L | | | S |
| 9 | GUTSAR | CALERI | L | | S | 24 | NONE | | | | R |
| 9.5 | ERILEH | L | | | S | 24.5 | ERALEH | L | | | S |
| 10 | ERALEH | L | | | S | 25 | ERALEH | L | | | S |
| 10.5 | ERALEH | L | | | S | 25.5 | PROVEL | L | | | S |
| 11 | PROVEL | ERILEH | L | | S | 26 | PROVEL | ERILEH | L | | S |
| 11.5 | PROVEL | L | | | S | 26.5 | NONE | L | | | S |
| 12 | MIMHAE | BOUCUR | L | | S | 27 | PROVEL | L | | | S |
| 12.5 | NONE | L | | | S | 27.5 | PROVEL | GUTSAR | L | | S |
| 13 | PROVEL | L | | | S | 28 | GUTSAR | L | | | S |
| 13.5 | NONE | | | | S | 28.5 | NONE | L | | | S |
| 14 | NONE | L | | | S | 29 | CHLVIR | | | | S |
| 14.5 | MIMHAE | ARITER | L | | S | 29.5 | NONE | L | | | S |
| 15 | MIMHAE | L | | | S | 30 | NONE | L | | | S |

| | |
|---|---|
| % Foliar Cover | 56.678 |
| % Bare Ground | 1.667 |
| % Basal Cover | 0 |

# Plot 22- off ROW, Line 6

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | ERALEH | | | | S |
| 1 | ERALEH | L | | | S |
| 1.5 | ERALEH | | | | R |
| 2 | ERALEH | L | | | S |
| 2.5 | ERALEH | L | | | S |
| 3 | ERALEH | L | | | S |
| 3.5 | ERALEH | L | | | S |
| 4 | ERALEH | L | | | S |
| 4.5 | NONE | | | | S |
| 5 | NONE | | | | S |
| 5.5 | NONE | | | | S |
| 6 | ERALEH | L | | | S |
| 6.5 | NONE | | | | S |
| 7 | ERALEH | L | | | S |
| 7.5 | ERALEH | L | | | S |
| 8 | NONE | | | | S |
| 8.5 | NONE | | | | S |
| 9 | KRAERE | L | | | S |
| 9.5 | KRAERE | L | | | S |
| 10 | NONE | L | | | S |
| 10.5 | NONE | | | | R |
| 11 | NONE | | | | S |
| 11.5 | NONE | | | | S |
| 12 | PROVEL | | | | S |
| 12.5 | PROVEL | L | | | S |
| 13 | PROVEL | L | | | S |
| 13.5 | PROVEL | L | | | S |
| 14 | PROVEL | L | | | S |
| 14.5 | PROVEL | | | | S |
| 15 | NONE | | | | S |
| 15.5 | NONE | | | | R |
| 16 | NONE | | | | R |
| 16.5 | NONE | | | | R |
| 17 | NONE | | | | R |
| 17.5 | NONE | | | | S |
| 18 | NONE | | | | S |
| 18.5 | NONE | | | | S |
| 19 | NONE | | | | S |
| 19.5 | NONE | | | | S |
| 20 | NONE | | | | R |
| 20.5 | NONE | | | | S |
| 21 | NONE | | | | R |
| 21.5 | NONE | | | | S |
| 22 | PROVEL | L | | | S |
| 22.5 | PROVEL | | | | S |
| 23 | NONE | | | | S |
| 23.5 | SETMAC | L | | | S |
| 24 | NONE | | | | S |
| 24.5 | NONE | L | | | S |
| 25 | PROVEL | SETMAC | L | | S |
| 25.5 | PROVEL | ERALEH | L | | S |
| 26 | PROVEL | L | | | S |
| 26.5 | PROVEL | L | | | S |
| 27 | PROVEL | | | | S |
| 27.5 | PROVEL | L | | | S |
| 28 | PROVEL | SETMAC | L | | S |
| 28.5 | PROVEL | L | | | S |
| 29 | PROVEL | ERALEH | L | | S |
| 29.5 | ERALEH | L | | | S |
| 30 | ERALEH | L | | | S |

| | |
|---|---|
| % Foliar Cover | 55.011 |
| % Bare Ground | 30.006 |
| % Basal Cover | 0 |

## Plot 22- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | R | 15.5 | NONE | | | | S |
| 1 | NONE | | | | S | 16 | NONE | L | | | S |
| 1.5 | NONE | | | | S | 16.5 | NONE | L | | | S |
| 2 | NONE | L | | | S | 17 | CALERI | | | | S |
| 2.5 | NONE | | | | R | 17.5 | ERALEH | L | | | S |
| 3 | ERALEH | L | | | S | 18 | NONE | L | | | S |
| 3.5 | NONE | L | | | S | 18.5 | ERALEH | L | | | S |
| 4 | NONE | L | | | S | 19 | NONE | | | | S |
| 4.5 | NONE | | | | S | 19.5 | ERALEH | L | | | S |
| 5 | NONE | L | | | S | 20 | NONE | | | | S |
| 5.5 | ERALEH | L | | | S | 20.5 | ERALEH | L | | | S |
| 6 | ERALEH | L | | | S | 21 | ERALEH | L | | | S |
| 6.5 | CALERI | L | | | S | 21.5 | NONE | | | | S |
| 7 | ERALEH | L | | | S | 22 | NONE | | | | S |
| 7.5 | PROVEL | ERALEH | L | | S | 22.5 | NONE | L | | | S |
| 8 | ARITER | L | | | S | 23 | ERALEH | L | | | S |
| 8.5 | ERALEH | L | | | S | 23.5 | PROVEL | L | | | S |
| 9 | ARITER | L | | | S | 24 | PROVEL | ERALEH | L | | S |
| 9.5 | CALERI | L | | | S | 24.5 | PROVEL | L | | | S |
| 10 | NONE | L | | | S | 25 | PROVEL | ERALEH | L | | S |
| 10.5 | NONE | L | | | S | 25.5 | PROVEL | L | | | S |
| 11 | NONE | L | | | S | 26 | PROVEL | L | | | S |
| 11.5 | NONE | L | | | S | 26.5 | PROVEL | CALERI | L | | S |
| 12 | ERALEH | L | | | S | 27 | ERALEH | L | | | S |
| 12.5 | ERALEH | | | | S | 27.5 | ERALEH | L | | | S |
| 13 | ERALEH | | | | S | 28 | ERALEH | L | | | S |
| 13.5 | ERALEH | | | | S | 28.5 | NONE | L | | | S |
| 14 | ERALEH | L | | | S | 29 | NONE | | | | S |
| 14.5 | NONE | | | | S | 29.5 | CALERI | L | | | S |
| 15 | NONE | | | | S | 30 | CALERI | L | | | S |

| | |
|---|---|
| % Foliar Cover | 56.678 |
| % Bare Ground | 18.337 |
| % Basal Cover | 0 |

## Summary - Plot 22

**% Average Foliar Cover**

| | |
|---|---|
| On ROW | 59.456 |
| Off ROW | 56.122 |

**% Average Bare Ground**

| | |
|---|---|
| On ROW | 13.892 |
| Off ROW | 16.670 |

**% Average Basal Cover**

| | |
|---|---|
| On ROW | 0.000 |
| Off ROW | 0.000 |

# Plot 23- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | NONE | | | | S |
| 1 | NONE | | | | S | 16 | SPOCRY | L | | | S |
| 1.5 | ANDOCC | | | | S | 16.5 | NONE | | | | R |
| 2 | ERALEH | | | | S | 17 | ANDOCC | L | | | S |
| 2.5 | ERIPOL | | | | S | 17.5 | AMBACA | L | | | S |
| 3 | ERIPOL | L | | | S | 18 | ERALEH | L | | | S |
| 3.5 | ANDOCC | L | | | S | 18.5 | NONE | L | | | S |
| 4 | NONE | | | | S | 19 | NONE | | | | S |
| 4.5 | ERALEH | L | | | S | 19.5 | NONE | L | | | S |
| 5 | SENGRE | L | | | S | 20 | ERALEH | L | | | S |
| 5.5 | NONE | L | | | S | 20.5 | SETMAC | L | | | S |
| 6 | NONE | L | | | S | 21 | AMBACA | L | | | S |
| 6.5 | AMAPAL | L | | | S | 21.5 | NONE | L | | | S |
| 7 | SPOCR | L | | | S | 22 | SPOCRY | L | | | S |
| 7.5 | NONE | L | | | S | 22.5 | ATRCAN | L | | | S |
| 8 | SPOCRY | | | | S | 23 | NONE | L | | | S |
| 8.5 | NONE | | | | S | 23.5 | NONE | L | | | S |
| 9 | NONE | L | | | S | 24 | NONE | L | | | S |
| 9.5 | NONE | L | | | S | 24.5 | NONE | | | | S |
| 10 | NONE | | | | S | 25 | NONE | L | | | S |
| 10.5 | ERALEH | L | | | S | 25.5 | NONE | | | | S |
| 11 | ERALEH | L | | | S | 26 | AMBACA | L | | | S |
| 11.5 | ERALEH | L | | | S | 26.5 | SPOCRY | AMBACA | L | | S |
| 12 | NONE | L | | | S | 27 | NONE | L | | | S |
| 12.5 | BOECOC | LEPDUB | L | | S | 27.5 | NONE | | | | R |
| 13 | ERALEH | | | | S | 28 | NONE | | | | R |
| 13.5 | ERALEH | L | | | S | 28.5 | NONE | L | | | S |
| 14 | NONE | | | | S | 29 | ATRCAN | L | | | S |
| 14.5 | ERALEH | L | | | S | 29.5 | ATRCAN | L | | | S |
| 15 | ERALEH | L | | | S | 30 | ERALEH | L | | | S |

| | |
|---|---|
| % Foliar Cover | 51.677 |
| % Bare Ground | 16.67 |
| % Basal Cover | 0 |

## Plot 23- on ROW, Line 2

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | L | | | S | 15.5 | DIGSAN | L | | | S |
| 1 | NONE | L | | | S | 16 | NONE | L | | | S |
| 1.5 | AMBACA | L | | | S | 16.5 | ERACIL | L | | | S |
| 2 | NONE | L | | | S | 17 | NONE | L | | | S |
| 2.5 | AMBACA | L | | | S | 17.5 | NONE | L | | | S |
| 3 | ATRCAN | L | | | S | 18 | ERACIL | L | | | S |
| 3.5 | NONE | | | | S | 18.5 | ERACIL | L | | | S |
| 4 | NONE | L | | | S | 19 | ERACIL | L | | | S |
| 4.5 | NONE | | | | S | 19.5 | NONE | | | | S |
| 5 | NONE | L | | | S | 20 | NONE | L | | | S |
| 5.5 | NONE | L | | | S | 20.5 | NONE | | | | S |
| 6 | NONE | L | | | S | 21 | ATRCAN | AMBACA | L | | S |
| 6.5 | ERALEH | L | | | S | 21.5 | ATRCAN | L | | | S |
| 7 | NONE | | | | R | 22 | NONE | | | | R |
| 7.5 | NONE | | | | R | 22.5 | NONE | | | | R |
| 8 | NONE | L | | | S | 23 | NONE | L | | | S |
| 8.5 | NONE | L | | | S | 23.5 | NONE | L | | | S |
| 9 | NONE | L | | | S | 24 | NONE | | | | S |
| 9.5 | AMBACA | L | | | S | 24.5 | NONE | | | | S |
| 10 | NONE | | | | S | 25 | NONE | | | | R |
| 10.5 | NONE | L | | | S | 25.5 | BOUARI | | | | R |
| 11 | NONE | L | | | S | 26 | NONE | L | | | S |
| 11.5 | NONE | L | | | S | 26.5 | SPOCRY | L | | | S |
| 12 | NONE | L | | | S | 27 | AMAPAL | L | | | S |
| 12.5 | AMBACA | L | | | S | 27.5 | NONE | | | | S |
| 13 | NONE | L | | | S | 28 | NONE | L | | | S |
| 13.5 | VACCON | L | | | S | 28.5 | NONE | | | | S |
| 14 | VACCON | L | | | S | 29 | NONE | | | | S |
| 14.5 | NONE | L | | | S | 29.5 | NONE | L | | | S |
| 15 | NONE | L | | | S | 30 | NONE | L | | | S |

| | |
|---|---|
| % Foliar Cover | 30.006 |
| % Bare Ground | 16.67 |
| % Basal Cover | 0 |

## Plot 23- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | NONE | L | | | S |
| 1 | NONE | L | | | S | 16 | NONE | | | | R |
| 1.5 | NONE | L | | | S | 16.5 | AMBACA | L | | | S |
| 2 | NONE | L | | | S | 17 | NONE | L | | | S |
| 2.5 | BOUROT | | | | S | 17.5 | ERALEH | L | | | S |
| 3 | NONE | L | | | S | 18 | NONE | L | | | S |
| 3.5 | NONE | | | | S | 18.5 | NONE | L | | | S |
| 4 | NONE | L | | | S | 19 | NONE | L | | | S |
| 4.5 | BOUROT | L | | | S | 19.5 | NONE | L | | | S |
| 5 | NONE | | | | S | 20 | BOUROT | L | | | S |
| 5.5 | NONE | L | | | S | 20.5 | BOUROT | L | | | S |
| 6 | NONE | L | | | S | 21 | NONE | L | | | S |
| 6.5 | NONE | | | | S | 21.5 | NONE | L | | | S |
| 7 | NONE | L | | | S | 22 | BOUROT | L | | | S |
| 7.5 | NONE | | | | S | 22.5 | BOUREP | L | | | S |
| 8 | NONE | L | | | S | 23 | NONE | L | | | S |
| 8.5 | NONE | L | | | S | 23.5 | NONE | L | | | S |
| 9 | SPOCRY | L | | | S | 24 | ATRCAN | L | | | S |
| 9.5 | BOUROT | L | | | S | 24.5 | ATRCAN | L | | | S |
| 10 | NONE | L | | | S | 25 | NONE | L | | | S |
| 10.5 | NONE | | | | S | 25.5 | NONE | | | | S |
| 11 | NONE | L | | | S | 26 | BOUROT | L | | | S |
| 11.5 | NONE | L | | | S | 26.5 | NONE | L | | | S |
| 12 | ATRCAN | L | | | S | 27 | NONE | L | | | S |
| 12.5 | ATRCAN | SETMAC | L | | S | 27.5 | NONE | L | | | S |
| 13 | ATRCAN | SETMAC | L | | S | 28 | NONE | L | | | S |
| 13.5 | ATRCAN | SETMAC | L | | S | 28.5 | BOUROT | | | | S |
| 14 | AMBACA | L | | | S | 29 | ATRCAN | L | | | S |
| 14.5 | BOUROT | | | | S | 29.5 | ATRCAN | SETMAC | L | | S |
| 15 | DIGSAN | L | | | S | 30 | ATRCAN | L | | | S |

| | |
|---|---|
| % Foliar Cover | 40.008 |
| % Bare Ground | 11.669 |
| % Basal Cover | 0 |

# Plot 23- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | PROVEL | L | | | S |
| 1 | PROVEL | L | | | S |
| 1.5 | PROVEL | W | | | S |
| 2 | PROVEL | W | | | S |
| 2.5 | PROVEL | L | | | S |
| 3 | SENGRE | L | | | S |
| 3.5 | SENGRE | L | | | S |
| 4 | NONE | L | | | S |
| 4.5 | SENGRE | L | | | S |
| 5 | SENGRE | L | | | S |
| 5.5 | SENGRE | L | | | S |
| 6 | SENGRE | L | | | S |
| 6.5 | SENGRE | L | | | S |
| 7 | CHILIN | L | | | S |
| 7.5 | CHILIN | W | | | S |
| 8 | CHILIN | L | | | S |
| 8.5 | CHILIN | L | | | S |
| 9 | CHILIN | L | | | S |
| 9.5 | NONE | L | | | S |
| 10 | NONE | | | | S |
| 10.5 | NONE | L | | | S |
| 11 | SENGRE | AMBACA | L | | S |
| 11.5 | SENGRE | SETMAC | L | | S |
| 12 | SENGRE | SETMAC | L | | S |
| 12.5 | SENGRE | L | | | S |
| 13 | NONE | L | | | S |
| 13.5 | NONE | | | | S |
| 14 | NONE | L | | | S |
| 14.5 | NONE | L | | | S |
| 15 | NONE | L | | | S |
| 15.5 | NONE | L | | | S |
| 16 | NONE | W | | | S |
| 16.5 | NONE | | | | S |
| 17 | NONE | L | | | S |
| 17.5 | NONE | L | | | S |
| 18 | SENGRE | L | | | S |
| 18.5 | NONE | L | | | S |
| 19 | NONE | | | | S |
| 19.5 | AMAPAL | L | | | S |
| 20 | NONE | | | | S |
| 20.5 | NONE | L | | | S |
| 21 | NONE | L | | | S |
| 21.5 | NONE | | | | S |
| 22 | AMBACA | L | | | S |
| 22.5 | NONE | | | | S |
| 23 | NONE | L | | | S |
| 23.5 | SENGRE | AMBACA | L | | S |
| 24 | SENGRE | ERILEH | L | | S |
| 24.5 | SENGRE | SETMAC | L | | S |
| 25 | SENGRE | L | | | S |
| 25.5 | SENGRE | L | | | S |
| 26 | SENGRE | L | | | S |
| 26.5 | SENGRE | L | | | S |
| 27 | SETMAC | L | | | S |
| 27.5 | SENGRE | L | | | S |
| 28 | SENGRE | L | | | S |
| 28.5 | SENGRE | ERILEH | | | S |
| 29 | NONE | L | | | S |
| 29.5 | NONE | | | | S |
| 30 | | | | | S |

| | |
|---|---|
| % Foliar Cover | 58.345 |
| % Bare Ground | 13.336 |
| % Basal Cover | 0 |

# Plot 23- off ROW, Line 6

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | PROVEL | SETMAC | L | | S |
| 1 | PROVEL | L | | | S |
| 1.5 | PROVEL | ARITER | L | | S |
| 2 | PROVEL | L | | | S |
| 2.5 | PROVEL | L | | | S |
| 3 | PROVEL | L | | | S |
| 3.5 | SENGRE | L | | | S |
| 4 | SENGRE | L | | | S |
| 4.5 | SENGRE | W | | | S |
| 5 | SENGRE | W | | | S |
| 5.5 | SENGRE | L | | | S |
| 6 | SENGRE | L | | | S |
| 6.5 | NONE | L | | | S |
| 7 | SENGRE | L | | | S |
| 7.5 | SENGRE | L | | | S |
| 8 | NONE | L | | | S |
| 8.5 | NONE | L | | | S |
| 9 | NONE | L | | | S |
| 9.5 | NONE | L | | | S |
| 10 | SENGRE | | | | S |
| 10.5 | NONE | | | | R |
| 11 | NONE | | | | R |
| 11.5 | NONE | | | | R |
| 12 | NONE | | | | R |
| 12.5 | NONE | | | | S |
| 13 | NONE | W | | | S |
| 13.5 | NONE | | | | R |
| 14 | NONE | L | | | S |
| 14.5 | NONE | | | | S |
| 15 | CHILIN | L | | | S |
| 15.5 | CHILIN | L | | | S |
| 16 | CHILIN | L | | | S |
| 16.5 | CHILIN | L | | | S |
| 17 | CHILIN | W | | | S |
| 17.5 | CHILIN | L | | | S |
| 18 | CHILIN | L | | | S |
| 18.5 | CHILIN | SETMAC | L | | S |
| 19 | CHILIN | L | | | S |
| 19.5 | CHILIN | L | | | S |
| 20 | CHILIN | W | | | S |
| 20.5 | CHILIN | L | | | S |
| 21 | NONE | L | | | S |
| 21.5 | NONE | L | | | S |
| 22 | NONE | W | | | S |
| 22.5 | NONE | | | | R |
| 23 | NONE | | | | R |
| 23.5 | NONE | L | | | S |
| 24 | NONE | | | | R |
| 24.5 | AMBACA | L | | | S |
| 25 | AMBACA | L | | | S |
| 25.5 | SENGRE | L | | | S |
| 26 | SENGRE | TRANEP | L | | S |
| 26.5 | SENGRE | | | | S |
| 27 | SENGRE | L | | | S |
| 27.5 | NONE | L | | | S |
| 28 | NONE | L | | | S |
| 28.5 | NONE | | | | S |
| 29 | SETMAC | L | | | S |
| 29.5 | SENGRE | L | | | S |
| 30 | SENGRE | L | | | S |

| | |
|---|---|
| % Foliar Cover | 60.012 |
| % Bare Ground | 5.001 |
| % Basal Cover | 0 |

## Plot 23- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | W | | | S | 15.5 | CHILIN | L | | | S |
| 1 | NONE | L | | | S | 16 | CHILIN | SENGRE | L | | S |
| 1.5 | PROVEL | SETMAC | L | | S | 16.5 | CHILIN | | | | R |
| 2 | PROVEL | SETMAC | L | | S | 17 | CHILIN | L | | | S |
| 2.5 | PROVEL | L | | | S | 17.5 | CHILIN | AMBACA | | | S |
| 3 | NONE | L | | | S | 18 | CHILIN | L | | | S |
| 3.5 | NONE | L | | | S | 18.5 | CHILIN | SETMAC | L | | S |
| 4 | NONE | L | | | S | 19 | CHILIN | L | | | S |
| 4.5 | NONE | L | | | S | 19.5 | CHILIN | | | | R |
| 5 | NONE | L | | | S | 20 | CHILIN | AMBACA | | | S |
| 5.5 | SENGRE | L | | | S | 20.5 | CHILIN | BOUROT | L | | S |
| 6 | SENGRE | L | | | S | 21 | AMBACA | L | | | S |
| 6.5 | SENGRE | L | | | S | 21.5 | LEPPAN | L | | | S |
| 7 | SENGRE | L | | | S | 22 | NONE | | | | R |
| 7.5 | SENGRE | SETMAC | L | | S | 22.5 | NONE | L | | | S |
| 8 | SENGRE | L | | | S | 23 | NONE | L | | | S |
| 8.5 | SENGRE | SETMAC | L | | S | 23.5 | NONE | L | | | S |
| 9 | NONE | L | | | S | 24 | NONE | L | | | S |
| 9.5 | NONE | L | | | S | 24.5 | TRANEP | L | | | S |
| 10 | NONE | W | | | S | 25 | NONE | | | | S |
| 10.5 | NONE | L | | | S | 25.5 | NONE | L | | | S |
| 11 | NONE | L | | | S | 26 | NONE | | | | R |
| 11.5 | TETNER | L | | | S | 26.5 | NONE | L | | | S |
| 12 | NONE | | | | R | 27 | AMBACA | L | | | S |
| 12.5 | NONE | | | | R | 27.5 | SENGRE | L | | | S |
| 13 | NONE | L | | | S | 28 | NONE | L | | | S |
| 13.5 | NONE | L | | | S | 28.5 | NONE | L | | | S |
| 14 | NONE | L | | | S | 29 | SENGRE | L | | | S |
| 14.5 | NONE | L | | | S | 29.5 | SENGRE | L | | | S |
| 15 | CHILIN | L | | | S | 30 | SENGRE | SETMAC | L | | S |

| | |
|---|---|
| % Foliar Cover | 51.677 |
| % Bare Ground | 1.667 |
| % Basal Cover | 0 |

## Summary - Plot 23

**% Average Foliar Cover**

| | |
|---|---|
| On ROW | 40.564 |
| Off ROW | 56.678 |

**% Average Bare Ground**

| | |
|---|---|
| On ROW | 15.003 |
| Off ROW | 6.668 |

**% Average Basal Cover**

| | |
|---|---|
| On ROW | 0.000 |
| Off ROW | 0.000 |

# Plot 24, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | NONE | L | | | S |
| 1 | NONE | | | | S |
| 1.5 | CHLVIR | | | | S |
| 2 | NONE | L | | | S |
| 2.5 | CHLVIR | | | | S |
| 3 | BOUARI | L | | | S |
| 3.5 | BOUARI | CHLVIR | | | S |
| 4 | CHLVIR | L | | | S |
| 4.5 | NONE | | | | S |
| 5 | NONE | | | | S |
| 5.5 | CHLVIR | | | | S |
| 6 | CHLVIR | L | | | S |
| 6.5 | NONE | L | | | S |
| 7 | NONE | L | | | S |
| 7.5 | NONE | L | | | S |
| 8 | CHLVIR | L | | | S |
| 8.5 | CHLVIR | L | | | S |
| 9 | NONE | L | | | S |
| 9.5 | NONE | L | | | S |
| 10 | CONCAN | L | | | S |
| 10.5 | NONE | L | | | S |
| 11 | NONE | L | | | S |
| 11.5 | CONCAN | L | | | S |
| 12 | CONCAN | L | | | S |
| 12.5 | NONE | L | | | S |
| 13 | NONE | L | | | S |
| 13.5 | CONCAN | L | | | S |
| 14 | NONE | L | | | S |
| 14.5 | NONE | L | | | S |
| 15 | CONCAN | ERIWRI | L | | S |
| 15.5 | NONE | L | | | S |
| 16 | CONCAN | L | | | S |
| 16.5 | ERIWRI | L | | | S |
| 17 | NONE | L | | | S |
| 17.5 | ERIWRI | L | | | S |
| 18 | CONCAN | L | | | S |
| 18.5 | NONE | L | | | S |
| 19 | CHLVIR | L | | | S |
| 19.5 | PANHIR | L | | | S |
| 20 | PANHIR | L | | | S |
| 20.5 | PANHIR | L | | | S |
| 21 | PANHIR | L | | | S |
| 21.5 | NONE | L | | | S |
| 22 | NONE | L | | | S |

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 22.5 | NONE | L | | | S |
| 23 | PANHIR | L | | | S |
| 23.5 | PANHIR | L | | | S |
| 24 | PANHIR | L | | | S |
| 24.5 | NONE | L | | | S |
| 25 | CHLVIR | L | | | S |
| 25.5 | PANHIR | L | | | S |
| 26 | CHLVIR | | | | S |
| 26.5 | NONE | W | | | S |
| 27 | CHLVIR | L | | | S |
| 27.5 | CHLVIR | | | | S |
| 28 | CHLVIR | L | | | S |
| 28.5 | CHLVIR | L | | | S |
| 29 | NONE | | | | S |
| 29.5 | CHLVIR | L | | | S |
| 30 | NONE | L | | | S |
| 30.5 | NONE | L | | | S |
| 31 | BOUARI | L | | | S |
| 31.5 | CONCAN | L | | | S |
| 32 | NONE | L | | | S |
| 32.5 | NONE | L | | | S |
| 33 | PANHIR | L | | | S |
| 33.5 | PROVEL | PANHIR | L | | S |
| 34 | NONE | L | | | S |
| 34.5 | NONE | L | | | S |
| 35 | CHLVIR | L | | | S |
| 35.5 | NONE | | | | S |
| 36 | CHLVIR | L | | | S |
| 36.5 | PROVEL | L | | | S |
| 37 | PROVEL | L | | | S |
| 37.5 | PROVEL | SETMAC | L | | S |
| 38 | PROVEL | L | | | S |
| 38.5 | NONE | L | | | S |
| 39 | NONE | L | | | S |
| 39.5 | NONE | | | | S |
| 40 | NONE | | | | S |
| 40.5 | ISOTEN | L | | | S |
| 41 | NONE | | | | S |
| 41.5 | NONE | | | | S |
| 42 | NONE | | | | S |
| 42.5 | NONE | | | | S |
| 43 | NONE | L | | | S |
| 43.5 | NONE | L | | | S |
| 44 | NONE | | | | S |

## Plot 24- on ROW, Line 1

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 44.5 | NONE | L | | | S |
| 45 | NONE | | | | S |
| 45.5 | NONE | | | | S |
| 46 | NONE | | | | S |
| 46.5 | NONE | | | | S |
| 47 | NONE | L | | | S |
| 47.5 | BOUREP | | | | S |
| 48 | NONE | L | | | S |
| 48.5 | NONE | L | | | S |
| 49 | BOUARI | L | | | S |
| 49.5 | NONE | L | | | S |
| 50 | SETMAC | L | | | S |

| | |
|---|---|
| % Foliar Cover | 53.328 |
| % Bare Ground | 17.776 |
| % Basal Cover | 0 |

# Plot 24, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | NONE | | | | S |
| 1 | NONE | | | | S |
| 1.5 | NONE | L | | | S |
| 2 | NONE | | | | S |
| 2.5 | NONE | | | | S |
| 3 | NONE | W | | | S |
| 3.5 | NONE | | | | S |
| 4 | NONE | L | | | S |
| 4.5 | NONE | L | | | S |
| 5 | BOUARI | | | | S |
| 5.5 | CHLVIR | | | | S |
| 6 | NONE | L | | | S |
| 6.5 | NONE | L | | | S |
| 7 | NONE | L | | | S |
| 7.5 | CONCAN | L | | | S |
| 8 | NONE | L | | | S |
| 8.5 | NONE | L | | | S |
| 9 | CONCAN | L | | | S |
| 9.5 | NONE | L | | | S |
| 10 | CONCAN | L | | | S |
| 10.5 | CONCAN | L | | | S |
| 11 | CONCAN | L | | | S |
| 11.5 | CONCAN | CHLVIR | L | | S |
| 12 | NONE | L | | | S |
| 12.5 | CONCAN | L | | | S |
| 13 | CONCAN | L | | | S |
| 13.5 | NONE | W | | | S |
| 14 | CONCAN | L | | | S |
| 14.5 | CONCAN | L | | | S |
| 15 | NONE | L | | | S |
| 15.5 | PANHIR | L | | | S |
| 16 | PANHIR | L | | | S |
| 16.5 | PANHIR | L | | | S |
| 17 | PANHIR | L | | | S |
| 17.5 | PANHIR | L | | | S |
| 18 | CONCAN | L | | | S |
| 18.5 | CONCAN | L | | | S |
| 19 | CONCAN | L | | | S |
| 19.5 | PANHIR | L | | | S |
| 20 | NONE | | | | S |
| 20.5 | CHLVIR | L | | | S |
| 21 | CHLVIR | L | | | S |
| 21.5 | CHLVIR | L | | | S |
| 22 | CHLVIR | | | | S |
| 22.5 | NONE | L | | | S |
| 23 | CHLVIR | L | | | S |
| 23.5 | CHLVIR | L | | | S |
| 24 | PANHIR | L | | | S |
| 24.5 | NONE | L | | | S |
| 25 | PANHIR | L | | | S |
| 25.5 | CHLVIR | L | | | S |
| 26 | PANHIR | L | | | S |
| 26.5 | BOUARI | L | | | S |
| 27 | BOUARI | L | | | S |
| 27.5 | NONE | L | | | S |
| 28 | NONE | L | | | S |
| 28.5 | NONE | | | | S |
| 29 | NONE | | | | S |
| 29.5 | CHLVIR | | | | S |
| 30 | NONE | L | | | S |
| 30.5 | PANHIR | L | | | S |
| 31 | CONCAN | L | | | S |
| 31.5 | PANHIR | L | | | S |
| 32 | PANHIR | L | | | S |
| 32.5 | CHLVIR | L | | | S |
| 33 | PANHIR | L | | | S |
| 33.5 | PANHIR | L | | | S |
| 34 | NONE | L | | | S |
| 34.5 | NONE | L | | | S |
| 35 | PANHIR | L | | | S |
| 35.5 | NONE | L | | | S |
| 36 | PROVEL | L | | | S |
| 36.5 | PROVEL | L | | | S |
| 37 | PROVEL | L | | | S |
| 37.5 | NONE | L | | | S |
| 38 | NONE | W | | | S |
| 38.5 | NONE | WL | | | S |
| 39 | PROVEL | L | | | S |
| 39.5 | PROVEL | L | | | S |
| 40 | PROVEL | SETMAC | L | | S |
| 40.5 | PROVEL | L | | | S |
| 41 | NONE | L | | | S |
| 41.5 | NONE | L | | | S |
| 42 | NONE | L | | | S |
| 42.5 | CHLVIR | | | | S |
| 43 | NONE | L | | | S |
| 43.5 | NONE | L | | | S |
| 44 | NONE | | | | S |

## Plot 24- on ROW, Line 2

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 44.5 | PROVEL | CHLVIR | L | | S |
| 45 | PROVEL | L | | | S |
| 45.5 | NONE | L | | | S |
| 46 | PROVEL | L | | | S |
| 46.5 | NONE | L | | | S |
| 47 | NONE | L | | | S |
| 47.5 | CHLVIR | L | | | S |
| 48 | ARITER | L | | | S |
| 48.5 | NONE | L | | | S |
| 49 | NONE | L | | | S |
| 49.5 | DIGCAL | L | | | S |
| 50 | PROVEL | L | | | S |

| | |
|---|---|
| % Foliar Cover | 63.327 |
| % Bare Ground | 9.999 |
| % Basal Cover | 0 |

# Plot 24, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | NONE | | | | S |
| 1 | NONE | | | | S |
| 1.5 | NONE | L | | | S |
| 2 | NONE | L | | | S |
| 2.5 | BOUARI | L | | | S |
| 3 | NONE | L | | | S |
| 3.5 | GUTSAR | L | | | S |
| 4 | GUTSAR | ZIZOBT | L | | S |
| 4.5 | ZIZOBT | GUTSAR | L | | S |
| 5 | GUTSAR | L | | | S |
| 5.5 | CHLVIR | L | | | S |
| 6 | CHLVIR | L | | | S |
| 6.5 | NONE | L | | | S |
| 7 | PANHIR | L | | | S |
| 7.5 | CONCAN | L | | | S |
| 8 | NONE | | | | S |
| 8.5 | PANHIR | L | | | S |
| 9 | CONCAN | ERIWRI | L | | S |
| 9.5 | NONE | L | | | S |
| 10 | CONCAN | L | | | S |
| 10.5 | PANHIR | L | | | S |
| 11 | PANHIR | L | | | S |
| 11.5 | PANHIR | L | | | S |
| 12 | PANHIR | L | | | S |
| 12.5 | PANHIR | L | | | S |
| 13 | PANHIR | L | | | S |
| 13.5 | PANHIR | L | | | S |
| 14 | CONCAN | L | | | S |
| 14.5 | NONE | L | | | S |
| 15 | NONE | L | | | S |
| 15.5 | CHLVIR | | | | R |
| 16 | CHLVIR | L | | | S |
| 16.5 | CHLVIR | L | | | S |
| 17 | CHLVIR | L | | | S |
| 17.5 | CHLVIR | L | | | S |
| 18 | CHLVIR | L | | | S |
| 18.5 | NONE | L | | | S |
| 19 | BOUARI | L | | | S |
| 19.5 | NONE | L | | | S |
| 20 | CHLVIR | L | | | S |
| 20.5 | NONE | L | | | S |
| 21 | CHLVIR | L | | | S |
| 21.5 | NONE | L | | | S |
| 22 | BOUARI | L | | | S |
| 22.5 | NONE | L | | | S |
| 23 | NONE | L | | | S |
| 23.5 | PANHIR | L | | | S |
| 24 | NONE | L | | | S |
| 24.5 | NONE | L | | | S |
| 25 | CONCAN | L | | | S |
| 25.5 | CONCAN | L | | | S |
| 26 | NONE | L | | | S |
| 26.5 | PANHIR | L | | | S |
| 27 | PANHIR | L | | | S |
| 27.5 | PANHIR | L | | | S |
| 28 | NONE | L | | | S |
| 28.5 | NONE | | | | S |
| 29 | CHLVIR | L | | | S |
| 29.5 | CHLVIR | L | | | S |
| 30 | NONE | L | | | S |
| 30.5 | CHLVIR | L | | | S |
| 31 | NONE | | | | S |
| 31.5 | NONE | L | | | S |
| 32 | CHLVIR | L | | | S |
| 32.5 | PANHIR | L | | | S |
| 33 | PANHIR | L | | | S |
| 33.5 | PANHIR | L | | | S |
| 34 | NONE | L | | | S |
| 34.5 | PANHIR | L | | | S |
| 35 | PANHIR | L | | | S |
| 35.5 | NONE | L | | | S |
| 36 | NONE | L | | | S |
| 36.5 | NONE | L | | | S |
| 37 | NONE | L | | | S |
| 37.5 | PANHIR | L | | | S |
| 38 | PANHIR | L | | | S |
| 38.5 | NONE | L | | | S |
| 39 | DIGCAL | L | | | S |
| 39.5 | DIGCAL | L | | | S |
| 40 | ARIPUR | L | | | S |
| 40.5 | ARITER | CHLVIR | TRANEP | L | S |
| 41 | PANHIR | L | | | S |
| 41.5 | NONE | L | | | S |
| 42 | NONE | L | | | S |
| 42.5 | NONE | L | | | S |
| 43 | NONE | | | | S |
| 43.5 | CHLVIR | | | | S |
| 44 | NONE | L | | | S |

## Plot 24- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 44.5 | CHLVIR | L | | | S | 47.5 | CHLVIR | L | | | S |
| 45 | NONE | L | | | S | 48 | CHLVIR | L | | | S |
| 45.5 | NONE | L | | | S | 48.5 | NONE | L | | | S |
| 46 | NONE | L | | | S | 49 | NONE | L | | | S |
| 46.5 | ARITER | L | | | S | 49.5 | PROVEL | SENGRE | L | | S |
| 47 | NONE | L | | | S | 50 | PROVEL | L | | | S |

| | |
|---|---|
| % Foliar Cover | 65.549 |
| % Bare Ground | 6.666 |
| % Basal Cover | 0 |

# Plot 24, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | NONE | | | | S |
| 1 | BOUARI | | | | S |
| 1.5 | NONE | | | | S |
| 2 | BOUARI | | | | S |
| 2.5 | NONE | | | | S |
| 3 | NONE | | | | S |
| 3.5 | NONE | | | | S |
| 4 | NONE | | | | S |
| 4.5 | NONE | | | | S |
| 5 | BOUARI | L | | | S |
| 5.5 | BOUARI | L | | | S |
| 6 | BOUARI | L | | | S |
| 6.5 | BOUARI | L | | | S |
| 7 | NONE | | | | S |
| 7.5 | NONE | | | | S |
| 8 | NONE | L | | | S |
| 8.5 | NONE | | | | S |
| 9 | NONE | | | | S |
| 9.5 | NONE | | | | R |
| 10 | NONE | | | | S |
| 10.5 | NONE | L | | | S |
| 11 | NONE | L | | | S |
| 11.5 | NONE | W | | | S |
| 12 | NONE | L | | | S |
| 12.5 | NONE | L | | | S |
| 13 | NONE | L | | | S |
| 13.5 | CHLVIR | L | | | S |
| 14 | NONE | L | | | S |
| 14.5 | NONE | L | | | S |
| 15 | PROVEL | L | | | S |
| 15.5 | PROVEL | L | | | S |
| 16 | NONE | L | | | S |
| 16.5 | PROVEL | SETMAC | L | | S |
| 17 | NONE | L | | | S |
| 17.5 | PROVEL | L | | | S |
| 18 | PROVEL | L | | | S |
| 18.5 | PROVEL | SALTRA | L | | S |
| 19 | PROVEL | | | | PROVEL |
| 19.5 | PROVEL | SALTRA | L | | S |
| 20 | PROVEL | L | | | S |
| 20.5 | PROVEL | SALTRA | W | | S |
| 21 | PROVEL | L | | | S |
| 21.5 | NONE | W | | | S |
| 22 | NONE | L | | | S |
| 22.5 | NONE | | | | S |
| 23 | NONE | | | | S |
| 23.5 | BOUARI | | | | S |
| 24 | NONE | | | | S |
| 24.5 | BOUARI | L | | | S |
| 25 | NONE | L | | | S |
| 25.5 | NONE | L | | | S |
| 26 | NONE | L | | | S |
| 26.5 | NONE | | | | S |
| 27 | BOUARI | L | | | S |
| 27.5 | ARIPUR | L | | | S |
| 28 | NONE | | | | S |
| 28.5 | BOUARI | | | | S |
| 29 | BOUARI | | | | S |
| 29.5 | NONE | L | | | S |
| 30 | BOUARI | | | | S |
| 30.5 | NONE | | | | S |
| 31 | NONE | | | | S |
| 31.5 | NONE | L | | | S |
| 32 | NONE | | | | S |
| 32.5 | NONE | | | | S |
| 33 | NONE | | | | S |
| 33.5 | NONE | | | | S |
| 34 | NONE | | | | S |
| 34.5 | NONE | | | | S |
| 35 | NONE | | | | S |
| 35.5 | NONE | | | | S |
| 36 | PROVEL | | | | S |
| 36.5 | NONE | | | | S |
| 37 | PROVEL | L | | | S |
| 37.5 | PROVEL | L | | | S |
| 38 | NONE | | | | S |
| 38.5 | PROVEL | | | | S |
| 39 | NONE | | | | S |
| 39.5 | NONE | | | | S |
| 40 | NONE | | | | S |
| 40.5 | NONE | | | | S |
| 41 | NONE | | | | S |
| 41.5 | NONE | | | | S |
| 42 | NONE | | | | S |
| 42.5 | NONE | | | | S |
| 43 | NONE | L | | | S |
| 43.5 | NONE | | | | S |
| 44 | NONE | | | | S |

## Plot 24- off ROW, Line 4

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 44.5 | NONE | | | | S | 47.5 | NONE | | | | S |
| 45 | NONE | | | | S | 48 | BOUARI | L | | | S |
| 45.5 | NONE | | | | S | 48.5 | NONE | L | | | S |
| 46 | NONE | | | | S | 49 | NONE | | | | S |
| 46.5 | NONE | | | | S | 49.5 | NONE | | | | S |
| 47 | NONE | | | | S | 50 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 30 |
| % Bare Ground | 49 |
| % Basal Cover | 1 |

# Plot 24, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | BOUARI | L | | | S |
| 1 | NONE | L | | | S |
| 1.5 | NONE | | | | S |
| 2 | NONE | | | | S |
| 2.5 | NONE | | | | S |
| 3 | NONE | | | | S |
| 3.5 | NONE | | | | S |
| 4 | NONE | | | | S |
| 4.5 | NONE | | | | S |
| 5 | NONE | | | | S |
| 5.5 | NONE | | | | S |
| 6 | NONE | | | | S |
| 6.5 | NONE | | | | S |
| 7 | NONE | L | | | S |
| 7.5 | BOUARI | | | | S |
| 8 | BOUARI | L | | | S |
| 8.5 | NONE | | | | S |
| 9 | NONE | | | | S |
| 9.5 | NONE | | | | S |
| 10 | NONE | | | | S |
| 10.5 | NONE | | | | S |
| 11 | NONE | | | | S |
| 11.5 | NONE | | | | S |
| 12 | PROVEL | L | | | S |
| 12.5 | PROVEL | L | | | S |
| 13 | PROVEL | L | | | S |
| 13.5 | PROVEL | L | | | S |
| 14 | PROVEL | L | | | S |
| 14.5 | PROVEL | L | | | S |
| 15 | PROVEL | | | | S |
| 15.5 | NONE | L | | | S |
| 16 | NONE | L | | | S |
| 16.5 | PROVEL | L | | | S |
| 17 | NONE | L | | | S |
| 17.5 | PROVEL | L | | | S |
| 18 | NONE | L | | | S |
| 18.5 | NONE | L | | | S |
| 19 | PROVEL | L | | | S |
| 19.5 | PROVEL | L | | | S |
| 20 | PROVEL | L | | | S |
| 20.5 | PROVEL | SALTRA | W | | S |
| 21 | PROVEL | L | | | S |
| 21.5 | NONE | L | | | S |
| 22 | NONE | | | | S |
| 22.5 | NONE | L | | | S |
| 23 | PROVEL | L | | | S |
| 23.5 | PROVEL | L | | | S |
| 24 | PROVEL | L | | | S |
| 24.5 | PROVEL | L | | | S |
| 25 | PROVEL | | | | S |
| 25.5 | NONE | L | | | S |
| 26 | DIGCAL | L | | | S |
| 26.5 | PROVEL | | | | S |
| 27 | BOUARI | L | | | S |
| 27.5 | NONE | | | | S |
| 28 | BOUARI | | | | S |
| 28.5 | BOUARI | L | | | S |
| 29 | PROVEL | L | | | S |
| 29.5 | NONE | | | | S |
| 30 | BOUARI | L | | | S |
| 30.5 | NONE | | | | S |
| 31 | NONE | L | | | S |
| 31.5 | ZIZOBT | L | | | S |
| 32 | NONE | | | | S |
| 32.5 | NONE | | | | S |
| 33 | NONE | | | | S |
| 33.5 | NONE | | | | S |
| 34 | NONE | | | | S |
| 34.5 | NONE | | | | S |
| 35 | NONE | | | | S |
| 35.5 | NONE | | | | S |
| 36 | NONE | | | | S |
| 36.5 | NONE | | | | S |
| 37 | NONE | | | | R |
| 37.5 | NONE | | | | S |
| 38 | NONE | | | | S |
| 38.5 | NONE | | | | S |
| 39 | PROVEL | L | | | S |
| 39.5 | PROVEL | L | | | S |
| 40 | PROVEL | L | | | S |
| 40.5 | ZIZOBT | L | | | S |
| 41 | ZIZOBT | L | | | S |
| 41.5 | ZIZOBT | L | | | S |
| 42 | NONE | | | | S |
| 42.5 | PROVEL | L | | | S |
| 43 | PROVEL | L | | | S |
| 43.5 | NONE | L | | | S |
| 44 | NONE | | | | S |

## Plot 24- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 44.5 | NONE | | | | S | 47.5 | NONE | L | | | S |
| 45 | NONE | | | | S | 48 | NONE | L | | | S |
| 45.5 | NONE | | | | S | 48.5 | BOUARI | L | | | S |
| 46 | NONE | L | | | S | 49 | BOUARI | | | | S |
| 46.5 | NONE | L | | | S | 49.5 | NONE | | | | S |
| 47 | NONE | L | | | S | 50 | NONE | L | | | S |

| | |
|---|---|
| % Foliar Cover | 40 |
| % Bare Ground | 41 |
| % Basal Cover | 0 |

# Plot 24, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | PROVEL | L | | | S |
| 1 | PROVEL | L | | | S |
| 1.5 | PROVEL | | | | S |
| 2 | NONE | | | | S |
| 2.5 | NONE | | | | S |
| 3 | NONE | | | | S |
| 3.5 | NONE | | | | S |
| 4 | NONE | L | | | S |
| 4.5 | NONE | | | | S |
| 5 | NONE | | | | S |
| 5.5 | NONE | | | | R |
| 6 | NONE | W | | | S |
| 6.5 | NONE | | | | S |
| 7 | NONE | L | | | S |
| 7.5 | NONE | L | | | S |
| 8 | PROVEL | L | | | S |
| 8.5 | PROVEL | L | | | S |
| 9 | PROVEL | L | | | S |
| 9.5 | PROVEL | L | | | S |
| 10 | NONE | L | | | S |
| 10.5 | NONE | L | | | S |
| 11 | NONE | L | | | S |
| 11.5 | NONE | L | | | S |
| 12 | NONE | L | | | S |
| 12.5 | PROVEL | L | | | S |
| 13 | PROVEL | L | | | S |
| 13.5 | PROVEL | L | | | S |
| 14 | PROVEL | L | | | S |
| 14.5 | PROVEL | L | | | S |
| 15 | PROVEL | L | | | S |
| 15.5 | PROVEL | SETMAC | L | | S |
| 16 | NONE | W | | | S |
| 16.5 | PROVEL | L | | | S |
| 17 | PROVEL | | | | S |
| 17.5 | NONE | | | | S |
| 18 | NONE | | | | S |
| 18.5 | NONE | | | | S |
| 19 | NONE | | | | S |
| 19.5 | NONE | L | | | S |
| 20 | NONE | | | | S |
| 20.5 | BOUARI | | | | S |
| 21 | NONE | L | | | S |
| 21.5 | NONE | L | | | S |
| 22 | PROVEL | L | | | S |

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 22.5 | NONE | L | | | S |
| 23 | PROVEL | L | | | S |
| 23.5 | ERALEH | L | | | S |
| 24 | NONE | L | | | S |
| 24.5 | NONE | L | | | S |
| 25 | NONE | L | | | S |
| 25.5 | DIGCAL | PROVEL | L | | S |
| 26 | NONE | L | | | S |
| 26.5 | NONE | L | | | S |
| 27 | ERALEH | L | | | S |
| 27.5 | NONE | L | | | S |
| 28 | ARITER | L | | | S |
| 28.5 | ERALEH | L | | | S |
| 29 | ARITER | L | | | S |
| 29.5 | ARITER | PANHIR | L | | S |
| 30 | PROVEL | SETMAC | L | | S |
| 30.5 | SETMAC | L | | | S |
| 31 | ERITER | L | | | S |
| 31.5 | ARITER | L | | | S |
| 32 | NONE | L | | | S |
| 32.5 | ARITER | L | | | S |
| 33 | DIGCAL | L | | | S |
| 33.5 | ERILEH | L | | | S |
| 34 | ERILEH | BOUARI | L | | S |
| 34.5 | NONE | L | | | S |
| 35 | NONE | L | | | S |
| 35.5 | NONE | L | | | S |
| 36 | NONE | L | | | S |
| 36.5 | NONE | L | | | S |
| 37 | NONE | L | | | S |
| 37.5 | NONE | L | | | S |
| 38 | NONE | L | | | S |
| 38.5 | NONE | L | | | S |
| 39 | NONE | L | | | S |
| 39.5 | NONE | L | | | S |
| 40 | NONE | L | | | S |
| 40.5 | NONE | L | | | S |
| 41 | ISOTEN | L | | | S |
| 41.5 | NONE | L | | | S |
| 42 | NONE | L | | | S |
| 42.5 | NONE | L | | | S |
| 43 | NONE | L | | | S |
| 43.5 | BOUARI | L | | | S |
| 44 | NONE | L | | | S |

## Plot 24- off ROW, Line 6

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 44.5 | NONE | | | | S |
| 45 | BOUARI | L | | | S |
| 45.5 | CHLVIR | L | | | S |
| 46 | NONE | L | | | S |
| 46.5 | NONE | L | | | S |
| 47 | NONE | L | | | S |
| 47.5 | NONE | L | | | S |
| 48 | PROVEL | DIGCAL | L | | S |
| 48.5 | PROVEL | L | | | S |
| 49 | PROVEL | L | | | S |
| 49.5 | NONE | L | | | S |
| 50 | NONE | L | | | S |

| | |
|---|---|
| % Foliar Cover | 41 |
| % Bare Ground | 13 |
| % Basal Cover | 0 |

## Summary - Plot 24

**% Average Foliar Cover**

| | |
|---|---|
| On ROW | 60.735 |
| Off ROW | 37.000 |

**% Average Bare Ground**

| | |
|---|---|
| On ROW | 11.480 |
| Off ROW | 34.333 |

**% Average Basal Cover**

| | |
|---|---|
| On ROW | 0.000 |
| Off ROW | 0.333 |

## Plot 25- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | BOUROT | | | | S | 15.5 | PANHIR | VACCON | | | S |
| 1 | BOUROT | | | | S | 16 | ATRCAN | L | | | S |
| 1.5 | NONE | | | | S | 16.5 | ERALEH | | | | S |
| 2 | BOUROT | | | | S | 17 | ERALEH | | | | S |
| 2.5 | BOUROT | | | | S | 17.5 | ERALEH | | | | S |
| 3 | BOUROT | | | | S | 18 | NONE | | | | S |
| 3.5 | BOUROT | | | | S | 18.5 | ERALEH | L | | | S |
| 4 | BOUROT | | | | S | 19 | NONE | | | | S |
| 4.5 | NONE | | | | S | 19.5 | BOUROT | | | | S |
| 5 | BOUROT | | | | S | 20 | BOUROT | | | | S |
| 5.5 | BOUROT | | | | R | 20.5 | NONE | | | | S |
| 6 | BOUROT | | | | S | 21 | ERALEH | | | | S |
| 6.5 | BOUROT | | | | S | 21.5 | SPHAMB | | | | S |
| 7 | BOUROT | | | | S | 22 | BOUROT | | | | S |
| 7.5 | BOUROT | | | | S | 22.5 | BOUROT | | | | S |
| 8 | BOUROT | | | | S | 23 | SPHAMB | | | | S |
| 8.5 | BOUROT | | | | S | 23.5 | BOUROT | | | | S |
| 9 | BOUROT | | | | S | 24 | BOUROT | | | | S |
| 9.5 | BOUROT | ERALEH | | | S | 24.5 | BOUROT | | | | S |
| 10 | ERALEH | BOUROT | | | S | 25 | NONE | | | | S |
| 10.5 | BOUROT | | | | S | 25.5 | BOUROT | | | | S |
| 11 | BOUROT | | | | S | 26 | ERALEH | BOUROT | | | S |
| 11.5 | BOUROT | | | | S | 26.5 | ERALEH | L | | | S |
| 12 | BOUROT | | | | S | 27 | ERALEH | | | | S |
| 12.5 | BOUROT | | | | S | 27.5 | ERALEH | | | | S |
| 13 | BOUROT | | | | S | 28 | ERALEH | | | | S |
| 13.5 | BOUROT | | | | S | 28.5 | ERALEH | | | | S |
| 14 | BOUROT | | | | S | 29 | ERALEH | L | | | S |
| 14.5 | BOUROT | | | | S | 29.5 | ERALEH | L | | | |
| 15 | ERALEH | VACCON | | | S | 30 | ERALEH | | | | S |

| | |
|---|---|
| % Foliar Cover | 89.648 |
| % Bare Ground | 10.344 |
| % Basal Cover | 0 |

## Plot 25- on ROW, Line 2

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | BOUROT | | | | S | 15.5 | BOUROT | | | | R |
| 1 | BOUROT | | | | S | 16 | ERALEH | BOUROT | | | S |
| 1.5 | BOUROT | | | | S | 16.5 | SIDABU | | | | R |
| 2 | BOUROT | | | | S | 17 | ERALEH | W | | | S |
| 2.5 | BOUROT | | | | S | 17.5 | ERALEH | ATRELE | L | | S |
| 3 | BOUROT | | | | S | 18 | ERALEH | L | | | S |
| 3.5 | BOUROT | | | | S | 18.5 | NONE | | | | R |
| 4 | BOUROT | | | | S | 19 | BOUARI | | | | S |
| 4.5 | BOUROT | | | | S | 19.5 | ERALEH | SIDABU | | | S |
| 5 | SPHAMB | BOUROT | | | S | 20 | ERALEH | | | | S |
| 5.5 | BOUROT | | | | S | 20.5 | ERALEH | | | | S |
| 6 | BOUROT | | | | S | 21 | ERALEH | L | | | S |
| 6.5 | BOUROT | | | | S | 21.5 | SPHAMB | BOUROT | W | | S |
| 7 | BOUROT | | | | S | 22 | BOUARI | | | | S |
| 7.5 | BOUROT | | | | S | 22.5 | BOUROT | SPHAMB | | | S |
| 8 | BOUROT | SIDABU | | | S | 23 | BOUROT | | | | S |
| 8.5 | ERALEH | BOUROT | | | S | 23.5 | BOUROT | | | | S |
| 9 | BOUROT | | | | S | 24 | BOUROT | | | | S |
| 9.5 | BOUROT | | | | S | 24.5 | NONE | | | | R |
| 10 | BOUROT | SIDABU | | | S | 25 | BOUARI | | | | S |
| 10.5 | SPHAMB | | | | S | 25.5 | BOUROT | | | | S |
| 11 | BOUROT | | | | S | 26 | BOUARI | | | | S |
| 11.5 | BOUROT | | | | S | 26.5 | BOUARI | | | | S |
| 12 | BOUROT | | | | S | 27 | BOUARI | | | | S |
| 12.5 | ERALEH | BOUROT | SIDABU | | S | 27.5 | BOUCUR | | | | S |
| 13 | BOUROT | | | | S | 28 | ERALEH | | | | S |
| 13.5 | NONE | | | | S | 28.5 | ERALEH | L | | | S |
| 14 | BOUROT | | | | S | 29 | ERALEH | BOUROT | | | S |
| 14.5 | BOUROT | L | | | S | 29.5 | ERALEH | | | | R |
| 15 | BOUROT | | | | S | 30 | ERALEH | L | | | S |

| | |
|---|---|
| % Foliar Cover | 94.82 |
| % Bare Ground | 1.724 |
| % Basal Cover | 0 |

## Plot 25- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | PROVEL | PANHIR | BOUROT | | S | 15.5 | ATRCAN | SETMAC | L | | S |
| 1 | BOUROT | | | | S | 16 | SPHAMB | BOUROT | | | S |
| 1.5 | NONE | | | | S | 16.5 | BOUROT | | | | S |
| 2 | BOUROT | | | | S | 17 | BOUROT | | | | S |
| 2.5 | BOUROT | | | | S | 17.5 | BOUROT | SETMAC | | | S |
| 3 | BOUROT | | | | S | 18 | SETMAC | ERALEH | L | | S |
| 3.5 | BOUROT | | | | S | 18.5 | ATRCAN | SETMAC | | | S |
| 4 | BOUROT | | | | S | 19 | SPHAMB | BOUROT | | | S |
| 4.5 | BOUROT | | | | S | 19.5 | BOUROT | | | | S |
| 5 | BOUROT | | | | S | 20 | BOUROT | | | | S |
| 5.5 | BOUROT | PANHIR | | | S | 20.5 | BOUROT | | | | S |
| 6 | BOUROT | | | | S | 21 | BOUROT | | | | S |
| 6.5 | BOUROT | CYNDAC | | | S | 21.5 | BOUROT | | | | S |
| 7 | BOUROT | | | | S | 22 | BOUROT | | | | S |
| 7.5 | BOUROT | SIDABU | | | S | 22.5 | NONE | | | | S |
| 8 | ARITER | | | | S | 23 | BOUROT | | | | S |
| 8.5 | BOUROT | SIDABU | | | S | 23.5 | BOUROT | | | | S |
| 9 | NONE | | | | S | 24 | BOUROT | L | | | S |
| 9.5 | BOUROT | | | | S | 24.5 | BOUROT | | | | S |
| 10 | ARITER | | | | S | 25 | CHLVIR | | | | S |
| 10.5 | SPHAMB | | | | S | 25.5 | NONE | | | | S |
| 11 | BOUROT | | | | S | 26 | NONE | | | | S |
| 11.5 | BOUROT | | | | S | 26.5 | ERALEH | BOUROT | | | S |
| 12 | BOUROT | | | | S | 27 | NONE | | | | S |
| 12.5 | BOUROT | | | | S | 27.5 | NONE | | | | S |
| 13 | ERALEH | BOUROT | | | S | 28 | ERALEH | | | | R |
| 13.5 | BOUROT | | | | S | 28.5 | ERALEH | | | | S |
| 14 | BOUROT | | | | S | 29 | ATRCAN | ERALEH | L | | S |
| 14.5 | BOUROT | | | | S | 29.5 | ERALEH | L | | | S |
| 15 | BOUROT | | | | S | 30 | ERALEH | L | | | S |

| | |
|---|---|
| % Foliar Cover | 87.924 |
| % Bare Ground | 12.068 |
| % Basal Cover | 0 |

# Plot 25- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | BOUROT | | | | S |
| 1 | NONE | | | | R |
| 1.5 | NONE | | | | R |
| 2 | NONE | | | | R |
| 2.5 | BOUROT | | | | S |
| 3 | ERALEH | | | | S |
| 3.5 | ERALEH | | | | S |
| 4 | ERALEH | | | | S |
| 4.5 | ERALEH | | | | S |
| 5 | ERALEH | L | | | S |
| 5.5 | PROVEL | ERALEH | L | | S |
| 6 | PROVEL | ERALEH | L | | S |
| 6.5 | ERALEH | L | | | S |
| 7 | ERALEH | | | | S |
| 7.5 | ERALEH | | | | S |
| 8 | NONE | | | | S |
| 8.5 | NONE | | | | R |
| 9 | NONE | | | | S |
| 9.5 | ERALEH | L | | | S |
| 10 | ERALEH | L | | | S |
| 10.5 | ERALEH | L | | | S |
| 11 | ERALEH | L | | | S |
| 11.5 | ERALEH | | | | S |
| 12 | ERALEH | L | | | S |
| 12.5 | PROVEL | ERALEH | L | | S |
| 13 | PROVEL | ERALEH | L | | S |
| 13.5 | PROVEL | ERALEH | L | | S |
| 14 | ERALEH | L | | | S |
| 14.5 | ERALEH | L | | | S |
| 15 | ERALEH | | | | S |
| 15.5 | ERALEH | L | | | S |
| 16 | ERALEH | | | | S |
| 16.5 | ERALEH | | | | S |
| 17 | ERALEH | | | | S |
| 17.5 | ERALEH | L | | | S |
| 18 | ERALEH | PROVEL | L | | S |
| 18.5 | ERALEH | L | | | S |
| 19 | ERALEH | | | | S |
| 19.5 | NONE | | | | S |
| 20 | NONE | | | | S |
| 20.5 | ERALEH | | | | S |
| 21 | NONE | | | | S |
| 21.5 | ERALEH | | | | S |
| 22 | NONE | | | | S |
| 22.5 | NONE | | | | S |
| 23 | NONE | | | | S |
| 23.5 | NONE | | | | S |
| 24 | NONE | | | | S |
| 24.5 | ERALEH | L | | | S |
| 25 | ERALEH | | | | S |
| 25.5 | ERALEH | L | | | S |
| 26 | ERALEH | | | | S |
| 26.5 | ERALEH | L | | | S |
| 27 | NONE | | | | S |
| 27.5 | ERALEH | ISOTEN | | | S |
| 28 | ERALEH | ISOTEN | | | S |
| 28.5 | NONE | | | | S |
| 29 | ERALEH | | | | S |
| 29.5 | NONE | | | | S |
| 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 70.014 |
| % Bare Ground | 23.338 |
| % Basal Cover | 0 |

# Plot 25- off ROW, Line 6

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | NONE | | | | S |
| 1 | ERALEH | | | | S |
| 1.5 | NONE | | | | S |
| 2 | ERALEH | | | | S |
| 2.5 | ERALEH | L | | | S |
| 3 | ISOTEN | L | | | S |
| 3.5 | ERALEH | | | | S |
| 4 | ERALEH | | | | S |
| 4.5 | ERALEH | L | | | S |
| 5 | ERALEH | L | | | S |
| 5.5 | ERALEH | | | | S |
| 6 | ERALEH | L | | | S |
| 6.5 | ERALEH | L | | | S |
| 7 | ERALEH | L | | | S |
| 7.5 | ERALEH | L | | | S |
| 8 | ERALEH | L | | | S |
| 8.5 | ERALEH | L | | | S |
| 9 | BOUROT | | | | S |
| 9.5 | ERALEH | L | | | S |
| 10 | ERALEH | L | | | S |
| 10.5 | ERALEH | L | | | S |
| 11 | ERALEH | | | | S |
| 11.5 | ERALEH | L | | | S |
| 12 | ERALEH | | | | S |
| 12.5 | ERALEH | | | | S |
| 13 | NONE | | | | S |
| 13.5 | ERALEH | | | | S |
| 14 | ERALEH | L | | | S |
| 14.5 | ERALEH | L | | | S |
| 15 | ERALEH | | | | S |
| 15.5 | ERALEH | | | | S |
| 16 | ERALEH | | | | S |
| 16.5 | ERALEH | L | | | S |
| 17 | ERALEH | L | | | S |
| 17.5 | ERALEH | SIDABU | | | S |
| 18 | ERALEH | | | | S |
| 18.5 | ERALEH | | | | S |
| 19 | NONE | | | | S |
| 19.5 | ISOTEN | | | | S |
| 20 | ERALEH | | | | S |
| 20.5 | BOUROT | | | | S |
| 21 | NONE | L | | | S |
| 21.5 | ERALEH | | | | S |
| 22 | ERALEH | SALTRA | | | S |
| 22.5 | NONE | | | | S |
| 23 | NONE | | | | S |
| 23.5 | NONE | | | | S |
| 24 | NONE | | | | S |
| 24.5 | NONE | | | | R |
| 25 | ERALEH | | | | S |
| 25.5 | ERALEH | ISOTEN | L | | S |
| 26 | ERALEH | L | | | S |
| 26.5 | PROVEL | SETMAC | | | S |
| 27 | PROVEL | SETMAC | | | S |
| 27.5 | PROVEL | SETMAC | | | S |
| 28 | PROVEL | | | | S |
| 28.5 | PROVEL | ARITER | L | | S |
| 29 | PROVEL | L | | | S |
| 29.5 | PROVEL | GUTSAR | L | | S |
| 30 | PROVEL | ERALEH | L | | S |

| | |
|---|---|
| % Foliar Cover | 83.35 |
| % Bare Ground | 13.336 |
| % Basal Cover | 0 |

## Plot 25- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | NONE | | | | S |
| 1 | BOUROT | L | | | S |
| 1.5 | ISOTEN | SETMAC | L | | S |
| 2 | SETMAC | | | | S |
| 2.5 | CHLVIR | | | | S |
| 3 | NONE | | | | S |
| 3.5 | NONE | L | | | S |
| 4 | ERALEH | L | | | S |
| 4.5 | NONE | L | | | S |
| 5 | NONE | | | | S |
| 5.5 | NONE | | | | S |
| 6 | NONE | | | | S |
| 6.5 | NONE | | | | S |
| 7 | NONE | | | | S |
| 7.5 | NONE | | | | R |
| 8 | NONE | | | | S |
| 8.5 | NONE | | | | S |
| 9 | NONE | | | | S |
| 9.5 | GUTSAR | | | | S |
| 10 | NONE | | | | S |
| 10.5 | NONE | | | | S |
| 11 | NONE | | | | S |
| 11.5 | NONE | | | | S |
| 12 | NONE | | | | S |
| 12.5 | NONE | | | | S |
| 13 | ISOTEN | | | | S |
| 13.5 | NONE | | | | S |
| 14 | NONE | | | | S |
| 14.5 | SALTRA | | | | S |
| 15 | PROVEL | SALTRA | | | S |
| 15.5 | PROVEL | ERALEH | | | S |
| 16 | PROVEL | GUTSAR | L | | S |
| 16.5 | PROVEL | L | | | S |
| 17 | PROVEL | ERALEH | | | S |
| 17.5 | NONE | | | | S |
| 18 | NONE | L | | | S |
| 18.5 | NONE | | | | S |
| 19 | NONE | | | | R |
| 19.5 | NONE | | | | S |
| 20 | NONE | | | | S |
| 20.5 | SALTRA | | | | S |
| 21 | NONE | | | | S |
| 21.5 | PROVEL | | | | S |
| 22 | PROVEL | | | | S |
| 22.5 | PROVEL | SALTRA | | | S |
| 23 | PROVEL | | | | S |
| 23.5 | NONE | | | | S |
| 24 | NONE | W | | | S |
| 24.5 | SALTRA | | | | S |
| 25 | NONE | | | | S |
| 25.5 | NONE | | | | S |
| 26 | PROVEL | SALTRA | | | S |
| 26.5 | PROVEL | SALTRA | | | S |
| 27 | NONE | | | | S |
| 27.5 | PROVEL | | | | S |
| 28 | PROVEL | L | | | S |
| 28.5 | PROVEL | WL | | | S |
| 29 | PROVEL | L | | | S |
| 29.5 | NONE | | | | S |
| 30 | NONE | L | | | S |

| | |
|---|---|
| % Foliar Cover | 41.675 |
| % Bare Ground | 46.676 |
| % Basal Cover | 0 |

## Summary - Plot 25

**% Average Foliar Cover**

| | |
|---|---|
| On ROW | 90.797 |
| Off ROW | 65.013 |

**% Average Bare Ground**

| | |
|---|---|
| On ROW | 8.045 |
| Off ROW | 27.783 |

**% Average Basal Cover**

| | |
|---|---|
| On ROW | 0.000 |
| Off ROW | 0.000 |

## Plot 26- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | ATRCAN | ERILEH | L | | S |
| 1 | ERALEH | BOECOC | | | S | 16 | ERALEH | AMBACA | | | S |
| 1.5 | ATRCAN | ERALEH | | | S | 16.5 | ERALEH | | | | S |
| 2 | ATRCAN | BOECOC | L | | S | 17 | ERALEH | L | | | S |
| 2.5 | ERALEH | L | | | S | 17.5 | ERALEH | | | | R |
| 3 | NONE | | | | S | 18 | ERALEH | L | | | S |
| 3.5 | ERALEH | | | | S | 18.5 | ERALEH | L | | | S |
| 4 | SPOCRY | | | | S | 19 | ERALEH | L | | | S |
| 4.5 | ERALEH | | | | S | 19.5 | ERALEH | L | | | S |
| 5 | ERALEH | L | | | S | 20 | ERALEH | L | | | S |
| 5.5 | ERALEH | AMBACA | L | | S | 20.5 | ERALEH | | | | S |
| 6 | ERALEH | L | | | S | 21 | ERALEH | ; | | | S |
| 6.5 | NONE | L | | | S | 21.5 | ATRCAN | L | | | S |
| 7 | ERALEH | L | | | S | 22 | ERALEH | AMBACA | L | | S |
| 7.5 | ERALEH | L | | | S | 22.5 | ERALEH | | | | S |
| 8 | ERALEH | L | | | S | 23 | XANTEX | | | | S |
| 8.5 | ERALEH | L | | | S | 23.5 | VACCON | | | | S |
| 9 | ERALEH | | | | S | 24 | BACSAR | ERALEH | L | | S |
| 9.5 | ERALEH | | | | ERALEH | 24.5 | BACSAR | ERALEH | L | | S |
| 10 | ERALEH | | | | S | 25 | ERALEH | L | | | S |
| 10.5 | ERALEH | | | | S | 25.5 | ERALEH | | | | S |
| 11 | ERALEH | | | | S | 26 | ERALEH | | | | S |
| 11.5 | SPOCRY | L | | | S | 26.5 | ERALEH | | | | S |
| 12 | SPOCRY | | | | S | 27 | DIGCAL | | | | S |
| 12.5 | ERALEH | AMBACA | L | | S | 27.5 | BACSAR | AMBACA | | | S |
| 13 | AMBACA | L | | | S | 28 | BACSAR | PANHIR | ERALEH | | S |
| 13.5 | ERALEH | AMBACA | L | | S | 28.5 | BACSAR | ERALEH | | | S |
| 14 | ERALEH | | | | S | 29 | NONE | | | | S |
| 14.5 | ERALEH | | | | S | 29.5 | ATRCAN | L | | | S |
| 15 | BOECOC | | | | BOECOC | 30 | PANHIR | L | | | S |

| | |
|---|---|
| % Foliar Cover | 93.352 |
| % Bare Ground | 5.001 |
| % Basal Cover | 3.448 |

# Plot 26- on ROW, Line 2

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | ERALEH | | | | S |
| 1 | ERALEH | | | | S |
| 1.5 | ERALEH | | | | S |
| 2 | ERALEH | L | | | S |
| 2.5 | SPOCRY | L | | | S |
| 3 | ERALEH | L | | | S |
| 3.5 | ERALEH | L | | | S |
| 4 | ERALEH | | | | S |
| 4.5 | SPOCRY | | | | SPOCRY |
| 5 | ERALEH | L | | | S |
| 5.5 | ERALEH | L | | | S |
| 6 | ERALEH | L | | | S |
| 6.5 | ERALEH | L | | | S |
| 7 | PANHIR | L | | | S |
| 7.5 | ERALEH | L | | | S |
| 8 | ERALEH | L | | | S |
| 8.5 | ERALEH | L | | | S |
| 9 | ERALEH | | | | S |
| 9.5 | BACSAR | L | | | S |
| 10 | ERALEH | L | | | S |
| 10.5 | BACSAR | L | | | S |
| 11 | BACSAR | ERALEH | | | S |
| 11.5 | ERALEH | | | | S |
| 12 | ERALEH | | | | S |
| 12.5 | ERALEH | | | | S |
| 13 | ERALEH | | | | S |
| 13.5 | BACSAR | ERALEH | L | | S |
| 14 | ERALEH | L | | | S |
| 14.5 | ERALEH | | | | S |
| 15 | ERALEH | L | | | S |
| 15.5 | ERALEH | L | | | S |
| 16 | NONE | | | | S |
| 16.5 | ATRCAN | | | | S |
| 17 | ATRCAN | ERALEH | | | S |
| 17.5 | ATRCAN | ERALEH | L | | S |
| 18 | ERALEH | | | | S |
| 18.5 | ERALEH | | | | S |
| 19 | BACSAR | SIDABU | | | S |
| 19.5 | BACSAR | L | | | S |
| 20 | BACSAR | ERALEH | | | S |
| 20.5 | BACSAR | ERALEH | | | S |
| 21 | ERALEH | | | | S |
| 21.5 | BACSAR | ERALEH | | | S |
| 22 | BACSAR | L | | | S |
| 22.5 | BACSAR | L | | | S |
| 23 | SETMAC | ERALEH | | | S |
| 23.5 | ERALEH | | | | S |
| 24 | ERALEH | | | | S |
| 24.5 | ISOTEN | L | | | S |
| 25 | ERALEH | | | | S |
| 25.5 | ERALEH | | | | S |
| 26 | ERALEH | | | | S |
| 26.5 | BOUCUR | | | | S |
| 27 | ERALEH | | | | S |
| 27.5 | BACSAR | GUTSAR | L | | S |
| 28 | BACSAR | ERALEH | | | S |
| 28.5 | NONE | | | | S |
| 29 | SPOCRY | L | | | S |
| 29.5 | ERALEH | | | | S |
| 30 | ERALEH | | | | S |

| | |
|---|---|
| % Foliar Cover | 96.686 |
| % Bare Ground | 3.334 |
| % Basal Cover | 1.818 |

# Plot 26- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | ERALEH | | | | S | 15.5 | ERALEH | | | | S |
| 1 | ERALEH | | | | S | 16 | ATRCAN | BACSAR | L | | S |
| 1.5 | SPOCRY | | | | S | 16.5 | BACSAR | L | | | S |
| 2 | ERALEH | | | | S | 17 | BACSAR | | | | S |
| 2.5 | PANHIR | ERALEH | | | S | 17.5 | ERALEH | L | | | S |
| 3 | DIGSAN | | | | S | 18 | DIGSAN | ERALEH | L | | S |
| 3.5 | DIGSAN | | | | S | 18.5 | DIGSAN | L | | | S |
| 4 | DIGSAN | | | | S | 19 | DIGSAN | L | | | S |
| 4.5 | DIGSAN | ERALEH | | | S | 19.5 | BACSAR | | | | S |
| 5 | ERALEH | L | | | S | 20 | DIGSAN | L | | | S |
| 5.5 | ERALEH | | | | S | 20.5 | BACSAR | | | | S |
| 6 | CENLON | | | | S | 21 | BACSAR | L | | | S |
| 6.5 | ATRCAN | | | | S | 21.5 | BACSAR | ERALEH | | | S |
| 7 | SPOCRY | | | | S | 22 | DIGSAN | L | | | S |
| 7.5 | ERALEH | L | | | S | 22.5 | DIGSAN | | | | S |
| 8 | ERALEH | | | | S | 23 | SPOCRY | DIGSAN | | | S |
| 8.5 | ERALEH | L | | | S | 23.5 | NONE | | | | S |
| 9 | ERALEH | | | | S | 24 | NONE | | | | S |
| 9.5 | ERALEH | | | | R | 24.5 | NONE | | | | R |
| 10 | ERALEH | | | | S | 25 | DIGSAN | | | | S |
| 10.5 | ARITER | | | | S | 25.5 | DIGSAN | | | | S |
| 11 | ERALEH | | | | S | 26 | | | | | |
| 11.5 | ERALEH | | | | S | 26.5 | | | | | |
| 12 | BOUROT | | | | S | 27 | | | | | |
| 12.5 | BOUROT | | | | S | 27.5 | | | | | |
| 13 | VACCON | L | | | S | 28 | | | | | |
| 13.5 | VACCON | L | | | S | 28.5 | | | | | |
| 14 | SPOCRY | | | | S | 29 | | | | | |
| 14.5 | ERALEH | | | | S | 29.5 | | | | | |
| 15 | ERALEH | | | | R | 30 | | | | | |

| | |
|---|---|
| % Foliar Cover | 80.016 |
| % Bare Ground | 3.334 |
| % Basal Cover | 0 |

# Plot 26- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | PROVEL | L | | | S |
| 1 | PROVEL | BACSAR | EVOARAI | L | S |
| 1.5 | PROVEL | W | | | S |
| 2 | PROVEL | AMBACA | L | | S |
| 2.5 | PROVEL | SENGRE | L | | S |
| 3 | PROVEL | SENGRE | AMBACA | L | S |
| 3.5 | PROVEL | BACSAR | L | | S |
| 4 | BACSAR | SETMAC | L | | S |
| 4.5 | BACSAR | | | | S |
| 5 | CHILIN | AMBACA | | | S |
| 5.5 | CHILIN | ERALEH | | | S |
| 6 | CHILIN | ERALEH | | | S |
| 6.5 | ERALEH | SETMAC | | | S |
| 7 | NONE | W | | | S |
| 7.5 | BOUCOC | | | | S |
| 8 | NONE | | | | S |
| 8.5 | NONE | | | | S |
| 9 | ERALEH | L | | | S |
| 9.5 | ERALEH | AMBACA | | | S |
| 10 | ERALEH | | | | S |
| 10.5 | ERALEH | | | | S |
| 11 | NONE | L | | | S |
| 11.5 | NONE | | | | S |
| 12 | BOECOC | L | | | S |
| 12.5 | NONE | | | | S |
| 13 | ARITER | | | | S |
| 13.5 | ARITER | L | | | S |
| 14 | ARITER | | | | S |
| 14.5 | ARITER | L | | | S |
| 15 | ARITER | | | | S |
| 15.5 | BOECOC | | | | S |
| 16 | BOECOC | | | | S |
| 16.5 | AMBACA | | | | S |
| 17 | NONE | L | | | S |
| 17.5 | AMBACA | | | | S |
| 18 | AMBACA | | | | S |
| 18.5 | NONE | | | | S |
| 19 | AMBACA | | | | S |
| 19.5 | SETMAC | | | | S |
| 20 | AMAPAL | ERALEH | | | S |
| 20.5 | ERALEH | AMBACA | | | S |
| 21 | AMBACA | L | | | S |
| 21.5 | CHILIN | AMBACA | L | | S |
| 22 | CHILIN | AMBACA | W | | S |
| 22.5 | CHILIN | W | | | S |
| 23 | CHILIN | L | | | S |
| 23.5 | CHILIN | L | | | S |
| 24 | CHILIN | W | | | S |
| 24.5 | CHILIN | W | | | S |
| 25 | NONE | | | | S |
| 25.5 | CHILIN | L | | | S |
| 26 | CHILIN | SETMAC | | | S |
| 26.5 | SPOCRY | BOUCUR | L | | S |
| 27 | BACSAR | L | | | S |
| 27.5 | BACSAR | | | | S |
| 28 | BOUCUR | | | | S |
| 28.5 | BOUCUR | | | | S |
| 29 | BOUCUR | L | | | S |
| 29.5 | ERALEH | L | | | S |
| 30 | BACSAR | AMAPAL | L | | S |

| | |
|---|---|
| % Foliar Cover | 85.017 |
| % Bare Ground | 10.002 |
| % Basal Cover | 0 |

# Plot 26- off ROW, Line 6

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | ERALEH | | | | S |
| 1 | ERALEH | | | | S |
| 1.5 | ERALEH | | | | S |
| 2 | ERALEH | | | | S |
| 2.5 | HYMMON | ERALEH | | | S |
| 3 | HYMMON | ERALEH | L | | S |
| 3.5 | HYMMON | L | | | S |
| 4 | HYMMON | L | | | S |
| 4.5 | ERALEH | | | | S |
| 5 | ERALEH | | | | S |
| 5.5 | ERALEH | L | | | S |
| 6 | HYMMON | ERALEH | L | | S |
| 6.5 | ERALEH | L | | | S |
| 7 | ERALEH | | | | S |
| 7.5 | ERALEH | | | | R |
| 8 | ERALEH | | | | R |
| 8.5 | ERALEH | | | | S |
| 9 | ERALEH | | | | R |
| 9.5 | SENGRE | | | | S |
| 10 | PARACU | ERALEH | | | S |
| 10.5 | PARACU | ERALEH | | | S |
| 11 | ERALEH | | | | S |
| 11.5 | BOUCUR | | | | S |
| 12 | BOUCUR | L | | | S |
| 12.5 | BOUCUR | | | | S |
| 13 | BOUCUR | | | | R |
| 13.5 | BOUCUR | L | | | S |
| 14 | BOUCUR | | | | S |
| 14.5 | BOUCUR | | | | R |
| 15 | NONE | | | | R |
| 15.5 | NONE | | | | R |
| 16 | NONE | | | | R |
| 16.5 | NONE | | | | R |
| 17 | NONE | | | | R |
| 17.5 | NONE | | | | R |
| 18 | NONE | | | | R |
| 18.5 | NONE | | | | S |
| 19 | NONE | | | | R |
| 19.5 | NONE | | | | R |
| 20 | NONE | | | | R |
| 20.5 | NONE | | | | R |
| 21 | NONE | | | | R |
| 21.5 | NONE | | | | R |
| 22 | PANHIR | | | | R |
| 22.5 | NONE | | | | S |
| 23 | ERALEH | | | | R |
| 23.5 | NONE | L | | | S |
| 24 | NONE | | | | R |
| 24.5 | NONE | | | | R |
| 25 | NONE | | | | R |
| 25.5 | NONE | | | | R |
| 26 | NONE | | | | S |
| 26.5 | NONE | | | | R |
| 27 | NONE | | | | R |
| 27.5 | NONE | | | | R |
| 28 | NONE | | | | R |
| 28.5 | NONE | | | | R |
| 29 | NONE | | | | R |
| 29.5 | NONE | | | | R |
| 30 | NONE | | | | R |

| | |
|---|---|
| % Foliar Cover | 51.677 |
| % Bare Ground | 5.001 |
| % Basal Cover | 0 |

