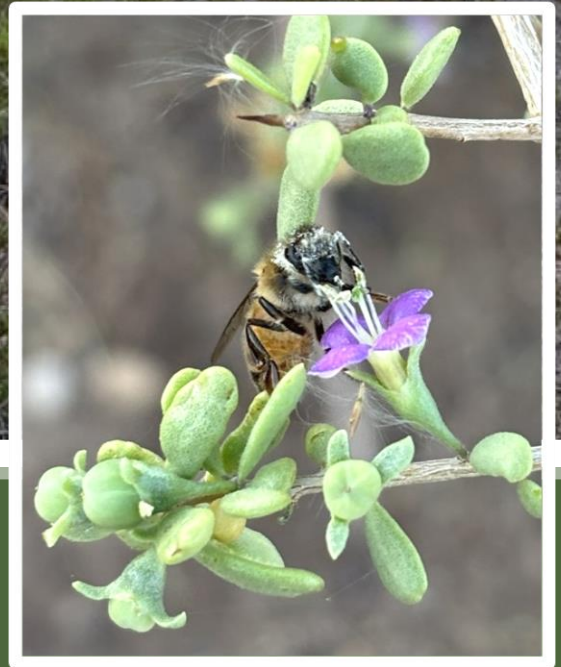




Las Vegas Wash Vegetation Monitoring Report, 2025



SOUTHERN NEVADA
WATER AUTHORITY®



LVWCC

**Las Vegas Wash
Vegetation Monitoring Report, 2025**

**SOUTHERN NEVADA WATER AUTHORITY
Las Vegas Wash Project Coordination Team**

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ABSTRACT

For more than 25 years, native revegetation along the Las Vegas Wash (Wash) has helped to meet the goals of the Las Vegas Wash Coordination Committee, and that restoration is vigorously monitored. In 2024, the vegetation monitoring protocol was revised which included modifying site boundaries, reducing the total number of revegetation sites and updating field and remote survey methods. Field monitoring for this report took place in September and October 2025 following the new timed meander survey protocol. Twenty upland and riparian sites located on the south side of the Wash and grant-funded sites with five or less growing seasons were surveyed. Total vegetative cover for the remaining 55 sites was calculated using aerial imagery and Light Detection and Ranging (LiDAR) data. Sites that were monitored in the field had total cover, noxious species cover, species richness and Wetland Prevalence Index documented. The wetland designations of all field monitored sites were reviewed and updated as needed. Three of the 20 field monitored sites are good candidates for enhancement under the Las Vegas Wash Long-Term Revegetation Management Plan. There are now eight sites along the Wash that qualify for enhancement and two others that are possible candidates following additional monitoring. One site surveyed in 2025 qualified for targeted invasive and other undesirable species removal. Grants play a significant role in the Wash revegetation program, funding many of the revegetation sites. The database created in 2024 that includes all permitted and grant-funded areas along the Wash has been updated with 2025 data. All information regarding past grants and permitted areas can be found in the legacy database on SharePoint.

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Appendix

Appendix A	Aerial Imagery of the Vegetation Identified within the Waterway Polygons and on Weirs and Drop Structures
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List of Revegetation Site Names and Acronyms

ASBBN	Archery and Silver Bowl Bank North
ASBBS	Archery and Silver Bowl Bank South
ASBN	Archery and Silver Bowl North
ASBS	Archery and Silver Bowl South
AW	Archery Weir
BBN	Bostick Bank North
BBS	Bostick Bank South
BK	Bostick Kiosk
BN	Bostick North
BS	Bostick South
BW	Bostick Weir
CCNW	Cottonwood Cell Non-Wetland
CCW	Cottonwood Cell Wetland
CCWRD	Clark County Water Reclamation District
CRW	Calico Ridge Weir
DCCW	Duck Creek Confluence Weir
DUD-1	DU Wetlands No. 1 Drop
DUN	DU North
DUS	DU South
DUW-1	DU Wetlands No. 1 Weir
DUW-2	DU Wetlands No. 2 Weir
HLEN	Historic Lateral Expansion North
HLES	Historic Lateral Expansion South
HLS	Historic Lateral South
HLW	Historic Lateral Weir
HW	Homestead Weir
LNBN	Lower Narrows Bank North
LNBS	Lower Narrows Bank South
LNN	Lower Narrows North
LNS	Lower Narrows South
LNSGU24	Lower Narrows South Green-Up 2024
LNSGU25	Lower Narrows South Green-Up 2025
LNW	Lower Narrows Weir
MW	Monson Weir
NDEP	Nevada Division of Environmental Protection
NDSP	Nevada Division of State Parks
PLB	Powerline Bank
PLCW	Powerline Crossing Weir

PLN	Powerline North
PLS	Powerline South
PNB	Pabco North Bank
PS	Pabco South
PSB	Pabco South Bank
PW	Pabco Weir
RGW	Rainbow Gardens Weir
SBW	Silver Bowl Weir
SMN	Sunrise Mountain North
SMS-1	Sunrise Mountain South-1
SMS-2	Sunrise Mountain South-2
SMW	Sunrise Mountain Weir
SNPLMA IV	Southern Nevada Public Land Management Act IV
SNPLMA V	Southern Nevada Public Land Management Act V
TBN	Tropicana Bank North
TBS	Tropicana Bank South
TKW	Three Kids Weir
TN	Tropicana North
TW	Tropicana Weir
UDB	Upper Diversion Bank
UDD-1	Upper Diversion Drop No. 1
UDD-2	Upper Diversion Drop No. 2
UDD-3	Upper Diversion Drop No. 3
UDI-1	Upper Diversion Island-1
UDI-2	Upper Diversion Island-2
UDN	Upper Diversion North
UDS	Upper Diversion South
UDW	Upper Diversion Weir
UNBN	Upper Narrows Bank North
UNBS	Upper Narrows Bank South
UNN	Upper Narrows North
UNNS	Upper Narrows North Stockpile
UNS	Upper Narrows South
UNSF	Upper Narrows South Fill
UNW	Upper Narrows Weir
VCW	Visitor Center Weir

1.0 INTRODUCTION

1.1 Background

In 1997, the Southern Nevada Water Authority (SNWA) assembled a citizens advisory committee to evaluate water quality issues in the Las Vegas Wash (Wash), Las Vegas Bay and Lake Mead. From this, the Las Vegas Wash Coordination Committee (LVWCC), a stakeholder group consisting of federal, state and local agencies; the University of Nevada, Las Vegas; private businesses; environmental groups; and citizens, was formed with SNWA as the lead agency. The LVWCC created the Las Vegas Wash Comprehensive Adaptive Management Plan (CAMP; LVWCC 2000) to guide stabilization and enhancement of the Wash. The Wash, which flows through the Clark County Wetlands Park (Wetlands Park), is the primary drainage channel for the Las Vegas Valley, carrying highly treated wastewater, shallow groundwater, urban runoff and stormwater to Lake Mead (Figure 1). Activities have been carried out to implement the goals of the CAMP, including constructing erosion control structures (weirs) in the stream channel and armoring the banks with rock. Wetland, riparian and upland vegetation has been planted to help further protect the Wash from erosion and improve the functional attributes of the ecosystem.

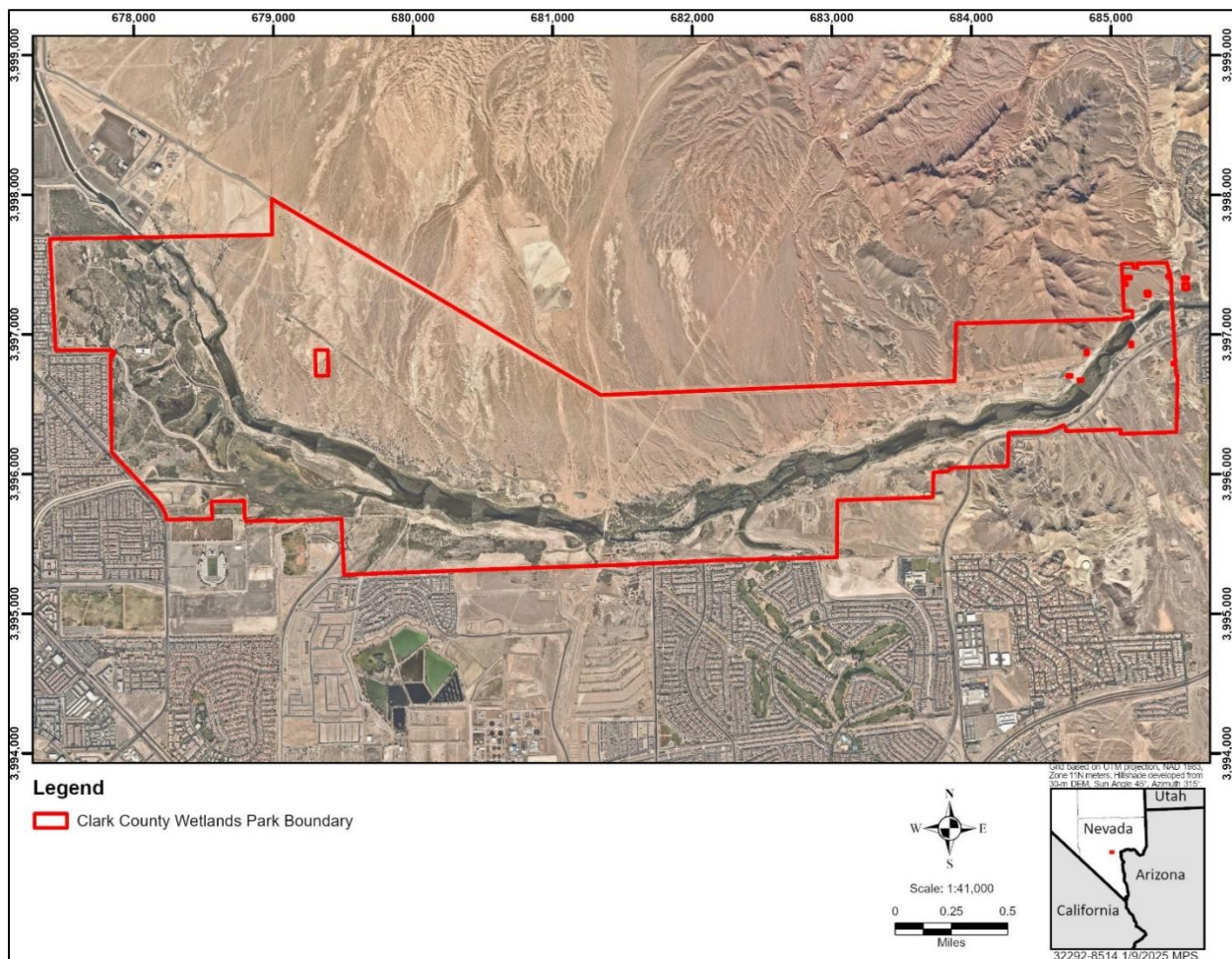


Figure 1. Las Vegas Wash location and general study area map.

For more than 25 years, the revegetation program has helped stabilize and enhance the Wash by installing tens of thousands of native plants across several hundred acres along the channel. The plants act as soil anchors during flood events, binding their roots to soil particles on the surface, subsurface and in the deep subsurface horizon. In addition, a variety of wildlife species benefit from these revegetation efforts (Great Basin Bird Observatory 2024, Lantow 2020, Van Dooremolen et al. 2025).

At the time the erosion control project began, few native plants were found along the Wash's banks, especially wetland and riparian species (LVWCC 2000). Salt cedar (*Tamarix ramosissima*; a.k.a., tamarisk), an exotic species, had successfully established in the area and become the dominant species. At its peak, salt cedar covered approximately 1,500 acres along the channel. The plants used to restore the Wash to a natural-type condition include a variety of species native to upland, wetland and riparian areas in the region.

1.2 Purpose and Scope

This report documents the status of SNWA's revegetation efforts along the Wash by reporting 2025 data as part of a comprehensive vegetation monitoring program. Vegetation monitoring results from 2002 through 2024 have been previously documented (SNWA 2005, Eckberg and Shanahan 2008, Eckberg 2014a, Eckberg 2014b, Eckberg 2015, Eckberg 2016, Eckberg 2018, Eckberg 2019a, Eckberg 2019b, Eckberg 2020, Eckberg 2022, Lantow 2023, Lantow 2024a, Lantow 2024b, Lantow 2025); therefore, they are not described in detail in this report. Since 2003, monitoring activities have been conducted on progressively larger land areas. Approximately 38 acres were monitored in 2003 and about 615 acres were monitored in 2025. All revegetation sites are located within or bordering the Wetlands Park (Figure 1).

1.3 Need for Revegetation and Vegetation Monitoring

Revegetation projects along the Wash are conducted to meet permitting requirements and because of their environmental benefits. Clean Water Act (CWA) Section 404 permits issued by the U.S. Army Corps of Engineers to SNWA for erosion control projects occurring in jurisdictional waters of the U.S. required revegetation as compensatory mitigation for wetlands impacted. Section 404 of the CWA established a program to regulate the discharge of dredged or fill material into waters of the U.S. This includes wetlands associated with Wash erosion control projects. Section 404 permits required that revegetation projects are monitored for success; consequently, several performance indicators are monitored so performance criteria can be achieved. The primary criterion is that mitigation areas provide the functional attributes of a natural wetland system.

The Nevada Division of Environmental Protection (NDEP), which derives its authority from state and federal implementing regulations (i.e., Chapter 445A of the Nevada Revised Statutes and Section 402 of the CWA), also requires revegetation to occur for Wash construction projects. NDEP issued general stormwater permits for Wash construction activities, and permits require that final site stabilization is achieved. Vegetative cover serves as a form of final stabilization, defined by NDEP as "...perennial vegetative cover with a density of 70% of the native background

vegetative cover...establishing at least 70% of the natural cover of the native vegetation...e.g., if the native vegetation covers 50% of the ground, 70% of 50% would require 35% total cover.”

In addition to permit-required revegetation, SNWA has received multiple federal, state and local grants to help fund the erosion control program and ecological enhancements along the Wash. Granting agencies, such as the Bureau of Reclamation (BOR), require that revegetation projects are successful; therefore, specific criteria are measured during monitoring to ensure compliance with these requirements.

Also, stakeholders need to be kept aware of the status of projects along the Wash including the revegetation program. Many stakeholder meetings were held to establish the goals of the Wash program and providing regular updates ensures members are informed of progress. In addition, the Las Vegas Valley Watershed Advisory Committee (LVVWAC), which provides funding and oversight for the LVWCC’s activities, needs to know how funds are spent and that efforts are successful.

Finally, data from vegetation monitoring along the Wash informs future decisions. Information on which species are regularly successful and which ones rarely survive without substantial human intervention helps project managers decide what species should be used in future restoration efforts. This increases revegetation project success and helps ensure funds are used effectively.

1.4 Program Funding

Beginning July 2022, the Wash program transitioned from capital construction to the Las Vegas Wash Long-Term Operating Plan (LTOP; LVWCC 2020). The LTOP lays out 36 actions to sustain program assets, including revegetation, and is funded by LVVWAC member agencies. State and federal grants continue to be important components of the budget for revegetation activities.

1.5 Typical Revegetation Establishment Activities

1.5.1 Planning

Most revegetation sites along the Wash were established in association with the construction of weirs. Plant species selection and irrigation design were done in conjunction with the engineering plans for the site. Hydroseeding was included in the construction of the erosion control structures, as the final step in the construction process and the initial step in most revegetation projects. Species with the highest likelihood of success were selected for each weir site. Procedures were described in construction plans to include tackifier, mulch and fertilizer along with the seeds themselves.

1.5.2 Plant Procurement

After plant species are selected, procurement activities take place in order to have material in time for planting at the sizes needed to have a successful restoration site. Plants are either ordered from government or commercial nurseries or grown by the Las Vegas Wash Project Coordination Team

(Wash Team). Local and regional nurseries, such as the Nevada Division of Forestry and Mountain States Wholesale Nursery, have provided most of the plants for this work. Plants grown by the Wash Team involve collecting seed or cuttings, establishing the seedlings, transplanting them into larger containers, irrigating them and delivering them back to the Wash for final planting. With revegetation activities taking place for more than 25 years, there are now sufficient native species established along the Wash to procure seeds and cuttings without going to surrogate areas. Plant propagation for the Wash Team takes place at the SNWA-owned and -operated Warm Springs Natural Area propagation facility in Moapa, NV.

1.5.3 Invasive and Other Undesirable Species Removal

Prior to revegetation efforts, most of the sites described in this report were covered in part or entirely by salt cedar, an invasive species that is prolific, spreads easily and can encroach on revegetation sites if removal does not take place. Some other invasive species that are found on sites and require constant monitoring are tall whitetop (*Lepidium latifolium*), silverleaf nightshade (*Solanum elaeagnifolium*) and giant reed (*Arundo donax*). Without their removal, the native species used in revegetation would not be able to grow, germinate and become self-sustaining. Consequently, considerable effort is given to surveying sites for encroachment, identifying invasive species and planning for their removal as soon as possible.

Other species that are closely monitored because of their ability to grow vigorously and outcompete revegetated plants are common reed (*Phragmites australis*) and quailbush (*Atriplex lentiformis*). Quailbush is a native species, and the Wash has both native and non-native common reed as well as hybrids of the two (Saltonstall et al. 2016). The goal with these species is not to completely remove them, but to selectively thin them so that other vegetation can establish.

1.5.4 Irrigation

Non-wetland revegetation sites along the Wash require irrigation for the first 1–3 growing seasons to become established. Sites are irrigated with components that are easily moved to new sites as they are planted. Irrigation water is pumped out of the Wash using gasoline- or biodiesel-powered pumps to a single mainline and then to multiple lateral lines that are fitted with drip irrigation tubing. Past efforts included spray irrigation.

Over the years, the sizes of the sites that are irrigated have ranged from under one acre to almost 60 acres. Regular checks and maintenance of irrigation system components are critical to ensure the water is reaching the plants. On average, southern Nevada gets less than five inches of rain annually, so a break in the irrigation system could be detrimental to the plants' health and the overall success of the site. Irrigation maintenance includes fixing leaks, tightening connections and fixing or replacing broken pipes or emitters.

1.5.5 Trash Removal

Trash is prevalent along the Wash, deposited by flood events, wind and illegal dumping. South Hollywood Blvd., located just north of the channel, is a common site for the latter, and when flood

events occur, trash and storm debris are likely to end up in the Wash. If trash or debris ends up at a newly planted revegetation site, it can hinder the site's success. Following storm events, sites are assessed for refuse that could hinder plant growth.

1.5.6 Herbivore Control

Fencing was installed on some revegetation sites to help reduce the damage caused by beavers and rabbits. Some sites had a single fence that went around the site's entirety while other sites had individual fences for each plant. Both situations require continual inspection for damage, repairs and adjustments to spacing to reduce plant damage. Once a site is considered fully established, the fencing is typically removed. To date, all fencing has been removed and no new fencing installed, therefore, there should be no fencing at revegetation sites.

1.5.7 Long-Term Management

The Las Vegas Wash Long-Term Revegetation Management Plan (RMP; Eckberg 2019c) was created to help identify activities that would improve revegetation sites along the Wash after initial establishment. Initial establishment activities were completed in the spring of 2022. In general, the RMP focuses on how to improve the ecological function of revegetation sites, including augmenting vegetative cover, diversifying plant structure types and species, increasing wildlife benefits in the form of food and shelter, and removing undesirable species and trash from sites.

2.0 MATERIALS AND METHODS

In 2024, the vegetation monitoring protocol was revised to better align with long-term management needs, simplify the survey process and reduce the total number of revegetation sites (Lantow 2025). No new sites have been added since the Wash Team began implementing the LTOP in 2022; revegetation efforts now focus on enhancing already established sites. In total, more than 600 acres have been revegetated along the Wash. This acreage will not change, but beginning in 2023, total enhanced acreage within these sites has been tracked annually.

2.1 New Site Boundaries

At the conclusion of the 2023 monitoring period, there were 158 revegetation sites that had a median growing season age of 15. With long-term management recently beginning and most sites not experiencing much change year to year, it was time to modify site boundaries, reducing the total number of sites and ultimately reducing the total number of surveys. Where needed and possible, sites were modified to create more obvious boundaries (roads, paths, etc.). Sites were merged that had similar vegetation, Wetland Prevalence Index (WPI) numbers and were either next to or near one another. All monitoring areas within previous sites were typically merged to create one large site. Wetland sites or portions of sites not designated as vegetation to remain in the Las Vegas Wash Facilities Inventory and Vegetation Management Plan (IVMP; WSP 2019) are now part of the waterway polygons, which also include parts of bank and emergent revegetation sites. More detailed information on these changes, including detailed maps, can be found in the 2024 vegetation monitoring report (Lantow 2025).

There are now 74 revegetation sites along the Wash, including wetland, non-wetland, weirs and drop structures (Figure 2). Sites that are grant funded will not be merged with other sites until after their fifth survey season. Most grants require five consecutive years of field monitoring so keeping grant-funded sites separate allows for better tracking to ensure goals are met. Following the site's fifth survey season, site boundaries can be modified if deemed appropriate.

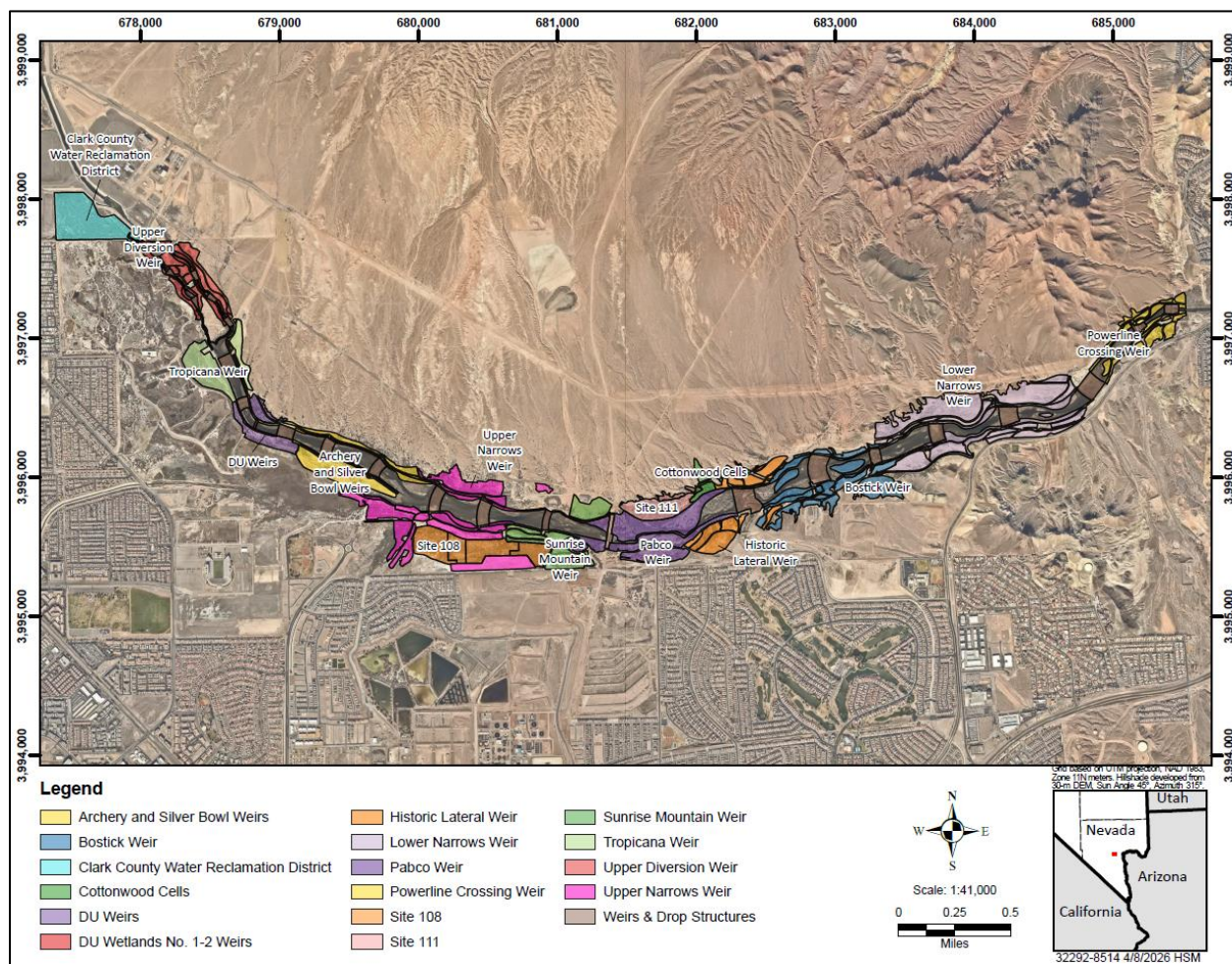


Figure 2. Las Vegas Wash revegetation sites following 2024 changes.

2.2 Weir and Drop Structure Monitoring

In past surveys, all weirs except Bostick Weir were surveyed annually for total cover using ArcGIS due to the lack of accessibility and safety concerns. When determining total cover, each weir's polygon was modified to include only vegetation within the area, resulting in the highest total cover class (75–100%) every year. Following the new monitoring protocol (Lantow 2025), permanent polygons for each weir including the apron, crest and chute were created and from these new polygons the total vegetative cover is determined (Figure 3). These polygons were created using the IVMP (WSP 2019). Additional information regarding these modifications can be found in the 2024 vegetation monitoring report (Lantow 2025).

Since 2024, the total cover on drop structures has been included in the vegetation monitoring reports and updated annually. Drop structures are similar to but smaller than weirs and are generally only cleared when access to the peninsula is needed to work on the Monson and Visitor Center weirs.