## Plot 26- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | ERALEH | | | | S |
| 1 | PROVEL | L | | | S |
| 1.5 | PROVEL | | | | S |
| 2 | NONE | L | | | S |
| 2.5 | SPOCRY | L | | | S |
| 3 | ERALEH | L | | | S |
| 3.5 | PROVEL | SETMAC | L | | S |
| 4 | PROVEL | SETMAC | L | | S |
| 4.5 | PROVEL | SETMAC | | | S |
| 5 | NONE | | | | S |
| 5.5 | NONE | | | | S |
| 6 | PROVEL | SETMAC | L | | S |
| 6.5 | PROVEL | SPOCRY | L | | S |
| 7 | NONE | L | | | S |
| 7.5 | SPOCRY | L | | | S |
| 8 | NONE | | | | S |
| 8.5 | NONE | | | | S |
| 9 | BOUROT | | | | S |
| 9.5 | BOUROT | | | | S |
| 10 | ERALEH | | | | S |
| 10.5 | ERALEH | | | | S |
| 11 | NONE | L | | | S |
| 11.5 | NONE | L | | | S |
| 12 | SENGRE | L | | | S |
| 12.5 | SENGRE | L | | | S |
| 13 | SENGRE | L | | | S |
| 13.5 | SPOCRY | L | | | S |
| 14 | BOUROT | L | | | S |
| 14.5 | BOUROT | | | | S |
| 15 | NONE | | | | S |
| 15.5 | ERALEH | | | | S |
| 16 | ERALEH | | | | S |
| 16.5 | SPOCRY | | | | S |
| 17 | SPOCRY | | | | S |
| 17.5 | SPOCRY | | | | S |
| 18 | SETMAC | L | | | S |
| 18.5 | PROVEL | | | | S |
| 19 | PROVEL | SETMAC | L | | S |
| 19.5 | PROVEL | SETMAC | L | | S |
| 20 | PROVEL | SETMAC | | | S |
| 20.5 | PROVEL | SETMAC | L | | S |
| 21 | PROVEL | L | | | S |
| 21.5 | PROVEL | L | | | S |
| 22 | PROVEL | | | | S |
| 22.5 | PROVEL | L | | | S |
| 23 | PROVEL | L | | | S |
| 23.5 | PROVEL | L | | | S |
| 24 | PROVEL | SENGRE | L | | S |
| 24.5 | PROVEL | SENGRE | | | S |
| 25 | NONE | WL | | | S |
| 25.5 | NONE | L | | | S |
| 26 | ERALEH | SETMAC | L | | S |
| 26.5 | SPOCRY | | | | S |
| 27 | ERALEH | L | | | S |
| 27.5 | SETMAC | | | | S |
| 28 | SETMAC | | | | S |
| 28.5 | SENGRE | SETMAC | L | | S |
| 29 | NONE | L | | | S |
| 29.5 | PROVEL | L | | | S |
| 30 | PROVEL | L | | | S |

| | |
|---|---|
| % Foliar Cover | 80.016 |
| % Bare Ground | 8.335 |
| % Basal Cover | 0 |

## Summary - Plot 26

**% Average Foliar Cover**

| | |
|---|---|
| On ROW | 90.018 |
| Off ROW | 72.237 |

**% Average Bare Ground**

| | |
|---|---|
| On ROW | 3.890 |
| Off ROW | 7.779 |

**% Average Basal Cover**

| | |
|---|---|
| On ROW | 1.755 |
| Off ROW | 0.000 |

# Plot 27- on ROW, Line 2

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | ERALEH | | | | S |
| 1 | ERALEH | AMBACA | | | S |
| 1.5 | ERALEH | L | | | S |
| 2 | NONE | L | | | S |
| 2.5 | ERALEH | CHLVIR | L | | S |
| 3 | ERALEH | L | | | S |
| 3.5 | BOUARI | | | | S |
| 4 | ARITER | BOUARI | | | R |
| 4.5 | ATRCAN | ERALEH | L | | S |
| 5 | ERALEH | | | | S |
| 5.5 | ERALEH | | | | S |
| 6 | ERALEH | | | | S |
| 6.5 | SETMAC | L | | | S |
| 7 | SETMAC | L | | | S |
| 7.5 | ERITER | SETMAC | | | S |
| 8 | ARITER | L | | | S |
| 8.5 | SETMAC | L | | | S |
| 9 | SETMAC | ; | | | S |
| 9.5 | NONE | L | | | S |
| 10 | NONE | | | | S |
| 10.5 | SETMAC | L | | | S |
| 11 | NONE | L | | | S |
| 11.5 | SETMAC | | | | S |
| 12 | BOEERE | L | | | S |
| 12.5 | AMBACA | | | | S |
| 13 | MOLVER | | | | S |
| 13.5 | NONE | | | | S |
| 14 | AMBACA | SETMAC | L | | S |
| 14.5 | SETMAC | L | | | S |
| 15 | AMBACA | L | | | S |
| 15.5 | AMBACA | L | | | S |
| 16 | AMBACA | L | | | S |
| 16.5 | SETMAC | | | | R |
| 17 | ATRCAN | SETMAC | L | | S |
| 17.5 | NONE | | | | S |
| 18 | NONE | L | | | S |
| 18.5 | SETMAC | | | | R |
| 19 | SETMAC | L | | | S |
| 19.5 | SETMAC | L | | | S |
| 20 | ATRCAN | SETMAC | L | | S |
| 20.5 | NONE | L | | | S |
| 21 | SETMAC | L | | | S |
| 21.5 | SETMAC | W | | | S |
| 22 | SETMAC | | | | SETMAC |
| 22.5 | NONE | L | | | S |
| 23 | SETMAC | L | | | S |
| 23.5 | NONE | L | | | S |
| 24 | NONE | L | | | S |
| 24.5 | ERALEH | | | | S |
| 25 | ARITER | L | | | S |
| 25.5 | ARITER | W | | | S |
| 26 | ERALEH | L | | | S |
| 26.5 | ERALEH | | | | S |
| 27 | ERALEH | | | | R |
| 27.5 | | | | | |
| 28 | | | | | |
| 28.5 | | | | | |
| 29 | | | | | |
| 29.5 | | | | | |
| 30 | | | | | |

| | |
|---|---|
| % Foliar Cover | 76.798 |
| % Bare Ground | 5.358 |
| % Basal Cover | 1.852 |

# Plot 27- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | NONE | | | | S |
| 1 | SPOCRY | ANDOCC | L | | S |
| 1.5 | SETMAC | L | | | S |
| 2 | BOUROT | | | | S |
| 2.5 | BOUROT | | | | S |
| 3 | ERALEH | | | | S |
| 3.5 | ERALEH | | | | S |
| 4 | ERALEH | L | | | S |
| 4.5 | ERALEH | ERACIL | L | | S |
| 5 | ATRCAN | ERALEH | SETMAC | L | S |
| 5.5 | ATRCAN | | | | ATRCAN |
| 6 | ATRCAN | L | | | S |
| 6.5 | ERALEH | L | | | S |
| 7 | ERALEH | W | | | S |
| 7.5 | ERALEH | L | | | S |
| 8 | SETMAC | L | | | S |
| 8.5 | SETMAC | L | | | S |
| 9 | NONE | L | | | S |
| 9.5 | ATRCAN | | | | S |
| 10 | ATRCAN | ERILEH | L | | S |
| 10.5 | ATRCAN | SETMAC | L | | S |
| 11 | ERALEH | L | | | S |
| 11.5 | ERALEH | | | | S |
| 12 | ERALEH | L | | | S |
| 12.5 | ERALEH | L | | | S |
| 13 | NONE | | | | R |
| 13.5 | ERALEH | | | | S |
| 14 | ERALEH | L | | | S |
| 14.5 | SPOCRY | L | | | S |
| 15 | ERALEH | L | | | S |
| 15.5 | SETMAC | ATRCAN | L | | S |
| 16 | ATRCAN | | | | ATRCAN |
| 16.5 | ERALEH | L | | | S |
| 17 | NONE | L | | | S |
| 17.5 | SETMAC | ATRCAN | L | | S |
| 18 | ATRCAN | PROVEL | L | | S |
| 18.5 | PROVEL | ERALEH | | | S |
| 19 | ERALEH | | | | S |
| 19.5 | SETMAC | W | | | S |
| 20 | ATRCAN | SETMAC | L | | S |
| 20.5 | ATRCAN | L | | | S |
| 21 | ERALEH | L | | | S |
| 21.5 | ATRCAN | L | | | S |
| 22 | ATRCAN | ERALEH | L | | S |
| 22.5 | SETMAC | L | | | S |
| 23 | SETMAC | L | | | S |
| 23.5 | SPOCRY | L | | | S |
| 24 | SPOCRY | PROVEL | L | | S |
| 24.5 | PROVEL | | | | S |
| 25 | NONE | L | | | S |
| 25.5 | AMBACA | | | | S |
| 26 | NONE | | | | S |
| 26.5 | ERALEH | AMBACA | SETMAC | L | S |
| 27 | NONE | L | | | S |
| 27.5 | ERALEH | | | | R |
| 28 | | | | | |
| 28.5 | | | | | |
| 29 | | | | | |
| 29.5 | | | | | |
| 30 | | | | | |

| | |
|---|---|
| % Foliar Cover | 85.728 |
| % Bare Ground | 3.572 |
| % Basal Cover | 3.572 |

## Plot 27- on ROW, Line 2

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | | | | S | 15.5 | NONE | | | | S |
| 1 | ERALEH | | | | S | 16 | AMBACA | L | | | S |
| 1.5 | ERALEH | | | | S | 16.5 | AMBACA | ERILEH | L | | S |
| 2 | ERALEH | | | | S | 17 | ERALEH | L | | | S |
| 2.5 | NONE | L | | | S | 17.5 | AMBACA | ERILEH | L | | S |
| 3 | ERALEH | | | | S | 18 | ERALEH | | | | S |
| 3.5 | ERALEH | | | | R | 18.5 | NONE | L | | | S |
| 4 | ERALEH | L | | | S | 19 | AMBACA | SETMAC | L | | S |
| 4.5 | ERALEH | L | | | S | 19.5 | AMBACA | SETMAC | L | | S |
| 5 | ATRCAN | L | | | S | 20 | AMBACA | W | | | S |
| 5.5 | ERALEH | L | | | S | 20.5 | NONE | L | | | S |
| 6 | ATRCAN | ERALEH | L | | S | 21 | NONE | | | | S |
| 6.5 | ATRCAN | ERALEH | L | | S | 21.5 | NONE | | | | S |
| 7 | ERALEH | L | | | S | 22 | NONE | | | | S |
| 7.5 | ERALEH | L | | | S | 22.5 | NONE | L | | | S |
| 8 | SETMAC | ERALEH | L | | S | 23 | NONE | L | | | S |
| 8.5 | ARITER | ERACIL | | | S | 23.5 | AMBACA | | | | S |
| 9 | ERALEH | L | | | S | 24 | PROVEL | SETMAC | L | | S |
| 9.5 | ARITER | MOLVER | | | S | 24.5 | NONE | L | | | S |
| 10 | NONE | L | | | S | 25 | SETMAC | L | | | S |
| 10.5 | NONE | | | | S | 25.5 | SETMAC | L | | | S |
| 11 | ARITER | L | | | S | 26 | ERALEH | L | | | S |
| 11.5 | ERALEH | L | | | S | 26.5 | AMBACA | | | | R |
| 12 | ARITER | ERALEH | L | | S | 27 | NONE | L | | | S |
| 12.5 | ATRCAN | L | | | S | 27.5 | ERALEH | L | | | S |
| 13 | ERALEH | L | | | S | 28 | ERALEH | L | | | S |
| 13.5 | NONE | L | | | S | 28.5 | | | | | |
| 14 | AMBACA | L | | | S | 29 | | | | | |
| 14.5 | ATRCAN | SETMAC | L | | S | 29.5 | | | | | |
| 15 | ATRCAN | SETMAC | L | | S | 30 | | | | | |

| | |
|---|---|
| % Foliar Cover | 73.226 |
| % Bare Ground | 10.716 |
| % Basal Cover | 0 |

## Plot 27- off ROW, Line 6

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | ERALEH | | | | S | 15.5 | ERALEH | L | | | S |
| 1 | ERALEH | | | | S | 16 | PROVEL | ERALEH | GUTSAR | L | S |
| 1.5 | ERALEH | L | | | S | 16.5 | PANHIR | L | | | S |
| 2 | ERALEH | L | | | S | 17 | PANHIR | L | | | S |
| 2.5 | ERALEH | L | | | S | 17.5 | ERALEH | L | | | S |
| 3 | NONE | L | | | S | 18 | ERALEH | L | | | S |
| 3.5 | CHLVIR | ERALEH | L | | S | 18.5 | ERALEH | L | | | S |
| 4 | ERALEH | L | | | S | 19 | ERALEH | L | | | S |
| 4.5 | ERALEH | L | | | S | 19.5 | ERALEH | L | | | S |
| 5 | ERALEH | L | | | S | 20 | ERALEH | L | | | S |
| 5.5 | ERALEH | L | | | S | 20.5 | ERALEH | L | | | S |
| 6 | ERALEH | SETMAC | L | | S | 21 | ERALEH | L | | | S |
| 6.5 | ERALEH | | | | S | 21.5 | ERALEH | L | | | S |
| 7 | PROVEL | ERALEH | L | | S | 22 | ERALEH | L | | | S |
| 7.5 | ERALEH | L | | | S | 22.5 | ERALEH | L | | | S |
| 8 | ERALEH | L | | | S | 23 | ERALEH | L | | | S |
| 8.5 | ERALEH | L | | | S | 23.5 | ERALEH | L | | | S |
| 9 | ERALEH | L | | | S | 24 | ERALEH | L | | | S |
| 9.5 | ERALEH | L | | | S | 24.5 | ERALEH | | | | S |
| 10 | ERALEH | L | | | S | 25 | ERALEH | | | | S |
| 10.5 | ARITER | | | | S | 25.5 | NONE | L | | | S |
| 11 | ARITER | L | | | S | 26 | ERALEH | L | | | S |
| 11.5 | ARITER | | | | S | 26.5 | PROVEL | ERALEH | | | S |
| 12 | NONE | | | | S | 27 | PROVEL | ERALEH | | | S |
| 12.5 | NONE | | | | S | 27.5 | PROVEL | SETMAC | L | | S |
| 13 | ERALEH | L | | | S | 28 | PROVEL | | | | S |
| 13.5 | ERALEH | L | | | S | 28.5 | PROVEL | SETMAC | | | S |
| 14 | ERALEH | L | | | S | 29 | ERALEH | | | | S |
| 14.5 | GUTSAR | L | | | S | 29.5 | ARITER | L | | | S |
| 15 | AMBACA | L | | | S | 30 | SETMAC | | | | S |

| | |
|---|---|
| % Foliar Cover | 93.352 |
| % Bare Ground | 3.334 |
| % Basal Cover | 0 |

# Plot 27- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | BOUROT | BOUARI | | | S |
| 1 | NONE | | | | S |
| 1.5 | ERALEH | L | | | S |
| 2 | ERALEH | | | | S |
| 2.5 | ERALEH | PROVEL | | | S |
| 3 | ERALEH | PROVEL | | | S |
| 3.5 | ERALEH | | | | S |
| 4 | ERALEH | | | | S |
| 4.5 | ERALEH | L | | | S |
| 5 | NONE | L | | | S |
| 5.5 | NONE | L | | | S |
| 6 | ERALEH | | | | S |
| 6.5 | BOUROT | | | | S |
| 7 | ERALEH | | | | S |
| 7.5 | ERALEH | | | | S |
| 8 | BOUROT | | | | S |
| 8.5 | ERALEH | BOUROT | | | S |
| 9 | ERALEH | L | | | S |
| 9.5 | ERALEH | L | | | S |
| 10 | ERALEH | L | | | S |
| 10.5 | ERALEH | L | | | S |
| 11 | ERALEH | L | | | S |
| 11.5 | ERALEH | | | | S |
| 12 | ERALEH | | | | S |
| 12.5 | ERALEH | | | | S |
| 13 | ERALEH | L | | | S |
| 13.5 | AMBACA | ERALEH | | | S |
| 14 | ERALEH | L | | | S |
| 14.5 | ERALEH | L | | | S |
| 15 | NONE | L | | | S |
| 15.5 | ERALEH | L | | | S |
| 16 | ERALEH | L | | | S |
| 16.5 | ERALEH | L | | | S |
| 17 | ERALEH | L | | | S |
| 17.5 | ERALEH | | | | S |
| 18 | ERALEH | | | | S |
| 18.5 | ERALEH | | | | ERALEH |
| 19 | ERALEH | L | | | S |
| 19.5 | ERALEH | | | | S |
| 20 | ERALEH | | | | R |
| 20.5 | ERALEH | | | | S |
| 21 | ERALEH | L | | | S |
| 21.5 | GUTSAR | SETMAC | L | | S |
| 22 | ERALEH | L | | | S |
| 22.5 | ERALEH | L | | | S |
| 23 | ERALEH | | | | S |
| 23.5 | ERALEH | L | | | S |
| 24 | ERALEH | L | | | S |
| 24.5 | ERALEH | L | | | S |
| 25 | ERALEH | | | | S |
| 25.5 | ERALEH | L | | | S |
| 26 | SETMAC | ERALEH | L | | S |
| 26.5 | ERALEH | | | | S |
| 27 | ERALEH | | | | S |
| 27.5 | PROVEL | ERALEH | | | S |
| 28 | PROVEL | | | | S |
| 28.5 | PROVEL | | | | S |
| 29 | PROVEL | ERALEH | | | S |
| 29.5 | PROVEL | ERALEH | | | S |
| 30 | ERALEH | | | | S |

| | |
|---|---|
| % Foliar Cover | 93.352 |
| % Bare Ground | 1.667 |
| % Basal Cover | 1.667 |

## Plot 27- off ROW, Line 6

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | ERALEH | BOUREP | | | R |
| 1 | BOUREP | | | | R |
| 1.5 | ERALEH | | | | R |
| 2 | NONE | | | | R |
| 2.5 | BOUREP | | | | R |
| 3 | BOUREP | | | | S |
| 3.5 | ERALEH | | | | R |
| 4 | NONE | L | | | S |
| 4.5 | NONE | L | | | S |
| 5 | NONE | | | | R |
| 5.5 | NONE | | | | S |
| 6 | BOUREP | | | | R |
| 6.5 | BOUREP | | | | S |
| 7 | NONE | | | | S |
| 7.5 | BOUREP | | | | R |
| 8 | ERALEH | BOUREP | | | S |
| 8.5 | BOUREP | | | | R |
| 9 | ERALEH | L | | | S |
| 9.5 | ERALEH | L | | | S |
| 10 | ERALEH | L | | | S |
| 10.5 | ERALEH | L | | | S |
| 11 | ERALEH | CALERI | L | | S |
| 11.5 | BOUREP | L | | | S |
| 12 | ERALEH | CALERI | L | | S |
| 12.5 | ERALEH | | | | S |
| 13 | ERALEH | L | | | S |
| 13.5 | ERALEH | L | | | S |
| 14 | PROVEL | ERALEH | L | | S |
| 14.5 | PROVEL | ISOTEN | L | | S |
| 15 | PROVEL | ERALEH | L | | S |
| 15.5 | PROVEL | ERALEH | L | | S |
| 16 | PROVEL | ERALEH | | | S |
| 16.5 | ERALEH | L | | | S |
| 17 | ERALEH | | | | R |
| 17.5 | ERALEH | CALERI | | | R |
| 18 | ERALEH | L | | | S |
| 18.5 | ERALEH | | | | R |
| 19 | ERALEH | CALERI | | | R |
| 19.5 | ERALEH | CALERI | | | S |
| 20 | ERALEH | CALERI | L | | S |
| 20.5 | ERALEH | L | | | S |
| 21 | ERALEH | L | | | S |
| 21.5 | ERALEH | | | | S |
| 22 | ERALEH | | | | R |
| 22.5 | ERALEH | | | | R |
| 23 | ERALEH | | | | S |
| 23.5 | ERALEH | | | | R |
| 24 | ERALEH | CALERI | | | S |
| 24.5 | NONE | | | | S |
| 25 | ERALEH | L | | | S |
| 25.5 | ERALEH | CALERI | | | S |
| 26 | ERALEH | | | | R |
| 26.5 | ERALEH | | | | S |
| 27 | ERALEH | GUTSAR | L | | S |
| 27.5 | ERALEH | L | | | S |
| 28 | ERALEH | L | | | S |
| 28.5 | BOUREP | | | | S |
| 29 | GUTSAR | | | | R |
| 29.5 | PROVEL | ERALEH | GUTSAR | L | S |
| 30 | ERALEH | L | | | S |

| | |
|---|---|
| % Foliar Cover | 88.351 |
| % Bare Ground | 5.001 |
| % Basal Cover | 0 |

## Summary - Plot 27

**% Average Foliar Cover**

| | |
|---|---|
| On ROW | 78.584 |
| Off ROW | 91.685 |

**% Average Bare Ground**

| | |
|---|---|
| On ROW | 6.549 |
| Off ROW | 3.334 |

**% Average Basal Cover**

| | |
|---|---|
| On ROW | 1.808 |
| Off ROW | 0.556 |

# Plot 28- on ROW, Line 2

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | NONE | | | | S |
| 1 | NONE | | | | S |
| 1.5 | NONE | L | | | S |
| 2 | ERALEH | L | | | S |
| 2.5 | ERALEH | L | | | S |
| 3 | GUTSAR | L | | | S |
| 3.5 | NONE | | | | S |
| 4 | NONE | | | | S |
| 4.5 | NONE | | | | S |
| 5 | GUTSAR | | | | S |
| 5.5 | ERALEH | L | | | S |
| 6 | ERALEH | | | | S |
| 6.5 | ERALEH | | | | S |
| 7 | ERALEH | | | | S |
| 7.5 | ATRCAN | ERALEH | | | S |
| 8 | GUTSAR | L | | | S |
| 8.5 | NONE | | | | S |
| 9 | NONE | | | | S |
| 9.5 | GUTSAR | ERALEH | | | S |
| 10 | ATRCAN | | | | ATRCAN |
| 10.5 | NONE | | | | S |
| 11 | NONE | | | | S |
| 11.5 | ERALEH | | | | S |
| 12 | ERALEH | L | | | S |
| 12.5 | ERALEH | L | | | S |
| 13 | ERALEH | | | | S |
| 13.5 | ERALEH | | | | S |
| 14 | NONE | L | | | S |
| 14.5 | NONE | | | | S |
| 15 | ATRCAN | L | | | S |
| 15.5 | NONE | W | | | S |
| 16 | NONE | | | | S |
| 16.5 | NONE | | | | S |
| 17 | ATRCAN | ERALEH | L | | S |
| 17.5 | ATRCAN | L | | | S |
| 18 | ERALEH | L | | | S |
| 18.5 | ATRCAN | ERALEH | L | | S |
| 19 | ERALEH | L | | | S |
| 19.5 | ERALEH | L | | | S |
| 20 | ATRCAN | ERALEH | | | S |
| 20.5 | NONE | L | | | S |
| 21 | NONE | L | | | S |
| 21.5 | ATRCAN | ERALEH | L | | S |
| 22 | NONE | | | | S |
| 22.5 | ERALEH | L | | | S |
| 23 | NONE | | | | R |
| 23.5 | ERALEH | | | | S |
| 24 | NONE | L | | | S |
| 24.5 | GUTSAR | | | | GUTSAR |
| 25 | ATRCAN | L | | | S |
| 25.5 | NONE | | | | S |
| 26 | NONE | | | | S |
| 26.5 | NONE | | | | S |
| 27 | NONE | | | | R |
| 27.5 | NONE | | | | S |
| 28 | ISOTEN | L | | | S |
| 28.5 | ERALEH | | | | S |
| 29 | GUTSAR | L | | | S |
| 29.5 | ERALEH | L | | | S |
| 30 | NONE | | | | R |

| | |
|---|---|
| % Foliar Cover | 56.678 |
| % Bare Ground | 28.339 |
| % Basal Cover | 3.334 |

# Plot 28- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | GUTSAR | L | | | S | 15.5 | ERALEH | L | | | S |
| 1 | NONE | L | | | S | 16 | ERALEH | L | | | S |
| 1.5 | NONE | L | | | S | 16.5 | ERALEH | L | | | S |
| 2 | ERALEH | L | | | S | 17 | ERALEH | L | | | S |
| 2.5 | ERALEH | | | | S | 17.5 | ERALEH | | | | S |
| 3 | ERALEH | L | | | S | 18 | ERALEH | DIGCAL | L | | S |
| 3.5 | ERALEH | L | | | S | 18.5 | ERALEH | | | | S |
| 4 | NONE | L | | | S | 19 | GUTSAR | | | | S |
| 4.5 | NONE | | | | S | 19.5 | NONE | | | | S |
| 5 | ERALEH | | | | S | 20 | NONE | L | | | S |
| 5.5 | NONE | | | | S | 20.5 | NONE | L | | | S |
| 6 | NONE | | | | R | 21 | NONE | L | | | S |
| 6.5 | ARITER | L | | | S | 21.5 | NONE | | | | S |
| 7 | ERALEH | L | | | S | 22 | NONE | | | | S |
| 7.5 | GUTSAR | | | | S | 22.5 | ATRCAN | L | | | S |
| 8 | GUTSAR | L | | | S | 23 | NONE | | | | S |
| 8.5 | ERALEH | L | | | S | 23.5 | NONE | | | | S |
| 9 | ERALEH | L | | | S | 24 | ERALEH | | | | S |
| 9.5 | ATRCAN | ERALEH | | | S | 24.5 | ERALEH | | | | S |
| 10 | NONE | | | | S | 25 | ATRCAN | L | | | S |
| 10.5 | ERALEH | L | | | S | 25.5 | NONE | | | | S |
| 11 | ERALEH | L | | | S | 26 | NONE | | | | S |
| 11.5 | ATRCAN | L | | | S | 26.5 | NONE | | | | S |
| 12 | ERALEH | L | | | S | 27 | NONE | | | | S |
| 12.5 | ATRCAN | L | | | S | 27.5 | PROVEL | | | | S |
| 13 | ERALEH | L | | | S | 28 | NONE | | | | S |
| 13.5 | NONE | L | | | S | 28.5 | ERALEH | L | | | S |
| 14 | NONE | | | | S | 29 | NONE | L | | | S |
| 14.5 | ERALEH | L | | | S | 29.5 | ISOTEN | L | | | S |
| 15 | ERALEH | | | | S | 30 | ERALEH | | | | S |

| | |
|---|---|
| % Foliar Cover | 61.679 |
| % Bare Ground | 23.338 |
| % Basal Cover | 0 |

# Plot 28- on ROW, Line 2

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | NONE | | | | S |
| 1 | GUTSAR | L | | | S |
| 1.5 | ERALEH | L | | | S |
| 2 | ERALEH | L | | | S |
| 2.5 | ATRCAN | L | | | S |
| 3 | ERALEH | L | | | S |
| 3.5 | ERALEH | L | | | S |
| 4 | ATRCAN | | | | S |
| 4.5 | NONE | L | | | S |
| 5 | ERALEH | L | | | S |
| 5.5 | DIGCAN | ARITER | L | | S |
| 6 | NONE | L | | | S |
| 6.5 | ATRCAN | GUTSAR | L | | S |
| 7 | ERALEH | L | | | S |
| 7.5 | NONE | L | | | S |
| 8 | NONE | | | | S |
| 8.5 | ERALEH | L | | | S |
| 9 | ERALEH | L | | | S |
| 9.5 | ERALEH | L | | | S |
| 10 | SPHAMB | L | | | S |
| 10.5 | NONE | | | | S |
| 11 | ATRCAN | L | | | S |
| 11.5 | NONE | | | | S |
| 12 | ERALEH | L | | | S |
| 12.5 | NONE | | | | S |
| 13 | NONE | | | | S |
| 13.5 | NONE | | | | S |
| 14 | ERALEH | | | | S |
| 14.5 | ERALEH | L | | | S |
| 15 | ERALEH | L | | | S |
| 15.5 | NONE | L | | | S |
| 16 | ERALEH | L | | | S |
| 16.5 | ERALEH | L | | | S |
| 17 | ERALEH | L | | | S |
| 17.5 | ERALEH | L | | | S |
| 18 | ERALEH | L | | | S |
| 18.5 | ERALEH | GUTSAR | L | | S |
| 19 | GUTSAR | L | | | S |
| 19.5 | NONE | | | | R |
| 20 | ERALEH | L | | | S |
| 20.5 | ERALEH | | | | S |
| 21 | NONE | L | | | S |
| 21.5 | NONE | | | | S |
| 22 | ERALEH | | | | S |
| 22.5 | GUTSAR | | | | S |
| 23 | GUTSAR | ERALEH | | | S |
| 23.5 | NONE | | | | S |
| 24 | ERALEH | | | | S |
| 24.5 | NONE | | | | S |
| 25 | NONE | | | | S |
| 25.5 | NONE | | | | R |
| 26 | NONE | | | | S |
| 26.5 | ERALEH | | | | S |
| 27 | ERALEH | | | | S |
| 27.5 | ERALEH | | | | S |
| 28 | ERALEH | L | | | S |
| 28.5 | ERALEH | | | | S |
| 29 | ERALEH | | | | ERALEH |
| 29.5 | ERALEH | | | | R |
| 30 | ERALEH | L | | | S |

| | |
|---|---|
| % Foliar Cover | 68.347 |
| % Bare Ground | 20.004 |
| % Basal Cover | 1.667 |

# Plot 28- off ROW, Line 6

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | NONE | L | | | S |
| 1 | ISOTEN | L | | | S |
| 1.5 | ISOTEN | L | | | S |
| 2 | ERALEH | L | | | S |
| 2.5 | ERALEH | L | | | S |
| 3 | NONE | L | | | S |
| 3.5 | ERALEH | L | | | S |
| 4 | ERALEH | L | | | S |
| 4.5 | ERALEH | | | | S |
| 5 | ISOTEN | L | | | S |
| 5.5 | ISOTEN | | | | ISOTEN |
| 6 | NONE | L | | | S |
| 6.5 | NONE | | | | S |
| 7 | NONE | | | | S |
| 7.5 | ERALEH | L | | | S |
| 8 | ERALEH | L | | | S |
| 8.5 | NONE | | | | S |
| 9 | NONE | L | | | S |
| 9.5 | SENGRE | L | | | S |
| 10 | SENGRE | ERALEH | L | | S |
| 10.5 | ERALEH | L | | | S |
| 11 | ERALEH | | | | S |
| 11.5 | ERALEH | L | | | S |
| 12 | NONE | L | | | S |
| 12.5 | NONE | | | | S |
| 13 | NONE | L | | | S |
| 13.5 | ERALEH | L | | | S |
| 14 | GUTSAR | ERALEH | L | | S |
| 14.5 | NONE | | | | S |
| 15 | NONE | L | | | S |
| 15.5 | ERALEH | L | | | S |
| 16 | ERALEH | | | | S |
| 16.5 | ERALEH | L | | | S |
| 17 | ERALEH | L | | | S |
| 17.5 | ERALEH | L | | | S |
| 18 | NONE | L | | | S |
| 18.5 | NONE | | | | S |
| 19 | ERALEH | | | | S |
| 19.5 | ERALEH | L | | | S |
| 20 | NONE | L | | | S |
| 20.5 | NONE | L | | | S |
| 21 | NONE | L | | | S |
| 21.5 | ERALEH | L | | | S |
| 22 | ISOTEN | ERALEH | L | | S |
| 22.5 | ISOTEN | | | | S |
| 23 | NONE | L | | | S |
| 23.5 | ERALEH | L | | | S |
| 24 | ERALEH | | | | S |
| 24.5 | PROVEL | ERALEH | | | S |
| 25 | ERALEH | ISOTEN | L | | S |
| 25.5 | ERALEH | L | | | S |
| 26 | SENGRE | ERALEH | L | | S |
| 26.5 | ISOTEN | L | | | S |
| 27 | NONE | | | | S |
| 27.5 | ERALEH | L | | | S |
| 28 | ERALEH | ISOTEN | L | | S |
| 28.5 | ERALEH | L | | | S |
| 29 | NONE | | | | S |
| 29.5 | NONE | L | | | S |
| 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 63.346 |
| % Bare Ground | 15.003 |
| % Basal Cover | 1.667 |

# Plot 28- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | NONE | | | | S |
| 1 | ERALEH | | | | S |
| 1.5 | NONE | | | | S |
| 2 | ERALEH | L | | | S |
| 2.5 | ISOTEN | | | | S |
| 3 | ATRCAN | ERALEH | | | S |
| 3.5 | ATRCAN | ERALEH | L | | S |
| 4 | ATRCAN | | | | S |
| 4.5 | ATRCAN | SENGRE | ERALEH | | S |
| 5 | SENGRE | ERALEH | | | S |
| 5.5 | SENGRE | ERALEH | L | | S |
| 6 | PROVEL | SENGRE | ERALEH | ISOTEN | S |
| 6.5 | NONE | L | | | S |
| 7 | ERALEH | | | | S |
| 7.5 | PROVEL | ERALEH | | | S |
| 8 | PROVEL | ERALEH | ISOTEN | L | S |
| 8.5 | PROVEL | ERALEH | L | | S |
| 9 | ERALEH | L | | | S |
| 9.5 | PROVEL | ERALEH | L | | S |
| 10 | NONE | | | | S |
| 10.5 | ERALEH | L | | | S |
| 11 | ERALEH | L | | | S |
| 11.5 | ERALEH | L | | | S |
| 12 | ERALEH | L | | | S |
| 12.5 | ERALEH | L | | | S |
| 13 | ERALEH | L | | | S |
| 13.5 | ERALEH | L | | | S |
| 14 | ERALEH | L | | | S |
| 14.5 | ERALEH | L | | | S |
| 15 | ERALEH | L | | | S |
| 15.5 | ERALEH | L | | | S |
| 16 | ERALEH | L | | | S |
| 16.5 | ERALEH | | | | S |
| 17 | ERALEH | L | | | S |
| 17.5 | ERALEH | L | | | S |
| 18 | ERALEH | L | | | S |
| 18.5 | ERALEH | L | | | S |
| 19 | ERALEH | L | | | S |
| 19.5 | ERALEH | L | | | S |
| 20 | ERALEH | L | | | S |
| 20.5 | ERALEH | L | | | S |
| 21 | ERALEH | L | | | S |
| 21.5 | PROVEL | SETMAC | ISOTEN | L | S |
| 22 | PROVEL | L | | | S |
| 22.5 | PROVEL | ERALEH | L | | S |
| 23 | ERALEH | L | | | S |
| 23.5 | ERALEH | L | | | S |
| 24 | ERALEH | L | | | S |
| 24.5 | ERALEH | L | | | S |
| 25 | ERALEH | L | | | S |
| 25.5 | ERALEH | L | | | S |
| 26 | ERALEH | L | | | S |
| 26.5 | NONE | L | | | S |
| 27 | ERALEH | L | | | S |
| 27.5 | ERALEH | L | | | S |
| 28 | ERALEH | L | | | S |
| 28.5 | NONE | L | | | S |
| 29 | ERALEH | L | | | S |
| 29.5 | ERALEH | L | | | S |
| 30 | ERALEH | L | | | S |

| | |
|---|---|
| % Foliar Cover | 90.018 |
| % Bare Ground | 5.001 |
| % Basal Cover | 0 |

## Plot 28- off ROW, Line 6

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | SENGRE | | | | S | 15.5 | ERALEH | L | | | S |
| 1 | SENGRE | W | | | S | 16 | ERALEH | L | | | S |
| 1.5 | SENGRE | | | | S | 16.5 | ERALEH | | | | S |
| 2 | ERALEH | L | | | S | 17 | ERALEH | L | | | S |
| 2.5 | NONE | | | | R | 17.5 | ERALEH | L | | | S |
| 3 | ERALEH | L | | | S | 18 | ERALEH | L | | | S |
| 3.5 | ERALEH | L | | | S | 18.5 | ERALEH | SENGRE | L | | S |
| 4 | NONE | | | | S | 19 | ERALEH | SENGRE | L | | S |
| 4.5 | NONE | | | | S | 19.5 | ERALEH | L | | | S |
| 5 | NONE | | | | S | 20 | ERALEH | L | | | S |
| 5.5 | NONE | | | | S | 20.5 | ERALEH | L | | | S |
| 6 | NONE | | | | S | 21 | ERALEH | L | | | S |
| 6.5 | NONE | L | | | S | 21.5 | SENGRE | ERALEH | L | | S |
| 7 | ERALEH | L | | | S | 22 | ERALEH | L | | | S |
| 7.5 | ERALEH | L | | | S | 22.5 | ERALEH | L | | | S |
| 8 | ERALEH | ISOTEN | L | | S | 23 | PROVEL | ERALEH | L | | S |
| 8.5 | NONE | L | | | S | 23.5 | ERALEH | L | | | S |
| 9 | ERALEH | L | | | S | 24 | NONE | L | | | S |
| 9.5 | ERALEH | L | | | S | 24.5 | PROVEL | SETMAC | L | | S |
| 10 | ERALEH | L | | | S | 25 | PROVEL | ERALEH | L | | S |
| 10.5 | ERALEH | L | | | S | 25.5 | PROVEL | L | | | S |
| 11 | ERALEH | L | | | S | 26 | PROVEL | GUTSAR | L | | S |
| 11.5 | ERALEH | L | | | S | 26.5 | PROVEL | | | | S |
| 12 | ERALEH | L | | | S | 27 | PROVEL | GUTSAR | L | | S |
| 12.5 | ERALEH | L | | | S | 27.5 | ERALEH | L | | | S |
| 13 | ERALEH | L | | | S | 28 | ERALEH | L | | | S |
| 13.5 | ERALEH | L | | | S | 28.5 | ERALEH | L | | | S |
| 14 | ERALEH | L | | | S | 29 | NONE | | | | S |
| 14.5 | ERALEH | L | | | S | 29.5 | NONE | L | | | S |
| 15 | ERALEH | L | | | S | 30 | | | | | |

| | |
|---|---|
| % Foliar Cover | 80.016 |
| % Bare Ground | 10.002 |
| % Basal Cover | 0 |

## Summary - Plot 28

**% Average Foliar Cover**

| | |
|---|---|
| On ROW | 62.235 |
| Off ROW | 77.793 |

**% Average Bare Ground**

| | |
|---|---|
| On ROW | 23.894 |
| Off ROW | 10.002 |

**% Average Basal Cover**

| | |
|---|---|
| On ROW | 1.667 |
| Off ROW | 0.556 |

# Plot 29- on ROW, Line 2

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | ERALEH | L | | | S |
| 1 | NONE | L | | | S |
| 1.5 | NONE | L | | | S |
| 2 | ERALEH | | | | ERALEH |
| 2.5 | ERALEH | | | | ERALEH |
| 3 | NONE | | | | R |
| 3.5 | ERALEH | L | | | S |
| 4 | NONE | L | | | S |
| 4.5 | ARITER | | | | S |
| 5 | VACCON | ARITER | L | | S |
| 5.5 | NONE | | | | S |
| 6 | NONE | L | | | S |
| 6.5 | NONE | L | | | S |
| 7 | ERALEH | | | | R |
| 7.5 | ERALEH | | | | S |
| 8 | SPHAMB | ERALEH | L | | S |
| 8.5 | ERALEH | L | | | S |
| 9 | NONE | L | | | S |
| 9.5 | DODVIS | ERALEH | L | | S |
| 10 | ERALEH | L | | | S |
| 10.5 | DODVIS | | | | R |
| 11 | VACCON | L | | | S |
| 11.5 | ERALEH | L | | | S |
| 12 | ERALEH | L | | | S |
| 12.5 | ATRPOL | L | | | S |
| 13 | ERALEH | L | | | S |
| 13.5 | ERALEH | | | | R |
| 14 | ATRPOL | L | | | S |
| 14.5 | ERALEH | L | | | S |
| 15 | ERALEH | L | | | S |
| 15.5 | VACCON | | | | S |
| 16 | ERALEH | | | | S |
| 16.5 | VACCON | L | | | S |
| 17 | ERALEH | | | | S |
| 17.5 | ARITER | | | | R |
| 18 | NONE | | | | R |
| 18.5 | DODVIS | ERALEH | L | | S |
| 19 | ARITER | | | | R |
| 19.5 | NONE | | | | S |
| 20 | ATRCAN | | | | S |
| 20.5 | ATRCAN | L | | | S |
| 21 | NONE | | | | R |
| 21.5 | ERALEH | L | | | S |
| 22 | NONE | L | | | S |
| 22.5 | ERALEH | L | | | S |
| 23 | NONE | | | | R |
| 23.5 | GUTSAR | L | | | S |
| 24 | ERALEH | GUTSAR | L | | S |
| 24.5 | ERALEH | | | | R |
| 25 | ERALEH | L | | | S |
| 25.5 | ERALEH | L | | | S |
| 26 | VACCON | | | | R |
| 26.5 | NONE | | | | R |
| 27 | ERALEH | | | | S |
| 27.5 | NONE | | | | S |
| 28 | VACCON | L | | | S |
| 28.5 | NONE | | | | R |
| 29 | NONE | L | | | S |
| 29.5 | NONE | | | | S |
| 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 68.347 |
| % Bare Ground | 8.335 |
| % Basal Cover | 3.334 |

# Plot 29- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | DODVIS | L | | | S |
| 1 | NONE | | | | S |
| 1.5 | DODVIS | | | | S |
| 2 | NONE | | | | R |
| 2.5 | NONE | | | | S |
| 3 | NONE | | | | R |
| 3.5 | NONE | L | | | S |
| 4 | NONE | L | | | S |
| 4.5 | DODVIS | ERALEH | L | | S |
| 5 | NONE | W | | | S |
| 5.5 | NONE | | | | R |
| 6 | ERALEH | | | | R |
| 6.5 | NONE | | | | R |
| 7 | ERALEH | L | | | S |
| 7.5 | ERALEH | L | | | S |
| 8 | ERALEH | L | | | S |
| 8.5 | NONE | | | | S |
| 9 | FESOCT | L | | | S |
| 9.5 | ERALEH | L | | | S |
| 10 | ERALEH | EVOARI | L | | S |
| 10.5 | NONE | | | | R |
| 11 | ERALEH | L | | | S |
| 11.5 | DODVIS | ERALEH | L | | S |
| 12 | ERALEH | L | | | S |
| 12.5 | ERALEH | L | | | S |
| 13 | ERALEH | | | | ERALEH |
| 13.5 | ERALEH | | | | R |
| 14 | NONE | L | | | S |
| 14.5 | ERALEH | L | | | S |
| 15 | ERALEH | | | | R |
| 15.5 | DODVIS | | | | R |
| 16 | ARIPUR | L | | | S |
| 16.5 | DIGCAL | | | | DIGCAL |
| 17 | ARIPUR | L | | | S |
| 17.5 | NONE | | | | R |
| 18 | NONE | | | | S |
| 18.5 | NONE | | | | R |
| 19 | ARIPUR | L | | | S |
| 19.5 | NONE | | | | S |
| 20 | NONE | | | | S |
| 20.5 | ERALEH | L | | | S |
| 21 | NONE | | | | R |
| 21.5 | NONE | | | | R |
| 22 | ATRLEN | | | | S |
| 22.5 | NONE | | | | R |
| 23 | ATRLEN | | | | S |
| 23.5 | ERALEH | | | | S |
| 24 | ERALEH | | | | S |
| 24.5 | DODVIS | ERALEH | | | S |
| 25 | DODVIS | | | | R |
| 25.5 | NONE | | | | S |
| 26 | NONE | | | | R |
| 26.5 | NONE | | | | R |
| 27 | ERALEH | | | | S |
| 27.5 | BACSAR | DODVIS | L | | S |
| 28 | NONE | | | | S |
| 28.5 | NONE | | | | R |
| 29 | DODVIS | | | | S |
| 29.5 | NONE | | | | R |
| 30 | DODVIS | L | | | S |

| | |
|---|---|
| % Foliar Cover | 56.678 |
| % Bare Ground | 13.336 |
| % Basal Cover | 3.334 |

# Plot 29- on ROW, Line 2

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | NONE | | | | R |
| 1 | DODVIS | | | | S |
| 1.5 | NONE | L | | | S |
| 2 | DODVIS | L | | | S |
| 2.5 | BOTBAR | L | | | S |
| 3 | BACSAR | L | | | S |
| 3.5 | NONE | L | | | S |
| 4 | MIMDYS | | | | R |
| 4.5 | DODVIS | L | | | S |
| 5 | DODVIS | L | | | S |
| 5.5 | DODVIS | SPOCRY | L | | S |
| 6 | SPOCRY | BACSAR | L | | S |
| 6.5 | BACSAR | ARITER | L | | S |
| 7 | VACCON | ARITER | L | | S |
| 7.5 | VACCON | SPOCRY | L | | S |
| 8 | VACCON | ARITER | L | | S |
| 8.5 | VACCON | ERALEH | | | R |
| 9 | NONE | | | | R |
| 9.5 | ERALEH | L | | | S |
| 10 | ERALEH | | | | R |
| 10.5 | ERALEH | | | | R |
| 11 | NONE | | | | R |
| 11.5 | NONE | | | | R |
| 12 | NONE | L | | | S |
| 12.5 | DODVIS | ERALEH | L | | S |
| 13 | DODVIS | ERALEH | L | | S |
| 13.5 | NONE | L | | | S |
| 14 | DODVIS | L | | | S |
| 14.5 | ERALEH | L | | | S |
| 15 | ERALEH | | | | R |
| 15.5 | BACSAR | L | | | S |
| 16 | BACSAR | DODVIS | L | | S |
| 16.5 | NONE | | | | S |
| 17 | NONE | | | | S |
| 17.5 | ARITER | L | | | S |
| 18 | ARIPUR | | | | S |
| 18.5 | NONE | | | | R |
| 19 | DODVIS | SPOCRY | L | | S |
| 19.5 | BOUHIR | L | | | S |
| 20 | ERALEH | L | | | S |
| 20.5 | ATRPOL | L | | | S |
| 21 | ERALEH | | | | R |
| 21.5 | NONE | L | | | S |
| 22 | ARITER | L | | | S |
| 22.5 | NONE | | | | R |
| 23 | ATRPOL | L | | | S |
| 23.5 | ERALEH | L | | | S |
| 24 | NONE | L | | | S |
| 24.5 | DODVIS | | | | R |
| 25 | NONE | | | | R |
| 25.5 | ERALEH | | | | R |
| 26 | ERALEH | L | | | S |
| 26.5 | NONE | | | | R |
| 27 | NONE | | | | R |
| 27.5 | GUTSAR | VACCON | L | | R |
| 28 | ERALEH | L | | | S |
| 28.5 | NONE | L | | | S |
| 29 | CALERI | | | | S |
| 29.5 | NONE | | | | S |
| 30 | NONE | | | | S |

| | |
|---|---|
| % Foliar Cover | 66.68 |
| % Bare Ground | 6.668 |
| % Basal Cover | 0 |

# Plot 29- off ROW, Line 6

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface | Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | NONE | L | | | S | 15.5 | NONE | W | | | S |
| 1 | ERALEH | L | | | S | 16 | NONE | | | | R |
| 1.5 | BOUCUR | W | | | S | 16.5 | NONE | | | | R |
| 2 | MIMHAE | ERALEH | L | | S | 17 | CALERI | BOUCHO | L | | S |
| 2.5 | ERALEH | L | | | S | 17.5 | DODVIS | HETCON | L | | S |
| 3 | ERALEH | L | | | S | 18 | NONE | | | | R |
| 3.5 | NONE | L | | | S | 18.5 | FOUSPL | DODVIS | L | | S |
| 4 | ERALEH | L | | | S | 19 | NONE | | | | R |
| 4.5 | ERALEH | L | | | S | 19.5 | NONE | | | | R |
| 5 | NONE | L | | | S | 20 | CALERI | L | | | S |
| 5.5 | NONE | L | | | S | 20.5 | NONE | L | | | S |
| 6 | NONE | L | | L | S | 21 | NONE | | | | R |
| 6.5 | NONE | L | | | S | 21.5 | NONE | | | | R |
| 7 | MIMDYS | L | | | S | 22 | NONE | | | | R |
| 7.5 | MIMDYS | L | | | S | 22.5 | NONE | | | | R |
| 8 | MIMDYS | COMERE | L | | S | 23 | NONE | | | | R |
| 8.5 | COMERE | MIMDYS | L | | S | 23.5 | NONE | L | | | S |
| 9 | BOUCUR | MIMDYS | L | | S | 24 | HETCON | | | | R |
| 9.5 | MIMDYS | DODVIS | L | | S | 24.5 | NONE | L | | | S |
| 10 | DODVIS | L | | | S | 25 | FOUSPL | L | | | S |
| 10.5 | MIMDYS | DODVIS | L | | S | 25.5 | FOUSPL | DODVIS | CALERI | L | S |
| 11 | MIMDYS | L | | | S | 26 | NONE | L | | | S |
| 11.5 | MIMDYS | W | | | S | 26.5 | HETCON | CALERI | L | | S |
| 12 | DODVIS | L | | | S | 27 | ERALEH | | | | R |
| 12.5 | MIMDYS | DODVIS | L | | S | 27.5 | ERALEH | TRANEP | | | S |
| 13 | MIMDYS | | | | R | 28 | ERALEH | L | | | S |
| 13.5 | MIMDYS | | | | R | 28.5 | NONE | | | | S |
| 14 | MIMDYS | L | | | S | 29 | MIMDYS | L | | | S |
| 14.5 | NONE | | | | S | 29.5 | NONE | | | | S |
| 15 | NONE | L | | | S | 30 | BOUCUR | MIMDYS | L | | S |

| | |
|---|---|
| % Foliar Cover | 58.345 |
| % Bare Ground | 5.001 |
| % Basal Cover | 0 |

# Plot 29- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | ERALEH | | | | S |
| 1 | NONE | L | | | S |
| 1.5 | NONE | | | | R |
| 2 | DODVIS | L | | | S |
| 2.5 | CALERI | L | | | S |
| 3 | ARITER | | | | R |
| 3.5 | NONE | | | | R |
| 4 | NONE | | | | R |
| 4.5 | DODVIS | | | | R |
| 5 | CALERI | | | | R |
| 5.5 | CALERI | | | | R |
| 6 | CALERI | | | | R |
| 6.5 | NONE | | | | R |
| 7 | CALERI | | | | R |
| 7.5 | MIMDYS | L | | | S |
| 8 | NONE | | | | R |
| 8.5 | ARITER | CALERI | | | R |
| 9 | BOUCUR | L | | | S |
| 9.5 | CALERI | | | | R |
| 10 | MIMDYS | L | | | S |
| 10.5 | MIMDYS | L | | | S |
| 11 | MIMDYS | L | | | S |
| 11.5 | NONE | L | | | S |
| 12 | NONE | L | | | S |
| 12.5 | NONE | L | | | S |
| 13 | NONE | L | | | S |
| 13.5 | NONE | L | | | S |
| 14 | MIMDYS | ERALEH | L | | S |
| 14.5 | MIMDYS | L | | | S |
| 15 | MIMDYS | L | | | S |
| 15.5 | MIMDYS | DODVIS | BOUCUR | L | S |
| 16 | MIMDYS | ERALEH | L | | S |
| 16.5 | DODVIS | CALERI | L | | S |
| 17 | ERALEH | L | | | S |
| 17.5 | PHEAUR | L | | | S |
| 18 | MIMDYS | | | | R |
| 18.5 | MIMDYS | L | | | S |
| 19 | MIMDYS | L | | | S |
| 19.5 | NONE | L | | | S |
| 20 | NONE | | | | R |
| 20.5 | MIMDYS | CALERI | L | | S |
| 21 | NONE | | | | S |
| 21.5 | NONE | | | | R |
| 22 | NONE | | | | S |
| 22.5 | NONE | | | | R |
| 23 | NONE | | | | S |
| 23.5 | FOUSPL | L | | | S |
| 24 | ERALEH | | | | R |
| 24.5 | ERALEH | L | | | S |
| 25 | NONE | | | | S |
| 25.5 | NONE | | | | S |
| 26 | NONE | L | | | S |
| 26.5 | NONE | | | | S |
| 27 | ERALEH | CALERI | | | S |
| 27.5 | NONE | L | | | S |
| 28 | NONE | W | | | S |
| 28.5 | NONE | | | | R |
| 29 | DODVIS | L | | | S |
| 29.5 | DODVIS | | | | R |
| 30 | PROVEL | L | | | S |

| | |
|---|---|
| % Foliar Cover | 58.345 |
| % Bare Ground | 10.002 |
| % Basal Cover | 0 |

## Plot 29- off ROW, Line 6

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | NONE | | | | R |
| 1 | BOUCHO | | | | R |
| 1.5 | CALERI | | | | S |
| 2 | DODVIS | | | | R |
| 2.5 | DODVIS | | | | S |
| 3 | NONE | | | | S |
| 3.5 | MIMDYS | | | | R |
| 4 | MIMDYS | L | | | S |
| 4.5 | NONE | | | | S |
| 5 | FOUSPL | L | | | S |
| 5.5 | FOUSPL | | | | S |
| 6 | NONE | | | | S |
| 6.5 | NONE | L | | | S |
| 7 | EVOARI | L | | | S |
| 7.5 | NONE | | | | S |
| 8 | BOUCHO | | | | S |
| 8.5 | NONE | L | | | S |
| 9 | NONE | | | | S |
| 9.5 | NONE | | | | R |
| 10 | HETCON | L | | | S |
| 10.5 | HETCON | L | | | S |
| 11 | NONE | | | | S |
| 11.5 | CALERI | L | | | S |
| 12 | BOUHIR | L | | | S |
| 12.5 | BOUHIR | | | | S |
| 13 | BOUHIR | L | | | S |
| 13.5 | OPUENG | HETCON | L | | S |
| 14 | ERALEH | | | | S |
| 14.5 | CALERI | L | | | S |
| 15 | CALERI | L | | | S |
| 15.5 | NONE | L | | | S |
| 16 | NONE | | | | R |
| 16.5 | BOUCHO | L | | | S |
| 17 | NONE | | | | S |
| 17.5 | NONE | | | | S |
| 18 | NONE | | | | S |
| 18.5 | FOUSPL | CALERI | L | | S |
| 19 | NONE | | | | R |
| 19.5 | NONE | | | | S |
| 20 | NONE | | | | R |
| 20.5 | TRANEP | | | | S |
| 21 | CALERI | L | | | S |
| 21.5 | CALERI | | | | R |
| 22 | EVOARI | L | | | S |
| 22.5 | CALERI | | | | S |
| 23 | EVOARI | L | | | S |
| 23.5 | NONE | | | | R |
| 24 | NONE | | | | S |
| 24.5 | CALERI | ARITER | L | | S |
| 25 | NONE | | | | S |
| 25.5 | BOUCHO | | | | S |
| 26 | NONE | | | | S |
| 26.5 | NONE | | | | R |
| 27 | CALERI | | | | R |
| 27.5 | BOUCHO | L | | | S |
| 28 | NONE | | | | S |
| 28.5 | BOUCHO | L | | | S |
| 29 | CALERI | L | | | S |
| 29.5 | NONE | | | | R |
| 30 | BOUCHO | | | | S |

| | |
|---|---|
| % Foliar Cover | 58.345 |
| % Bare Ground | 23.338 |
| % Basal Cover | 0 |

## Summary - Plot 29

**% Average Foliar Cover**

| | |
|---|---|
| On ROW | 63.902 |
| Off ROW | 58.345 |

**% Average Bare Ground**

| | |
|---|---|
| On ROW | 9.446 |
| Off ROW | 12.780 |

**% Average Basal Cover**

| | |
|---|---|
| On ROW | 2.223 |
| Off ROW | 0.000 |

# Plot 30- on ROW, Line 2

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | NONE | | | | R |
| 1 | NONE | | | | S |
| 1.5 | NONE | L | | | S |
| 2 | NONE | L | | | S |
| 2.5 | PROVEL | | | | S |
| 3 | VACCON | | | | S |
| 3.5 | NONE | | | | R |
| 4 | NONE | | | | R |
| 4.5 | VACCON | | | | R |
| 5 | NONE | | | | S |
| 5.5 | ATRCAN | ARITER | L | | S |
| 6 | ERALEH | | | | S |
| 6.5 | BOUARI | | | | R |
| 7 | BOUARI | | | | R |
| 7.5 | VACCON | L | | | S |
| 8 | NONE | | | | S |
| 8.5 | ERALEH | | | | S |
| 9 | NONE | | | | S |
| 9.5 | VACCON | | | | R |
| 10 | VACCON | | | | R |
| 10.5 | NONE | | | | R |
| 11 | VACCON | ERALEH | | | S |
| 11.5 | VACCON | ERALEH | | | S |
| 12 | NONE | L | | | S |
| 12.5 | NONE | L | | | R |
| 13 | VACCON | | | | R |
| 13.5 | VACCON | | | | R |
| 14 | NONE | | | | S |
| 14.5 | ATRCAN | L | | | S |
| 15 | ERALEH | L | | | S |
| 15.5 | NONE | | | | S |
| 16 | ANDOCC | | | | S |
| 16.5 | NONE | L | | | S |
| 17 | NONE | | | | R |
| 17.5 | ERALEH | | | | R |
| 18 | ERALEH | | | | S |
| 18.5 | NONE | | | | S |
| 19 | ATRCAN | L | | | S |
| 19.5 | ATRCAN | | | | R |
| 20 | DODVIS | GUTSAR | L | | S |
| 20.5 | DODVIS | GUTSAR | L | | S |
| 21 | ERALEH | GUTSAR | | | R |
| 21.5 | NONE | | | | R |
| 22 | NONE | | | | R |
| 22.5 | NONE | | | | R |
| 23 | ERALEH | | | | S |
| 23.5 | ATRCAN | L | | | S |
| 24 | NONE | | | | S |
| 24.5 | NONE | | | | S |
| 25 | ERALEH | | | | S |
| 25.5 | ATRCAN | L | | | S |
| 26 | NONE | | | | R |
| 26.5 | ERALEH | | | | R |
| 27 | ERALEH | | | | R |
| 27.5 | ERALEH | | | | R |
| 28 | ERALEH | | | | R |
| 28.5 | NONE | | | | R |
| 29 | NONE | | | | S |
| 29.5 | BOUROT | | | | R |
| 30 | ARITER | | | | R |

| | |
|---|---|
| % Foliar Cover | 58.345 |
| % Bare Ground | 16.67 |
| % Basal Cover | 0 |

# Plot 30- on ROW, Line 3

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | NONE | | | | R |
| 1 | VACCON | L | | | S |
| 1.5 | VACCON | | | | S |
| 2 | VACCON | | | | S |
| 2.5 | ERALEH | | | | S |
| 3 | ERALEH | VACCON | | | R |
| 3.5 | NONE | | | | S |
| 4 | NONE | | | | S |
| 4.5 | ERALEH | | | | S |
| 5 | NONE | | | | S |
| 5.5 | NONE | | | | R |
| 6 | VACCON | L | | | S |
| 6.5 | VACCON | | | | R |
| 7 | NONE | | | | S |
| 7.5 | SIDABU | | | | R |
| 8 | NONE | | | | S |
| 8.5 | VACCON | | | | S |
| 9 | NONE | | | | S |
| 9.5 | NONE | | | | S |
| 10 | VACCON | | | | S |
| 10.5 | ERALEH | | | | S |
| 11 | NONE | | | | R |
| 11.5 | ERALEH | | | | R |
| 12 | NONE | | | | S |
| 12.5 | ATRCAN | | | | S |
| 13 | VACCON | | | | S |
| 13.5 | ERALEH | VACCON | L | | S |
| 14 | ERALEH | | | | R |
| 14.5 | ARITER | | | | S |
| 15 | VACCON | ANDOCC | | | R |
| 15.5 | NONE | | | | S |
| 16 | ERALEH | VACCON | L | | S |
| 16.5 | VACCON | ERALEH | ATRCAN | | R |
| 17 | ARITER | | | | S |
| 17.5 | ARITER | L | | | S |
| 18 | ATRCAN | | | | S |
| 18.5 | ERALEH | | | | R |
| 19 | ERALEH | | | | S |
| 19.5 | VACCON | L | | | S |
| 20 | VACCON | | | | R |
| 20.5 | ERALEH | | | | R |
| 21 | ERALEH | L | | | S |
| 21.5 | VACCON | L | | | S |
| 22 | VACCON | L | | | S |
| 22.5 | ANDOCC | L | | | S |
| 23 | ERALEH | | | | R |
| 23.5 | ERALEH | L | | | S |
| 24 | ERALEH | | | | R |
| 24.5 | VACCON | ERALEH | | | R |
| 25 | VACCON | ERALEH | | | R |
| 25.5 | DODVIS | L | | | S |
| 26 | DODVIS | ERALEH | | | S |
| 26.5 | DODVIS | ARITER | L | | S |
| 27 | VACCON | | | | R |
| 27.5 | NONE | | | | S |
| 28 | NONE | | | | R |
| 28.5 | ERALEH | L | | | S |
| 29 | ERALEH | L | | | S |
| 29.5 | ERALEH | ATRICAN | | | R |
| 30 | VACCON | | | | R |

| | |
|---|---|
| % Foliar Cover | 76.682 |
| % Bare Ground | 16.67 |
| % Basal Cover | 0 |

# Plot 30- on ROW, Line 2

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | ERALEH | | | | S |
| 1 | ERALEH | | | | S |
| 1.5 | ERALEH | | | | R |
| 2 | ERALEH | L | | | S |
| 2.5 | NONE | | | | S |
| 3 | ERALEH | ARITER | | | R |
| 3.5 | ERALEH | | | | R |
| 4 | ERALEH | | | | R |
| 4.5 | ARITER | L | | | S |
| 5 | VACCON | | | | S |
| 5.5 | NONE | | | | S |
| 6 | NONE | | | | R |
| 6.5 | ERALEH | | | | S |
| 7 | ERALEH | | | | S |
| 7.5 | VACCON | | | | S |
| 8 | NONE | | | | R |
| 8.5 | ERALEH | ARITER | | | S |
| 9 | ERALEH | | | | R |
| 9.5 | ERALEH | | | | S |
| 10 | ERALEH | | | | S |
| 10.5 | ERALEH | | | | R |
| 11 | ERALEH | | | | R |
| 11.5 | NONE | | | | R |
| 12 | ERALEH | | | | S |
| 12.5 | ERACIL | | | | S |
| 13 | VACCON | L | | | S |
| 13.5 | VACCON | L | | | S |
| 14 | ERALEH | | | | S |
| 14.5 | ERALEH | | | | S |
| 15 | ERALEH | L | | | S |
| 15.5 | ERALEH | | | | S |
| 16 | ERALEH | | | | S |
| 16.5 | VACCON | | | | R |
| 17 | NONE | | | | S |
| 17.5 | ERALEH | | | | S |
| 18 | VACCON | L | | | S |
| 18.5 | NONE | L | | | S |
| 19 | NONE | | | | R |
| 19.5 | NONE | L | | | S |
| 20 | NONE | L | | | S |
| 20.5 | ATRCAN | L | | | S |
| 21 | ERALEH | L | | | S |
| 21.5 | VACCON | L | | | S |
| 22 | VACCON | L | | | S |
| 22.5 | NONE | | | | S |
| 23 | NONE | | | | R |
| 23.5 | ERALEH | | | | S |
| 24 | NONE | L | | | S |
| 24.5 | ERALEH | | | | R |
| 25 | ERALEH | | | | R |
| 25.5 | NONE | L | | | S |
| 26 | NONE | L | | | S |
| 26.5 | ERALEH | ATRCAN | | | S |
| 27 | NONE | | | | R |
| 27.5 | NONE | | | | S |
| 28 | NONE | L | | | S |
| 28.5 | VACCON | ERALEH | | | S |
| 29 | VACCON | | | | R |
| 29.5 | VACCON | | | | R |
| 30 | VACCON | | | | R |

| | |
|---|---|
| % Foliar Cover | 70.014 |
| % Bare Ground | 8.335 |
| % Basal Cover | 0 |

# Plot 30- off ROW, Line 6

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | CALERI | | | | S |
| 1 | ERALEH | | | | S |
| 1.5 | CALERI | L | | | S |
| 2 | NONE | | | | S |
| 2.5 | NONE | | | | S |
| 3 | NONE | | | | S |
| 3.5 | NONE | L | | | S |
| 4 | CALERI | | | | R |
| 4.5 | NONE | | | | S |
| 5 | NONE | | | | S |
| 5.5 | ERALEH | L | | | S |
| 6 | CALERI | L | | | S |
| 6.5 | MIMDYS | L | | | S |
| 7 | MIMDYS | L | | | S |
| 7.5 | MIMDYS | L | | | S |
| 8 | EVOARI | | | | R |
| 8.5 | CALERI | | | | S |
| 9 | CALERI | L | | | S |
| 9.5 | EVOARI | | | | S |
| 10 | NONE | | | | R |
| 10.5 | ERALEH | | | | R |
| 11 | CALERI | | | | S |
| 11.5 | NONE | | | | R |
| 12 | ERALEH | | | | R |
| 12.5 | NONE | | | | S |
| 13 | BOUREP | | | | S |
| 13.5 | CALERI | L | | | S |
| 14 | NONE | W | | | S |
| 14.5 | BOUREP | L | | | S |
| 15 | CALERI | | | | R |
| 15.5 | NONE | | | | S |
| 16 | NONE | | | | S |
| 16.5 | ERALEH | | | | S |
| 17 | NONE | | | | S |
| 17.5 | MIMDYS | L | | | S |
| 18 | NONE | | | | R |
| 18.5 | NONE | | | | R |
| 19 | NONE | | | | S |
| 19.5 | ERALEH | L | | | S |
| 20 | NONE | | | | S |
| 20.5 | FOUSPL | | | | FOUSPL |
| 21 | ERALEH | | | | R |
| 21.5 | NONE | | | | R |
| 22 | NONE | L | | | S |
| 22.5 | NONE | | | | R |
| 23 | NONE | W | | | S |
| 23.5 | DODVIS | L | | | S |
| 24 | ERALEH | L | | | S |
| 24.5 | PROVEL | | | | S |
| 25 | PROVEL | DODVIS | ERALEH | L | S |
| 25.5 | DODVIS | ERALEH | | | S |
| 26 | PROVEL | L | | | S |
| 26.5 | PROVEL | L | | | S |
| 27 | DODVIS | ERACIL | L | | S |
| 27.5 | ERALEH | | | | S |
| 28 | NONE | | | | S |
| 28.5 | NONE | | | | S |
| 29 | DODVIS | | | | R |
| 29.5 | DODVIS | L | | | S |
| 30 | DODVIS | | | | R |

| | |
|---|---|
| % Foliar Cover | 61.679 |
| % Bare Ground | 21.671 |
| % Basal Cover | 1.667 |

# Plot 30- off ROW, Line 5

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | ERACIL | L | | | S |
| 1 | NONE | L | | | S |
| 1.5 | ERALEH | | | | S |
| 2 | ERALEH | | | | S |
| 2.5 | PROVEL | | | | S |
| 3 | PROVEL | SPOCRY | L | | S |
| 3.5 | PROVEL | SPOCRY | L | | S |
| 4 | PROVEL | L | | | S |
| 4.5 | PROVEL | L | | | S |
| 5 | PROVEL | L | | | S |
| 5.5 | PROVEL | L | | | S |
| 6 | PROVEL | DODVIS | SPOCRY | L | S |
| 6.5 | PROVEL | | | | S |
| 7 | PROVEL | ERALEH | L | | S |
| 7.5 | ERALEH | L | | | S |
| 8 | ERALEH | L | | | S |
| 8.5 | NONE | | | | R |
| 9 | SPOCRY | CALERI | | | S |
| 9.5 | CALERI | SPOCRY | | | R |
| 10 | NONE | L | | | S |
| 10.5 | NONE | | | | R |
| 11 | NONE | | | | S |
| 11.5 | NONE | L | | | S |
| 12 | FOUSPL | ERALEH | | | S |
| 12.5 | OPUENG | | | | OPUENG |
| 13 | NONE | L | | | S |
| 13.5 | NONE | | | | R |
| 14 | BOUROT | | | | R |
| 14.5 | NONE | | | | R |
| 15 | NONE | | | | S |
| 15.5 | NONE | | | | R |
| 16 | NONE | | | | S |
| 16.5 | ERALEH | | | | R |
| 17 | GUTSAR | L | | | S |
| 17.5 | FOUSPL | | | | FOUSPL |
| 18 | NONE | W | | | S |
| 18.5 | ERALEH | | | | S |
| 19 | ERALEH | | | | S |
| 19.5 | NONE | | | | S |
| 20 | NONE | | | | S |
| 20.5 | ERALEH | | | | S |
| 21 | NONE | | | | S |
| 21.5 | MIMDYS | | | | R |
| 22 | MIMDYS | | | | S |
| 22.5 | NONE | | | | S |
| 23 | ERALEH | | | | R |
| 23.5 | NONE | | | | S |
| 24 | NONE | L | | | S |
| 24.5 | ERALEH | | | | S |
| 25 | NONE | | | | R |
| 25.5 | ERALEH | | | | S |
| 26 | ERALEH | L | | | S |
| 26.5 | PORUMB | | | | S |
| 27 | PROVEL | L | | | S |
| 27.5 | PROVEL | L | | | S |
| 28 | PROVEL | L | | | S |
| 28.5 | PROVEL | L | | | S |
| 29 | PROVEL | L | | | S |
| 29.5 | PROVEL | L | | | S |
| 30 | PROVEL | | | | S |

| | |
|---|---|
| % Foliar Cover | 66.68 |
| % Bare Ground | 13.336 |
| % Basal Cover | 3.334 |

# Plot 30- off ROW, Line 6

| Point | Top Canopy | Lower Canopy Layer 1 | Lower Canopy Layer 2 | Lower Canopy Layer 3 | Soil Surface |
|---|---|---|---|---|---|
| 0.5 | ERALEH | | | | S |
| 1 | NONE | | | | S |
| 1.5 | NONE | | | | S |
| 2 | ERALEH | | | | S |
| 2.5 | NONE | | | | S |
| 3 | PROVEL | SPOCRY | | | S |
| 3.5 | ERALEH | SPOCRY | | | S |
| 4 | PROVEL | ERALEH | L | | S |
| 4.5 | PROVEL | SPOCRY | | | S |
| 5 | PROVEL | SPOCRY | L | | S |
| 5.5 | PROVEL | L | | | S |
| 6 | PROVEL | DODVIS | L | | S |
| 6.5 | PROVEL | DODVIS | L | | S |
| 7 | NONE | | | | S |
| 7.5 | PROVEL | | | | S |
| 8 | ERALEH | L | | | S |
| 8.5 | CALERI | ERALEH | | | S |
| 9 | CALERI | | | | S |
| 9.5 | ERALEH | | | | S |
| 10 | CALERI | L | | | S |
| 10.5 | CALERI | | | | R |
| 11 | NONE | | | | R |
| 11.5 | BOUROT | L | | | S |
| 12 | FOUSPL | | | | R |
| 12.5 | BOUROT | | | | S |
| 13 | BOUREP | L | | | S |
| 13.5 | NONE | | | | R |
| 14 | BOUREP | | | | R |
| 14.5 | DODVIS | ERALEH | | | S |
| 15 | DODVIS | | | | R |
| 15.5 | DODVIS | L | | | S |
| 16 | DODVIS | L | | | S |
| 16.5 | PROVEL | L | | | S |
| 17 | PROVEL | L | | | S |
| 17.5 | PROVEL | L | | | S |
| 18 | PROVEL | GUTSAR | CALERI | L | S |
| 18.5 | PROVEL | GUTSAR | L | | S |
| 19 | NONE | | | | R |
| 19.5 | ERALEH | | | | S |
| 20 | NONE | | | | R |
| 20.5 | ERALEH | SPOCRY | | | R |
| 21 | NONE | | | | S |
| 21.5 | FOUSPL | L | | | S |
| 22 | ERALEH | | | | R |
| 22.5 | ERALEH | | | | S |
| 23 | NONE | | | | R |
| 23.5 | NONE | | | | R |
| 24 | GUTSAR | | | | R |
| 24.5 | NONE | | | | R |
| 25 | CALERI | L | | | S |
| 25.5 | CALERI | | | | S |
| 26 | ERALEH | | | | R |
| 26.5 | ERALEH | | | | R |
| 27 | NONE | | | | S |
| 27.5 | CALERI | | | | S |
| 28 | NONE | L | | | S |
| 28.5 | PROVEL | L | | | S |
| 29 | NONE | L | | | S |
| 29.5 | NONE | L | | | S |
| 30 | ERALEH | CALERI | L | | S |

| | |
|---|---|
| % Foliar Cover | 73.348 |
| % Bare Ground | 10.002 |
| % Basal Cover | 0 |

## Summary - Plot 30

**% Average Foliar Cover**

| | |
|---|---|
| On ROW | 68.347 |
| Off ROW | 67.236 |

**% Average Bare Ground**

| | |
|---|---|
| On ROW | 13.892 |
| Off ROW | 15.003 |

**% Average Basal Cover**

| | |
|---|---|
| On ROW | 0.000 |
| Off ROW | 1.667 |

# APPENDIX E

## Quadrat Database Fall 2019

# Sierrita Long Term Monitoring: Quadrat Summary Table- Fall 2019

| Date | Crew | Vegetation Plot | Transect ID* | Quadrat | Random number used | Grazing Index | OHV Class | Pedestrian Travel Index |
|---|---|---|---|---|---|---|---|---|
| 9/9/19 | BP, TS, RH | 1 | 1 | 1 | 12 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 1 | 1 | 2 | 16 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 1 | 1 | 3 | 29 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 1 | 2 | 1 | 11 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 1 | 2 | 2 | 12 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 1 | 2 | 3 | 19 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 1 | 3 | 1 | 9 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 1 | 3 | 2 | 14 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 1 | 3 | 3 | 29 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 1 | 4 | 1 | 18 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 1 | 4 | 2 | 19 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 1 | 4 | 3 | 26 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 1 | 5 | 1 | 15 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 1 | 5 | 2 | 16 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 1 | 5 | 3 | 18 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 1 | 6 | 1 | 0 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 1 | 6 | 2 | 23 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 1 | 6 | 3 | 24 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 2 | 1 | 1 | 3 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 2 | 1 | 2 | 10 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 2 | 1 | 3 | 12 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 2 | 2 | 1 | 16 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 2 | 2 | 2 | 20 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 2 | 2 | 3 | 28 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 2 | 3 | 1 | 14 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 2 | 3 | 2 | 19 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 2 | 3 | 3 | 21 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 2 | 4 | 1 | 6 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 2 | 4 | 2 | 17 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 2 | 4 | 3 | 19 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 2 | 5 | 1 | 18 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 2 | 5 | 2 | 22 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 2 | 5 | 3 | 27 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 2 | 6 | 1 | 4 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 2 | 6 | 2 | 13 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 2 | 6 | 3 | 15 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 3 | 1 | 1 | 7 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 3 | 1 | 2 | 17 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 3 | 1 | 3 | 27 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 3 | 2 | 1 | 4 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 3 | 2 | 2 | 8 | 1 | 1 | 1 |

*Sierrita Pipline Project*

# Sierrita Long Term Monitoring: Quadrat Summary Table- Fall 2019

| Date | Crew | Vegetation Plot | Transect ID* | Quadrat | Random number used | Grazing Index | OHV Class | Pedestrian Travel Index |
|---|---|---|---|---|---|---|---|---|
| 9/11/19 | BP, TS, RH | 3 | 2 | 3 | 15 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 3 | 3 | 1 | 10 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 3 | 3 | 2 | 22 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 3 | 3 | 3 | 25 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 3 | 4 | 1 | 5 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 3 | 4 | 2 | 6 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 3 | 4 | 3 | 22 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 3 | 5 | 1 | 22 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 3 | 5 | 2 | 27 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 3 | 5 | 3 | 29 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 3 | 6 | 1 | 1 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 3 | 6 | 2 | 3 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 3 | 6 | 3 | 16 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 4 | 1 | 1 | 1 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 4 | 1 | 2 | 20 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 4 | 1 | 3 | 25 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 4 | 2 | 1 | 14 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 4 | 2 | 2 | 22 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 4 | 2 | 3 | 25 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 4 | 3 | 1 | 1 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 4 | 3 | 2 | 6 | 1 | 3 | 1 |
| 9/9/19 | BP, TS, RH | 4 | 3 | 3 | 18 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 4 | 4 | 1 | 3 | 1 | 2 | 1 |
| 9/9/19 | BP, TS, RH | 4 | 4 | 2 | 17 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 4 | 4 | 3 | 28 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 4 | 5 | 1 | 6 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 4 | 5 | 2 | 11 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 4 | 5 | 3 | 19 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 4 | 6 | 1 | 15 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 4 | 6 | 2 | 17 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 4 | 6 | 3 | 25 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 5 | 1 | 1 | 15 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 5 | 1 | 2 | 17 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 5 | 1 | 3 | 26 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 5 | 2 | 1 | 2 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 5 | 2 | 2 | 12 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 5 | 2 | 3 | 22 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 5 | 3 | 1 | 20 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 5 | 3 | 2 | 22 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 5 | 3 | 3 | 28 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 5 | 4 | 1 | 6 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 5 | 4 | 2 | 14 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 5 | 4 | 3 | 22 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 5 | 5 | 1 | 11 | 1 | 1 | 1 |

# Sierrita Long Term Monitoring: Quadrat Summary Table- Fall 2019

| Date | Crew | Vegetation Plot | Transect ID* | Quadrat | Random number used | Grazing Index | OHV Class | Pedestrian Travel Index |
|---|---|---|---|---|---|---|---|---|
| 9/9/19 | BP, TS, RH | 5 | 5 | 2 | 13 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 5 | 5 | 3 | 21 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 5 | 6 | 1 | 10 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 5 | 6 | 2 | 18 | 1 | 1 | 1 |
| 9/9/19 | BP, TS, RH | 5 | 6 | 3 | 20 | 1 | 1 | 1 |
| 10/9/19 | BP, TS, RH | 6 | 1 | 1 | 3 | 1 | 5 | 2 |
| 10/9/19 | BP, TS, RH | 6 | 1 | 2 | 5 | 1 | 5 | 4 |
| 10/9/19 | BP, TS, RH | 6 | 1 | 3 | 20 | 1 | 3 | 4 |
| 10/9/19 | BP, TS, RH | 6 | 2 | 1 | 1 | 1 | 4 | 4 |
| 10/9/19 | BP, TS, RH | 6 | 2 | 2 | 2 | 1 | 5 | 4 |
| 10/9/19 | BP, TS, RH | 6 | 2 | 3 | 8 | 1 | 1 | 2 |
| 10/9/19 | BP, TS, RH | 6 | 3 | 1 | 0 | 1 | 1 | 1 |
| 10/9/19 | BP, TS, RH | 6 | 3 | 2 | 7 | 1 | 1 | 1 |
| 10/9/19 | BP, TS, RH | 6 | 3 | 3 | 24 | 1 | 1 | 1 |
| 10/9/19 | BP, TS, RH | 6 | 4 | 1 | 1 | 2 | 1 | 1 |
| 10/9/19 | BP, TS, RH | 6 | 4 | 2 | 9 | 2 | 1 | 1 |
| 10/9/19 | BP, TS, RH | 6 | 4 | 3 | 18 | 2 | 1 | 1 |
| 10/9/19 | BP, TS, RH | 6 | 5 | 1 | 4 | 1 | 1 | 1 |
| 10/9/19 | BP, TS, RH | 6 | 5 | 2 | 18 | 1 | 1 | 1 |
| 10/9/19 | BP, TS, RH | 6 | 5 | 3 | 22 | 3 | 1 | 1 |
| 10/9/19 | BP, TS, RH | 6 | 6 | 1 | 6 | 2 | 1 | 1 |
| 10/9/19 | BP, TS, RH | 6 | 6 | 2 | 11 | 2 | 1 | 1 |
| 10/9/19 | BP, TS, RH | 6 | 6 | 3 | 21 | 2 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 7 | 1 | 1 | 6 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 7 | 1 | 2 | 12 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 7 | 1 | 3 | 16 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 7 | 2 | 1 | 6 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 7 | 2 | 2 | 19 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 7 | 2 | 3 | 22 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 7 | 3 | 1 | 5 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 7 | 3 | 2 | 6 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 7 | 3 | 3 | 23 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 7 | 4 | 1 | 2 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 7 | 4 | 2 | 11 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 7 | 4 | 3 | 15 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 7 | 5 | 1 | 1 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 7 | 5 | 2 | 12 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 7 | 5 | 3 | 15 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 7 | 6 | 1 | 2 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 7 | 6 | 2 | 10 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 7 | 6 | 3 | 20 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 8 | 1 | 1 | 7 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 8 | 1 | 2 | 9 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 8 | 1 | 3 | 13 | 1 | 1 | 1 |

# Sierrita Long Term Monitoring: Quadrat Summary Table- Fall 2019

| Date | Crew | Vegetation Plot | Transect ID* | Quadrat | Random number used | Grazing Index | OHV Class | Pedestrian Travel Index |
|---|---|---|---|---|---|---|---|---|
| 9/10/19 | BP, TS, RH | 8 | 2 | 1 | 9 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 8 | 2 | 2 | 20 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 8 | 2 | 3 | 29 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 8 | 3 | 1 | 0 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 8 | 3 | 2 | 5 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 8 | 3 | 3 | 8 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 8 | 4 | 1 | 6 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 8 | 4 | 2 | 9 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 8 | 4 | 3 | 21 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 8 | 5 | 1 | 9 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 8 | 5 | 2 | 16 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 8 | 5 | 3 | 21 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 8 | 6 | 1 | 2 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 8 | 6 | 2 | 7 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 8 | 6 | 3 | 10 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 9 | 1 | 1 | 2 | 1 | 4 | 1 |
| 9/10/19 | BP, TS, RH | 9 | 1 | 2 | 9 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 9 | 1 | 3 | 23 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 9 | 2 | 1 | 1 | 1 | 4 | 1 |
| 9/10/19 | BP, TS, RH | 9 | 2 | 2 | 10 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 9 | 2 | 3 | 11 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 9 | 3 | 1 | 19 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 9 | 3 | 2 | 24 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 9 | 3 | 3 | 28 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 9 | 4 | 1 | 0 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 9 | 4 | 2 | 5 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 9 | 4 | 3 | 18 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 9 | 5 | 1 | 15 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 9 | 5 | 2 | 18 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 9 | 5 | 3 | 28 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 9 | 6 | 1 | 21 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 9 | 6 | 2 | 26 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 9 | 6 | 3 | 27 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 10 | 1 | 1 | 12 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 10 | 1 | 2 | 18 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 10 | 1 | 3 | 26 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 10 | 2 | 1 | 7 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 10 | 2 | 2 | 16 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 10 | 2 | 3 | 24 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 10 | 3 | 1 | 3 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 10 | 3 | 2 | 7 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 10 | 3 | 3 | 21 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 10 | 4 | 1 | 3 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 10 | 4 | 2 | 11 | 1 | 1 | 1 |

*Sierrita Pipline Project*

# Sierrita Long Term Monitoring: Quadrat Summary Table- Fall 2019

| Date | Crew | Vegetation Plot | Transect ID* | Quadrat | Random number used | Grazing Index | OHV Class | Pedestrian Travel Index |
|---|---|---|---|---|---|---|---|---|
| 9/11/19 | BP, TS, RH | 10 | 4 | 3 | 20 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 10 | 5 | 1 | 2 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 10 | 5 | 2 | 6 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 10 | 5 | 3 | 10 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 10 | 6 | 1 | 15 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 10 | 6 | 2 | 16 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 10 | 6 | 3 | 22 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 11 | 1 | 1 | 12 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 11 | 1 | 2 | 18 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 11 | 1 | 3 | 21 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 11 | 2 | 1 | 6 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 11 | 2 | 2 | 14 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 11 | 2 | 3 | 20 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 11 | 3 | 1 | 21 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 11 | 3 | 2 | 25 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 11 | 3 | 3 | 26 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 11 | 4 | 1 | 9 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 11 | 4 | 2 | 23 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 11 | 4 | 3 | 24 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 11 | 5 | 1 | 6 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 11 | 5 | 2 | 9 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 11 | 5 | 3 | 22 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 11 | 6 | 1 | 6 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 11 | 6 | 2 | 13 | 1 | 1 | 1 |
| 9/10/19 | BP, TS, RH | 11 | 6 | 3 | 24 | 1 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 12 | 1 | 1 | 3 | 1 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 12 | 1 | 2 | 7 | 1 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 12 | 1 | 3 | 21 | 1 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 12 | 2 | 1 | 0 | 1 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 12 | 2 | 2 | 2 | 1 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 12 | 2 | 3 | 3 | 1 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 12 | 3 | 1 | 1 | 1 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 12 | 3 | 2 | 4 | 1 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 12 | 3 | 3 | 15 | 2 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 12 | 4 | 1 | 12 | 1 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 12 | 4 | 2 | 21 | 1 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 12 | 4 | 3 | 25 | 1 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 12 | 5 | 1 | 0 | 1 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 12 | 5 | 2 | 23 | 1 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 12 | 5 | 3 | 27 | 1 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 12 | 6 | 1 | 9 | 1 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 12 | 6 | 2 | 19 | 1 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 12 | 6 | 3 | 24 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 13 | 1 | 1 | 7 | 1 | 1 | 1 |