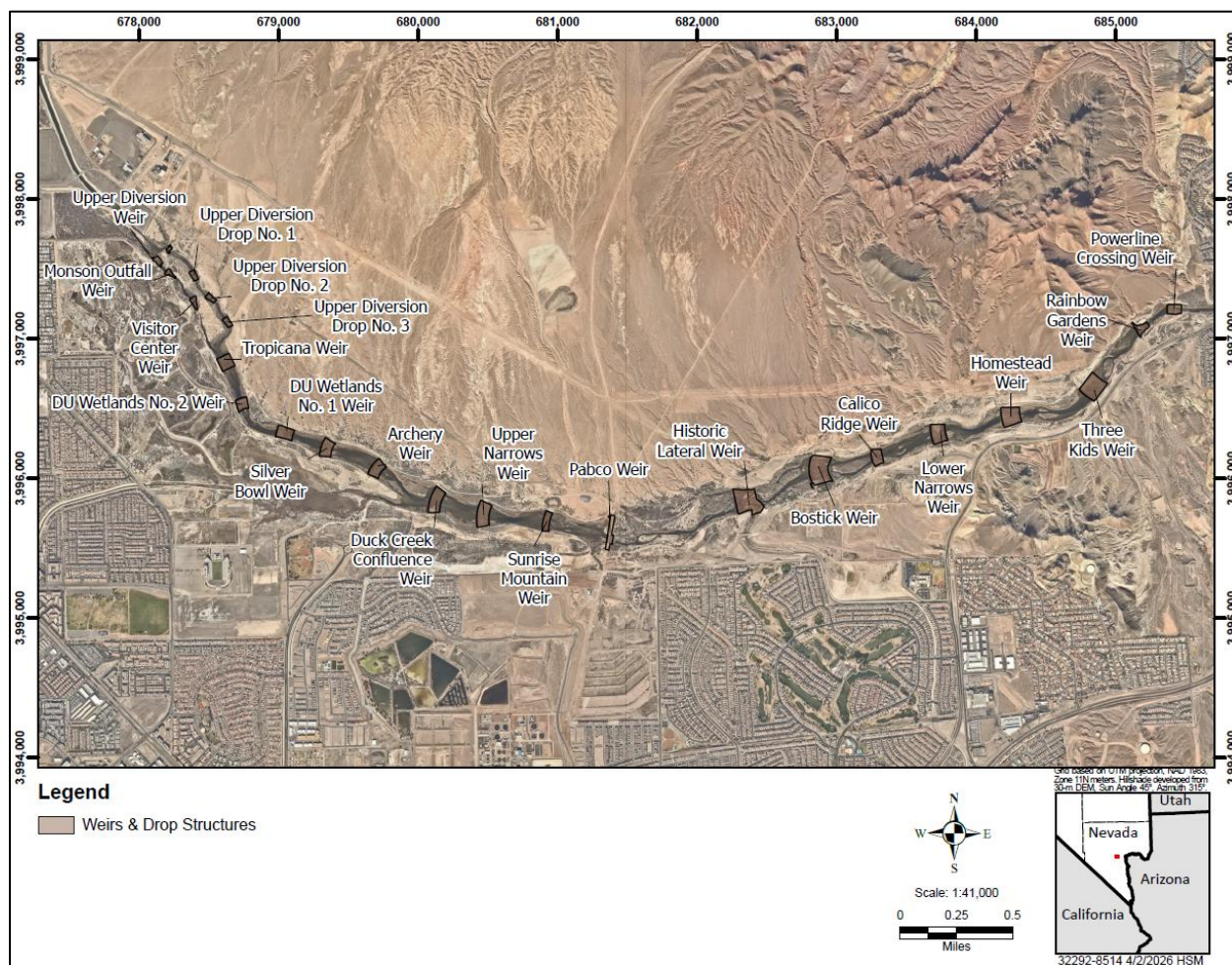


Figure 3. Map of weir and drop structure polygons.

In addition to obtaining annual total vegetative cover using ArcGIS for all weir and drop structure polygons, every third year beginning in the fall of 2026, a visual survey of the weirs and drop structures will be conducted. This survey will determine the total woody vegetative cover on each structure. As described in Eckberg (2019c), two species are of most concern: Fremont's cottonwood (*Populus fremontii*) and Goodding's willow (*Salix gooddingii*). Where possible, crews manually remove these species. However, if hand crews cannot reach the trees, or if the trees grow larger than hand tools can remove, large equipment is needed from specialized contractors. Removal by hand crews is the preferred method. The large equipment method results in greater disturbance, is more expensive and typically results in repairs of the structures being needed, further increasing costs.

2.3 Vegetative Cover Map

Using high-resolution (resolution = 3 inches per pixel) aerial imagery and Light Detection and Ranging (LiDAR; resolution = 1 foot per pixel) data (Singleton 2024), a vegetative cover map of the Wash was created. Aerial imagery is acquired on a biennial basis between May and June and LiDAR data is acquired on an as-needed basis both during leaf-on conditions. Upon receiving the aerial imagery and LiDAR data, the LiDAR point cloud data was processed into a canopy height model and then joined with the aerial imagery. A supervised classification was subsequently performed to map trees, shrubs and grasses along the Wash, resulting in polygons representing each (Figure 4). Finally, area calculations were performed in ArcGIS Pro based on the fraction of vegetative cover per total site area. Utilizing this method saves time since cover can now be calculated collectively for all sites as opposed to individually per site.

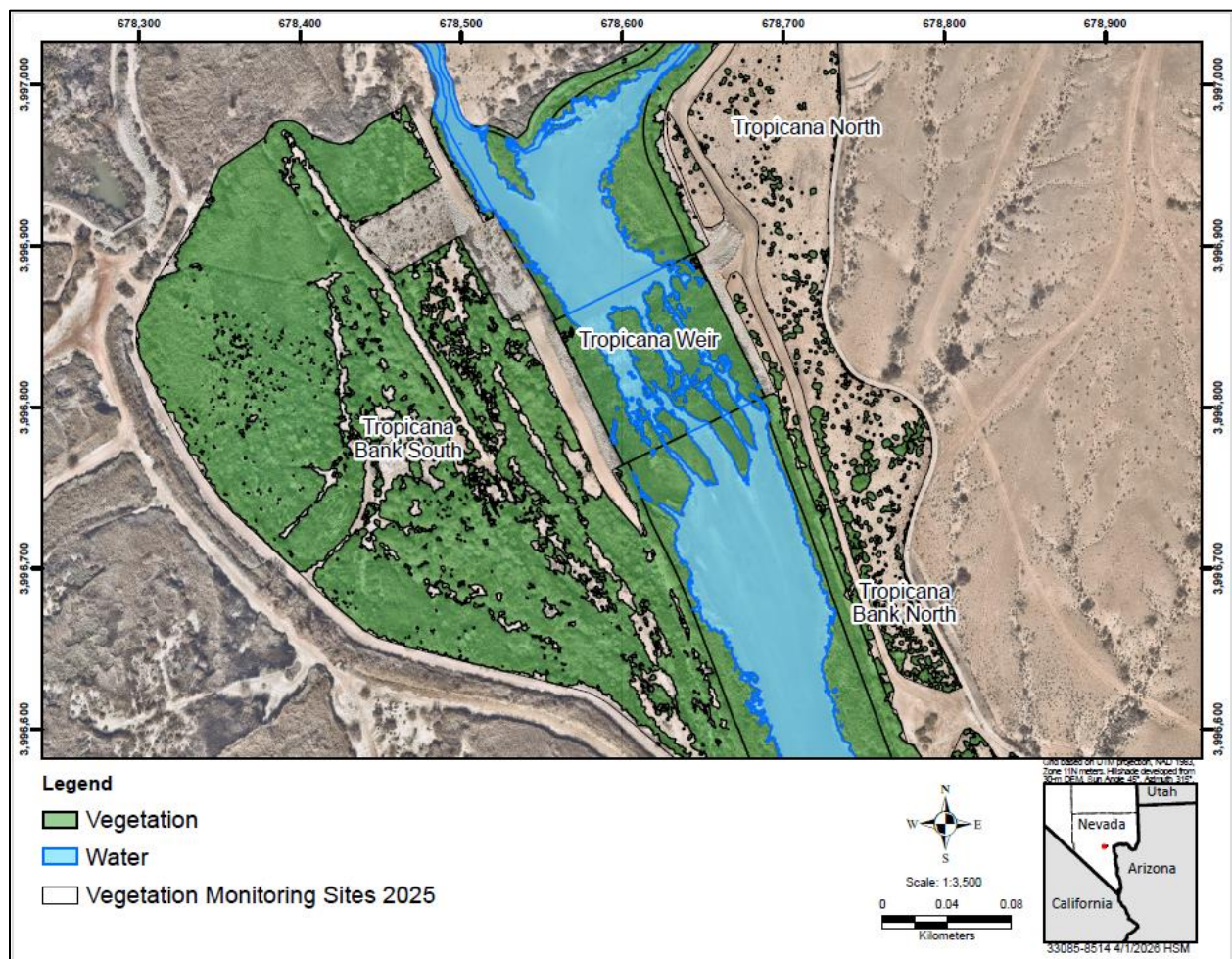


Figure 4. An example of what the total vegetative cover results look like using aerial imagery and Light Detection and Ranging (LiDAR) data at the Tropicana Weir revegetation sites.

Permanent polygons for the waterway within the Wash channel were created following the IVMP (WSP 2019; Figure 5). These polygons include the wetland sites that were not designated in the IVMP as vegetation to remain, which includes parts of bank and emergent revegetation sites. Each year, a vegetative cover map will be used to calculate the total percentage of vegetation within these polygons.

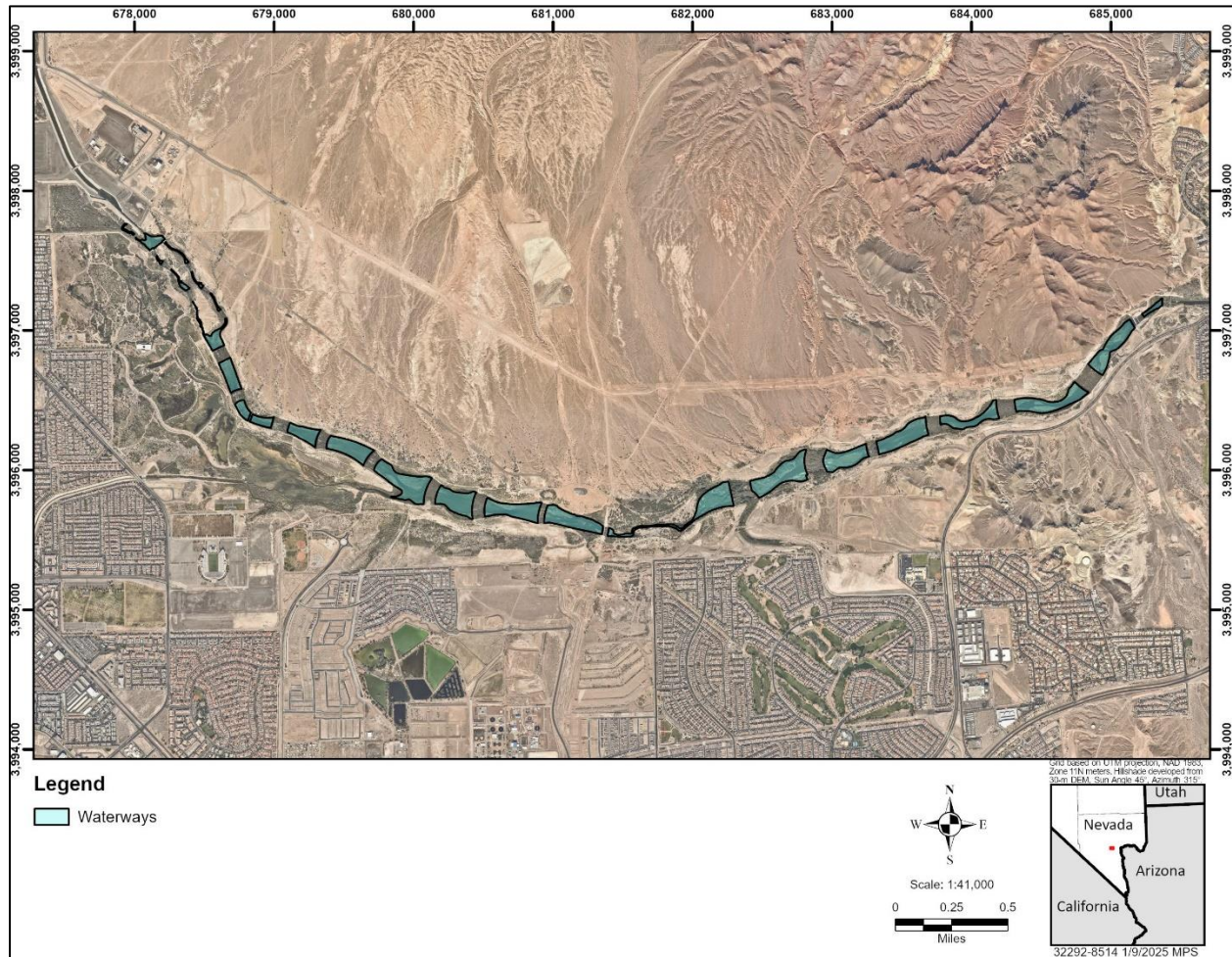


Figure 5. Aerial photograph of waterway polygons.

Other sites that are now monitored exclusively using this method include Clark County Water Reclamation District (CCWRD), Upper Narrows South Fill (UNSF), Bostick Kiosk (BK), Historic Lateral Expansion South (HLES), and Upper Narrows North Stockpile (UNNS). Surveys for these sites could change if access improves to CCWRD and/or additional plantings occur at the other four sites.

2.4 Timed Meander Surveys

The timed meander survey (TMS) method described here is designed to provide a qualitative assessment of plant community conditions. Many studies have used some version of this method successfully (Minnesota Pollution Control Agency 2014; Galatowitsch and Bohnen 2016). A TMS consists of meandering around a site and recording all species present. Each survey begins with a base time of 20 minutes; once the base time elapses, if there are less than three new species identified within the final 10 minutes, then the survey concludes. If there are three or more new species identified, then an additional five minutes will be added. Five-minute increments are added until less than three species are recorded within a time increment. Sites that are larger than 25 acres will have a second TMS completed; all other sites will have one. Each survey will record if any, and how many, additional five-minute increments were added. The meander can stop before the base time expires if the entire site has been adequately surveyed in less than the allotted time. The timer will be paused when necessary to identify species or when moving from one area to the next within a site. Upon completion of the meander, the total cover is estimated by cover class for all species and total site cover is recorded. Slight modifications have been made to the cover class ranges used previously to help better identify those sites with complete or almost complete total vegetative cover (Table 1).

Previous Iterations			Current Iteration		
Cover Class	Cover Class Range	Midpoint	Cover Class	Cover Class Range	Midpoint
5	75–100%	87.5%	7	95–100%	97.5%
4	50–75%	62.5%	6	75–95%	85
3	25–50%	37.5%	5	50–75%	62.5%
2	5–25%	15%	4	25–50%	37.5%
1	1–5%	3%	3	5–25%	15%
T	T	0.5%	2	1–5%	3%
R	R	0.1%	1	0–1%	0.5%

Table 1. Cover classes, cover class ranges and midpoint percentages used to determine cover for all species identified within each site for previous and current vegetation monitoring methods.

Timed meander surveys began in the fall of 2024 and are conducted on a three-year rotation (Table 2). This survey schedule was determined by site location and type of habitat found within each site (Table 2). Grant-funded sites typically must be monitored for the first five years and after that are included in the three-year monitoring rotation. Non-grant-funded sites do not need five years of monitoring, but instead it is recommended that they be monitored consecutively for two years and then be added to the three-year rotation. The first site that will fall into this category is the spring 2026 Green-Up site.

	Year 1 (Beginning in 2024)	Year 2	Year 3	Annually
Meander Survey of Upland and Riparian Sites on the North Side	X			
Meander Survey of Upland and Riparian Sites on the South Side		X		
Meander Survey of all Bank and Wetland Sites			X	
Visual Survey of Weirs and Drop Structures			X	
Total Vegetative Cover of Weirs				X

Table 2. Survey schedule of sites along the Las Vegas Wash. This schedule repeats after the third year.

The data that is collected during each TMS is stored on the Survey123 app. Table 3 shows the direction in which each survey should be conducted. Upon completion of survey year 2029, the directions are then repeated (Table 3). Each site should follow a pattern rotating from meandering downstream to meandering upstream each survey year.

Survey Years	Direction
2024–2026	Start surveys at the most upstream location meandering downstream
2027–2029	Start surveys at the most downstream location meandering upstream

Table 3. Starting location and the direction of how each timed meander survey should be conducted.

2.5 Survival Surveys

When sites are grant funded, they typically require survival surveys for the first two years following each planting. Survival surveys consist of three line transects that vary in length but are all greater than 100 feet. During transects, staff identify all plants that fall on the transect line or within three feet of the line. In addition to identifying species, staff also determine whether each plant is alive or dead. Plants that are unidentifiable for any reason are labeled as unknown and either alive or dead. For each transect, the total number of alive plants is divided by the total number of plants to give a survival percentage. The average of the three is the overall survival percentage for the site. Sites that are not grant funded do not require survival surveys, and the first site that will fall under this category is the spring 2026 Green-Up site. TMS will be completed annually for the first two years for all new planting sites, regardless of funding source, so it is not necessary to continue survival surveys unless required. This may change if it is determined that survival surveys in addition to TMS are beneficial to planting site success.

2.6 Wetland and Non-Wetland Site Updates

All sites along the Wash have a wetland status of either wetland or non-wetland from a jurisdictional determination conducted according to the Corps of Engineers Wetland Delineation Manual (Environmental Laboratory 1987). Each year, the WPI is calculated for each site which helps determine if the current wetland designation is accurate. The WPI is a weighted-average wetland indicator status of all, or nearly all, species at each site. The WPI has a range of 1–5: all

sites that score ≤ 3.00 are considered wetland and sites that score > 3.00 are considered non-wetland. Although the WPI is calculated each field survey year, wetland statuses have not been re-evaluated since designation. Much has changed over the years, and some sites no longer have appropriate designations. Therefore, all sites that were monitored in the field during the 2025 season have their WPI and current wetland status documented in Section 3.0 below.

2.7 Criteria to Qualify for Enhancement or Invasive and Other Undesirable Species Removal

Following field monitoring surveys each year, sites that meet the requirements will be placed into one of three categories:

1. Candidate for enhancement – Site(s) with fewer than six species and/or less than 30% total vegetative cover.
2. Possible candidate for enhancement – Site(s) with 30–50% total vegetative cover.
3. Candidate for invasive and other undesirable species removal – Site(s) with greater than 5% noxious species cover.

Sites that are within their first five growing seasons are exempt from this designation process because the plants are still in the process of becoming established.

3.0 RESULTS AND DISCUSSION

Monitoring was conducted in September and October 2025 following the TMS protocol. All upland and riparian sites located on the south side of the Wash and those grant-funded sites with five or less growing seasons were surveyed (Table 4). In total, 238.59 acres across 20 sites were monitored in the field. Upper Narrows South (UNS) and Bostick South (BS) both required a second TMS.

The route taken for all TMS went from an upstream to downstream direction. Staff began each survey at the most upstream part of the site and meandered through the site moving downstream. Following Table 3, the next round of surveys for these sites should go from downstream to upstream and will occur in 2028.

Data are presented from upstream to downstream.

Site Name	Acreage	Number of Meanders
Upper Diversion South	2.90	1
Upper Diversion Island - 1	2.49	1
Upper Diversion Island - 2	6.18	1
DU South	10.13	1
Archery Silver Bowl South	21.76	1
Upper Narrows South	33.99	2
Sunrise Mountain South – 1	9.12	1
Sunrise Mountain South – 2	10.21	1
Site 108 – NDSP	13.65	1
Site 108 – NDEP	5.87	1
Site 108 – SNPLMA V	11.92	1
Site 108 – SNPLMA IV	7.60	1
Pabco South	12.52	1
Historic Lateral South	15.10	1
Bostick South	30.65	2
Lower Narrows South	13.72	1
Powerline South	8.21	1
Grant-funded Sites		
Sunrise Mountain North	9.12	1
Lower Narrows South Green-Up 24	6.05	1
Lower Narrows South Green-Up 25	7.40	1
Total	238.59	22

Table 4. Sites that were monitored in the field during the 2025 survey season including their total acreage and the number of meander surveys completed.

Cumulatively, 284.81 acres of wetlands have been created which far exceeds the 53.07 acres required by mitigation permits (Table 5). Included in the 284.81 acres but not eligible for wetland mitigation is 3.17 acres associated with the Cottonwood Cells, which were fully funded by grants from the BOR, and 5.99 acres created at CCWRD, which had its permit held by the property owners. Since site boundaries have recently changed, the wetland area created is now given as a cumulative amount for the entire Wash (Table 5).

Mitigation Project	Mitigation Permit Number	Mitigation Required
Clark County Water Reclamation District	SPK-2009-00227-SG	6.79
Upper Diversion Weir	200550514	0.01
Monson and Visitor Center Weirs	200250111	4.81
Tropicana Weir	SPK-2016-00293	0 ^a
DU Wetlands No. 2 Weir	2007-1961-SG	0.05
DU Wetlands No. 1 Weir	SPK-2010-00285-SG	1.22
Archery and Silver Bowl Weirs	SPK-2011-00796-SG	0 ^a
Duck Creek Confluence and Upper Narrows Weirs	SPK-2009-00042	1.33
Sunrise Mountain Weir	SPK-2014-01108	0 ^a
Pabco Road Weir	199725375	2.20
Historic Lateral Weir	199825148	4.90
Historic Lateral Expansion	SPK-2014-01108	0 ^a
Cottonwood Cells	N/A	—
Bostick Weir	200125114	7.88
Calico Ridge Weir	200450004	3.80
Lower Narrows and Homestead Weirs	SPK-2008-01417-SG	6.25
Three Kids Weir	SPK-2012-01138-SG	0 ^a
Rainbow Gardens Weir	200250054	1.00
Powerline Crossing Weir	200450454	4.87
Demonstration Weir	199825148	0.90
Bank Protection Projects	—	7.06
TOTAL		53.07
Total Wetland Area Created		284.81

^aPermits authorized under Nationwide Permit Number #27 after 2012 have no mitigation requirements.

Table 5. Mitigation requirements and wetland areas established as of October 2025.

3.1 Clark County Water Reclamation District

In 2020, it was determined that it was too difficult to access interior areas of the site, and therefore, total cover using ArcGIS was the only survey method to be utilized moving forward (Figure 6). Although vegetation is visible along the perimeter, that vegetation is not an accurate representation of the entire site. Using aerial imagery and LiDAR data, the vegetative cover for CCWRD was calculated at 90.06% in 2025 (Table 6).

If funding becomes available, removing weeds such as salt cedar, which has reestablished on the site, as well as larger undesirable species such as quailbush, would be a priority. Removing these plants should allow for better access to the interior of the site. The wetland status of the site was previously documented as both wetland and non-wetland. Until field monitoring is possible, the wetland status of this site will not change.

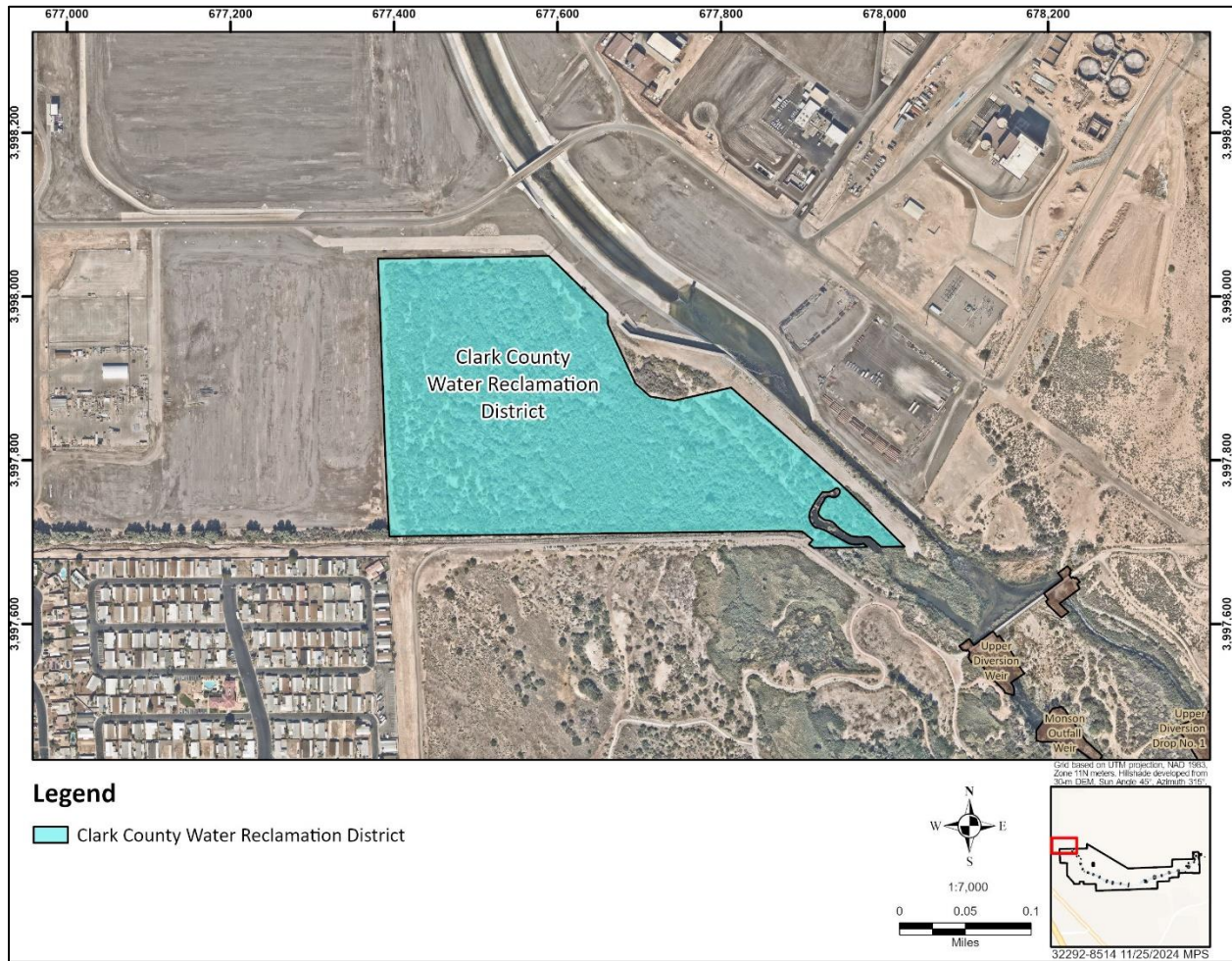


Figure 6. Aerial imagery of Clark County Water Reclamation District revegetation site.