*Sierrita Pipline Project*

# Sierrita Long Term Monitoring: Quadrat Summary Table- Fall 2019

| Date | Crew | Vegetation Plot | Transect ID* | Quadrat | Random number used | Grazing Index | OHV Class | Pedestrian Travel Index |
|---|---|---|---|---|---|---|---|---|
| 9/11/19 | BP, TS, RH | 13 | 1 | 2 | 24 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 13 | 1 | 3 | 27 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 13 | 2 | 1 | 1 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 13 | 2 | 2 | 8 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 13 | 2 | 3 | 26 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 13 | 3 | 1 | 5 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 13 | 3 | 2 | 7 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 13 | 3 | 3 | 11 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 13 | 4 | 1 | 12 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 13 | 4 | 2 | 21 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 13 | 4 | 3 | 19 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 13 | 5 | 1 | 0 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 13 | 5 | 2 | 5 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 13 | 5 | 3 | 13 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 13 | 6 | 1 | 14 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 13 | 6 | 2 | 16 | 1 | 1 | 1 |
| 9/11/19 | BP, TS, RH | 13 | 6 | 3 | 22 | 1 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 14 | 1 | 1 | 0 | 1 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 14 | 1 | 2 | 18 | 2 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 14 | 1 | 3 | 23 | 1 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 14 | 2 | 1 | 6 | 1 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 14 | 2 | 2 | 13 | 1 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 14 | 2 | 3 | 26 | 1 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 14 | 3 | 1 | 0 | 1 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 14 | 3 | 2 | 16 | 1 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 14 | 3 | 3 | 19 | 1 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 14 | 4 | 1 | 2 | 1 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 14 | 4 | 2 | 11 | 1 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 14 | 4 | 3 | 29 | 1 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 14 | 5 | 1 | 4 | 1 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 14 | 5 | 2 | 6 | 1 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 14 | 5 | 3 | 17 | 1 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 14 | 6 | 1 | 9 | 1 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 14 | 6 | 2 | 26 | 1 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 14 | 6 | 3 | 29 | 1 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 15 | 1 | 1 | 10 | 2 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 15 | 1 | 2 | 16 | 2 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 15 | 1 | 3 | 20 | 2 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 15 | 2 | 1 | 3 | 3 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 15 | 2 | 2 | 21 | 2 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 15 | 2 | 3 | 26 | 2 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 15 | 3 | 1 | 10 | 4 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 15 | 3 | 2 | 26 | 2 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 15 | 3 | 3 | 29 | 3 | 1 | 1 |

*Sierrita Pipline Project*

# Sierrita Long Term Monitoring: Quadrat Summary Table- Fall 2019

| Date | Crew | Vegetation Plot | Transect ID* | Quadrat | Random number used | Grazing Index | OHV Class | Pedestrian Travel Index |
|---|---|---|---|---|---|---|---|---|
| 9/12/19 | BP, TS, RH | 15 | 4 | 1 | 0 | 2 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 15 | 4 | 2 | 10 | 1 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 15 | 4 | 3 | 19 | 1 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 15 | 5 | 1 | 17 | 1 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 15 | 5 | 2 | 24 | 1 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 15 | 5 | 3 | 26 | 1 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 15 | 6 | 1 | 1 | 1 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 15 | 6 | 2 | 5 | 2 | 1 | 1 |
| 9/12/19 | BP, TS, RH | 15 | 6 | 3 | 24 | 1 | 1 | 1 |
| 9/18/19 | BP, TS, RH | 16 | 1 | 1 | 1 | 2 | 1 | 1 |
| 9/18/19 | BP, TS, RH | 16 | 1 | 2 | 2 | 2 | 1 | 1 |
| 9/18/19 | BP, TS, RH | 16 | 1 | 3 | 26 | 1 | 1 | 1 |
| 9/18/19 | BP, TS, RH | 16 | 2 | 1 | 5 | 4 | 1 | 1 |
| 9/18/19 | BP, TS, RH | 16 | 2 | 2 | 8 | 3 | 1 | 1 |
| 9/18/19 | BP, TS, RH | 16 | 2 | 3 | 19 | 2 | 1 | 1 |
| 9/18/19 | BP, TS, RH | 16 | 3 | 1 | 2 | 1 | 1 | 1 |
| 9/18/19 | BP, TS, RH | 16 | 3 | 2 | 11 | 1 | 1 | 1 |
| 9/18/19 | BP, TS, RH | 16 | 3 | 3 | 12 | 1 | 1 | 1 |
| 9/18/19 | BP, TS, RH | 16 | 4 | 1 | 16 | 3 | 1 | 1 |
| 9/18/19 | BP, TS, RH | 16 | 4 | 2 | 18 | 2 | 1 | 1 |
| 9/18/19 | BP, TS, RH | 16 | 4 | 3 | 27 | 1 | 1 | 1 |
| 9/18/19 | BP, TS, RH | 16 | 5 | 1 | 6 | 1 | 1 | 1 |
| 9/18/19 | BP, TS, RH | 16 | 5 | 2 | 10 | 2 | 1 | 1 |
| 9/18/19 | BP, TS, RH | 16 | 5 | 3 | 17 | 2 | 1 | 1 |
| 9/18/19 | BP, TS, RH | 16 | 6 | 1 | 11 | 1 | 1 | 1 |
| 9/18/19 | BP, TS, RH | 16 | 6 | 2 | 17 | 3 | 1 | 1 |
| 9/18/19 | BP, TS, RH | 16 | 6 | 3 | 26 | 1 | 1 | 1 |
| 9/16/19 | TS, BP | 17 | 1 | 1 | 6 | 1 | 1 | 1 |
| 9/16/19 | TS, BP | 17 | 1 | 2 | 14 | 2 | 1 | 1 |
| 9/16/19 | TS, BP | 17 | 1 | 3 | 23 | 2 | 1 | 1 |
| 9/16/19 | TS, BP | 17 | 2 | 1 | 11 | 2 | 1 | 1 |
| 9/16/19 | TS, BP | 17 | 2 | 2 | 15 | 1 | 1 | 1 |
| 9/16/19 | TS, BP | 17 | 2 | 3 | 28 | 1 | 1 | 1 |
| 9/16/19 | TS, BP | 17 | 3 | 1 | 10 | 1 | 1 | 1 |
| 9/16/19 | TS, BP | 17 | 3 | 2 | 23 | 1 | 1 | 1 |
| 9/16/19 | TS, BP | 17 | 3 | 3 | 29 | 1 | 1 | 1 |
| 9/16/19 | TS, BP | 17 | 4 | 1 | 6 | 1 | 1 | 1 |
| 9/16/19 | TS, BP | 17 | 4 | 2 | 13 | 1 | 1 | 1 |
| 9/16/19 | TS, BP | 17 | 4 | 3 | 17 | 2 | 1 | 1 |
| 9/16/19 | TS, BP | 17 | 5 | 1 | 7 | 1 | 1 | 1 |
| 9/16/19 | TS, BP | 17 | 5 | 2 | 20 | 1 | 1 | 1 |
| 9/16/19 | TS, BP | 17 | 5 | 3 | 27 | 1 | 1 | 1 |
| 9/16/19 | TS, BP | 17 | 6 | 1 | 3 | 1 | 1 | 1 |
| 9/16/19 | TS, BP | 17 | 6 | 2 | 13 | 4 | 1 | 1 |

# Sierrita Long Term Monitoring: Quadrat Summary Table- Fall 2019

| Date | Crew | Vegetation Plot | Transect ID* | Quadrat | Random number used | Grazing Index | OHV Class | Pedestrian Travel Index |
|---|---|---|---|---|---|---|---|---|
| 9/16/19 | TS, BP | 17 | 6 | 3 | 14 | 4 | 1 | 1 |
| 9/16/19 | TS, BP | 18 | 1 | 1 | 0 | 1 | 1 | 1 |
| 9/16/19 | TS, BP | 18 | 1 | 2 | 16 | 1 | 1 | 1 |
| 9/16/19 | TS, BP | 18 | 1 | 3 | 28 | 1 | 1 | 1 |
| 9/16/19 | TS, BP | 18 | 2 | 1 | 8 | 1 | 1 | 1 |
| 9/16/19 | TS, BP | 18 | 2 | 2 | 14 | 1 | 1 | 1 |
| 9/16/19 | TS, BP | 18 | 2 | 3 | 25 | 1 | 1 | 1 |
| 9/16/19 | TS, BP | 18 | 3 | 1 | 6 | 1 | 1 | 1 |
| 9/16/19 | TS, BP | 18 | 3 | 2 | 23 | 1 | 1 | 1 |
| 9/16/19 | TS, BP | 18 | 3 | 3 | 24 | 1 | 1 | 1 |
| 9/16/19 | TS, BP | 18 | 4 | 1 | 4 | 2 | 1 | 1 |
| 9/16/19 | TS, BP | 18 | 4 | 2 | 17 | 2 | 1 | 1 |
| 9/16/19 | TS, BP | 18 | 4 | 3 | 29 | 2 | 1 | 1 |
| 9/16/19 | TS, BP | 18 | 5 | 1 | 4 | 2 | 1 | 1 |
| 9/16/19 | TS, BP | 18 | 5 | 2 | 12 | 2 | 1 | 1 |
| 9/16/19 | TS, BP | 18 | 5 | 3 | 18 | 2 | 1 | 1 |
| 9/16/19 | TS, BP | 18 | 6 | 1 | 22 | 1 | 1 | 1 |
| 9/16/19 | TS, BP | 18 | 6 | 2 | 27 | 1 | 1 | 1 |
| 9/16/19 | TS, BP | 18 | 6 | 3 | 28 | 2 | 1 | 1 |
| 09/18/19 | BP, TS, RH | 19 | 1 | 1 | 1 | 1 | 1 | 1 |
| 09/18/19 | BP, TS, RH | 19 | 1 | 2 | 9 | 1 | 1 | 1 |
| 09/18/19 | BP, TS, RH | 19 | 1 | 3 | 19 | 1 | 1 | 1 |
| 09/18/19 | BP, TS, RH | 19 | 2 | 1 | 8 | 1 | 1 | 1 |
| 09/18/19 | BP, TS, RH | 19 | 2 | 2 | 10 | 1 | 1 | 1 |
| 09/18/19 | BP, TS, RH | 19 | 2 | 3 | 28 | 1 | 1 | 1 |
| 09/18/19 | BP, TS, RH | 19 | 3 | 1 | 5 | 1 | 1 | 1 |
| 09/18/19 | BP, TS, RH | 19 | 3 | 2 | 12 | 1 | 1 | 1 |
| 09/18/19 | BP, TS, RH | 19 | 3 | 3 | 21 | 1 | 1 | 1 |
| 09/18/19 | BP, TS, RH | 19 | 4 | 1 | 10 | 1 | 1 | 1 |
| 09/18/19 | BP, TS, RH | 19 | 4 | 2 | 13 | 1 | 1 | 1 |
| 09/18/19 | BP, TS, RH | 19 | 4 | 3 | 19 | 1 | 1 | 1 |
| 09/18/19 | BP, TS, RH | 19 | 5 | 1 | 8 | 1 | 1 | 1 |
| 09/18/19 | BP, TS, RH | 19 | 5 | 2 | 18 | 1 | 1 | 1 |
| 09/18/19 | BP, TS, RH | 19 | 5 | 3 | 25 | 1 | 1 | 1 |
| 09/18/19 | BP, TS, RH | 19 | 6 | 1 | 8 | 1 | 1 | 1 |
| 09/18/19 | BP, TS, RH | 19 | 6 | 2 | 19 | 1 | 1 | 1 |
| 09/18/19 | BP, TS, RH | 19 | 6 | 3 | 29 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 20 | 1 | 1 | 15 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 20 | 1 | 2 | 16 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 20 | 1 | 3 | 26 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 20 | 2 | 1 | 1 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 20 | 2 | 2 | 11 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 20 | 2 | 3 | 23 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 20 | 3 | 1 | 0 | 1 | 1 | 1 |

# Sierrita Long Term Monitoring: Quadrat Summary Table- Fall 2019

| Date | Crew | Vegetation Plot | Transect ID* | Quadrat | Random number used | Grazing Index | OHV Class | Pedestrian Travel Index |
|---|---|---|---|---|---|---|---|---|
| 09/17/19 | BP, TS, RH | 20 | 3 | 2 | 21 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 20 | 3 | 3 | 27 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 20 | 4 | 1 | 21 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 20 | 4 | 2 | 27 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 20 | 4 | 3 | 28 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 20 | 5 | 1 | 1 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 20 | 5 | 2 | 24 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 20 | 5 | 3 | 29 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 20 | 6 | 1 | 3 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 20 | 6 | 2 | 18 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 20 | 6 | 3 | 23 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 21 | 1 | 1 | 4 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 21 | 1 | 2 | 7 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 21 | 1 | 3 | 29 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 21 | 2 | 1 | 8 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 21 | 2 | 2 | 12 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 21 | 2 | 3 | 15 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 21 | 3 | 1 | 1 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 21 | 3 | 2 | 8 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 21 | 3 | 3 | 20 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 21 | 4 | 1 | 5 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 21 | 4 | 2 | 11 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 21 | 4 | 3 | 18 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 21 | 5 | 1 | 0 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 21 | 5 | 2 | 3 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 21 | 5 | 3 | 29 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 21 | 6 | 1 | 7 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 21 | 6 | 2 | 13 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 21 | 6 | 3 | 24 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 22 | 1 | 1 | 2 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 22 | 1 | 2 | 11 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 22 | 1 | 3 | 15 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 22 | 2 | 1 | 2 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 22 | 2 | 2 | 8 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 22 | 2 | 3 | 11 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 22 | 3 | 1 | 5 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 22 | 3 | 2 | 20 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 22 | 3 | 3 | 21 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 22 | 4 | 1 | 0 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 22 | 4 | 2 | 7 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 22 | 4 | 3 | 23 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 22 | 5 | 1 | 4 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 22 | 5 | 2 | 9 | 2 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 22 | 5 | 3 | 10 | 3 | 1 | 1 |

*Sierrita Pipline Project*

# Sierrita Long Term Monitoring: Quadrat Summary Table- Fall 2019

| Date | Crew | Vegetation Plot | Transect ID* | Quadrat | Random number used | Grazing Index | OHV Class | Pedestrian Travel Index |
|---|---|---|---|---|---|---|---|---|
| 09/17/19 | BP, TS, RH | 22 | 6 | 1 | 8 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 22 | 6 | 2 | 9 | 1 | 1 | 1 |
| 09/17/19 | BP, TS, RH | 22 | 6 | 3 | 18 | 2 | 1 | 1 |
| 09/19/19 | BP, TS, RH | 23 | 1 | 1 | 13 | 3 | 1 | 1 |
| 09/19/19 | BP, TS, RH | 23 | 1 | 2 | 14 | 3 | 1 | 1 |
| 09/19/19 | BP, TS, RH | 23 | 1 | 3 | 27 | 2 | 1 | 1 |
| 09/19/19 | BP, TS, RH | 23 | 2 | 1 | 6 | 2 | 1 | 1 |
| 09/19/19 | BP, TS, RH | 23 | 2 | 2 | 12 | 2 | 1 | 1 |
| 09/19/19 | BP, TS, RH | 23 | 2 | 3 | 15 | 2 | 1 | 1 |
| 09/19/19 | BP, TS, RH | 23 | 3 | 1 | 8 | 2 | 1 | 1 |
| 09/19/19 | BP, TS, RH | 23 | 3 | 2 | 9 | 2 | 1 | 1 |
| 09/19/19 | BP, TS, RH | 23 | 3 | 3 | 13 | 3 | 1 | 1 |
| 09/19/19 | BP, TS, RH | 23 | 4 | 1 | 1 | 1 | 1 | 1 |
| 09/19/19 | BP, TS, RH | 23 | 4 | 2 | 9 | 1 | 1 | 1 |
| 09/19/19 | BP, TS, RH | 23 | 4 | 3 | 24 | 1 | 1 | 1 |
| 09/19/19 | BP, TS, RH | 23 | 5 | 1 | 0 | 1 | 1 | 1 |
| 09/19/19 | BP, TS, RH | 23 | 5 | 2 | 23 | 1 | 1 | 1 |
| 09/19/19 | BP, TS, RH | 23 | 5 | 3 | 25 | 1 | 1 | 1 |
| 09/19/19 | BP, TS, RH | 23 | 6 | 1 | 2 | 1 | 1 | 1 |
| 09/19/19 | BP, TS, RH | 23 | 6 | 2 | 17 | 1 | 1 | 1 |
| 09/19/19 | BP, TS, RH | 23 | 6 | 3 | 23 | 2 | 1 | 1 |
| 09/19/19 | BP, TS, RH | 24 | 1 | 1 | 8 | 1 | 1 | 1 |
| 09/19/19 | BP, TS, RH | 24 | 1 | 2 | 13 | 1 | 1 | 1 |
| 09/19/19 | BP, TS, RH | 24 | 1 | 3 | 24 | 1 | 1 | 1 |
| 09/19/19 | BP, TS, RH | 24 | 2 | 1 | 1 | 1 | 1 | 1 |
| 09/19/19 | BP, TS, RH | 24 | 2 | 2 | 7 | 2 | 1 | 1 |
| 09/19/19 | BP, TS, RH | 24 | 2 | 3 | 18 | 1 | 1 | 1 |
| 09/19/19 | BP, TS, RH | 24 | 3 | 1 | 4 | 1 | 1 | 1 |
| 09/19/19 | BP, TS, RH | 24 | 3 | 2 | 24 | 1 | 1 | 1 |
| 09/19/19 | BP, TS, RH | 24 | 3 | 3 | 26 | 1 | 1 | 1 |
| 09/19/19 | BP, TS, RH | 24 | 4 | 1 | 6 | 3 | 1 | 1 |
| 09/19/19 | BP, TS, RH | 24 | 4 | 2 | 7 | 2 | 1 | 1 |
| 09/19/19 | BP, TS, RH | 24 | 4 | 3 | 22 | 1 | 1 | 1 |
| 09/19/19 | BP, TS, RH | 24 | 5 | 1 | 5 | 2 | 1 | 1 |
| 09/19/19 | BP, TS, RH | 24 | 5 | 2 | 7 | 1 | 1 | 1 |
| 09/19/19 | BP, TS, RH | 24 | 5 | 3 | 25 | 2 | 1 | 1 |
| 09/19/19 | BP, TS, RH | 24 | 6 | 1 | 5 | 1 | 1 | 1 |
| 09/19/19 | BP, TS, RH | 24 | 6 | 2 | 21 | 1 | 1 | 1 |
| 09/19/19 | BP, TS, RH | 24 | 6 | 3 | 26 | 3 | 1 | 1 |
| 10/02/19 | TS, RH | 25 | 1 | 1 | 4 | 2 | 1 | 1 |
| 10/02/19 | TS, RH | 25 | 1 | 2 | 20 | 1 | 1 | 1 |
| 10/02/19 | TS, RH | 25 | 1 | 3 | 25 | 1 | 1 | 1 |
| 10/02/19 | TS, RH | 25 | 2 | 1 | 8 | 2 | 1 | 1 |

*Sierrita Pipline Project*

# Sierrita Long Term Monitoring: Quadrat Summary Table- Fall 2019

| Date | Crew | Vegetation Plot | Transect ID* | Quadrat | Random number used | Grazing Index | OHV Class | Pedestrian Travel Index |
|---|---|---|---|---|---|---|---|---|
| 10/02/19 | TS, RH | 25 | 2 | 2 | 14 | 1 | 1 | 1 |
| 10/02/19 | TS, RH | 25 | 2 | 3 | 15 | 2 | 1 | 1 |
| 10/02/19 | TS, RH | 25 | 3 | 1 | 1 | 2 | 1 | 1 |
| 10/02/19 | TS, RH | 25 | 3 | 2 | 20 | 2 | 1 | 1 |
| 10/02/19 | TS, RH | 25 | 3 | 3 | 24 | 2 | 1 | 1 |
| 10/02/19 | TS, RH | 25 | 4 | 1 | 1 | 2 | 1 | 1 |
| 10/02/19 | TS, RH | 25 | 4 | 2 | 6 | 2 | 1 | 1 |
| 10/02/19 | TS, RH | 25 | 4 | 3 | 17 | 1 | 1 | 1 |
| 10/02/19 | TS, RH | 25 | 5 | 1 | 9 | 2 | 1 | 1 |
| 10/02/19 | TS, RH | 25 | 5 | 2 | 13 | 2 | 1 | 1 |
| 10/02/19 | TS, RH | 25 | 5 | 3 | 21 | 2 | 1 | 1 |
| 10/02/19 | TS, RH | 25 | 6 | 1 | 3 | 1 | 1 | 1 |
| 10/02/19 | TS, RH | 25 | 6 | 2 | 12 | 1 | 1 | 1 |
| 10/02/19 | TS, RH | 25 | 6 | 3 | 17 | 1 | 1 | 1 |
| 10/01/19 | TS, RH | 26 | 1 | 1 | 7 | 1 | 1 | 1 |
| 10/01/19 | TS, RH | 26 | 1 | 2 | 22 | 1 | 1 | 1 |
| 10/01/19 | TS, RH | 26 | 1 | 3 | 29 | 2 | 2 | 1 |
| 10/01/19 | TS, RH | 26 | 2 | 1 | 9 | 1 | 1 | 1 |
| 10/01/19 | TS, RH | 26 | 2 | 2 | 12 | 2 | 3 | 1 |
| 10/01/19 | TS, RH | 26 | 2 | 3 | 19 | 1 | 1 | 1 |
| 10/01/19 | TS, RH | 26 | 3 | 1 | 1 | 1 | 1 | 1 |
| 10/01/19 | TS, RH | 26 | 3 | 2 | 9 | 2 | 1 | 1 |
| 10/01/19 | TS, RH | 26 | 3 | 3 | 16 | 1 | 1 | 1 |
| 10/01/19 | TS, RH | 26 | 4 | 1 | 10 | 2 | 1 | 1 |
| 10/01/19 | TS, RH | 26 | 4 | 2 | 14 | 1 | 1 | 1 |
| 10/01/19 | TS, RH | 26 | 4 | 3 | 18 | 1 | 1 | 1 |
| 10/01/19 | TS, RH | 26 | 5 | 1 | 9 | 1 | 1 | 1 |
| 10/01/19 | TS, RH | 26 | 5 | 2 | 19 | 1 | 1 | 1 |
| 10/01/19 | TS, RH | 26 | 5 | 3 | 22 | 1 | 1 | 1 |
| 10/01/19 | TS, RH | 26 | 6 | 1 | 11 | 1 | 1 | 2 |
| 10/01/19 | TS, RH | 26 | 6 | 2 | 15 | 2 | 1 | 1 |
| 10/01/19 | TS, RH | 26 | 6 | 3 | 22 | 1 | 1 | 1 |
| 10/01/19 | TS, RH | 27 | 1 | 1 | 10 | 1 | 1 | 1 |
| 10/01/19 | TS, RH | 27 | 1 | 2 | 11 | 1 | 1 | 1 |
| 10/01/19 | TS, RH | 27 | 1 | 3 | 25 | 2 | 1 | 1 |
| 10/01/19 | TS, RH | 27 | 2 | 1 | 3 | 1 | 1 | 1 |
| 10/01/19 | TS, RH | 27 | 2 | 2 | 13 | 1 | 1 | 1 |
| 10/01/19 | TS, RH | 27 | 2 | 3 | 20 | 1 | 1 | 1 |
| 10/01/19 | TS, RH | 27 | 3 | 1 | 14 | 1 | 1 | 1 |
| 10/01/19 | TS, RH | 27 | 3 | 2 | 15 | 1 | 1 | 1 |
| 10/01/19 | TS, RH | 27 | 3 | 3 | 17 | 2 | 1 | 1 |
| 10/01/19 | TS, RH | 27 | 4 | 1 | 2 | 1 | 1 | 1 |
| 10/01/19 | TS, RH | 27 | 4 | 2 | 15 | 2 | 1 | 1 |
| 10/01/19 | TS, RH | 27 | 4 | 3 | 28 | 2 | 1 | 1 |

*Sierrita Pipline Project*

# Sierrita Long Term Monitoring: Quadrat Summary Table- Fall 2019

| Date | Crew | Vegetation Plot | Transect ID* | Quadrat | Random number used | Grazing Index | OHV Class | Pedestrian Travel Index |
|---|---|---|---|---|---|---|---|---|
| 10/01/19 | TS, RH | 27 | 5 | 1 | 6 | 1 | 1 | 1 |
| 10/01/19 | TS, RH | 27 | 5 | 2 | 12 | 1 | 1 | 1 |
| 10/01/19 | TS, RH | 27 | 5 | 3 | 21 | 2 | 1 | 1 |
| 10/01/19 | TS, RH | 27 | 6 | 1 | 4 | 3 | 1 | 1 |
| 10/01/19 | TS, RH | 27 | 6 | 2 | 5 | 3 | 1 | 1 |
| 10/01/19 | TS, RH | 27 | 6 | 3 | 12 | 2 | 1 | 1 |
| 09/30/19 | BP, RH | 28 | 1 | 1 | 1 | 2 | 1 | 1 |
| 09/30/19 | BP, RH | 28 | 1 | 2 | 6 | 1 | 1 | 1 |
| 09/30/19 | BP, RH | 28 | 1 | 3 | 27 | 1 | 1 | 1 |
| 09/30/19 | BP, RH | 28 | 2 | 1 | 1 | 1 | 1 | 1 |
| 09/30/19 | BP, RH | 28 | 2 | 2 | 3 | 1 | 1 | 1 |
| 09/30/19 | BP, RH | 28 | 2 | 3 | 15 | 1 | 1 | 1 |
| 09/30/19 | BP, RH | 28 | 3 | 1 | 4 | 1 | 1 | 1 |
| 09/30/19 | BP, RH | 28 | 3 | 2 | 21 | 1 | 1 | 1 |
| 09/30/19 | BP, RH | 28 | 3 | 3 | 25 | 1 | 1 | 1 |
| 09/30/19 | BP, RH | 28 | 4 | 1 | 8 | 1 | 1 | 1 |
| 09/30/19 | BP, RH | 28 | 4 | 2 | 13 | 1 | 1 | 1 |
| 09/30/19 | BP, RH | 28 | 4 | 3 | 23 | 1 | 1 | 1 |
| 09/30/19 | BP, RH | 28 | 5 | 1 | 6 | 1 | 1 | 1 |
| 09/30/19 | BP, RH | 28 | 5 | 2 | 11 | 1 | 1 | 1 |
| 09/30/19 | BP, RH | 28 | 5 | 3 | 14 | 1 | 1 | 1 |
| 09/30/19 | BP, RH | 28 | 6 | 1 | 10 | 1 | 1 | 1 |
| 09/30/19 | BP, RH | 28 | 6 | 2 | 11 | 1 | 1 | 1 |
| 09/30/19 | BP, RH | 28 | 6 | 3 | 16 | 1 | 1 | 1 |
| 09/30/19 | BP, RH | 29 | 1 | 1 | 12 | 1 | 1 | 1 |
| 09/30/19 | BP, RH | 29 | 1 | 2 | 15 | 2 | 1 | 1 |
| 09/30/19 | BP, RH | 29 | 1 | 3 | 20 | 1 | 1 | 1 |
| 09/30/19 | BP, RH | 29 | 2 | 1 | 10 | 1 | 1 | 1 |
| 09/30/19 | BP, RH | 29 | 2 | 2 | 23 | 2 | 1 | 1 |
| 09/30/19 | BP, RH | 29 | 2 | 3 | 25 | 1 | 1 | 1 |
| 09/30/19 | BP, RH | 29 | 3 | 1 | 7 | 1 | 1 | 1 |
| 09/30/19 | BP, RH | 29 | 3 | 2 | 12 | 1 | 1 | 1 |
| 09/30/19 | BP, RH | 29 | 3 | 3 | 23 | 1 | 1 | 1 |
| 09/30/19 | BP, RH | 29 | 4 | 1 | 5 | 1 | 1 | 1 |
| 09/30/19 | BP, RH | 29 | 4 | 2 | 10 | 1 | 1 | 1 |
| 09/30/19 | BP, RH | 29 | 4 | 3 | 22 | 1 | 1 | 1 |
| 09/30/19 | BP, RH | 29 | 5 | 1 | 16 | 2 | 1 | 1 |
| 09/30/19 | BP, RH | 29 | 5 | 2 | 20 | 1 | 1 | 1 |
| 09/30/19 | BP, RH | 29 | 5 | 3 | 28 | 1 | 1 | 1 |
| 09/30/19 | BP, RH | 29 | 6 | 1 | 3 | 1 | 1 | 1 |
| 09/30/19 | BP, RH | 29 | 6 | 2 | 6 | 1 | 1 | 1 |
| 09/30/19 | BP, RH | 29 | 6 | 3 | 14 | 1 | 1 | 1 |
| 09/23/19 | TS, RH | 30 | 1 | 1 | 16 | 4 | 1 | 1 |
| 09/23/19 | TS, RH | 30 | 1 | 2 | 17 | 4 | 1 | 1 |

## Sierrita Long Term Monitoring: Quadrat Summary Table- Fall 2019

| Date | Crew | Vegetation Plot | Transect ID* | Quadrat | Random number used | Grazing Index | OHV Class | Pedestrian Travel Index |
|---|---|---|---|---|---|---|---|---|
| 09/23/19 | TS, RH | 30 | 1 | 3 | 21 | 4 | 1 | 1 |
| 09/23/19 | TS, RH | 30 | 2 | 1 | 14 | 3 | 1 | 1 |
| 09/23/19 | TS, RH | 30 | 2 | 2 | 25 | 2 | 1 | 1 |
| 09/23/19 | TS, RH | 30 | 2 | 3 | 27 | 2 | 1 | 1 |
| 09/23/19 | TS, RH | 30 | 3 | 1 | 15 | 1 | 1 | 1 |
| 09/23/19 | TS, RH | 30 | 3 | 2 | 18 | 2 | 1 | 1 |
| 09/23/19 | TS, RH | 30 | 3 | 3 | 27 | 3 | 1 | 1 |
| 09/23/19 | TS, RH | 30 | 4 | 1 | 4 | 2 | 1 | 1 |
| 09/23/19 | TS, RH | 30 | 4 | 2 | 5 | 2 | 1 | 1 |
| 09/23/19 | TS, RH | 30 | 4 | 3 | 7 | 3 | 1 | 1 |
| 09/23/19 | TS, RH | 30 | 5 | 1 | 7 | 1 | 1 | 1 |
| 09/23/19 | TS, RH | 30 | 5 | 2 | 9 | 1 | 1 | 1 |
| 09/23/19 | TS, RH | 30 | 5 | 3 | 16 | 1 | 1 | 1 |
| 09/23/19 | TS, RH | 30 | 6 | 1 | 1 | 2 | 1 | 1 |
| 09/23/19 | TS, RH | 30 | 6 | 2 | 11 | 2 | 1 | 1 |
| 09/23/19 | TS, RH | 30 | 6 | 3 | 17 | 1 | 1 | 1 |

## Sierrita Long Term Monitoring: Species Observed by Quadrat- Fall 2018

| Plot ID | Transect ID | Quadrat ID | Species Code | Count |
|---|---|---|---|---|
| 1 | 1 | 1 | CHAARI | 14 |
| 1 | 1 | 2 | None | 0 |
| 1 | 1 | 3 | SPHAMB | 1 |
| 1 | 2 | 1 | CHAARI | 14 |
| 1 | 2 | 1 | SPHAMB | 3 |
| 1 | 2 | 1 | ZINACE | 3 |
| 1 | 2 | 1 | SPOCRY | 2 |
| 1 | 2 | 1 | BOUARI | 19 |
| 1 | 2 | 2 | SPHAMB | 1 |
| 1 | 2 | 2 | CHAARI | 13 |
| 1 | 2 | 3 | BOUARI | 2 |
| 1 | 2 | 3 | CHAARI | 15 |
| 1 | 3 | 1 | None | 0 |
| 1 | 3 | 2 | CHAARI | 12 |
| 1 | 3 | 2 | BOUARI | 2 |
| 1 | 3 | 3 | CHAARI | 5 |
| 1 | 4 | 1 | None | 0 |
| 1 | 4 | 2 | None | 0 |
| 1 | 4 | 3 | CHAMIC | 4 |
| 1 | 5 | 1 | None | 0 |
| 1 | 5 | 2 | CHAMIC | 2 |
| 1 | 5 | 3 | LARTRI | 1 |
| 1 | 6 | 1 | CHAMIC | 20 |
| 1 | 6 | 2 | None | 0 |
| 1 | 6 | 3 | None | 0 |
| 2 | 1 | 1 | BOUROT | 39 |
| 2 | 1 | 1 | SETMAC | 6 |
| 2 | 1 | 2 | BOUROT | 15 |
| 2 | 1 | 2 | ATRCAN | 2 |
| 2 | 1 | 3 | BOUROT | 15 |
| 2 | 2 | 1 | SETMAC | 3 |
| 2 | 2 | 1 | BOUROT | 32 |
| 2 | 2 | 1 | CHAMIC | 1 |
| 2 | 2 | 2 | ARIPUR | 1 |
| 2 | 2 | 2 | BOUROT | 66 |
| 2 | 2 | 3 | BOUROT | 32 |
| 2 | 2 | 3 | CHAARI | 5 |
| 2 | 3 | 1 | BOUROT | 55 |
| 2 | 3 | 1 | CHAARI | 3 |
| 2 | 3 | 2 | SPHAMB | 1 |
| 2 | 3 | 2 | VACCON | 1 |
| 2 | 3 | 2 | BOUROT | 44 |
| 2 | 3 | 3 | SPHAMB | 1 |
| 2 | 3 | 3 | PROVEL | 1 |
| 2 | 3 | 3 | BOUROT | 16 |
| 2 | 3 | 3 | BOUARI | 2 |
| 2 | 4 | 1 | None | 0 |
| 2 | 4 | 2 | CHAARI | 1 |
| 2 | 4 | 3 | LARTRI | 1 |
| 2 | 4 | 3 | CHAARI | 6 |
| 2 | 5 | 1 | None | 0 |
| 2 | 5 | 2 | LARTRI | 1 |
| 2 | 5 | 3 | None | 0 |
| 2 | 6 | 1 | None | 0 |
| 2 | 6 | 2 | None | 0 |
| 2 | 6 | 3 | None | 0 |
| 3 | 1 | 1 | BOUROT | 17 |
| 3 | 1 | 1 | BOUARI | 55 |
| 3 | 1 | 1 | BOEERE | 2 |
| 3 | 1 | 1 | TRITER | 1 |
| 3 | 1 | 2 | BAIMUL | 5 |
| 3 | 1 | 2 | BOEERE | 27 |
| 3 | 1 | 2 | SPOCRY | 1 |
| 3 | 1 | 2 | BOUROT | 16 |
| 3 | 1 | 2 | BOUARI | 24 |
| 3 | 1 | 3 | BOEERE | 14 |
| 3 | 1 | 3 | BOUROT | 1 |
| 3 | 1 | 3 | BAIMUL | 5 |
| 3 | 1 | 3 | BOUARI | 43 |
| 3 | 2 | 1 | BAIMUL | 3 |
| 3 | 2 | 1 | BOUROT | 17 |
| 3 | 2 | 1 | BOUARI | 47 |
| 3 | 2 | 2 | BOUROT | 10 |
| 3 | 2 | 2 | BOUARI | 39 |
| 3 | 2 | 2 | CHASPP | 2 |
| 3 | 2 | 2 | AMBACA | 1 |
| 3 | 2 | 3 | BOUROT | 7 |
| 3 | 2 | 3 | BOUARI | 45 |
| 3 | 2 | 3 | BAIMUL | 3 |
| 3 | 3 | 1 | BOUROT | 16 |
| 3 | 3 | 1 | BOUARI | 6 |
| 3 | 3 | 1 | BOEERE | 1 |
| 3 | 3 | 2 | BOUROT | 28 |
| 3 | 3 | 2 | BOUARI | 27 |
| 3 | 3 | 2 | BAIMUL | 9 |
| 3 | 3 | 2 | PANALA | 1 |
| 3 | 3 | 2 | ARIPUR | 4 |
| 3 | 3 | 3 | BAIMUL | 8 |
| 3 | 3 | 3 | BOUROT | 22 |
| 3 | 3 | 3 | BOUARI | 33 |

# Sierrita Long Term Monitoring: Species Observed by Quadrat- Fall 2018

| Plot ID | Transect ID | Quadrat ID | Species Code | Count |
|---|---|---|---|---|
| 3 | 4 | 1 | AMAPAL | 8 |
| 3 | 4 | 1 | BOUARI | 7 |
| 3 | 4 | 1 | TIDLAN | 12 |
| 3 | 4 | 1 | BOEERE | 10 |
| 3 | 4 | 1 | TRITER | 7 |
| 3 | 4 | 1 | EUPFLO | 2 |
| 3 | 4 | 1 | PANALA | 2 |
| 3 | 4 | 1 | BOUROT | 2 |
| 3 | 4 | 2 | BOEERE | 9 |
| 3 | 4 | 2 | BOUARI | 19 |
| 3 | 4 | 3 | BOEERE | 3 |
| 3 | 4 | 3 | BOUARI | 21 |
| 3 | 5 | 1 | TIDLAN | 3 |
| 3 | 5 | 1 | ARIPUR | 4 |
| 3 | 5 | 1 | AMAPAL | 3 |
| 3 | 5 | 1 | PANALA | 6 |
| 3 | 5 | 1 | AMBACA | 1 |
| 3 | 5 | 2 | BOUARI | 49 |
| 3 | 5 | 3 | BOUARI | 33 |
| 3 | 5 | 3 | BOEERE | 9 |
| 3 | 6 | 1 | TIDLAN | 3 |
| 3 | 6 | 1 | PANALA | 3 |
| 3 | 6 | 1 | CHLVIR | 3 |
| 3 | 6 | 1 | BOEERE | 3 |
| 3 | 6 | 1 | ERACIL | 2 |
| 3 | 6 | 1 | EUPFLO | 2 |
| 3 | 6 | 1 | BOUROT | 4 |
| 3 | 6 | 1 | BOUARI | 19 |
| 3 | 6 | 2 | TIDLAN | 11 |
| 3 | 6 | 2 | POROLE | 6 |
| 3 | 6 | 2 | BOUARI | 19 |
| 3 | 6 | 2 | PORUMB | 2 |
| 3 | 6 | 2 | DITNEO | 2 |
| 3 | 6 | 2 | BOEERE | 3 |
| 3 | 6 | 3 | DITNEO | 3 |
| 3 | 6 | 3 | TIDLAN | 1 |
| 3 | 6 | 3 | AMAPAL | 8 |
| 3 | 6 | 3 | BOUARI | 36 |
| 3 | 6 | 3 | ARIPUR | 5 |
| 3 | 6 | 3 | POROLE | 6 |
| 4 | 1 | 1 | AMAPAL | 25 |
| 4 | 1 | 1 | BOUROT | 13 |
| 4 | 1 | 1 | CHAMIC | 2 |
| 4 | 1 | 1 | BOEERE | 1 |
| 4 | 1 | 2 | SALTRA | 11 |
| 4 | 1 | 2 | AMAPAL | 3 |
| 4 | 1 | 2 | BOUROT | 6 |
| 4 | 1 | 3 | BOUROT | 4 |
| 4 | 1 | 3 | AMAPAL | 1 |
| 4 | 1 | 3 | SALTRA | 4 |
| 4 | 2 | 1 | SALTRA | 2 |
| 4 | 2 | 1 | BOUROT | 6 |
| 4 | 2 | 2 | SALTRA | 2 |
| 4 | 2 | 2 | AMAPAL | 1 |
| 4 | 2 | 3 | BOUROT | 28 |
| 4 | 3 | 1 | None | 0 |
| 4 | 3 | 2 | SALTRA | 8 |
| 4 | 3 | 2 | BOUROT | 5 |
| 4 | 3 | 3 | SALTRA | 1 |
| 4 | 3 | 3 | AMAPAL | 1 |
| 4 | 4 | 1 | LYCAND | 1 |
| 4 | 4 | 2 | PROVEL | 1 |
| 4 | 4 | 2 | CHLVIR | 5 |
| 4 | 4 | 2 | LYCAND | 1 |
| 4 | 4 | 3 | None | 0 |
| 4 | 5 | 1 | SALTRA | 1 |
| 4 | 5 | 2 | TIDLAN | 2 |
| 4 | 5 | 2 | BOUARI | 1 |
| 4 | 5 | 2 | BOEERE | 2 |
| 4 | 5 | 3 | BOUARI | 1 |
| 4 | 6 | 1 | BOUROT | 1 |
| 4 | 6 | 2 | BOUARI | 1 |
| 4 | 6 | 3 | LYCAND | 3 |
| 5 | 1 | 1 | BOUBAR | 1 |
| 5 | 1 | 1 | BOEERE | 1 |
| 5 | 1 | 2 | BOUBAR | 2 |
| 5 | 1 | 2 | ATRCAN | 1 |
| 5 | 1 | 3 | SALTRA | 1 |
| 5 | 1 | 3 | ATRPOL | 2 |
| 5 | 1 | 3 | ATRELE | 3 |
| 5 | 1 | 3 | CHAMIC | 1 |
| 5 | 1 | 3 | BOEERE | 2 |
| 5 | 2 | 1 | BOUARI | 1 |
| 5 | 2 | 1 | BOUBAR | 5 |
| 5 | 2 | 1 | BOEERE | 1 |
| 5 | 2 | 2 | CHLVIR | 12 |
| 5 | 2 | 2 | ATRELE | 1 |
| 5 | 2 | 2 | BOUARI | 68 |
| 5 | 2 | 2 | BOUROT | 17 |
| 5 | 2 | 2 | SPOCRY | 3 |

# Sierrita Long Term Monitoring: Species Observed by Quadrat- Fall 2018

| Plot ID | Transect ID | Quadrat ID | Species Code | Count |
|---|---|---|---|---|
| 5 | 2 | 2 | SALTRA | 1 |
| 5 | 2 | 2 | BOEERE | 1 |
| 5 | 2 | 3 | BOEERE | 22 |
| 5 | 2 | 3 | BOUBAR | 13 |
| 5 | 2 | 3 | BOUARI | 2 |
| 5 | 2 | 3 | BOUROT | 1 |
| 5 | 2 | 3 | CHAMIC | 6 |
| 5 | 2 | 3 | PECPAP | 1 |
| 5 | 3 | 1 | BOEERE | 2 |
| 5 | 3 | 1 | CHAMIC | 1 |
| 5 | 3 | 2 | BOUROT | 3 |
| 5 | 3 | 2 | BOUARI | 2 |
| 5 | 3 | 2 | BOUBAR | 1 |
| 5 | 3 | 2 | SALTRA | 1 |
| 5 | 3 | 3 | BOUROT | 1 |
| 5 | 3 | 3 | BOUARI | 8 |
| 5 | 3 | 3 | BOUBAR | 5 |
| 5 | 3 | 3 | SALTRA | 1 |
| 5 | 4 | 1 | None | 0 |
| 5 | 4 | 2 | BOUBAR | 2 |
| 5 | 4 | 3 | BOEERE | 2 |
| 5 | 5 | 1 | BOEERE | 5 |
| 5 | 5 | 1 | BOUARI | 1 |
| 5 | 5 | 1 | BOUBAR | 1 |
| 5 | 6 | 1 | None | 0 |
| 5 | 6 | 2 | None | 0 |
| 5 | 6 | 3 | ATRCAN | 1 |
| 5 | 6 | 3 | BOUBAR | 5 |
| 5 | 6 | 3 | BOUARI | 4 |
| 5 | 6 | 3 | PAPVAG | 1 |
| 6 | 1 | 1 | PANHIR | 4 |
| 6 | 1 | 1 | AMAPAL | 1 |
| 6 | 1 | 2 | AMAPAL | 3 |
| 6 | 1 | 3 | PROVEL | 1 |
| 6 | 1 | 3 | SPOCRY | 13 |
| 6 | 1 | 3 | PANHIR | 1 |
| 6 | 1 | 3 | SORHAL | 1 |
| 6 | 1 | 3 | AMAPAL | 1 |
| 6 | 2 | 1 | SPOCRY | 120 |
| 6 | 2 | 1 | SORHAL | 16 |
| 6 | 2 | 1 | PROVEL | 2 |
| 6 | 2 | 1 | PANHIR | 1 |
| 6 | 2 | 2 | SORHAL | 9 |
| 6 | 2 | 2 | SPOCRY | 96 |
| 6 | 2 | 2 | PANHIR | 1 |
| 6 | 2 | 2 | ATRCAN | 1 |
| 6 | 2 | 3 | PROVEL | 2 |
| 6 | 2 | 3 | SORHAL | 2 |
| 6 | 2 | 3 | PANHIR | 1 |
| 6 | 2 | 3 | ERAINT | 4 |
| 6 | 2 | 3 | SPOCRY | 97 |
| 6 | 3 | 1 | PROVEL | 3 |
| 6 | 3 | 2 | PROVEL | 1 |
| 6 | 3 | 2 | SORHAL | 1 |
| 6 | 3 | 2 | SPOCRY | 15 |
| 6 | 3 | 2 | ATRCAN | 1 |
| 6 | 3 | 3 | SORHAL | 3 |
| 6 | 3 | 3 | PROVEL | 2 |
| 6 | 3 | 3 | SPOCRY | 18 |
| 6 | 4 | 1 | IPOHED | 14 |
| 6 | 4 | 1 | EUPDAV | 4 |
| 6 | 4 | 1 | SETMAC | 4 |
| 6 | 4 | 1 | SPOCRY | 44 |
| 6 | 4 | 2 | EUPDAV | 4 |
| 6 | 4 | 2 | IPOHED | 13 |
| 6 | 4 | 2 | CHASPP | 1 |
| 6 | 4 | 3 | IPOHED | 34 |
| 6 | 5 | 1 | PROVEL | 1 |
| 6 | 5 | 1 | IPOHED | 62 |
| 6 | 5 | 2 | IPOHED | 18 |
| 6 | 5 | 3 | SPOCRY | 121 |
| 6 | 5 | 3 | IPOHED | 1 |
| 6 | 5 | 3 | DIGCAL | 1 |
| 6 | 6 | 1 | SPOCRY | 98 |
| 6 | 6 | 1 | IPOHED | 19 |
| 6 | 6 | 1 | SORHAL | 2 |
| 6 | 6 | 1 | AMAPAL | 2 |
| 6 | 6 | 2 | IPOHED | 15 |
| 6 | 6 | 3 | PROVEL | 1 |
| 6 | 6 | 3 | SPOCRY | 14 |
| 6 | 6 | 3 | IPOHED | 34 |
| 7 | 1 | 1 | SPOCRY | 6 |
| 7 | 1 | 1 | CHLVIR | 20 |
| 7 | 1 | 1 | IPOHED | 1 |
| 7 | 1 | 1 | ATRCAN | 1 |
| 7 | 1 | 1 | AMAPAL | 1 |
| 7 | 1 | 1 | PROVEL | 1 |
| 7 | 1 | 2 | AMBACA | 6 |
| 7 | 1 | 2 | PROVEL | 3 |
| 7 | 1 | 3 | PROVEL | 1 |

# Sierrita Long Term Monitoring: Species Observed by Quadrat- Fall 2018

| Plot ID | Transect ID | Quadrat ID | Species Code | Count |
|---|---|---|---|---|
| 7 | 1 | 3 | IPOHED | 12 |
| 7 | 2 | 1 | PROVEL | 1 |
| 7 | 2 | 1 | ECHCOL | 24 |
| 7 | 2 | 2 | ECHCOL | 16 |
| 7 | 2 | 3 | ECHCOL | 14 |
| 7 | 3 | 1 | ECHCOL | 1 |
| 7 | 3 | 2 | ECHCOL | 1 |
| 7 | 3 | 2 | ERACUR | 1 |
| 7 | 3 | 3 | ECHCOL | 17 |
| 7 | 3 | 3 | AMAPAL | 1 |
| 7 | 4 | 1 | SPOCRY | 1 |
| 7 | 4 | 1 | ECHCOL | 3 |
| 7 | 4 | 2 | IPOHED | 3 |
| 7 | 4 | 2 | SPOCRY | 2 |
| 7 | 4 | 2 | PANSPP | 1 |
| 7 | 4 | 3 | RUENUD | 19 |
| 7 | 4 | 3 | IPOHED | 2 |
| 7 | 4 | 3 | PROVEL | 1 |
| 7 | 4 | 3 | QUILOB | 3 |
| 7 | 4 | 3 | JUSSPP | 1 |
| 7 | 5 | 1 | AMBACA | 28 |
| 7 | 5 | 1 | IPOHED | 11 |
| 7 | 5 | 2 | None | 0 |
| 7 | 5 | 3 | None | 0 |
| 7 | 6 | 1 | IPOHED | 1 |
| 7 | 6 | 1 | AMBACA | 38 |
| 7 | 6 | 2 | PROVEL | 1 |
| 7 | 6 | 2 | AMBACA | 37 |
| 7 | 6 | 2 | IPOHED | 3 |
| 7 | 6 | 2 | CHLVIR | 2 |
| 7 | 6 | 3 | None | 0 |
| 8 | 1 | 1 | ISOTEN | 1 |
| 8 | 1 | 1 | BOUROT | 93 |
| 8 | 1 | 1 | BOUARI | 3 |
| 8 | 1 | 1 | ERALEH | 1 |
| 8 | 1 | 2 | BOUROT | 62 |
| 8 | 1 | 2 | BOUARI | 5 |
| 8 | 1 | 2 | TIDLAN | 1 |
| 8 | 1 | 3 | BOUROT | 4 |
| 8 | 1 | 3 | BOUARI | 27 |
| 8 | 1 | 3 | BOUBAR | 8 |
| 8 | 2 | 1 | ATRCAN | 2 |
| 8 | 2 | 1 | BOUROT | 55 |
| 8 | 2 | 1 | CYLFUL | 1 |
| 8 | 2 | 1 | BOUARI | 7 |
| 8 | 2 | 2 | BOUROT | 22 |
| 8 | 2 | 2 | BOUARI | 89 |
| 8 | 2 | 3 | BOUROT | 1 |
| 8 | 2 | 3 | BOUBAR | 2 |
| 8 | 2 | 3 | BOUARI | 13 |
| 8 | 2 | 3 | TIDLAN | 1 |
| 8 | 3 | 1 | BOUROT | 57 |
| 8 | 3 | 1 | BOUARI | 7 |
| 8 | 3 | 1 | TIDLAN | 1 |
| 8 | 3 | 2 | BOUROT | 63 |
| 8 | 3 | 3 | BOUROT | 78 |
| 8 | 4 | 1 | PROVEL | 2 |
| 8 | 4 | 1 | ISOTEN | 1 |
| 8 | 4 | 2 | ISOTEN | 1 |
| 8 | 4 | 3 | None | 0 |
| 8 | 5 | 1 | VACCON | 1 |
| 8 | 5 | 2 | CYLFUL | 1 |
| 8 | 5 | 3 | None | 0 |
| 8 | 6 | 1 | None | 0 |
| 8 | 6 | 2 | None | 0 |
| 8 | 6 | 3 | ISOTEN | 1 |
| 9 | 1 | 1 | BOUARI | 89 |
| 9 | 1 | 1 | BOUROT | 20 |
| 9 | 1 | 2 | BOUARI | 73 |
| 9 | 1 | 2 | BOUROT | 3 |
| 9 | 1 | 3 | BOUARI | 92 |
| 9 | 1 | 3 | BOUROT | 9 |
| 9 | 2 | 1 | BOUARI | 19 |
| 9 | 2 | 1 | BOUROT | 17 |
| 9 | 2 | 2 | ATRPOL | 1 |
| 9 | 2 | 2 | BOUROT | 24 |
| 9 | 2 | 2 | BOUARI | 4 |
| 9 | 2 | 3 | BOUROT | 24 |
| 9 | 2 | 3 | BOUARI | 7 |
| 9 | 3 | 1 | BOUROT | 5 |
| 9 | 3 | 1 | BOUARI | 16 |
| 9 | 3 | 1 | TRIPOR | 3 |
| 9 | 3 | 1 | BOECOC | 1 |
| 9 | 3 | 2 | TRIPOR | 14 |
| 9 | 3 | 2 | BOUROT | 8 |
| 9 | 3 | 2 | BOUARI | 19 |
| 9 | 3 | 3 | ATRPOL | 1 |
| 9 | 3 | 3 | ATRCAN | 1 |
| 9 | 3 | 3 | AMAPAL | 21 |
| 9 | 3 | 3 | SPOCRY | 41 |

## Sierrita Long Term Monitoring: Species Observed by Quadrat- Fall 2018

| Plot ID | Transect ID | Quadrat ID | Species Code | Count |
|---|---|---|---|---|
| 9 | 3 | 3 | CHASPP | 1 |
| 9 | 4 | 1 | ISOTEN | 4 |
| 9 | 4 | 1 | BOUARI | 28 |
| 9 | 4 | 2 | BOUARI | 8 |
| 9 | 4 | 2 | ISOTEN | 1 |
| 9 | 4 | 2 | BOECOC | 1 |
| 9 | 4 | 3 | BOECOC | 5 |
| 9 | 4 | 3 | BOUARI | 5 |
| 9 | 5 | 1 | None | 0 |
| 9 | 5 | 2 | BOUARI | 10 |
| 9 | 5 | 2 | ISOTEN | 1 |
| 9 | 5 | 3 | PROVEL | 1 |
| 9 | 5 | 3 | BOUARI | 2 |
| 9 | 5 | 3 | ISOTEN | 1 |
| 9 | 5 | 3 | ACANEO | 1 |
| 9 | 6 | 1 | BOUARI | 61 |
| 9 | 6 | 1 | TRIPOR | 3 |
| 9 | 6 | 1 | BOECOC | 6 |
| 9 | 6 | 2 | ISOTEN | 1 |
| 9 | 6 | 2 | BOUARI | 4 |
| 9 | 6 | 2 | BOECOC | 1 |
| 9 | 6 | 3 | ISOTEN | 1 |
| 10 | 1 | 1 | BAIMUL | 1 |
| 10 | 1 | 1 | BOEERE | 7 |
| 10 | 1 | 1 | BOUROT | 31 |
| 10 | 1 | 1 | BOUARI | 9 |
| 10 | 1 | 2 | BAIMUL | 12 |
| 10 | 1 | 2 | BOUARI | 9 |
| 10 | 1 | 2 | BOEERE | 4 |
| 10 | 1 | 2 | BOUROT | 38 |
| 10 | 1 | 3 | BAIMUL | 19 |
| 10 | 1 | 3 | BOUARI | 10 |
| 10 | 1 | 3 | BOUROT | 26 |
| 10 | 1 | 3 | BOEERE | 2 |
| 10 | 2 | 1 | BAIMUL | 6 |
| 10 | 2 | 1 | SPHAMB | 1 |
| 10 | 2 | 1 | BOEERE | 1 |
| 10 | 2 | 1 | BOUARI | 2 |
| 10 | 2 | 1 | BOUROT | 26 |
| 10 | 2 | 2 | BAIMUL | 19 |
| 10 | 2 | 2 | SPHAMB | 1 |
| 10 | 2 | 2 | BOUROT | 102 |
| 10 | 2 | 3 | DASPUL | 1 |
| 10 | 2 | 3 | BOUARI | 8 |
| 10 | 2 | 3 | BOUROT | 9 |

| Plot ID | Transect ID | Quadrat ID | Species Code | Count |
|---|---|---|---|---|
| 10 | 2 | 3 | BAIMUL | 1 |
| 10 | 3 | 1 | BAIMUL | 14 |
| 10 | 3 | 1 | BOUROT | 58 |
| 10 | 3 | 1 | BOEERE | 1 |
| 10 | 3 | 1 | CHAMIC | 1 |
| 10 | 3 | 2 | SPHAMB | 1 |
| 10 | 3 | 2 | BAIMUL | 1 |
| 10 | 3 | 2 | BOUROT | 24 |
| 10 | 3 | 2 | BOUBAR | 2 |
| 10 | 3 | 2 | PANSPP | 1 |
| 10 | 3 | 3 | BOEERE | 3 |
| 10 | 3 | 3 | BOUROT | 1 |
| 10 | 4 | 1 | PANHIR | 1 |
| 10 | 4 | 1 | DITNEO | 1 |
| 10 | 4 | 2 | None | 0 |
| 10 | 4 | 3 | BOUROT | 2 |
| 10 | 5 | 1 | BOEERE | 1 |
| 10 | 5 | 2 | BOUBAR | 2 |
| 10 | 5 | 2 | ALLCHO | 1 |
| 10 | 5 | 3 | BOUARI | 4 |
| 10 | 5 | 3 | BOEERE | 6 |
| 10 | 5 | 3 | BOUBAR | 8 |
| 10 | 6 | 1 | VACCON | 1 |
| 10 | 6 | 1 | BOEERE | 2 |
| 10 | 6 | 1 | BOUARI | 1 |
| 10 | 6 | 2 | None | 0 |
| 10 | 6 | 3 | BOUARI | 3 |
| 10 | 6 | 3 | BOUBAR | 1 |
| 11 | 1 | 1 | ANDOCC | 12 |
| 11 | 1 | 1 | BAIMUL | 2 |
| 11 | 1 | 1 | BOUROT | 17 |
| 11 | 1 | 1 | BOUARI | 91 |
| 11 | 1 | 2 | BOUROT | 7 |
| 11 | 1 | 2 | BOUARI | 52 |
| 11 | 1 | 2 | BAIMUL | 2 |
| 11 | 1 | 3 | BOUROT | 6 |
| 11 | 1 | 3 | BOUARI | 15 |
| 11 | 2 | 1 | BOEERE | 1 |
| 11 | 2 | 1 | BOUROT | 12 |
| 11 | 2 | 1 | BOUARI | 39 |
| 11 | 2 | 2 | BOEERE | 1 |
| 11 | 2 | 2 | BOUROT | 14 |
| 11 | 2 | 2 | BOUARI | 13 |
| 11 | 2 | 3 | BOUROT | 9 |
| 11 | 2 | 3 | BOUARI | 14 |

## Sierrita Long Term Monitoring: Species Observed by Quadrat- Fall 2018

| Plot ID | Transect ID | Quadrat ID | Species Code | Count |
|---|---|---|---|---|
| 11 | 2 | 3 | BAIMUL | 1 |
| 11 | 2 | 3 | BOEERE | 1 |
| 11 | 3 | 1 | BAIMUL | 1 |
| 11 | 3 | 1 | BOUARI | 19 |
| 11 | 3 | 1 | BOUROT | 8 |
| 11 | 3 | 1 | BOEERE | 6 |
| 11 | 3 | 2 | BOEERE | 12 |
| 11 | 3 | 2 | BOUROT | 7 |
| 11 | 3 | 2 | BOUARI | 16 |
| 11 | 3 | 3 | ARITER | 1 |
| 11 | 3 | 3 | BOEERE | 2 |
| 11 | 3 | 3 | BOUROT | 5 |
| 11 | 3 | 3 | BOUARI | 21 |
| 11 | 3 | 3 | PANHIR | 2 |
| 11 | 4 | 1 | ARIPUR | 2 |
| 11 | 4 | 1 | BOEERE | 7 |
| 11 | 4 | 1 | AMAPAL | 6 |
| 11 | 4 | 1 | BIDLEP | 1 |
| 11 | 4 | 1 | DITNEO | 1 |
| 11 | 4 | 1 | BOUARI | 5 |
| 11 | 4 | 1 | PANHIR | 1 |
| 11 | 4 | 1 | BOUROT | 1 |
| 11 | 4 | 2 | BOEERE | 3 |
| 11 | 4 | 2 | BOUARI | 50 |
| 11 | 4 | 3 | ANDOCC | 17 |
| 11 | 4 | 3 | KALCAL | 2 |
| 11 | 4 | 3 | ARIPUR | 10 |
| 11 | 4 | 3 | PARMIC | 1 |
| 11 | 4 | 3 | PANHIR | 1 |
| 11 | 4 | 3 | CYLFUL | 1 |
| 11 | 4 | 3 | BOUARI | 4 |
| 11 | 5 | 1 | BOEERE | 3 |
| 11 | 5 | 1 | BOUARI | 19 |
| 11 | 5 | 2 | PANHIR | 2 |
| 11 | 5 | 2 | ARIPUR | 2 |
| 11 | 5 | 2 | TIDLAN | 4 |
| 11 | 5 | 2 | AMAPAL | 9 |
| 11 | 5 | 2 | BIDLEP | 4 |
| 11 | 5 | 2 | ANDOCC | 9 |
| 11 | 5 | 3 | DATSSP | 1 |
| 11 | 5 | 3 | AMAPAL | 21 |
| 11 | 5 | 3 | BIDLEP | 8 |
| 11 | 6 | 1 | CYLFUL | 1 |
| 11 | 6 | 1 | VACCON | 1 |
| 11 | 6 | 1 | MUHPOR | 4 |
| 11 | 6 | 1 | XANTEX | 1 |
| 11 | 6 | 1 | BOECOC | 1 |
| 11 | 6 | 1 | BOUROT | 2 |
| 11 | 6 | 1 | BOEERE | 1 |
| 11 | 6 | 2 | BOUARI | 11 |
| 11 | 6 | 2 | BOEERE | 1 |
| 11 | 6 | 3 | BOEERE | 3 |
| 11 | 6 | 3 | ARIPUR | 2 |
| 11 | 6 | 3 | BOUARI | 1 |
| 11 | 6 | 3 | PANHIR | 1 |
| 12 | 1 | 1 | ERASPP | 6 |
| 12 | 1 | 1 | BOUARI | 31 |
| 12 | 1 | 1 | BOEINT | 2 |
| 12 | 1 | 1 | ALLCHO | 2 |
| 12 | 1 | 2 | BOUARI | 67 |
| 12 | 1 | 2 | TIDLAN | 3 |
| 12 | 1 | 2 | EVOARI | 1 |
| 12 | 1 | 2 | ALLCHO | 1 |
| 12 | 1 | 2 | BOEINT | 6 |
| 12 | 1 | 2 | ERALEH | 1 |
| 12 | 1 | 3 | BOEINT | 5 |
| 12 | 1 | 3 | ALLCHO | 4 |
| 12 | 1 | 3 | BOUARI | 9 |
| 12 | 1 | 3 | BOECOC | 9 |
| 12 | 1 | 3 | PORFLO | 1 |
| 12 | 2 | 1 | BOUROT | 1 |
| 12 | 2 | 1 | ERALEH | 2 |
| 12 | 2 | 1 | BOUARI | 15 |
| 12 | 2 | 1 | ALLCHO | 4 |
| 12 | 2 | 1 | SCHSPP | 1 |
| 12 | 2 | 1 | CHAFLO | 1 |
| 12 | 2 | 2 | BOUARI | 41 |
| 12 | 2 | 2 | CHASPP | 1 |
| 12 | 2 | 2 | ERALEH | 9 |
| 12 | 2 | 3 | BOUARI | 26 |
| 12 | 2 | 3 | ISOTEN | 1 |
| 12 | 2 | 3 | CHASPP | 1 |
| 12 | 2 | 3 | BOEINT | 5 |
| 12 | 2 | 3 | ERALEH | 6 |
| 12 | 3 | 1 | BOUARI | 46 |
| 12 | 3 | 1 | ISOTEN | 1 |
| 12 | 3 | 1 | CHAFLO | 1 |
| 12 | 3 | 1 | ALLCHO | 1 |
| 12 | 3 | 1 | BOEINT | 4 |
| 12 | 3 | 1 | PANSPP | 2 |

## Sierrita Long Term Monitoring: Species Observed by Quadrat- Fall 2018

| Plot ID | Transect ID | Quadrat ID | Species Code | Count |
|---|---|---|---|---|
| 12 | 3 | 2 | ERALEH | 1 |
| 12 | 3 | 2 | BOUARI | 61 |
| 12 | 3 | 2 | BOEINT | 2 |
| 12 | 3 | 2 | CHAFLO | 1 |
| 12 | 3 | 3 | BOUARI | 5 |
| 12 | 4 | 1 | BOUARI | 21 |
| 12 | 4 | 1 | CHAFLO | 6 |
| 12 | 4 | 1 | ALLCHO | 3 |
| 12 | 4 | 1 | BOEINT | 1 |
| 12 | 4 | 2 | ANDOCC | 106 |
| 12 | 4 | 2 | ERALEH | 7 |
| 12 | 4 | 2 | PORSPP | 4 |
| 12 | 4 | 2 | BOUARI | 20 |
| 12 | 4 | 3 | BOUINT | 3 |
| 12 | 4 | 3 | CHASPP | 1 |
| 12 | 4 | 3 | BOUARI | 3 |
| 12 | 5 | 1 | BOUARI | 36 |
| 12 | 5 | 1 | ERALEH | 8 |
| 12 | 5 | 1 | ANDOCC | 17 |
| 12 | 5 | 1 | POROLE | 2 |
| 12 | 5 | 1 | PORSPP | 3 |
| 12 | 5 | 2 | ISOTEN | 1 |
| 12 | 5 | 2 | POROLE | 8 |
| 12 | 5 | 2 | BOUARI | 35 |
| 12 | 5 | 2 | BOEINT | 2 |
| 12 | 5 | 3 | ERALEH | 2 |
| 12 | 5 | 3 | ECHCOL | 1 |
| 12 | 5 | 3 | POROLE | 2 |
| 12 | 6 | 1 | BOUARI | 24 |
| 12 | 6 | 1 | BOUROT | 4 |
| 12 | 6 | 1 | ISOTEN | 2 |
| 12 | 6 | 1 | POROLE | 2 |
| 12 | 6 | 1 | BOEINT | 1 |
| 12 | 6 | 2 | POROLE | 5 |
| 12 | 6 | 2 | BOEINT | 7 |
| 12 | 6 | 2 | PORSPP | 4 |
| 12 | 6 | 2 | ISOTEN | 1 |
| 12 | 6 | 2 | BOUARI | 15 |
| 12 | 6 | 2 | ANDOCC | 11 |
| 12 | 6 | 3 | ISOTEN | 5 |
| 12 | 6 | 3 | BOUARI | 53 |
| 12 | 6 | 3 | PORSPP | 3 |
| 12 | 6 | 3 | BOEINT | 5 |
| 12 | 6 | 3 | ALLCHO | 1 |
| 13 | 1 | 1 | BOUROT | 2 |
| 13 | 1 | 1 | BOUARI | 6 |
| 13 | 1 | 1 | BOEERE | 7 |
| 13 | 1 | 1 | ERALEH | 3 |
| 13 | 1 | 2 | BOEERE | 8 |
| 13 | 1 | 2 | BOUARI | 5 |
| 13 | 1 | 2 | ISOTEN | 1 |
| 13 | 1 | 3 | BOEERE | 7 |
| 13 | 1 | 3 | ISOTEN | 2 |
| 13 | 1 | 3 | BOUARI | 11 |
| 13 | 1 | 3 | TIDLAN | 1 |
| 13 | 2 | 1 | SPHAMB | 1 |
| 13 | 2 | 1 | BOUROT | 12 |
| 13 | 2 | 1 | ERALEH | 9 |
| 13 | 2 | 1 | BOEERE | 8 |
| 13 | 2 | 2 | BOUARI | 12 |
| 13 | 2 | 2 | BOUROT | 1 |
| 13 | 2 | 2 | BOEERE | 2 |
| 13 | 2 | 3 | BOUROT | 1 |
| 13 | 2 | 3 | BOEERE | 1 |
| 13 | 2 | 3 | BOUARI | 7 |
| 13 | 3 | 1 | SPOCRY | 4 |
| 13 | 3 | 1 | SPHAMB | 1 |
| 13 | 3 | 1 | SETMAC | 5 |
| 13 | 3 | 1 | CHLVIR | 6 |
| 13 | 3 | 2 | BOUROT | 14 |
| 13 | 3 | 2 | SPOCRY | 3 |
| 13 | 3 | 2 | TIDLAN | 3 |
| 13 | 3 | 2 | CHLVIR | 5 |
| 13 | 3 | 2 | BOUARI | 22 |
| 13 | 3 | 3 | BOEERE | 2 |
| 13 | 3 | 3 | BOUARI | 2 |
| 13 | 4 | 1 | None | 0 |
| 13 | 4 | 2 | LARTRI | 1 |
| 13 | 4 | 3 | None | 0 |
| 13 | 5 | 1 | TIDLAN | 3 |
| 13 | 5 | 1 | BOEERE | 8 |
| 13 | 5 | 1 | ERALEH | 12 |
| 13 | 5 | 1 | BOUARI | 11 |
| 13 | 5 | 2 | ERALEH | 19 |
| 13 | 5 | 2 | BOUARI | 67 |
| 13 | 5 | 2 | BOEERE | 10 |
| 13 | 5 | 3 | PROVEL | 1 |
| 13 | 5 | 3 | ERALEH | 4 |
| 13 | 5 | 3 | POROLE | 9 |
| 13 | 5 | 3 | BOUARI | 19 |

# Sierrita Long Term Monitoring: Species Observed by Quadrat- Fall 2018

| Plot ID | Transect ID | Quadrat ID | Species Code | Count |
|---|---|---|---|---|
| 13 | 6 | 1 | BOEERE | 3 |
| 13 | 6 | 1 | TIDLAN | 2 |
| 13 | 6 | 1 | ERALEH | 2 |
| 13 | 6 | 1 | BOUARI | 61 |
| 13 | 6 | 2 | BOUARI | 34 |
| 13 | 6 | 2 | BOEERE | 9 |
| 13 | 6 | 3 | ERALEH | 5 |
| 13 | 6 | 3 | BOUARI | 41 |
| 13 | 6 | 3 | BOEERE | 9 |
| 14 | 1 | 1 | BOUARI | 57 |
| 14 | 1 | 1 | BOUROT | 1 |
| 14 | 1 | 1 | CHAFLO | 1 |
| 14 | 1 | 2 | SPHAMB | 1 |
| 14 | 1 | 2 | BOUARI | 39 |
| 14 | 1 | 2 | BOUROT | 16 |
| 14 | 1 | 2 | POROLE | 7 |
| 14 | 1 | 2 | TIDLAN | 1 |
| 14 | 1 | 2 | ECHCOL | 1 |
| 14 | 1 | 3 | SPHAMB | 1 |
| 14 | 1 | 3 | POROLE | 9 |
| 14 | 1 | 3 | BOUROT | 15 |
| 14 | 1 | 3 | BOUARI | 11 |
| 14 | 1 | 3 | CHASPP | 2 |
| 14 | 2 | 1 | BOUARI | 18 |
| 14 | 2 | 1 | ISOTEN | 1 |
| 14 | 2 | 1 | BOUROT | 10 |
| 14 | 2 | 2 | BOUARI | 32 |
| 14 | 2 | 2 | BOUROT | 7 |
| 14 | 2 | 2 | CHAFLO | 2 |
| 14 | 2 | 3 | BOUARI | 2 |
| 14 | 3 | 1 | BOUARI | 11 |
| 14 | 3 | 2 | BOUARI | 31 |
| 14 | 3 | 2 | BOUROT | 3 |
| 14 | 3 | 3 | ARIPUR | 1 |
| 14 | 3 | 3 | BOUROT | 2 |
| 14 | 3 | 3 | BOUARI | 45 |
| 14 | 3 | 3 | ESCSSP | 1 |
| 14 | 4 | 1 | ISOTEN | 3 |
| 14 | 4 | 1 | BOUARI | 16 |
| 14 | 4 | 2 | None | 0 |
| 14 | 4 | 3 | BOUARI | 1 |
| 14 | 5 | 1 | BOUARI | 12 |
| 14 | 5 | 1 | ISOTEN | 1 |
| 14 | 5 | 2 | BOUARI | 5 |
| 14 | 5 | 3 | BOUARI | 1 |
| 14 | 6 | 1 | BOUARI | 1 |
| 14 | 6 | 2 | BOUROT | 4 |
| 14 | 6 | 2 | BOUARI | 4 |
| 14 | 6 | 3 | BOUARI | 1 |
| 15 | 1 | 1 | AMBACA | 10 |
| 15 | 1 | 1 | BOUROT | 33 |
| 15 | 1 | 1 | BOUARI | 7 |
| 15 | 1 | 1 | BOEERE | 2 |
| 15 | 1 | 1 | ESCSPP | 1 |
| 15 | 1 | 1 | POROLE | 1 |
| 15 | 1 | 1 | AYEFIL | 1 |
| 15 | 1 | 2 | AMBACA | 15 |
| 15 | 1 | 2 | BAIMUL | 3 |
| 15 | 1 | 2 | BOUROT | 21 |
| 15 | 1 | 2 | MACTAN | 1 |
| 15 | 1 | 3 | BOUROT | 44 |
| 15 | 1 | 3 | BAIMUL | 1 |
| 15 | 1 | 3 | AMBACA | 1 |
| 15 | 1 | 3 | CHASPP | 1 |
| 15 | 1 | 3 | BOUARI | 6 |
| 15 | 1 | 3 | ALLCHO | 4 |
| 15 | 1 | 3 | MACTAN | 2 |
| 15 | 2 | 1 | BOUROT | 47 |
| 15 | 2 | 1 | BOUARI | 9 |
| 15 | 2 | 1 | AMBACA | 4 |
| 15 | 2 | 1 | BAIMUL | 1 |
| 15 | 2 | 2 | AMBACA | 6 |
| 15 | 2 | 2 | BOUROT | 6 |
| 15 | 2 | 2 | ERIABE | 1 |
| 15 | 2 | 2 | BOUARI | 3 |
| 15 | 2 | 2 | BAIMUL | 2 |
| 15 | 2 | 3 | AMBACA | 32 |
| 15 | 2 | 3 | BOUROT | 20 |
| 15 | 2 | 3 | BOUARI | 2 |
| 15 | 2 | 3 | BAIMUL | 2 |
| 15 | 2 | 3 | ALLCHO | 1 |
| 15 | 3 | 1 | NICOBT | 2 |
| 15 | 3 | 1 | BOUROT | 58 |
| 15 | 3 | 1 | BAIMUL | 3 |
| 15 | 3 | 1 | AMAPAL | 2 |
| 15 | 3 | 1 | BOUARI | 13 |
| 15 | 3 | 1 | ATRCAN | 1 |
| 15 | 3 | 1 | CHAFLO | 1 |
| 15 | 3 | 2 | BOUROT | 46 |
| 15 | 3 | 2 | NICOBT | 2 |

## Sierrita Long Term Monitoring: Species Observed by Quadrat- Fall 2018

| Plot ID | Transect ID | Quadrat ID | Species Code | Count |
|---|---|---|---|---|
| 15 | 3 | 2 | BAIMUL | 5 |
| 15 | 3 | 2 | CHAFLO | 3 |
| 15 | 3 | 2 | BOUARI | 25 |
| 15 | 3 | 3 | BOUROT | 31 |
| 15 | 3 | 3 | BAIMUL | 2 |
| 15 | 3 | 3 | BOUARI | 64 |
| 15 | 3 | 3 | BOECOC | 2 |
| 15 | 4 | 1 | EVOARI | 23 |
| 15 | 4 | 1 | MACTAN | 4 |
| 15 | 4 | 1 | BOUROT | 1 |
| 15 | 4 | 1 | BOECOC | 1 |
| 15 | 4 | 2 | MACTAN | 6 |
| 15 | 4 | 2 | EVOARI | 2 |
| 15 | 4 | 2 | BOEINT | 2 |
| 15 | 4 | 2 | BOUROT | 13 |
| 15 | 4 | 2 | BOUARI | 2 |
| 15 | 4 | 2 | DASPUL | 1 |
| 15 | 4 | 3 | ERISPP | 1 |
| 15 | 4 | 3 | DASPUL | 1 |
| 15 | 4 | 3 | BOEINT | 9 |
| 15 | 4 | 3 | BOUARI | 5 |
| 15 | 4 | 3 | BOUROT | 14 |
| 15 | 5 | 1 | MUHPOR | 9 |
| 15 | 5 | 1 | VACCON | 1 |
| 15 | 5 | 1 | CROPOT | 3 |
| 15 | 5 | 1 | EVOARI | 19 |
| 15 | 5 | 1 | BOEINT | 1 |
| 15 | 5 | 1 | BOUARI | 6 |
| 15 | 5 | 2 | JANGRA | 1 |
| 15 | 5 | 2 | MUHPOR | 5 |
| 15 | 5 | 2 | PROVEL | 1 |
| 15 | 5 | 2 | BOUARI | 3 |
| 15 | 5 | 3 | VACCON | 1 |
| 15 | 5 | 3 | ARITER | 1 |
| 15 | 5 | 3 | EVOARI | 1 |
| 15 | 5 | 3 | MUHPOR | 1 |
| 15 | 6 | 1 | AMAPAL | 11 |
| 15 | 6 | 1 | BOECOC | 1 |
| 15 | 6 | 1 | BOUARI | 9 |
| 15 | 6 | 2 | AMAPAL | 16 |
| 15 | 6 | 2 | BOUARI | 28 |
| 15 | 6 | 2 | BOEINT | 4 |
| 15 | 6 | 3 | AMBACA | 14 |
| 15 | 6 | 3 | BOEINT | 9 |
| 15 | 6 | 3 | BOUARI | 10 |
| 15 | 6 | 3 | ESCSSP | 1 |
| 16 | 1 | 1 | BOUARI | 29 |
| 16 | 1 | 1 | PROVEL | 2 |
| 16 | 1 | 1 | MACTAN | 1 |
| 16 | 1 | 1 | SALTRA | 20 |
| 16 | 1 | 1 | UROFUS | 1 |
| 16 | 1 | 1 | AMAPAL | 1 |
| 16 | 1 | 1 | CHLVIR | 2 |
| 16 | 1 | 1 | ERALEH | 4 |
| 16 | 1 | 2 | SALTRA | 21 |
| 16 | 1 | 2 | TRIPOR | 13 |
| 16 | 1 | 2 | POROLE | 10 |
| 16 | 1 | 3 | TRIPOR | 3 |
| 16 | 2 | 1 | SALTRA | 4 |
| 16 | 2 | 1 | ATRCAN | 1 |
| 16 | 2 | 1 | TRIPOR | 9 |
| 16 | 2 | 2 | SALTRA | 17 |
| 16 | 2 | 2 | TRIPOR | 11 |
| 16 | 2 | 2 | BOUARI | 22 |
| 16 | 2 | 2 | POROLE | 8 |
| 16 | 2 | 2 | BOUROT | 2 |
| 16 | 2 | 2 | CHLVIR | 6 |
| 16 | 2 | 3 | SALTRA | 5 |
| 16 | 2 | 3 | POROLE | 1 |
| 16 | 2 | 3 | TRIPOR | 1 |
| 16 | 3 | 1 | SALTRA | 18 |
| 16 | 3 | 1 | BOUROT | 11 |
| 16 | 3 | 1 | CHLVIR | 7 |
| 16 | 3 | 1 | ERALEH | 12 |
| 16 | 3 | 2 | SALTRA | 41 |
| 16 | 3 | 2 | BOUARI | 27 |
| 16 | 3 | 2 | POROLE | 6 |
| 16 | 3 | 2 | BOUHIR | 7 |
| 16 | 3 | 2 | CHLVIR | 1 |
| 16 | 3 | 2 | BOUROT | 2 |
| 16 | 3 | 2 | ERALEH | 1 |
| 16 | 3 | 2 | PORSUF | 2 |
| 16 | 3 | 3 | SALTRA | 15 |
| 16 | 3 | 3 | AMBACA | 3 |
| 16 | 4 | 1 | SALTRA | 9 |
| 16 | 4 | 1 | BOUARI | 51 |
| 16 | 4 | 1 | POROLE | 6 |
| 16 | 4 | 1 | PORSUF | 1 |
| 16 | 4 | 1 | BOUROT | 1 |
| 16 | 4 | 2 | BOUARI | 5 |