Site Code ¹	Acreage	Wetland Status ²	Cover Class Range	Noxious Species Cover	Number of Species	WPI ³	Vegetative Cover ⁴	Field Survey Year ⁵
CCWRD	33.58	Both	nm	nm	nm	nm	90.06	—

¹CCWRD=Clark County Water Reclamation District

²Wetland status determined by Wetland Prevalence Index (WPI) value: W=wetland and NW=non-wetland

³WPI value: ≤ 3.00 =wetland and > 3.00 =non-wetland

⁴Vegetative cover calculated using aerial imagery and Light Detection and Ranging (LiDAR) data

⁵Initial year a site will be surveyed in the field; an en dash means the site will not be field surveyed

nm=attribute not monitored

Table 6. Vegetation monitoring results for the Clark County Water Reclamation District revegetation site in 2025.

3.2 Upper Diversion Weir

Upper Diversion South (UDS), Upper Diversion Island-1 (UDI-1) and Upper Diversion Island-2 (UDI-2) were surveyed in the field in 2025 (Figure 7, Table 7).

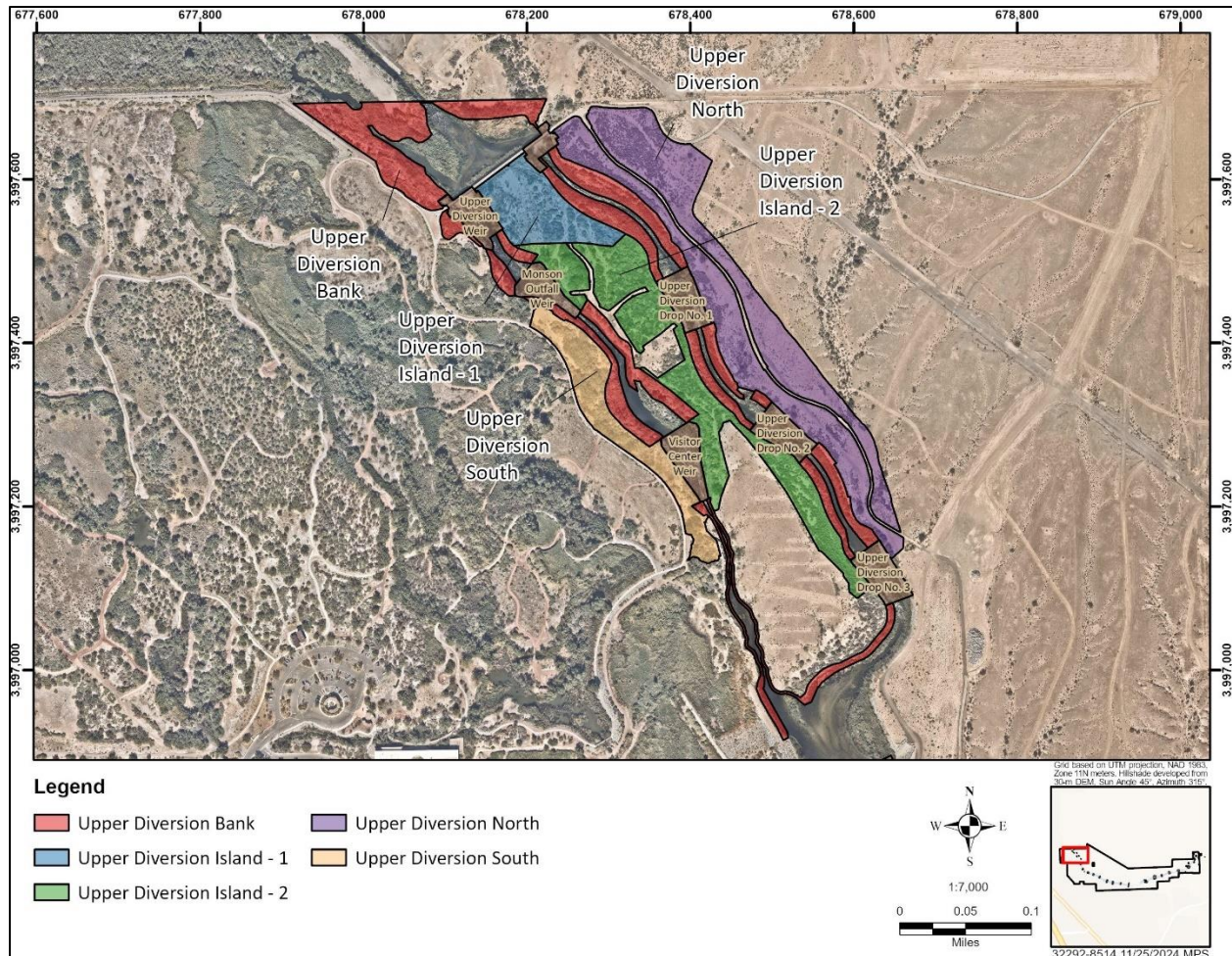


Figure 7. Aerial imagery of Upper Diversion Weir revegetation sites.

UDS had relatively high species diversity with 10 species identified but a total vegetative cover range of only 25–50% (Table 7). On March 31, a fire broke out in the area and burned an estimated 5–15% of this site (Figure 8). With the help of high wind speeds, this same fire jumped across the Wash channel and burned an estimated 50% of UDI-2 (Figure 9). With both sites having relatively low vegetative cover ranges and the damage caused by the recent fire, these sites are now good candidates for enhancement under the RMP.

The upstream boundary of UDI-1 is adjacent to Upper Diversion Weir (UDW). Due to its location, this site gets flooded out during rain events and the rain carries trash and noxious species into the area. Of the estimated 50–75% total vegetative cover for UDI-1, more than 20% was noxious species (Table 7). Although the site qualifies for targeted invasive and other undesirable species removal, it is not a good candidate since any improvements would be only temporary.

The calculated WPI for UDS and for UDI-2 was greater than 3.00, so both sites are non-wetland, and UDI-1 received a WPI of 2.64 making it a wetland. Total vegetative cover for the other sites was calculated using high-resolution aerial imagery and LiDAR data (Table 7).

Site Code ¹	Acreage	Wetland Status ²	Cover Class Range	Noxious Species Cover	Number of Species	WPI ³	Vegetative Cover ⁴	Field Survey Year ⁵
UDN	10.15	nm	nm	nm	nm	nm	37.62%	2027
UDB	10.07	nm	nm	nm	nm	nm	77.89%	2026
UDI-1	2.49	W	50–75%	21.5%	32	2.64	nm	2025
UDI-2	6.18	NW	25–50%	3.0%	13	4.09	nm	2025
UDS	2.90	NW	25–50%	0.5%	10	3.58	nm	2025
UDW	0.98	nm	nm	nm	nm	nm	40.35%	2026
MW	0.55	nm	nm	nm	nm	nm	32.89%	—
VCW	0.71	nm	nm	nm	nm	nm	39.76%	—
UDD-1	0.69	nm	nm	nm	nm	nm	54.45%	—
UDD-2	0.66	nm	nm	nm	nm	nm	58.29%	—
UDD-3	0.71	nm	nm	nm	nm	nm	65.10%	—

¹UDN= Upper Diversion North, UDB= Upper Diversion Bank, UDI-1= Upper Diversion Island-1, UDI-2= Upper Diversion Island-2, UDS= Upper Diversion South, UDW= Upper Diversion Weir, MW=Monson Weir, VCW=Visitor Center Weir, UDD-1=Upper Diversion Drop No. 1, UDD-2=Upper Diversion Drop No. 2 and UDD-3=Upper Diversion Drop No. 3

²Wetland status determined by Wetland Prevalence Index (WPI) value: W=wetland and NW=non-wetland

³WPI value: ≤3.00=wetland and >3.00=non-wetland

⁴Vegetative cover calculated using aerial imagery and Light Detection and Ranging (LiDAR) data

⁵Initial year a site will be surveyed in the field; an en dash means the site will not be field surveyed

nm=attribute not monitored

Table 7. Vegetation monitoring results for Upper Diversion Weir revegetation sites in 2025.



Figure 8. The aftermath of a fire that burned parts of the Upper Diversion South site on March 31, 2025.



Figure 9. The locations of three fires that occurred within the Clark County Wetlands Park in 2025.

3.3 Tropicana Weir

There are four sites associated with Tropicana Weir (Figure 10), none of which were surveyed in the field in 2025. Although Tropicana Bank South (TBS) is located on the south side of the Wash, it falls under the bank and wetland site designation and will therefore be surveyed in the field in 2026. Total vegetative cover for all sites was calculated using high-resolution aerial imagery and LiDAR data. All sites except for Tropicana North (TN) had a vegetative cover greater than 65% (Table 8). TN had a vegetative cover of 15.85%, but field surveys last year reported a total cover of 50–75%. Discrepancies in these results suggest that either aerial imagery and LiDAR data may not be able to identify all plants at this site or field data collectors may be overestimating cover percentages or a mix of both.

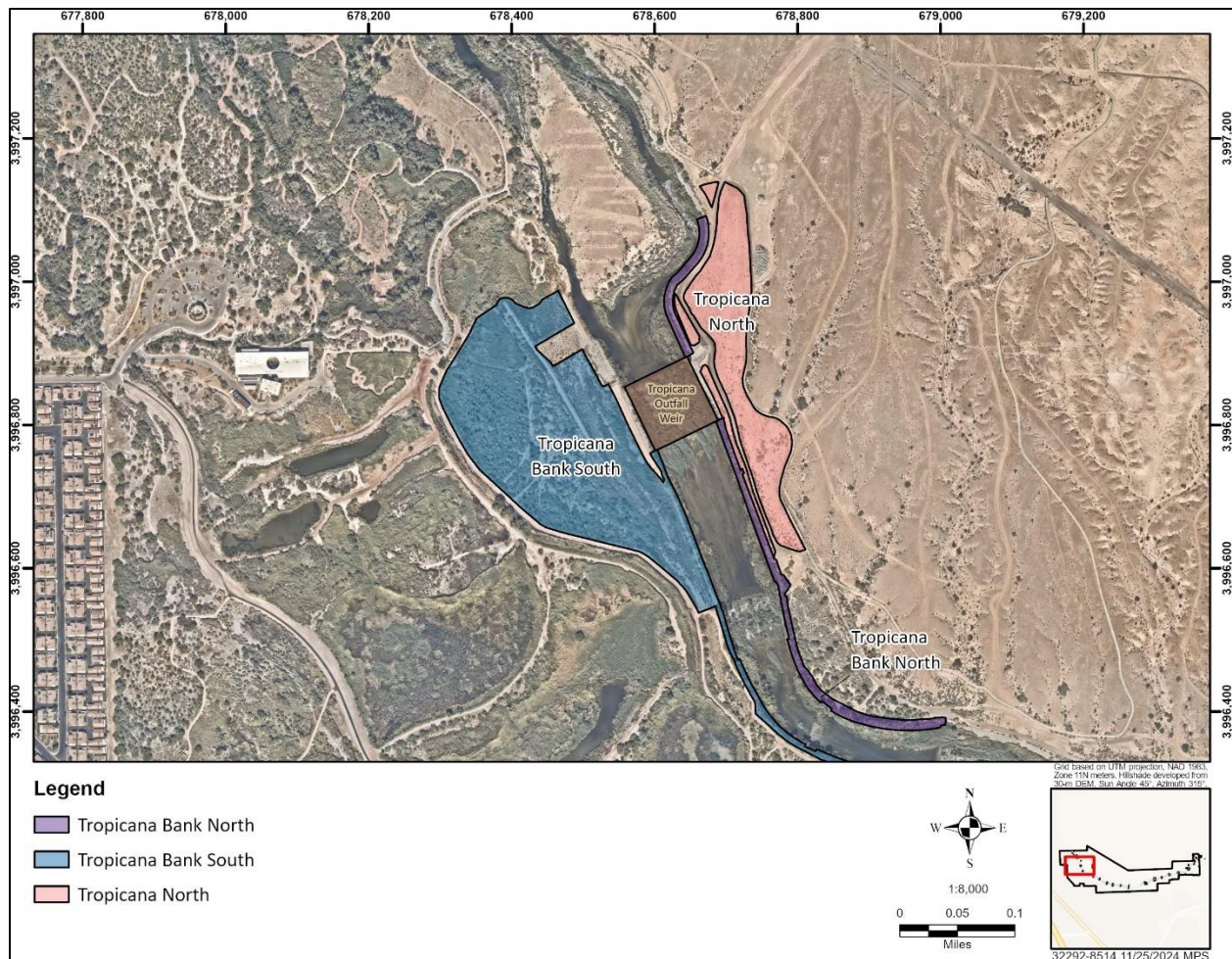


Figure 10. Aerial imagery of Tropicana Weir revegetation sites.