# Sierrita Long Term Monitoring: Species Observed by Quadrat- Fall 2018

| Plot ID | Transect ID | Quadrat ID | Species Code | Count |
|---|---|---|---|---|
| 16 | 4 | 2 | BOEERE | 1 |
| 16 | 4 | 3 | BOUARI | 4 |
| 16 | 5 | 1 | TRIPOR | 3 |
| 16 | 5 | 1 | SALTRA | 15 |
| 16 | 5 | 1 | POROLE | 1 |
| 16 | 5 | 1 | BOUARI | 45 |
| 16 | 5 | 2 | SALTRA | 14 |
| 16 | 5 | 2 | POROLE | 10 |
| 16 | 5 | 2 | BOUROT | 5 |
| 16 | 5 | 2 | BOUARI | 11 |
| 16 | 5 | 2 | TRIPOR | 2 |
| 16 | 5 | 3 | BOUARI | 6 |
| 16 | 5 | 3 | POROLE | 4 |
| 16 | 6 | 1 | SALTRA | 16 |
| 16 | 6 | 1 | POROLE | 6 |
| 16 | 6 | 1 | BOUARI | 61 |
| 16 | 6 | 2 | SALTRA | 4 |
| 16 | 6 | 2 | BOUARI | 73 |
| 16 | 6 | 2 | TRIPOR | 2 |
| 16 | 6 | 2 | PORSUF | 5 |
| 16 | 6 | 3 | BOUROT | 26 |
| 16 | 6 | 3 | BOUARI | 24 |
| 16 | 6 | 3 | PORSUF | 3 |
| 16 | 6 | 3 | SALTRA | 13 |
| 17 | 1 | 1 | POROLE | 13 |
| 17 | 1 | 1 | SALTRA | 17 |
| 17 | 1 | 1 | BOUARI | 23 |
| 17 | 1 | 2 | BOUROT | 15 |
| 17 | 1 | 2 | SALTRA | 19 |
| 17 | 1 | 2 | SETMAC | 2 |
| 17 | 1 | 2 | AMBACA | 1 |
| 17 | 1 | 2 | BOUARI | 28 |
| 17 | 1 | 2 | CHLVIR | 3 |
| 17 | 1 | 3 | SALTRA | 34 |
| 17 | 1 | 3 | CHLVIR | 1 |
| 17 | 1 | 3 | CYNDAC | 2 |
| 17 | 1 | 3 | BOUROT | 2 |
| 17 | 1 | 3 | BOUARI | 17 |
| 17 | 2 | 1 | SALTRA | 15 |
| 17 | 2 | 1 | POROLE | 2 |
| 17 | 2 | 1 | PORUMB | 2 |
| 17 | 2 | 1 | BOUROT | 2 |
| 17 | 2 | 1 | BOUARI | 5 |
| 17 | 2 | 1 | CHLVIR | 3 |
| 17 | 2 | 2 | PROVEL | 2 |
| 17 | 2 | 2 | SALTRA | 23 |
| 17 | 2 | 2 | BOUROT | 17 |
| 17 | 2 | 2 | BOUARI | 8 |
| 17 | 2 | 2 | POROLE | 11 |
| 17 | 2 | 2 | CHLVIR | 1 |
| 17 | 2 | 3 | SALTRA | 14 |
| 17 | 2 | 3 | BOUARI | 52 |
| 17 | 2 | 3 | BOUROT | 5 |
| 17 | 2 | 3 | ERACIL | 3 |
| 17 | 2 | 3 | CHLVIR | 4 |
| 17 | 2 | 3 | POROLE | 5 |
| 17 | 3 | 1 | AMAPAL | 7 |
| 17 | 3 | 1 | TIDLAN | 7 |
| 17 | 3 | 1 | ERACIL | 1 |
| 17 | 3 | 1 | SALTRA | 12 |
| 17 | 3 | 1 | BOUROT | 21 |
| 17 | 3 | 1 | BOUARI | 15 |
| 17 | 3 | 2 | CHLVIR | 3 |
| 17 | 3 | 2 | AMAPAL | 4 |
| 17 | 3 | 2 | SALTRA | 11 |
| 17 | 3 | 2 | SETMAC | 2 |
| 17 | 3 | 2 | TIDLAN | 10 |
| 17 | 3 | 2 | CYNDAC | 1 |
| 17 | 3 | 2 | AMBACA | 2 |
| 17 | 3 | 2 | BOUARI | 27 |
| 17 | 3 | 2 | POROLE | 5 |
| 17 | 3 | 3 | SALTRA | 14 |
| 17 | 3 | 3 | BOUROT | 9 |
| 17 | 3 | 3 | BOUARI | 15 |
| 17 | 3 | 3 | AMBACA | 1 |
| 17 | 4 | 1 | ISOTEN | 1 |
| 17 | 4 | 1 | BOUROT | 1 |
| 17 | 4 | 1 | CYNDAC | 1 |
| 17 | 4 | 1 | BOUARI | 1 |
| 17 | 4 | 2 | SALTRA | 4 |
| 17 | 4 | 2 | BOUARI | 6 |
| 17 | 4 | 3 | SALTRA | 4 |
| 17 | 4 | 3 | BOUARI | 57 |
| 17 | 5 | 1 | ISOTEN | 2 |
| 17 | 5 | 1 | BOUARI | 46 |
| 17 | 5 | 1 | CHLVIR | 1 |
| 17 | 5 | 1 | BOUROT | 5 |
| 17 | 5 | 2 | SALTRA | 16 |
| 17 | 5 | 2 | BOUARI | 9 |
| 17 | 5 | 3 | BOUARI | 64 |

# Sierrita Long Term Monitoring: Species Observed by Quadrat- Fall 2018

| Plot ID | Transect ID | Quadrat ID | Species Code | Count |
|---|---|---|---|---|
| 17 | 5 | 3 | SALTRA | 21 |
| 17 | 5 | 3 | ISOTEN | 2 |
| 17 | 5 | 3 | CHLVIR | 3 |
| 17 | 5 | 3 | BOUROT | 4 |
| 17 | 6 | 1 | ISOTEN | 5 |
| 17 | 6 | 1 | CHLVIR | 3 |
| 17 | 6 | 1 | ERACIL | 1 |
| 17 | 6 | 1 | POROLE | 1 |
| 17 | 6 | 1 | SETMAC | 2 |
| 17 | 6 | 1 | BOUROT | 22 |
| 17 | 6 | 1 | BOUARI | 31 |
| 17 | 6 | 1 | SALTRA | 1 |
| 17 | 6 | 1 | ERALEH | 5 |
| 17 | 6 | 1 | TRIPOR | 7 |
| 17 | 6 | 1 | ALLCHO | 1 |
| 17 | 6 | 1 | CYLFUL | 1 |
| 17 | 6 | 2 | SALTRA | 10 |
| 17 | 6 | 2 | BOUARI | 28 |
| 17 | 6 | 2 | CHLVIR | 1 |
| 17 | 6 | 3 | SALTRA | 1 |
| 18 | 1 | 1 | None | 0 |
| 18 | 1 | 2 | TRIPOR | 21 |
| 18 | 1 | 2 | SPHAMB | 3 |
| 18 | 1 | 2 | POROLE | 9 |
| 18 | 1 | 2 | PORUMB | 1 |
| 18 | 1 | 2 | BOUARI | 6 |
| 18 | 1 | 2 | CHASPP | 1 |
| 18 | 1 | 2 | CHLVIR | 1 |
| 18 | 1 | 3 | BACSAR | 1 |
| 18 | 1 | 3 | ISOTEN | 3 |
| 18 | 1 | 3 | AMBACA | 2 |
| 18 | 1 | 3 | SALTRA | 2 |
| 18 | 1 | 3 | BOUROT | 1 |
| 18 | 1 | 3 | BOUCUR | 1 |
| 18 | 1 | 3 | TRIPOR | 37 |
| 18 | 1 | 3 | ERALEH | 1 |
| 18 | 1 | 3 | UROFUS | 33 |
| 18 | 1 | 3 | BOUARI | 1 |
| 18 | 2 | 1 | CHAMIC | 1 |
| 18 | 2 | 1 | ISOTEN | 1 |
| 18 | 2 | 1 | GUTMIC | 1 |
| 18 | 2 | 1 | POROLE | 3 |
| 18 | 2 | 1 | PORUMB | 1 |
| 18 | 2 | 1 | BOUROT | 5 |
| 18 | 2 | 1 | TRIPOR | 15 |

| Plot ID | Transect ID | Quadrat ID | Species Code | Count |
|---|---|---|---|---|
| 18 | 2 | 1 | BOUARI | 7 |
| 18 | 2 | 1 | UROFUS | 6 |
| 18 | 2 | 1 | SALTRA | 2 |
| 18 | 2 | 1 | CHLVIR | 1 |
| 18 | 2 | 2 | BOUARI | 23 |
| 18 | 2 | 2 | BOEINT | 2 |
| 18 | 2 | 2 | AMBACA | 4 |
| 18 | 2 | 3 | BOUARI | 1 |
| 18 | 3 | 1 | TRIPOR | 38 |
| 18 | 3 | 1 | POROLE | 4 |
| 18 | 3 | 1 | BOUARI | 1 |
| 18 | 3 | 2 | TRIPOR | 16 |
| 18 | 3 | 2 | POROLE | 2 |
| 18 | 3 | 2 | BOUARI | 2 |
| 18 | 3 | 3 | TRIPOR | 21 |
| 18 | 3 | 3 | DIGSAN | 1 |
| 18 | 4 | 1 | BOUARI | 25 |
| 18 | 4 | 1 | TRIPOR | 30 |
| 18 | 4 | 1 | SALTRA | 1 |
| 18 | 4 | 1 | BOUROT | 1 |
| 18 | 4 | 1 | POROLE | 21 |
| 18 | 4 | 1 | ARITER | 2 |
| 18 | 4 | 1 | UROFUS | 2 |
| 18 | 4 | 2 | BOUARI | 33 |
| 18 | 4 | 2 | GUTMIC | 18 |
| 18 | 4 | 2 | TRIPOR | 4 |
| 18 | 4 | 2 | PORSUF | 2 |
| 18 | 4 | 3 | GUTMIC | 1 |
| 18 | 4 | 3 | MACTAN | 1 |
| 18 | 4 | 3 | BOUARI | 45 |
| 18 | 4 | 3 | POROLE | 11 |
| 18 | 4 | 3 | TRIPOR | 12 |
| 18 | 4 | 3 | ERIABE | 1 |
| 18 | 5 | 1 | BOUARI | 9 |
| 18 | 5 | 1 | TIDLAN | 3 |
| 18 | 5 | 1 | TRIPOR | 1 |
| 18 | 5 | 1 | GUTMIC | 1 |
| 18 | 5 | 1 | UROFUS | 1 |
| 18 | 5 | 2 | GUTMIC | 1 |
| 18 | 5 | 2 | TRIPOR | 5 |
| 18 | 5 | 2 | BOUARI | 33 |
| 18 | 5 | 2 | SALTRA | 1 |
| 18 | 5 | 3 | BOUARI | 48 |
| 18 | 5 | 3 | POROLE | 5 |
| 18 | 5 | 3 | TRIPOR | 3 |

## Sierrita Long Term Monitoring: Species Observed by Quadrat- Fall 2018

| Plot ID | Transect ID | Quadrat ID | Species Code | Count |
|---|---|---|---|---|
| 18 | 5 | 3 | PROVEL | 2 |
| 18 | 5 | 3 | BOEINT | 1 |
| 18 | 6 | 1 | BOUARI | 4 |
| 18 | 6 | 1 | GUTMIC | 3 |
| 18 | 6 | 1 | SALTRA | 1 |
| 18 | 6 | 1 | POROLE | 4 |
| 18 | 6 | 1 | BOEERE | 2 |
| 18 | 6 | 1 | CYLFUL | 1 |
| 18 | 6 | 2 | BOUARI | 1 |
| 18 | 6 | 2 | BOEINT | 1 |
| 18 | 6 | 3 | BOEERE | 4 |
| 18 | 6 | 3 | POROLE | 14 |
| 18 | 6 | 3 | BOUARI | 9 |
| 18 | 6 | 3 | UROFUS | 1 |
| 18 | 6 | 3 | TIDLAN | 2 |
| 19 | 1 | 1 | ATRCAN | 1 |
| 19 | 1 | 1 | DIGCAL | 5 |
| 19 | 1 | 1 | SETMAC | 17 |
| 19 | 1 | 2 | DIGCAL | 6 |
| 19 | 1 | 2 | LEPDUB | 1 |
| 19 | 1 | 2 | ATRPOL | 1 |
| 19 | 1 | 2 | ERALEH | 26 |
| 19 | 1 | 2 | CHEALB | 2 |
| 19 | 1 | 2 | ECHCOL | 3 |
| 19 | 1 | 2 | ARITER | 8 |
| 19 | 1 | 2 | SETMAC | 1 |
| 19 | 1 | 3 | SETMAC | 4 |
| 19 | 1 | 3 | LEPDUB | 1 |
| 19 | 1 | 3 | BOUCUR | 4 |
| 19 | 1 | 3 | ERALEH | 9 |
| 19 | 1 | 3 | CHEALB | 1 |
| 19 | 1 | 3 | DIGCAL | 3 |
| 19 | 1 | 3 | BOUROT | 3 |
| 19 | 2 | 1 | ATRCAN | 2 |
| 19 | 2 | 1 | IPOHED | 3 |
| 19 | 2 | 1 | LEPDUB | 4 |
| 19 | 2 | 1 | ERALEH | 4 |
| 19 | 2 | 2 | SENGRE | 1 |
| 19 | 2 | 2 | SPOCRY | 7 |
| 19 | 2 | 2 | CHEALB | 3 |
| 19 | 2 | 2 | BOUROT | 2 |
| 19 | 2 | 2 | ERALEH | 5 |
| 19 | 2 | 3 | LEPDUB | 5 |
| 19 | 2 | 3 | ERALEH | 4 |
| 19 | 2 | 3 | SETMAC | 2 |
| 19 | 2 | 3 | BOUCUR | 3 |
| 19 | 3 | 1 | SETMAC | 3 |
| 19 | 3 | 1 | HETCON | 1 |
| 19 | 3 | 2 | MIMDYS | 1 |
| 19 | 3 | 2 | AMAPAL | 2 |
| 19 | 3 | 2 | DIGCAL | 3 |
| 19 | 3 | 2 | ATRPOL | 1 |
| 19 | 3 | 2 | ERALEH | 21 |
| 19 | 3 | 3 | SPOCRY | 2 |
| 19 | 3 | 3 | DIGCAL | 7 |
| 19 | 3 | 3 | ATRCAN | 1 |
| 19 | 3 | 3 | IPOHED | 2 |
| 19 | 3 | 3 | CHEALB | 4 |
| 19 | 3 | 3 | ARIPUR | 3 |
| 19 | 4 | 1 | BOUCUR | 3 |
| 19 | 4 | 1 | ERALEH | 4 |
| 19 | 4 | 1 | BOECOC | 4 |
| 19 | 4 | 1 | SIMCHI | 1 |
| 19 | 4 | 2 | ERALEH | 19 |
| 19 | 4 | 2 | EVOARI | 3 |
| 19 | 4 | 2 | ARIPUR | 1 |
| 19 | 4 | 2 | BOECOC | 2 |
| 19 | 4 | 3 | ERALEH | 16 |
| 19 | 4 | 3 | BOURE | 2 |
| 19 | 4 | 3 | CALERI | 5 |
| 19 | 4 | 3 | BOECOC | 1 |
| 19 | 5 | 1 | SETMAC | 1 |
| 19 | 5 | 2 | TETNER | 2 |
| 19 | 5 | 2 | BIDLEP | 2 |
| 19 | 5 | 2 | BOUCUR | 5 |
| 19 | 5 | 2 | IPOHED | 1 |
| 19 | 5 | 3 | CELEHR | 1 |
| 19 | 6 | 1 | SETMAC | 1 |
| 19 | 6 | 1 | TETNER | 1 |
| 19 | 6 | 2 | SETMAC | 3 |
| 19 | 6 | 2 | BOUCUR | 1 |
| 19 | 6 | 3 | SETMAC | 5 |
| 19 | 6 | 3 | BOUCUR | 3 |
| 19 | 6 | 3 | CYLVER | 1 |
| 20 | 1 | 1 | SALTRA | 21 |
| 20 | 1 | 1 | BOUARI | 32 |
| 20 | 1 | 1 | CHLVIR | 3 |
| 20 | 1 | 1 | AMBACA | 2 |
| 20 | 1 | 1 | BOUROT | 15 |
| 20 | 1 | 1 | AYEFIL | 3 |

## Sierrita Long Term Monitoring: Species Observed by Quadrat- Fall 2018

| Plot ID | Transect ID | Quadrat ID | Species Code | Count |
|---|---|---|---|---|
| 20 | 1 | 2 | GUTMIC | 4 |
| 20 | 1 | 2 | AMBACA | 17 |
| 20 | 1 | 2 | ERALEH | 15 |
| 20 | 1 | 2 | ARITER | 4 |
| 20 | 1 | 3 | SALTRA | 12 |
| 20 | 2 | 1 | SALTRA | 15 |
| 20 | 2 | 1 | AMBACA | 11 |
| 20 | 2 | 1 | BOUROT | 8 |
| 20 | 2 | 1 | CHLVIR | 5 |
| 20 | 2 | 1 | POROLE | 5 |
| 20 | 2 | 2 | SALTRA | 11 |
| 20 | 2 | 2 | ERACIL | 1 |
| 20 | 2 | 2 | BOUROT | 16 |
| 20 | 2 | 3 | SALTRA | 25 |
| 20 | 2 | 3 | BOUARI | 8 |
| 20 | 2 | 3 | BOUROT | 11 |
| 20 | 3 | 1 | CHLVIR | 13 |
| 20 | 3 | 1 | SALTRA | 9 |
| 20 | 3 | 1 | DIGSAN | 2 |
| 20 | 3 | 1 | BOUARI | 51 |
| 20 | 3 | 1 | BOUROT | 3 |
| 20 | 3 | 2 | CHLVIR | 20 |
| 20 | 3 | 2 | SALTRA | 23 |
| 20 | 3 | 2 | BOUROT | 8 |
| 20 | 3 | 2 | BOUARI | 17 |
| 20 | 3 | 3 | SALTRA | 31 |
| 20 | 3 | 3 | CHLVIR | 20 |
| 20 | 3 | 3 | BOUROT | 5 |
| 20 | 3 | 3 | BOUARI | 25 |
| 20 | 4 | 1 | ISOTEN | 3 |
| 20 | 4 | 1 | SALTRA | 5 |
| 20 | 4 | 1 | ERALEH | 2 |
| 20 | 4 | 1 | BOUARI | 5 |
| 20 | 4 | 1 | POROLE | 1 |
| 20 | 4 | 2 | SALTRA | 22 |
| 20 | 4 | 2 | BOUARI | 6 |
| 20 | 4 | 2 | ISOTEN | 1 |
| 20 | 4 | 3 | SALTRA | 7 |
| 20 | 4 | 3 | ISOTEN | 1 |
| 20 | 4 | 3 | BOUARI | 2 |
| 20 | 5 | 1 | CHLVIR | 10 |
| 20 | 5 | 1 | SALTRA | 7 |
| 20 | 5 | 1 | DIGCAL | 3 |
| 20 | 5 | 1 | ARIPUR | 2 |
| 20 | 5 | 1 | ARITER | 6 |
| 20 | 5 | 1 | GUTMIC | 1 |
| 20 | 5 | 1 | ERALEH | 3 |
| 20 | 5 | 1 | ERACIL | 2 |
| 20 | 5 | 2 | SETMAC | 1 |
| 20 | 5 | 3 | GUTMIC | 1 |
| 20 | 6 | 1 | SALTRA | 14 |
| 20 | 6 | 1 | BOUARI | 7 |
| 20 | 6 | 1 | CHLVIR | 1 |
| 20 | 6 | 1 | ISOTEN | 1 |
| 20 | 6 | 2 | SALTRA | 26 |
| 20 | 6 | 2 | GUTMIC | 1 |
| 20 | 6 | 2 | BOUARI | 15 |
| 20 | 6 | 3 | SALTRA | 24 |
| 20 | 6 | 3 | BOUARI | 10 |
| 21 | 1 | 1 | BOUARI | 19 |
| 21 | 1 | 1 | SALTRA | 12 |
| 21 | 1 | 1 | PROVEL | 1 |
| 21 | 1 | 1 | BOUROT | 2 |
| 21 | 1 | 1 | CHLVIR | 3 |
| 21 | 1 | 2 | CHLVIR | 7 |
| 21 | 1 | 2 | SALTRA | 10 |
| 21 | 1 | 2 | BOUARI | 21 |
| 21 | 1 | 3 | SALTRA | 14 |
| 21 | 1 | 3 | BOUARI | 5 |
| 21 | 1 | 3 | BOUROT | 2 |
| 21 | 2 | 1 | ERALEH | 10 |
| 21 | 2 | 1 | CHLVIR | 6 |
| 21 | 2 | 1 | GUTMIC | 3 |
| 21 | 2 | 1 | SALTRA | 2 |
| 21 | 2 | 1 | SIDABU | 7 |
| 21 | 2 | 1 | ARIPUR | 4 |
| 21 | 2 | 1 | BOUARI | 14 |
| 21 | 2 | 2 | ERALEH | 16 |
| 21 | 2 | 2 | GUTMIC | 2 |
| 21 | 2 | 2 | OPUENG | 1 |
| 21 | 2 | 2 | SPOCRY | 3 |
| 21 | 2 | 2 | BOUARI | 2 |
| 21 | 2 | 3 | SALTRA | 6 |
| 21 | 2 | 3 | GUTMIC | 3 |
| 21 | 2 | 3 | ERALEH | 7 |
| 21 | 2 | 3 | CHLVIR | 9 |
| 21 | 2 | 3 | ATRCAN | 1 |
| 21 | 2 | 3 | ISOTEN | 1 |
| 21 | 2 | 3 | BOUARI | 4 |
| 21 | 3 | 1 | CHLVIR | 17 |

## Sierrita Long Term Monitoring: Species Observed by Quadrat- Fall 2018

| Plot ID | Transect ID | Quadrat ID | Species Code | Count |
|---|---|---|---|---|
| 21 | 3 | 1 | SALTRA | 7 |
| 21 | 3 | 1 | GUTMIC | 1 |
| 21 | 3 | 1 | AMAPAL | 2 |
| 21 | 3 | 1 | BOUARI | 11 |
| 21 | 3 | 2 | BOUROT | 3 |
| 21 | 3 | 2 | SALTRA | 20 |
| 21 | 3 | 2 | BOUARI | 23 |
| 21 | 3 | 2 | AYEFIL | 2 |
| 21 | 3 | 3 | SALTRA | 11 |
| 21 | 3 | 3 | CHLVIR | 13 |
| 21 | 3 | 3 | SETMAC | 2 |
| 21 | 3 | 3 | ARIPUR | 6 |
| 21 | 3 | 3 | GUTMIC | 1 |
| 21 | 3 | 3 | BOUARI | 8 |
| 21 | 4 | 1 | BOUROT | 3 |
| 21 | 4 | 1 | ERALEH | 7 |
| 21 | 4 | 1 | ARIPUR | 1 |
| 21 | 4 | 1 | GUTMIC | 1 |
| 21 | 4 | 1 | ISOTEN | 1 |
| 21 | 4 | 1 | SETMAC | 1 |
| 21 | 4 | 1 | CHLVIR | 4 |
| 21 | 4 | 1 | BOUARI | 23 |
| 21 | 4 | 2 | None | 0 |
| 21 | 4 | 3 | SALTRA | 3 |
| 21 | 5 | 1 | SALTRA | 1 |
| 21 | 5 | 1 | ISOTEN | 1 |
| 21 | 5 | 1 | ERALEH | 2 |
| 21 | 5 | 1 | BOUROT | 5 |
| 21 | 5 | 1 | BOUARI | 21 |
| 21 | 5 | 1 | ARIPUR | 1 |
| 21 | 5 | 1 | CHLVIR | 2 |
| 21 | 5 | 2 | None | 0 |
| 21 | 5 | 3 | SALTRA | 11 |
| 21 | 5 | 3 | ISOTEN | 1 |
| 21 | 5 | 3 | ARIPUR | 1 |
| 21 | 5 | 3 | BOUROT | 2 |
| 21 | 5 | 3 | ERALEH | 2 |
| 21 | 5 | 3 | GUTMIC | 1 |
| 21 | 6 | 1 | CALERI | 1 |
| 21 | 6 | 1 | DIGCAL | 1 |
| 21 | 6 | 1 | SALTRA | 7 |
| 21 | 6 | 1 | ERALEH | 5 |
| 21 | 6 | 1 | PANALA | 2 |
| 21 | 6 | 1 | AMBACA | 2 |
| 21 | 6 | 2 | ISOTEN | 1 |
| 21 | 6 | 2 | SALTRA | 3 |
| 21 | 6 | 2 | PANALA | 4 |
| 21 | 6 | 2 | MOLVER | 3 |
| 21 | 6 | 2 | SIDABU | 14 |
| 21 | 6 | 2 | EVOARI | 2 |
| 21 | 6 | 3 | SETMAC | 6 |
| 21 | 6 | 3 | CALERI | 1 |
| 21 | 6 | 3 | ERALEH | 11 |
| 21 | 6 | 3 | PANALA | 3 |
| 21 | 6 | 3 | ARITER | 1 |
| 21 | 6 | 3 | CHLVIR | 1 |
| 21 | 6 | 3 | PORUMB | 2 |
| 21 | 6 | 3 | POROLE | 5 |
| 22 | 1 | 1 | ERALEH | 25 |
| 22 | 1 | 1 | SALTRA | 8 |
| 22 | 1 | 1 | MACTAN | 3 |
| 22 | 1 | 1 | BOECOC | 2 |
| 22 | 1 | 1 | AYEFIL | 2 |
| 22 | 1 | 1 | ANDOCC | 3 |
| 22 | 1 | 1 | GUTMIC | 1 |
| 22 | 1 | 2 | ERALEH | 48 |
| 22 | 1 | 2 | BOUCUR | 2 |
| 22 | 1 | 2 | ARITER | 1 |
| 22 | 1 | 2 | SALTRA | 7 |
| 22 | 1 | 2 | SPHAMB | 1 |
| 22 | 1 | 2 | AYEFIL | 6 |
| 22 | 1 | 3 | ATRCAN | 1 |
| 22 | 1 | 3 | ERALEH | 11 |
| 22 | 1 | 3 | SALTRA | 8 |
| 22 | 1 | 3 | ARITER | 2 |
| 22 | 1 | 3 | BOECOC | 1 |
| 22 | 1 | 3 | VACCON | 1 |
| 22 | 2 | 1 | SPHAMB | 1 |
| 22 | 2 | 1 | ATRCAN | 2 |
| 22 | 2 | 1 | ARITER | 9 |
| 22 | 2 | 1 | SETMAC | 1 |
| 22 | 2 | 1 | ERALEH | 6 |
| 22 | 2 | 1 | AYEFIL | 8 |
| 22 | 2 | 1 | AMBACA | 1 |
| 22 | 2 | 2 | ATRCAN | 1 |
| 22 | 2 | 2 | MACTAN | 18 |
| 22 | 2 | 2 | SALTRA | 1 |
| 22 | 2 | 2 | ERALEH | 15 |
| 22 | 2 | 2 | AYEFIL | 2 |
| 22 | 2 | 3 | ARIPUR | 3 |

## Sierrita Long Term Monitoring: Species Observed by Quadrat- Fall 2018

| Plot ID | Transect ID | Quadrat ID | Species Code | Count |
|---|---|---|---|---|
| 22 | 2 | 3 | ERALEH | 17 |
| 22 | 2 | 3 | SPHAMB | 1 |
| 22 | 2 | 3 | BOUARI | 2 |
| 22 | 2 | 3 | ARITER | 1 |
| 22 | 3 | 1 | MACTAN | 29 |
| 22 | 3 | 1 | ERALEH | 4 |
| 22 | 3 | 1 | BOUARI | 8 |
| 22 | 3 | 2 | BOUCUR | 1 |
| 22 | 3 | 2 | ERACIL | 1 |
| 22 | 3 | 2 | CHLVIR | 8 |
| 22 | 3 | 2 | ERALEH | 18 |
| 22 | 3 | 2 | BOUARI | 8 |
| 22 | 3 | 2 | AYEFIL | 6 |
| 22 | 3 | 3 | ERALEH | 13 |
| 22 | 3 | 3 | AMBACA | 4 |
| 22 | 3 | 3 | ARIPUR | 4 |
| 22 | 3 | 3 | MACTAN | 3 |
| 22 | 3 | 3 | BOECOC | 3 |
| 22 | 3 | 3 | AYEFIL | 2 |
| 22 | 4 | 1 | CALERI | 6 |
| 22 | 4 | 1 | HETCON | 3 |
| 22 | 4 | 1 | ARITER | 4 |
| 22 | 4 | 1 | AYEFIL | 3 |
| 22 | 4 | 1 | ERALEH | 2 |
| 22 | 4 | 2 | MIMACU | 4 |
| 22 | 4 | 2 | ARITER | 7 |
| 22 | 4 | 2 | AMBACA | 3 |
| 22 | 4 | 2 | ERALEH | 2 |
| 22 | 4 | 3 | BOUCUR | 6 |
| 22 | 4 | 3 | ERALEH | 10 |
| 22 | 4 | 3 | ARITER | 5 |
| 22 | 5 | 1 | MOLVER | 2 |
| 22 | 5 | 1 | ERALEH | 4 |
| 22 | 5 | 1 | BOUARI | 1 |
| 22 | 5 | 1 | CALERI | 1 |
| 22 | 5 | 2 | CALERI | 2 |
| 22 | 5 | 2 | SALTRA | 1 |
| 22 | 5 | 2 | ERALEH | 3 |
| 22 | 5 | 3 | None | 0 |
| 22 | 6 | 1 | ERALEH | 18 |
| 22 | 6 | 1 | HETCON | 1 |
| 22 | 6 | 2 | ERALEH | 12 |
| 22 | 6 | 2 | HETCON | 2 |
| 22 | 6 | 2 | CALERI | 8 |
| 22 | 6 | 2 | BOUARI | 5 |
| 22 | 6 | 2 | ARITER | 2 |
| 22 | 6 | 3 | CALERI | 3 |
| 22 | 6 | 3 | ERALEH | 12 |
| 22 | 6 | 3 | SETMAC | 1 |
| 23 | 1 | 1 | PROPAR | 1 |
| 23 | 1 | 1 | ERALEH | 4 |
| 23 | 1 | 1 | ERACIL | 2 |
| 23 | 1 | 1 | CYNDAC | 2 |
| 23 | 1 | 1 | BOUARI | 3 |
| 23 | 1 | 1 | VACCON | 1 |
| 23 | 1 | 1 | TETNER | 1 |
| 23 | 1 | 1 | MOLVER | 6 |
| 23 | 1 | 1 | PANALA | 1 |
| 23 | 1 | 2 | ERALEH | 13 |
| 23 | 1 | 2 | ERACIL | 4 |
| 23 | 1 | 2 | ERISPP | 1 |
| 23 | 1 | 2 | AYEFIL | 3 |
| 23 | 1 | 2 | AMAPAL | 3 |
| 23 | 1 | 2 | SIDABU | 2 |
| 23 | 1 | 2 | AMBACA | 1 |
| 23 | 1 | 2 | MOLVER | 1 |
| 23 | 1 | 2 | GUTMIC | 1 |
| 23 | 1 | 2 | SALTRA | 3 |
| 23 | 1 | 2 | PANALA | 6 |
| 23 | 1 | 3 | SALTRA | 4 |
| 23 | 1 | 3 | ERALEH | 6 |
| 23 | 1 | 3 | BOUROT | 3 |
| 23 | 1 | 3 | BOEERE | 1 |
| 23 | 1 | 3 | CYPSQU | 11 |
| 23 | 1 | 3 | BOUARI | 9 |
| 23 | 1 | 3 | ERISPP | 1 |
| 23 | 1 | 3 | AYEFIL | 1 |
| 23 | 2 | 1 | AMBACA | 9 |
| 23 | 2 | 1 | AMAPAL | 6 |
| 23 | 2 | 1 | ARITER | 4 |
| 23 | 2 | 1 | MOLVER | 8 |
| 23 | 2 | 1 | ERALEH | 4 |
| 23 | 2 | 1 | PANALA | 5 |
| 23 | 2 | 1 | PROVEL | 2 |
| 23 | 2 | 1 | LEPDUB | 1 |
| 23 | 2 | 1 | BOUROT | 9 |
| 23 | 2 | 1 | CHLVIR | 5 |
| 23 | 2 | 1 | ERACIL | 2 |
| 23 | 2 | 1 | BOUARI | 7 |
| 23 | 2 | 2 | ERACIL | 6 |

# Sierrita Long Term Monitoring: Species Observed by Quadrat- Fall 2018

| Plot ID | Transect ID | Quadrat ID | Species Code | Count |
|---|---|---|---|---|
| 23 | 2 | 2 | ERALEH | 5 |
| 23 | 2 | 2 | CYPSQU | 5 |
| 23 | 2 | 2 | SETMAC | 10 |
| 23 | 2 | 2 | BOUROT | 16 |
| 23 | 2 | 2 | AMAPAL | 15 |
| 23 | 2 | 2 | BOUARI | 9 |
| 23 | 2 | 2 | AMBACA | 8 |
| 23 | 2 | 3 | AMAPAL | 19 |
| 23 | 2 | 3 | ERACIL | 6 |
| 23 | 2 | 3 | CYPSQU | 21 |
| 23 | 2 | 3 | SETMAC | 23 |
| 23 | 2 | 3 | SIDABU | 1 |
| 23 | 2 | 3 | BOUROT | 10 |
| 23 | 3 | 1 | BOUROT | 35 |
| 23 | 3 | 1 | BOUARI | 5 |
| 23 | 3 | 1 | AYEFIL | 3 |
| 23 | 3 | 1 | CHLVIR | 2 |
| 23 | 3 | 2 | CHASPP | 3 |
| 23 | 3 | 2 | BOUROT | 16 |
| 23 | 3 | 2 | SPHAMB | 1 |
| 23 | 3 | 2 | SETMAC | 2 |
| 23 | 3 | 2 | MOLVER | 2 |
| 23 | 3 | 3 | BOUROT | 27 |
| 23 | 3 | 3 | ERACIL | 6 |
| 23 | 3 | 3 | SETMAC | 12 |
| 23 | 4 | 1 | ARITER | 4 |
| 23 | 4 | 1 | SETMAC | 9 |
| 23 | 4 | 1 | PROVEL | 2 |
| 23 | 4 | 1 | TETNER | 18 |
| 23 | 4 | 1 | SIDABU | 4 |
| 23 | 4 | 1 | DITNEO | 2 |
| 23 | 4 | 2 | SETMAC | 6 |
| 23 | 4 | 2 | BOUCUR | 3 |
| 23 | 4 | 2 | AMBACA | 3 |
| 23 | 4 | 2 | TETNER | 9 |
| 23 | 4 | 2 | IPOHED | 2 |
| 23 | 4 | 2 | AMAPAL | 1 |
| 23 | 4 | 2 | ERALEH | 2 |
| 23 | 4 | 3 | AYEFIL | 1 |
| 23 | 4 | 3 | AMAPAL | 13 |
| 23 | 4 | 3 | AMBACA | 3 |
| 23 | 4 | 3 | DITNEO | 2 |
| 23 | 4 | 3 | TETNER | 3 |
| 23 | 4 | 3 | ERACIL | 1 |
| 23 | 4 | 3 | SETMAC | 9 |

| Plot ID | Transect ID | Quadrat ID | Species Code | Count |
|---|---|---|---|---|
| 23 | 5 | 1 | SETMAC | 8 |
| 23 | 5 | 1 | DITNEO | 2 |
| 23 | 5 | 1 | TETNER | 9 |
| 23 | 5 | 1 | POROLE | 1 |
| 23 | 5 | 1 | ARITER | 12 |
| 23 | 5 | 2 | AYEFIL | 1 |
| 23 | 5 | 2 | SETMAC | 3 |
| 23 | 5 | 2 | PANALA | 3 |
| 23 | 5 | 2 | BOUARI | 3 |
| 23 | 5 | 2 | BOUROT | 2 |
| 23 | 5 | 2 | ARITER | 1 |
| 23 | 5 | 2 | AMBACA | 3 |
| 23 | 5 | 2 | TETNER | 1 |
| 23 | 5 | 2 | BOEERE | 1 |
| 23 | 5 | 2 | VACCON | 1 |
| 23 | 5 | 3 | AMBACA | 5 |
| 23 | 5 | 3 | AMAPAL | 6 |
| 23 | 5 | 3 | AYEFIL | 4 |
| 23 | 5 | 3 | BOEERE | 2 |
| 23 | 5 | 3 | BOUARI | 9 |
| 23 | 5 | 3 | BOUROT | 6 |
| 23 | 5 | 3 | SETMAC | 1 |
| 23 | 6 | 1 | AMBACA | 9 |
| 23 | 6 | 1 | AMAPAL | 1 |
| 23 | 6 | 1 | SIDABU | 3 |
| 23 | 6 | 1 | AYEFIL | 2 |
| 23 | 6 | 1 | SETMAC | 11 |
| 23 | 6 | 1 | BOUROT | 3 |
| 23 | 6 | 1 | BOEERE | 2 |
| 23 | 6 | 2 | SIDABU | 14 |
| 23 | 6 | 2 | DITNEO | 1 |
| 23 | 6 | 2 | AYEFIL | 7 |
| 23 | 6 | 2 | AMBACA | 4 |
| 23 | 6 | 2 | BOEERE | 3 |
| 23 | 6 | 2 | SETMAC | 8 |
| 23 | 6 | 2 | ARITER | 2 |
| 23 | 6 | 2 | BOUROT | 1 |
| 23 | 6 | 2 | PORUMB | 1 |
| 23 | 6 | 3 | AMBACA | 6 |
| 23 | 6 | 3 | ERASPP | 1 |
| 23 | 6 | 3 | AMAPAL | 2 |
| 23 | 6 | 3 | CYNDAC | 14 |
| 23 | 6 | 3 | AYEFIL | 8 |
| 23 | 6 | 3 | SIDABU | 1 |
| 23 | 6 | 3 | DITNEO | 3 |

## Sierrita Long Term Monitoring: Species Observed by Quadrat- Fall 2018

| Plot ID | Transect ID | Quadrat ID | Species Code | Count |
|---|---|---|---|---|
| 23 | 6 | 3 | TETNER | 3 |
| 23 | 6 | 3 | BOUROT | 14 |
| 23 | 6 | 3 | PORSUF | 3 |
| 23 | 6 | 3 | BOUARI | 12 |
| 23 | 6 | 3 | MOLVER | 11 |
| 24 | 1 | 1 | CHLVIR | 167 |
| 24 | 1 | 1 | SALTRA | 5 |
| 24 | 1 | 2 | CHLVIR | 54 |
| 24 | 1 | 2 | AMBACA | 4 |
| 24 | 1 | 2 | SALTRA | 6 |
| 24 | 1 | 2 | LEPDUB | 10 |
| 24 | 1 | 3 | SALTRA | 3 |
| 24 | 1 | 3 | CHLVIR | 44 |
| 24 | 1 | 3 | LEPDUB | 1 |
| 24 | 2 | 1 | BOUROT | 83 |
| 24 | 2 | 1 | CHLVIR | 11 |
| 24 | 2 | 1 | AMBACA | 1 |
| 24 | 2 | 2 | CHLVIR | 81 |
| 24 | 2 | 2 | LEPDUB | 18 |
| 24 | 2 | 2 | ERACIL | 7 |
| 24 | 2 | 2 | SALTRA | 6 |
| 24 | 2 | 3 | CHLVIR | 36 |
| 24 | 2 | 3 | BOUARI | 5 |
| 24 | 3 | 1 | CHLVIR | 184 |
| 24 | 3 | 1 | SALTRA | 20 |
| 24 | 3 | 1 | BOUROT | 2 |
| 24 | 3 | 1 | ERALEH | 5 |
| 24 | 3 | 1 | LEPDUB | 1 |
| 24 | 3 | 1 | AYEFIL | 1 |
| 24 | 3 | 1 | CHAMIC | 1 |
| 24 | 3 | 2 | CHLVIR | 39 |
| 24 | 3 | 2 | SALTRA | 10 |
| 24 | 3 | 2 | AMBACA | 12 |
| 24 | 3 | 3 | CHLVIR | 94 |
| 24 | 4 | 1 | ERALEH | 7 |
| 24 | 4 | 1 | SALTRA | 2 |
| 24 | 4 | 1 | BOUROT | 6 |
| 24 | 4 | 2 | PROVEL | 1 |
| 24 | 4 | 2 | SALTRA | 15 |
| 24 | 4 | 2 | BOUROT | 11 |
| 24 | 4 | 3 | SALTRA | 9 |
| 24 | 4 | 3 | CHLVIR | 13 |
| 24 | 4 | 3 | ARIPUR | 6 |
| 24 | 4 | 3 | ERALEH | 6 |
| 24 | 4 | 3 | GUTMIC | 1 |
| 24 | 4 | 3 | MULPOR | 4 |
| 24 | 4 | 3 | AMBACA | 10 |
| 24 | 4 | 3 | ERACIL | 2 |
| 24 | 4 | 3 | BOUARI | 21 |
| 24 | 4 | 3 | BOUROT | 9 |
| 24 | 5 | 1 | PROVEL | 1 |
| 24 | 5 | 1 | BOUROT | 7 |
| 24 | 5 | 1 | BOEERE | 3 |
| 24 | 5 | 1 | BOUARI | 6 |
| 24 | 5 | 1 | CHLVIR | 3 |
| 24 | 5 | 1 | SALTRA | 1 |
| 24 | 5 | 2 | SALTRA | 7 |
| 24 | 5 | 2 | SETMAC | 3 |
| 24 | 5 | 2 | POROLE | 5 |
| 24 | 5 | 2 | BOUROT | 2 |
| 24 | 5 | 2 | BOUARI | 9 |
| 24 | 5 | 2 | CHLVIR | 4 |
| 24 | 5 | 2 | ARIPUR | 3 |
| 24 | 5 | 3 | SALTRA | 10 |
| 24 | 5 | 3 | ARITER | 4 |
| 24 | 5 | 3 | LEPDUB | 2 |
| 24 | 5 | 3 | BOUARI | 6 |
| 24 | 5 | 3 | ERACIL | 7 |
| 24 | 5 | 3 | SIDABU | 2 |
| 24 | 5 | 3 | AMBACA | 6 |
| 24 | 6 | 1 | BOUROT | 8 |
| 24 | 6 | 1 | AMBACA | 2 |
| 24 | 6 | 2 | BOUROT | 1 |
| 24 | 6 | 2 | AMBACA | 2 |
| 24 | 6 | 3 | SALTRA | 6 |
| 24 | 6 | 3 | CHLVIR | 6 |
| 24 | 6 | 3 | ARITER | 1 |
| 24 | 6 | 3 | BOUROT | 4 |
| 24 | 6 | 3 | AMBACA | 8 |
| 25 | 1 | 1 | BOUROT | 24 |
| 25 | 1 | 2 | BOUROT | 37 |
| 25 | 1 | 2 | ATRPOL | 1 |
| 25 | 1 | 2 | SPHAMB | 1 |
| 25 | 1 | 2 | SIDABU | 1 |
| 25 | 1 | 3 | BOUROT | 28 |
| 25 | 1 | 3 | ERALEH | 3 |
| 25 | 1 | 3 | SPHAMB | 1 |
| 25 | 1 | 3 | SENBAU | 1 |
| 25 | 2 | 1 | BOUROT | 44 |
| 25 | 2 | 1 | SIDABU | 2 |

## Sierrita Long Term Monitoring: Species Observed by Quadrat- Fall 2018

| Plot ID | Transect ID | Quadrat ID | Species Code | Count |
|---|---|---|---|---|
| 25 | 2 | 2 | BOUROT | 43 |
| 25 | 2 | 2 | ERALEH | 4 |
| 25 | 2 | 2 | PROVEL | 1 |
| 25 | 2 | 2 | SIDABU | 4 |
| 25 | 2 | 3 | BOUROT | 33 |
| 25 | 2 | 3 | ATRPOL | 1 |
| 25 | 3 | 1 | BOUROT | 27 |
| 25 | 3 | 1 | VACCON | 1 |
| 25 | 3 | 1 | ERALEH | 9 |
| 25 | 3 | 1 | SPHAMB | 7 |
| 25 | 3 | 1 | ATRPOL | 1 |
| 25 | 3 | 1 | PROVEL | 1 |
| 25 | 3 | 1 | AMBACA | 1 |
| 25 | 3 | 1 | CHLVIR | 3 |
| 25 | 3 | 1 | MOLVER | 9 |
| 25 | 3 | 2 | BOUROT | 37 |
| 25 | 3 | 2 | ATRCAN | 1 |
| 25 | 3 | 2 | SPHAMB | 9 |
| 25 | 3 | 2 | ERALEH | 10 |
| 25 | 3 | 2 | SIDABU | 5 |
| 25 | 3 | 2 | AMBACA | 2 |
| 25 | 3 | 2 | MOLVER | 11 |
| 25 | 3 | 3 | BOUROT | 23 |
| 25 | 3 | 3 | SPHAMB | 1 |
| 25 | 3 | 3 | BOUARI | 3 |
| 25 | 4 | 1 | BOUROT | 12 |
| 25 | 4 | 1 | SALTRA | 1 |
| 25 | 4 | 1 | ERALEH | 16 |
| 25 | 4 | 1 | DASPUL | 12 |
| 25 | 4 | 1 | BOUARI | 2 |
| 25 | 4 | 1 | PHEAUR | 1 |
| 25 | 4 | 2 | ERALEH | 23 |
| 25 | 4 | 2 | BOUROT | 3 |
| 25 | 4 | 3 | PHEAUR | 1 |
| 25 | 4 | 3 | ERALEH | 16 |
| 25 | 4 | 3 | ISOTEN | 1 |
| 25 | 4 | 3 | BOUROT | 4 |
| 25 | 5 | 1 | ISOTEN | 12 |
| 25 | 5 | 1 | ERALEH | 17 |
| 25 | 5 | 1 | BOUROT | 1 |
| 25 | 5 | 1 | SIDABU | 1 |
| 25 | 5 | 2 | ERALEH | 9 |
| 25 | 5 | 2 | BOUROT | 2 |
| 25 | 5 | 2 | ISOTEN | 3 |
| 25 | 5 | 2 | SIDABU | 2 |
| 25 | 5 | 2 | PHEAUR | 1 |
| 25 | 5 | 2 | SIDABU | 1 |
| 25 | 5 | 3 | ISOTEN | 6 |
| 25 | 5 | 3 | PHEAUR | 3 |
| 25 | 5 | 3 | OPUENG | 1 |
| 25 | 5 | 3 | CHASPP | 1 |
| 25 | 5 | 3 | POROLE | 1 |
| 25 | 6 | 1 | SALTRA | 3 |
| 25 | 6 | 1 | ISOTEN | 2 |
| 25 | 6 | 2 | BOUROT | 1 |
| 25 | 6 | 2 | ISOTEN | 1 |
| 25 | 6 | 2 | AMBACA | 1 |
| 25 | 6 | 3 | ERALEH | 5 |
| 25 | 6 | 3 | SETMAC | 3 |
| 25 | 6 | 3 | ISOTEN | 2 |
| 26 | 1 | 1 | CHEALB | 4 |
| 26 | 1 | 1 | ATRCAN | 1 |
| 26 | 1 | 1 | AMBACA | 9 |
| 26 | 1 | 1 | ERALEH | 7 |
| 26 | 1 | 1 | ARITER | 1 |
| 26 | 1 | 2 | BACSAR | 1 |
| 26 | 1 | 2 | ERALEH | 1 |
| 26 | 1 | 3 | ERALEH | 8 |
| 26 | 2 | 1 | ERALEH | 11 |
| 26 | 2 | 2 | ERALEH | 11 |
| 26 | 2 | 2 | ATRCAN | 1 |
| 26 | 2 | 2 | BOECOC | 1 |
| 26 | 2 | 3 | SIDABU | 3 |
| 26 | 2 | 3 | ERALEH | 15 |
| 26 | 2 | 3 | PARACU | 1 |
| 26 | 2 | 3 | CHAFLO | 1 |
| 26 | 3 | 1 | AMBACA | 6 |
| 26 | 3 | 1 | CHAFLO | 1 |
| 26 | 3 | 1 | ERALEH | 5 |
| 26 | 3 | 2 | AMBACA | 19 |
| 26 | 3 | 2 | ERALEH | 12 |
| 26 | 3 | 2 | CHAFLO | 1 |
| 26 | 3 | 3 | BOUROT | 4 |
| 26 | 3 | 3 | AMBACA | 11 |
| 26 | 3 | 3 | ERALEH | 23 |
| 26 | 4 | 1 | HYMMON | 2 |
| 26 | 4 | 1 | BACSAR | 1 |
| 26 | 4 | 1 | IPOHED | 1 |
| 26 | 4 | 1 | BOECOC | 2 |
| 26 | 4 | 1 | TETNER | 4 |

## Sierrita Long Term Monitoring: Species Observed by Quadrat- Fall 2018

| Plot ID | Transect ID | Quadrat ID | Species Code | Count |
|---|---|---|---|---|
| 26 | 4 | 1 | AMAPAL | 2 |
| 26 | 4 | 1 | AMBACA | 1 |
| 26 | 4 | 1 | LEPDUB | 1 |
| 26 | 4 | 1 | ERALEH | 11 |
| 26 | 4 | 1 | SETMAC | 2 |
| 26 | 4 | 2 | AMAPAL | 5 |
| 26 | 4 | 2 | AMBACA | 1 |
| 26 | 4 | 2 | ERACIL | 6 |
| 26 | 4 | 2 | ERALEH | 6 |
| 26 | 4 | 2 | BOECOC | 2 |
| 26 | 4 | 3 | BACSAR | 2 |
| 26 | 4 | 3 | ERALEH | 11 |
| 26 | 4 | 3 | AMAPAL | 1 |
| 26 | 5 | 1 | HYMMON | 3 |
| 26 | 5 | 1 | AMAPAL | 2 |
| 26 | 5 | 1 | TETNER | 2 |
| 26 | 5 | 1 | ERALEH | 12 |
| 26 | 5 | 1 | ERACIL | 4 |
| 26 | 5 | 1 | BOECOC | 3 |
| 26 | 5 | 1 | SETMAC | 2 |
| 26 | 5 | 2 | BOUCUR | 1 |
| 26 | 5 | 2 | ERALEH | 13 |
| 26 | 5 | 3 | SENGRE | 2 |
| 26 | 5 | 3 | TETNER | 1 |
| 26 | 5 | 3 | CHLVIR | 1 |
| 26 | 6 | 1 | AMAPAL | 4 |
| 26 | 6 | 1 | GUTMIC | 1 |
| 26 | 6 | 1 | SETMAC | 7 |
| 26 | 6 | 1 | BOECOC | 4 |
| 26 | 6 | 1 | PANALA | 1 |
| 26 | 6 | 1 | ERALEH | 2 |
| 26 | 6 | 2 | SENGRE | 1 |
| 26 | 6 | 2 | SETMAC | 2 |
| 26 | 6 | 2 | PANALA | 1 |
| 26 | 6 | 2 | AMAPAL | 2 |
| 26 | 6 | 2 | ERALEH | 3 |
| 26 | 6 | 2 | ISOTEN | 1 |
| 26 | 6 | 3 | DITNEO | 1 |
| 26 | 6 | 3 | ERALEH | 6 |
| 26 | 6 | 3 | SETMAC | 7 |
| 26 | 6 | 3 | SENGRE | 1 |
| 26 | 6 | 3 | ISOTEN | 1 |
| 27 | 1 | 1 | SETMAC | 14 |
| 27 | 1 | 1 | ERACIL | 7 |
| 27 | 1 | 1 | PROVEL | 1 |
| 27 | 1 | 1 | ERALEH | 2 |
| 27 | 1 | 2 | SETMAC | 17 |
| 27 | 1 | 2 | ERACIL | 5 |
| 27 | 1 | 2 | AMBACA | 1 |
| 27 | 1 | 2 | PROVEL | 1 |
| 27 | 1 | 3 | MIMDYS | 1 |
| 27 | 1 | 3 | SETMAC | 6 |
| 27 | 1 | 3 | ERALEH | 8 |
| 27 | 1 | 3 | ARITER | 3 |
| 27 | 2 | 1 | ATRCAN | 1 |
| 27 | 2 | 1 | ERALEH | 13 |
| 27 | 2 | 1 | ERACIL | 4 |
| 27 | 2 | 1 | SETMAC | 8 |
| 27 | 2 | 2 | ERALEH | 9 |
| 27 | 2 | 2 | SETMAC | 7 |
| 27 | 2 | 2 | CHLVIR | 3 |
| 27 | 2 | 3 | ERALEH | 5 |
| 27 | 2 | 3 | BOUROT | 3 |
| 27 | 2 | 3 | AMBACA | 2 |
| 27 | 3 | 1 | AMBACA | 21 |
| 27 | 3 | 1 | ERACIL | 2 |
| 27 | 3 | 1 | SETMAC | 8 |
| 27 | 3 | 1 | ERALEH | 1 |
| 27 | 3 | 2 | AMBACA | 6 |
| 27 | 3 | 2 | AYEFIL | 1 |
| 27 | 3 | 2 | SIDABU | 1 |
| 27 | 3 | 2 | ERALEH | 6 |
| 27 | 3 | 2 | SETMAC | 3 |
| 27 | 3 | 3 | SETMAC | 18 |
| 27 | 3 | 3 | ARITER | 1 |
| 27 | 3 | 3 | AMBACA | 3 |
| 27 | 4 | 1 | ERALEH | 8 |
| 27 | 4 | 1 | BOUROT | 6 |
| 27 | 4 | 1 | BOUARI | 27 |
| 27 | 4 | 2 | MUHRIG | 3 |
| 27 | 4 | 2 | BOUARI | 9 |
| 27 | 4 | 2 | ERALEH | 3 |
| 27 | 4 | 2 | BOUROT | 7 |
| 27 | 4 | 2 | ARITER | 1 |
| 27 | 4 | 3 | PROVEL | 1 |
| 27 | 4 | 3 | ISOTEN | 3 |
| 27 | 4 | 3 | ARITER | 4 |
| 27 | 4 | 3 | EVOARI | 1 |
| 27 | 4 | 3 | HETCON | 6 |
| 27 | 4 | 3 | BOUARI | 4 |

## Sierrita Long Term Monitoring: Species Observed by Quadrat- Fall 2018

| Plot ID | Transect ID | Quadrat ID | Species Code | Count |
|---|---|---|---|---|
| 27 | 5 | 1 | BOUARI | 19 |
| 27 | 5 | 1 | ERALEH | 2 |
| 27 | 5 | 1 | ARITER | 1 |
| 27 | 5 | 2 | BOUARI | 25 |
| 27 | 5 | 2 | BOUROT | 2 |
| 27 | 5 | 2 | ERALEH | 5 |
| 27 | 5 | 3 | ERALEH | 5 |
| 27 | 5 | 3 | BOUARI | 6 |
| 27 | 6 | 1 | ERALEH | 22 |
| 27 | 6 | 1 | CALERI | 1 |
| 27 | 6 | 1 | SENSPP | 1 |
| 27 | 6 | 1 | GUTMIC | 1 |
| 27 | 6 | 1 | EVOARI | 9 |
| 27 | 6 | 1 | ARITER | 1 |
| 27 | 6 | 1 | AYEFIL | 1 |
| 27 | 6 | 2 | ERALEH | 4 |
| 27 | 6 | 2 | PROVEL | 2 |
| 27 | 6 | 3 | ERALEH | 10 |
| 27 | 6 | 3 | CALERI | 5 |
| 27 | 6 | 3 | ARITER | 1 |
| 28 | 1 | 1 | PROVEL | 1 |
| 28 | 1 | 1 | BOUROT | 43 |
| 28 | 1 | 1 | CHLVIR | 7 |
| 28 | 1 | 1 | BOUARI | 9 |
| 28 | 1 | 1 | ARIPUR | 7 |
| 28 | 1 | 1 | ERALEH | 2 |
| 28 | 1 | 2 | BOUROT | 24 |
| 28 | 1 | 2 | GUTMIC | 1 |
| 28 | 1 | 2 | ATRCAN | 1 |
| 28 | 1 | 2 | BOUARI | 17 |
| 28 | 1 | 2 | ARIPUR | 16 |
| 28 | 1 | 2 | ERALEH | 1 |
| 28 | 1 | 3 | ERALEH | 5 |
| 28 | 1 | 3 | BOUROT | 28 |
| 28 | 1 | 3 | GUTMIC | 1 |
| 28 | 1 | 3 | BOUARI | 4 |
| 28 | 2 | 1 | BOUROT | 45 |
| 28 | 2 | 1 | BOUARI | 19 |
| 28 | 2 | 1 | ERALEH | 8 |
| 28 | 2 | 2 | GUTMIC | 2 |
| 28 | 2 | 2 | PARFLO | 1 |
| 28 | 2 | 2 | BOUROT | 31 |
| 28 | 2 | 2 | BOUARI | 26 |
| 28 | 2 | 2 | ARIPUR | 5 |
| 28 | 2 | 2 | MULRIG | 1 |
| 28 | 2 | 3 | ATRCAN | 4 |
| 28 | 2 | 3 | ARIPUR | 11 |
| 28 | 2 | 3 | BOUROT | 7 |
| 28 | 2 | 3 | ERALEH | 5 |
| 28 | 2 | 3 | BOUARI | 27 |
| 28 | 2 | 3 | GUTMIC | 1 |
| 28 | 3 | 1 | BOUCUR | 1 |
| 28 | 3 | 1 | GUTMIC | 1 |
| 28 | 3 | 1 | ATRCAN | 2 |
| 28 | 3 | 1 | ARIPUR | 3 |
| 28 | 3 | 1 | ERALEH | 5 |
| 28 | 3 | 1 | BOUROT | 23 |
| 28 | 3 | 1 | BOUARI | 25 |
| 28 | 3 | 2 | ATRCAN | 2 |
| 28 | 3 | 2 | GUTMIC | 1 |
| 28 | 3 | 2 | ERACIL | 3 |
| 28 | 3 | 2 | BOUARI | 31 |
| 28 | 3 | 2 | ERALEH | 12 |
| 28 | 3 | 2 | BOUROT | 26 |
| 28 | 3 | 3 | ATRCAN | 2 |
| 28 | 3 | 3 | ERALEH | 6 |
| 28 | 3 | 3 | BOUROT | 22 |
| 28 | 3 | 3 | ARIPUR | 6 |
| 28 | 3 | 3 | BOUARI | 31 |
| 28 | 3 | 3 | CHLVIR | 3 |
| 28 | 4 | 1 | MOLVER | 8 |
| 28 | 4 | 1 | AYEFIL | 1 |
| 28 | 4 | 1 | ERALEH | 11 |
| 28 | 4 | 1 | CHLVIR | 5 |
| 28 | 4 | 1 | PANHIR | 1 |
| 28 | 4 | 1 | BOECOC | 2 |
| 28 | 4 | 2 | BOUROT | 21 |
| 28 | 4 | 2 | PANHIR | 3 |
| 28 | 4 | 2 | MOLVER | 18 |
| 28 | 4 | 2 | BOECOC | 4 |
| 28 | 4 | 2 | EVOARI | 1 |
| 28 | 4 | 2 | POROLE | 11 |
| 28 | 4 | 3 | GUTMIC | 1 |
| 28 | 4 | 3 | ISOTEN | 1 |
| 28 | 4 | 3 | BOUROT | 52 |
| 28 | 4 | 3 | ERALEH | 1 |
| 28 | 4 | 3 | BOECOC | 3 |
| 28 | 4 | 3 | BOUARI | 3 |
| 28 | 4 | 3 | PORSUF | 1 |
| 28 | 4 | 3 | POROLE | 5 |

## Sierrita Long Term Monitoring: Species Observed by Quadrat- Fall 2018

| Plot ID | Transect ID | Quadrat ID | Species Code | Count |
|---|---|---|---|---|
| 28 | 5 | 1 | AMAPAL | 1 |
| 28 | 5 | 1 | SENGRE | 2 |
| 28 | 5 | 1 | PORUMB | 1 |
| 28 | 5 | 1 | MUHRIG | 1 |
| 28 | 5 | 1 | ERACIL | 7 |
| 28 | 5 | 1 | BOUROT | 12 |
| 28 | 5 | 1 | ERALEH | 2 |
| 28 | 5 | 2 | IPOHED | 1 |
| 28 | 5 | 2 | SETMAC | 10 |
| 28 | 5 | 2 | ISOTEN | 2 |
| 28 | 5 | 2 | PORUMB | 1 |
| 28 | 5 | 2 | ERALEH | 3 |
| 28 | 5 | 3 | ERALEH | 9 |
| 28 | 5 | 3 | CHAMIC | 1 |
| 28 | 6 | 1 | GUTMIC | 1 |
| 28 | 6 | 1 | ERALEH | 7 |
| 28 | 6 | 2 | CHAMIC | 1 |
| 28 | 6 | 2 | ERALEH | 7 |
| 28 | 6 | 3 | ERALEH | 9 |
| 28 | 6 | 3 | CHLVIR | 2 |
| 29 | 1 | 1 | ERALEH | 16 |
| 29 | 1 | 1 | CALERI | 2 |
| 29 | 1 | 1 | DODVIS | 1 |
| 29 | 1 | 1 | CHASPP | 2 |
| 29 | 1 | 2 | CALERI | 2 |
| 29 | 1 | 2 | ARITER | 4 |
| 29 | 1 | 2 | ATRPOL | 3 |
| 29 | 1 | 2 | CHASPP | 8 |
| 29 | 1 | 2 | SIDABU | 1 |
| 29 | 1 | 3 | SPOCRY | 4 |
| 29 | 1 | 3 | ERALEH | 11 |
| 29 | 1 | 3 | HETCON | 1 |
| 29 | 1 | 3 | SIDABU | 2 |
| 29 | 1 | 3 | ECHCOL | 2 |
| 29 | 1 | 3 | EVOARI | 4 |
| 29 | 2 | 1 | BACSAR | 1 |
| 29 | 2 | 1 | ERALEH | 27 |
| 29 | 2 | 1 | EVOARI | 2 |
| 29 | 2 | 1 | SPOCRY | 2 |
| 29 | 2 | 1 | ATRCAN | 1 |
| 29 | 2 | 1 | SIDABU | 3 |
| 29 | 2 | 2 | ATRCAN | 1 |
| 29 | 2 | 2 | ATRPOL | 1 |
| 29 | 2 | 2 | ERALEH | 28 |
| 29 | 2 | 2 | ARITER | 3 |
| 29 | 2 | 2 | SIDABU | 4 |
| 29 | 2 | 2 | BOUREP | 2 |
| 29 | 2 | 2 | EVOARI | 1 |
| 29 | 2 | 3 | ATRCAN | 1 |
| 29 | 2 | 3 | ATRPOL | 2 |
| 29 | 2 | 3 | DODVIS | 1 |
| 29 | 2 | 3 | ARIPUR | 7 |
| 29 | 2 | 3 | ERALEH | 4 |
| 29 | 2 | 3 | EVOARI | 3 |
| 29 | 2 | 3 | SIDABU | 2 |
| 29 | 3 | 1 | DODVIS | 1 |
| 29 | 3 | 1 | MIMDYS | 1 |
| 29 | 3 | 1 | ARITER | 5 |
| 29 | 3 | 1 | ERALEH | 15 |
| 29 | 3 | 1 | EVOARI | 3 |
| 29 | 3 | 1 | ATRCAN | 1 |
| 29 | 3 | 1 | BOUHIR | 4 |
| 29 | 3 | 1 | BOUREP | 3 |
| 29 | 3 | 2 | ARIPUR | 6 |
| 29 | 3 | 2 | ATRPOL | 2 |
| 29 | 3 | 2 | ATRCAN | 2 |
| 29 | 3 | 2 | ECHCOL | 6 |
| 29 | 3 | 2 | CALERI | 1 |
| 29 | 3 | 2 | PORUMB | 2 |
| 29 | 3 | 3 | ATRPOL | 2 |
| 29 | 3 | 3 | ATRCAN | 2 |
| 29 | 3 | 3 | BOUHIR | 4 |
| 29 | 3 | 3 | ERALEH | 11 |
| 29 | 3 | 3 | SPHAMB | 1 |
| 29 | 3 | 3 | DODVIS | 1 |
| 29 | 3 | 3 | EVOARI | 3 |
| 29 | 3 | 3 | CALERI | 2 |
| 29 | 3 | 3 | ECHCOL | 4 |
| 29 | 4 | 1 | IPOSPP | 6 |
| 29 | 4 | 1 | BOUCUR | 2 |
| 29 | 4 | 2 | EVOARI | 10 |
| 29 | 4 | 2 | DODVIS | 1 |
| 29 | 4 | 2 | IPOSPP | 6 |
| 29 | 4 | 2 | MIMDYS | 1 |
| 29 | 4 | 3 | PORSPP | 8 |
| 29 | 4 | 3 | CALERI | 1 |
| 29 | 4 | 3 | BOUREP | 3 |
| 29 | 4 | 3 | EVOARI | 4 |
| 29 | 4 | 3 | HETCON | 1 |
| 29 | 4 | 3 | SIDABU | 5 |

## Sierrita Long Term Monitoring: Species Observed by Quadrat- Fall 2018

| Plot ID | Transect ID | Quadrat ID | Species Code | Count |
|---|---|---|---|---|
| 29 | 5 | 1 | FOUSPL | 1 |
| 29 | 5 | 1 | BOEERE | 9 |
| 29 | 5 | 1 | MIMDYS | 2 |
| 29 | 5 | 1 | BOUCUR | 2 |
| 29 | 5 | 1 | EVOARI | 7 |
| 29 | 5 | 1 | IPOSPP | 1 |
| 29 | 5 | 1 | PORSPP | 1 |
| 29 | 5 | 1 | ARIPUR | 1 |
| 29 | 5 | 2 | EVOARI | 24 |
| 29 | 5 | 2 | EUPDAV | 4 |
| 29 | 5 | 2 | PORSPP | 12 |
| 29 | 5 | 2 | MIMDYS | 1 |
| 29 | 5 | 2 | CALERI | 3 |
| 29 | 5 | 3 | BOUREP | 7 |
| 29 | 5 | 3 | EUPDAV | 23 |
| 29 | 5 | 3 | CALERI | 3 |
| 29 | 5 | 3 | ERALEH | 29 |
| 29 | 5 | 3 | EVOARI | 7 |
| 29 | 5 | 3 | PORSPP | 1 |
| 29 | 6 | 1 | ARITER | 5 |
| 29 | 6 | 1 | HETCON | 11 |
| 29 | 6 | 1 | BOUHIR | 7 |
| 29 | 6 | 1 | CALERI | 3 |
| 29 | 6 | 1 | EVOARI | 11 |
| 29 | 6 | 1 | CHASPP | 7 |
| 29 | 6 | 1 | SIDABU | 2 |
| 29 | 6 | 1 | ERALEH | 3 |
| 29 | 6 | 1 | BOUREP | 1 |
| 29 | 6 | 2 | BOUREP | 4 |
| 29 | 6 | 2 | CALERI | 2 |
| 29 | 6 | 2 | SIDABU | 4 |
| 29 | 6 | 2 | ISOTEN | 2 |
| 29 | 6 | 2 | EVOARI | 2 |
| 29 | 6 | 2 | ERALEH | 14 |
| 29 | 6 | 3 | FOUSPL | 3 |
| 29 | 6 | 3 | CALERI | 31 |
| 29 | 6 | 3 | EVOARI | 8 |
| 29 | 6 | 3 | SIDABU | 2 |
| 29 | 6 | 3 | BOUREP | 4 |
| 29 | 6 | 3 | BOUHIR | 3 |
| 30 | 1 | 1 | CHASPP | 48 |
| 30 | 1 | 1 | KRAERE | 4 |
| 30 | 1 | 1 | ERACIL | 3 |
| 30 | 1 | 1 | ERALEH | 16 |
| 30 | 1 | 1 | PORSPP | 3 |
| 30 | 1 | 1 | ATRCAN | 2 |
| 30 | 1 | 2 | ARITER | 11 |
| 30 | 1 | 2 | MIMDYS | 1 |
| 30 | 1 | 2 | CHASPP | 21 |
| 30 | 1 | 2 | ERACIL | 1 |
| 30 | 1 | 2 | BOUCUR | 1 |
| 30 | 1 | 2 | SPOCRY | 1 |
| 30 | 1 | 2 | SETMAC | 2 |
| 30 | 1 | 2 | SPOCON | 1 |
| 30 | 1 | 3 | ATRCAN | 3 |
| 30 | 1 | 3 | ERALEH | 13 |
| 30 | 1 | 3 | BOUCUR | 11 |
| 30 | 1 | 3 | CHASPP | 3 |
| 30 | 2 | 1 | DODVIS | 1 |
| 30 | 2 | 1 | MIMDYS | 1 |
| 30 | 2 | 1 | BOUREP | 1 |
| 30 | 2 | 1 | ERALEH | 24 |
| 30 | 2 | 1 | ERACIL | 2 |
| 30 | 2 | 1 | CHASPP | 12 |
| 30 | 2 | 1 | BOEERE | 12 |
| 30 | 2 | 1 | EVOARI | 3 |
| 30 | 2 | 1 | SPOCON | 2 |
| 30 | 2 | 2 | EVOARI | 6 |
| 30 | 2 | 2 | ATRCAN | 2 |
| 30 | 2 | 2 | MIMDYS | 1 |
| 30 | 2 | 2 | ERALEH | 16 |
| 30 | 2 | 2 | MACTAN | 1 |
| 30 | 2 | 3 | ATRCAN | 3 |
| 30 | 2 | 3 | KRAERE | 1 |
| 30 | 2 | 3 | BOEERE | 2 |
| 30 | 2 | 3 | ATRPOL | 1 |
| 30 | 2 | 3 | PORUMB | 1 |
| 30 | 2 | 3 | ERALEH | 39 |
| 30 | 2 | 3 | CHLVIR | 2 |
| 30 | 3 | 1 | SPOCRY | 1 |
| 30 | 3 | 1 | BOEERE | 9 |
| 30 | 3 | 1 | ERALEH | 9 |
| 30 | 3 | 1 | MIMDYS | 3 |
| 30 | 3 | 2 | SPOCRY | 3 |
| 30 | 3 | 2 | ERALEH | 7 |
| 30 | 3 | 2 | BOEERE | 27 |
| 30 | 3 | 2 | MIMDYS | 2 |
| 30 | 3 | 2 | PORUMB | 1 |
| 30 | 3 | 3 | PORUMB | 7 |
| 30 | 3 | 3 | BOEERE | 4 |

## Sierrita Long Term Monitoring: Species Observed by Quadrat- Fall 2018

| Plot ID | Transect ID | Quadrat ID | Species Code | Count |
|---|---|---|---|---|
| 30 | 3 | 3 | CHASPP | 19 |
| 30 | 3 | 3 | EVOARI | 8 |
| 30 | 3 | 3 | DODVIS | 1 |
| 30 | 3 | 3 | ATRCAN | 1 |
| 30 | 3 | 3 | ERALEH | 26 |
| 30 | 3 | 3 | KRAERE | 2 |
| 30 | 4 | 1 | MAMGRA | 3 |
| 30 | 4 | 1 | MIMDYS | 1 |
| 30 | 4 | 1 | CALERI | 2 |
| 30 | 4 | 1 | ECHRIG | 1 |
| 30 | 4 | 1 | EVOARI | 2 |
| 30 | 4 | 1 | ARITER | 7 |
| 30 | 4 | 1 | BOUREP | 10 |
| 30 | 4 | 1 | CHASPP | 1 |
| 30 | 4 | 1 | PORUMB | 1 |
| 30 | 4 | 1 | BOEERE | 4 |
| 30 | 4 | 2 | DODVIS | 3 |
| 30 | 4 | 2 | SPOCRY | 5 |
| 30 | 4 | 2 | IPOSPP | 1 |
| 30 | 4 | 2 | ARITER | 1 |
| 30 | 4 | 3 | SPOCRY | 5 |
| 30 | 4 | 3 | DODVIS | 4 |
| 30 | 4 | 3 | IPOSPP | 1 |
| 30 | 4 | 3 | CHLVIR | 1 |
| 30 | 5 | 1 | OPUENG | 1 |
| 30 | 5 | 1 | EVOARI | 17 |
| 30 | 5 | 1 | ERALEH | 8 |
| 30 | 5 | 1 | PORUMB | 2 |
| 30 | 5 | 2 | CALERI | 24 |
| 30 | 5 | 2 | BOEERE | 6 |
| 30 | 5 | 2 | EVOARI | 5 |
| 30 | 5 | 2 | PORUMB | 2 |
| 30 | 5 | 2 | BOUHIR | 1 |
| 30 | 5 | 2 | BOUREP | 37 |
| 30 | 5 | 3 | MAMGRA | 2 |
| 30 | 5 | 3 | CALERI | 12 |
| 30 | 5 | 3 | ERALEH | 5 |
| 30 | 5 | 3 | BOUREP | 9 |
| 30 | 5 | 3 | PORUMB | 18 |
| 30 | 5 | 3 | CHASPP | 4 |
| 30 | 6 | 1 | BOUREP | 17 |
| 30 | 6 | 1 | OPUENG | 1 |
| 30 | 6 | 1 | ERALEH | 6 |
| 30 | 6 | 1 | EVOARI | 5 |
| 30 | 6 | 1 | BOEERE | 6 |
| 30 | 6 | 1 | CHASPP | 2 |
| 30 | 6 | 2 | BOUHIR | 2 |
| 30 | 6 | 2 | EVOARI | 3 |
| 30 | 6 | 2 | ERALEH | 2 |
| 30 | 6 | 2 | ARITER | 2 |
| 30 | 6 | 2 | CHASPP | 3 |
| 30 | 6 | 2 | BOEERE | 3 |
| 30 | 6 | 3 | PORUMB | 10 |
| 30 | 6 | 3 | ERALEH | 2 |
| 30 | 6 | 3 | EVOARI | 7 |
| 30 | 6 | 3 | BOEERE | 5 |
| 30 | 6 | 3 | CHASPP | 4 |

## Sierrita Long Term Monitoring: Species Observed by Quadrat- Fall 2018

| Plot ID | Transect ID | Quadrat ID | Species Code | Count |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |

| Plot ID | Transect ID | Quadrat ID | Species Code | Count |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |

# APPENDIX F

## Line-Point Intercept Photographs Fall 2019



Plot 1_Line 1_East



Plot 1_Line 1_West




Plot 1_Line 2_East



Plot 1_Line 2_West



Plot 1_Line 3_East



Plot 1_Line 3_West



Plot 1_Line 4_East



Plot 1_Line 4_West



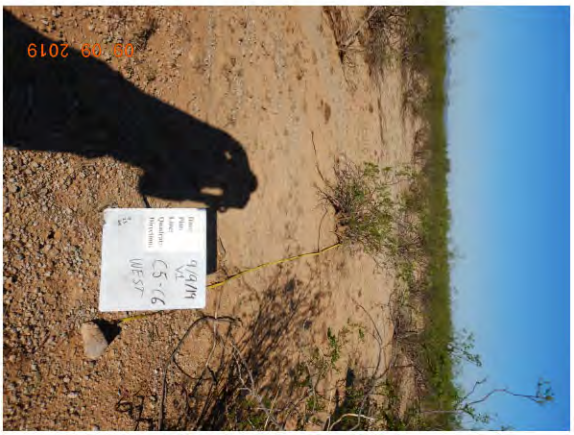
Plot 1_Line 5_East



Plot 1_Line 5_West



Plot 1_Line 6_East



Plot 1_Line 6_West



Plot 2_Line 1_East



Plot 2_Line 1_West



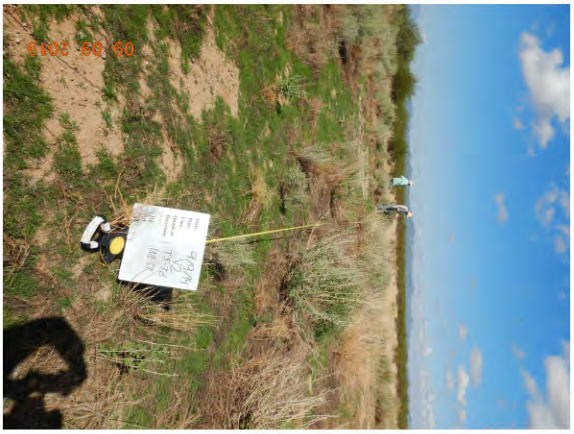
Plot 2_Line 2_East



Plot 2_Line 2_West



Plot 2_Line 3_East



Plot 2_Line 3_West



Plot 2_Line 4_East



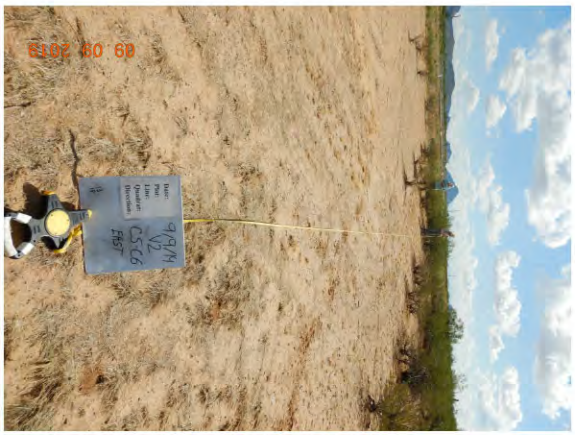

Plot 2_Line 4_West



Plot 2_Line 5_East




Plot 2_Line 5_West



Plot 2_Line 6_East



Plot 2_Line 6_West




Plot 3_Line 1_East




Plot 3_Line 1_West




Plot 3_Line 2_East




Plot 3_Line 2_West




Plot 3_Line 3_East




Plot 3_Line 3_West




Plot 3_Line 4_East




Plot 3_Line 4_West




Plot 3_Line 5_East




Plot 3_Line 5_West




Plot 3_Line 6_East




Plot 3_Line 6_West




Plot 4_Line 1_East




Plot 4_Line 1_West




Plot 4_Line 2_East



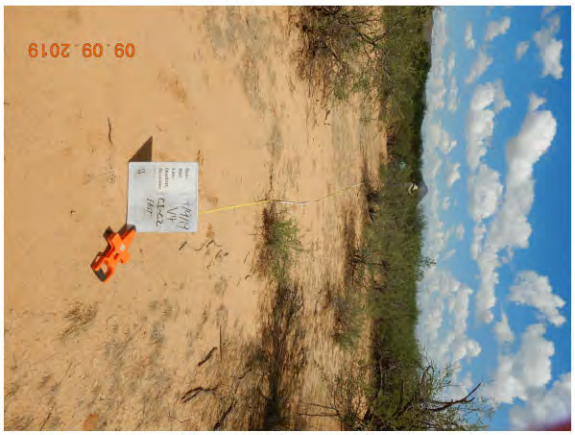

Plot 4_Line 2_West




Plot 4_Line 3_East




Plot 4_Line 3_West




Plot 4_Line 4_East



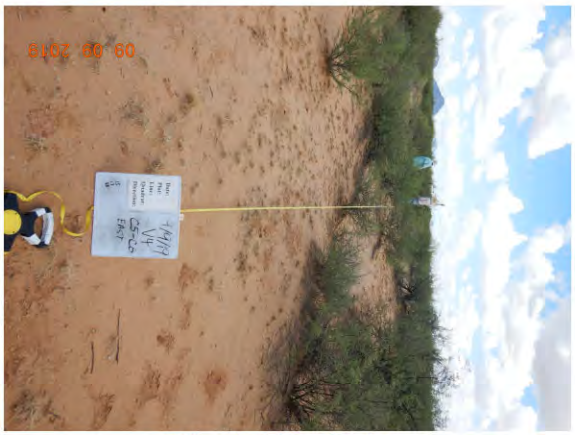

Plot 4_Line 4_West




Plot 4_Line 5_East



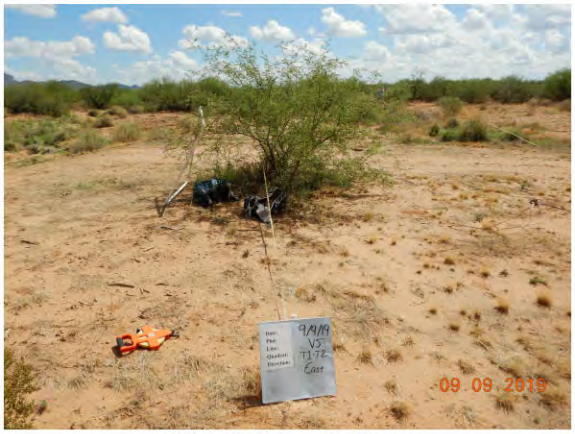

Plot 4_Line 5_West




Plot 4_Line 6_East




Plot 4_Line 6_West




Plot 5_Line 1_East




Plot 5_Line 1_West




Plot 5_Line 2_East




Plot 5_Line 2_West




Plot 5_Line 3_East




Plot 5_Line 3_West




Plot 5_Line 4_East




Plot 5_Line 4_West




Plot 5_Line 5_East




Plot 5_Line 5_West



Plot 5_Line 6_East




Plot 5_Line 6_West




Plot 6_Line 1_East




Plot 6_Line 1_West




Plot 6_Line 2_East




Plot 6_Line 2_West




Plot 6_Line 3_East




Plot 6_Line 3_West




Plot 6_Line 4_East




Plot 6_Line 4_West



Plot 6_Line 5_East




Plot 6_Line 5_West




Plot 6_Line 6_East




Plot 6_Line 6_West



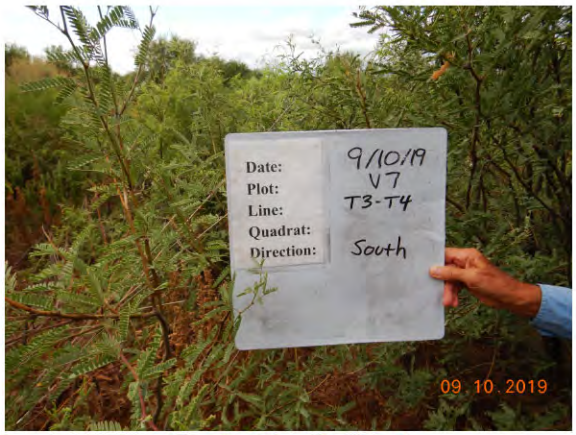

Plot 7_Line 1_North



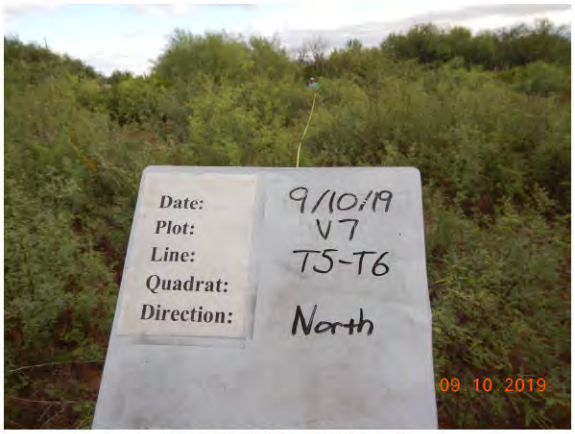

Plot 7_Line 1_South




Plot 7_Line 2_North



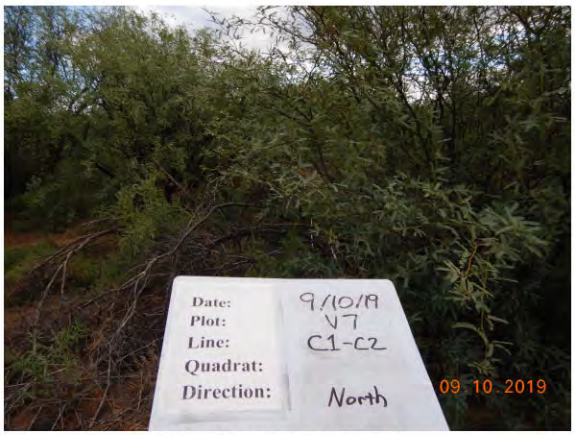

Plot 7_Line 2_South




Plot 7_Line 3_North




Plot 7_Line 3_South




Plot 7_Line 4_North




Plot 7_Line 4_South



Plot 7_Line 5_North



Plot 7_Line 5_South



Plot 7_Line 6_North



Plot 7_Line 6_South



Plot 8_Line 1_East



Plot 8_Line 1_West



Plot 8_Line 2_East



Plot 8_Line 2_West




Plot 8_Line 3_East




Plot 8_Line 3_West




Plot 8_Line 4_East




Plot 8_Line 4_West




Plot 8_Line 5_East




Plot 8_Line 5_West




Plot 8_Line 6_East




Plot 8_Line 6_West



Plot 9_Line 1_North



Plot 9_Line 1_South



Plot 9_Line 2_North



Plot 9_Line 2_South



Plot 9_Line 3_North



Plot 9_Line 3_South



PLot 9_Line 4_ North



Plot 9_Line 4_South




Plot 9_Line 5_North




Plot 9_Line 5_South




Plot 9_Line 6_North




Plot 9_Line 6_South




Plot 10_Line 1_East




Plot 10_Line 1_West




Plot 10_Line 2_East




Plot 10_Line 2_West




Plot 10_Line 3_East




Plot 10_Line 3_West




Plot 10_Line 4_East




Plot 10_Line 4_West




Plot 10_Line 5_East




Plot 10_Line 5_West




Plot 10_Line 6_East




Plot 10_Line 6_West



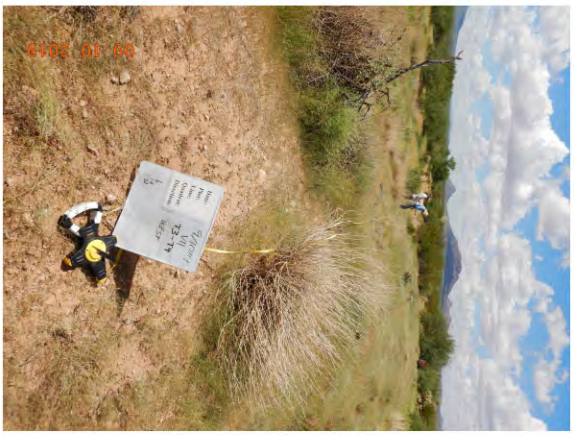

Plot 11_Line 1_East




Plot 11_Line 1_West




Plot 11_Line 2_East




Plot 11_Line 2_West




Plot 11_Line 3_East




Plot 11_Line 3_West




Plot 11_Line 4_East




Plot 11_Line 4_West



Plot 11_Line 5_East



Plot 11_Line 5_West



Plot 11_Line 6_East



Plot 11_Line 6_West



Plot 12_Line 1_East



Plot 12_Line 1_West



Plot 12_Line 2_East



Plot 12_Line 2_West



Plot 12_Line 3_East



Plot 12_Line 3_West



Plot 12_Line 4_East



Plot 12_Line 4_West



Plot 12_Line 5_East



Plot 12_Line 5_West



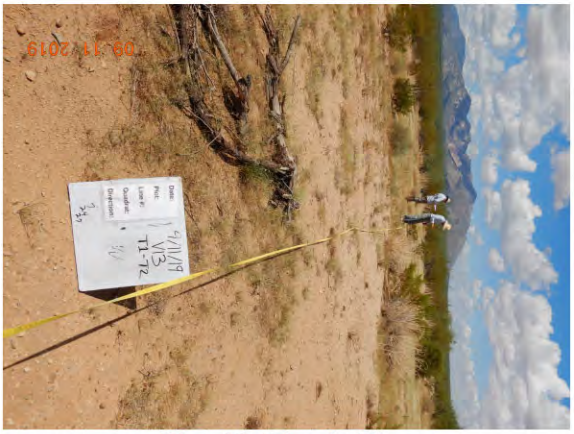
Plot 12_Line 6_East



Plot 12_Line 6_West



Plot 13_Line 1_East



Plot 13_Line 1_West



Plot 13_Line 2_East



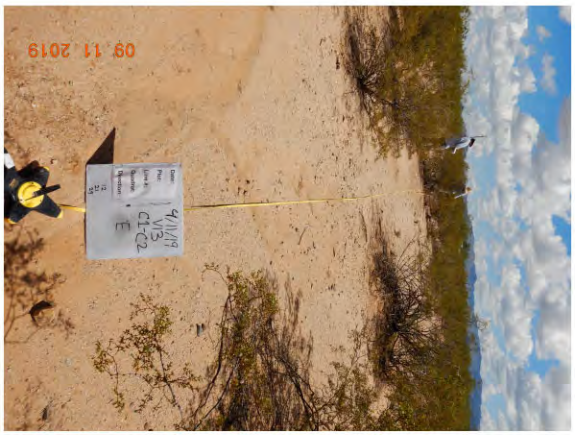
Plot 13_Line 2_West



Plot 13_Line 3_East



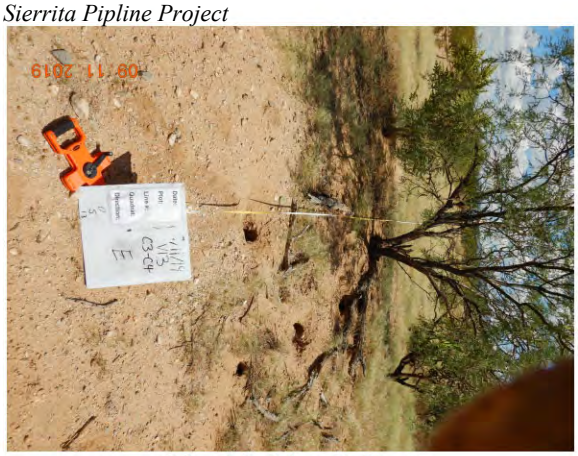
Plot 13_Line 3_West



Plot 13_Line 4_East



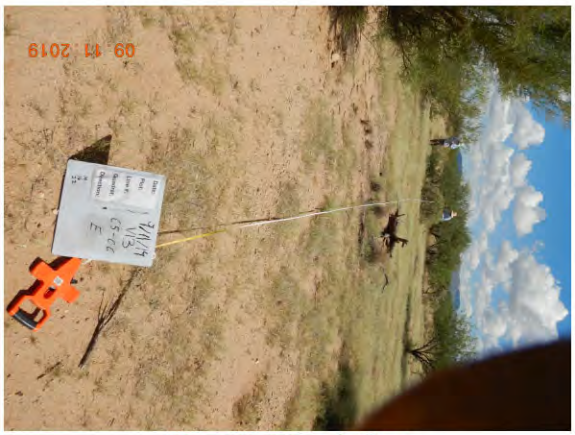
Plot 13_Line 4_West



Plot 13_Line 5_East



Plot 13_Line 5_West



Plot 13_Line 6_East



Plot 13_Line 6_West



Plot 14_Line 1_East



Plot 14_Line 1_West



Plot 14_Line 2_East



Plot 14_Line 2_West




Plot 14_Line 3_East



Plot 14_Line 3_West



Plot 14_Line 4_East




Plot 14_Line 4_West



Plot 14_Line 5_East



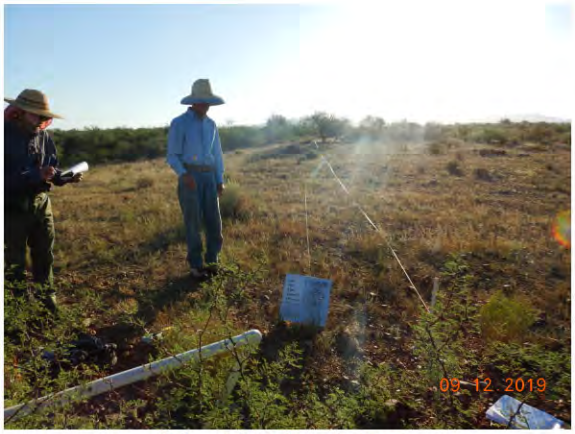

Plot 14_Line 5_West



Plot 14_Line 6_East




Plot 14_Line 6_West




Plot 15_Line 1_East



Plot 15_Line 1_West




Plot 15_Line 2_East



Plot 15_Line 2_West




Plot 15_Line 3_East



Plot 15_Line 3_West



Plot 15_Line 4_East



Plot 15_Line 4_West



Plot 15_Line 5_East




Plot 15_Line 5_West



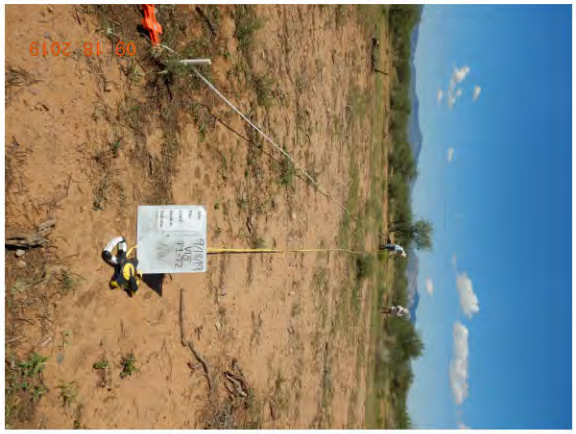

Plot 15_Line 6_East




Plot 15_Line 6_West




Plot 16_Line 1_East



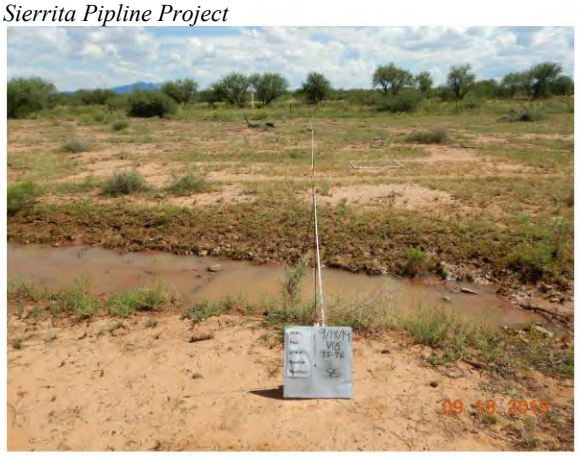
Plot 16_Line 1_West




Plot 16_Line 2_East



Plot 16_Line 2_West




Plot 16_Line 3_East



Plot 16_Line 3_West



Plot 16_Line 4_East




Plot 16_Line 4_West



Plot 16_Line 5_East




Plot 16_Line 5_West



Plot 16_Line 6_East




Plot 16_Line 6_West



Plot 17_Line 1_North



Plot 17_Line 1_South



Plot 17_Line 2_North



Plot 17_Line 2_South



Plot 17_Line 3_South



Plot 17_Line 4_East



Plot 17_Line 4_West



Plot 17_Line 5_North



Plot 17_Line 5_South



Plot 17_Line 6_East



Plot 17_Line 6_West



Plot 18_Line 1_North



Plot 18_Line 1_South



Plot 18_Line 2_North



Plot 18_Line 2_South



Plot 18_Line 3_North



Plot 18_Line 3_South



Plot 18_Line 4_North



Plot 18_Line 4_South



Plot 18_Line 5_North



Plot 18_Line 5_South



Plot 18_Line 6_North



Plot 18_Line 6_South



Plot 19_Line 1_East



Plot 19_Line 1_West




Plot 19_Line 2_East




Plot 19_Line 2_West




Plot 19_Line 3_East




Plot 19_Line 3_West




Plot 19_Line 4_East




Plot 19_Line 4_West




Plot 19_Line 5_East



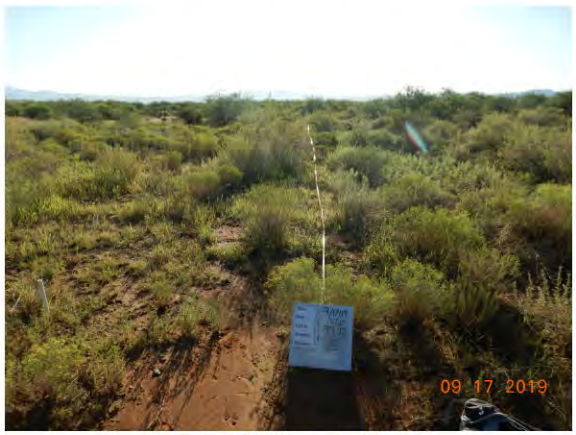

Plot 19_Line 5_West



Plot 19_Line 6_East




Plot 19_Line 6_West




Plot 20_Line 1_East




Plot 20_Line 1_West




Plot 20_Line 2_East




Plot 20_Line 2_West




Plot 20_Line 3_East



Plot 20_Line 3_West



Plot 20_Line 4_East



Plot 20_Line 4_West



Plot 20_Line 5_East



Plot 20_Line 5_West



Plot 20_Line 6_East



Plot 20_Line 6_West



Plot 21_Line 1_East



Plot 21_Line 1_West



Plot 21_Line 2_East



Plot 21_Line 2_West



Plot 21_Line 3_East



Plot 21_Line 3_West



Plot 21_Line 4_East



Plot 21_Line 4_West



Plot 21_Line 5_East



Plot 21_Line 5_West



Plot 21_Line 6_East



Plot 21_Line 6_West



Plot 22_Line 1_East



Plot 22_Line 1_West



Plot 22_Line 2_East



Plot 22_Line 2_West



Plot 22_Line 3_East


Plot 22_Line 3_West


Plot 22_Line 4_East


Plot 22_Line 4_West


Plot 22_Line 5_East


Plot 22_Line 5_West


Plot 22_Line 6_East


Plot 22_Line 6_West


Plot 23_Line 1_East



Plot 23_Line 1_West



Plot 23_Line 2_East



Plot 23_Line 2_West



Plot 23_Line 3_East



Plot 23_Line 3_West



Plot 23_Line 4_East



Plot 23_Line 4_West



Plot 23_Line 5_East



Plot 23_Line 5_West




Plot 23_Line 6_East



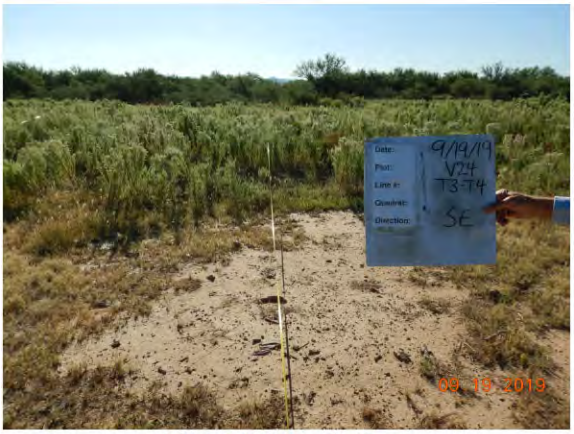
Plot 23_Line 6_West



Plot 24_Line 1_East



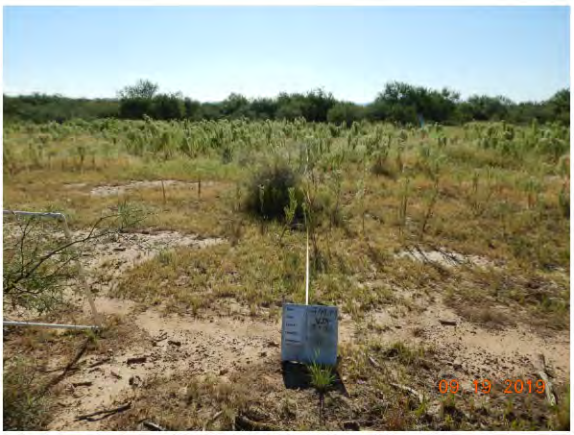

Plot 24_Line 1_West




Plot 24_Line 2_East




Plot 24_Line 2_West



Plot 24_Line 3_East




Plot 24_Line 3_West




Plot 24_Line 4_East




Plot 24_Line 4_West




Plot 24_Line 5_East




Plot 24_Line 5_West



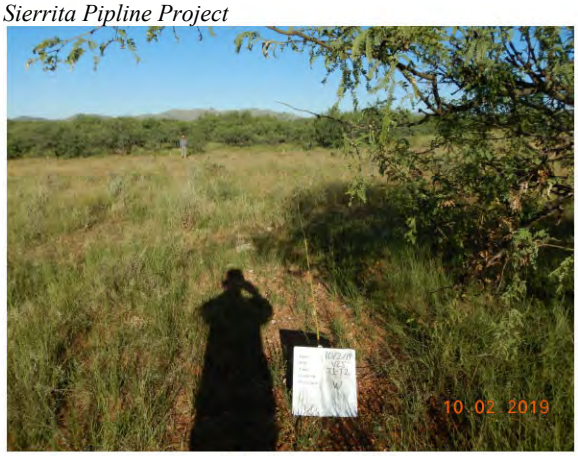

Plot 24_Line 6_East




Plot 24_Line 6_West




Plot 25_Line 1_East



Plot 25_Line 1_West



Plot 25_Line 2_East



Plot 25_Line 2_West



Plot 25_Line 3_East



Plot 25_Line 3_West



Plot 25_Line 4_East



Plot 25_Line 4_West



Plot 25_Line 5_East




Plot 25_Line 5_West




Plot 25_Line 6_East




Plot 25_Line 6_West




Plot 26_Line 1_East




Plot 26_Line 1_West




Plot 26_Line 2_East




Plot 26_Line 2_West




Plot 26_Line 3_East



Plot 26_Line 3_West



Plot 26_Line 4_East



Plot 26_Line 4_West



Plot 26_Line 5_East



Plot 26_Line 5_West



Plot 26_Line 6_East



Plot 26_Line 6_West



Plot 27_Line 1_East




Plot 27_Line 1_West




Plot 27_Line 2_East




Plot 27_Line 2_West




Plot 27_Line 3_East




Plot 27_Line 3_West




Plot 27_Line 4_East




Plot 27_Line 4_West




Plot 27_Line 5_East




Plot 27_Line 5_West




Plot 27_Line 6_East




Plot 27_Line 6_West




Plot 28_Line 1_East




Plot 28_Line 1_West




Plot 28_Line 2_East




Plot 28_Line 2_West




Plot 28_Line 3_East



Plot 28_Line 3_West



Plot 28_Line 4_East



Plot 28_Line 4_West



Plot 28_Line 5_East



Plot 28_Line 5_West



Plot 28_Line 6_East



Plot 28_Line 6_West



Plot 29_Line 1_East



Plot 29_Line 1_West



Plot 29_Line 2_East



Plot 29_Line 2_West



Plot 29_Line 3_East



Plot 29_Line 3_West



Plot 29_Line 4_East



Plot 29_Line 4_West



Plot 29_Line 5_East




Plot 29_Line 5_West




Plot 29_Line 6_East




Plot 29_Line 6_West




Plot 30_Line 1_East




Plot 30_Line 1_West




Plot 30_Line 2_East



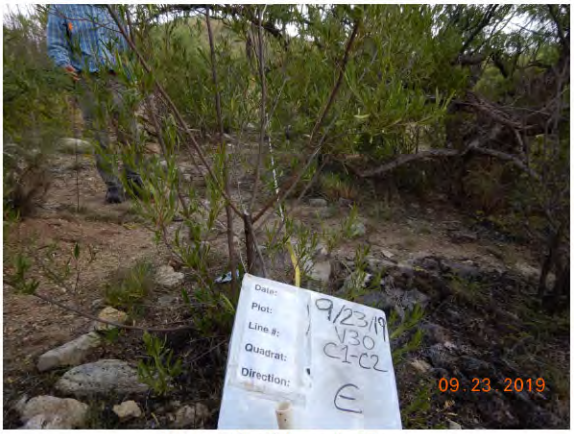

Plot 30_Line 2_West




Plot 30_Line 3_East



Plot 30_Line 3_West



Plot 30_Line 4_East



Plot 30_Line 4_West



Plot 30_Line 5_East



Plot 30_Line 5_West



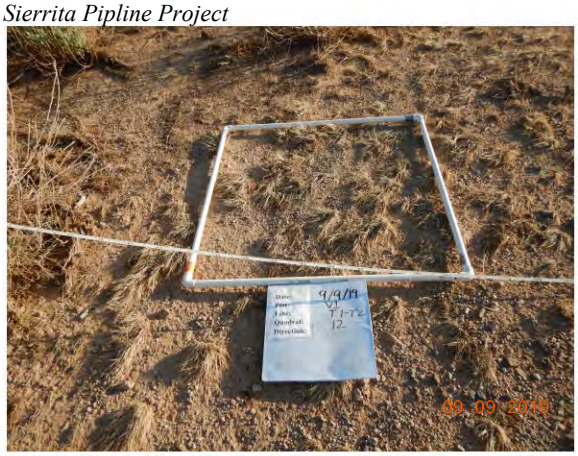
Plot 30_Line 6_East



Plot 30_Line 6_West

# APPENDIX G

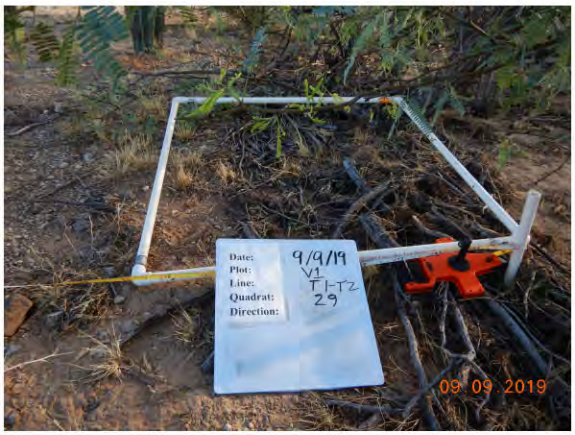
## Quadrat Photographs Fall 2019



Plot 1_Line 1_Quadrat 1



Plot 1_Line 1_Quadrat 2



Plot 1_Line 1_Quadrat 3



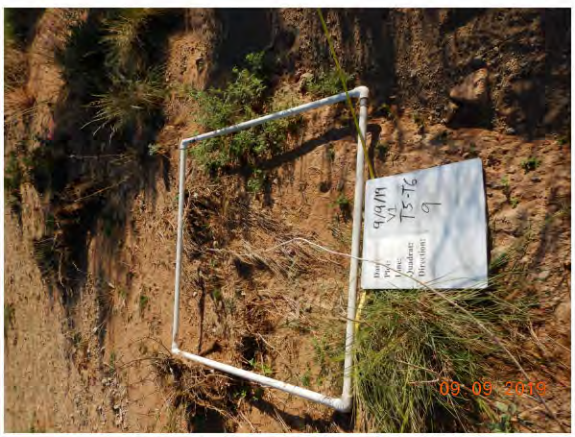
Plot 1_Line 2_Quadrat 1



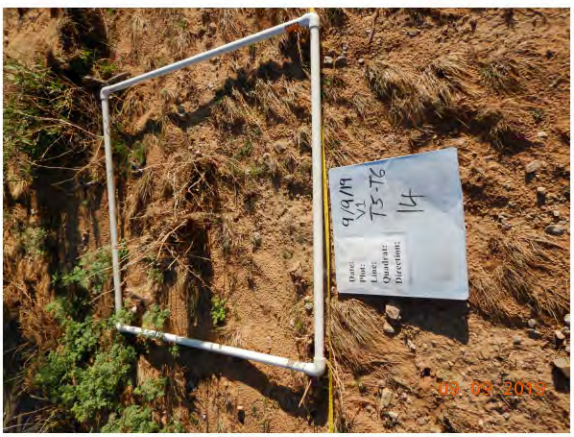
Plot 1_Line 2_Quadrat 2



Plot 1_Line 2_Quadrat 3



Plot 1_Line 3_Quadrat 1



Plot 1_Line 3_Quadrat 2




Plot 1_Line 3_Quadrat 3




Plot 1_Line 4_Quadrat 1




Plot 1_Line 4_Quadrat 2



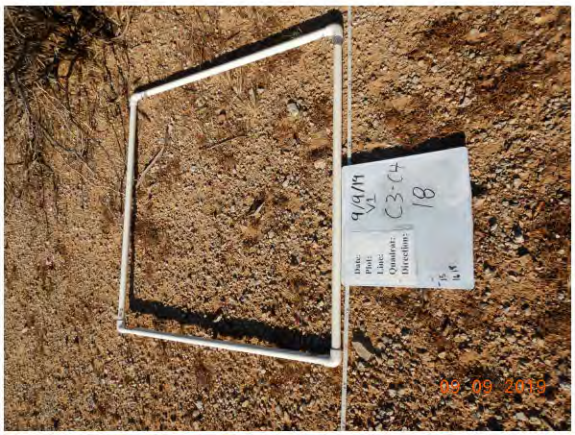

Plot 1_Line 4_Quadrat 3



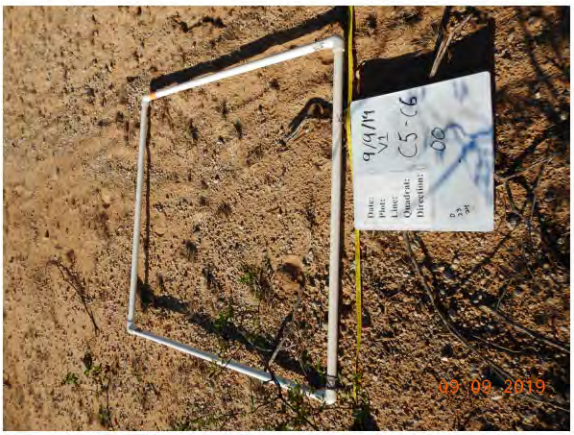

Plot 1_Line 5_Quadrat 1



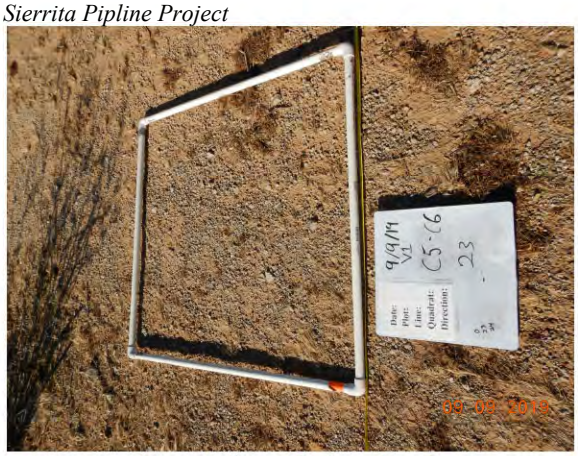

Plot 1_Line 5_Quadrat 2




Plot 1_Line 5_Quadrat 3




Plot 1_Line 6_Quadrat 1



Plot 1_Line 6_Quadrat 2



Plot 1_Line 6_Quadrat 3



Plot 2_Line 1_Quadrat 1



Plot 2_Line 1_Quadrat 2



Plot 2_Line 1_Quadrat 3



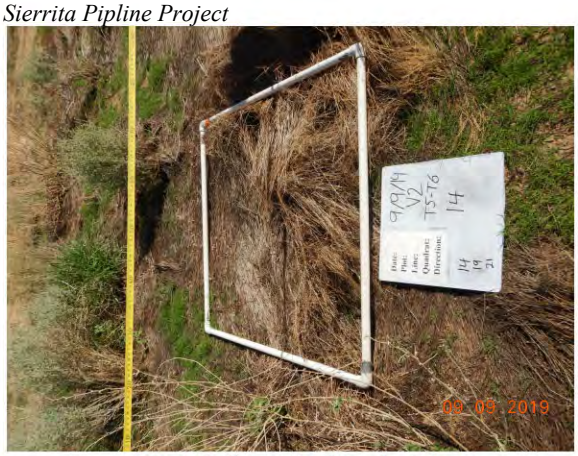
Plot 2_Line 2_Quadrat 1



Plot 2_Line 2_Quadrat 2



Plot 2_Line 2_Quadrat 3



Plot 2_Line 3_Quadrat 1



Plot 2_Line 3_Quadrat 2



Plot 2_Line 3_Quadrat 3



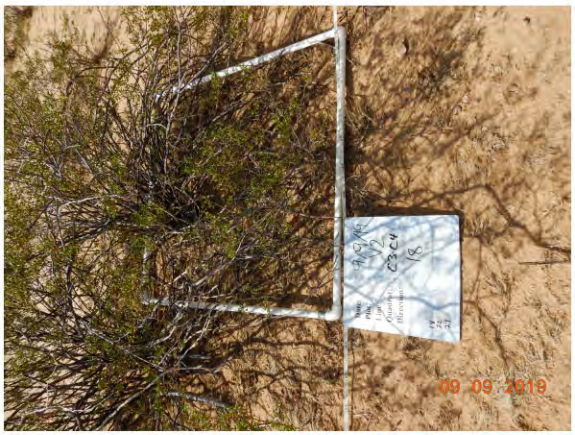
Plot 2_Line 4_Quadrat 1



Plot 2_Line 4_Quadrat 2



Plot 2_Line 4_Quadrat 3



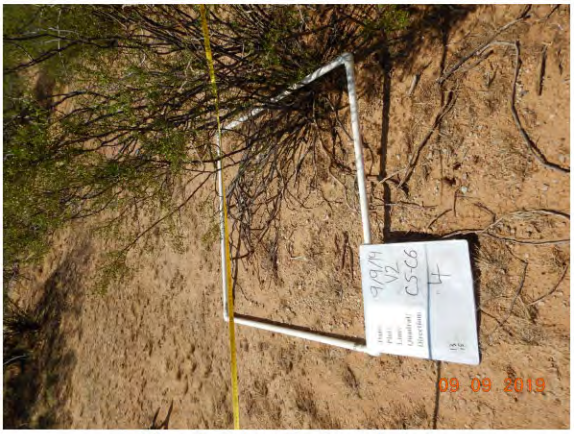
Plot 2_Line 5_Quadrat 1



Plot 2_Line 5_Quadrat 2




Plot 2_Line 5_Quadrat 3




Plot 2_Line 6_Quadrat 1




Plot 2_Line 6_Quadrat 2




Plot 2_Line 6_Quadrat 3



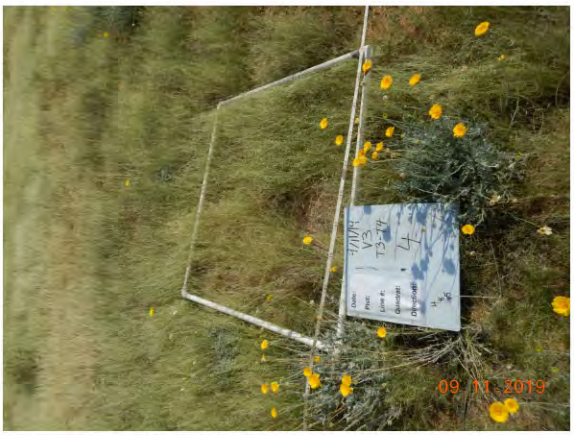

Plot 3_Line 1_Quadrat 1




Plot 3_Line 1_Quadrat 2




Plot 3_Line 1_Quadrat 3




Plot 3_Line 2_Quadrat 1




Plot 3_Line 2_Quadrat 2




Plot 3_Line 2_Quadrat 3



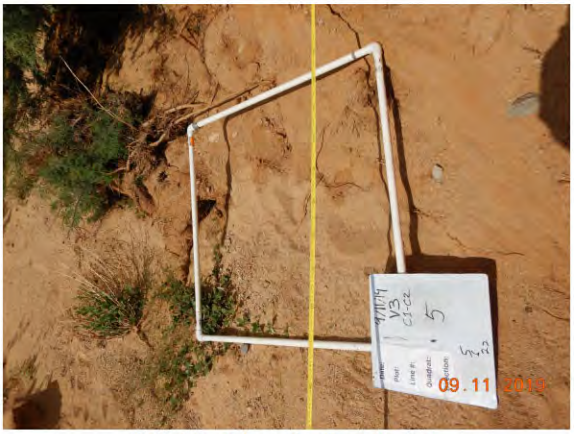

Plot 3_Line 3_Quadrat 1




Plot 3_Line 3_Quadrat 2




Plot 3_Line 3_Quadrat 3



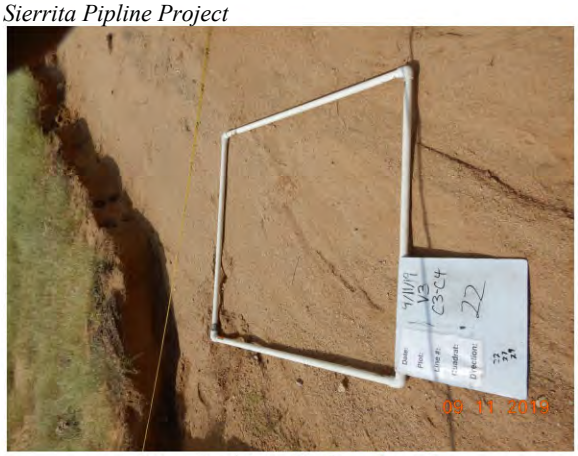

Plot 3_Line 4_Quadrat 1




Plot 3_Line 4_Quadrat 2




Plot 3_Line 4_Quadrat 3




Plot 3_Line 5_Quadrat 1




Plot 3_Line 5_Quadrat 2




Plot 3_Line 5_Quadrat 3




Plot 3_Line 6_Quadrat 1




Plot 3_Line 6_Quadrat 2



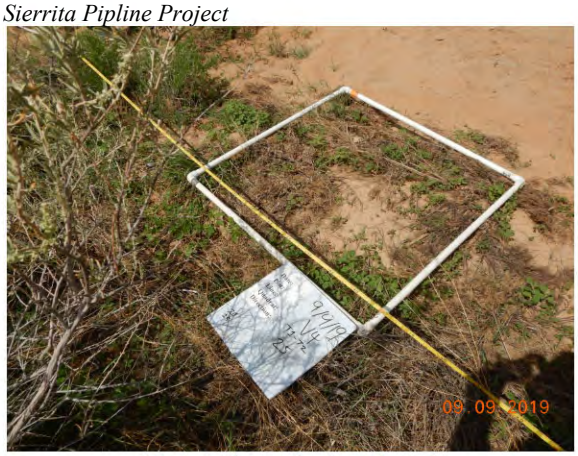

Plot 3_Line 6_Quadrat 3



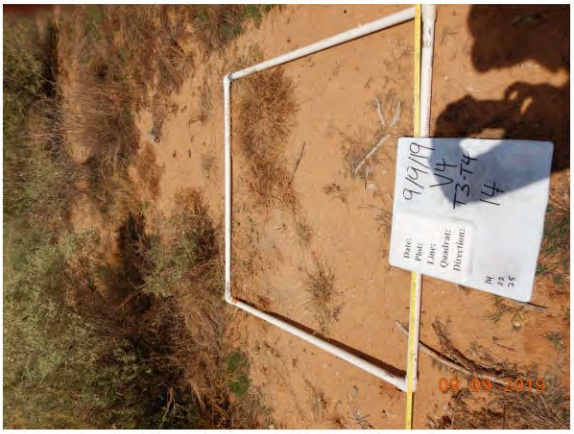

Plot 4_Line 1_Quadrat 1




Plot 4_Line 1_Quadrat 2



Plot 4_Line 1_Quadrat 3



Plot 4_Line 2_Quadrat 1



Plot 4_Line 2_Quadrat 2



Plot 4_Line 2_Quadrat 3



Plot 4_Line 3_Quadrat 1



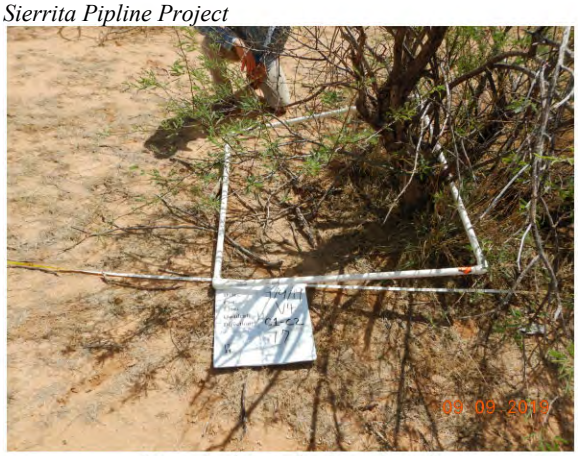
Plot 4_Line 3_Quadrat 2



Plot 4_Line 3_Quadrat 3



Plot 4_Line 4_Quadrat 1




Plot 4_Line 4_Quadrat 2




Plot 4_Line 4_Quadrat 3




Plot 4_Line 5_Quadrat 1




Plot 4_Line 5_Quadrat 2




Plot 4_Line 5_Quadrat 3



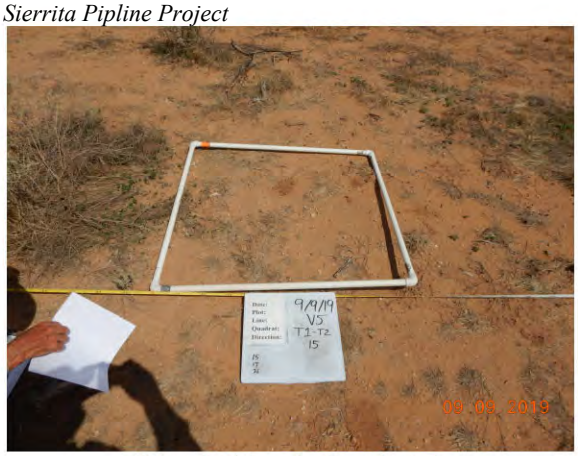

Plot 4_Line 6_Quadrat 1




Plot 4_Line 6_Quadrat 2




Plot 4_Line 6_Quadrat 3



Plot 5_Line 1_Quadrat 1



Plot 5_Line 1_Quadrat 2



Plot 5_Line 1_Quadrat 3



Plot 5_Line 2_Quadrat 1



Plot 5_Line 2_Quadrat 2



Plot 5_Line 2_Quadrat 3



Plot 5_Line 3_Quadrat 1



Plot 5_Line 3_Quadrat 2



Plot 5_Line 3_Quadrat 3



Plot 5_Line 4_Quadrat 1



Plot 5_Line 4_Quadrat 2



Plot 5_Line 4_Quadrat 3



Plot 5_Line 5_Quadrat 1



Plot 5_Line 5_Quadrat 2



Plot 5_Line 5_Quadrat 3



Plot 5_Line 6_Quadrat 1




Plot 5_Line 6_Quadrat 2




Plot 5_Line 6_Quadrat 3




Plot 6_Line 1_Quadrat 1




Plot 6_Line 1_Quadrat 2




Plot 6_Line 1_Quadrat 3



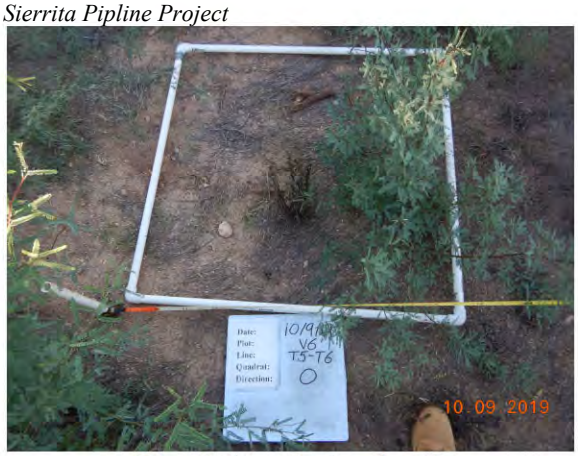

Plot 6_Line 2_Quadrat 1




Plot 6_Line 2_Quadrat 2




Plot 6_Line 2_Quadrat 3



Plot 6_Line 3_Quadrat 1



Plot 6_Line 3_Quadrat 2



Plot 6_Line 3_Quadrat 3



Plot 6_Line 4_Quadrat 1



Plot 6_Line 4_Quadrat 2



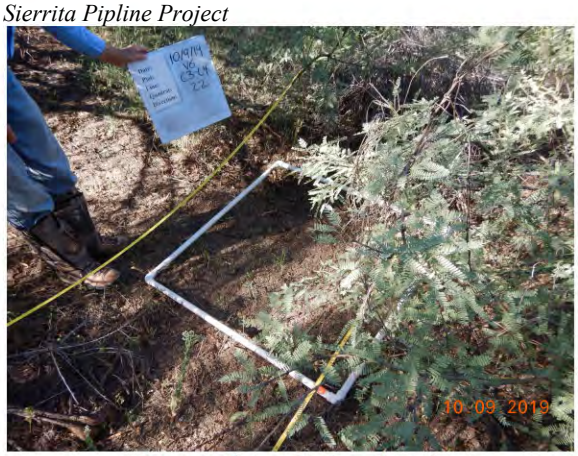
Plot 6_Line 4_Quadrat 3



Plot 6_Line 5_Quadrat 1



Plot 6_Line 5_Quadrat 2



Plot 6_Line 5_Quadrat 3



Plot 6_Line 6_Quadrat 1



Plot 6_Line 6_Quadrat 2



Plot 6_Line 6_Quadrat 3



Plot 7_Line 1_Quadrat 1



Plot 7_Line 1_Quadrat 2



Plot 7_Line 1_Quadrat 3



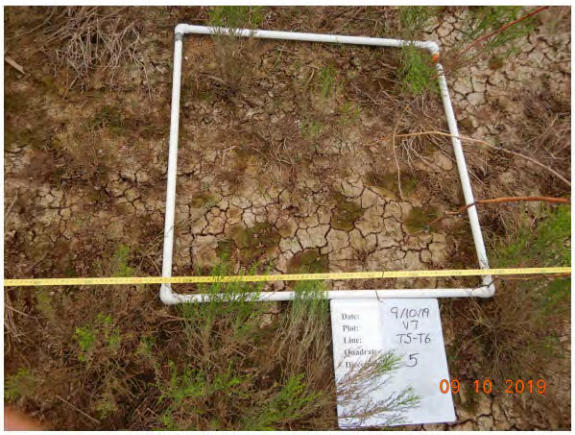
Plot 7_Line 2_Quadrat 1




Plot 7_Line 2_Quadrat 2




Plot 7_Line 2_Quadrat 3




Plot 7_Line 3_Quadrat 1




Plot 7_Line 3_Quadrat 2




Plot 7_Line 3_Quadrat 3




Plot 7_Line 4_Quadrat 1




Plot 7_Line 4_Quadrat 2




Plot 7_Line 4_Quadrat 3



Plot 7_Line 5_Quadrat 1



Plot 7_Line 5_Quadrat 2



Plot 7_Line 5_Quadrat 3



Plot 7_Line 6_Quadrat 1



Plot 7_Line 6_Quadrat 2



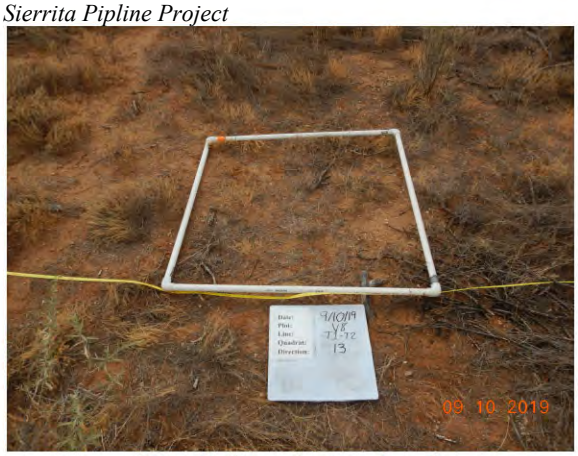
Plot 7_Line 6_Quadrat 3



Plot 8_Line 1_Quadrat 1



Plot 8_Line 1_Quadrat 2



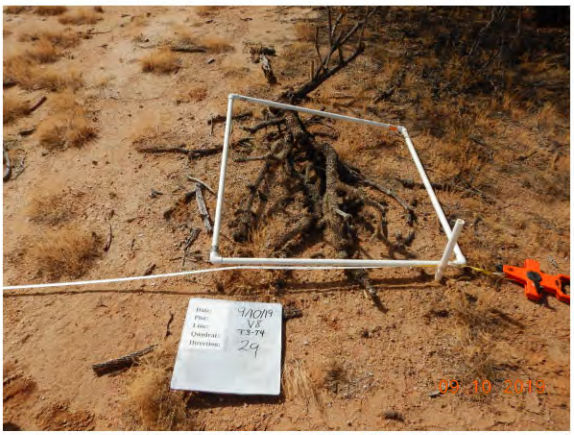

Plot 8_Line 1_Quadrat 3




Plot 8_Line 2_Quadrat 1




Plot 8_Line 2_Quadrat 2




Plot 8_Line 2_Quadrat 3



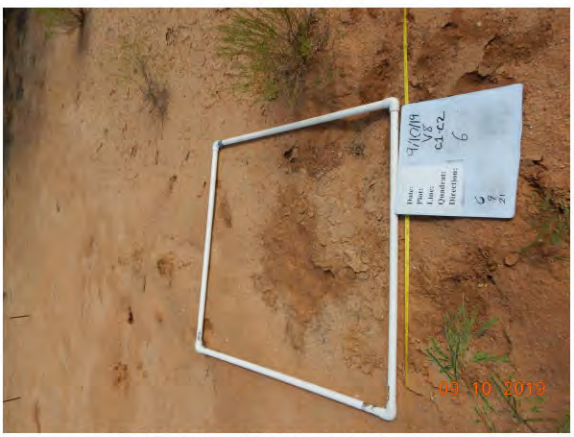

Plot 8_Line 3_Quadrat 1



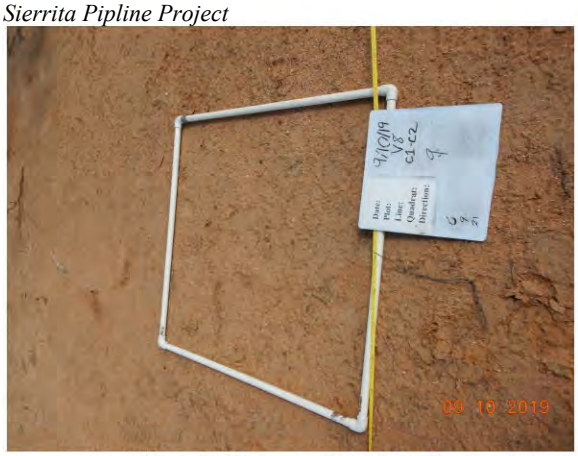

Plot 8_Line 3_Quadrat 2




Plot 8_Line 3_Quadrat 3




Plot 8_Line 4_Quadrat 1




Plot 8_Line 4_Quadrat 2




Plot 8_Line 4_Quadrat 3




Plot 8_Line 5_Quadrat 1




Plot 8_Line 5_Quadrat 2




Plot 8_Line 5_Quadrat 3




Plot 8_Line 6_Quadrat 1




Plot 8_Line 6_Quadrat 2




Plot 8_Line 6_Quadrat 3



Plot 9_Line 1_Quadrat 1



Plot 9_Line 1_Quadrat 2



Plot 9_Line 1_Quadrat 3



Plot 9_Line 2_Quadrat 1



Plot 9_Line 2_Quadrat 2



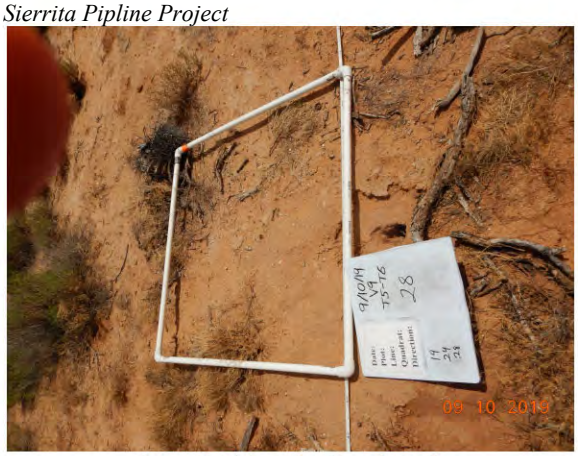
Plot 9_Line 2_Quadrat 3



Plot 9_Line 3_Quadrat 1



Plot 9_Line 3_Quadrat 2




Plot 9_Line 3_Quadrat 3




Plot 9_Line 4_Quadrat 1




Plot 9_Line 4_Quadrat 2




Plot 9_Line 4_Quadrat 3



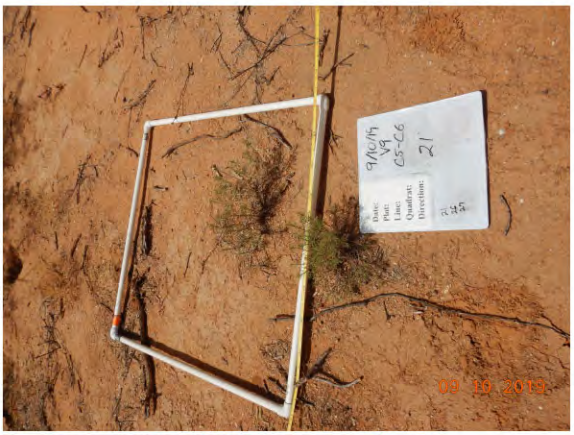

Plot 9_Line 5_Quadrat 1




Plot 9_Line 5_Quadrat 2




Plot 9_Line 5_Quadrat 3




Plot 9_Line 6_Quadrat 1



Plot 9_Line 6_Quadrat 2



Plot 9_Line 6_Quadrat 3



Plot 10_Line 1_Quadrat 1



Plot 10_Line 1_Quadrat 2



Plot 10_Line 1_Quadrat 3



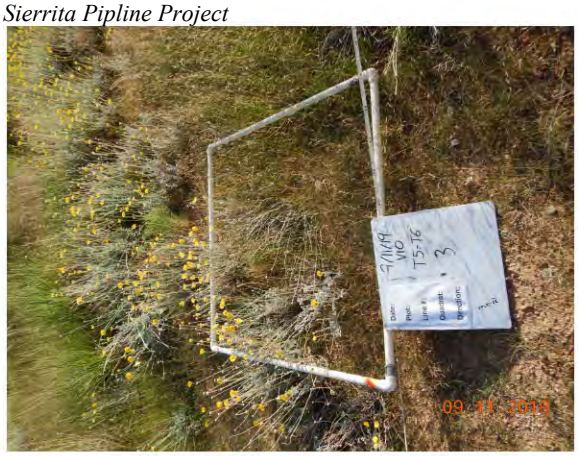
Plot 10_Line 2_Quadrat 1



Plot 10_Line 2_Quadrat 2



Plot 10_Line 2_Quadrat 3



Plot 10_Line 3_Quadrat 1



Plot 10_Line 3_Quadrat 2



Plot 10_Line 3_Quadrat 3



Plot 10_Line 4_Quadrat 1



Plot 10_Line 4_Quadrat 2



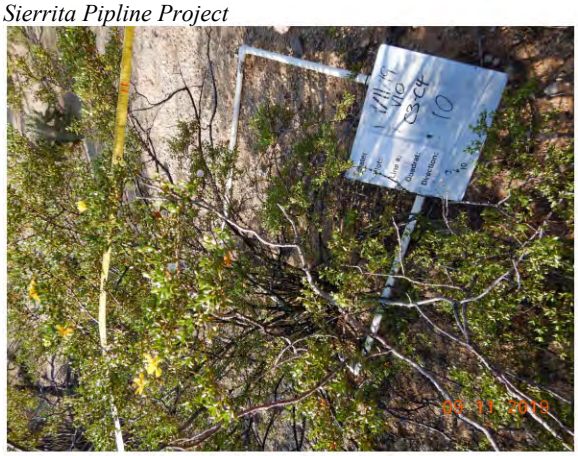
Plot 10_Line 4_Quadrat 3



Plot 10_Line 5_Quadrat 1



Plot 10_Line 5_Quadrat 2



Plot 10_Line 5_Quadrat 3



Plot 10_Line 6_Quadrat 1



Plot 10_Line 6_Quadrat 2



Plot 10_Line 6_Quadrat 3



Plot 11_Line 1_Quadrat 1



Plot 11_Line 1_Quadrat 2



Plot 11_Line 1_Quadrat 3



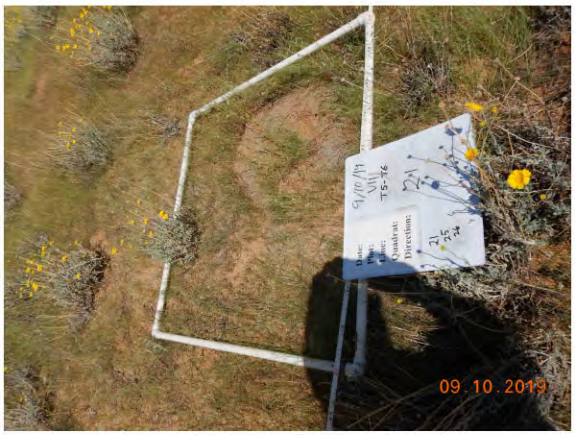
Plot 11_Line 2_Quadrat 1



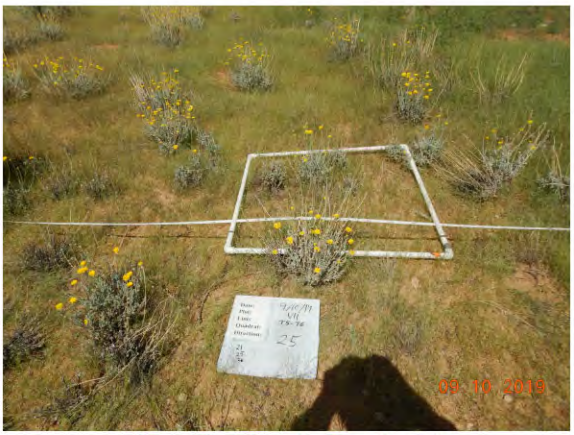
Plot 11_Line 2_Quadrat 2



Plot 11_Line 2_Quadrat 3



Plot 11_Line 3_Quadrat 1



Plot 11_Line 3_Quadrat 2



Plot 11_Line 3_Quadrat 3



Plot 11_Line 4_Quadrat 1



Plot 11_Line 4_Quadrat 2



Plot 11_Line 4_Quadrat 3



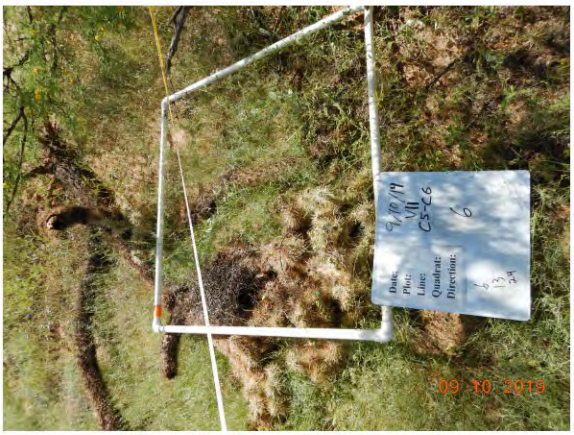
Plot 11_Line 5_Quadrat 1



Plot 11_Line 5_Quadrat 2



Plot 11_Line 5_Quadrat 3



Plot 11_Line 6_Quadrat 1



Plot 11_Line 6_Quadrat 2



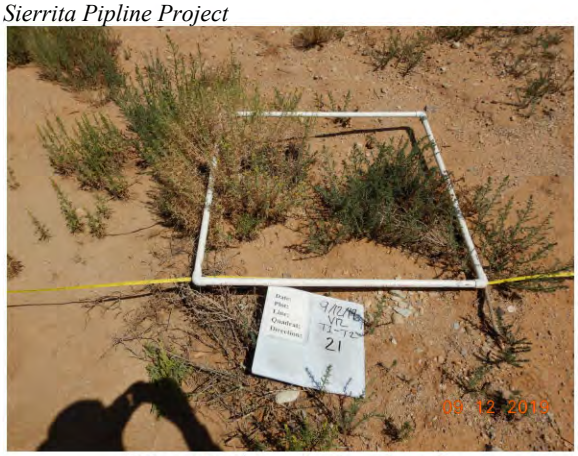
Plot 11_Line 6_Quadrat 3



Plot 12_Line 1_Quadrat 1



Plot 12_Line 1_Quadrat 2



Plot 12_Line 1_Quadrat 3



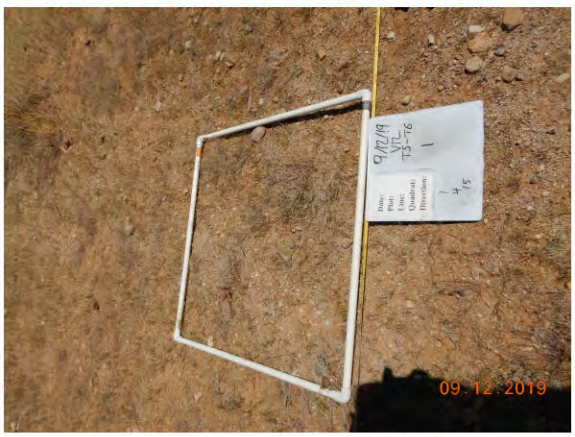
Plot 12_Line 2_Quadrat 1



Plot 12_Line 2_Quadrat 2



Plot 12_Line 2_Quadrat 3



Plot 12_Line 3_Quadrat 1



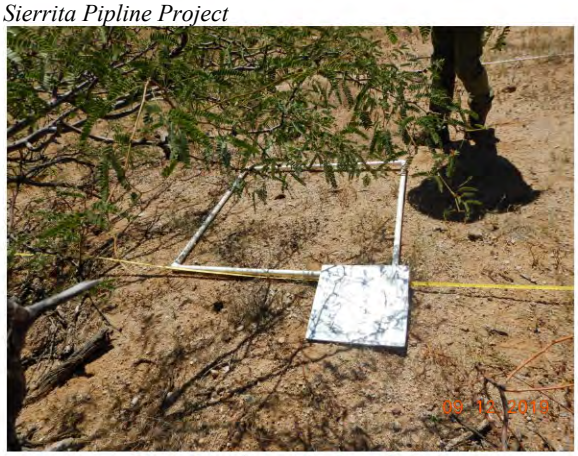
Plot 12_Line 3_Quadrat 2



Plot 12_Line 3_Quadrat 3



Plot 12_Line 4_Quadrat 1


Plot 12_Line 4_Quadrat 2


Plot 12_Line 4_Quadrat 3


Plot 12_Line 5_Quadrat 1

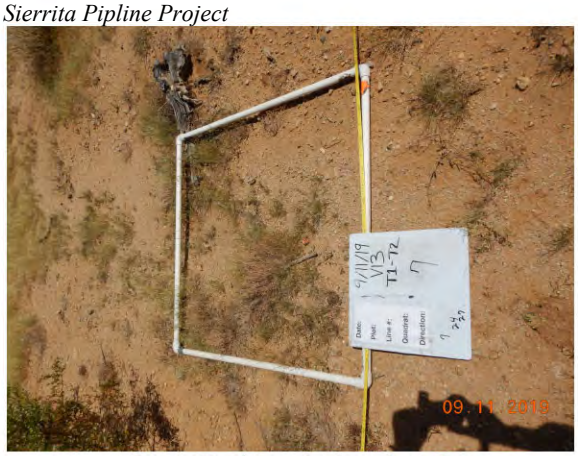

PLot 12_Line 5_Quadrat 2


Plot 12_Line 5_Quadrat 3


Plot 12_Line 6_Quadrat 1


Plot 12_Line 6_Quadrat 2


Plot 12_Line 6_Quadrat 3



Plot 13_Line 1_Quadrat 1



Plot 13_Line 1_Quadrat 2



Plot 13_Line 1_Quadrat 3



Plot 13_Line 2_Quadrat 1



Plot 13_Line 2_Quadrat 2



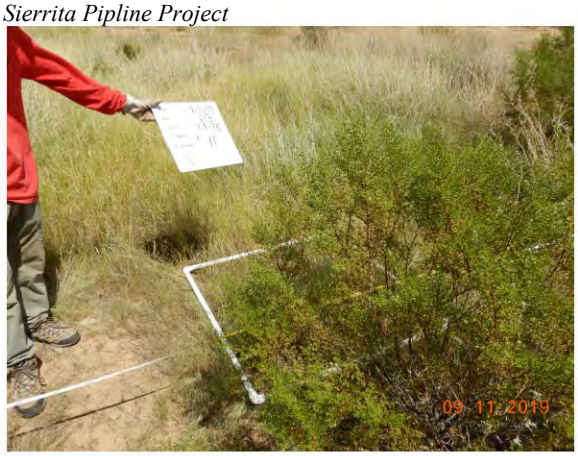
Plot 13_Line 2_Quadrat 3



Plot 13_Line 3_Quadrat 1



Plot 13_Line 3_Quadrat 2



Plot 13_Line 3_Quadrat 3



Plot 13_Line 4_Quadrat 1



Plot 13_Line 4_Quadrat 2



Plot 13_Line 4_Quadrat 3



Plot 13_Line 5_Quadrat 1



Plot 13_Line 5_Quadrat 2



Plot 13_Line 5_Quadrat 3



PLot 13_Line 6_Quadrat 1



Plot 13_Line 6_Quadrat 2



Plot 13_Line 6_Quadrat 3



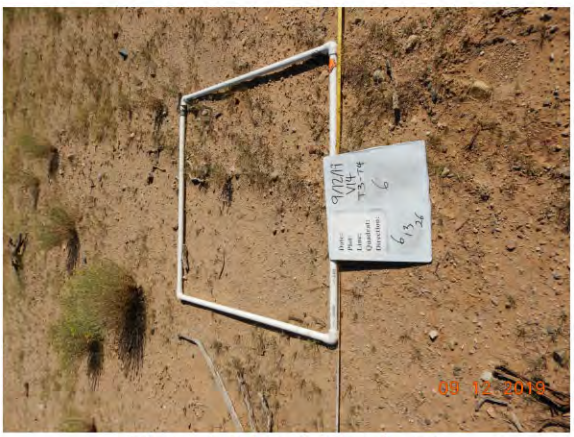
Plot 14_Line 1_Quadrat 1



Plot 14_Line 1_Quadrat 2



Plot 14_Line 1_Quadrat 3



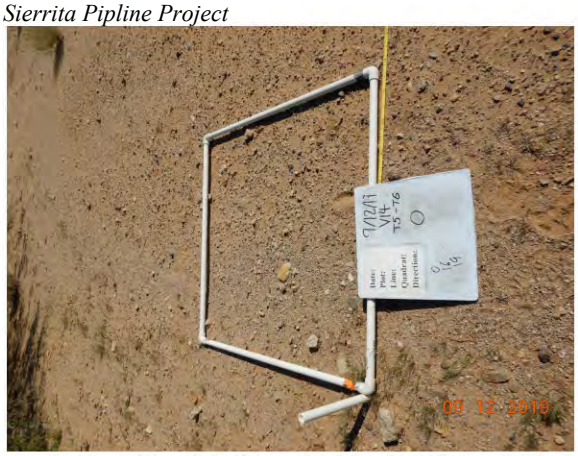
Plot 14_Line 2_Quadrat 1



Plot 14_Line 2_Quadrat 2



Plot 14_Line 2_Quadrat 3



Plot 14_Line 3_Quadrat 1



Plot 14_Line 3_Quadrat 2



Plot 14_Line 3_Quadrat 3



Plot 14_Line 4_Quadrat 1



Plot 14_Line 4_Quadrat 2



Plot 14_Line 4_Quadrat 3



Plot 14_Line 5_Quadrat 1



Plot 14_Line 5_Quadrat 2



Plot 14_Line 5_Quadrat 3



Plot 14_Line 6_Quadrat 1



Plot 14_Line 6_Quadrat 2



Plot 14_Line 6_Quadrat 3



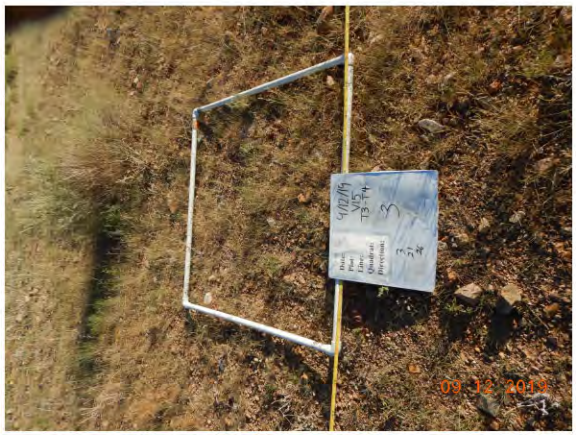
Plot 15_Line 1_Quadrat 1



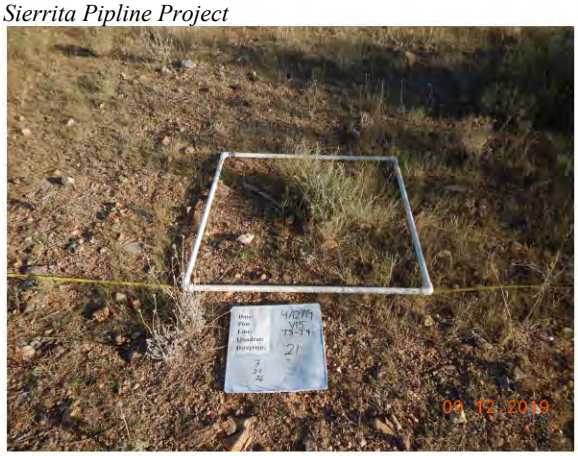
Plot 15_Line 1_Quadrat 2



Plot 15_Line 1_Quadrat 3



Plot 15_Line 2_Quadrat 1



Plot 15_Line 2_Quadrat 2



Plot 15_Line 2_Quadrat 3



Plot 15_Line 3_Quadrat 1



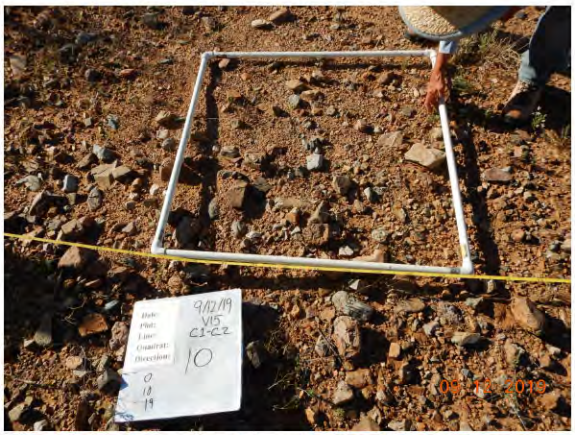
Plot 15_Line 3_Quadrat 2



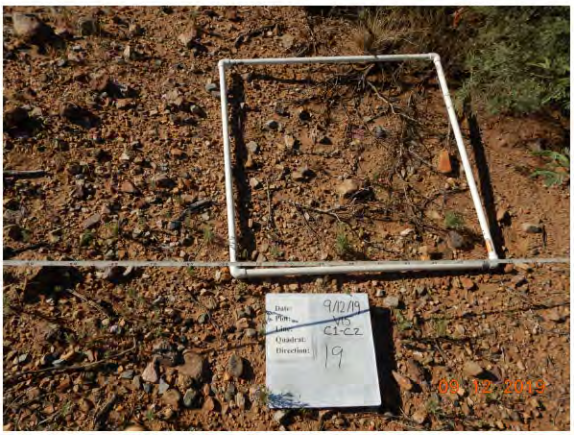
Plot 15_Line 3_Quadrat 3



Plot 15_Line 4_Quadrat 1



Plot 15_Line 4_Quadrat 2



Plot 15_Line 4_Quadrat 3



Plot 15_Line 5_Quadrat 1



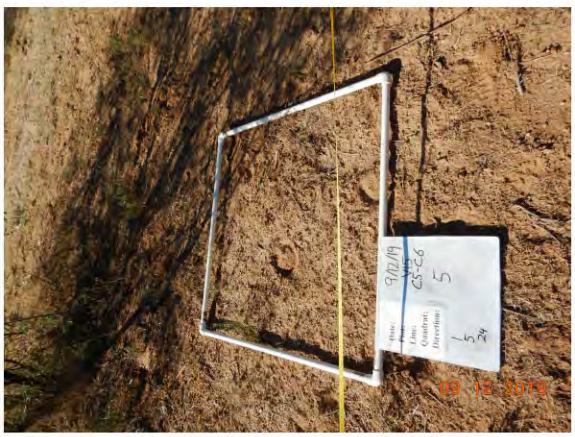
Plot 15_Line 5_Quadrat 2



Plot 15_Line 5_Quadrat 3



Plot 15_Line 6_Quadrat 1



Plot 15_Line 6_Quadrat 2



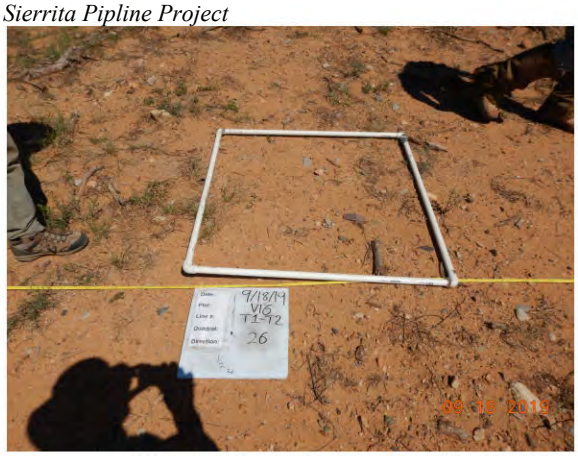
Plot 15_Line 6_Quadrat 3



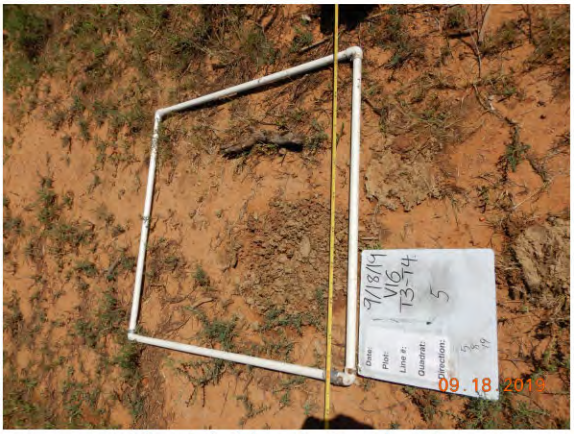
Plot 16_Line 1_Quadrat 1



Plot 16_Line 1_Quadrat 2



Plot 16_Line 1_Quadrat 3



Plot 16_Line 2_Quadrat 1



Plot 16_Line 2_Quadrat 2



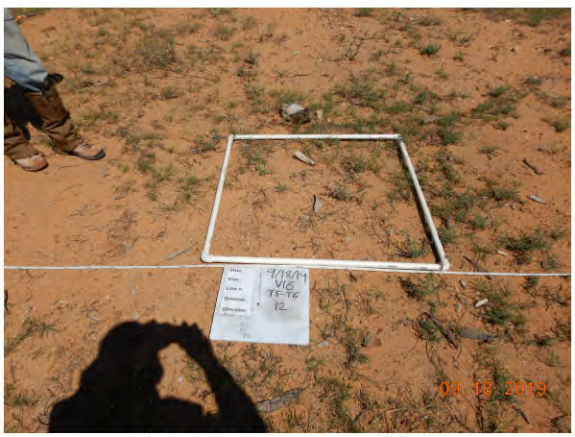
Plot 16_Line 2_Quadrat 3



Plot 16_Line 3_Quadrat 1



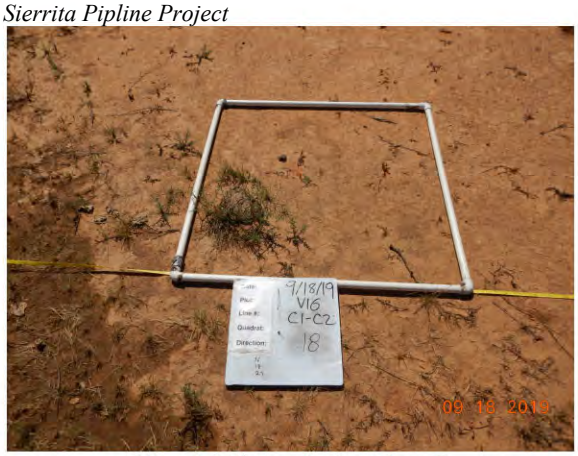
Plot 16_Line 3_Quadrat 2



Plot 16_Line 3_Quadrat 3



Plot 16_Line 4_Quadrat 1



Plot 16_Line 4_Quadrat 2



Plot 16_Line 4_Quadrat 3



Plot 16_Line 5_Quadrat 1



Plot 16_Line 5_Quadrat 2



Plot 16_Line 5_Quadrat 3



Plot 16_Line 6_Quadrat 1



Plot 16_Line 6_Quadrat 2



Plot 16_Line 6_Quadrat 3



Plot 17_Line 1_Quadrat 1



Plot 17_Line 1_Quadrat 2



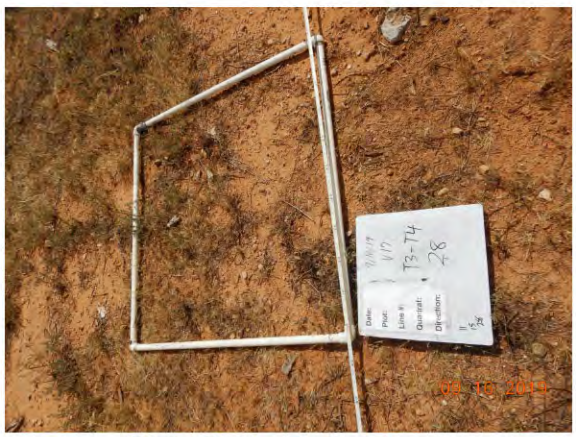
Plot 17_Line 1_Quadrat 3



Plot 17_Line 2_Quadrat 1



Plot 17_Line 2_Quadrat 2



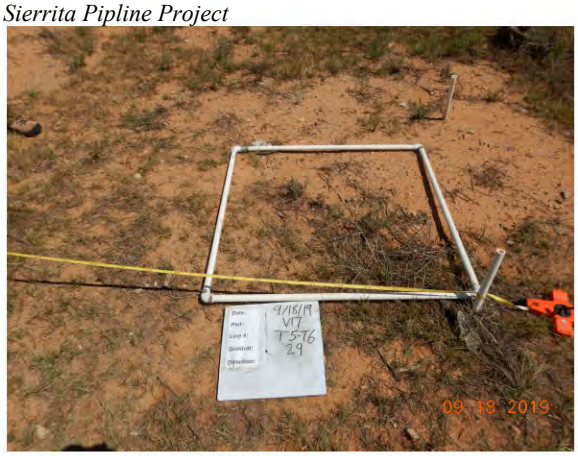
Plot 17_Line 2_Quadrat 3



Plot 17_Line 3_Quadrat 1



Plot 17_Line 3_Quadrat 2



Plot 17_Line 3_Quadrat 3



Plot 17_Line 4_Quadrat 1



Plot 17_Line 4_Quadrat 2



Plot 17_Line 4_Quadrat 3



Plot 17_Line 5_Quadrat 1



Plot 17_Line 5_Quadrat 2

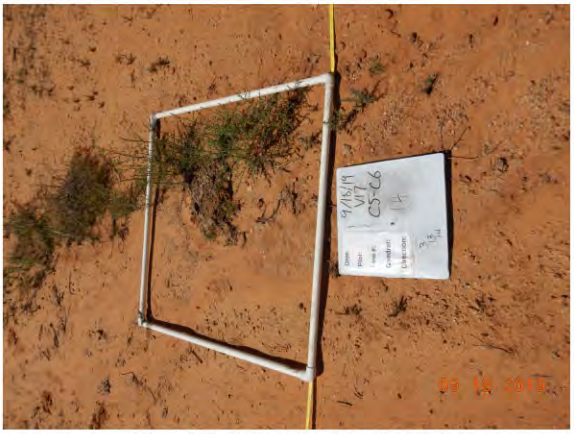


Plot 17_Line 5_Quadrat 3

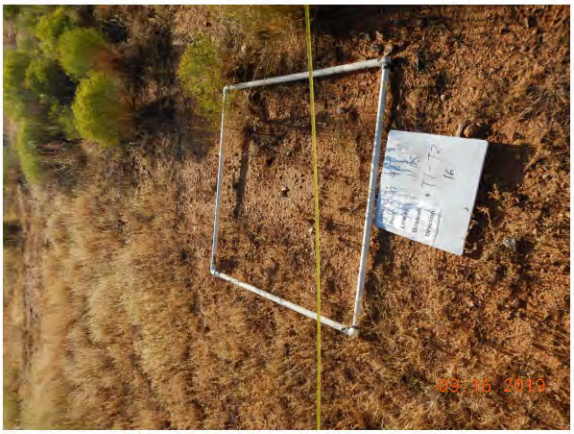


Plot 17_Line 6_Quadrat 1


Plot 17_Line 6_Quadrat 2


Plot 17_Line 6_Quadrat 3


Plot 18_Line 1_Quadrat 1

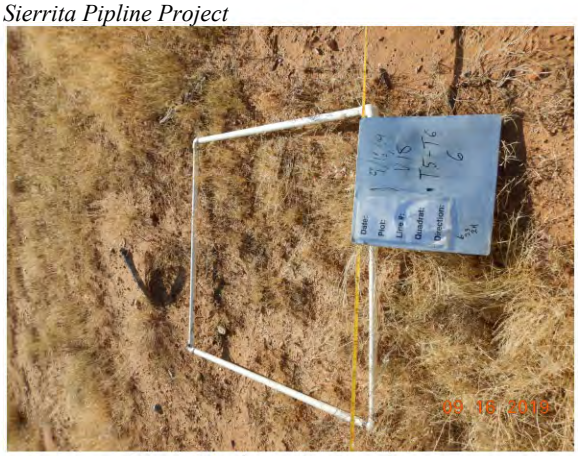

Plot 18_Line 1_Quadrat 2


Plot 18_Line 1_Quadrat 3


Plot 18_Line 2_Quadrat 1


Plot 18_Line 2_Quadrat 2


Plot 18_Line 2_Quadrat 3



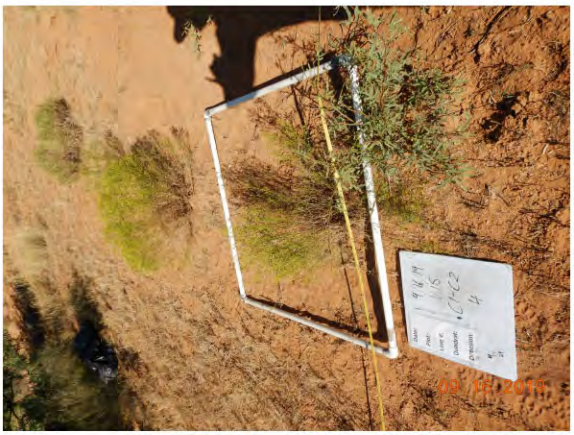
Plot 18_Line 3_Quadrat 1



Plot 18_Line 3_Quadrat 2



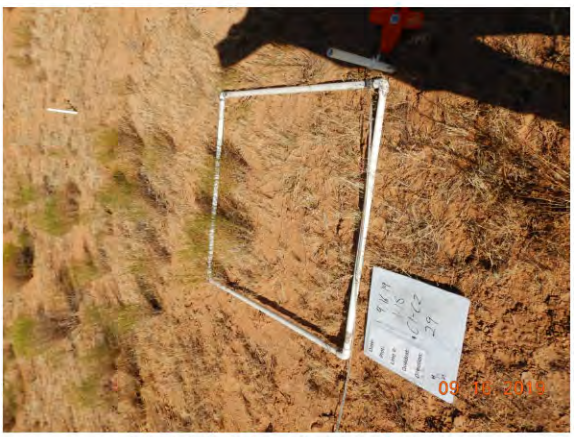
Plot 18_Line 3_Quadrat 3



Plot 18_Line 4_Quadrat 1



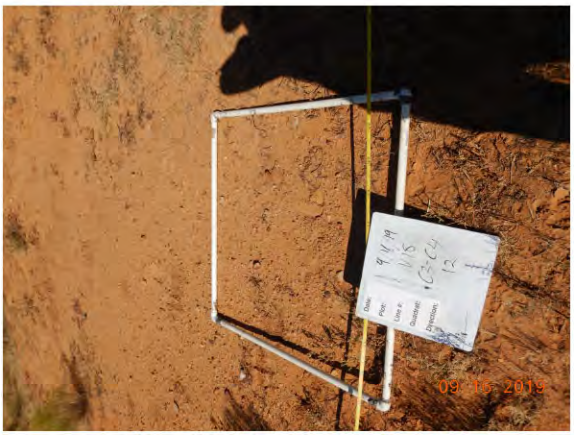
Plot 18_Line 4_Quadrat 2



Plot 18_Line 4_Quadrat 3



Plot 18_Line 5_Quadrat 1



Plot 18_Line 5_Quadrat 2



Plot 18_Line 5_Quadrat 3



Plot 18_Line 6_Quadrat 1



Plot 18_Line 6_Quadrat 2



Plot 18_Line 6_Quadrat 3



Plot 19_Line 1_Quadrat 1



Plot 19_Line 1_Quadrat 2



Plot 19_Line 1_Quadrat 3



Plot 19_Line 2_Quadrat 1



Plot 19_Line 2_Quadrat 2



Plot 19_Line 2_Quadrat 3



Plot 19_Line 3_Quadrat 1



Plot 19_Line 3_Quadrat 2



Plot 19_Line 3_Quadrat 3



Plot 19_Line 4_Quadrat 1



Plot 19_Line 4_Quadrat 2



Plot 19_Line 4_Quadrat 3



Plot 19_Line 5_Quadrat 1



PLot 19_Line 5_Quadrat 2



Plot 19_Line 5_Quadrat 3



Plot 19_Line 6_Quadrat 1



Plot 19_Line 6_Quadrat 2



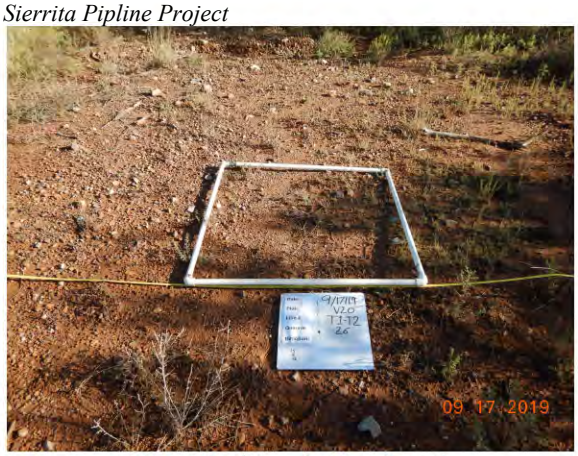
Plot 19_Line 6_Quadrat 3



Plot 20_Line 1_Quadrat 1

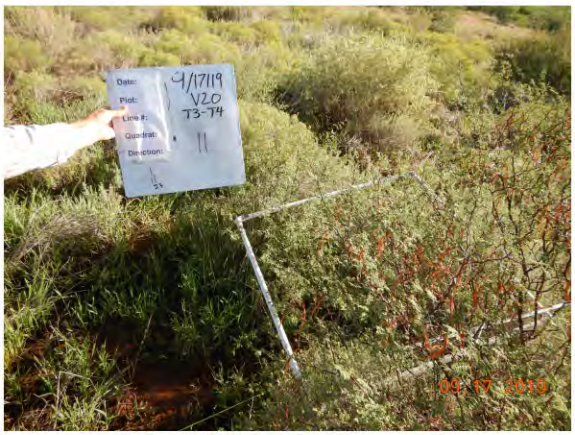


Plot 20_Line 1_Quadrat 2



Plot 20_Line 1_Quadrat 3


Plot 20_Line 2_Quadrat 1



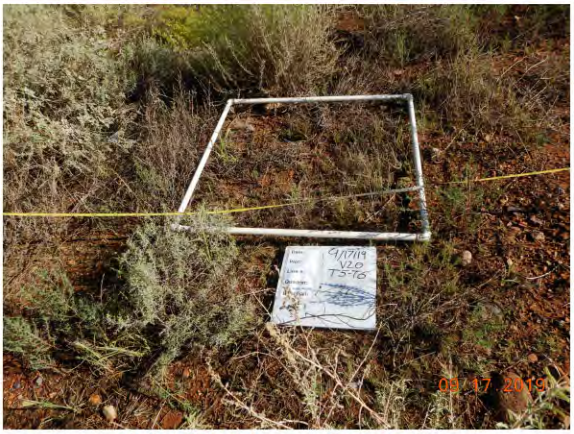
Plot 20_Line 2_Quadrat 2



Plot 20_Line 2_Quadrat 3



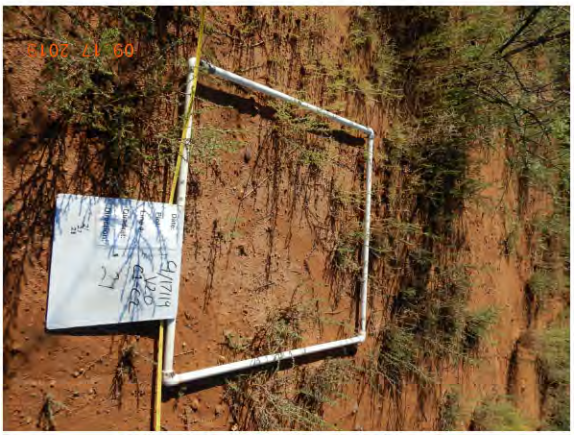
Plot 20_Line 3_Quadrat 1

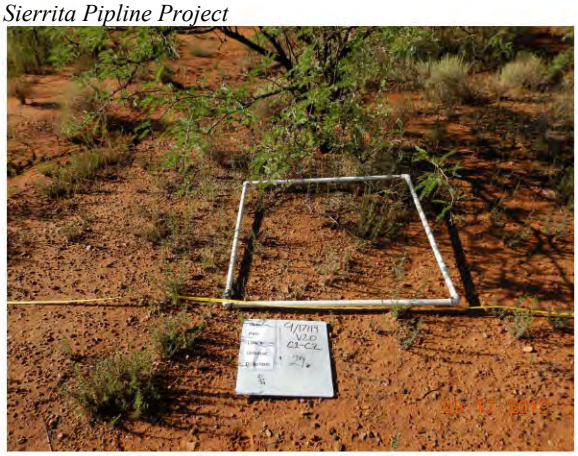


Plot 20_Line 3_Quadrat 2



Plot 20_Line 3_Quadrat 3


Plot 20_Line 4_Quadrat 1


Plot 20_Line 4_Quadrat 2


Plot 20_Line 4_Quadrat 3


Plot 20_Line 5_Quadrat 1


Plot 20_Line 5_Quadrat 2


Plot 20_Line 5_Quadrat 3

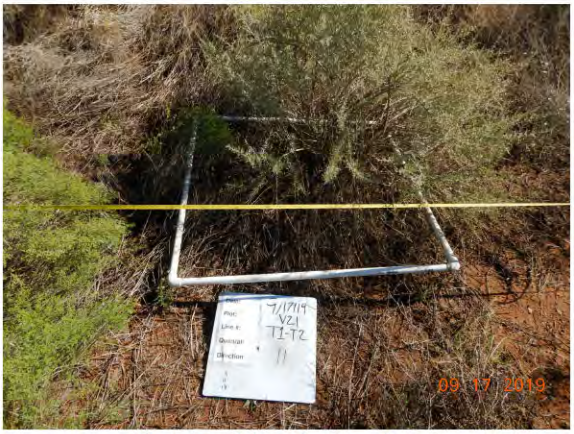

Plot 20_Line 6_Quadrat 1


Plot 20_Line 6_Quadrat 2

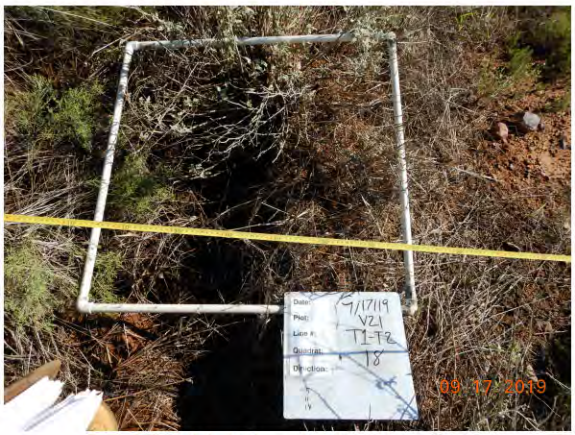

Plot 20_Line 6_Quadrat 3



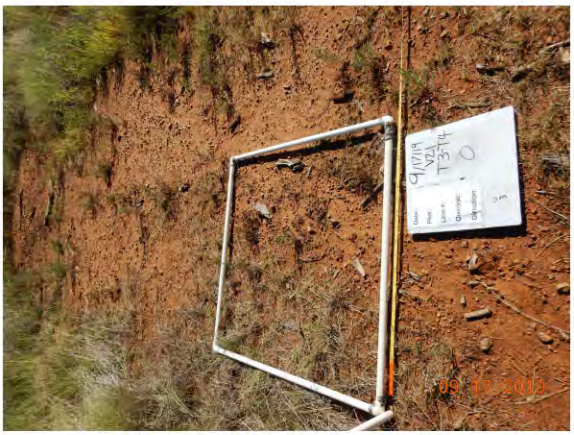
Plot 21_Line 1_Quadrat 1



Plot 21_Line 1_Quadrat 2



Plot 21_Line 1_Quadrat 3



Plot 21_Line 2_Quadrat 1



Plot 21_Line 2_Quadrat 2



Plot 21_Line 2_Quadrat 3



Plot 21_Line 3_Quadrat 1



Plot 21_Line 3_Quadrat 2



Plot 21_Line 3_Quadrat 3



Plot 21_Line 4_Quadrat 1



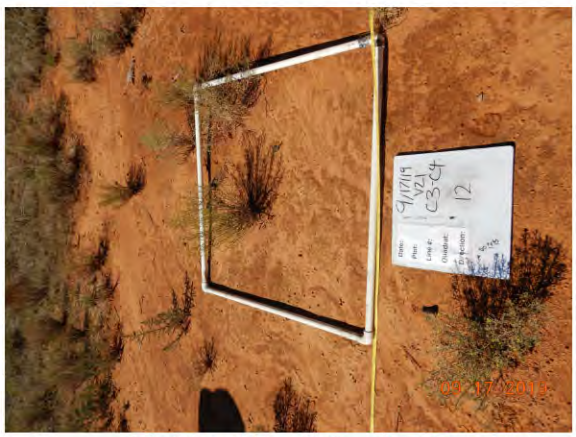
Plot 21_Line 4_Quadrat 2



Plot 21_Line 4_Quadrat 3



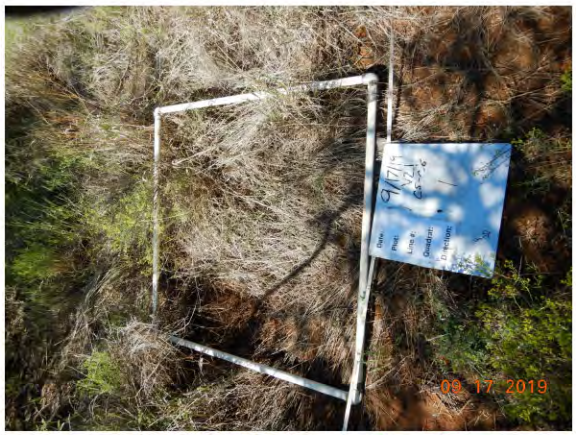
Plot 21_Line 5_Quadrat 1



Plot 21_Line 5_Quadrat 2



Plot 21_Line 5_Quadrat 3



Plot 21_Line 6_Quadrat 1



Plot 21_Line 6_Quadrat 2



Plot 21_Line 6_Quadrat 3



Plot 22_Line 1_Quadrat 1



Plot 22_Line 1_Quadrat 2



Plot 22_Line 1_Quadrat 3



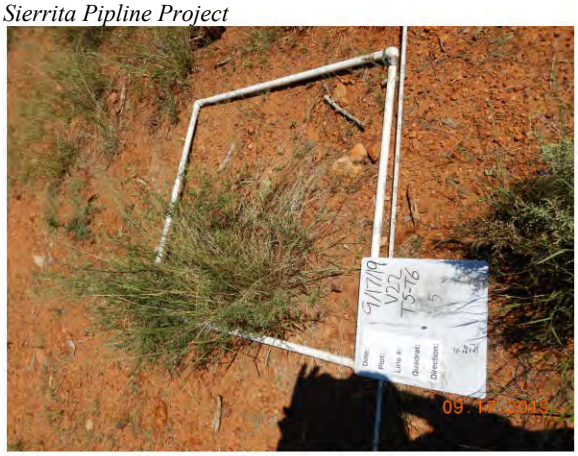
Plot 22_Line 2_Quadrat 1



Plot 22_Line 2_Quadrat 2



Plot 22_Line 2_Quadrat 3



Plot 22_Line 3_Quadrat 1



Plot 22_Line 3_Quadrat 2



Plot 22_Line 3_Quadrat 3



Plot 22_Line 4_Quadrat 1



Plot 22_Line 4_Quadrat 2



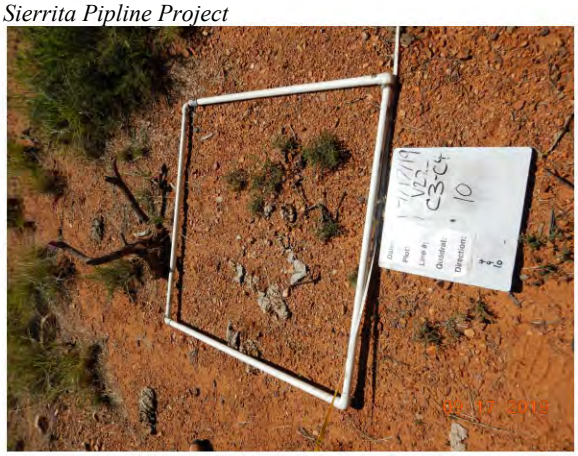
Plot 22_Line 4_Quadrat 3



Plot 22_Line 5_Quadrat 1



Plot 22_Line 5_Quadrat 2



Plot 22_Line 5_Quadrat 3



Plot 22_Line 6_Quadrat 1



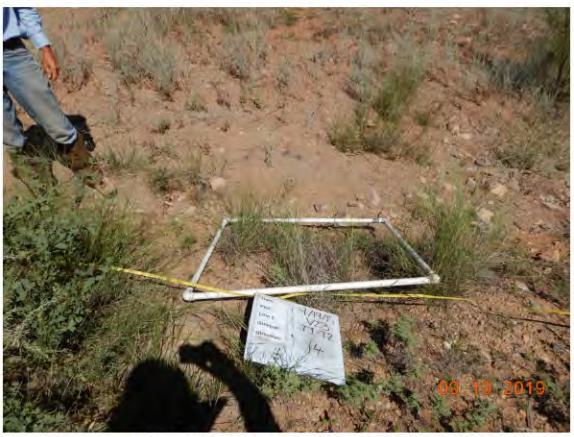
Plot 22_Line 6_Quadrat 2



Plot 22_Line 6_Quadrat 3



Plot 23_Line 1_Quadrat 1



Plot 23_Line 1_Quadrat 2



Plot 23_Line 1_Quadrat 3



Plot 23_Line 2_Quadrat 1



Plot 23_Line 2_Quadrat 2



Plot 23_Line 2_Quadrat 3



Plot 23_Line 3_Quadrat 1



Plot 23_Line 3_Quadrat 2



Plot 23_Line 3_Quadrat 3



Plot 23_Line 4_Quadrat 1



Plot 23_Line 4_Quadrat 2



Plot 23_Line 4_Quadrat 3



Plot 23_Line 5_Quadrat 1



Plot 23_Line 5_Quadrat 2



Plot 23_Line 5_Quadrat 3



Plot 23_Line 6_Quadrat 1



Plot 23_Line 6_Quadrat 2



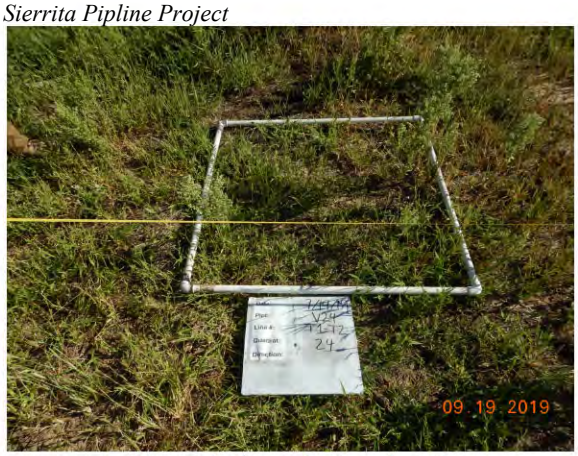
Plot 23_Line 6_Quadrat 3



Plot 24_Line 1_Quadrat 1



Plot 24_Line 1_Quadrat 2



Plot 24_Line 1_Quadrat 3



Plot 24_Line 2_Quadrat 1



Plot 24_Line 2_Quadrat 2



Plot 24_Line 2_Quadrat 3



Plot 24_Line 3_Quadrat 1



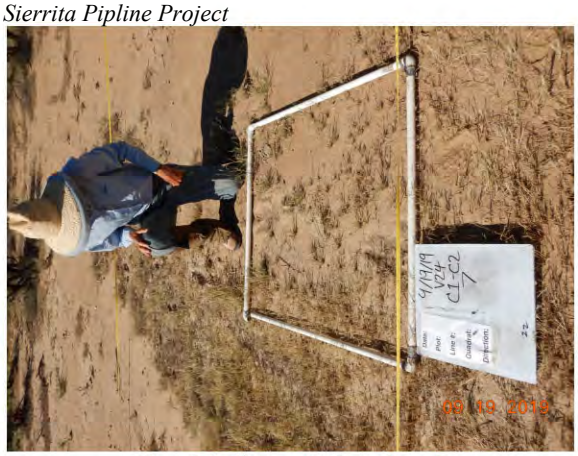
Plot 24_Line 3_Quadrat 2



Plot 24_Line 3_Quadrat 3



Plot 24_Line 4_Quadrat 1



Plot 24_Line 4_Quadrat 2



Plot 24_Line 4_Quadrat 3



Plot 24_Line 5_Quadrat 1



Plot 24_Line 5_Quadrat 2



Plot 24_Line 5_Quadrat 3



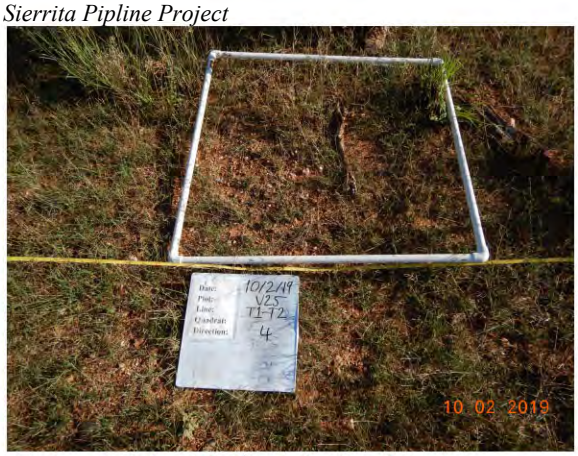
Plot 24_Line 6_Quadrat 1



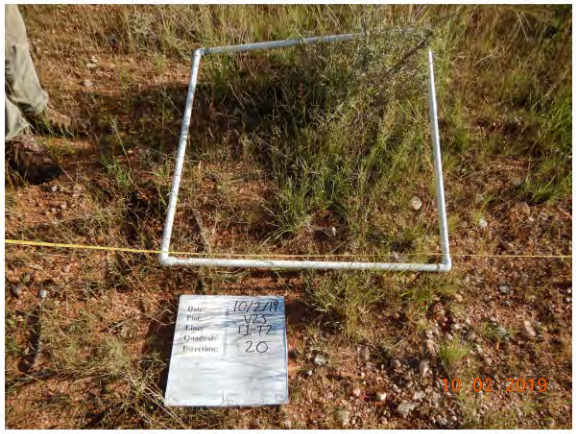
Plot 24_Line 6_Quadrat 2



Plot 24_Line 6_Quadrat 3



Plot 25_Line 1_Quadrat 1



PLot 25_Line 1_Quadrat 2



Plot 25_Line 1_Quadrat 3



Plot 25_Line 2_Quadrat 1



Plot 25_Line 2_Quadrat 2



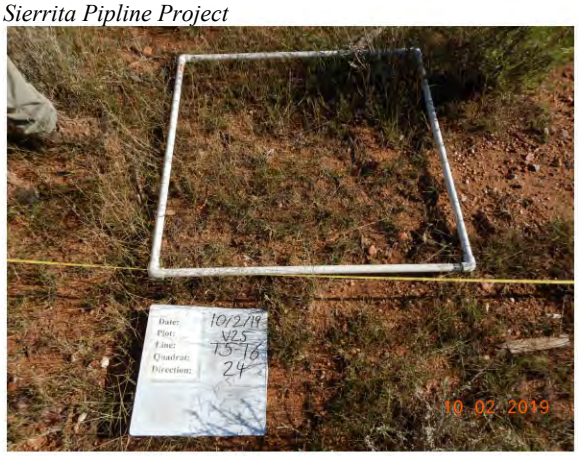
Plot 25_Line 2_Quadrat 3



Plot 25_Line 3_Quadrat 1



Plot 25_Line 3_Quadrat 2



Plot 25_Line 3_Quadrat 3



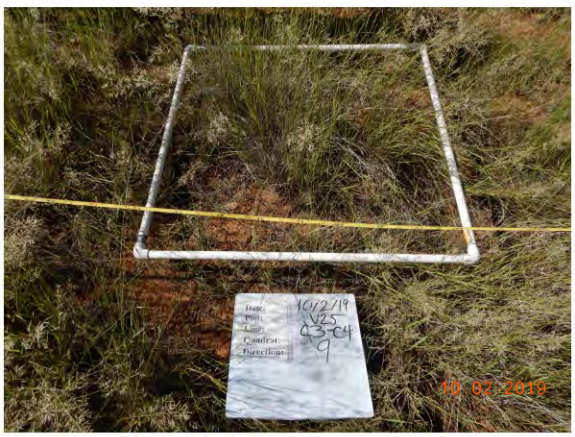
Plot 25_Line 4_Quadrat 1



Plot 25_Line 4_Quadrat 2



Plot 25_Line 4_Quadrat 3



Plot 25_Line 5_Quadrat 1



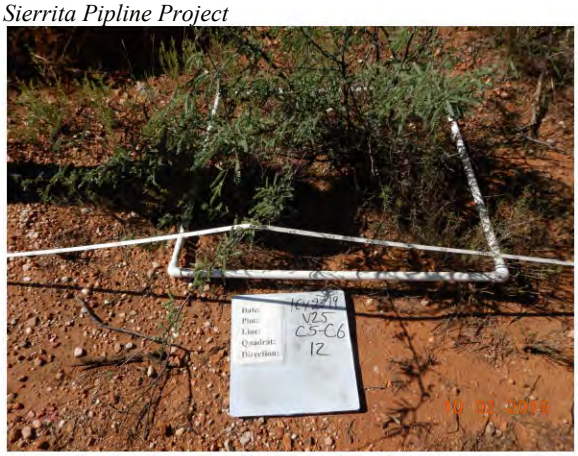
Plot 25_Line 5_Quadrat 2



Plot 25_Line 5_Quadrat 3



Plot 25_Line 6_Quadrat 1



Plot 25_Line 6_Quadrat 2



Plot 25_Line 6_Quadrat 3



Plot 26_Line 1_Quadrat 1



Plot 26_Line 1_Quadrat 2



Plot 26_Line 1_Quadrat 3



Plot 26_Line 2_Quadrat 1



Plot 26_Line 2_Quadrat 2



Plot 26_Line 2_Quadrat 3



Plot 26_Line 3_Quadrat 1



Plot 26_Line 3_Quadrat 2



Plot 26_Line 3_Quadrat 3



Plot 26_Line 4_Quadrat 1



Plot 26_Line 4_Quadrat 2



Plot 26_Line 4_Quadrat 3



Plot 26_Line 5_Quadrat 1



Plot 26_Line 5_Quadrat 2



Plot 26_Line 5_Quadrat 3



Plot 26_Line 6_Quadrat 1



Plot 26_Line 6_Quadrat 2



Plot 26_Line 6_Quadrat 3



Plot 27_Line 1_Quadrat 1



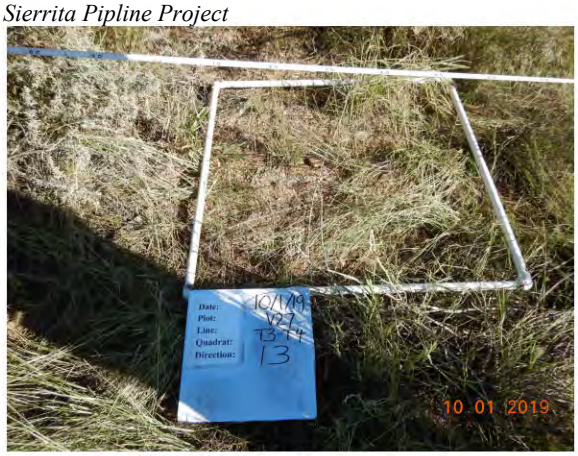
Plot 27_Line 1_Quadrat 2



Plot 27_Line 1_Quadrat 3



Plot 27_Line 2_Quadrat 1



Plot 27_Line 2_Quadrat 2



Plot 27_Line 2_Quadrat 3



Plot 27_Line 3_Quadrat 1



Plot 27_Line 3_Quadrat 2



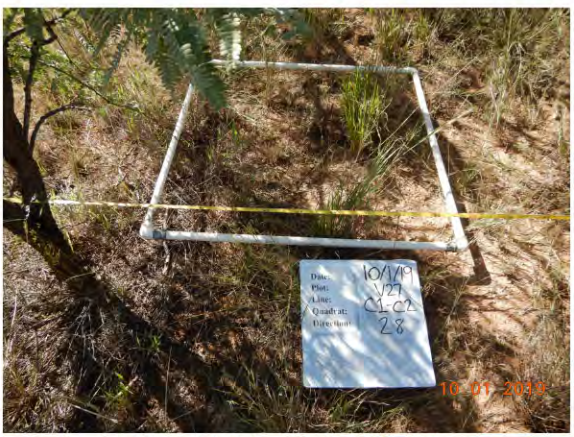
Plot 27_Line 3_Quadrat 3



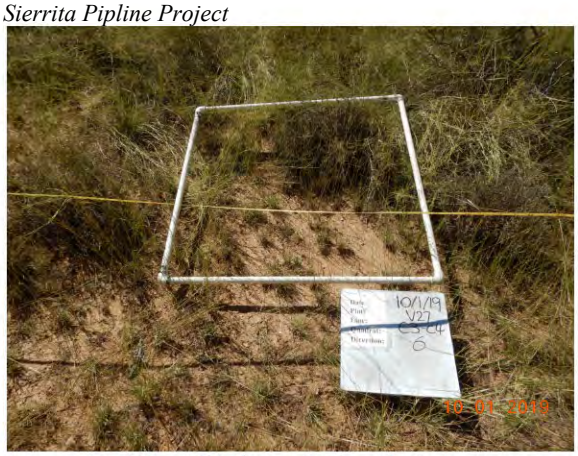
Plot 27_Line 4_Quadrat 1



Plot 27_Line 4_Quadrat 2



Plot 27_Line 4_Quadrat 3



Plot 27_Line 5_Quadrat 1



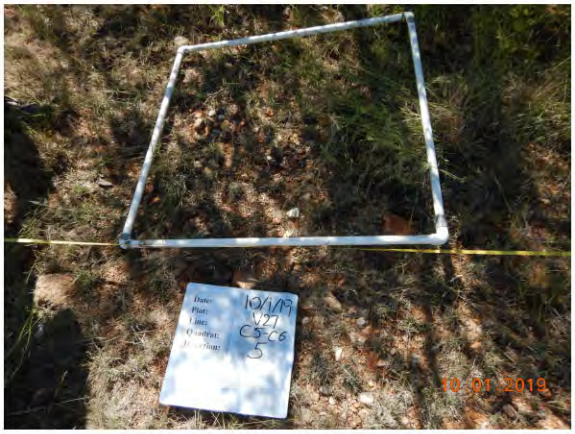
Plot 27_Line 5_Quadrat 2



Plot 27_Line 5_Quadrat 3



Plot 27_Line 6_Quadrat 1



Plot 27_Line 6_Quadrat 2



Plot 27_Line 6_Quadrat 3



Plot 28_Line 1_Quadrat 1



Plot 28_Line 1_Quadrat 2



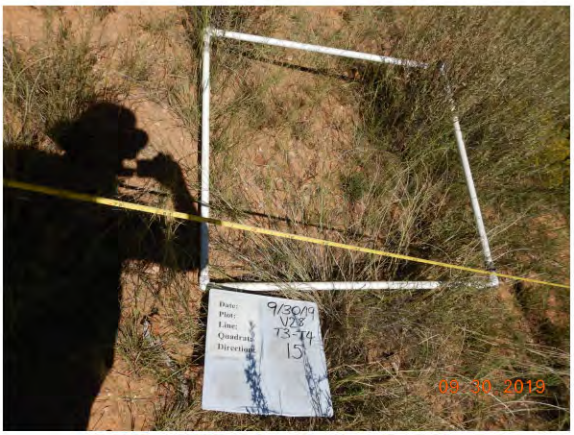
Plot 28_Line 1_Quadrat 3



Plot 28_Line 2_Quadrat 1



Plot 28_Line 2_Quadrat 2



PLot 28_Line 2_Quadrat 3



Plot 28_Line 3_Quadrat 1



Plot 28_Line 3_Quadrat 2



Plot 28_Line 3_Quadrat 3



Plot 28_Line 4_Quadrat 1



Plot 28_Line 4_Quadrat 2



Plot 28_Line 4_Quadrat 3



Plot 28_Line 5_Quadrat 1



Plot 28_Line 5_Quadrat 2



Plot 28_Line 5_Quadrat 3



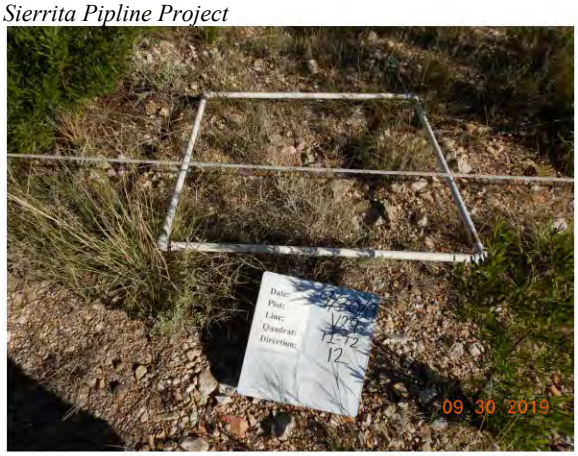
Plot 28_Line 6_Quadrat 1



Plot 28_Line 6_Quadrat 2



Plot 28_Line 6_Quadrat 3



Plot 29_Line 1_Quadrat 1



Plot 29_Line 1_Quadrat 2



Plot 29_Line 1_Quadrat 3



Plot 29_Line 2_Quadrat 1



Plot 29_Line 2_Quadrat 2



Plot 29_Line 2_Quadrat 3



Plot 29_Line 3_Quadrat 1



Plot 29_Line 3_Quadrat 2



Plot 29_Line 3_Quadrat 3



Plot 29_Line 4_Quadrat 1



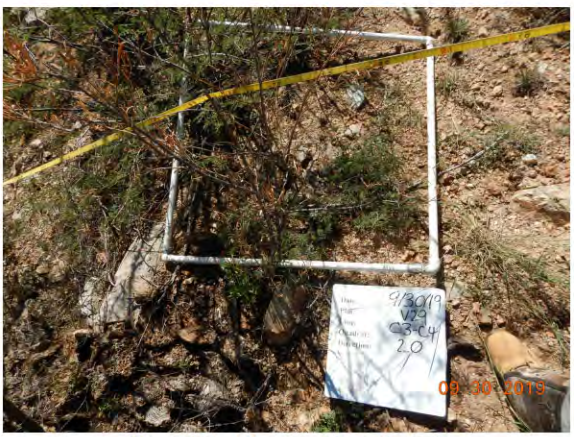
Plot 29_Line 4_Quadrat 2



Plot 29_Line 4_Quadrat 3



Plot 29_Line 5_Quadrat 1



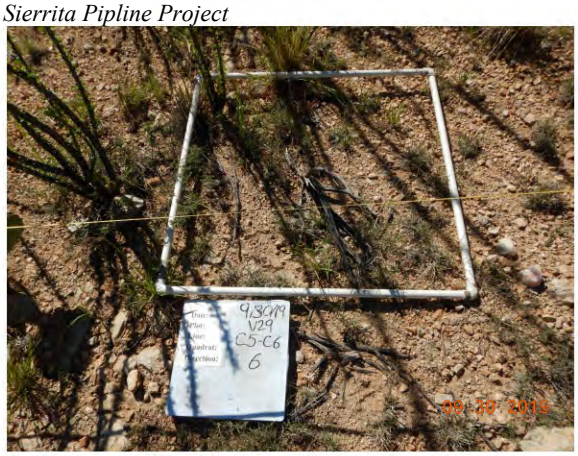
Plot 29_Line 5_Quadrat 2



Plot 29_Line 5_Quadrat 3



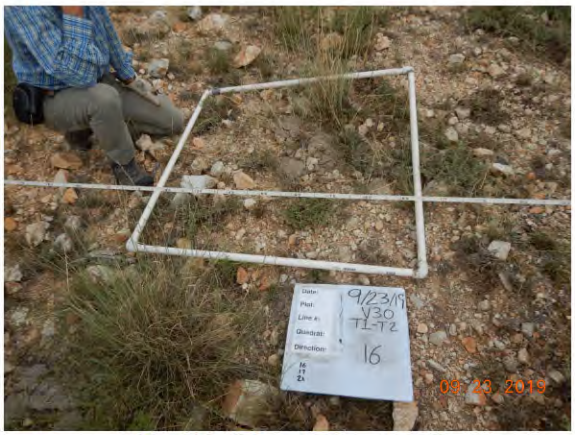
Plot 29_Line 6_Quadrat 1



Plot 29_Line 6_Quadrat 2



Plot 29_Line 6_Quadrat 3



Plot 30_Line 1_Quadrat 1



Plot 30_Line 1_Quadrat 2



Plot 30_Line 1_Quadrat 3



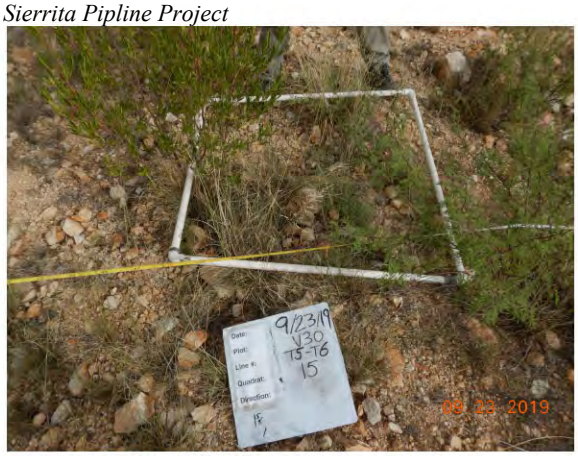
Plot 30_Line 2_Quadrat 1



Plot 30_Line 2_Quadrat 2



Plot 30_Line 2_Quadrat 3



Plot 30_Line 3_Quadrat 1



Plot 30_Line 3_Quadrat 2



Plot 30_Line 3_Quadrat 3



Plot 30_Line 4_Quadrat 1



Plot 30_Line 4_Quadrat 2



Plot 30_Line 4_Quadrat 3



Plot 30_Line 5_Quadrat 1



Plot 30_Line 5_Quadrat 2




Plot 30_Line 5_Quadrat 3




Plot 30_Line 6_Quadrat 1




Plot 30_Line 6_Quadrat 2




Plot 30_Line 6_Quadrat 3

# APPENDIX H

## Line-Point Intercept Vegetation Overview
## Comparative Photographs Fall 2019



Plot 1. 2018



Plot 1. 2019



Plot 2. 2018




Plot 2. 2019




Plot 3. 2018




Plot 3. 2019




Plot 4. 2018




Plot 4. 2019




Plot 5. 2018




Plot 5. 2019




Plot 6. 2018




Plot 6. 2019




Plot 7. 2018. Picture not available



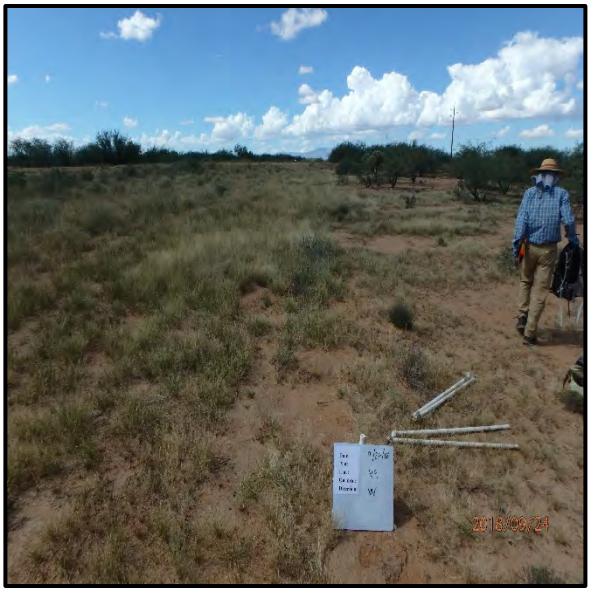

Plot 7. 2019



Plot 8. 2018




Plot 8. 2019



Plot 9. 2018



Plot 9. 2019



Plot 10. 2018



Plot 10. 2019




Plot 11. 2018




Plot 11. 2019




Plot 12. 2018




Plot 12. 2019




Plot 13. 2018




Plot 13. 2019




Plot 14. 2018




Plot 14. 2019




Plot 15. 2018




Plot 15. 2019




Plot 16. 2018




Plot 16. 2019




Plot 17. 2018




Plot 17. 2019




Plot 18. 2018




Plot 18. 2019




Plot 19. 2018



Plot 19. 2019



Plot 20. 2018




Plot 20. 2019



Plot 21. 2018



Plot 21. 2019



Plot 22. 2018



Plot 22. 2019




Plot 23. 2018




Plot 23. 2019




Plot 24. 2018




Plot 24. 2019




Plot 25. 2018




Plot 25. 2019




Plot 26. 2018




Plot 26. 2019




Plot 27. 2018




Plot 27. 2019




Plot 28. 2018




Plot 28. 2019




Plot 29. 2018




Plot 29. 2019




Plot 30. 2018




Plot 30. 2019

# APPENDIX I

## Additional Statistical Analysis Data

## Additional Statistical Analyses Data
## All Plants - T-Tests

| | | Control | | | | | | | | | ROW | | | | | | | | | Parametric | Non-Parametric | Parametric | Non-Parametric |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N | Minimum | Maximum | Range | Mean | Std. Deviation | Std. Error of Mean | Variance | Median | N | Minimum | Maximum | Range | Mean | Std. Deviation | Std. Error of Mean | Variance | Median | Independent Samples T-test (Sig.) | Independent Samples T-test (Sig.) | Paired Samples T-test (Sig.) | Paired Samples T-test (Sig.) |
| **Riparian** | **%Bare** | 7.000 | 4.000 | 58.000 | 54.000 | 26.300 | 24.200 | 9.130 | 584.000 | 10.000 | 7.000 | 4.000 | 50.000 | 46.000 | 20.300 | 14.300 | 5.400 | 204.000 | 17.000 | 0.584 | 0.898 | 0.418 | 0.813 |
| | **%Basal** | 7.000 | 0.000 | 1.000 | 1.000 | 0.143 | 0.378 | 0.143 | 0.143 | 0.000 | 7.000 | 0.000 | 2.000 | 2.000 | 0.429 | 0.787 | 0.297 | 0.619 | 0.000 | 0.410 | 0.476 | 0.356 | 0.317 |
| | **%Foliar** | 7.000 | 24.000 | 72.000 | 48.000 | 47.600 | 19.200 | 7.240 | 367.000 | 50.000 | 7.000 | 23.000 | 90.000 | 67.000 | 50.400 | 22.600 | 8.530 | 509.000 | 45.000 | 0.803 | 1.000 | 0.677 | 0.813 |

| | | Control | | | | | | | | | ROW | | | | | | | | | Parametric | Non-Parametric | Parametric | Non-Parametric |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N | Minimum | Maximum | Range | Mean | Std. Deviation | Std. Error of Mean | Variance | Median | N | Minimum | Maximum | Range | Mean | Std. Deviation | Std. Error of Mean | Variance | Median | Independent Samples T-test (Sig.) | Independent Samples T-test (Sig.) | Paired Samples T-test (Sig.) | Paired Samples T-test (Sig.) |
| **AZ Upland** | **%Bare** | 15.000 | 4.000 | 62.000 | 58.000 | 42.100 | 19.000 | 4.900 | 360.000 | 51.000 | 15.000 | 7.000 | 57.000 | 50.000 | 29.400 | 16.100 | 4.160 | 260.000 | 29.000 | 0.059 | 0.051 | 0.003 | 0.005 |
| | **%Basal** | 15.000 | 0.000 | 1.000 | 1.000 | 0.067 | 0.258 | 0.067 | 0.067 | 0.000 | 15.000 | 0.000 | 11.000 | 11.000 | 0.867 | 2.830 | 0.729 | 7.980 | 0.000 | 0.293 | 0.276 | 0.293 | 0.180 |
| | **%Foliar** | 15.000 | 9.000 | 69.000 | 60.000 | 36.000 | 19.300 | 4.980 | 373.000 | 30.000 | 15.000 | 3.000 | 86.000 | 83.000 | 40.900 | 24.300 | 6.280 | 591.000 | 42.000 | 0.549 | 0.493 | 0.250 | 0.182 |