Site Code ¹	Acreage	Wetland Status ²	Cover Class Range	Noxious Species Cover	Number of Species	WPI ³	Vegetative Cover ⁴	Field Survey Year ⁵
TN	7.13	nm	nm	nm	nm	nm	15.85%	2027
TBN	2.40	nm	nm	nm	nm	nm	87.32%	2026
TBS	19.23	nm	nm	nm	nm	nm	83.51%	2026
TW	2.38	nm	nm	nm	nm	nm	69.29%	2026

¹TN=Tropicana North, TBN=Tropicana Bank North, TBS=Tropicana Bank South and TW=Tropicana Weir

²Wetland status determined by Wetland Prevalence Index (WPI) value: W=wetland and NW=non-wetland

³WPI value: ≤ 3.00 =wetland and > 3.00 =non-wetland

⁴Vegetative cover calculated using aerial imagery and Light Detection and Ranging (LiDAR) data

⁵Initial year a site will be surveyed in the field; an en dash means the site will not be field surveyed

nm=attribute not monitored

Table 8. Vegetation monitoring results for Tropicana Weir revegetation sites in 2025.

3.4 DU Wetlands No. 2 and No. 1 Weirs

DU South (DUS) was the only site monitored in the field in 2025 (Figure 11, Table 9). It had a total cover class range of 50–75% and 16 species were identified, including alkali sacaton (*Sporobolus airoides*; Figure 12). The calculated WPI was 3.36 which classifies the site as a non-wetland. Three of the four remaining sites will be monitored in the field in 2026. Using aerial imagery and LiDAR data, vegetative cover for the four sites ranged from 14.52% to 73.12% in 2025 (Table 9).



Figure 11. Alkali sacaton identified at the DU South site during field monitoring.

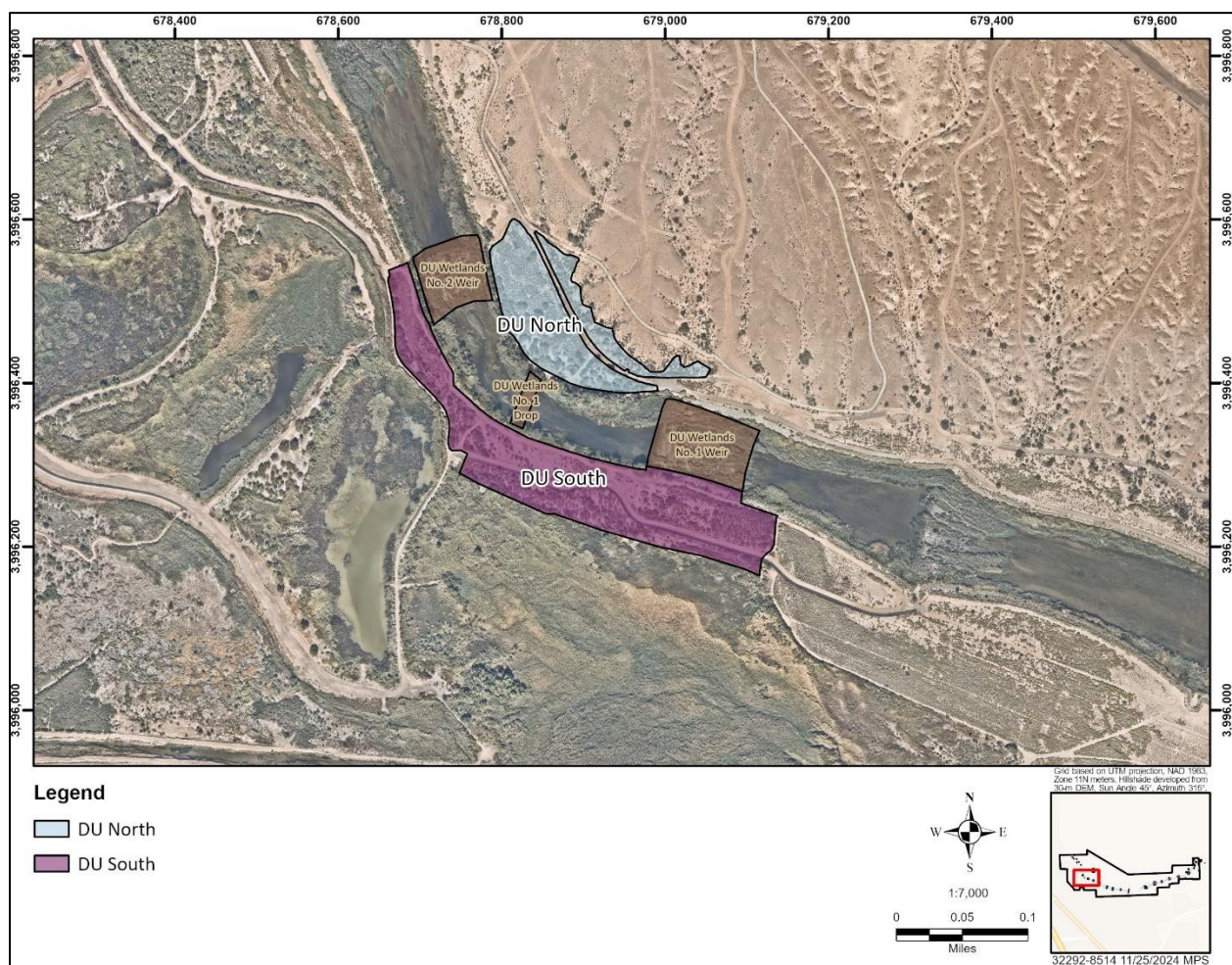


Figure 12. Aerial imagery of DU Wetlands No. 2 and No. 1 weirs revegetation sites.

Site Code ¹	Acreage	Wetland Status ²	Cover Class Range	Noxious Species Cover	Number of Species	WPI ³	Vegetative Cover ⁴	Field Survey Year ⁵
DUN	4.97	nm	nm	nm	nm	nm	73.12%	2027
DUS	10.13	NW	50–75%	3.5%	16	3.36	nm	2025
DUW-2	1.66	nm	nm	nm	nm	nm	47.72%	2026
DUD-1	0.27	nm	nm	nm	nm	nm	14.52%	2026
DUW-1	2.43	nm	nm	nm	nm	nm	28.05%	2026

¹DUN=DU North, DUS=DU South, DUW-2=DU Wetlands No. 2 Weir, DUD-1=DU Wetlands No. 1 Drop and DUW-1=DU Wetlands No. 1 Weir

²Wetland status determined by Wetland Prevalence Index (WPI) value: W=wetland and NW=non-wetland

³WPI value: ≤ 3.00 =wetland and > 3.00 =non-wetland

⁴Vegetative cover calculated using aerial imagery and Light Detection and Ranging (LiDAR) data

⁵Initial year a site will be surveyed in the field; an en dash means the site will not be field surveyed

nm=attribute not monitored

Table 9. Vegetation monitoring results for DU Wetlands No. 2 and No. 1 weirs revegetation sites in 2025.

3.5 Archery and Silver Bowl Weirs

The 21.76-acre Archery and Silver Bowl South (ASBS; Figure 13) site had a 3.93 WPI calculated from the four species identified during field monitoring, making the site a non-wetland (Table 10). On June 24, a fire broke out in the area that burned an estimated 25–50% of this site (Figure 14). As a result, ASBS is a good candidate for enhancement under the RMP. The remaining five sites' vegetative cover was calculated using aerial imagery and LiDAR data. Results ranged from 58.70% for Archery Weir (AW) up to 93.37% for Archery and Silver Bowl Bank North (ASBBN). Both weirs experienced very minor changes in vegetative cover over the year. AW saw a decrease, from 60.47% in 2024, and Silver Bowl Weir (SBW) saw a 1.4% increase (Table 10).

Of the six sites associated with Archery and Silver Bowl weirs, four are scheduled to be monitored in the field in 2026 (Table 10).

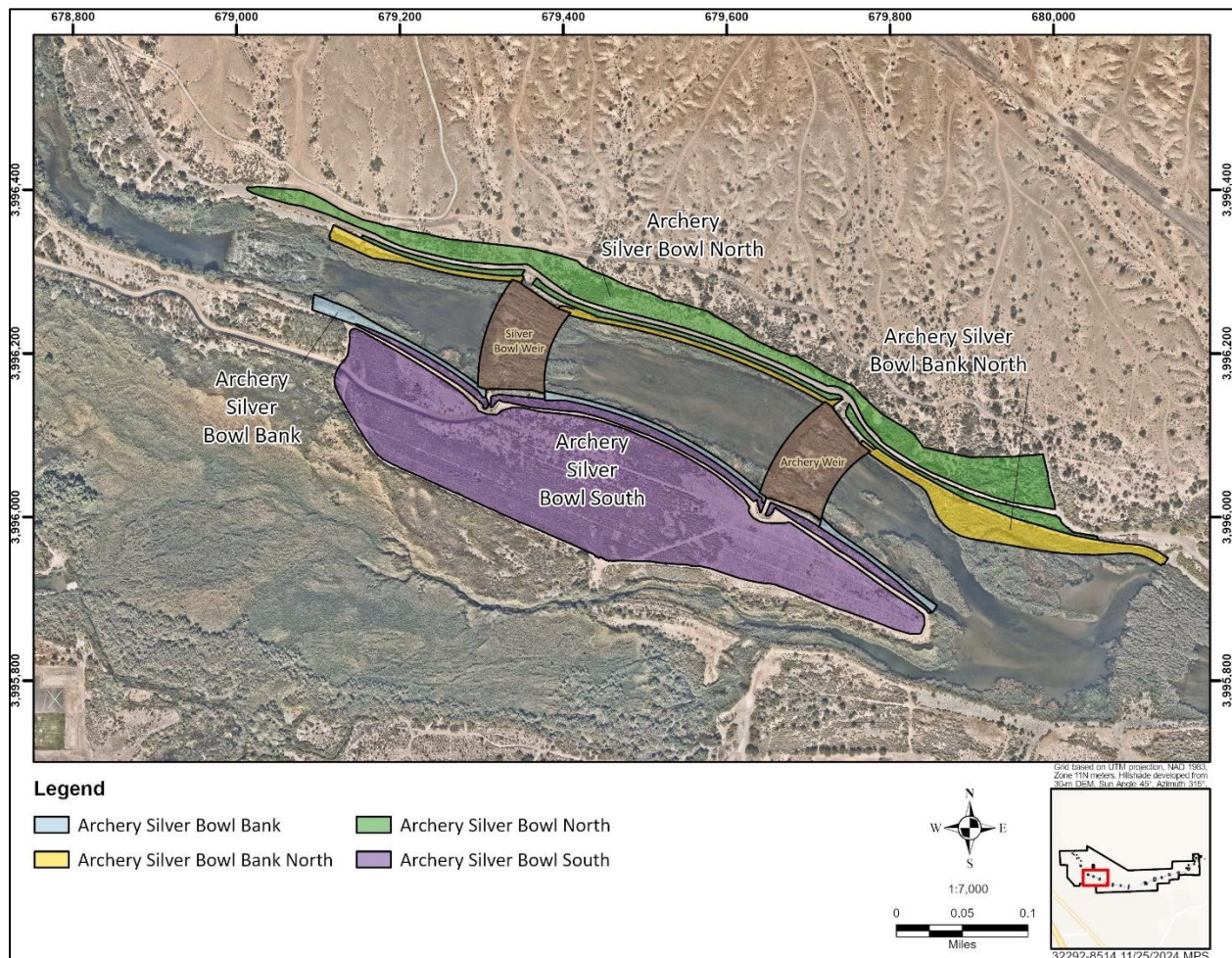


Figure 13. Aerial imagery of Archery and Silver Bowl weirs revegetation sites.

Site Code ¹	Acreage	Wetland Status ²	Cover Class Range	Noxious Species Cover	Number of Species	WPI ³	Vegetative Cover ⁴	Field Survey Year ⁵
ASBN	8.16	nm	nm	nm	nm	nm	63.76%	2027
ASBBN	3.48	nm	nm	nm	nm	nm	93.37%	2026
ASBS	21.76	NW	50–75%	0.5%	4	3.93	nm	2025
ASBBS	1.35	nm	nm	nm	nm	nm	89.05%	2026
SBW	2.44	nm	nm	nm	nm	nm	78.33%	2026
AW	2.44	nm	nm	nm	nm	nm	58.70%	2026

¹Archery and Silver Bowl North=ASBN, Archery and Silver Bowl Bank North=ASBBN, Archery and Silver Bowl South=ASBS, Archery and Silver Bowl Bank South=ASBBS, Silver Bowl Weir=SBW and Archery Weir=AW

²Wetland status determined by Wetland Prevalence Index (WPI) value: W=wetland and NW=non-wetland

³WPI value: ≤ 3.00 =wetland and > 3.00 =non-wetland

⁴Vegetative cover calculated using aerial imagery and Light Detection and Ranging (LiDAR) data

⁵Initial year a site will be surveyed in the field; an en dash means the site will not be field surveyed

nm=attribute not monitored

Table 10. Vegetation monitoring results for Archery and Silver Bowl weirs revegetation sites in 2025.