| | | Control | | | | | | | | | ROW | | | | | | | | | Parametric | Non-Parametric | Parametric | Non-Parametric |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N | Minimum | Maximum | Range | Mean | Std. Deviation | Std. Error of Mean | Variance | Median | N | Minimum | Maximum | Range | Mean | Std. Deviation | Std. Error of Mean | Variance | Median | Independent Samples T-test (Sig.) | Independent Samples T-test (Sig.) | Paired Samples T-test (Sig.) | Paired Samples T-test (Sig.) |
| **Semi-Desert Grassland** | **%Bare** | 15.000 | 3.000 | 58.000 | 55.000 | 24.500 | 18.700 | 4.820 | 349.000 | 17.000 | 15.000 | 3.000 | 53.000 | 50.000 | 16.700 | 12.500 | 3.230 | 157.000 | 14.000 | 0.191 | 0.350 | 0.038 | 0.041 |
| | **%Basal** | 15.000 | 0.000 | 33.000 | 33.000 | 2.530 | 8.450 | 2.180 | 71.400 | 0.000 | 15.000 | 0.000 | 2.000 | 2.000 | 0.800 | 0.862 | 0.223 | 0.743 | 1.000 | 0.442 | 0.297 | 0.453 | 0.431 |
| | **%Foliar** | 15.000 | 17.000 | 92.000 | 75.000 | 52.100 | 23.500 | 6.070 | 553.000 | 57.000 | 15.000 | 19.000 | 91.000 | 72.000 | 56.700 | 23.200 | 5.990 | 539.000 | 61.000 | 0.594 | 0.534 | 0.203 | 0.222 |

# APPENDIX J

## Frequency Calculations Data

| Species Code | Control Count | Control Frequency | Frequency Goal | ROW Count | ROW Frequency | Difference in Frequency between ROW and Control | Goal Met? |
|---|---|---|---|---|---|---|---|
| ACANEO | 1.00 | 3.33 | 1.67 | 0.00 | 0.00 | -1.67 | No |
| ACONAN | 0.00 | 0.00 | 0.00 | 1.00 | 3.33 | 3.33 | Yes |
| AGAPAL | 1.00 | 3.33 | 1.67 | 0.00 | 0.00 | -1.67 | No |
| ALLCHO | 2.00 | 6.67 | 3.33 | 0.00 | 0.00 | -3.33 | No |
| AMAFIM | 2.00 | 6.67 | 3.33 | 0.00 | 0.00 | -3.33 | No |
| AMAPAL | 5.00 | 16.70 | 8.33 | 11.00 | 36.70 | 28.30 | Yes |
| AMBACA | 9.00 | 30.00 | 15.00 | 13.00 | 43.30 | 28.30 | Yes |
| ANDOCC | 4.00 | 13.30 | 6.67 | 4.00 | 13.30 | 6.67 | Yes |
| ARIPUR | 7.00 | 23.30 | 11.70 | 10.00 | 33.30 | 21.70 | Yes |
| ARITER | 6.00 | 20.00 | 10.00 | 6.00 | 20.00 | 10.00 | Yes |
| ATRCAN | 0.00 | 0.00 | 0.00 | 16.00 | 53.30 | 53.30 | Yes |
| ATRELE | 3.00 | 10.00 | 5.00 | 5.00 | 16.70 | 11.70 | Yes |
| ATRLEN | 0.00 | 0.00 | 0.00 | 3.00 | 10.00 | 10.00 | Yes |
| ATRPOL | 0.00 | 0.00 | 0.00 | 4.00 | 13.30 | 13.30 | Yes |
| BACSAR | 0.00 | 0.00 | 0.00 | 4.00 | 13.30 | 13.30 | Yes |
| BAIMUL | 0.00 | 0.00 | 0.00 | 6.00 | 20.00 | 20.00 | Yes |
| BIDLEP | 2.00 | 6.67 | 3.33 | 0.00 | 0.00 | -3.33 | No |
| BOECOC | 3.00 | 10.00 | 5.00 | 3.00 | 10.00 | 5.00 | Yes |
| BOEERE | 12.00 | 40.00 | 20.00 | 14.00 | 46.70 | 26.70 | Yes |
| BOEINT | 3.00 | 10.00 | 5.00 | 3.00 | 10.00 | 5.00 | Yes |
| BOTBAR | 1.00 | 3.33 | 1.67 | 0.00 | 0.00 | -1.67 | No |
| BOUARI | 17.00 | 56.70 | 28.30 | 19.00 | 63.30 | 35.00 | Yes |
| BOUCHO | 2.00 | 6.67 | 3.33 | 0.00 | 0.00 | -3.33 | No |
| BOUCUR | 2.00 | 6.67 | 3.33 | 3.00 | 10.00 | 6.67 | Yes |
| BOUHIR | 1.00 | 3.33 | 1.67 | 1.00 | 3.33 | 1.67 | Yes |
| BOUREP | 4.00 | 13.30 | 6.67 | 2.00 | 6.67 | 0.00 | No |
| BOUROT | 13.00 | 43.30 | 21.70 | 15.00 | 50.00 | 28.30 | Yes |
| CALERI | 5.00 | 16.70 | 8.33 | 2.00 | 6.67 | -1.67 | No |
| CELEHR | 1.00 | 3.33 | 1.67 | 0.00 | 0.00 | -1.67 | No |
| CHAABR | 0.00 | 0.00 | 0.00 | 1.00 | 3.33 | 3.33 | Yes |
| CHAARI | 4.00 | 13.30 | 6.67 | 5.00 | 16.70 | 10.00 | Yes |
| CHAFLO | 4.00 | 13.30 | 6.67 | 2.00 | 6.67 | 0.00 | No |
| CHAGRA | 2.00 | 6.67 | 3.33 | 3.00 | 10.00 | 6.67 | Yes |
| CHAMIC | 1.00 | 3.33 | 1.67 | 2.00 | 6.67 | 5.00 | Yes |
| CHEALB | 1.00 | 3.33 | 1.67 | 0.00 | 0.00 | -1.67 | No |
| CHEPRA | 0.00 | 0.00 | 0.00 | 1.00 | 3.33 | 3.33 | Yes |
| CHEWRI | 1.00 | 3.33 | 1.67 | 0.00 | 0.00 | -1.67 | No |
| CHLVIR | 5.00 | 16.70 | 8.33 | 12.00 | 40.00 | 31.70 | Yes |
| COMSCA | 1.00 | 3.33 | 1.67 | 0.00 | 0.00 | -1.67 | No |
| CONCAN | 2.00 | 6.67 | 3.33 | 1.00 | 3.33 | 0.00 | No |
| CROPOT | 2.00 | 6.67 | 3.33 | 3.00 | 10.00 | 6.67 | Yes |
| CYLFUL | 4.00 | 13.30 | 6.67 | 1.00 | 3.33 | -3.33 | No |
| CYLSPI | 1.00 | 3.33 | 1.67 | 0.00 | 0.00 | -1.67 | No |
| CYNDAC | 2.00 | 6.67 | 3.33 | 2.00 | 6.67 | 3.33 | Yes |
| DASPUL | 3.00 | 10.00 | 5.00 | 1.00 | 3.33 | -1.67 | No |
| DATINO | 1.00 | 3.33 | 1.67 | 0.00 | 0.00 | -1.67 | No |
| DESPRO | 1.00 | 3.33 | 1.67 | 0.00 | 0.00 | -1.67 | No |
| DIGCAL | 4.00 | 13.30 | 6.67 | 4.00 | 13.30 | 6.67 | Yes |
| DIGSAN | 0.00 | 0.00 | 0.00 | 2.00 | 6.67 | 6.67 | Yes |
| DITNEO | 4.00 | 13.30 | 6.67 | 2.00 | 6.67 | 0.00 | No |
| DODVIS | 2.00 | 6.67 | 3.33 | 2.00 | 6.67 | 3.33 | Yes |
| ECHCOL | 1.00 | 3.33 | 1.67 | 2.00 | 6.67 | 5.00 | Yes |
| ERACIL | 3.00 | 10.00 | 5.00 | 5.00 | 16.70 | 11.70 | Yes |
| ERALEH | 13.00 | 43.30 | 21.70 | 12.00 | 40.00 | 18.30 | Yes |
| ERIABE | 1.00 | 3.33 | 1.67 | 1.00 | 3.33 | 1.67 | Yes |
| ERIACU | 1.00 | 3.33 | 1.67 | 1.00 | 3.33 | 1.67 | Yes |
| ERIWRI | 5.00 | 16.70 | 8.33 | 3.00 | 10.00 | 1.67 | Yes |
| EVOARI | 5.00 | 16.70 | 8.33 | 5.00 | 16.70 | 8.33 | Yes |
| FENRUP | 1.00 | 3.33 | 1.67 | 0.00 | 0.00 | -1.67 | No |
| FOUSPL | 1.00 | 3.33 | 1.67 | 0.00 | 0.00 | -1.67 | No |
| GUTSAR | 7.00 | 23.30 | 11.70 | 7.00 | 23.30 | 11.70 | Yes |
| HETCON | 3.00 | 10.00 | 5.00 | 0.00 | 0.00 | -5.00 | No |
| ISOTEN | 11.00 | 36.70 | 18.30 | 8.00 | 26.70 | 8.33 | Yes |
| KALCAL | 1.00 | 3.33 | 1.67 | 0.00 | 0.00 | -1.67 | No |
| KRAERE | 3.00 | 10.00 | 5.00 | 0.00 | 0.00 | -5.00 | No |

| Species Code | Control Count | Control Frequency | Frequency Goal | ROW Count | ROW Frequency | Difference in Frequency between ROW and Control | Goal Met? |
|---|---|---|---|---|---|---|---|
| LARTRI | 2.00 | 6.67 | 3.33 | 0.00 | 0.00 | -3.33 | No |
| LEPDUB | 0.00 | 0.00 | 0.00 | 1.00 | 3.33 | 3.33 | Yes |
| LEPPAN | 0.00 | 0.00 | 0.00 | 1.00 | 3.33 | 3.33 | Yes |
| LYCAND | 3.00 | 10.00 | 5.00 | 0.00 | 0.00 | -5.00 | No |
| MACTAN | 1.00 | 3.33 | 1.67 | 4.00 | 13.30 | 11.70 | Yes |
| MELREP | 0.00 | 0.00 | 0.00 | 1.00 | 3.33 | 3.33 | Yes |
| MIMACU | 1.00 | 3.33 | 1.67 | 0.00 | 0.00 | -1.67 | No |
| MIMDYS | 1.00 | 3.33 | 1.67 | 0.00 | 0.00 | -1.67 | No |
| MOLVER | 0.00 | 0.00 | 0.00 | 1.00 | 3.33 | 3.33 | Yes |
| MUHPOR | 2.00 | 6.67 | 3.33 | 0.00 | 0.00 | -3.33 | No |
| MUHRIG | 1.00 | 3.33 | 1.67 | 0.00 | 0.00 | -1.67 | No |
| NICOBT | 0.00 | 0.00 | 0.00 | 1.00 | 3.33 | 3.33 | Yes |
| OPUENG | 2.00 | 6.67 | 3.33 | 1.00 | 3.33 | 0.00 | No |
| PANHAL | 1.00 | 3.33 | 1.67 | 3.00 | 10.00 | 8.33 | Yes |
| PANHIR | 5.00 | 16.70 | 8.33 | 5.00 | 16.70 | 8.33 | Yes |
| PARACU | 0.00 | 0.00 | 0.00 | 1.00 | 3.33 | 3.33 | Yes |
| PARMIC | 1.00 | 3.33 | 1.67 | 0.00 | 0.00 | -1.67 | No |
| PENPAR | 0.00 | 0.00 | 0.00 | 1.00 | 3.33 | 3.33 | Yes |
| PHEAUR | 1.00 | 3.33 | 1.67 | 0.00 | 0.00 | -1.67 | No |
| PHYCRA | 1.00 | 3.33 | 1.67 | 1.00 | 3.33 | 1.67 | Yes |
| PLAOVA | 0.00 | 0.00 | 0.00 | 1.00 | 3.33 | 3.33 | Yes |
| PLAPAT | 0.00 | 0.00 | 0.00 | 1.00 | 3.33 | 3.33 | Yes |
| PORHAL | 1.00 | 3.33 | 1.67 | 0.00 | 0.00 | -1.67 | No |
| PORSUF | 3.00 | 10.00 | 5.00 | 3.00 | 10.00 | 5.00 | Yes |
| PORUMB | 2.00 | 6.67 | 3.33 | 1.00 | 3.33 | 0.00 | No |
| PROVEL | 10.00 | 33.30 | 16.70 | 7.00 | 23.30 | 6.67 | Yes |
| RUENUD | 1.00 | 3.33 | 1.67 | 0.00 | 0.00 | -1.67 | No |
| SALTRA | 9.00 | 30.00 | 15.00 | 11.00 | 36.70 | 21.70 | Yes |
| SENGRE | 4.00 | 13.30 | 6.67 | 0.00 | 0.00 | -6.67 | No |
| SETGRI | 1.00 | 3.33 | 1.67 | 0.00 | 0.00 | -1.67 | No |
| SETMAC | 11.00 | 36.70 | 18.30 | 8.00 | 26.70 | 8.33 | Yes |
| SETVIR | 0.00 | 0.00 | 0.00 | 1.00 | 3.33 | 3.33 | Yes |
| SIDABU | 4.00 | 13.30 | 6.67 | 7.00 | 23.30 | 16.70 | Yes |
| SORHAL | 1.00 | 3.33 | 1.67 | 1.00 | 3.33 | 1.67 | Yes |
| SPHAMB | 0.00 | 0.00 | 0.00 | 9.00 | 30.00 | 30.00 | Yes |
| SPOCRY | 5.00 | 16.70 | 8.33 | 8.00 | 26.70 | 18.30 | Yes |
| TETNER | 1.00 | 3.33 | 1.67 | 0.00 | 0.00 | -1.67 | No |
| TIDLAN | 4.00 | 13.30 | 6.67 | 5.00 | 16.70 | 10.00 | Yes |
| TRANEP | 3.00 | 10.00 | 5.00 | 2.00 | 6.67 | 1.67 | Yes |
| VACCON | 2.00 | 6.67 | 3.33 | 8.00 | 26.70 | 23.30 | Yes |
| XANTEX | 1.00 | 3.33 | 1.67 | 3.00 | 10.00 | 8.33 | Yes |
| ZINACE | 1.00 | 3.33 | 1.67 | 1.00 | 3.33 | 1.67 | Yes |
| ZIZOBT | 0.00 | 0.00 | 0.00 | 1.00 | 3.33 | 3.33 | Yes |

# APPENDIX K

## Pima Pineapple Cactus Database Fall 2019

# APPENDIX K

## Pima Pineapple Cactus Database
## Fall 2019

**Table K-1. PPC 2018 and 2019 Observations**

| SWCA ID (Plant ID) | Year | Overall Health | Transplant Variables | | Transplanted Twice? | Location (UTM NAD 83) | | Alive or Dead* | Number of Stems (S), Pups (P) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Soil | Water | | Easting | Northing | | |
| 1 | 2018 | Good | Yes | No | No | 456299 | 3518838 | alive | 1S, 2P |
| | 2019 | Good | | | | | | alive | 1S, 1P |
| 16 | 2018 | - | No | Yes | No | 480575 | 3553640 | dead | - |
| | 2019 | - | | | | | | dead | - |
| 18 | 2018 | - | Yes | No | No | 480209 | 3553470 | dead | - |
| | 2019 | - | | | | | | dead | - |
| 19 | 2018 | Good | Yes | No | No | 479197 | 3553020 | alive | 1S, 2P |
| | 2019 | Good | | | | | | alive | 1S, 2P |
| 22 | 2018 | - | No | No | No | 478188 | 3552496 | dead | - |
| | 2019 | - | | | | | | dead | - |
| 23 | 2018 | - | Yes | Yes | No | 478188 | 3552495 | dead | - |
| | 2019 | - | | | | | | dead | - |
| 24 | 2018 | - | Yes | No | No | 478200 | 3552477 | dead | - |
| | 2019 | - | | | | | | dead | - |
| 25 | 2018 | - | No | No | No | 478212 | 3552506 | dead | - |
| | 2019 | - | | | | | | dead | - |
| 26 | 2018 | - | No | No | No | 478155 | 3552469 | dead | - |
| | 2019 | - | | | | | | dead | - |
| 27 | 2018 | Good | No | No | No | 478926 | 3552892 | alive | 0S, 3P |
| | 2019 | Fair | | | | | | alive | 3S, 0P |
| 31 | 2018 | - | No | Yes | No | 459112 | 3521151 | dead | - |
| | 2019 | - | | | | | | dead | - |
| 36 | 2018 | - | No | Yes | No | 459077 | 3521115 | dead | - |
| | 2019 | - | | | | | | dead | - |
| 38 | 2018 | - | No | Yes | No | 458732 | 3520928 | dead | - |
| | 2019 | - | | | | | | dead | - |
| 74 | 2018 | - | Yes | Yes | No | 475090 | 3551018 | dead | - |
| | 2019 | - | | | | | | dead | - |
| 75 | 2018 | - | No | Yes | No | 475093 | 3551020 | dead | - |
| | 2019 | - | | | | | | dead | - |
| 77 | 2018 | - | Yes | No | No | 475104 | 3551087 | dead | - |
| | 2019 | - | | | | | | dead | - |
| 78 | 2018 | Good | No | No | Yes | 475155 | 3551103 | alive | 0S, 2P |
| | 2019 | - | | | | | | dead | - |
| 79 | 2018 | Good | Yes | No | No | 475193 | 3551080 | alive | 1S, 2P |
| | 2019 | Good | | | | | | alive | 1S, 2P |

| SWCA ID (Plant ID) | Year | Overall Health | Transplant Variables | | Transplanted Twice? | Location (UTM NAD 83) | | Alive or Dead* | Number of Stems (S), Pups (P) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Soil | Water | | Easting | Northing | | |
| 80 | 2018 | - | Yes | No | No | 475256 | 3551119 | dead | - |
| | 2019 | - | | | | | | dead | - |
| 81 | 2018 | Good | No | Yes | No | 475275 | 3551130 | alive | 1S, 4P |
| | 2019 | Good | | | | | | alive | 1S, 0P |
| 82 | 2018 | Poor | No | Yes | No | 475291 | 3551143 | alive | 1S, 0P |
| | 2019 | - | | | | | | dead | - |
| 85 | 2018 | - | No | No | No | 475366 | 3551171 | dead | - |
| | 2019 | - | | | | | | dead | - |
| 87 | 2018 | - | No | No | Yes | 475920 | 3551471 | dead | - |
| | 2019 | - | | | | | | dead | - |
| 88 | 2018 | - | Yes | No | No | 475958 | 3551446 | dead | - |
| | 2019 | - | | | | | | dead | - |
| 89 | 2018 | Good | Yes | No | No | 475835 | 3551389 | alive | 1S, 1P |
| | 2019 | Good | | | | | | alive | 1S, 2P |
| 91 | 2018 | - | Yes | Yes | No | 475997 | 3551462 | dead | - |
| | 2019 | - | | | | | | dead | - |
| 92 | 2018 | - | Yes | No | No | 476339 | 3551471 | dead | - |
| | 2019 | - | | | | | | dead | - |
| 94 | 2018 | - | No | No | Yes | 476541 | 3551760 | dead | - |
| | 2019 | - | | | | | | dead | - |
| 95 | 2018 | Good | No | No | No | 477307 | 3552051 | alive | 0S, 4P |
| | 2019 | Good | | | | | | alive | 2S, 1P |
| 100 | 2018 | - | Yes | Yes | No | 475775 | 3551364 | dead | - |
| | 2019 | - | | | | | | dead | - |
| 118 | 2018 | - | No | Yes | No | 474633 | 3550810 | dead | - |
| | 2019 | - | | | | | | dead | - |
| 119 | 2018 | - | Yes | Yes | No | 474632 | 3550809 | dead | - |
| | 2019 | - | | | | | | dead | - |
| 120 | 2018 | - | Yes | Yes | No | 474302 | 3550593 | dead | - |
| | 2019 | - | | | | | | dead | - |
| 127 | 2018 | Good | No | No | No | 473737 | 3549990 | alive | 1S, 0P |
| | 2019 | Good | | | | | | alive | 1S, 0P |
| 130 | 2018 | Good | No | Yes | No | 474392 | 3550596 | alive | 0S, 3P |
| | 2019 | Good | | | | | | alive | 3S, 0P |
| 131 | 2018 | Good | No | Yes | No | 474621 | 3550793 | alive | 1S, 1P |
| | 2019 | Fair | | | | | | alive | 2S, 0P |
| 143 | 2018 | Good | Yes | No | No | 469095 | 3546315 | alive | 1S, 0P |
| | 2019 | Good | | | | | | alive | 1S, 0P |

| SWCA ID (Plant ID) | Year | Overall Health | Transplant Variables | | Transplanted Twice? | Location (UTM NAD 83) | | Alive or Dead* | Number of Stems (S), Pups (P) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Soil | Water | | Easting | Northing | | |
| 144 | 2018 | Poor | Yes | No | No | 469158 | 3546401 | alive | 0S, 1P |
| | 2019 | - | | | | | | dead | - |
| 145 | 2018 | Good | No | No | No | 469127 | 3546488 | alive | 1S, 5P |
| | 2019 | Good | | | | | | alive | 6S, 4P |
| 146 | 2018 | Good | Yes | Yes | No | 469247 | 3546610 | alive | 1S, 23P |
| | 2019 | Good | | | | | | alive | 1S, 32P |
| 147 | 2018 | - | No | Yes | No | 469352 | 3546797 | dead | - |
| | 2019 | - | | | | | | dead | - |
| 160 | 2018 | Good | Yes | Yes | No | 468373 | 3545190 | alive | 1S, 2P |
| | 2019 | Good | | | | | | alive | 1S, 1P |
| 162 | 2018 | Good | No | No | No | 468050 | 3544552 | alive | 1S, 9P |
| | 2019 | Good | | | | | | alive | 3S, 3P |
| 163 | 2018 | - | No | No | Yes | 467385 | 3543354 | dead | - |
| | 2019 | - | | | | | | dead | - |
| 164 | 2018 | Fair | No | Yes | No | 466817 | 3542474 | alive | 1S, 0P |
| | 2019 | Good | | | | | | alive | 1S, 0P |
| 165 | 2018 | Good | Yes | No | No | 466850 | 3542414 | alive | 1S, 5P |
| | 2019 | Good | | | | | | alive | 0S, 4P |
| 171 | 2018 | Good | Yes | Yes | No | 467772 | 3544027 | alive | 1S, 1P |
| | 2019 | Good | | | | | | alive | 1S, 0{P |
| 174 | 2018 | Good | No | Yes | No | 463427 | 3536105 | alive | 1S, 5P |
| | 2019 | Good | | | | | | alive | 1S, 5P |
| 178 | 2018 | Good | No | Yes | Yes | 464411 | 3538215 | alive | 1S, 6P |
| | 2019 | Good | | | | | | alive | 1S, 6P |
| 179 | 2018 | Fair | No | Yes | No | 464454 | 3538305 | alive | 0S, 2P |
| | 2019 | Good | | | | | | alive | 1S, 1P |
| 181 | 2018 | Good | Yes | No | No | 464409 | 3538333 | alive | 1S, 5P |
| | 2019 | Good | | | | | | alive | 1S, 5P |
| 182 | 2018 | Good | Yes | No | No | 464525 | 3538419 | alive | 1S, 11P |
| | 2019 | Good | | | | | | alive | 1S, 11P |
| 184 | 2018 | - | Yes | Yes | No | 465009 | 3539258 | dead | - |
| | 2019 | - | | | | | | dead | - |
| 185 | 2018 | - | Yes | No | Yes | 464981 | 3539285 | dead | - |
| | 2019 | - | | | | | | dead | - |
| 187 | 2018 | Good | No | Yes | No | 464656 | 3538766 | alive | 1S, 0P |
| | 2019 | Good | | | | | | alive | 1S, 0P |
| 188 | 2018 | Good | Yes | Yes | No | 464472 | 3538450 | alive | 0S, 7P |
| | 2019 | Good | | | | | | alive | 0S, 7P |

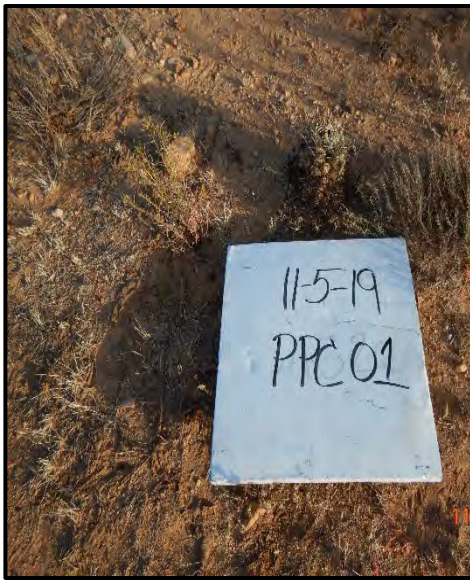
| SWCA ID (Plant ID) | Year | Overall Health | Transplant Variables | | Transplanted Twice? | Location (UTM NAD 83) | | Alive or Dead* | Number of Stems (S), Pups (P) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Soil | Water | | Easting | Northing | | |
| 190 | 2018 | Good | Yes | No | Yes | 464362 | 3538243 | alive | 1S, 3P |
| | 2019 | Good | | | | | | alive | 1S, 2P |
| 191 | 2018 | Good | Yes | Yes | No | 464355 | 3538250 | alive | 1S, 2P |
| | 2019 | Good | | | | | | alive | 1S, 1P |
| 192 | 2018 | Fair | Yes | Yes | Yes | 466820 | 3542442 | alive | 1S, 0P |
| | 2019 | Good | | | | | | alive | 1S, 0P |
| 208 | 2018 | - | Yes | Yes | No | 470399 | 3546966 | dead | - |
| | 2019 | - | | | | | | dead | - |
| 209 | 2018 | Good | Yes | No | Yes | 470816 | 3547339 | alive | 1S, 5P |
| | 2019 | Good | | | | | | alive | 1S, 5P |
| 210 | 2018 | - | No | No | Yes | 475157 | 3547432 | dead | - |
| | 2019 | - | | | | | | dead | - |
| 218 | 2018 | Good | No | No | No | 472524 | 3548862 | alive | 2S, 0P |
| | 2019 | Good | | | | | | alive | 2S, 0P |
| 229 | 2018 | - | No | Yes | No | 470709 | 3547159 | dead | - |
| | 2019 | - | | | | | | dead | - |
| 302 | 2018 | Good | Yes | No | No | 463062 | 3530289 | alive | 1S, 2P |
| | 2019 | - | | | | | | dead | - |
| 303 | 2018 | Good | No | Yes | No | 463090 | 3528287 | alive | 1S, 1P |
| | 2019 | Good | | | | | | alive | 1S, 1P |
| 304 | 2018 | - | Yes | Yes | No | 463085 | 3528281 | dead | - |
| | 2019 | - | | | | | | dead | - |
| 305 | 2018 | Good | Yes | Yes | Yes | 463102 | 3528286 | alive | 1S, 0P |
| | 2019 | - | | | | | | dead | - |
| 308 | 2018 | Good | No | No | No | 463259 | 3525827 | alive | 1S, 2P |
| | 2019 | Fair | | | | | | alive | 1S, 2P |
| 314 | 2018 | - | No | No | No | 457746 | 3520243 | dead | - |
| | 2019 | - | | | | | | dead | - |
| 315 | 2018 | - | No | Yes | No | 457802 | 3520258 | dead | - |
| | 2019 | - | | | | | | dead | - |
| 325 | 2018 | - | Yes | No | No | 455081 | 3518732 | dead | - |
| | 2019 | - | | | | | | dead | - |
| 326 | 2018 | Good | No | Yes | No | 455083 | 3518728 | alive | 1S, 7P |
| | 2019 | Poor | | | | | | alive | 0S, 1P |
| 328 | 2018 | - | No | Yes | Yes | 454073 | 3517934 | dead | - |
| | 2019 | - | | | | | | dead | - |
| 329 | 2018 | - | No | No | Yes | 454517 | 3518257 | dead | - |
| | 2019 | - | | | | | | dead | - |

| SWCA ID (Plant ID) | Year | Overall Health | Transplant Variables | | Transplanted Twice? | Location (UTM NAD 83) | | Alive or Dead* | Number of Stems (S), Pups (P) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Soil | Water | | Easting | Northing | | |
| 332 | 2018 | - | No | Yes | No | 462707 | 3523695 | dead | - |
| | 2019 | - | | | | | | dead | - |
| 334 | 2018 | - | No | Yes | No | 461165 | 3522485 | dead | - |
| | 2019 | - | | | | | | dead | - |
| 336 | 2018 | Good | No | No | No | 461188 | 3522678 | alive | 1S, 1P |
| | 2019 | Good | | | | | | alive | 1S, 1P |
| 340 | 2018 | Good | Yes | Yes | No | 463121 | 3527209 | alive | 1S, 0P |
| | 2019 | Good | | | | | | alive | 1S, 0P |
| 501 | 2018 | Good | Yes | No | No | 467264 | 3543258 | alive | 1S, 4P |
| | 2019 | Fair | | | | | | alive | 1S, 1P |
| 502 | 2018 | - | Yes | No | No | 461231 | 3522655 | dead | - |
| | 2019 | - | | | | | | dead | - |
| 503 | 2018 | Good | Yes | No | No | 461233 | 3522660 | alive | 1S, 0P |
| | 2019 | Good | | | | | | alive | 1S, 0P |
| 504 | 2018 | Good | No | Yes | Yes | 469116 | 3546431 | alive | 1S, 1P |
| | 2019 | Good | | | | | | alive | 1S, 1P |
| 505 | 2018 | Good | Yes | No | No | 463128 | 3528250 | alive | 1S, 0P |
| | 2019 | Good | | | | | | alive | 1S, 0P |
| 507 | 2018 | - | Yes | No | No | 465801 | 3540746 | dead | - |
| | 2019 | - | | | | | | dead | - |
| A002 | 2018 | Good | No | Yes | Yes | 469416 | 3546834 | alive | 1S, 0P |
| | 2019 | Good | | | | | | alive | 1S, 2P |
| DM01 | 2018 | Good | Yes | No | Yes | 458566 | 3520804 | alive | 1S, 0P |
| | 2019 | Good | | | | | | alive | 1S, 0P |
| R102 | 2018 | - | Yes | No | Yes | 458682 | 3520892 | dead | - |
| | 2019 | - | | | | | | dead | - |

*Plants not found in 2019 are assumed dead, as the location for each plant was known prior to the start of monitoring activities. Plants that were alive, or that were dead but still in the ground, have photographs included in this appendix. However, if plants were not found, or if only pieces of the plant or its tag were found, then photograph placeholders are not included.




PPC001 2018




PPC001 2019




PPC019 2018




PPC019 2019




PPC027 2018




PPC027 2019




PPC078 2018

PPC078 2019- Picture Unavailable. PPC is dead.




PPC079 2018




PPC079 2019




PPC081 2018




PPC081 2019




PPC082 2018



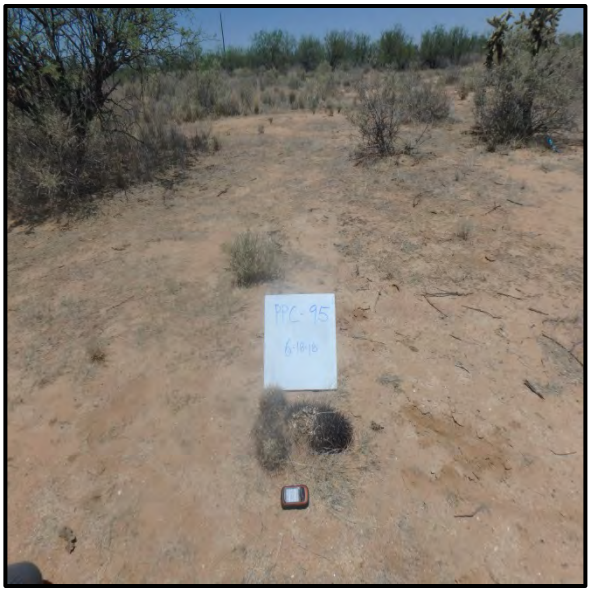

PPC082 2019




PPC089 2018




PPC089 2019




PPC95 2018




PPC095 2019




PPC127 2018




PPC127 2019




PPC130 2018




PPC130 2019




PPC131 2018




PPC131 2019




PPC143 2018




PPC143 2019




PPC145 2018




PPC145 2019




PPC146 2018




PPC146 2019




PPC160 2018




PPC160 2019




PPC162 2018




PPC162 2019



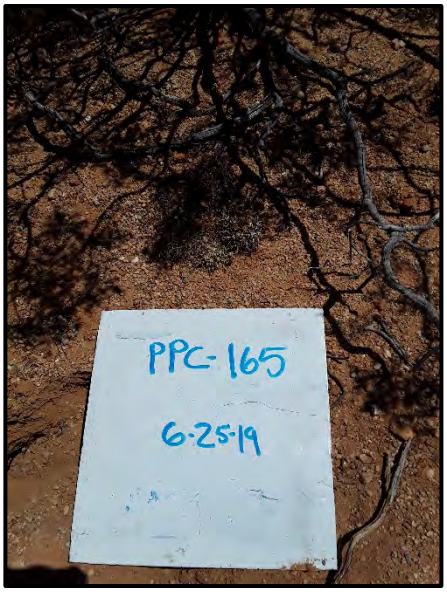

PPC164 2018




PPC164 2019




PPC165 2018




PPC165 2019




PPC171 2018




PPC171 2019




PPC174 2018




PPC174 2019



PPC178 2018




PPC178 2019




PPC179 2018




PPC179 2019




PPC181 2018




PPC181 2019




PPC182 2018




PPC182 2019




PPC187 2018




PPC187 2019




PPC188 2018




PPC 188 2019




PPC190 2018




PPC190 2019




PPC191 2018




PPC191 2019




PPC192 2018




PPC192 2019




PPC209 2018




PPC209 2019




PPC218 2018




PPC218 2019




PPC302 2018




PPC302 2019



PPC303 2018




PPC303 2019



PPC305 2018




PPC305 2019



PPC308 2018




PPC308 2019



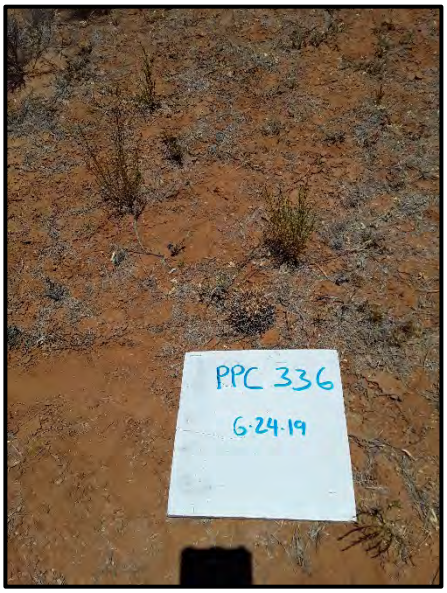
PPC326 2018




PPC326 2019



PPC336 2018




PPC336 2019




PPC340 2018




PPC340 2019




PPC501 2018




PPC501 2019



PPC503 2018




PPC503 2019



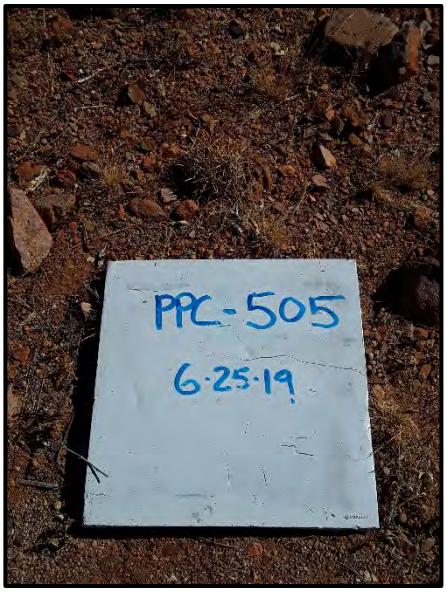
PPC504 2018




PPC504 2019



PPC505 2018




PPC505 2019




PPCA002 2018




PPCA002 2019



PPCDM01 2018




PPCDM01 2019

# APPENDIX L

## Saguaro Database Fall 2019

**Table L-1. Saguaro Data Comparison, 2018 and 2019**

| SWCA ID (Plant ID) | Year | Overall Health | Location (UTM NAD 83) | | Alive or Dead | Comparison Off-ROW |
|---|---|---|---|---|---|---|
| | | | Easting | Northing | | |
| SAGO1 | 2018 | good | 467062 | 3542828 | alive | good |
| | 2019 | good | | | alive | good |
| SAGO2 | 2018 | good | 467081 | 3542852 | alive | good |
| | 2019 | good | | | alive | good |
| SAGO3 | 2018 | good | 467072 | 3542878 | alive | good |
| | 2019 | good | | | alive | good |
| SAGO4 | 2018 | good | 467092 | 3542879 | alive | good |
| | 2019 | good | | | alive | good |
| SAG1000 | 2018 | good | 464814 | 3538945 | alive | good |
| | 2019 | good | | | alive | good |
| SAG1002 | 2018 | good | 467273 | 3543202 | alive | good |
| | 2019 | good | | | alive | good |
| SAG1003 | 2018 | good | 467228 | 3543465 | alive | good |
| | 2019 | good | | | alive | good |
| SAG1004 | 2018 | dead | 467531 | 3543680 | dead | N/A* |
| | 2019 | dead | | | dead | N/A* |
| SAG1005 | 2018 | good | 466920 | 3542583 | alive | good |
| | 2019 | good | | | alive | good |
| SAG1006 | 2018 | good | 464306 | 3538073 | alive | good |
| | 2019 | good | | | alive | good |
| SAG1009 | 2018 | good | 467099 | 3542903 | alive | good |
| | 2019 | good | | | alive | good |
| SAG1010 | 2018 | good | 466978 | 3542684 | alive | good |
| | 2019 | good | | | alive | good |
| SAG1011 | 2018 | good | 464305 | 3538073 | alive | good |
| | 2019 | good | | | alive | good |
| SAG1012 | 2018 | good | 468145 | 3544658 | alive | good |
| | 2019 | good | | | alive | good |
| SAG1013 | 2018 | good | 467453 | 3543510 | alive | good |
| | 2019 | good | | | alive | good |
| SAG1014 | 2018 | good | 463512 | 3536313 | alive | good |
| | 2019 | good | | | alive | good |
| SAG1016 | 2018 | good | 464695 | 3538742 | alive | good |
| | 2019 | good | | | alive | good |
| SAG1016-2 | 2018 | good | 484268 | 3561095 | alive | good |
| | 2019 | good | | | alive | good |
| SAG1017 | 2018 | good | 467912 | 3544316 | alive | good |
| | 2019 | good | | | alive | good |
| SAG1018 | 2018 | dead | 464702 | 3538748 | dead | N/A* |
| | 2019 | dead | | | dead | N/A* |
| SAG1019 | 2018 | good | 467441 | 3543531 | alive | good |
| | 2019 | good | | | alive | good |

| SWCA ID (Plant ID) | Year | Overall Health | Location (UTM NAD 83) | | Alive or Dead | Comparison Off-ROW |
|---|---|---|---|---|---|---|
| | | | Easting | Northing | | |
| SAG10-2#1 | 2018 | good | 471832 | 3548280 | alive | good |
| | 2019 | good | | | alive | good |
| SAG10-2#2 | 2018 | good | 471528 | 3548004 | alive | good |
| | 2019 | good | | | alive | good |
| SAG106 | 2018 | good | 467030 | 3542758 | alive | good |
| | 2019 | good | | | alive | good |
| SAG107 | 2018 | good | 467435 | 3543517 | alive | good |
| | 2019 | good | | | alive | good |
| SAG108 | 2018 | good | 467247 | 3543145 | alive | good |
| | 2019 | good | | | alive | good |
| SAG11 | 2018 | good | 467864 | 3544227 | alive | good |
| | 2019 | good | | | alive | good |
| SAG11-A | 2018 | good | 467500 | 3543597 | alive | good |
| | 2019 | good | | | alive | good |
| SAG114 | 2018 | good | 467094 | 3542930 | alive | good |
| | 2019 | good | | | alive | good |
| SAG115 | 2018 | good | 467227 | 3543151 | alive | good |
| | 2019 | good | | | alive | good |
| SAG116 | 2018 | good | 467472 | 3543535 | alive | good |
| | 2019 | good | | | alive | good |
| SAG119 | 2018 | good | 467528 | 3573681 | alive | good |
| | 2019 | good | | | alive | good |
| SAG121 | 2018 | good | 467211 | 3543127 | alive | good |
| | 2019 | good | | | alive | good |
| SAG122 | 2018 | good | 467096 | 3542979 | alive | good |
| | 2019 | good | | | alive | good |
| SAG124 | 2018 | good | 466962 | 3542697 | alive | good |
| | 2019 | good | | | alive | good |
| SAG125 | 2018 | good | 467478 | 3543587 | alive | good |
| | 2019 | good | | | alive | good |
| SAG127 | 2018 | good | 466901 | 3542577 | alive | good |
| | 2019 | good | | | alive | good |
| SAG129 | 2018 | good | 467658 | 3543909 | alive | good |
| | 2019 | good | | | alive | good |

* A relative health comparison to off-ROW saguaros was not made for dead plants.

** No saguaros occurred off-ROW for the control comparison.



SAG01 2018



SAG01 2019



SAGO2 2018



SAGO2 2019



SAGO3 2018



SAGO3 2019



SAGO4 2018



SAGO4 2019



SAG1000 2018



SAG1000 2019



SAG1002 2018



SAG1002 2019



SAG1003 2018



SAG1003 2019



SAG1005 2018



SAG1005 2019




SAG1006 2018




SAG1006 2019



SAG1009 2018



SAG1009 2019



SAG1010 2018



SAG1010 2019




SAG1011 2018



SAG1011 2019




SAG1012 2018




SAG2012 2019




SAG1013 2018



SAG1013 2019




SAG1014 2018



SAG1014 2019




SAG1016 2018



SAG1016 2019




SAG1016-2 2018



SAG1016-2 2019




SAG1017 2018




SAG1017 2019




SAG1018 2018




SAG1018 2019




SAG1019 2018



SAG1019 2019



SAG10-2 #1 2018



SAG10-2 #1 2019



SAG10-2 #2 2018



SAG10-2 #2 2019



SAG106 2018



SAG106 2019



SAG107 2018



SAG107 2019




SAG108 2018




SAG108 2019




SAG11 2018



SAG11 2019




SAG11-A 2018



SAG11-A 2019



SAG114 2018



SAG114 2019



SAG115 2018



SAG115 2019




SAG116 2018




SAG116 2019



SAG119 2018



SAG119 2019



SAG121 2018



SAG121 2019




SAG122 2018




SAG122 2019




SAG124 2018




SAG124 2019




SAG125 2018



SAG125 2019



SAG127 2018



SAG127 2019



SAG129 2018



SAG129 2019

**Table L-2. Saguaro Data Comparison, 2018 and 2019**

| SWCA ID (Plant ID) | Year | Overall Health | Location (UTM NAD 83) | | Alive or Dead | Comparison Off-ROW |
|---|---|---|---|---|---|---|
| | | | Easting | Northing | | |
| SAG131 | 2018 | good | 467658 | 3543902 | alive | good |
| | 2019 | good | | | alive | good |
| SAG133 | 2018 | good | 467267 | 3543224 | alive | good |
| | 2019 | good | | | alive | good |
| SAG159 | 2018 | good | 465671 | 3540454 | alive | good |
| | 2019 | good | | | alive | good |
| SAG160 | 2018 | good | 465679 | 3540442 | alive | good |
| | 2019 | good | | | alive | good |
| SAG170 | 2018 | dead | 463495 | 3536325 | dead | N/A* |
| | 2019 | dead | | | dead | N/A* |
| SAG171 | 2018 | good | 467542 | 3543667 | alive | good |
| | 2019 | good | | | alive | good |
| SAG172 | 2018 | good | 464660 | 3538723 | alive | good |
| | 2019 | good | | | alive | good |
| SAG173 | 2018 | good | 464490 | 3538430 | alive | good |
| | 2019 | good | | | alive | good |
| SAG181 | 2018 | good | 466826 | 3542420 | alive | good |
| | 2019 | good | | | alive | good |
| SAG183 | 2018 | good | 465759 | 3540581 | alive | good |
| | 2019 | good | | | alive | good |

| SWCA ID (Plant ID) | Year | Overall Health | Location (UTM NAD 83) | | Alive or Dead | Comparison Off-ROW |
|---|---|---|---|---|---|---|
| | | | Easting | Northing | | |
| SAG18B | 2018 | dead | 464195 | 3537876 | dead | N/A* |
| | 2019 | dead | | | dead | N/A* |
| SAG199 | 2018 | good | 465753 | 3540605 | alive | good |
| | 2019 | good | | | alive | good |
| SAG2 | 2018 | good | 468300 | 3545026 | alive | good |
| | 2019 | good | | | alive | good |
| SAG200 | 2018 | good | 464843 | 3538994 | alive | good |
| | 2019 | good | | | alive | good |
| SAG2000 | 2018 | good | 468405 | 354210 | alive | good |
| | 2019 | good | | | alive | good |
| SAG2001 | 2018 | good | 478014 | 3552447 | alive | good |
| | 2019 | good | | | alive | good |
| SAG2002 | 2018 | good | 478010 | 3552444 | alive | good |
| | 2019 | good | | | alive | good |
| SAG2003 | 2018 | good | 478007 | 3552445 | alive | good |
| | 2019 | good | | | alive | good |
| SAG2007 | 2018 | good | 466874 | 3542488 | alive | good |
| | 2019 | good | | | alive | good |
| SAG2008 | 2018 | good | 466873 | 3542482 | alive | good |
| | 2019 | good | | | alive | good |
| SAG2009 | 2018 | good | 466865 | 3542481 | alive | good |
| | 2019 | good | | | alive | good |
| SAG2011 | 2018 | good | 466853 | 3542509 | alive | good |
| | 2019 | good | | | alive | good |
| SAG2012 | 2018 | good | 466847 | 3542496 | alive | good |
| | 2019 | good | | | alive | good |
| SAG2013 | 2018 | good | 466845 | 3542492 | alive | good |
| | 2019 | good | | | alive | good |
| SAG2014 | 2018 | good | 466852 | 3542457 | alive | good |
| | 2019 | good | | | alive | good |
| SAG2015 | 2018 | good | 466849 | 3542453 | alive | good |
| | 2019 | good | | | alive | good |
| SAG202 | 2018 | good | 467669 | 3543890 | alive | good |
| | 2019 | good | | | alive | good |
| SAG2020 | 2018 | good | 470715 | 3547198 | alive | good |
| | 2019 | good | | | alive | good |
| SAG2021 | 2018 | dead | 470719 | 3547207 | dead | N/A* |
| | 2019 | dead | | | dead | N/A* |

| SWCA ID (Plant ID) | Year | Overall Health | Location (UTM NAD 83) | | Alive or Dead | Comparison Off-ROW |
|---|---|---|---|---|---|---|
| | | | Easting | Northing | | |
| SAG2022 | 2018 | good | 470726 | 3547210 | alive | good |
| | 2019 | good | | | alive | good |
| SAG2023 | 2018 | dead | 471825 | 3548271 | dead | N/A* |
| | 2019 | dead | | | dead | N/A* |
| SAG2024 | 2018 | dead | 469215 | 3546633 | dead | N/A* |
| | 2019 | dead | | | dead | N/A* |
| SAG2025 | 2018 | dead | 471845 | 3548288 | dead | N/A* |
| | 2019 | dead | | | dead | N/A* |
| SAG2026 | 2018 | good | 469219 | 3546638 | alive | good |
| | 2019 | good | | | alive | good |
| SAG2028 | 2018 | good | 469213 | 3546629 | alive | good |
| | 2019 | good | | | alive | good |
| SAG2029 | 2018 | good | 464295 | 3538100 | alive | good |
| | 2019 | good | | | alive | good |
| SAG203 | 2018 | good | 464493 | 3538434 | alive | good |
| | 2019 | good | | | alive | good |
| SAG2030 | 2018 | good | 464293 | 3538096 | alive | good |
| | 2019 | fair | | | alive | good |
| SAG2031 | 2018 | good | 464292 | 3538094 | alive | good |
| | 2019 | fair | | | alive | good |
| SAG2033 | 2018 | good | 464172 | 3537891 | alive | good |
| | 2019 | good | | | alive | good |
| SAG2034 | 2018 | good | 464179 | 3537901 | alive | good |
| | 2019 | good | | | alive | good |

* A relative health comparison to off-ROW saguaros was not made for dead plants.

** No saguaros occurred off-ROW for the control comparison.



SAG131 2018



SAG131 2019



SAG133 2018



SAG133 2019



SAG159 2018



SAG159 2019




SAG160 2018



SAG160 2019




SAG171 2018



SAG171 2019




SAG172 2018



SAG172 2019




SAG173 2018




SAG173 2019




SAG181 2018




SAG181 2019




SAG183 2018



SAG183 2019




SAG199 2018



SAG199 2019



SAG2 2018



SAG2 2019




SAG200 2018



SAG200 2019




SAG2000 2018




SAG2000 2019




SAG2001 2018



SAG2001 2019




SAG2002 2018



SAG2002 2019




SAG2003 2018



SAG2003 2019




SAG2007 2018




SAG2007 2019




SAG2008 2018




SAG2008 2019




SAG2009 2018




SAG2009 2019




SAG2011 2018



SAG2011 2019




SAG2012 2018




SAG2012 2019



SAG2013 2018




SAG2013 2019



SAG2014 2018




SAG2014 2019



SAG2015 2018




SAG2015 2019




SAG202 2018



SAG202 2019




SAG2020 2018



SAG2020 2019




SAG2021 2018




SAG2021 2019




SAG2022 2018




SAG2022 2019




SAG2026 2018



SAG2026 2019




SAG2028 2018



SAG2028 2019




SAG2029 2018



SAG2029 2019




SAG203 2018




SAG203 2019




SAG2030 2018



SAG2030 2019




SAG2031 2018




SAG2031 2019




SAG2033 2018




SAG2033 2019




SAG2034 2018




SAG2034 2019

**Table L-3. Saguaro Data Comparison, 2018 and 2019**

| SWCA ID (Plant ID) | Year | Overall Health | Location (UTM NAD 83) | | Alive or Dead | Comparison Off-ROW |
|---|---|---|---|---|---|---|
| | | | Easting | Northing | | |
| SAG2035 | 2018 | good | 464021 | 3537586 | alive | good |
| | 2019 | Good | | | alive | good |
| SAG2036 | 2018 | Fair | 464021 | 3537578 | alive | good |
| | 2019 | Poor | | | alive | good |
| SAG2037 | 2018 | Good | 464017 | 3537576 | alive | good |
| | 2019 | Good | | | alive | good |

| SWCA ID (Plant ID) | Year | Overall Health | Location (UTM NAD 83) | | Alive or Dead | Comparison Off-ROW |
|---|---|---|---|---|---|---|
| | | | Easting | Northing | | |
| SAG2038 | 2018 | Good | 463962 | 3537527 | alive | good |
| | 2019 | Good | | | alive | good |
| SAG2039 | 2018 | Good | 463962 | 3537521 | alive | good |
| | 2019 | Good | | | alive | good |
| SAG204 | 2018 | Good | 464835 | 3538978 | alive | good |
| | 2019 | Good | | | alive | good |
| SAG2040 | 2018 | Poor | 463955 | 3537517 | alive | good |
| | 2019 | dead | | | dead | N/A* |
| SAG2042 | 2018 | good | 463800 | 3537170 | alive | good |
| | 2019 | Good | | | alive | good |
| SAG2043 | 2018 | Good | 463792 | 3537166 | alive | good |
| | 2019 | Good | | | alive | good |
| SAG2044 | 2018 | Good | 463540 | 3536442 | alive | good |
| | 2019 | good | | | alive | good |
| SAG2045 | 2018 | good | 463542 | 3536437 | alive | good |
| | 2019 | Good | | | alive | good |
| SAG2046 | 2018 | Good | 466842 | 3542450 | alive | good |
| | 2019 | Good | | | alive | good |
| SAG2046-2 | 2018 | Good | 463536 | 3536431 | alive | good |
| | 2019 | good | | | alive | good |
| SAG208 | 2018 | good | 464306 | 3538075 | alive | good |
| | 2019 | good | | | alive | good |
| SAG222C | 2018 | good | 484234 | 3560996 | alive | good |
| | 2019 | good | | | alive | good |
| SAG224-1 | 2018 | good | 484264 | 3561065 | alive | good |
| | 2019 | good | | | alive | good |
| SAG224-2 | 2018 | good | 467472 | 3543536 | alive | good |
| | 2019 | good | | | alive | good |
| SAG225-1 | 2018 | good | 467439 | 3543531 | alive | good |
| | 2019 | good | | | alive | good |
| SAG225-2 | 2018 | good | 484261 | 3561067 | alive | good |
| | 2019 | good | | | alive | good |
| SAG226-1 | 2018 | good | 467441 | 3543530 | alive | good |
| | 2019 | good | | | alive | good |
| SAG226-2 | 2018 | good | 484263 | 3561067 | alive | good |
| | 2019 | good | | | alive | good |
| SAG227 | 2018 | good | 464690 | 3538748 | alive | good |
| | 2019 | good | | | alive | good |

| SWCA ID (Plant ID) | Year | Overall Health | Location (UTM NAD 83) | | Alive or Dead | Comparison Off-ROW |
|---|---|---|---|---|---|---|
| | | | Easting | Northing | | |
| SAG228 | 2018 | good | 484254 | 3561043 | alive | good |
| | 2019 | good | | | alive | good |
| SAG229-1*** | 2018 | dead | 464675 | 3538756 | dead | N/A* |
| | 2019 | dead | | | dead | N/A* |
| SAG229-2 | 2018 | good | 484256 | 3561043 | alive | good |
| | 2019 | good | | | alive | good |
| SAG230 | 2018 | dead | 484235 | 3561061 | dead | N/A* |
| | 2019 | dead | | | dead | N/A* |
| SAG239 | 2018 | fair | 484102 | 3560786 | alive | good |
| | 2019 | fair | | | alive | good |
| SAG245-1 | 2018 | dead | 466909 | 3542600 | dead | N/A* |
| | 2019 | dead | | | dead | N/A* |
| SAG245-2 | 2018 | dead | 464813 | 3538935 | dead | N/A* |
| | 2019 | dead | | | dead | N/A* |
| SAG245B | 2018 | good | 464677 | 3538719 | alive | good |
| | 2019 | good | | | alive | good |
| SAG254-1 | 2018 | good | 467634 | 3543820 | alive | good |
| | 2019 | good | | | alive | good |
| SAG254-2 | 2018 | good | 484266 | 3561290 | alive | good |
| | 2019 | good | | | alive | good |
| SAG276 | 2018 | fair | 467050 | 3542842 | alive | good |
| | 2019 | dead | | | dead | N/A* |
| SAG277 | 2018 | good | 467473 | 3543536 | alive | good |
| | 2019 | good | | | alive | good |
| SAG287 | 2018 | good | 467538 | 3543655 | alive | good |
| | 2019 | good | | | alive | good |
| SAG288 | 2018 | good | 467207 | 3543086 | alive | good |
| | 2019 | good | | | alive | good |
| SAG295 | 2018 | good | 467116 | 3542962 | alive | good |
| | 2019 | good | | | alive | good |
| SAG296 | 2018 | good | 464807 | 3538934 | alive | good |
| | 2019 | good | | | alive | good |
| SAG3000 | 2018 | good | 466091 | 3541143 | alive | good |
| | 2019 | good | | | alive | good |
| SAG3001 | 2018 | fair | 466084 | 3541139 | alive | fair |
| | 2019 | fair | | | alive | good |

* A relative health comparison to off-ROW saguaros was not made for dead plants.

** No saguaros occurred off-ROW for the control comparison.

*** This plant was dead in 2015 and can no longer be found. Thus, there is no photograph below.




SAG2035 2018



SAG2035 2019




SAG2036 2018




SAG2036 2019




SAG2037 2018



SAG2037 2019




SAG2038 2018



SAG2038 2019




SAG2039 2018




SAG2039 2019




SAG204 2018



SAG204 2019




SAG2040 2018




SAG2040 2019




SAG2042 2018




SAG2042 2019




SAG2043 2018



SAG2043 2019




SAG2044 2018



SAG2044 2019




SAG2045 2018



SAG2045 2019



SAG2046 2018




SAG2046 2019




SAG2046-2 2018



SAG2046-2 2019




SAG208 2018



SAG208 2019




SAG222C 2018




SAG222C 2019



SAG224-1 2018




SAG224-1 2019




SAG224-2 2018




SAG224-2 2019




SAG225-1 2018




SAG225-1 2019




SAG225-2 2018



SAG225-2 2019




SAG226-1 2018




SAG226-1 2019




SAG226-2 2018




SAG226-2 2019




SAG227 2018




SAG227 2019




SAG228 2018




SAG228 2019




SAG229-2 2018




SAG229-2 2019




SAG230 2018



SAG230 2019




SAG239 2018



SAG239 2019




SAG245-2 2018



SAG245-2 2019



SAG245B 2018



SAG245B 2019




SAG254-1 2018




SAG254-1 2019




SAG254-2 2018




SAG254-2 2019



SAG276 2018



SAG276 2019




SAG277 2018



SAG277 2019




SAG287 2018



SAG287 2019



SAG288 2018



SAG288 2019



SAG295 2018



SAG295 2019




SAG296 2018



SAG296 2019




SAG3000 2018



SAG3000 2019




SAG3001 2018



SAG3001 2019

**Table L-4. Saguaro Data Comparison, 2018 and 2019**

| SWCA ID (Plant ID) | Year | Overall Health | Location (UTM NAD 83) | | Alive or Dead | Comparison Off-ROW |
|---|---|---|---|---|---|---|
| | | | Easting | Northing | | |
| SAG3002 | 2018 | good | 466085 | 3541134 | alive | good |
| | 2019 | good | | | alive | good |
| SAG3003 | 2018 | dead | 466012 | 3541044 | dead | N/A* |
| | 2019 | dead | | | dead | N/A* |
| SAG3004 | 2018 | good | 466005 | 3541044 | alive | good |
| | 2019 | fair | | | alive | good |

| SWCA ID (Plant ID) | Year | Overall Health | Location (UTM NAD 83) | | Alive or Dead | Comparison Off-ROW |
|---|---|---|---|---|---|---|
| | | | Easting | Northing | | |
| SAG3005 | 2018 | good | 466003 | 3541041 | alive | good |
| | 2019 | good | | | alive | good |
| SAG3006 | 2018 | good | 465843 | 3540731 | alive | good |
| | 2019 | fair | | | alive | good |
| SAG3007 | 2018 | good | 465847 | 3540725 | alive | good |
| | 2019 | fair | | | alive | good |
| SAG3008 | 2018 | fair | 465843 | 3540717 | alive | good |
| | 2019 | fair | | | alive | good |
| SAG3009 | 2018 | good | 465011 | 3539269 | alive | good |
| | 2019 | good | | | alive | good |
| SAG3010 | 2018 | good | 465004 | 3539279 | alive | good |
| | 2019 | fair | | | alive | good |
| SAG3011 | 2018 | good | 465003 | 3539269 | alive | good |
| | 2019 | good | | | alive | good |
| SAG3012 | 2018 | good | 464592 | 3538603 | alive | good |
| | 2019 | good | | | alive | good |
| SAG3013 | 2018 | good | 464586 | 3538595 | alive | good |
| | 2019 | good | | | alive | good |
| SAG3014 | 2018 | good | 464581 | 3538588 | alive | good |
| | 2019 | good | | | alive | good |
| SAG3015 | 2018 | good | 464600 | 3538569 | alive | good |
| | 2019 | good | | | alive | good |
| SAG3016 | 2018 | good | 464593 | 3538566 | alive | good |
| | 2019 | good | | | alive | good |
| SAG3017 | 2018 | good | 464591 | 3538559 | alive | good |
| | 2019 | good | | | alive | good |
| SAG3018 | 2018 | good | 464548 | 3538531 | alive | good |
| | 2019 | good | | | alive | good |
| SAG3019 | 2018 | good | 464542 | 3538530 | alive | good |
| | 2019 | good | | | alive | good |
| SAG3020 | 2018 | good | 464547 | 3538526 | alive | good |
| | 2019 | good | | | alive | good |
| SAG3021 | 2018 | good | 464554 | 3538507 | alive | good |
| | 2019 | good | | | alive | good |
| SAG3022 | 2018 | good | 464553 | 3538501 | alive | good |
| | 2019 | good | | | alive | good |
| SAG3023 | 2018 | good | 464546 | 3538496 | alive | good |
| | 2019 | good | | | alive | good |

| SWCA ID (Plant ID) | Year | Overall Health | Location (UTM NAD 83) | | Alive or Dead | Comparison Off-ROW |
|---|---|---|---|---|---|---|
| | | | Easting | Northing | | |
| SAG306 | 2018 | good | 467004 | 3542721 | alive | good |
| | 2019 | good | | | alive | good |
| SAG310 | 2018 | dead | 464828 | 3538971 | dead | N/A* |
| | 2019 | dead | | | dead | N/A* |
| SAG311 | 2018 | good | 466936 | 3542599 | alive | good |
| | 2019 | good | | | alive | good |
| SAG315 | 2018 | good | 465873 | 3540812 | alive | good |
| | 2019 | good | | | alive | good |
| SAG319 | 2018 | good | 467302 | 3543241 | alive | good |
| | 2019 | good | | | alive | good |
| SAG328 | 2018 | good | 467381 | 3543389 | alive | good |
| | 2019 | good | | | alive | good |
| SAG332-1 | 2018 | good | 464304 | 3538069 | alive | good |
| | 2019 | good | | | alive | good |
| SAG332-2 | 2018 | good | 465453 | 3540047 | alive | good |
| | 2019 | good | | | alive | good |
| SAG333 | 2018 | good | 465435 | 3540053 | alive | good |
| | 2019 | good | | | alive | good |
| SAG337 | 2018 | good | 466136 | 3541219 | alive | good |
| | 2019 | good | | | alive | good |
| SAG342 | 2018 | good | 464502 | 3538417 | alive | good |
| | 2019 | good | | | alive | good |
| SAG343 | 2018 | good | 464678 | 3538753 | alive | good |
| | 2019 | good | | | alive | good |
| SAG35 | 2018 | good | 467880 | 3544254 | alive | good |
| | 2019 | good | | | alive | good |
| SAG37 | 2018 | good | 467585 | 3543731 | alive | good |
| | 2019 | good | | | alive | good |

*A relative health comparison to off-ROW saguaros was not made for dead plants




SAG3002 2018



SAG3002 2019




SAG3003 2018



SAG3003 2019




SAG3004 2018



SAG3004 2019




SAG3005 2018



SAG3005 2019




SAG3006 2018



SAG3006 2019




SAG3007 2018



SAG3007 2019




SAG3008 2018



SAG3008 2019




SAG3009 2018



SAG3009 2019




SAG3010 2018



SAG3010 2019




SAG3011 2018



SAG3011 2019




SAG3012 2018




SAG3012 2019




SAG3013 2018



SAG3013 2019




SAG3014 2018



SAG3014 2019




SAG3015 2018



SAG3015 2019




SAG3016 2018




SAG3016 2019




SAG3017 2018




SAG3017 2019




SAG3018 2018



SAG3018 2019




SAG3019 2018



SAG3019 2019




SAG3020 2018



SAG3020 2019




SAG3021 2018



SAG3021 2019




SAG3022 2018



SAG3022 2019




SAG3023 2018



SAG3023 2019



SAG306 2018



SAG306 2019




SAG311 2018



SAG311 2019




SAG315 2018



SAG315 2019



SAG319 2018



SAG319 2019



SAG328 2018



SAG328 2019




SAG332-1 2018



SAG332-1 2019




SAG332-2 2018




SAG332-2 2019




SAG333 2018



SAG333 2019



SAG337 2018



SAG337 2019




SAG342 2018



SAG342 2019




SAG343 2018



SAG343 2019




SAG35 2018



SAG35 2019



SAG37 2018



SAG37 2019

**Table L-5. Saguaro Data Comparison, 2018 and 2019**

| SWCA ID (Plant ID) | Year | Overall Health | Location (UTM NAD 83) | | Alive or Dead | Comparison Off-ROW |
|---|---|---|---|---|---|---|
| | | | Easting | Northing | | |
| SAG42 | 2018 | good | 467411 | 3543482 | alive | good |
| | 2019 | good | | | alive | good |
| SAG44 | 2018 | good | 467376 | 3543377 | alive | good |
| | 2019 | good | | | alive | good |
| SAG45 | 2018 | good | 467348 | 3543371 | alive | good |
| | 2019 | good | | | alive | good |
| SAG48 | 2018 | good | 466961 | 3542645 | alive | good |
| | 2019 | good | | | alive | good |
| SAG49 | 2018 | good | 467505 | 3543600 | alive | good |
| | 2019 | good | | | alive | good |
| SAG503 | 2018 | good | 466947 | 3542662 | alive | good |
| | 2019 | good | | | alive | good |
| SAG54 | 2018 | good | 464857 | 3.539017 | alive | good |
| | 2019 | good | | | alive | good |
| SAG55 | 2018 | good | 467186 | 3543094 | alive | good |
| | 2019 | good | | | alive | good |
| SAG56 | 2018 | dead | 467479 | 3543592 | dead | N/A* |
| | 2019 | dead | | | dead | N/A* |
| SAG61 | 2018 | good | 467109 | 3542932 | alive | good |
| | 2019 | good | | | alive | good |

| SWCA ID (Plant ID) | Year | Overall Health | Location (UTM NAD 83) | | Alive or Dead | Comparison Off-ROW |
|---|---|---|---|---|---|---|
| | | | Easting | Northing | | |
| SAG62 | 2018 | good | 466980 | 3542701 | alive | good |
| | 2019 | good | | | alive | good |
| SAG67 | 2018 | good | 467555 | 3543725 | alive | good |
| | 2019 | good | | | alive | good |
| SAG79 | 2018 | good | 467092 | 3542915 | alive | good |
| | 2019 | good | | | alive | good |
| SAG80 | 2018 | good | 467651 | 3543849 | alive | good |
| | 2019 | good | | | alive | good |
| SAG94 | 2018 | good | 467832 | 3544207 | alive | good |
| | 2019 | good | | | alive | good |
| SAG96 | 2018 | good | 467570 | 3543754 | alive | good |
| | 2019 | good | | | alive | good |
| SAG98 | 2018 | dead | 467474 | 3543586 | dead | N/A* |
| | 2019 | dead | | | dead | N/A* |
| SAG99 | 2018 | good | 467288 | 3543258 | alive | good |
| | 2019 | good | | | alive | good |

* A relative health comparison to off-ROW saguaros was not made for dead plants.



SAG42 2018



SAG42 2019



SAG44 2018



SAG44 2019



SAG45 2018



SAG45 2019




SAG48 2018



SAG48 2019




SAG49 2018



SAG49 2019




SAG503 2018




SAG503 2019




SAG54 2018



SAG54 2019



SAG55 2018



SAG55 2019




SAG56 2018

SAG56 2019. Photo unavailable. Saguaro is dead.




SAG61 2018



SAG61 2019



SAG62 2018



SAG62 2019




SAG67 2018




SAG67 2019




SAG79 2018




SAG79 2019



SAG80 2018



SAG80 2019




SAG94 2018



SAG94 2019



SAG96 2018



SAG96 2019



SAG99 2018



SAG99 2019

**Table L-6. Saguaro Data Comparison, 2018 and 2019**

| SWCA ID (Plant ID) | Year | Overall Health | Location (UTM NAD 83) | | Alive or Dead | Comparison Off-ROW |
|---|---|---|---|---|---|---|
| | | | Easting | Northing | | |
| SAGR1 | 2018 | dead | 484248 | 3561253 | dead | N/A* |
| | 2019 | dead | | | dead | N/A* |
| SAGR10 | 2018 | good | 484129 | 3560773 | alive | good |
| | 2019 | good | | | alive | good |

| SWCA ID (Plant ID) | Year | Overall Health | Location (UTM NAD 83) | | Alive or Dead | Comparison Off-ROW |
|---|---|---|---|---|---|---|
| | | | Easting | Northing | | |
| SAGR11 | 2018 | good | 484124 | 3560767 | alive | good |
| | 2019 | good | | | alive | good |
| SAGR12 | 2018 | dead | 484124 | 3560759 | dead | N/A* |
| | 2019 | poor | | | alive | good |
| SAGR13 | 2018 | good | 468200 | 3544796 | alive | good |
| | 2019 | | | | | |
| SAGR14 | 2018 | good | 468201 | 3544789 | alive | good |
| | 2019 | | | | | |
| SAGR15 | 2018 | good | 468203 | 3544748 | alive | good |
| | 2019 | | | | | |
| SAGR16 | 2018 | good | 468405 | 354217 | alive | good |
| | 2019 | | | | | |
| SAGR17 | 2018 | good | 468411 | 3545221 | alive | good |
| | 2019 | | | | | |
| SAGR18 | 2018 | good | 468889 | 3546056 | alive | good |
| | 2019 | | | | | |
| SAGR2 | 2018 | good | 484245 | 3561245 | alive | good |
| | 2019 | | | | | |
| SAGR20 | 2018 | good | 469597 | 3545511 | alive | good |
| | 2019 | | | | | |
| SAGR20B | 2018 | good | 468598 | 3545506 | alive | good |
| | 2019 | | | | | |
| SAGR21 | 2018 | good | 468603 | 3545517 | alive | good |
| | 2019 | | | | | |
| SAGR22 | 2018 | good | 4688889 | 3546062 | alive | good |
| | 2019 | | | | | |
| SAGR23 | 2018 | good | 468892 | 3546066 | alive | good |
| | 2019 | | | | | |
| SAGR25 | 2018 | good | 467900 | 3544326 | alive | good |
| | 2019 | | | | | |
| SAGR26 | 2018 | good | 467900 | 3544322 | alive | good |
| | 2019 | | | | | |
| SAGR27 | 2018 | good | 467901 | 3544334 | alive | good |
| | 2019 | | | | | |
| SAGR28 | 2018 | good | 467749 | 3544072 | alive | good |
| | 2019 | | | | | |
| SAGR29 | 2018 | good | 467749 | 3544066 | alive | good |
| | 2019 | | | | | |

| SWCA ID (Plant ID) | Year | Overall Health | Location (UTM NAD 83) | | Alive or Dead | Comparison Off-ROW |
|---|---|---|---|---|---|---|
| | | | Easting | Northing | | |
| SAGR3 | 2018 | good | 484238 | 3561239 | alive | good |
| | 2019 | | | | | |
| SAGR30 | 2018 | good | 467743 | 3544055 | alive | good |
| | 2019 | good | | | | |
| SAGR31 | 2018 | good | 467753 | 3544027 | alive | good |
| | 2019 | good | | | alive | good |
| SAGR32 | 2018 | good | 467749 | 3544022 | alive | good |
| | 2019 | good | | | alive | good |
| SAGR33 | 2018 | good | 467757 | 3544038 | alive | good |
| | 2019 | good | | | alive | good |
| SAGR34 | 2018 | good | 467714 | 3544001 | alive | good |
| | 2019 | good | | | alive | good |
| SAGR35 | 2018 | good | 467709 | 3543997 | alive | good |
| | 2019 | good | | | alive | good |
| SAGR36 | 2018 | good | 467708 | 3543995 | alive | good |
| | 2019 | good | | | alive | good |
| SAGR37 | 2018 | good | 467616 | 3543787 | alive | good |
| | 2019 | good | | | alive | good |
| SAGR38 | 2018 | good | 467618 | 3543795 | alive | good |
| | 2019 | good | | | alive | good |
| SAGR39 | 2018 | good | 467612 | 3543785 | alive | good |
| | 2019 | good | | | alive | good |
| SAGR4 | 2018 | good | 484222 | 3561025 | alive | good |
| | 2019 | fair | | | alive | good |
| SAG40 | 2018 | good | 467356 | 3543332 | alive | good |
| | 2019 | good | | | alive | good |
| SAGR41 | 2018 | good | 467352 | 3543329 | alive | good |
| | 2019 | good | | | alive | good |
| SAGR42 | 2018 | good | 467352 | 3543328 | alive | good |
| | 2019 | good | | | alive | good |
| SAGR43 | 2018 | fair | 467319 | 3543319 | alive | fair |
| | 2019 | fair | | | alive | good |
| SAGR44 | 2018 | fair | 467319 | 3543316 | alive | good |
| | 2019 | good | | | alive | good |
| SAGR45 | 2018 | good | 467315 | 3543310 | alive | good |
| | 2019 | good | | | alive | good |
| SAGR46 | 2018 | good | 467332 | 3543287 | alive | good |
| | 2019 | good | | | alive | good |

| SWCA ID (Plant ID) | Year | Overall Health | Location (UTM NAD 83) | | Alive or Dead | Comparison Off-ROW |
|---|---|---|---|---|---|---|
| | | | Easting | Northing | | |
| SAGR47 | 2018 | good | 467331 | 3543282 | alive | good |
| | 2019 | good | | | alive | good |
| SAGR48 | 2018 | good | 467330 | 3543282 | alive | good |
| | 2019 | good | | | alive | good |
| SAGR49 | 2018 | good | 467182 | 3543066 | alive | good |
| | 2019 | good | | | alive | good |
| SAGR5 | 2018 | dead | 484217 | 3561016 | dead | N/A* |
| | 2019 | dead | | | dead | N/A* |
| SAGR50 | 2018 | good | 467186 | 3543061 | alive | good |
| | 2019 | good | | | alive | good |
| SAGR51 | 2018 | good | 467182 | 3543061 | alive | good |
| | 2019 | good | | | alive | good |
| SAGR52 | 2018 | good | 467103 | 3543018 | alive | good |
| | 2019 | good | | | alive | good |
| SAGR53 | 2018 | good | 467102 | 3543014 | alive | good |
| | 2019 | good | | | alive | good |
| SAGR54 | 2018 | good | 467098 | 3543011 | alive | good |
| | 2019 | good | | | alive | good |
| SAGR55 | 2018 | good | 467010 | 3542771 | alive | good |
| | 2019 | good | | | alive | good |
| SAGR56 | 2018 | good | 467011 | 3542767 | alive | good |
| | 2019 | good | | | alive | good |
| SAGR57 | 2018 | good | 467003 | 3542764 | alive | good |
| | 2019 | good | | | alive | good |
| SAGR58 | 2018 | good | 466910 | 3542553 | alive | good |
| | 2019 | good | | | alive | good |
| SAGR59 | 2018 | good | 466902 | 3542533 | alive | good |
| | 2019 | good | | | alive | good |
| SAGR6 | 2018 | - | 484210 | 3561012 | not found | - |
| | 2019 | - | | | not found** | - |
| SAGR60 | 2018 | good | 466906 | 3542549 | alive | good |
| | 2019 | good | | | alive | good |
| SAGR7 | 2018 | good | 484170 | 3560923 | alive | good |
| | 2019 | fair | | | alive | good |
| SAGR8 | 2018 | good | 484163 | 3560919 | alive | good |
| | 2019 | good | | | alive | good |

* A relative health comparison to off-ROW saguaros was not made for dead plants.

** This individual is presumed dead because it was found in 2015 and 2016, and its known location occurs within an unauthorized OHV track.

**Table L-7. Saguaro Data Comparison, 2018 and 2019**

| SWCA ID (Plant ID) | Year | Overall Health | Location (UTM NAD 83) | | Alive or Dead | Comparison Off-ROW |
|---|---|---|---|---|---|---|
| | | | Easting | Northing | | |
| SAG Bopp 001† | 2018 | good | 483951 | 3559877 | alive | good |
| | 2019 | good | | | alive | good |
| SAG Bopp 002† | 2018 | good | 483895 | 3559754 | alive | good |
| | 2019 | good | | | alive | good |
| SAG Bopp 003† | 2018 | good | 483926 | 3559769 | alive | good |
| | 2019 | good | | | alive | good |
| SAG Bopp 004† | 2018 | good | 483960 | 3559769 | alive | good |
| | 2019 | good | | | alive | good |
| SAG Bopp 005† | 2018 | good | 483946 | 3559774 | alive | good |
| | 2019 | good | | | alive | good |
| SAG Bopp 006† | 2018 | good | 483948 | 3559772 | alive | good |
| | 2019 | good | | | alive | good |
| SAG Bopp 007† | 2018 | good | 483960 | 3559752 | alive | good |
| | 2019 | good | | | alive | good |
| SAG Bopp 008† | 2018 | good | 483935 | 3559773 | alive | good |
| | 2019 | good | | | alive | good |
| SAG Bopp 009† | 2018 | good | 483985 | 3559845 | alive | good |
| | 2019 | good | | | alive | good |
| SAG Bopp 010† | 2018 | good | 483981 | 3559854 | alive | good |
| | 2019 | good | | | alive | good |
| SAG Bopp 011† | 2018 | dead | 483978 | 3559843 | dead | N/A* |
| | 2019 | dead | | | dead | N/A* |
| SAG5 | 2018 | good | 468258 | 354947 | alive | good |
| | 2019 | good | | | alive | good |
| SAG6 | 2018 | good | 468290 | 3545011 | alive | good |
| | 2019 | good | | | alive | good |
| SAG31 | 2018 | good | 467776 | 3544077 | alive | good |
| | 2019 | good | | | alive | good |
| SAG205 | 2018 | dead | 469674 | 3542422 | dead | N/A* |
| | 2019 | dead | | | dead | N/A* |
| SAG9-16-1 | 2018 | good | 464675 | 3538756 | alive | good |
| | 2019 | good | | | alive | good |
| SAG9-16-2 | 2018 | good | 464179 | 3537892 | alive | good |
| | 2019 | good | | | alive | good |
| SAG9-16-3 | 2018 | good | 463081 | 3537175 | alive | good |
| | 2019 | good | | | alive | good |
| SAGN10 | 2018 | good | 467830 | 3544150 | alive | good |
| | 2019 | good | | | alive | good |

| SWCA ID (Plant ID) | Year | Overall Health | Location (UTM NAD 83) | | Alive or Dead | Comparison Off-ROW |
|---|---|---|---|---|---|---|
| | | | Easting | Northing | | |
| SAGN11 | 2018 | good | 467743 | 3544017 | alive | good |
| | 2019 | good | | | alive | good |
| SAGN12 | 2018 | good | 467372 | 3543406 | alive | good |
| | 2019 | good | | | alive | good |
| SAG10/16-1 | 2018 | dead | 466121 | 3541234 | dead | N/A* |
| | 2019 | dead | | | dead | N/A* |
| SAG34B | 2018 | good | 467876 | 3544281 | alive | good |
| | 2019 | good | | | alive | good |
| SAGR9 | 2018 | poor | 484161 | 3560914 | alive | good |
| | 2019 | dead | | | dead | N/A* |
| SAG104 | 2018 | dead | 464848 | 3539008 | dead | N/A* |
| | 2019 | dead | | | dead | N/A* |
| SAG170 | 2018 | dead | 463495 | 3536326 | dead | N/A* |
| | 2019 | dead | | | dead | N/A* |
| SAG316 | 2018 | good | 466207 | 3541334 | alive | good |
| | 2019 | good | | | alive | good |
| SAG 8/1-1 | 2018 | dead | 464637 | 3538645 | dead | N/A* |
| | 2019 | dead | | | dead | N/A* |

* A relative health comparison to off-ROW saguaros was not made for dead plants.

** No saguaros occurred off-ROW for the control comparison.

† Original transplant.



SAG Bopp 001 2018



SAG Bopp 001 2019



SAG Bopp 002 2018



SAG Bopp 002 2019



SAG Bopp 003 2018



SAG Bopp 003 2019




SAG Bopp 004 2018



SAG Bopp 004 2019




SAG Bopp 005 2018



SAG Bopp 005 2019




SAG Bopp 006 2018



SAG Bopp 006 2019



SAG Bopp 007 2018



SAG Bopp 007 2019



SAG Bopp 008 2018



SAG Bopp 008 2019




SAG Bopp 009 2018



SAG Bopp 009 2019




SAG Bopp 010 2018



SAG Bopp 010 2019




SAG 5 2018




SAG 5 2019




SAG 6 2018




SAG 6 2019




SAG 31 2018



SAG 31 2019




SAG 9/16-1 2018



SAG 9/16-1 2019




SAG 9/16-2 2018




SAG 9/16-2 2019




SAG 9/16-3 2018



SAG 9/16-3 2019




SAG N10 2018



SAG N10 2019




SAG N11 2018



SAG N11 2019




SAG N12 2018



SAG N12 2019




SAG 34B 2018



SAG 34B 2019




SAG R9 2018




SAG R9 2019



SAG 316 2018



SAG 316 2019

# APPENDIX M

## Palmer’s Century Plant Database Fall 2019

**Table M-1. *Agave palmeri*, 2018 and 2019 Comparison**

| SWCA Group ID | Year | No. Alive | No. Dead | Location (UTM NAD 83) | | Condition of Alive | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Easting | Northing | Good | Fair | Poor |
| Group 1 | 2018 | 7 | 3 | 445255 | 3488776 | 3 | 4 | 0 |
| | 2019 | 6 | 4 | | | 6 | 0 | 0 |
| Group 2 | 2018 | 4 | 6 | 445303 | 3488755 | 1 | 3 | 0 |
| | 2019 | 4 | 6 | | | 3 | 0 | 1 |
| Group 3 | 2018 | 2 | 8 | 445300 | 3488680 | 2 | 0 | 0 |
| | 2019 | 4 | 7 | | | 4 | 0 | 0 |
| Group 4 | 2018 | 4 | 6 | 445329 | 3488637 | 2 | 1 | 1 |
| | 2019 | 3 | 7 | | | 2 | 1 | 0 |
| Group 5 | 2018 | 6 | 4 | 445305 | 3488597 | 5 | 1 | 0 |
| | 2019 | 4 | 6 | | | 3 | 1 | 0 |
| Group 6 | 2018 | 3 | 8 | 445396 | 3488439 | 2 | 0 | 1 |
| | 2019 | 2 | 9 | | | 2 | 0 | 0 |
| Group 7 | 2018 | 8 | 7 | 445467 | 3488406 | 6 | 2 | 0 |
| | 2019 | 9 | 5 | | | 8 | 1 | 0 |
| Group 8 | 2018 | 9 | 3 | 445517 | 3488349 | 8 | 1 | 0 |
| | 2019 | 9 | 3 | | | 8 | 1 | 0 |
| Group 9 | 2018 | 6 | 9 | 445488 | 3488232 | 3 | 3 | 0 |
| | 2019 | 5 | 10 | | | 5 | 0 | 0 |
| Group 10 | 2018 | 8 | 7 | 445474 | 3488172 | 4 | 3 | 1 |
| | 2019 | 6 | 6 | | | 4 | 1 | 1 |
| Group 11 | 2018 | 7 | 8 | 445493 | 3488151 | 6 | 1 | 0 |
| | 2019 | 7 | 7 | | | 6 | 1 | 0 |
| Group 12 | 2018 | 10 | 5 | 445453 | 3488090 | 7 | 3 | 0 |
| | 2019 | 6 | 6 | | | 6 | 0 | 0 |
| Group 13 | 2018 | 7 | 4 | 445432 | 3488024 | 5 | 2 | 0 |
| | 2019 | 5 | 5 | | | 4 | 1 | 0 |

| SWCA Group ID | Year | No. Alive | No. Dead | Location (UTM NAD 83) | | Condition of Alive | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Easting | Northing | Good | Fair | Poor |
| Group 14 | 2018 | 4 | 9 | 445472 | 3488015 | 4 | 0 | 0 |
| | 2019 | 4 | 6 | | | 2 | 2 | 0 |
| Group 15 | 2018 | 4 | 9 | 445452 | 3488003 | 3 | 1 | 0 |
| | 2019 | 2 | 11 | | | 2 | 0 | 0 |
| Group 16 | 2018 | 3 | 2 | 445504 | 3487906 | 1 | 1 | 1 |
| | 2019 | 1 | 4 | | | 0 | 1 | 0 |
| Group 17 | 2018 | 4 | 6 | 445502 | 3487957 | 3 | 0 | 1 |
| | 2019 | 3 | 5 | | | 3 | 0 | 0 |
| Group 18 | 2018 | 4 | 6 | 445487 | 3487947 | 3 | 1 | 0 |
| | 2019 | 2 | 7 | | | 2 | 0 | 0 |
| Group 19 | 2018 | 6 | 9 | 445527 | 3487942 | 4 | 1 | 1 |
| | 2019 | 4 | 11 | | | 2 | 2 | 0 |
| Group 20 | 2018 | 1 | 6 | 445489 | 3487923 | 0 | 1 | 0 |
| | 2019 | 2 | 5 | | | 0 | 2 | 0 |
| Group 21 | 2018 | 8 | 3 | 445507 | 3487891 | 8 | 0 | 0 |
| | 2019 | 4 | 7 | | | 4 | 0 | 0 |
| Group 22 | 2018 | 5 | 0 | 445543 | 3487866 | 4 | 1 | 0 |
| | 2019 | 4 | 2 | | | 4 | 0 | 0 |
| Group 23 | 2018 | 5 | 5 | 445523 | 3487859 | 5 | 0 | 0 |
| | 2019 | 5 | 3 | | | 4 | 1 | 0 |
| Group 24 | 2018 | 10 | 0 | 445568 | 3487807 | 7 | 2 | 1 |
| | 2019 | 5 | 5 | | | 5 | 0 | 0 |
| Group 25 | 2018 | 5 | 0 | 445544 | 3487789 | 4 | 0 | 1 |
| | 2019 | 5 | 0 | | | 4 | 1 | 0 |
| Group 26 | 2018 | 6 | 3 | 445552 | 3487756 | 1 | 4 | 1 |
| | 2019 | 5 | 2 | | | 3 | 1 | 1 |
| Group 27 | 2018 | 7 | 0 | 445581 | 3487751 | 5 | 1 | 1 |
| | 2019 | 6 | 2 | | | 6 | 0 | 0 |

| SWCA Group ID | Year | No. Alive | No. Dead | Location (UTM NAD 83) | | Condition of Alive | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Easting | Northing | Good | Fair | Poor |
| Group 28 | 2018 | 5 | 6 | 445568 | 3487727 | 3 | 1 | 1 |
| | 2019 | 2 | 6 | | | 1 | 0 | 1 |
| Group 29 | 2018 | 3 | 5 | 445587 | 3487694 | 1 | 0 | 2 |
| | 2019 | 1 | 6 | | | 1 | 0 | 0 |
| Group 30 | 2018 | 6 | 4 | 445620 | 3487680 | 5 | 1 | 0 |
| | 2019 | 7 | 2 | | | 6 | 1 | 0 |
| Group 31 | 2018 | 3 | 4 | 445597 | 3487640 | 1 | 2 | 0 |
| | 2019 | 3 | 2 | | | 2 | 1 | 0 |
| Group 32 | 2018 | 6 | 4 | 445632 | 3487635 | 6 | 0 | 0 |
| | 2019 | 7 | 1 | | | 7 | 0 | 0 |
| Group 33 | 2018 | 0 | 0 | 445612 | 3487589 | 0 | 0 | 0 |
| | 2019 | 0 | 0 | | | 0 | 0 | 0 |
| Group 34 | 2018 | 4 | 0 | 445641 | 3487557 | 3 | 1 | 0 |
| | 2019 | 4 | 1 | | | 4 | 0 | 0 |
| Group 35 | 2018 | 5 | 4 | 445614 | 3487513 | 4 | 1 | 0 |
| | 2019 | 5 | 1 | | | 5 | 0 | 0 |
| Group 36 | 2018 | 4 | 5 | 445642 | 3487513 | 0 | 2 | 2 |
| | 2019 | 5 | 4 | | | 4 | 1 | 0 |
| Group 37 | 2018 | 3 | 4 | 445651 | 3487473 | 2 | 1 | 0 |
| | 2019 | 3 | 4 | | | 2 | 1 | 0 |
| Group 38 | 2018 | 5 | 3 | 445620 | 3487451 | 4 | 1 | 0 |
| | 2019 | 5 | 3 | | | 5 | 0 | 0 |
| Group 39 | 2018 | 9 | 2 | 445657 | 3487442 | 6 | 3 | 0 |
| | 2019 | 7 | 4 | | | 7 | 0 | 0 |
| Group 40 | 2018 | 5 | 1 | 445629 | 3487400 | 4 | 1 | 0 |
| | 2019 | 5 | 2 | | | 4 | 1 | 0 |
| Group 41 | 2018* | - | - | 445412 | 348680 | - | - | - |
| | 2019* | - | - | | | - | - | - |

* Group 41 plants are all now dead, therefore, no information was collected.




Group 1. 2018




Group 1. 2019




Group 2. 2018




Group 2. 2019




Group 3. 2018




Group 3. 2019




Group 4. 2018




Group 4. 2019




Group 5. 2018



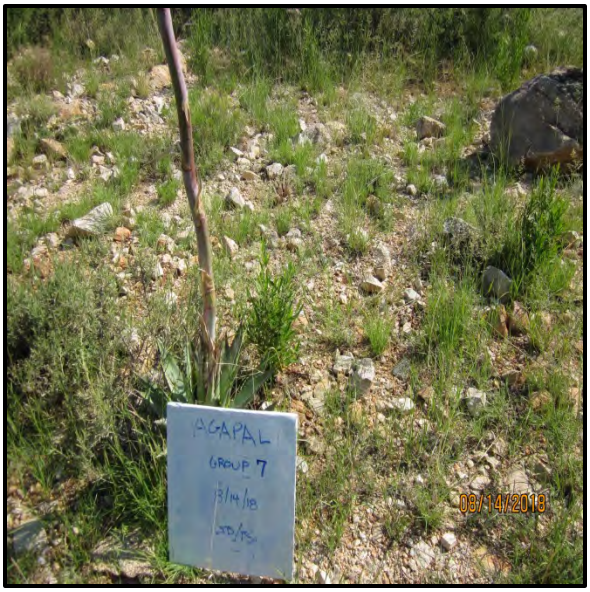

Group 5. 2019




Group 6. 2018




Group 6. 2019




Group 7. 2018




Group 7. 2019




Group 8. 2018




Group 8. 2019




Group 9. 2018




Group 9. 2019




Group 10. 2018




Group 10. 2019




Group 11. 2018




Group 11. 2019




Group 12. 2018




Group 12. 2019




Group 13. 2018




Group 13. 2019




Group 14. 2018




Group 14. 2019




Group 15. 2018




Group 15. 2019




Group 16. 2018




Group 16. 2019




Group 17. 2018




Group 17. 2019




Group 18. 2018




Group 18. 2019




Group 19. 2018




Group 19. 2019




Group 20. 2018




Group 20. 2019




Group 21. 2018



Group 21. 2019




Group 22. 2018




Group 22. 2019




Group 23. 2018




Group 23. 2019




Group 24. 2018



Group 24. 2019




Group 25. 2018




Group 25. 2019




Group 26. 2018




Group 26. 2019




Group 27. 2018




Group 27. 2019




Group 28. 2018




Group 28. 2019




Group 29. 2018




Group 29. 2019




Group 30. 2018




Group 30. 2019




Group 31. 2018




Group 31. 2019




Group 32. 2018




Group 32. 2019

Group 33. 2018 – No photo available




Group 33. 2019



Group 34. 2018




Group 34. 2019



Group 35. 2018




Group 35. 2019



Group 36. 2018




Group 36. 2019



Group 37. 2018




Group 37. 2019



Group 38. 2018




Group 38. 2019



Group 39. 2018




Group 39. 2019



Group 40. 2018




Group 40. 2019

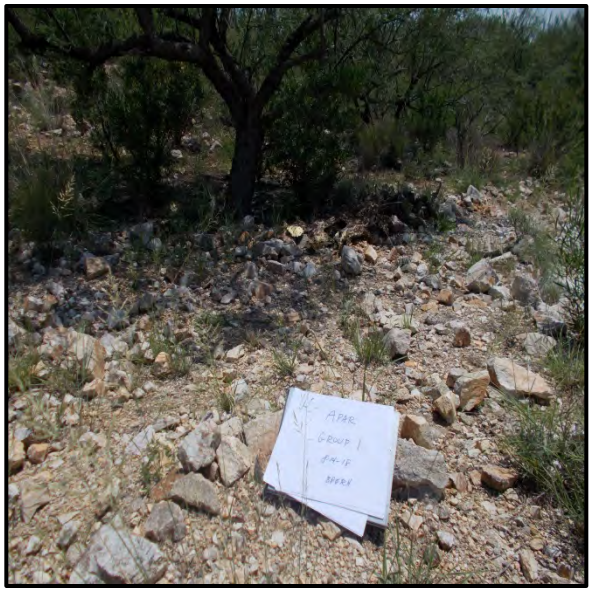
# APPENDIX N

## Smallflower Century Plant Database Fall 2019

**Table N-1. *Agave parviflora*, 2018 and 2019 Comparison**

| SWCA Group ID | Year | No. Alive | No. Dead | Location (UTM NAD 83) | | Overall Health | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Easting | Northing | Good | Fair | Poor |
| Group 1 | 2018 | 2 | 13 | 445338 | 3486935 | 2 | 0 | 0 |
| | 2019 | 2 | 0 | | | 2 | 0 | 0 |
| Group 2 | 2018 | 1 | 9 | 445345 | 3486911 | 1 | 0 | 0 |
| | 2019 | 1 | 1 | | | 1 | 0 | 0 |
| Group 3 | 2018 | 4 | 15 | 445318 | 3486905 | 2 | 2 | 0 |
| | 2019 | 2 | 0 | | | 2 | 0 | 0 |
| Group 4 | 2018 | 1 | 19 | 445348 | 3486897 | 1 | 0 | 0 |
| | 2019 | 2 | 0 | | | 2 | 0 | 0 |
| Group 5 | 2018 | 2 | 8 | 445322 | 3486868 | 2 | 0 | 0 |
| | 2019 | 2 | 0 | | | 2 | 0 | 0 |
| Group 6 | 2018 | 2 | 8 | 445355 | 3486862 | 0 | 2 | 0 |
| | 2019 | 2 | 0 | | | 2 | 0 | 0 |
| Group 7 | 2018 | 1 | 9 | 445322 | 3486859 | 0 | 1 | 0 |
| | 2019 | 0 | 2 | | | 0 | 0 | 0 |
| Group 8 | 2018 | 6 | 4 | 445329 | 3486837 | 6 | 0 | 0 |
| | 2019 | 5 | 0 | | | 5 | 0 | 0 |
| Group 9 | 2018 | 4 | 16 | 445333 | 3486809 | 2 | 2 | 0 |
| | 2019 | 6 | 1 | | | 6 | 0 | 0 |
| Group 10 | 2018 | 3 | 12 | 445370 | 3486793 | 3 | 0 | 0 |
| | 2019 | 3 | 0 | | | 3 | 0 | 0 |
| Group 11 | 2018 | 6 | 9 | 445340 | 3486783 | 6 | 0 | 0 |
| | 2019 | 6 | 0 | | | 6 | 0 | 0 |
| Group 12 | 2018 | 2 | 8 | 445374 | 3486771 | 1 | 1 | 0 |
| | 2019 | 0 | 0 | | | 0 | 0 | 0 |
| Group 13 | 2018 | 2 | 8 | 445344 | 3486771 | 2 | 0 | 0 |
| | 2019 | 1 | 1 | | | 1 | 0 | 0 |
| Group 14 | 2018 | 6 | 14 | 445391 | 3486730 | 6 | 0 | 0 |
| | 2019 | 6 | 1 | | | 5 | 1 | 0 |
| Group 15 | 2018 | 9 | 12 | 445353 | 3486730 | 7 | 2 | 0 |
| | 2019 | 9 | 1 | | | 9 | 0 | 0 |
| Group 16 | 2018 | 7 | 17 | 445401 | 3486692 | 4 | 3 | 0 |
| | 2019 | 9 | 1 | | | 8 | 0 | 1 |
| Group 17 | 2018 | 1 | 4 | 445422 | 3486562 | 1 | 0 | 0 |
| | 2019 | 1 | 0 | | | 1 | 0 | 0 |
| Group 18 | 2018 | 1 | 4 | 445424 | 3486540 | 1 | 0 | 0 |
| | 2019 | 1 | 0 | | | 1 | 0 | 0 |

| SWCA Group ID | Year | No. Alive | No. Dead | Location (UTM NAD 83) | | Overall Health | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Easting | Northing | Good | Fair | Poor |
| Group 19 | 2018 | 5 | 5 | 445428 | 3486531 | 5 | 0 | 0 |
| | 2019 | 5 | 0 | | | 4 | 0 | 1 |
| Group 20 | 2018 | 0 | 15 | 445400 | 3486527 | 0 | 0 | 0 |
| | 2019 | 0 | 0 | | | 0 | 0 | 0 |
| Group 21 | 2018 | 7 | 8 | 445430 | 3486516 | 5 | 2 | 0 |
| | 2019 | 0 | 0 | | | 0 | 0 | 0 |
| Group 22 | 2018 | 0 | 5 | 445408 | 3486491 | 0 | 0 | 0 |
| | 2019 | 0 | 0 | | | 0 | 0 | 0 |
| Group 23 | 2018 | 1 | 8 | 445412 | 3486479 | 1 | 0 | 0 |
| | 2019 | 2 | 0 | | | 2 | 0 | 0 |
| Group 24 | 2018 | 3 | 7 | 445440 | 3486469 | 3 | 0 | 0 |
| | 2019 | 3 | 0 | | | 3 | 0 | 0 |
| Group 25 | 2018 | 3 | 5 | 445417 | 3486458 | 3 | 0 | 0 |
| | 2019 | 3 | 0 | | | 3 | 0 | 0 |
| Group 26 | 2018 | 1 | 9 | 445417 | 3486451 | 1 | 0 | 0 |
| | 2019 | 1 | 0 | | | 1 | 0 | 0 |
| Group 27 | 2018 | 0 | 9 | 445424 | 3486420 | 0 | 0 | 0 |
| | 2019 | 0 | 0 | | | 0 | 0 | 0 |
| Group 28 | 2018 | 0 | 1 | 445418 | 3486420 | 0 | 0 | 0 |
| | 2019 | 0 | 0 | | | 0 | 0 | 0 |
| Group 29 | 2018 | 1 | 10 | 445636 | 3484640 | 1 | 0 | 0 |
| | 2019 | 1 | 0 | | | 1 | 0 | 0 |
| Group 30 | 2018 | 0 | 13 | 445610 | 3484628 | 0 | 0 | 0 |
| | 2019 | 0 | 0 | | | 0 | 0 | 0 |
| Group 31 | 2018 | 0 | 10 | 445665 | 3484617 | 0 | 0 | 0 |
| | 2019 | 0 | 0 | | | 0 | 0 | 0 |
| Group 32 | 2018 | 0 | 21 | 445608 | 3484606 | 0 | 0 | 0 |
| | 2019 | 0 | 0 | | | 0 | 0 | 0 |
| Group 33 | 2018 | 1 | 10 | 445635 | 3484591 | 1 | 0 | 0 |
| | 2019 | 1 | 0 | | | 1 | 0 | 0 |
| Group 34 | 2018 | 0 | 16 | 445609 | 3484559 | 0 | 0 | 0 |
| | 2019 | 0 | 0 | | | 0 | 0 | 0 |
| Group 35 | 2018 | 7 | 4 | 445636 | 3484528 | 7 | 0 | 0 |
| | 2019 | 9 | 1 | | | 8 | 1 | 0 |
| Group 36 | 2018 | 4 | 2 | 445395 | 3486705 | 3 | 1 | 0 |
| | 2019 | 0 | 0 | | | 0 | 0 | 0 |



Group 1. 2018




Group 1. 2019



Group 2. 2018




Group 2. 2019




Group 3. 2018




Group 3. 2019




Group 4. 2018




Group 4. 2019




Group 5. 2018




Group 5. 2019




Group 6. 2018




Group 6. 2019




Group 7. 2018




Group 7. 2019



Group 8. 2018




Group 8. 2019



Group 9. 2018




Group 9. 2019



Group 10. 2018




Group 10. 2019



Group 11. 2018




Group 11. 2019



Group 12. 2018



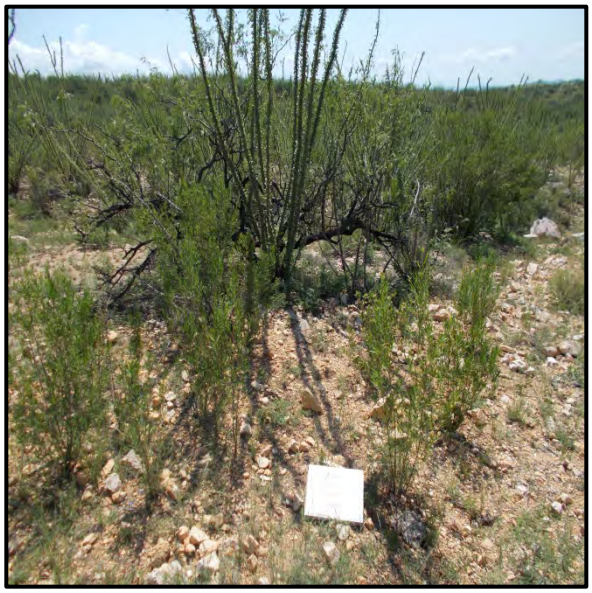

Group 12. 2019



Group 13. 2018




Group 13. 2019



Group 14. 2018




Group 14. 2019



Group 15. 2018




Group 15. 2019



Group 16. 2018




Group 16. 2019



Group 17. 2018




Group 17. 2019



Group 18. 2018




Group 18. 2019



Group 19. 2018




Group 19. 2019



Group 20. 2018




Group 20. 2019



Group 21. 2018




Group 21. 2019




Group 22. 2018




Group 22. 2019



Group 23. 2018




Group 23. 2019



Group 24. 2018




Group 24. 2019



Group 25. 2018



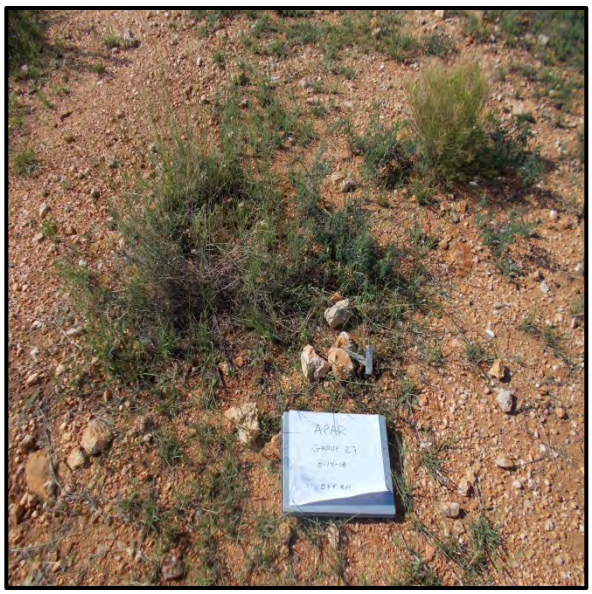

Group 25. 2019



Group 26. 2018



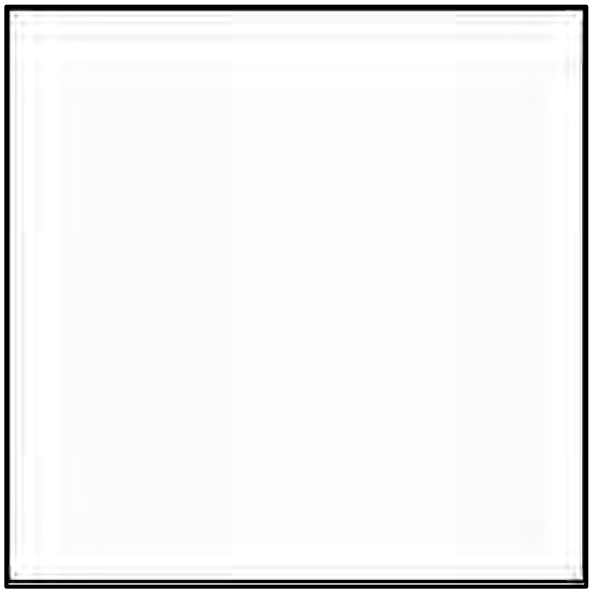

Group 26. 2019



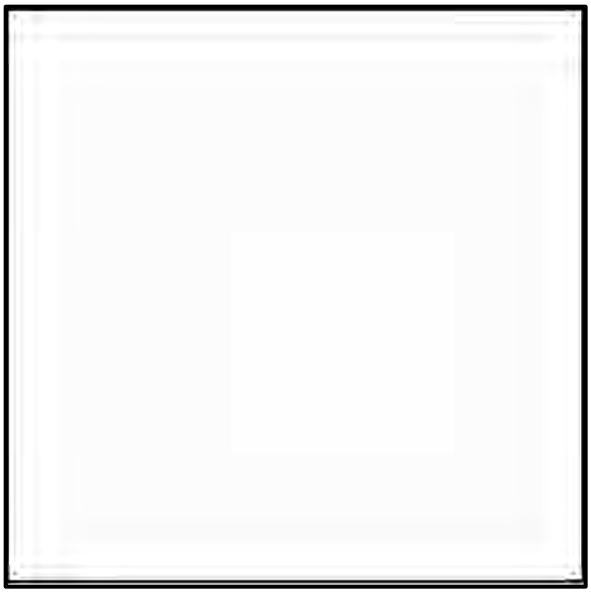
Group 27. 2018



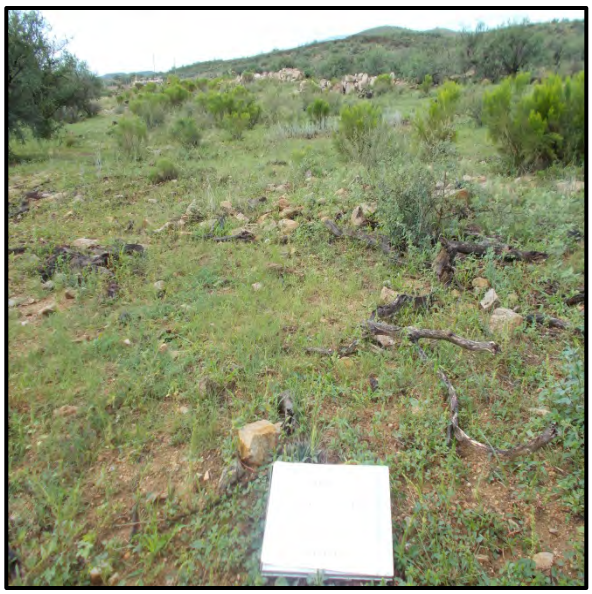

Group 27. 2019



Group 28. 2018 – Photo unavailable



Group 28. 2019 – Photo unavailable



Group 29. 2018



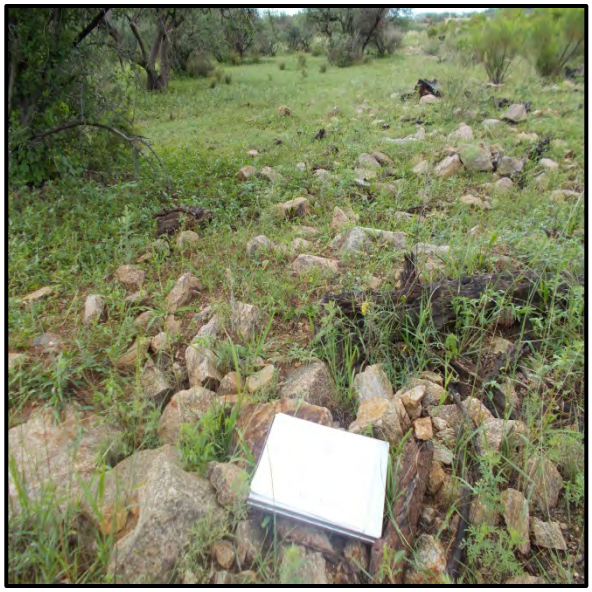

Group 29. 2019



Group 30. 2018




Group 30. 2019



Group 31. 2018




Group 31. 2019



Group 32. 2018




Group 32. 2019




Group 33. 2018




Group 33. 2019




Group 34. 2018




Group 34. 2019




Group 35. 2018




Group 35. 2019



Group 36. 2018

Group 36. 2019 – Photo Unavailable

# APPENDIX O

## Noxious Weed Database Fall 2019

| Site ID | Date | Waypoint | Weed Species Code | Infestation location--Easting | Infestation location--Northing | Number of Plants | ROW Cover Class | OFF-ROW Cover Class | Grazing Class | OHV Travel Class | Pedestrian Travel Class | Treatment? | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AWA-1 | 10/11/2019 | 704 | PENCIL | 483892 | 3558982 | 2 | 1 | 1 | 1 | 2 | 2 | | |
| AWA-1 | 10/11/2019 | 48 | PENCIL | 483886 | 3558856 | 1 | 1 | 1 | 1 | 3 | 3 | | |
| AWA-1 | 10/11/2019 | 49 | PENCIL | 483885 | 3558915 | 1 | 1 | 2 | 1 | 3 | 2 | | |
| AWA-1 | 10/11/2019 | 50 | PENCIL | 483870 | 3559051 | 3 | 1 | 1 | 1 | 3 | 2 | | |
| AWA-1 | 10/11/2019 | 51 | PENCIL | 483875 | 3559093 | 4 | 1 | 1 | 1 | 3 | 2 | | |
| AWA-1 | 10/11/2019 | 52 | PENCIL | 483870 | 3559108 | 2 | 1 | 3 | 1 | 3 | 2 | | |
| AWA-1 | 10/17/2019 | 61 | PENCIL | 483896 | 3558452 | 38 | 3 | 5 | 1 | 1 | 1 | | |
| AWA-1 Staging Yard | 10/7/2019 | 702 | PENCIL | 483901 | 3559792 | 41 | 3 | 1 | 1 | 3 | 2 | | |
| AWA-1 Staging Yard | 10/8/2019 | 703 | PENCIL | 483805 | 3559600 | 125 and 500+ est. | 6 | 1 | 1 | 3 | 2 | | |
| AWA-2 | 10/3/2019 | 30 | PENCIL | 484042 | 3560258 | 221 | 6 | 6 | 1 | 2 | 2 | | |
| AWA-2 | 10/3/2019 | 31 | PENCIL | 484052 | 3560417 | 45 | 3 | 6 | 1 | 2 | 3 | | |
| AWA-2 | 10/3/2019 | 32 | PENCIL | 484074 | 3560486 | 7 | 2 | 1 | 1 | 3 | 4 | | |
| AWA-2 | 10/3/2019 | 33 | PENCIL | 484078 | 3560566 | 500+ est. | 6 | 6 | 1 | 3 | 4 | | |
| AWA-3 | 9/30/2019 | 688 | PENCIL | 478492 | 3552671 | 1 | 1 | 2 | 1 | 3 | 2 | | |
| AWA-4 | 10/2/2019 | 24 | PENCIL | 474821 | 3550940 | 2 | 1 | 5 | 1 | 3 | 4 | | |
| AWA-4 | 10/9/2019 | 38 | PENCIL | 475446 | 3551236 | 19 | 2 | 6 | 1 | 4 | 4 | | |
| AWA-4 | 10/9/2019 | 39 | PENCIL | 475543 | 3551267 | 14 | 2 | 6 | 1 | 4 | 3 | | |
| AWA-4 | 10/9/2019 | 40 | PENCIL | 476088 | 3551525 | 300+ est. | 6 | 6 | 1 | 4 | 2 | | |
| AWA-4 | 10/9/2019 | 41 | PENCIL | 476156 | 3551556 | 24 | 2 | 6 | 1 | 3 | 2 | | |
| AWA-4 | 10/9/2019 | 42 | PENCIL | 476192 | 3551582 | 300+ est. | 6 | 6 | 1 | 2 | 2 | | |
| AWA-4 | 10/9/2019 | 43 | PENCIL | 476277 | 3551603 | 22 | 2 | 6 | 1 | 3 | 2 | | |
| AWA-5 | 10/10/2019 | | | | | | | | | | | | No Plants Found |
| AWA-6 | 10/23/2019 | 707 | PENCIL | 469380 | 3546832 | 2 | 1 | 1 | 1 | 2 | 2 | | |
| AWA-6 | 10/23/2019 | 708 | PENCIL | 469174 | 3546465 | 5 | 1 | 1 | 1 | 1 | 1 | | |
| AWA-6 | 10/23/2019 | 709 | PENCIL | 469003 | 3546227 | 1 | 1 | 1 | 1 | 1 | 1 | | |
| AWA-6 | 10/23/2019 | 710 | PENCIL | 468915 | 3546102 | 1 | 1 | 1 | 1 | 1 | 1 | | |
| AWA-6 | 10/23/2019 | 711 | PENCIL | 468479 | 3545343 | 76 | 4 | 4 | 1 | 1 | 1 | | |
| AWA-6 | 10/23/2019 | 712 | PENCIL | 468277 | 3544974 | 3 | 1 | 2 | 1 | 1 | 1 | | |
| AWA-6 | 10/23/2019 | 713 | PENCIL | 468209 | 3544831 | 4 | 1 | 1 | 1 | 1 | 1 | | |

| Site ID | Date | Waypoint | Weed Species Code | Infestation location--Easting | Infestation location--Northing | Number of Plants | ROW Cover Class | OFF-ROW Cover Class | Grazing Class | OHV Travel Class | Pedestrian Travel Class | Treatment? | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AWA-6 | 10/23/2019 | 714 | PENCIL | 467591 | 3543766 | 24 | 2 | 2 | 1 | 1 | 1 | | |
| AWA-7 | 10/22/2019 | 705 | PENCIL | 467140 | 3543036 | 10 | 2 | 4 | 2 | 1 | 1 | | |
| AWA-7 | 10/22/2019 | 706 | PENCIL | 466659 | 3542166 | 6 | 1 | 1 | 2 | 1 | 1 | | |
| AWA-8 | 10/1/2019 | 15 | PENCIL | 457352 | 3520067 | 2 | 1 | 1 | 4 | 1 | 1 | | |
| AWA-8 | 10/1/2019 | 16 | PENCIL | 457272 | 3520023 | 5 | 1 | 1 | 4 | 1 | 1 | | |
| AWA-8 | 10/1/2019 | 17 | PENCIL | 457205 | 3519982 | 5 | 1 | 1 | 4 | 1 | 1 | | |
| AWA-8 | 10/1/2019 | 18 | PENCIL | 457079 | 3519917 | 1 | 1 | 3 | 4 | 1 | 1 | | |
| AWA-8 | 10/1/2019 | 19 | PENCIL | 456993 | 3519864 | 2 | 1 | 1 | 4 | 1 | 1 | | |
| AWA-8 | 10/1/2019 | 20 | PENCIL | 456996 | 3519595 | 7 | 2 | 6 | 4 | 1 | 1 | | |
| AWA-8 | 10/1/2019 | 21 | PENCIL | 456998 | 3519322 | 7 | 2 | 6 | 4 | 2 | 1 | | |
| AWA-8 | 10/10/2019 | 44 | PENCIL | 458846 | 3520960 | 4 | 1 | 1 | 2 | 1 | 1 | | |
| AWA-8 | 10/10/2019 | 45 | PENCIL | 459139 | 3521120 | 2 | 1 | 4 | 2 | 1 | 1 | | |
| AWA-8 | 10/10/2019 | 46 | PENCIL | 459806 | 3521525 | 10 | 2 | 1 | 2 | 1 | 1 | | |
| AWA-8 | 10/10/2019 | 47 | PENCIL | 459888 | 3521575 | 2 | 1 | 1 | 2 | 1 | 1 | | |
| AWA-9 | 10/15/2019 | 57 | PENCIL | 463213 | 3526026 | 14 | 2 | 1 | 4 | 1 | 1 | | |
| AWA-10 | 10/16/2019 | 58 | PENCIL | 455173 | 3518733 | 2 | 1 | 1 | 3 | 1 | 1 | | |
| AWA-10 | 10/16/2019 | 59 | PENCIL | 456201 | 3518876 | 28 | 3 | 2 | 3 | 1 | 1 | | |
| AWA-10 | 10/16/2019 | 60 | PENCIL | 456471 | 3518876 | 220 | 6 | 6 | 3 | 1 | 1 | | |
| AWA-11 | 10/11/2019 | 54 | PENCIL | 482769 | 3558355 | 4 | 1 | 3 | 1 | 1 | 2 | | |
| AWA-12 | 10/14/2019 | 55 | PENCIL | 481164 | 3554410 | 1 | 1 | 1 | 1 | 1 | 2 | | |
| AWA-12 | 10/14/2019 | 56 | PENCIL | 481131 | 3554272 | 17 | 1 | 1 | 1 | 1 | 2 | | |
| AWA-12 | 9/30/2019 | 696 | PENCIL | 481209 | 3555188 | 17 | 2 | 1 | 1 | 2 | 2 | | |
| AWA-13 | 9/30/2019 | 10 | PENCIL | 478838 | 3552817 | 11 | 2 | 5 | 1 | 3 | 4 | | |
| AWA-13 | 9/30/2019 | 11 | PENCIL | 478976 | 3552886 | 80 | 5 | 6 | 1 | 2 | 3 | | |
| AWA-13 | 9/30/2019 | 12 | PENCIL | 479347 | 3553055 | 36 | 3 | 2 | 1 | 2 | 3 | | |
| AWA-13 | 9/30/2019 | 13 | PENCIL | 479377 | 3553076 | 8 | 2 | 2 | 1 | 2 | 2 | | |
| AWA-13 | 9/30/2019 | 14 | PENCIL | 479480 | 3553124 | 96 | 5 | 6 | 1 | 3 | 3 | | |
| AWA-13 | 10/1/2019 | 698 | PENCIL | 479511 | 3553121 | 81 | 5 | 1 | 1 | 3 | 2 | | |
| AWA-13 | 10/1/2019 | 699 | PENCIL | 479465 | 3553134 | 100 | 6 | 4 | 1 | 2 | 2 | | |
| HDWA-1 | 10/1/2019 | 697 | PENCIL | 480199 | 3553432 | 1 | 1 | 1 | 1 | 1 | 1 | | |
| HDWA-2 | 9/30/2019 | 687 | PENCIL | 478667 | 3552764 | 73 | 4 | 5 | 1 | 3 | 3 | | |

| Site ID | Date | Waypoint | Weed Species Code | Infestation location--Easting | Infestation location--Northing | Number of Plants | ROW Cover Class | OFF-ROW Cover Class | Grazing Class | OHV Travel Class | Pedestrian Travel Class | Treatment? | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HDWA-2 | 9/30/2019 | 9 | PENCIL | 478711 | 3552764 | 35 | 3 | 5 | 1 | 4 | 5 | | |
| HDWA-3 | 9/30/2019 | 689 | PENCIL | 478080 | 3552472 | 4 | 1 | 2 | 1 | 2 | 2 | | |
| HDWA-3 | 9/30/2019 | 690 | PENCIL | 477152 | 3552016 | 3 | 1 | 2 | 1 | 2 | 1 | | |
| HDWA-3 | 9/30/2019 | 691 | PENCIL | 476559 | 3551751 | 1 | 1 | 1 | 1 | 3 | 2 | | |
| HDWA-3 | 9/30/2019 | 692 | PENCIL | 477038 | 3551932 | 23 | 2 | 1 | 1 | 2 | 2 | | |
| HDWA-4 | 10/2/2019 | 25 | PENCIL | 473947 | 3550226 | 1 | 1 | 2 | 1 | 2 | 2 | | |
| HDWA-4 | 10/2/2019 | 26 | PENCIL | 473899 | 3550207 | 1 | 1 | 3 | 1 | 2 | 2 | | |
| HDWA-4 | 10/2/2019 | 27 | PENCIL | 473757 | 3550051 | 9 | 2 | 1 | 1 | 2 | 2 | | |
| HDWA-4 | 10/2/2019 | 28 | PENCIL | 473665 | 3549969 | 1 | 1 | 1 | 1 | 2 | 2 | | |
| HDWA-4 | 10/2/2019 | 29 | PENCIL | 472285 | 3548682 | 1 | 1 | 1 | 1 | 2 | 2 | | |
| HDWA-5 | 10/8/2019 | | | | | | | | | | | | No Plants Found |
| HDWA-6 | 10/8/2019 | | | | | | | | | | | | No Plants Found |
| HDWA-7 | 10/8/2019 | | | | | | | | | | | | No Plants Found |
| HDWA-8 | 10/8/2019 | | | | | | | | | | | | No Plants Found |
| HDWA-9 | 10/8/2019 | 33 | PENCIL | 463166 | 3528358 | 2 | 1 | 1 | 2 | 1 | 1 | | |
| HDWA-9 | 10/8/2019 | 34 | PENCIL | 463135 | 3528323 | 12 | 2 | 1 | 2 | 1 | 1 | | |
| HDWA-9 | 10/8/2019 | 36 | PENCIL | 463042 | 3527589 | 7 | 2 | 1 | 2 | 1 | 1 | | |
| HDWA-9 | 10/8/2019 | 37 | PENCIL | 463051 | 3527938 | 6 | 2 | 1 | 2 | 1 | 1 | | |
| HDWA-10 | 10/17/2019 | | | | | | | | | | | | No Plants Found |
| HDWA-11 | 10/1/2019 | 22 | PENCIL | 456796 | 3518868 | 4 | 1 | 1 | 3 | 1 | 1 | | |
| North of Sierrita Vista Rd | 10/28/2019 | 715 | PENCIL | 445654 | 3492462 | 2 | 1 | 1 | 2 | 1 | 1 | | |
| North of Sierrita Vista Rd | 10/28/2019 | 716 | PENCIL | 445659 | 3492705 | 1 | 1 | 1 | 2 | 1 | 1 | | |
| North of Sierrita Vista Rd | 10/28/2019 | 717 | PENCIL | 445654 | 3492869 | 95 | 5 | 1 | 2 | 1 | 1 | | |
| South of Presumido Rd | 10/29/2019 | 718 | PENCIL | 446017 | 3497702 | 1 | 1 | 1 | 3 | 1 | 1 | | |
| South of Presumido Rd | 10/30/2019 | 719 | PENCIL | 446318 | 3498327 | 5 | 1 | 1 | 3 | 1 | 1 | | |
| South of Presumido Rd | 10/30/2019 | 720 | PENCIL | 446321 | 3498309 | 165 | 6 | 1 | 3 | 1 | 1 | | |
| South of Presumido Rd | 10/30/2019 | 721 | PENCIL | 446352 | 3498383 | 106 | 6 | 1 | 3 | 1 | 1 | | |
| South of Presumido Rd | 10/30/2019 | 722 | PENCIL | 446353 | 3498379 | 25 | 2 | 1 | 3 | 1 | 1 | | |

| Site ID | Date | Waypoint | Weed Species Code | Infestation location--Easting | Infestation location--Northing | Number of Plants | ROW Cover Class | OFF-ROW Cover Class | Grazing Class | OHV Travel Class | Pedestrian Travel Class | Treatment? | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South of Presumido Rd | 10/30/2019 | 723 | PENCIL | 446493 | 3498634 | 163 | 6 | 1 | 3 | 1 | 1 | | |
| North of Presumido Rd | 10/30/2019 | 724 | PENCIL | 446959 | 3499516 | 25 | 2 | 1 | 3 | 1 | 1 | | |
| North of Presumido Rd | 10/30/2019 | 725 | PENCIL | 446845 | 3499293 | 27 | 3 | 1 | 3 | 1 | 1 | | |
| North of Presumido Rd | 10/30/2019 | 726 | PENCIL | 446750 | 3499113 | 2 | 1 | 1 | 3 | 1 | 1 | | |
| North of Presumido Rd | 10/30/2019 | 727 | PENCIL | 446752 | 3499116 | 34 | 3 | 1 | 3 | 1 | 1 | | |
| North of Presumido Rd | 10/30/2019 | 728 | PENCIL | 447230 | 3500020 | 26 | 3 | 1 | 3 | 1 | 1 | | |
| South of Santa Margartia Ranch Rd | 10/31/2019 | 729 | PENCIL | 447451 | 3500455 | 1 | 1 | 1 | 4 | 1 | 1 | | |
| South of Santa Margartia Ranch Rd | 10/31/2019 | 730 | PENCIL | 448161 | 3501721 | 28 | 2 | 1 | 4 | 1 | 1 | | |
| South of Santa Margartia Ranch Rd | 10/31/2019 | 731 | PENCIL | 448164 | 3501718 | 3 | 1 | 1 | 4 | 1 | 1 | | |
| South of Santa Margartia Ranch Rd | 10/31/2019 | 732 | PENCIL | 449000 | 3503208 | 12 | 2 | 1 | 4 | 1 | 1 | | |
| South of Santa Margartia Ranch Rd | 10/31/2019 | 733 | PENCIL | 448594 | 3502479 | 3 | 1 | 1 | 4 | 1 | 1 | | |
| North of Santa Margarita Ranch Rd | 11/4/2019 | 734 | PENCIL | 449594 | 3504412 | 96 | 6 | 1 | 5 | 1 | 1 | | |
| North of Santa Margarita Ranch Rd | 11/4/2019 | 735 | PENCIL | 450145 | 3506948 | 8 | 2 | 1 | 5 | 1 | 1 | | |
| North of Santa Margarita Ranch Rd | 11/4/2019 | 736 | PENCIL | 450207 | 3507171 | 42 | 3 | 1 | 5 | 1 | 1 | | |
| North of Santa Margarita Ranch Rd | 11/4/2019 | 737 | PENCIL | 450565 | 3508911 | 27 | 3 | 1 | 4 | 1 | 1 | | |
| North of Santa Margarita Ranch Rd | 11/4/2019 | 738 | PENCIL | 450574 | 3508949 | 13 | 2 | 1 | 4 | 1 | 1 | | |
| North of Santa Margarita Ranch Rd | 11/4/2019 | 739 | PENCIL | 450446 | 3508369 | 52 | 3 | 1 | 4 | 1 | 1 | | |
| South of Romney Rd | 11/5/2019 | 740 | PENCIL | 450656 | 3509428 | 10 | 2 | 1 | 3 | 1 | 1 | | |
| South of Romney Rd | 11/5/2019 | 741 | PENCIL | 450609 | 3509230 | 2 | 1 | 1 | 3 | 1 | 1 | | |
| South of Romney Rd | 11/5/2019 | 742 | PENCIL | 450655 | 3509368 | 100 | 6 | 1 | 3 | 1 | 1 | | |
| South of Romney Rd | 11/5/2019 | 743 | PENCIL | 450716 | 3509633 | 119 | 6 | 1 | 4 | 1 | 1 | | |
| South of Romney Rd | 11/5/2019 | 744 | PENCIL | 450855 | 3510348 | 213 | 6 | 1 | 4 | 1 | 1 | | |
| South of Romney Rd | 11/11/2019 | 745 | PENCIL | 502150 | 3565390 | 441 | 6 | 2 | 4 | 1 | 1 | | |

| Site ID | Date | Waypoint | Weed Species Code | Infestation location--Easting | Infestation location--Northing | Number of Plants | ROW Cover Class | OFF-ROW Cover Class | Grazing Class | OHV Travel Class | Pedestrian Travel Class | Treatment? | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South of Romney Rd | 11/11/2019 | 746 | PENCIL | 450856 | 3510393 | 55 | 4 | 1 | 4 | 1 | 1 | | |
| South of Romney Rd | 11/11/2019 | 747 | PENCIL | 450901 | 3510619 | 115 | 6 | 4 | 4 | 1 | 1 | | |
| North of Romney Rd | 11/11/2019 | 748 | PENCIL | 450904 | 3510624 | 53 | 4 | 1 | 4 | 1 | 1 | | |
| North of Las Delicias Ranch Rd | 11/12/2019 | 753 | PENCIL | 452887 | 3516731 | 9 | 2 | 1 | 5 | 1 | 1 | | |
| North of Las Delicias Ranch Rd | 11/12/2019 | 754 | PENCIL | 453369 | 3517280 | 18 | 2 | 1 | 5 | 1 | 1 | | |
| North of Brown Canyon Rd | 11/12/2019 | 752 | PENCIL | 451249 | 3513308 | 50 | 4 | 1 | 1 | 1 | 1 | | |
| South of Brown Canyon Rd | 11/12/2019 | 749 | PENCIL | 451212 | 3512070 | 120 | 6 | 1 | 2 | 1 | 1 | | |
| South of Brown Canyon Rd | 11/12/2019 | 750 | PENCIL | 451216 | 3512072 | 19 | 2 | 1 | 2 | 1 | 1 | | |
| South of Brown Canyon Rd | 11/12/2019 | 751 | PENCIL | 451241 | 3513205 | 70 | 4 | 1 | 1 | 1 | 1 | | |
| North of Las Delicias Ranch Rd | 11/13/2019 | 755 | PENCIL | 452530 | 3516343 | 441 | 6 | 2 | 4 | 1 | 1 | | |
| South of Las Delicias Ranch Rd | 11/13/2019 | 756 | PENCIL | 451263 | 3514811 | 171 | 6 | 1 | 2 | 1 | 1 | | |
| South of Las Delicias Ranch Rd | 11/13/2019 | 757 | PENCIL | 451263 | 3514811 | NA | NA | NA | NA | NA | NA | | |
| South of Las Delicias Ranch Rd | 11/13/2019 | 758 | PENCIL | 451360 | 3515001 | 56 | 4 | 1 | 3 | 1 | 1 | | |
| South of Las Delicias Ranch Rd | 11/13/2019 | 759 | PENCIL | 451432 | 3515071 | 46 | 3 | 1 | 3 | 1 | 1 | | |
| South of Las Delicias Ranch Rd | 11/13/2019 | 760 | PENCIL | 451957 | 3515693 | 12 | 2 | 1 | 3 | 1 | 1 | | |
| North of Brown Canyon Rd | 11/18/2019 | 760 | PENCIL | 451953 | 3515695 | 66 | 4 | 1 | 2 | 1 | 1 | | |
| North of Brown Canyon Rd | 11/18/2019 | 761 | PENCIL | 451248 | 3514232 | 100 | 6 | 1 | 2 | 3 | 1 | | |
| North of Brown Canyon Rd | 11/18/2019 | 762 | PENCIL | 451253 | 3514423 | 180 | 6 | 1 | 2 | 1 | 1 | | |
| North of Brown Canyon Rd | 11/19/2019 | 764 | PENCIL | 451264 | 3514627 | 259 | 6 | 1 | 2 | 1 | 1 | | |
| North of Brown Canyon Rd | 11/19/2019 | 765 | PENCIL | 451263 | 3514844 | 74 | 5 | 1 | 3 | 1 | 1 | | |
| North of Brown Canyon Rd | 11/19/2019 | 766 | PENCIL | 451404 | 3515067 | 10 | 2 | 1 | 3 | 1 | 1 | | |

# APPENDIX P

## Noxious Weed Photographs Fall 2019




AWA1_overview_10-11




AWA1_overview2_10-17




AWA1_PENCIL_10-11_WP48




AWA1_PENCIL_10-11_WP49




AWA1_PENCIL_10-11_WP50




AWA1_PENCIL_10-11_WP51




AWA1_PENCIL_10-11_WP52




AWA1_PENCIL_10-11_WP704




AWA1_PENCIL_10-17_WP61



AWA2_overview_10-3



AWA2_overview2_10-3



AWA2_PENCIL_10-3_WP30



AWA2_PENCIL_10-3_WP31



AWA2_PENCIL_10-3_WP32



AWA2_PENCIL_10-3_WP33(2)



AWA2_PENCIL_10-3_WP33



AWA3_overview_9-30



AWA3_overview2_10-1



AWA3_PENCIL_9-30_WP688



AWA4_overview_10-9



AWA4_overview2_9-30


AWA4_PENCIL_10-2_WP24


AWA4_PENCIL_10-9_WP38



AWA4_PENCIL_10-9_WP39



AWA4_PENCIL_10-9_WP40



AWA4_PENCIL_10-9_WP41



AWA4_PENCIL_10-9_WP42



AWA4_PENCIL_10-9_WP43


AWA5_overview_10-2


AWA5_overview_10-10



AWA5_overview2_10-10



AWA6_overview_10-23



AWA6_overview2_10-23



AWA6_PENCIL_10-23_WP707



AWA6_PENCIL_10-23_WP708



AWA6_PENCIL_10-23_WP709



AWA6_PENCIL_10-23_WP710



AWA6_PENCIL_10-23_WP711



AWA6_PENCIL_10-23_WP712



AWA6_PENCIL_10-23_WP713



AWA6_PENCIL_10-23_WP714



AWA7_overview_10-22



AWA7_overview2_10-8



AWA7_PENCIL_10-22_WP705



AWA7_PENCIL_10-22_WP706



AWA8_overview_10-10


AWA8_overview2_10-1


AWA8_PENCIL_10-1_WP15


AWA8_PENCIL_10-1_WP16


AWA8_PENCIL_10-1_WP17


AWA8_PENCIL_10-1_WP18


AWA8_PENCIL_10-1_WP19


AWA8_PENCIL_10-1_WP20


AWA8_PENCIL_10-1_WP21



AWA8_PENCIL_10-10_WP44



AWA8_PENCIL_10-10_WP45



AWA8_PENCIL_10-10_WP46



AWA8_PENCIL_10-10_WP47



AWA9_overview_10-15



AWA9_overview2-10-15



AWA9_PENCIL_10-15_WP57



AWA10_overview_10-16 (2)


AWA10_overview_10-16



AWA10_overview2_10-16



AWA10_PENCIL_10-16_WP58



AWA10_PENCIL_10-16_WP59



AWA10_PENCIL_10-16_WP60



AWA11_overview_10-11



AWA11_overview2_10-14



AWA11_PENCIL_10-11_WP54



AWA12_overview_10-14



AWA12_overview2_10-14



AWA12_PENCIL_9-30_WP696



AWA12_PENCIL_10-14_WP55



AWA12_PENCIL_10-14_WP56



AWA13_overview_10-1


AWA13_overview2_9-30


AWA13_PENCIL_9-30_WP10


AWA13_PENCIL_9-30_WP11


AWA13_PENCIL_9-30_WP12



AWA13_PENCIL_9-30_WP13



AWA13_PENCIL_9-30_WP14




AWA13_PENCIL_10-1_WP698




AWA13_PENCIL_10-1_WP699



BoppRdStagingRd_PENCIL_10-8_WP702




BoppRdStagingYard_overview_10-8



BoppRdStagingYard_PENCIL_10-8_WP703




HDWA1_overview_10-1



HDWA1_overview2_9-30



HDWA1_PENCIL_10-1_WP697


HDWA2_overview_9-30


HDWA2_overview2_9-30


HDWA2_PENCIL_9-30_WP009



HDWA2_PENCIL_10-1_WP687



HDWA3_overview_9-30



HDWA3_overview2_10-9JPG



HDWA3_PENCIL_9-30_WP689



HDWA3_PENCIL_9-30_WP690



HDWA3_PENCIL_9-30_WP691



HDWA3_PENCIL_9-30_WP692



HDWA4_overview_10-10


HDWA4_overview2_10-2


HDWA4_PENCIL_10-2_WP25


HDWA4_PENCIL_10-2_WP26



HDWA4_PENCIL_10-2_WP27



HDWA4_PENCIL_10-2_WP28



HDWA4_PENCIL_10-2_WP29




HDWA5_overview_10-8




HDWA5_overview2_10-8




HDWA6_overview_10-8




HDWA6_overview2_10-8




HDWA7_overview_10-8



HDWA7_overview2_10-8



HDWA8_overview_10-8



HDWA8_overview2_10-8


HDWA9_overview_10-1



HDWA9_overview2_10-17



HDWA9_PENCIL_10-8_WP33



HDWA9_PENCIL_10-8_WP34



HDWA9_PENCIL_10-8_WP36




HDWA9_PENCIL_10-8_WP37




HDWA10_overview_10-17




HDWA10_overview2_10-17



HDWA11_overview_10-1



HDWA11_overview2_10-1




HDWA11_PENCIL_9-30_WP22




Milepost 7_10-1




MIlepost 9_9-30




Milepost 15_10-8




North of Brown Canyon Rd_PENCIL_11-12_WP752




North of Brown Canyon Rd_PENCIL_11-18_WP760




North of Brown Canyon Rd_PENCIL_11-18_WP761




North of Brown Canyon Rd_PENCIL_11-18_WP762




North of Brown Canyon Rd_PENCIL_11-19_WP764




North of Brown Canyon Rd_PENCIL_11-19_WP765




North of Brown Canyon Rd_PENCIL_11-19_WP766




North of Las Delicias Rd_PENCIL_11-12_WP753




North of Las Delicias Rd_PENCIL_11-12_WP754




North of Las Delicias Rd_PENCIL_11-13_WP755




North of Presumido Rd_PENCIL_10-30_WP724




North of Presumido Rd_PENCIL_10-30_WP725




North of Presumido Rd_PENCIL_10-30_WP726




North of Presumido Rd_PENCIL_10-30_WP727




North of Presumido Rd_PENCIL_10-30_WP728



North of Romney Rd_PENCIL_11-11_WP748



North of Santa Margarita Ranch Rd_PENCIL_11-4_WP734



North of Santa Margarita Ranch Rd_PENCIL_11-4_WP735



North of Santa Margarita Ranch Rd_PENCIL_11-4_WP736



North of Santa Margarita Ranch Rd_PENCIL_11-4_WP737



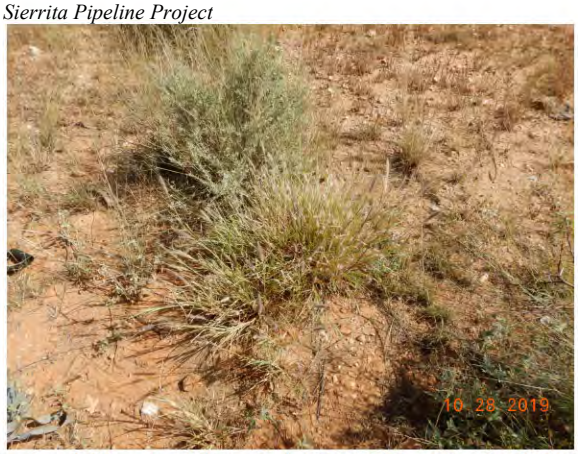
North of Santa Margarita Ranch Rd_PENCIL_11-4_WP738



North of Santa Margarita Ranch Rd_PENCIL_11-4_WP739



North of Santa Margarita Ranch Rd_PENCIL_11-11_WP745



North of Sierrita Vista Rd_PENCIL_10-28_WP715



North of Sierrita Vista Rd_PENCIL_10-28_WP716



North of Sierrita Vista Rd_PENCIL_10-28_WP717



Seed Plot at Postvale Staging Yard_10-24.