Figure 14. Archery and Silver Bowl South after a fire moved through the area on June 24, 2025.

3.6 Duck Creek Confluence and Upper Narrows Weirs

UNS, a 33.99-acre site (Figure 15), was field monitored in 2025 and, due to its large size, required a second TMS. The cover class range of 73.8% was calculated by taking the weighted average from both surveys (Table 11). Although more than half of this site is comprised of desert saltbush (*Atriplex polycarpa*), it remains quite diverse with 20 species identified (Figure 16).

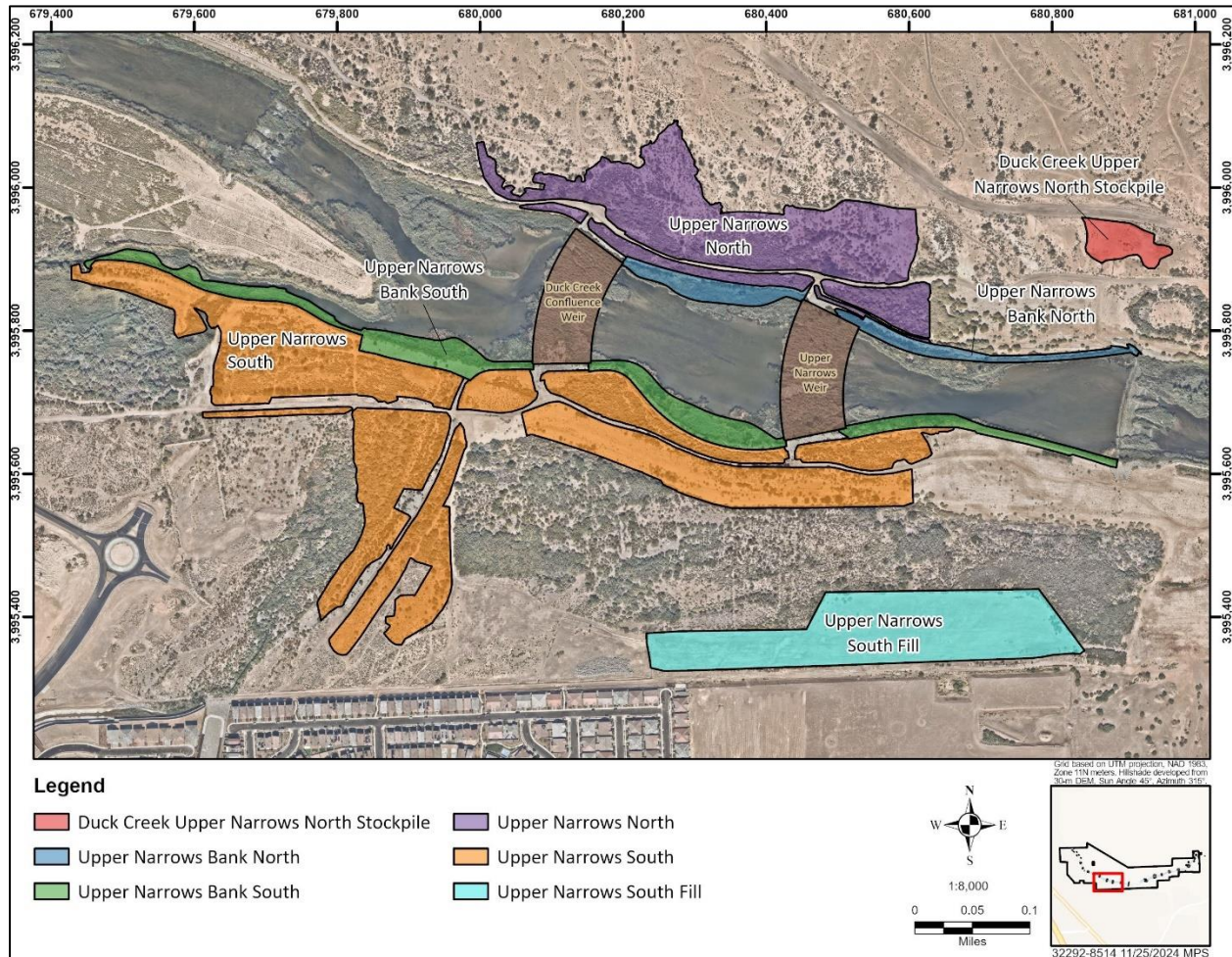


Figure 15. Aerial imagery of Duck Creek Confluence and Upper Narrows weirs revegetation sites.

Both Upper Narrows North Stockpile (UNNS) and UNSF will not be monitored in the field until additional plantings occur. Using aerial imagery and LiDAR data, the total vegetative cover for both sites was less than 15%, making them great candidates for enhancement under the RMP.

Site Code ¹	Acreage	Wetland Status ²	Cover Class Range	Noxious Species Cover	Number of Species	WPI ³	Vegetative Cover ⁴	Field Survey Year ⁵
UNN	16.15	nm	nm	nm	nm	nm	72.64%	2027
UNNS	1.31	nm	nm	nm	nm	nm	2.57%	—
UNBN	3.06	nm	nm	nm	nm	nm	94.47%	2026
UNS	33.99	NW	73.8	1.8%	20	3.83	nm	2025
UNSF	11.53	nm	nm	nm	nm	nm	10.07%	—
UNBS	6.79	nm	nm	nm	nm	nm	79.37%	2026
DCCW	3.57	nm	nm	nm	nm	nm	92.20%	2026
UNW	3.79	nm	nm	nm	nm	nm	57.25%	2026

¹Upper Narrows North=UNN, Upper Narrows North Stockpile=UNNS, Upper Narrows Bank North=UNBN, Upper Narrows South=UNS, Upper Narrows South Fill=UNSF, Upper Narrows Bank South=UNBS, Duck Creek Confluence Weir=DCCW and Upper Narrows Weir=UNW

²Wetland status determined by Wetland Prevalence Index (WPI) value: W=wetland and NW=non-wetland

³WPI value: ≤ 3.00 =wetland and > 3.00 =non-wetland

⁴Vegetative cover calculated using aerial imagery and Light Detection and Ranging (LiDAR) data

⁵Initial year a site will be surveyed in the field; an en dash means the site will not be field surveyed

nm=attribute not monitored

Table 11. Vegetation monitoring results for Duck Creek Confluence and Upper Narrows weirs revegetation sites in 2025.



Figure 16. Landscape view of Upper Narrows South revegetation site.

3.7 Site 108

Site 108 was planted in phases in the spring and fall of 2006 with grant funding from NDEP, Nevada Division of State Parks (NDSP) and Southern Nevada Public Land Management Act Rounds IV and V (SNPLMA IV, SNPLMA V). Previously broken up into 59 monitoring areas, Site 108 is now separated by funding source into four sites (Figure 17). All four sites were field monitored during 2025 (Table 12). Beginning with NDSP, the most upstream site, the sites transition from mesquite bosque habitat to mostly arrowweed (*Pluchea sericea*). The NDEP site had 15% noxious species cover and qualifies for targeted invasive and other undesirable species removal under the RMP (Table 12).

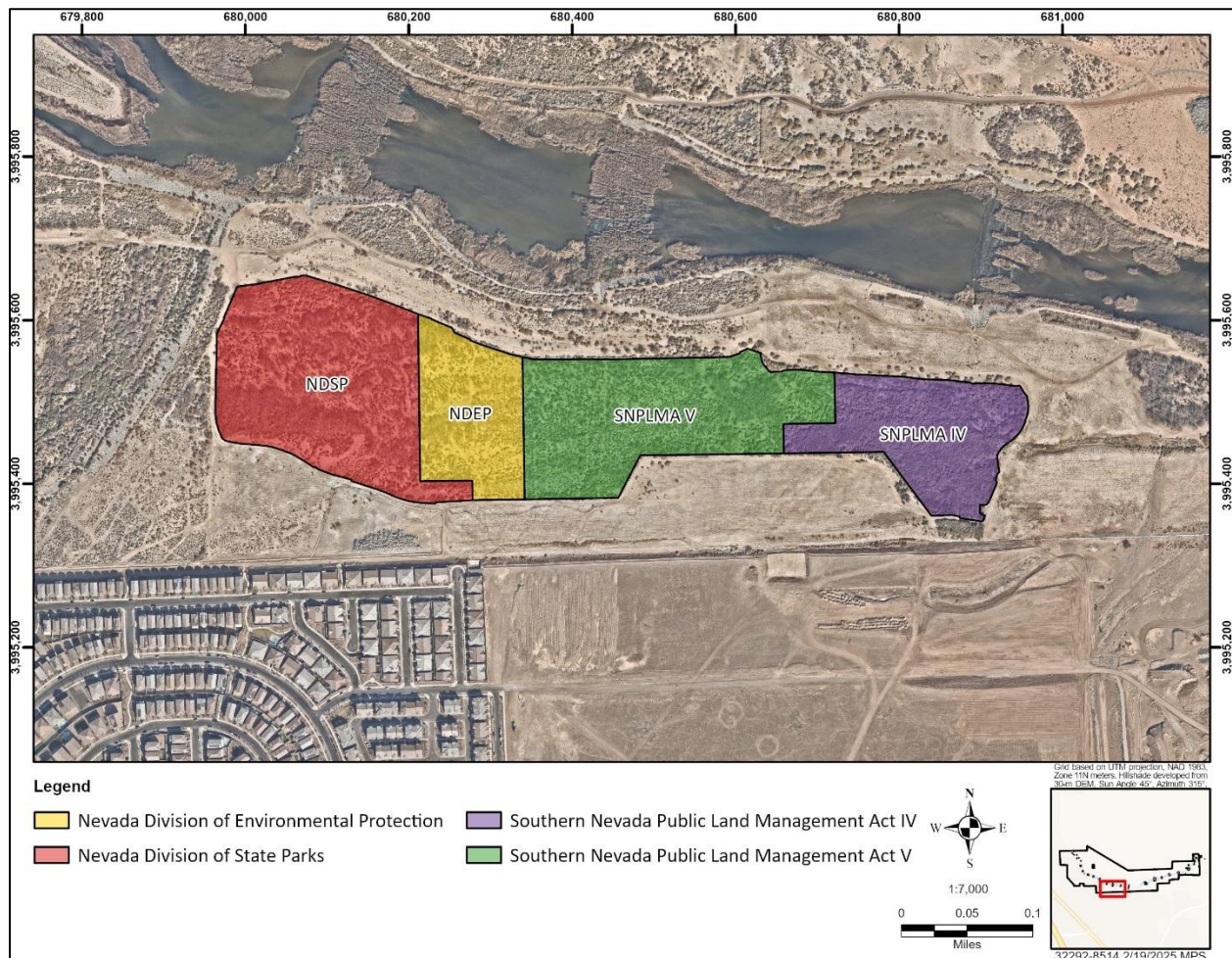


Figure 17. Aerial imagery of Site 108 revegetation sites.

The only site designated as a wetland was SNPLMA IV. The site was mostly inaccessible and therefore, the data presented in Table 12 represent only the species that were visible from the perimeter of the site (Figure 18). Encampments and excessive amounts of trash were documented during field surveys at all four sites (Figure 19). Although encampments will likely continue to be a problem, trash removal should occur.

Site Code ¹	Acreage	Wetland Status ²	Cover Class Range	Noxious Species Cover	Number of Species	WPI ³	Vegetative Cover ⁴	Field Survey Year ⁵
NDSP	13.65	NW	50–75%	3.0%	10	3.75	nm	2025
NDEP	5.87	NW	50–75%	15%	7	3.58	nm	2025
SNPLMA V	11.92	NW	50–75%	3.0%	7	3.21	nm	2025
SNPLMA IV	7.60	W	95–100%	3.0%	9	2.28	nm	2025

¹Nevada Division of State Parks=NDSP, Nevada Division of Environmental Protection=NDEP, Southern Nevada Public Land Management Act V=SNPLMA V and Southern Nevada Public Land Management Act IV=SNPLMA IV

²Wetland status determined by Wetland Prevalence Index (WPI) value: W=wetland and NW=non-wetland

³WPI value: ≤ 3.00 =wetland and > 3.00 =non-wetland

⁴Vegetative cover calculated using aerial imagery and Light Detection and Ranging (LiDAR) data

⁵Initial year a site will be surveyed in the field; an en dash means the site will not be field surveyed

nm=attribute not monitored

Table 12. Vegetation monitoring results for Site 108 revegetation sites in 2025.



Figure 18. Arrowweed making the SNPLMA IV site inaccessible during surveys.



Figure 19. Trash found at the NDSP site during field monitoring in 2025.