Seed Plot at Postvale Staging Yard_10-24



Seed Plot on Rt. 286_11-12



South of Access Rd_PENCIL_11-5_WP740



South of Access Rd_PENCIL_11-5_WP741



South of Access Rd_PENCIL_11-5_WP742



South of Access Rd_PENCIL_11-5_WP743



South of Access Rd_PENCIL_11-5_WP744



South of Access Rd_PENCIL_11-11_WP746



South of Access Rd_PENCIL_11-11_WP747



South of Brown Canyon Rd_PENCIL_11-12_WP749



South of Brown Canyon Rd_PENCIL_11-12_WP750



South of Brown Canyon Rd_PENCIL_11-12_WP751


South of Las Delicias Rd_PENCIL_11-13_WP756


South of Las Delicias Rd_PENCIL_11-13_WP757


South of Las Delicias Rd_PENCIL_11-13_WP758


South of Las Delicias Rd_PENCIL_11-13_WP759


South of Las Delicias Rd_PENCIL_11-13_WP760


South of Presumido Rd_PENCIL_10-29_WP718


South of Presumido Rd_PENCIL_10-30_WP719


South of Presumido Rd_PENCIL_10-30_WP720




South of Presumido Rd_PENCIL_10-30_WP721




South of Presumido Rd_PENCIL_10-30_WP722




South of Presumido Rd_PENCIL_10-30_WP723




South of Santa Margarita Ranch Rd_PENCIL_10-31_WP729




South of Santa Margarita Ranch Rd_PENCIL_10-31_WP730




South of Santa Margarita Ranch Rd_PENCIL_10-31_WP731




South of Santa Margarita Ranch Rd_PENCIL_10-31_WP732




South of Santa Margarita Ranch Rd_PENCIL_10-31_WP733

# APPENDIX Q

## Access Road Database Fall 2019 2019

## Access Road Observation and Photo Log-Fall 2019

**AR15- Las Delicias Road**

| Photo Number | Photo Location | | Observations | Direction |
|---|---|---|---|---|
| | Easting | Northing | | |
| 275 | 453281 | 3516301 | Overview of typical northside runoff area along the access road | E |
| 276 | 453847 | 3516343 | Overview of ~75 foot rocky erosional area crossing the access road | E |
| 277 | 454067 | 3516330 | Overview of drainage area that is around a water bar area | E |
| 278 | 454496 | 3516297 | Overview of runoff area | E |
| 279 | 454632 | 3516298 | Overview of typical northside runoff area along the access road | E |
| 280 | 455615 | 3516582 | Overview of southside drainage area exiting off the access road | W |
| Overall Assessment- The road is in good to fair condition, with some erosional features present | | | | |

**AR16- Brown Canyon Road**

| Photo Number | Photo Location | | Observations | Direction |
|---|---|---|---|---|
| | **Easting** | **Northing** | | |
| 270 | 451319 | 3513281 | Overview of an erosional feature under a cattle guard along the access road | E |
| 271 | 452079 | 3513062 | Overview of a pothole/dip area along the access road | E |
| 272 | 452462 | 3513102 | Overview of a drainage area along the north side of the access road | W |
| 273 | 452862 | 3513286 | Overview of a northside drainage area along the access road | W |
| 274 | 454964 | 3514263 | Overview of a hump/erosional area along the access road | W |
| Overall Assessment- The road is in good condition, with few ruts or other erosional features. | | | | |

**AR18- Unnamed Road**

| Photo Number | Photo Location | | Observations | Direction |
|---|---|---|---|---|
| | **Easting** | **Northing** | | |
| 262 | 451081 | 3510693 | Overview of typical road cuts along this access road | E |
| 263 | 451450 | 3510455 | Overview of typical erosional features along the access road | E |
| 264 | 451562 | 3510386 | Overview of a cut along the access road | E |
| 265 | 451652 | 3510328 | Overview of erosion occurring along the north side of the access road | E |
| 266 | 451785 | 3510231 | Overview of erosion occurring along the access road | E |
| 267 | 452067 | 3510050 | Overview of an eroded water bar along the access road | E |
| 268 | 452748 | 3510072 | Overview of a wash crossing along the access road | E |
| 269 | 453177 | 3510103 | Overview of an erosional area along the access road | E |
| Overall Assessment- Overall, this road is returning to its original condition prior to pipeline construction. Portions of the access road have erosional features present. | | | | |

| AR19- Stillwood Ranch Road | | | | |
|---|---|---|---|---|
| **Photo Number** | **Photo Location** | | **Observations** | **Direction** |
| | **Easting** | **Northing** | | |
| 256 | 450583 | 3507744 | Overview of a low spot that has a water cut along the access road | E |
| 257 | 451441 | 3507707 | Overview of a water cut along the access road | W |
| 258 | 451803 | 3507737 | Overview of a road junction cut along the access road | E |
| 259 | 452021 | 3507737 | Overview of an erosional and cut area along the access road | W |
| 260 | 452532 | 3507573 | Overview of an erosional/ water runoff area along the north side of the access road | W |
| 261 | 453675 | 3507010 | Overview of a cut area along the access road | W |
| Overall Assessment- Road is in good to fair condition ; with some erosion and cutting present | | | | |

| AR20- Santa Margarita Road | | | | |
|---|---|---|---|---|
| **Photo Number** | **Photo Location** | | **Observations** | **Direction** |
| | **Easting** | **Northing** | | |
| 255 | 450972 | 3504537 | Overview of a water cut | W |
| Overall Assessment- Road is in good condition | | | | |

| AR21- Presumido Road | | | | |
|---|---|---|---|---|
| **Photo Number** | **Photo Location** | | **Observations** | **Direction** |
| | **Easting** | **Northing** | | |
| 249 | 447467 | 3498254 | Overview of erosion occurring on the north side of the access road for ~100 feet | W |
| 250 | 447642 | 3498306 | Overview of erosion occurring along the access road | E |
| 251 | 447891 | 3498347 | Overview of pot holes within the access road | W |
| 252 | 448469 | 3497978 | Overview of erosion occurring on the north side of the access road for ~50 feet | W |
| 253 | 448644 | 3497861 | Overview of a flood area occurring along the access road | E |
| 254 | 450441 | 3497597 | Overview of erosional rutting occurring along the access road | E |
| Overall Assessment- Road in good condition, with some light to minor rutting | | | | |

| AR22- Aros Wash Road | | | | |
|---|---|---|---|---|
| **Photo Number** | **Photo Location** | | **Observations** | **Direction** |
| | **Easting** | **Northing** | | |
| 246 | 446494 | 3495279 | Overview of rutting erosional feature along an uphill portion of the access road | W |
| 247 | 446633 | 3495356 | Overview of a wash crossing along the access road | E |
| 248 | 447905 | 3495400 | Overview of a water cut along the access road | E |
| Overall Assessment- Road in good to fair condition with some minor erosional rutting | | | | |

| AR23- La Osa Road / El Mirador Road | | | | |
|---|---|---|---|---|
| **Photo Number** | **Photo Location** | | **Observations** | Direction |
| | Easting | Northing | | |
| 243 | 445548 | 3485966 | Standing water from runoff | E |
| 244 | 446426 | 3485151 | Overview of drainage cut | W |
| 245 | 446771 | 3485300 | Overview of drainage cut | E |
| Overall Assessment- Road is in good to fair condition and the road has been completely graveled | | | | |

# APPENDIX R

## Access Road Monitoring Photographs
## Fall 2019



**Photo 243. Overview of standing water from runoff along AR23.**



**Photo 244. Overview of drainage cut along AR23.**



**Photo 245. Overview of drainage cut along AR23.**



**Photo 246. Overview of rutting erosional feature along an uphill portion of AR22.**



**Photo 247. Overview of a wash crossing AR22.**



**Photo 248. Overview of a water cut along AR22.**



**Photo 249. Overview of erosion occurring on the north side of AR21 for ~100 feet.**



**Photo 250. Overview of erosion occurring along AR21.**



**Photo 251. Overview of pot holes within AR21.**



**Photo 252. Overview of erosion occurring on the north side of AR21 for ~50 feet.**



**Photo 253. Overview of a flood area occurring along AR21**.



**Photo 254. Overview of erosional rutting occurring along AR21**.



**Photo 255. Overview of a water cut along AR20.**



**Photo 256. Overview of a low spot that has a water cut along AR19.**



**Photo 257. Overview of a water cut along the AR19.**



**Photo 258. Overview of a road junction cut along AR19.**



**Photo 259. Overview of an erosional and cut area along AR19.**



**Photo 260. Overview of an erosional/ water runoff area along the north side of AR19.**



**Photo 261. Overview of a cut area along AR19.**



**Photo 262. Overview of typical road cuts along AR18.**



**Photo 263. Overview of typical erosional features along AR18.**



**Photo 264. Overview of a cut along AR18.**



**Photo 265. Overview of erosion occurring along the north side of AR18.**



**Photo 266. Overview of erosion occurring along AR18.**



**Photo 267. Overview of an eroded water bar along AR18.**



**Photo 268. Overview of a wash crossing along AR18.**



**Photo 269. Overview of an erosional area along AR18.**



**Photo 270. Overview of an erosional feature under a cattle guard along AR16.**



**Photo 271. Overview of a pothole/dip area along AR16.**



**Photo 272. Overview of a drainage area along the north side of AR16.**



**Photo 273. Overview of a northside drainage area along AR16.**



**Photo 274. Overview of a hump/erosional area along AR16.**



**Photo 275. Overview of typical northside runoff area along AR15.**



**Photo 276. Overview of ~75 foot rocky erosional area crossing AR15.**



**Photo 277. Overview of drainage area that is around a water bar area along AR15.**



**Photo 278. Overview of runoff area along AR15.**



**Photo 279. Overview of typical northside runoff area along AR15.**



**Photo 280. Overview of southside drainage area exiting off AR15**

# APPENDIX S

## Tree Planting Summary Graphs

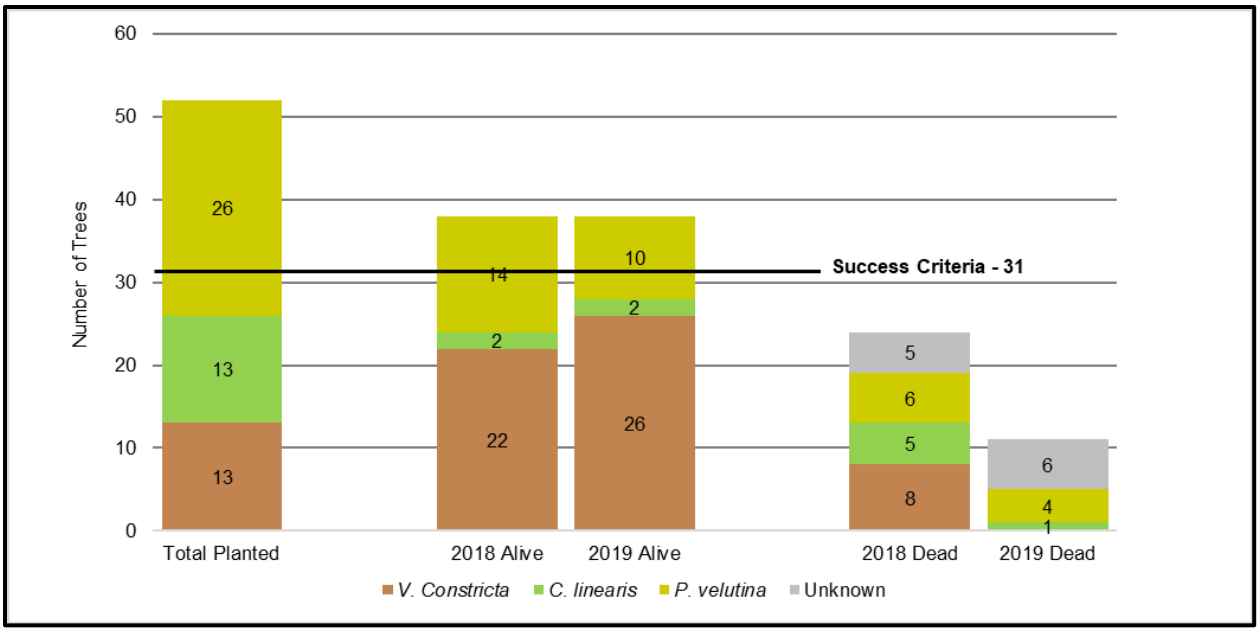



**Figure 1. Summary of Wash 65**

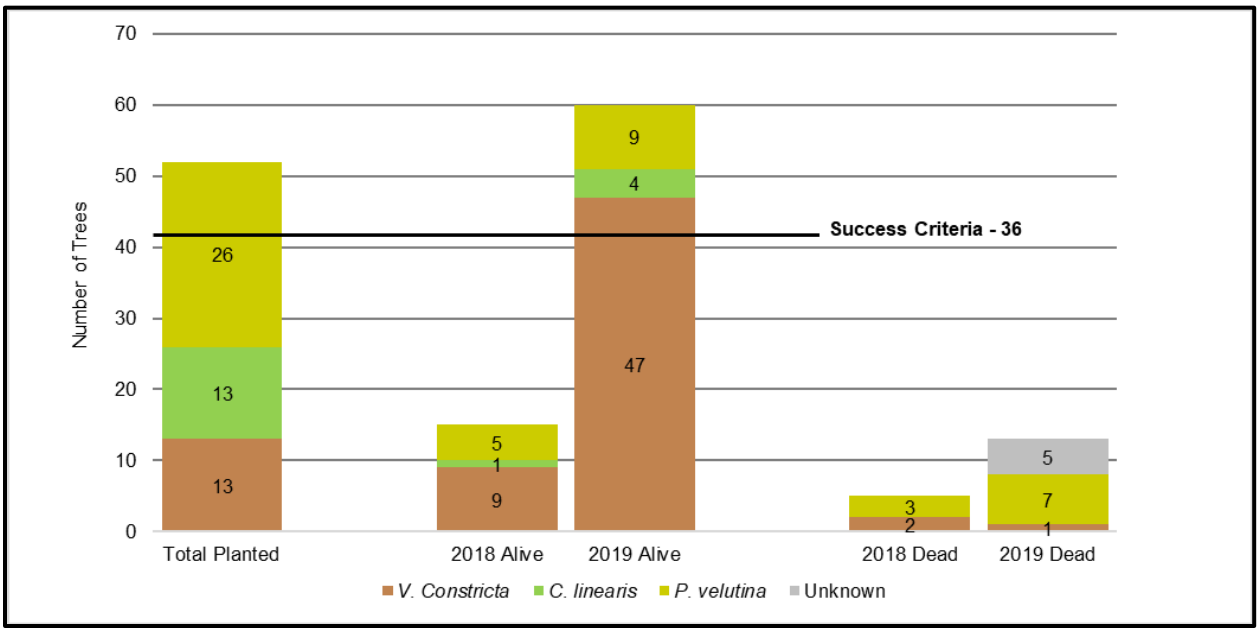



**Figure 2. Summary of Wash 57**

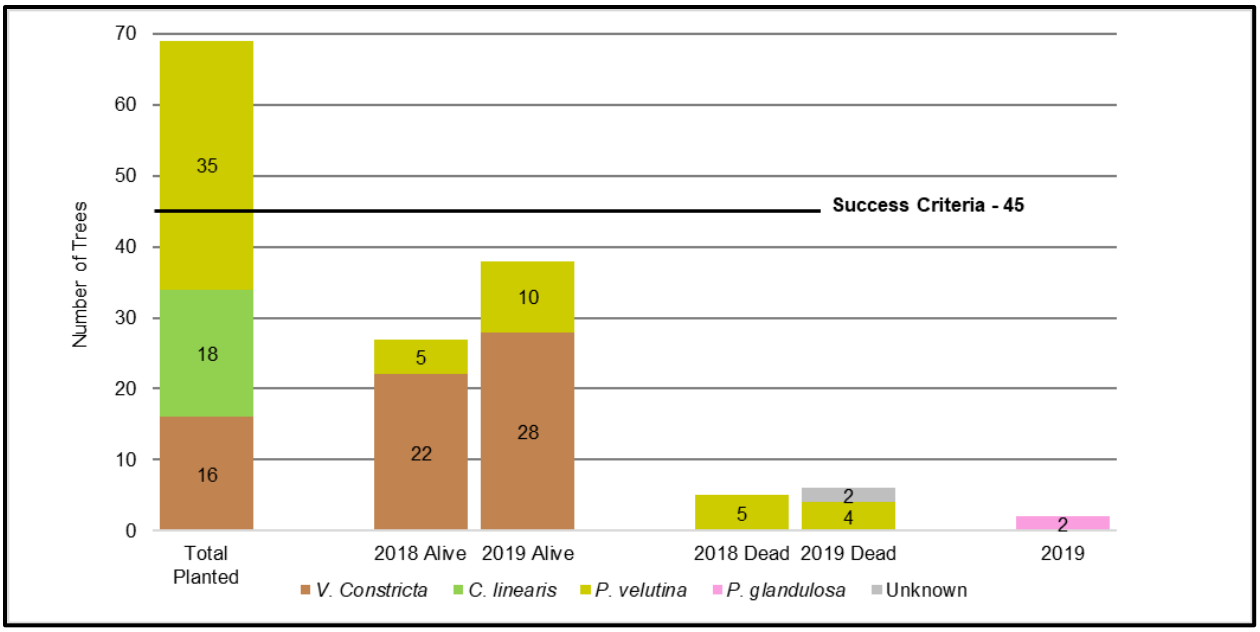



**Figure 3. Summary of Little Thomas Wash**

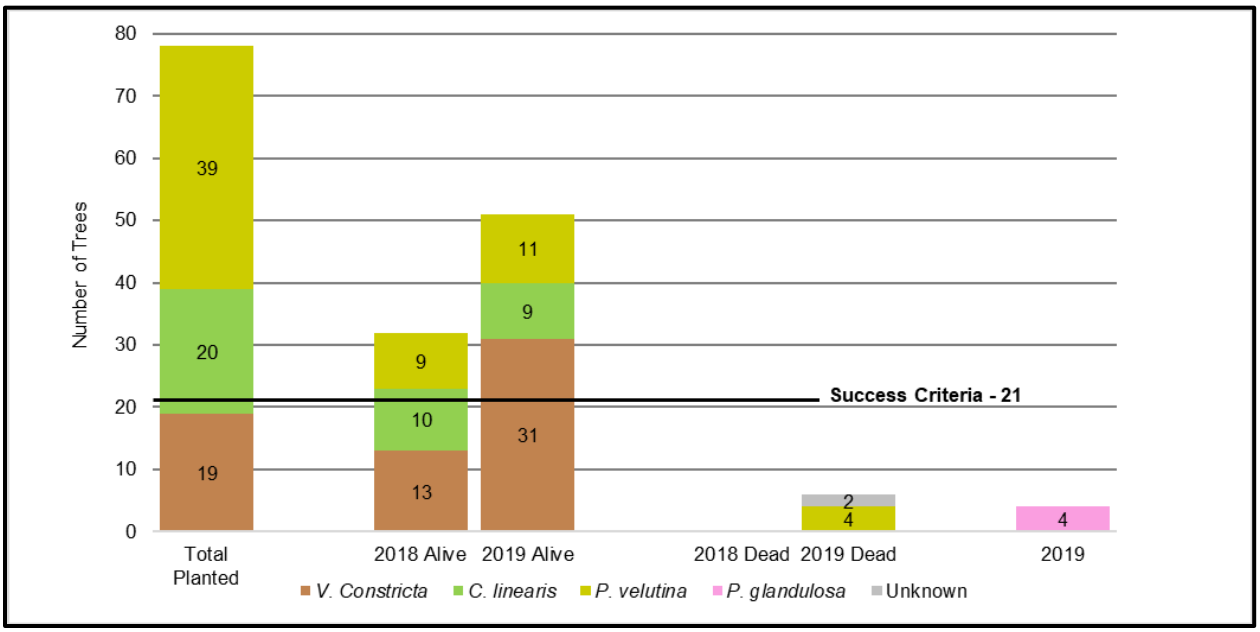



**Figure 4. Summary of Wash 143 and 144**

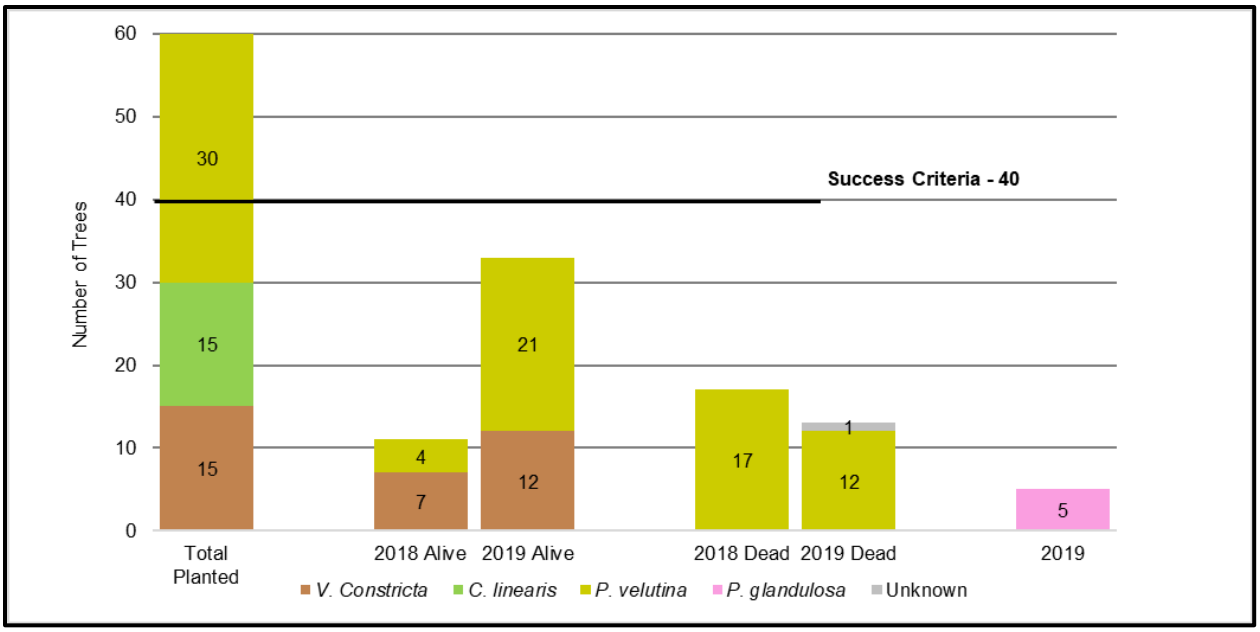



**Figure 5. Summary of Wash 145**

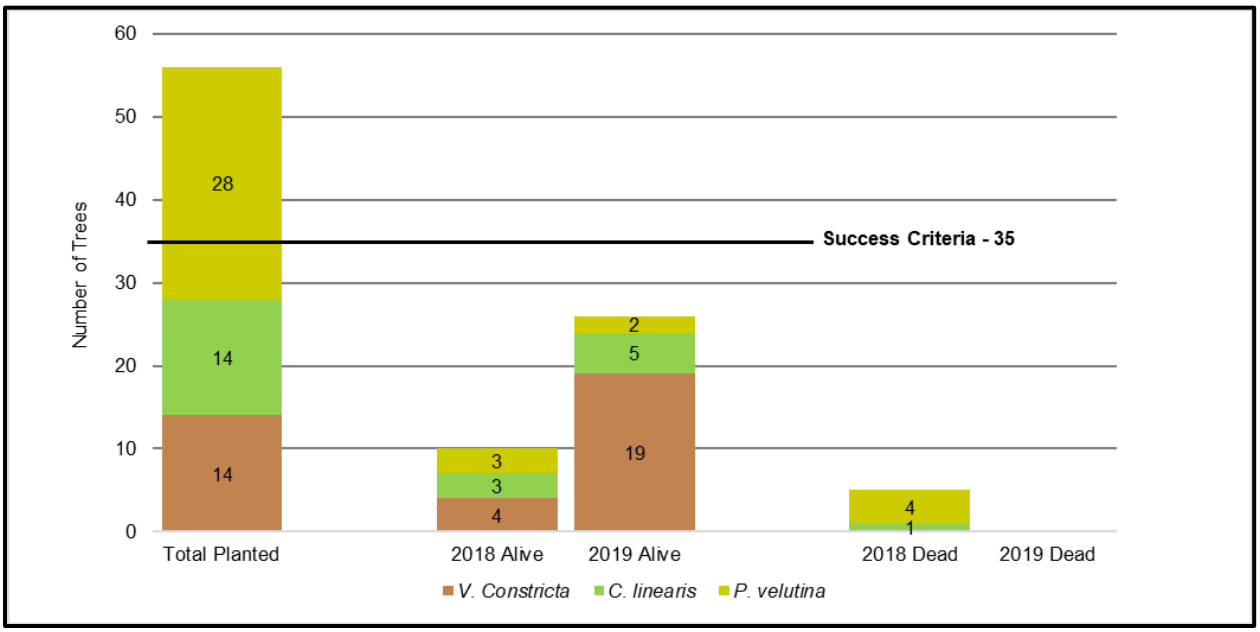



**Figure 6. Summary of Wash 142**

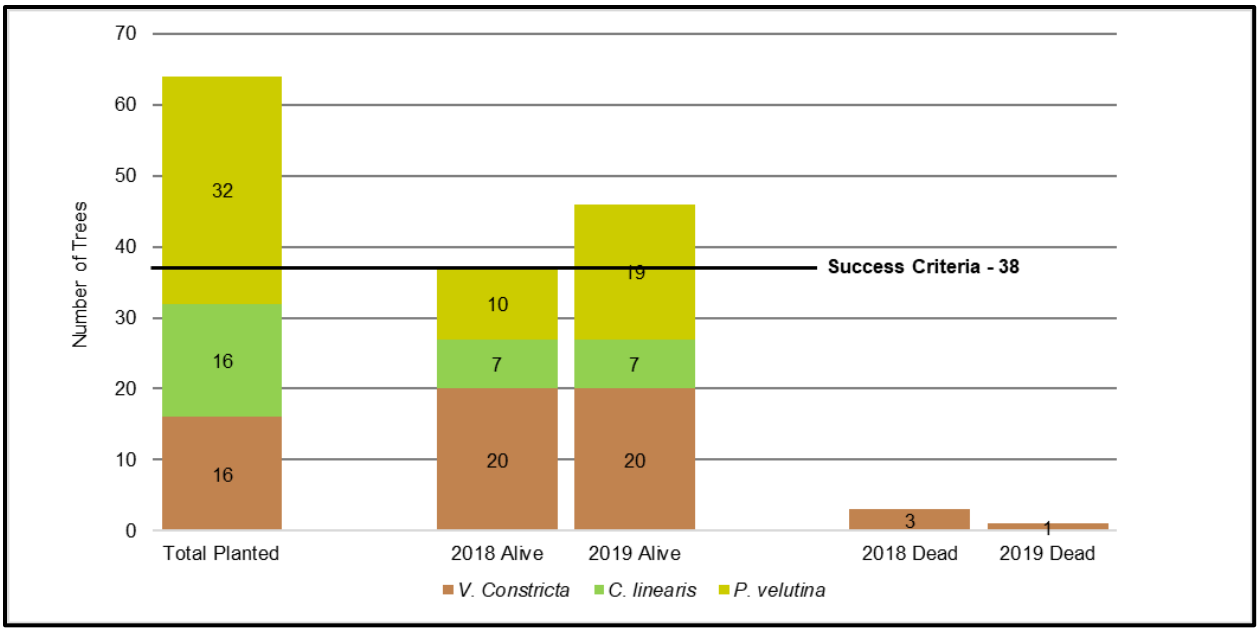



**Figure 7. Summary of Wash 53**

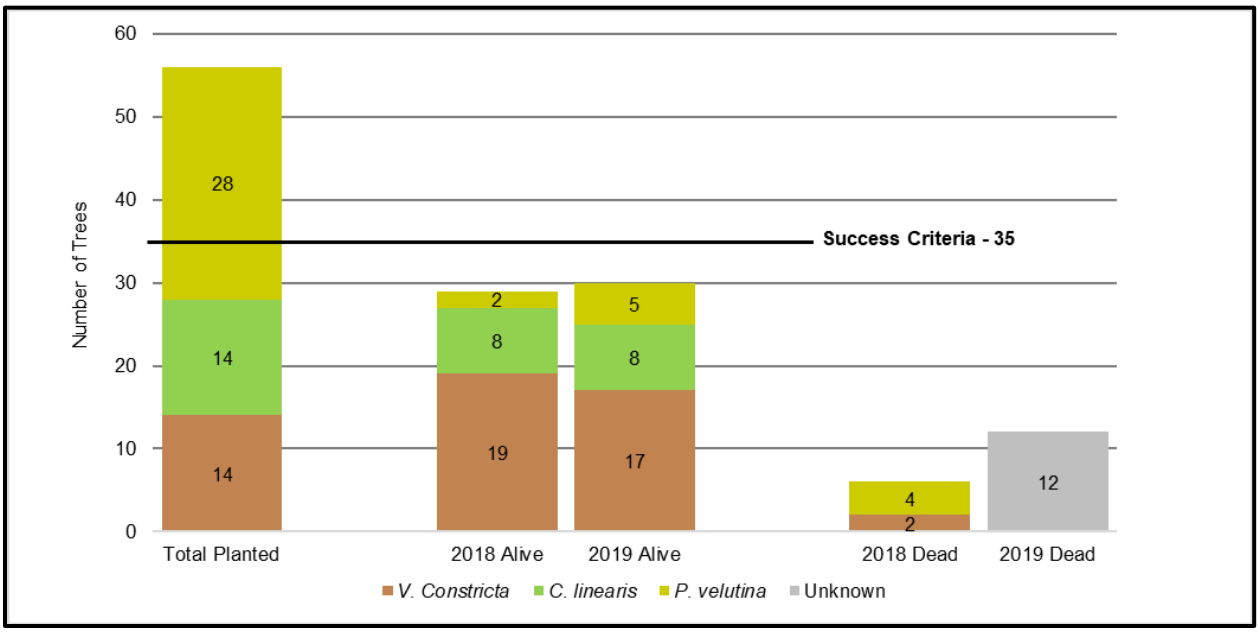



**Figure 8. Summary of Wash 55**

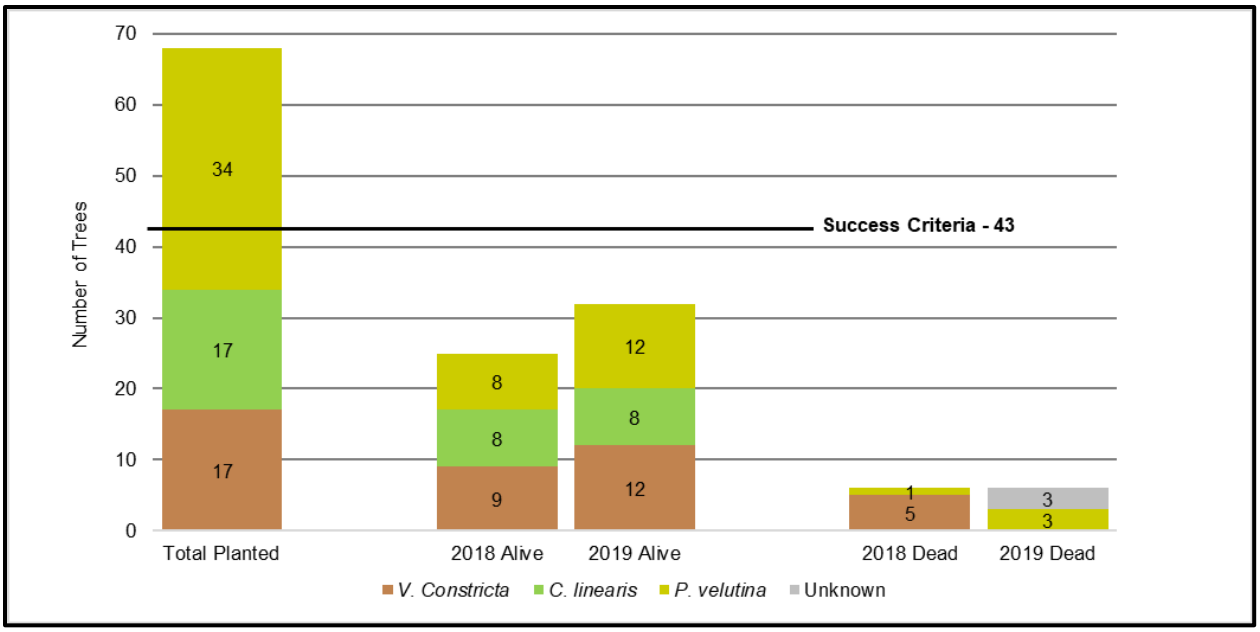



**Figure 9. Summary of Wash 56**

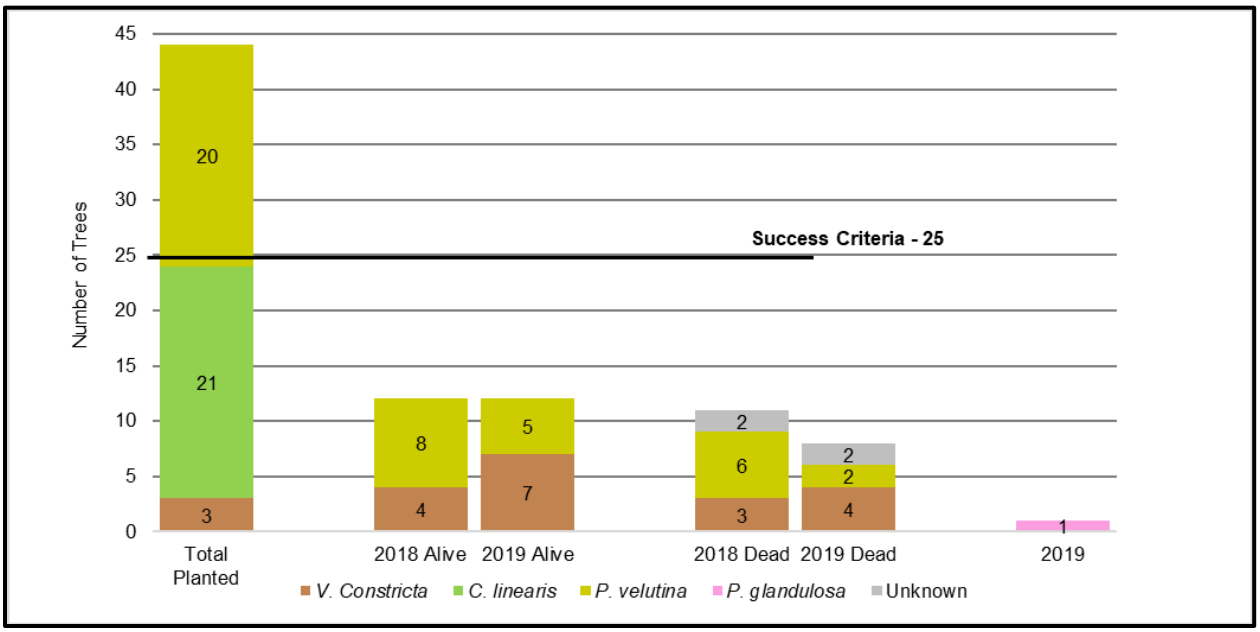



**Figure 10. Summary of Wash 32**

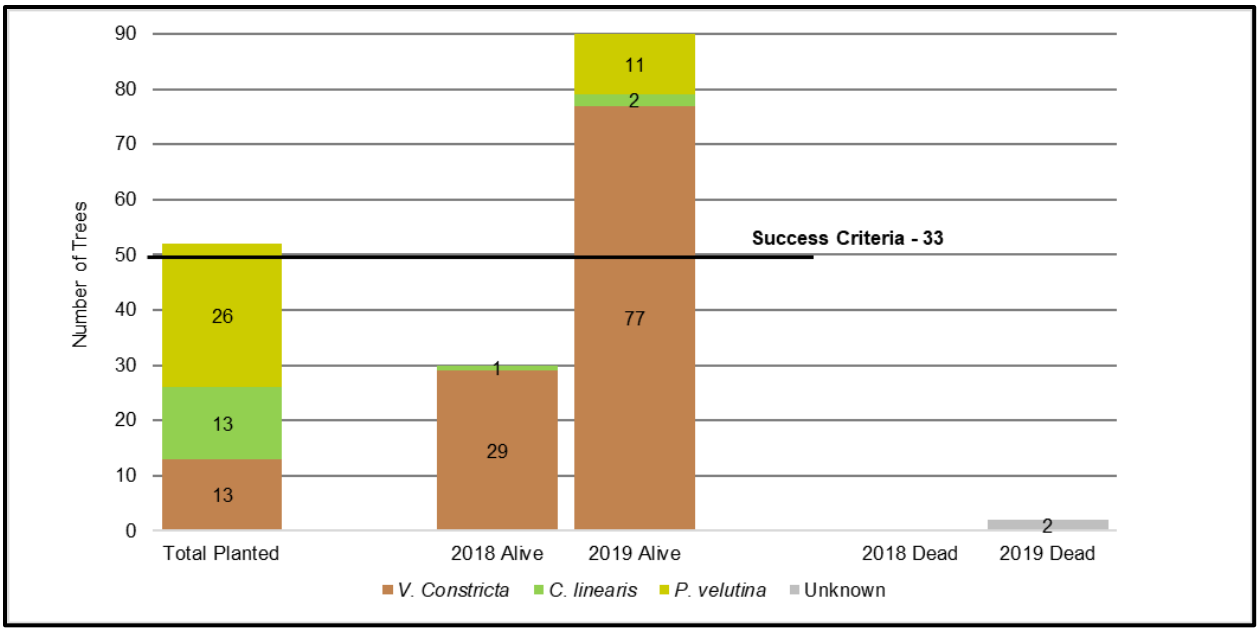



**Figure 11. Summary of Thomas Canyon Wash**

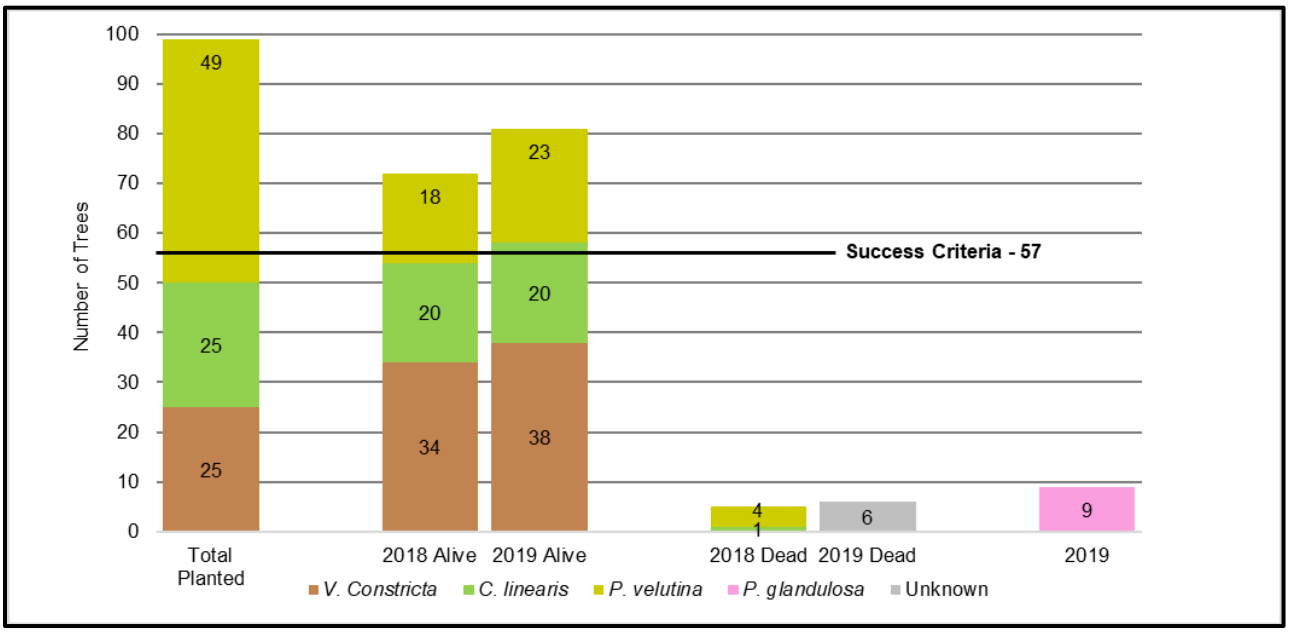



**Figure 12. Summary of Wash 136**

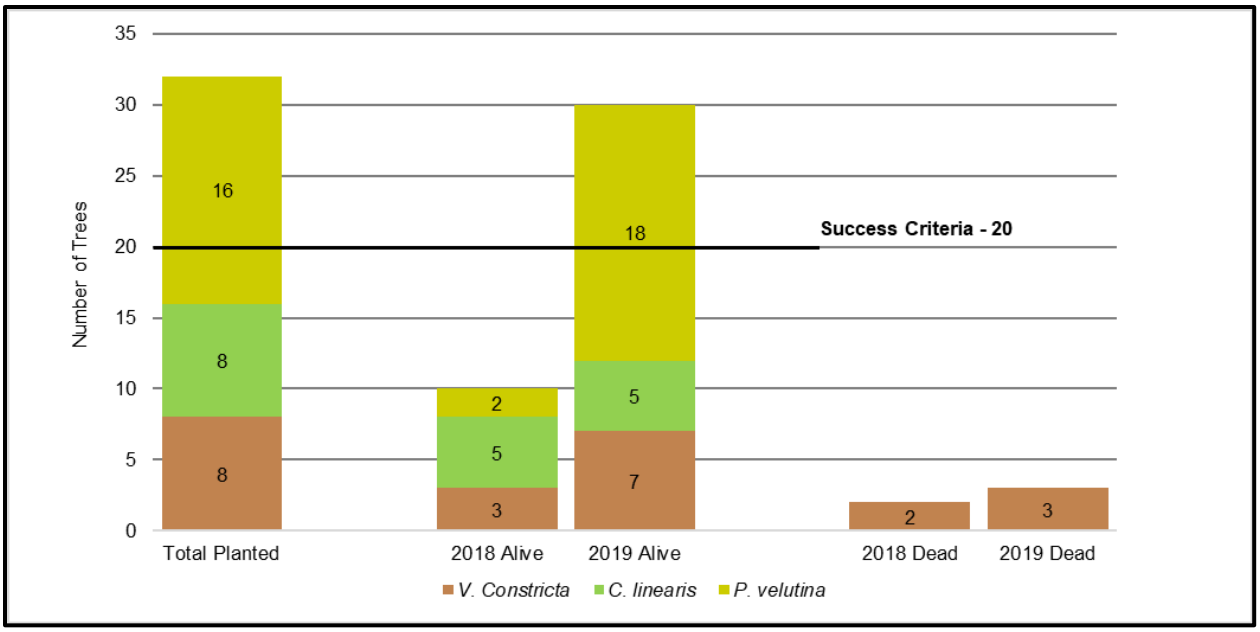



**Figure 13. Summary of Wash 134**

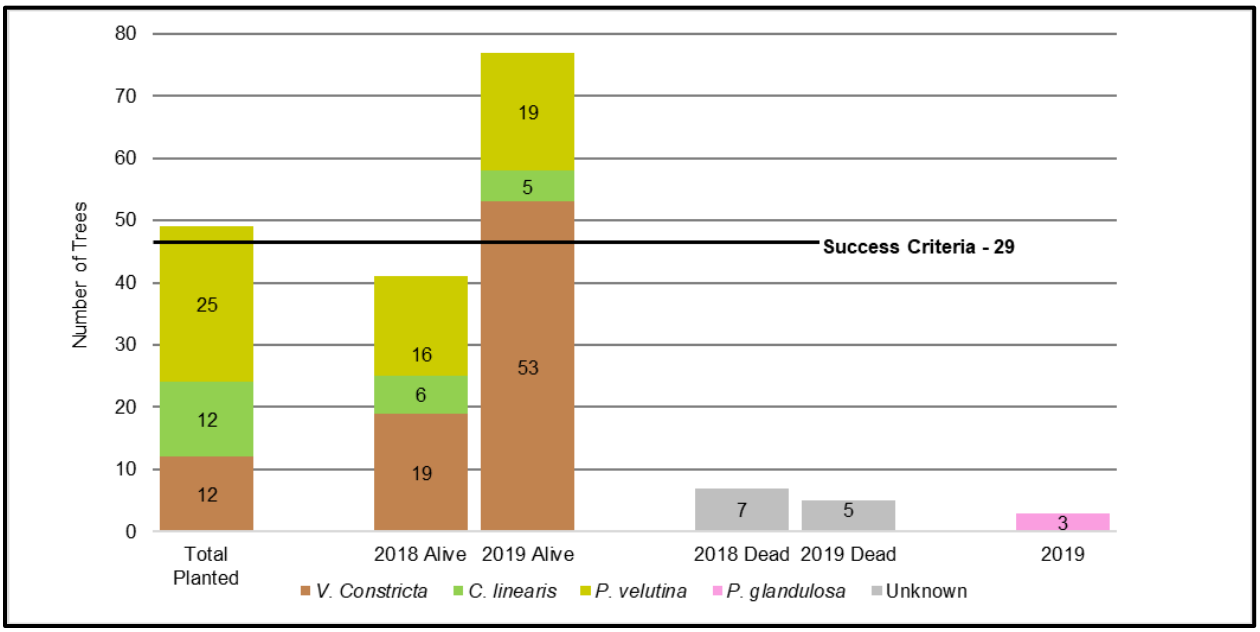



**Figure 14. Summary of Wash R115**

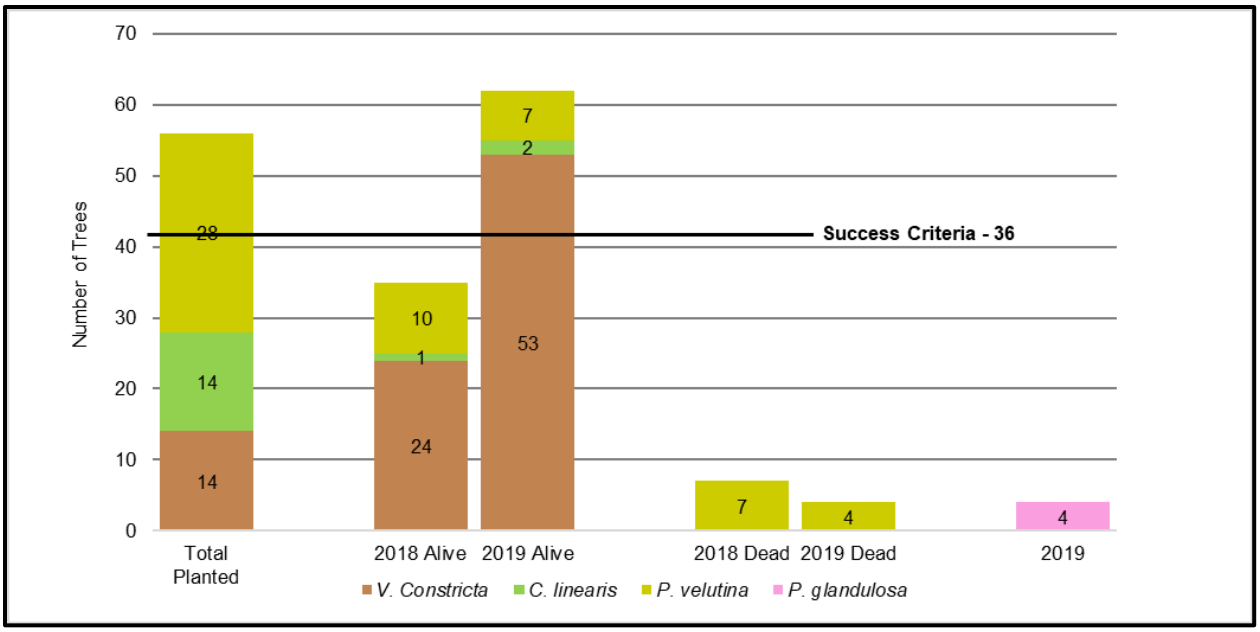



**Figure 15. Summary of Wash 149**

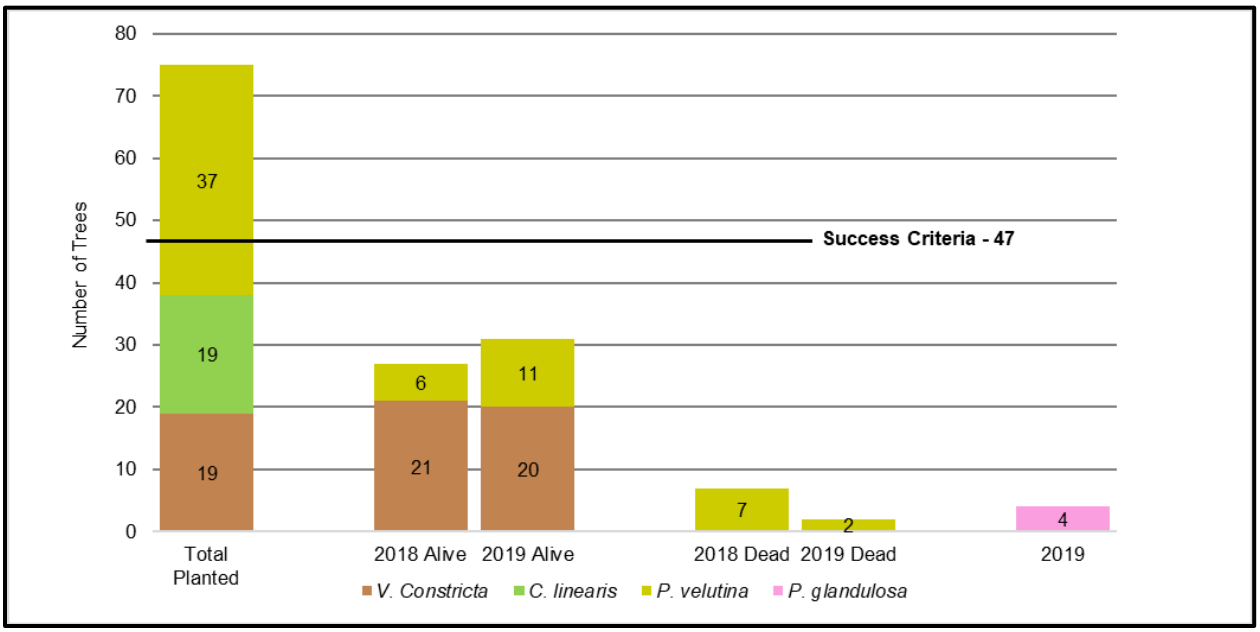



**Figure 16. Summary of Wash 147**

**Note:** For the Year Five (2019) monitoring, all "volunteer trees" (i.e.- trees not originally planted in the wash but are growing within the boundaries of the wash) were treated the same as those that were originally planted. Therefore, the number of alive and/or dead trees may exceed the number of trees planted or exceed those counted in the Year Four (2018) monitoring.

# APPENDIX T

## Tree Database Fall 2019

# Sierrita Long-Term Montoring: Tree Counts and Observations by Wash- Fall 2018

| Wash ID | Survey Year | Crew | Waypoints (UTM NAD 83) | Trees Planted | | | | Additional trees planted in 2017 | Number Alive-Observed | | | | Number Dead-Observed | | | | Average Height (feet) | | | | Observations | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Total | V. constricta | C. linearis | P. velutina | | Total | V. constricta | C. linearis | P. velutina | Total | V. Constricta | C. linearis | P. velutina | Unknown Species | V. constricta | C. linearis | P. velutina | OHV Rating | Livestock Grazing | Pedestrian Traffic | Evidence of Flooding | Erosion | Small Mammal Damage | No. Honey Mesquites | General Observations |
| 65 | 2018 | RP, RH | 466822, 3542525 | 52 | 13 | 13 | 26 | 13 | 38 | 22 | 2 | 14 | 19 | 8 | 5 | 6 | 5 | 1.5 | 6 | 1 | 1 | 2 | 1 | N | Y | N | 0 | 30 VACCON, 11 PARFLO volunteer trees. Erosion recovering slowly |
| | 2019 | RP, TS | | | | | | | 25 | 13 | 2 | 10 | 5 | 0 | 1 | 4 | 6 | 6 | 6 | 3 | 1 | 1 | 1 | N | N | N | 0 | Volunteers: 13 VACCON |
| 57 | 2018 | RP, RH | 468302, 3545006 | 52 | 13 | 13 | 26 | 14 | 15 | 9 | 1 | 5 | 5 | 2 | 0 | 3 | 0 | 1.5 | 3.5 | 1.5 | 2 | 1 | 1 | N | N | N | 0 | volunteer LARTRI, VACCON, PARFLO, SENGRE |
| | 2019 | RP, TS | | | | | | | 26 | 14 | 4 | 8 | 8 | 1 | 0 | 7 | 5 | 4 | 6 | 4 | 1 | 1 | 1 | N | Y | N | 0 | Volunteers: 33 VACCON; 1 PROVEL |
| Little Thomas Wash | 2018 | RP, RH, JD | 451131, 3511231 | 70 | 16 | 18 | 35 | 28 | 27 | 22 | 0 | 5 | 5 | 0 | 0 | 5 | 0 | 3 | n/a | 4 | 1 | 1 | 1 | N | N | N | 0 | 13 VACCON volunteer trees |
| | 2019 | RP, TS | | | | | | | 11 | 8 | 0 | 3 | 4 | 0 | 0 | 4 | 2 | 4 | n/a | 4 | 1 | 1 | 1 | N | N | N | 2 | Volunteers: 18 VACCON; 7 PROVEL |
| 143/144 | 2018 | RP, RH, JD | 461156, 3511729 | 78 | 19 | 20 | 39 | 16 | 32 | 13 | 10 | 9 | 0 | 0 | 0 | 0 | 0 | 4 | 4.5 | 3.5 | 1 | 1 | 1 | N | N | N | 0 | 15 VACCON, 9 PROVEL volunteer trees |
| | 2019 | RP, TS | | | | | | | 23 | 7 | 9 | 7 | 4 | 0 | 0 | 4 | 2 | 3 | 4 | 4 | 1 | 1 | 1 | N | N | N | 4 | Volunteers: 24 VACCON; 4 PROVEL |
| 145 | 2018 | RP, RH, JD | 451058, 3511437 | 60 | 15 | 15 | 30 | 28 | 11 | 7 | 0 | 4 | 17 | 0 | 0 | 17 | 0 | 3.5 | n/a | 3 | 1 | 1 | 1 | N | N | N | 0 | 2 VACCON, 2 PROVEL volunteer trees |
| | 2019 | RP, TS | | | | | | | 1 | 1 | 0 | 0 | 12 | 0 | 0 | 12 | 1 | 4 | n/a | n/a | 1 | 1 | 1 | N | N | N | 5 | Volunteers: 11 VACCON; 21 PROVEL |
| 142 | 2018 | RP, RH, JD | 451165, 3511808 | 56 | 14 | 14 | 28 | 11 | 10 | 4 | 3 | 3 | 5 | 0 | 1 | 4 | 0 | 2.5 | 3 | 3.5 | 1 | 1 | 1 | N | N | N | 0 | 8 VACCON volunteer trees |
| | 2019 | RP, TS | | | | | | | 10 | 5 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 4 | n/a | 1 | 1 | 1 | N | N | N | 0 | Volunteers: 14 VACCON; 2 PROVEL |
| 53 | 2018 | RP, RH | 469172, 3546488 | 64 | 16 | 16 | 32 | 0 | 37 | 20 | 7 | 10 | 3 | 3 | 0 | 0 | 0 | 2.5 | 5 | 2 | 2 | 1 | 1 | N | N | N | 0 | OHV tracks present; CHILIN very healthy; volunteer SENGRE, |
| | 2019 | RP, TS | | | | | | | 31 | 12 | 7 | 12 | 1 | 1 | 0 | 0 | 0 | 4 | 9 | 3 | 1 | 1 | 1 | N | N | N | 0 | Volunteers: 8 VACCON; 7 PROVEL |
| 55 | 2018 | RP, RH | 468658, | 56 | 14 | 14 | 28 | 9 | 29 | 19 | 8 | 2 | 6 | 2 | 0 | 4 | 0 | 2 | 2.5 | 2 | 1 | 1 | 1 | N | N | N | 0 | OHV tracks ran over placed plant, now dead; volunteer VACCON, |

# Sierrita Long-Term Montoring: Tree Counts and Observations by Wash- Fall 2018

| Wash ID | Survey Year | Crew | Waypoints (UTM NAD 83) | Trees Planted | | | | Additional trees planted in 2017 | Number Alive-Observed | | | | Number Dead-Observed | | | | Average Height (feet) | | | | Observations | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Total | V. constricta | C. linearis | P. velutina | | Total | V. constricta | C. linearis | P. velutina | Total | V. Constricta | C. linearis | P. velutina | Unknown Species | V. constricta | C. linearis | P. velutina | OHV Rating | Livestock Grazing | Pedestrian Traffic | Evidence of Flooding | Erosion | Small Mammal Damage | No. Honey Mesquites | General Observations |
| | 2019 | RP, TS | 3545620 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 22 | 10 | 8 | 4 | 7 | 3 | 1 | 3 | 12 | 4 | 4 | 3 | 1 | 1 | 1 | N | N | N | 0 | Volunteers: 7 VACCON; 1 PROVEL |
| 56 | 2018 | RP, RH | 468473, 3545306 | 68 | 17 | 17 | 34 | 13 | 25 | 9 | 8 | 8 | 6 | 5 | 0 | 1 | 0 | 2 | 4 | 2 | 1 | 1 | 1 | N | N | N | 0 | buffelgrass occurs on nw end; low floodplain area; sheetflood area; |
| | 2019 | RP, TS | | | | | | | 27 | 9 | 8 | 10 | 3 | 0 | 0 | 3 | 3 | 3 | 6 | 2 | 2 | 1 | 1 | N | N | N | 0 | Volunteers: 3 VACCON; 2 PROVEL |
| 32 | 2018 | RP, RH | 475380, 3551206 | 43 | 3 | 21 | 20 | 11 | 12 | 4 | 0 | 8 | 9 | 3 | 0 | 6 | 2 | 3.5 | N/A | 3 | 1 | 1 | 1 | N | N | N | 0 | |
| | 2019 | RP, TS | | | | | | | 10 | 7 | 0 | 3 | 6 | 4 | 0 | 2 | 2 | 4 | N/A | 4 | 1 | 1 | 1 | N | N | N | 1 | Volunteers: 2 PROVEL |
| Thomas Canyon Wash | 2018 | RP, RH, JD | 450826, 3510259 | 52 | 13 | 13 | 26 | 0 | 30 | 29 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2.5 | 4.5 | n/a | 1 | 2 | 1 | N | N | N | 0 | Erosion = rills and headcutting; volunteer VACCON, SENGRE, |
| | 2019 | RP, TS | | | | | | | 13 | 11 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | n/a | n/a | n/a | 1 | 1 | 1 | N | N | N | 0 | Volunteers: 66 VACCON; 11 PROVEL |
| 136 | 2018 | RP, RH, JD | 452217, 3515988 | 99 | 25 | 25 | 49 | 0 | 72 | 34 | 20 | 18 | 5 | 0 | 1 | 4 | 0 | 3 | 3 | 2 | 1 | 2 | 1 | N | N | N | 0 | Cannisters missing, difficult to determine if there are more dead , |
| | 2019 | RP, TS | | | | | | | 55 | 24 | 20 | 11 | 0 | 0 | 0 | 0 | 6 | 3 | 4 | 3 | 1 | 1 | 1 | N | Y | N | 9 | Volunteers: 14 VACCON; 12 PROVEL |
| 134 | 2018 | RBP; RH; JRD | 453424, 3517362 | 32 | 8 | 8 | 16 | 0 | 9 | 3 | 5 | 2 | 2 | 2 | 0 | 0 | 0 | 2 | 4 | 3 | 1 | 1 | 1 | N | N | N | 0 | Grazing: Corral is adjacent to site, debris scattered over site; highly |
| | 2019 | RP, TS | | | | | | | 14 | 4 | 5 | 5 | 3 | 3 | 0 | 0 | 0 | 3 | 5 | 3 | 1 | 1 | 1 | Y | N | N | 0 | Volunteers: 3 VACCON; 13 PROVEL |
| R115 | 2018 | JD, TS | 463223, 3526035 | 49 | 12 | 12 | 25 | 0 | 41 | 19 | 6 | 16 | 0 | 0 | 0 | 0 | 7 | 2 | 3.5 | 1.5 | 2.5 | 6 | 1.5 | N | Y | N | 0 | OHV = two separate sets of tire tracks; Livestock = current and long- |
| | 2019 | RP, TS | | | | | | | 37 | 12 | 5 | 15 | 0 | 0 | 0 | 0 | 5 | 3 | 6 | 3 | 1 | 2 | 1 | N | N | N | 3 | Volunteers: 41 VACCON; 4 PROVEL |
| 149 | 2018 | RP, RH, JD | 450808, 3510113 | 56 | 14 | 14 | 28 | 17 | 35 | 24 | 1 | 10 | 7 | 0 | 0 | 7 | 0 | 2 | 2 | 2.5 | 1 | 2 | 1 | N | N | N | 0 | volunteer hackberry, SENGRE, VACCON, PROVEL, ZIZOBT |
| | 2019 | RP, TS | | | | | | | 10 | 4 | 2 | 4 | 4 | 0 | 0 | 4 | 0 | 3 | 2 | 3 | 1 | 1 | 1 | N | N | N | 4 | Volunteers: 49 VACCON; 3 PROVEL |
| 147 | 2018 | RP, RH, JD | 450828, 3510223 | 75 | 19 | 19 | 37 | | 27 | 21 | 0 | 6 | 7 | 0 | 0 | 7 | 0 | 2.5 | n/a | 2.5 | 1 | 1 | 1 | N | N | N | 0 | volunteer SENGRE, PROVEL, PARACU, VACCON, ZIZOBT |
| | 2019 | RP, TS | | | | | | | 8 | 6 | 0 | 2 | 2 | 0 | 0 | 2 | 0 | 4 | n/a | 4 | 1 | 1 | 1 | N | N | N | 4 | Volunteers: 14 VACCON; 9 PROVEL |
| **Total (2018)** | | | | **962** | **231** | **252** | **478** | | | | | | | | | | | | | | | | | | | | | |
| **Total (2019)** | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

N/A*- tree height not taken

# APPENDIX U

## Tree Monitoring Comparative Photographs Fall 2019



Wash 32, Downstream. 2018



Wash 32, Downstream. 2019



Wash 32, Across. 2018



Wash 32, Across. 2019



Wash 32, Upstream. 2018



Wash 32, Upstream. 2019



Wash 53, Downstream. 2018



Wash 53, Downstream. 2019



Wash 53, Across. 2018




Wash 53, Across. 2019



Wash 53, Upstream. 2018




Wash 53, Upstream. 2019



Wash 55, Downstream. 2018




Wash 55, Downstream. 2019



Wash 55, Across. 2018




Wash 55, Across. 2019



Wash 55, Upstream. 2018




Wash 55, Upstream. 2019



Wash 56, Downstream. 2018




Wash 56, Downstream. 2019



Wash 56, Across. 2018




Wash 56, Across. 2019



Wash 56, Upstream. 2018




Wash 56, Upstream. 2019



Wash 57, Downstream. 2018




Wash 57, Downstream. 2019



Wash 57, Across. 2018




Wash 57, Across. 2019



Wash 57, Upstream. 2018




Wash 57, Upstream. 2019




Wash 65, Downstream. 2018




Wash 65, Downstream. 2019




Wash 65, Across. 2018




Wash 65, Across. 2019




Wash 65, Upstream. 2018




Wash 65, Upstream. 2019



Wash 134, Downstream. 2018




Wash 134, Downstream. 2019



Wash 134, Across. 2018




Wash 134, Across. 2019



Wash 134, Upstream. 2018




Wash 134, Upstream. 2019

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Wash 136, Downstream. 2018




Wash 136, Downstream. 2019




Wash 136, Across. 2018




Wash 136, Across. 2019




Wash 136, Upstream. 2018




Wash 136, Upstream. 2019



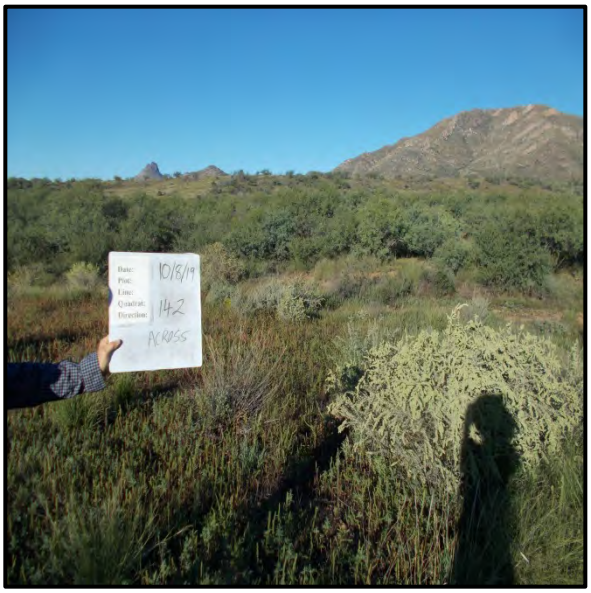
Wash 142, Downstream. 2018




Wash 142, Downstream. 2019



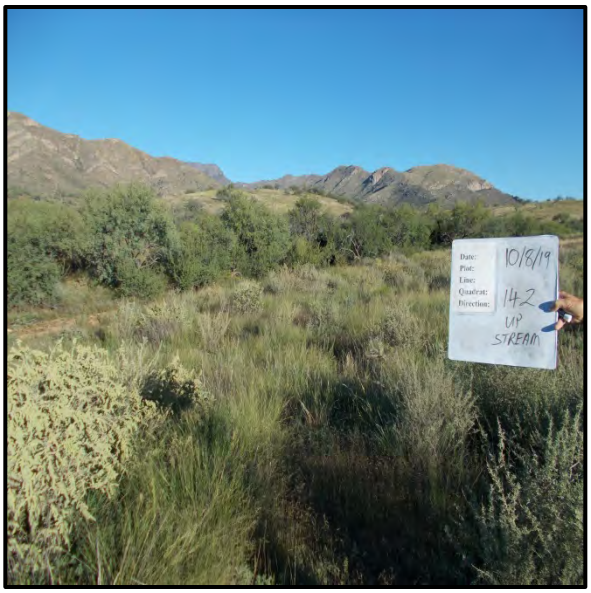
Wash 142, Across. 2018




Wash 142, Across. 2019



Wash 142, Upstream. 2018




Wash 142, Upstream. 2019



Washes 143 and 144, Downstream. 2018




Washes 143 and 144, Downstream. 2019



Washes 143 and 144, Across. 2018




Washes 143 and 144, Across. 2019



Washes 143 and 144, Upstream. 2018




Washes 143 and 144, Upstream. 2019



Wash 145, Downstream. 2018




Wash 145, Downstream. 2019



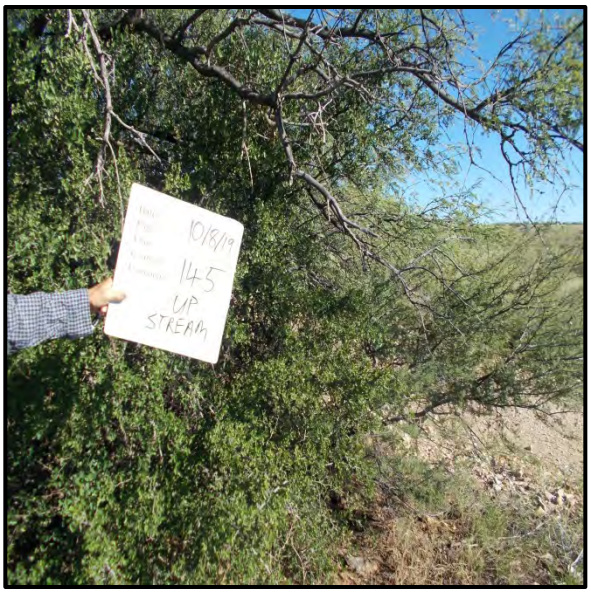
Wash 145, Across. 2018




Wash 145, Across. 2019



Wash 145, Upstream. 2018




Wash 145, Upstream. 2019



Wash 147, Downstream. 2018




Wash 147, Downstream. 2019



Wash 147, Across. 2018




Wash 147, Across. 2019



Wash 147, Upstream. 2018




Wash 147, Upstream. 2019



Wash 149, Downstream. 2018




Wash 149, Downstream. 2019



Wash 149, Across. 2018




Wash 149, Across. 2019



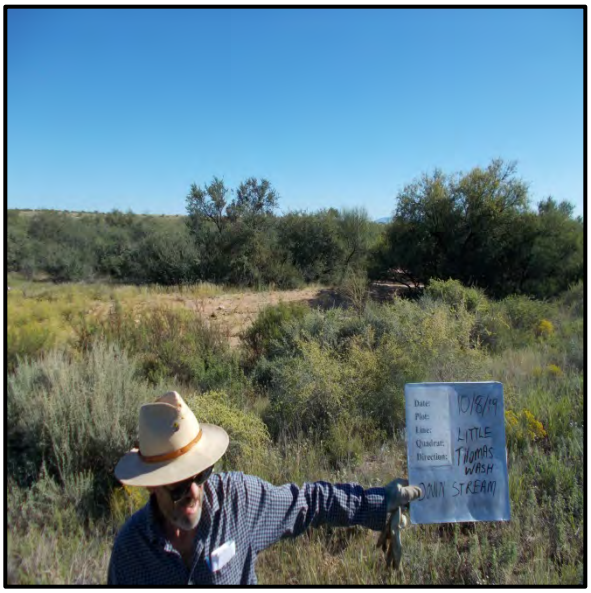
Wash 149, Upstream. 2018




Wash 149, Upstream. 2019



Little Thomas Wash, Downstream. 2018




Little Thomas Wash, Downstream. 2019



Little Thomas Wash, Across. 2018




Little Thomas Wash, Across. 2019



Little Thomas Wash, Upstream. 2018



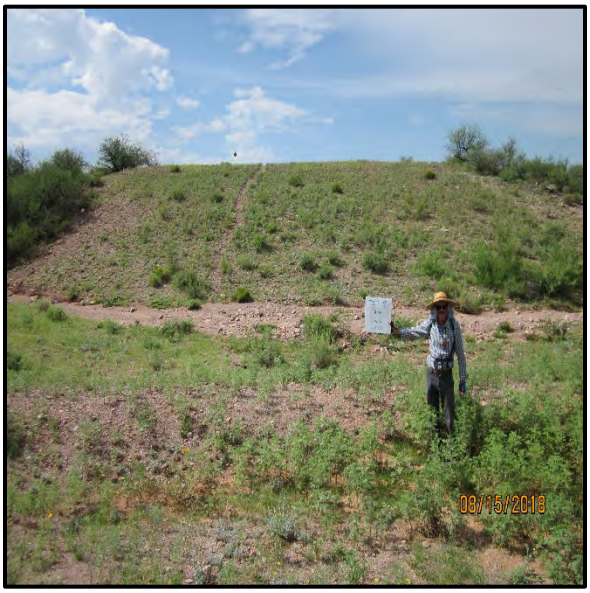

Little Thomas Wash, Upstream. 2019




Wash R115, Downstream. 2018



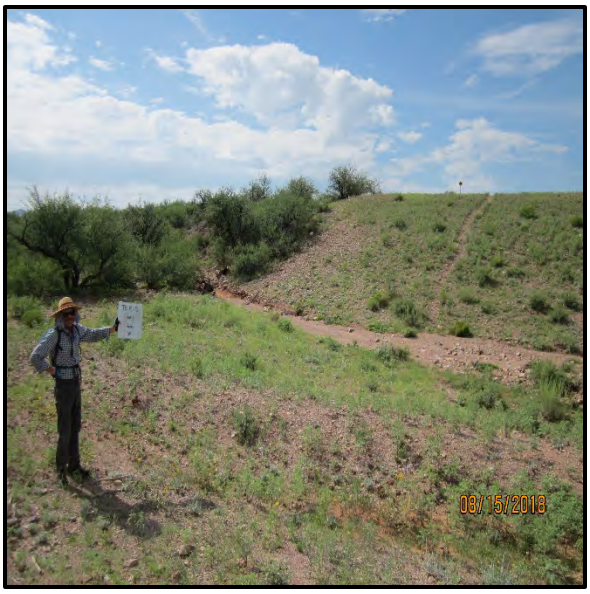

Wash R115, Downstream. 2019




Wash R115, Across. 2018




Wash R115, Across. 2019




Wash R115, Upstream. 2018




Wash R115, Upstream. 2019



Thomas Canyon Wash, Downstream. 2018




Thomas Canyon Wash, Downstream. 2019



Thomas Canyon Wash, Across. 2018




Thomas Canyon Wash, Across. 2019



Thomas Canyon Wash, Upstream. 2018




Thomas Canyon Wash, Upstream. 2019