3.8 Sunrise Mountain Weir

Three of the four sites near Sunrise Mountain Weir were monitored in the field in 2025 (Figure 20, Table 12). Sunrise Mountain North (SMN), Sunrise Mountain South-1 (SMS-1) and Sunrise Mountain South-2 (SMS-2) were all grant funded and within their first five growing seasons. SMS-1 completed its fifth consecutive monitoring season in 2025, and moving forward, this site will be monitored every third year like other sites (Table 12). Both SMN and SMS-2 will complete their required five years of field surveys with the 2026 monitoring season. However, the 2026 Wash Green-Up location is SMS-2, and since this planting is not grant funded, the site will follow the recommendations in this report and be monitored annually for two years. Originally planted in the fall of 2021, SMS-2 recorded a cover class range of 25–50% during field monitoring. The goal of the 2026 Green-Up is to enhance the site by adding plants to areas of bare ground (Figure 21).

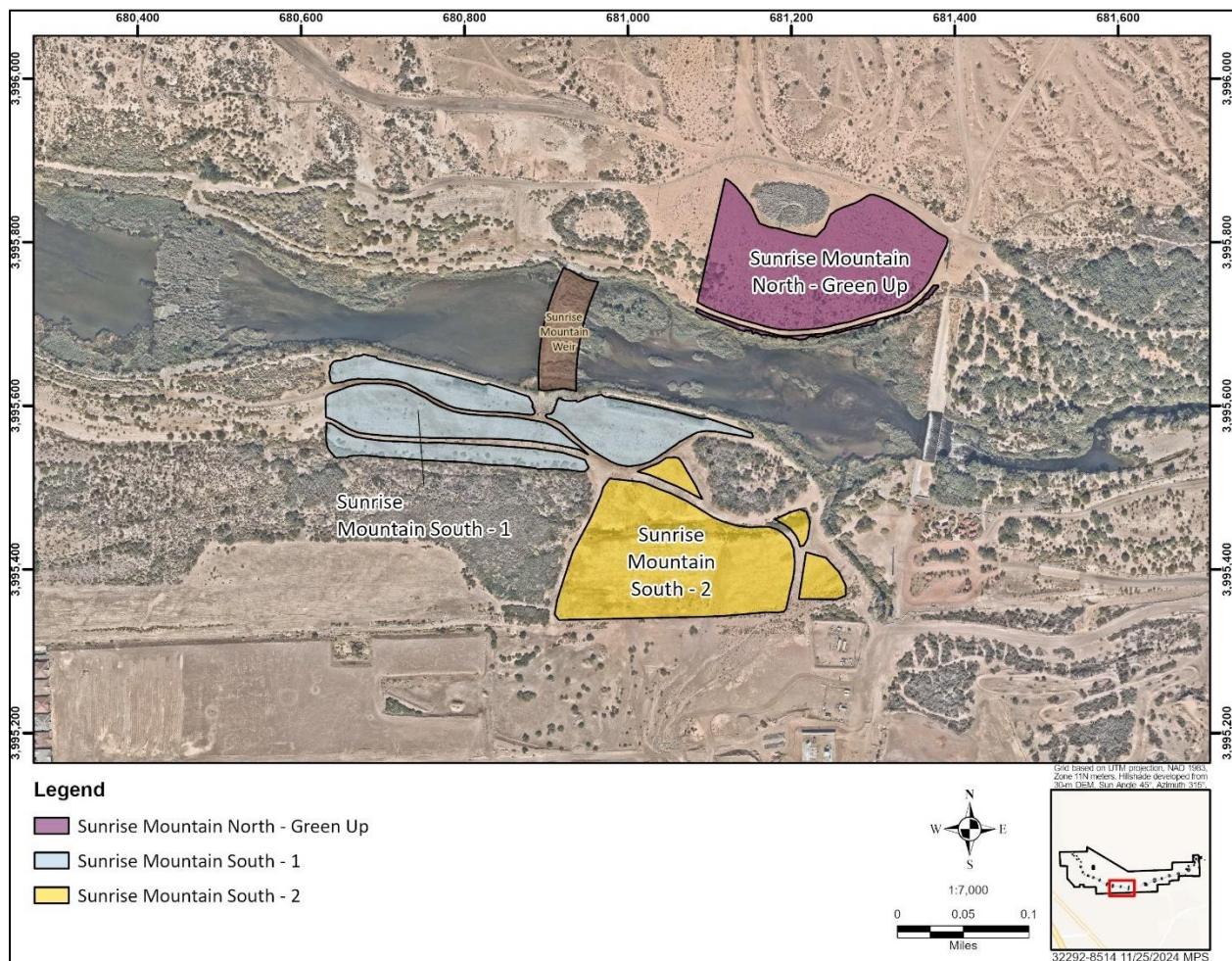


Figure 20. Aerial imagery of Sunrise Mountain Weir revegetation sites.

SMN increased in cover class range from 25–50% in 2024 to 50–75% in 2025 (Table 12, Figure 22). This is likely due to plant growth. SMS-1 also saw an increase in cover, going from 5–25% in 2024 to 25–50% in 2025 (Table 13). Both quailbush and brittlebush (*Encelia farinosa*) contributed to these changes, increasing by 34.5% and 12%, respectively.

Site Code ¹	Acreage	Wetland Status ²	Cover Class Range	Noxious Species Cover	Number of Species	WPI ³	Vegetative Cover ⁴	Field Survey Year ⁵
SMN	9.12	NW	50–75%	0.5%	19	3.26	nm	2025, 2026
SMS-1	9.12	W	25–50%	3.0%	16	2.71	nm	2028
SMS-2	10.21	W	25–50%	0.5%	21	2.13	nm	2025, 2026
SMW	1.65	nm	nm	nm	nm	nm	57.60%	2026

¹Sunrise Mountain North=SMN, Sunrise Mountain South-1=SMS-1, Sunrise Mountain South-2=SMS-2 and Sunrise Mountain Weir=SMW

²Wetland status determined by Wetland Prevalence Index (WPI) value: W=wetland and NW=non-wetland

³WPI value: ≤ 3.00 =wetland and > 3.00 =non-wetland

⁴Vegetative cover calculated using aerial imagery and Light Detection and Ranging (LiDAR) data

⁵Initial year a site will be surveyed in the field; an en dash means the site will not be field surveyed

nm=attribute not monitored

Table 13. Vegetation monitoring results for Sunrise Mountain Weir revegetation sites in 2025.

The wetland designation for SMN and SMS-2 remained the same (Table 13). However, SMS-1 had a previous status of non-wetland (3.12), but results from this survey show a WPI of 2.71, making it a wetland.



Figure 21. Bare ground throughout SMS-2 will be planted during the 2026 Green-Up.



Figure 22. Vegetative cover at Sunrise Mountain North.

3.9 Pabco Weir

The new Pabco South (PS; Figures 23 and 24) site is 12.52 acres and had a 3.82 WPI calculated from the 19 species identified during field monitoring, making it a non-wetland (Table 13). The remaining three sites, Pabco North Bank (PNB), Pabco South Bank (PSB) and Pabco Weir (PW, formerly PRW for Pabco Road Weir), will be monitored in the field in 2026 (Figure 24). The vegetative cover using aerial imagery and LiDAR data ranged from 22.82% for PW to 73.71% for PNB (Table 14).



Figure 23. A paved walking trail runs alongside the northern border of Pabco South revegetation site.

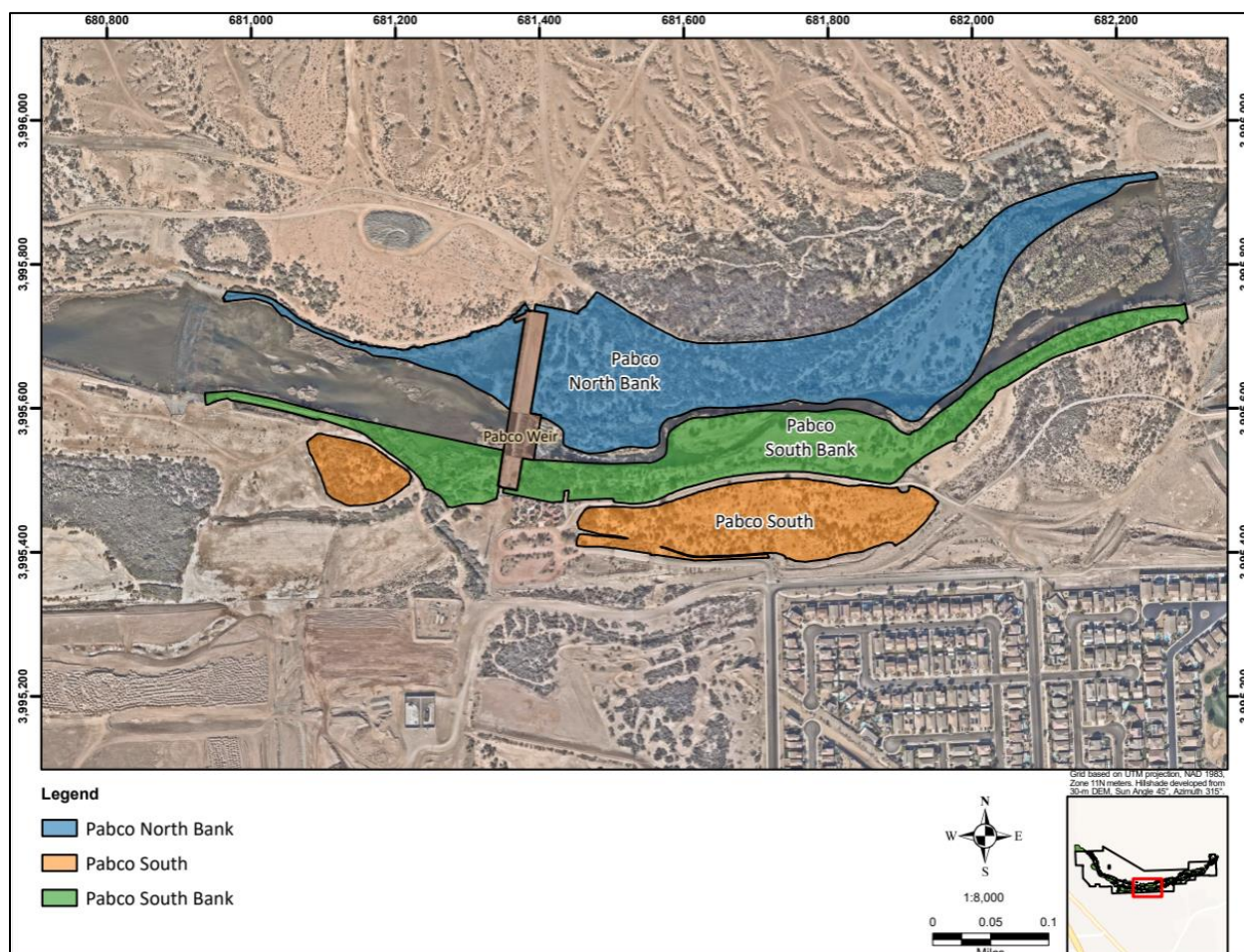


Figure 24. Aerial imagery of Pabco Weir revegetation sites.

Site Code ¹	Acreage	Wetland Status ²	Cover Class Range	Noxious Species Cover	Number of Species	WPI ³	Vegetative Cover ⁴	Field Survey Year ⁵
PNB	27.67	nm	nm	nm	nm	nm	73.71%	2026
PS	12.52	NW	50–75%	0.5%	19	3.82	nm	2025
PSB	16.98	nm	nm	nm	nm	nm	63.93%	2026
PW	2.02	nm	nm	nm	nm	nm	22.82%	2026

¹Pabco North Bank=PNB, Pabco South=PS, Pabco South Bank=PSB and Pabco Weir=PW (formerly PRW=Pabco Road Weir)

²Wetland status determined by Wetland Prevalence Index (WPI) value: W=wetland and NW=non-wetland

³WPI value: ≤ 3.00 =wetland and > 3.00 =non-wetland

⁴Vegetative cover calculated using aerial imagery and Light Detection and Ranging (LiDAR) data

⁵Initial year a site will be surveyed in the field; an en dash means the site will not be field surveyed

nm=attribute not monitored

Table 14. Vegetation monitoring results for Pabco Weir revegetation sites in 2025.

3.10 Site 111

This site will not be field monitored until 2027 (Table 15). Following the boundary changes described in Lantow (2025), the site went from 26 monitoring areas to one large monitoring site and increased to 17.28 acres (Figure 25). It received a 77.08% vegetative cover (Table 15).

Site Code	Acreage	Wetland Status ¹	Cover Class Range	Noxious Species Cover	Number of Species	WPI ²	Vegetative Cover ³	Field Survey Year ⁴
Site 111	17.28	nm	nm	nm	nm	nm	77.08%	2027

¹Wetland status determined by Wetland Prevalence Index (WPI) value: W=wetland and NW=non-wetland

²WPI value: ≤ 3.00 =wetland and > 3.00 =non-wetland

³Vegetative cover calculated using aerial imagery and Light Detection and Ranging (LiDAR) data

⁴Initial year a site will be surveyed in the field; an en dash means the site will not be field surveyed

nm=attribute not monitored

Table 15. Vegetation monitoring results for Site 111 in 2025.

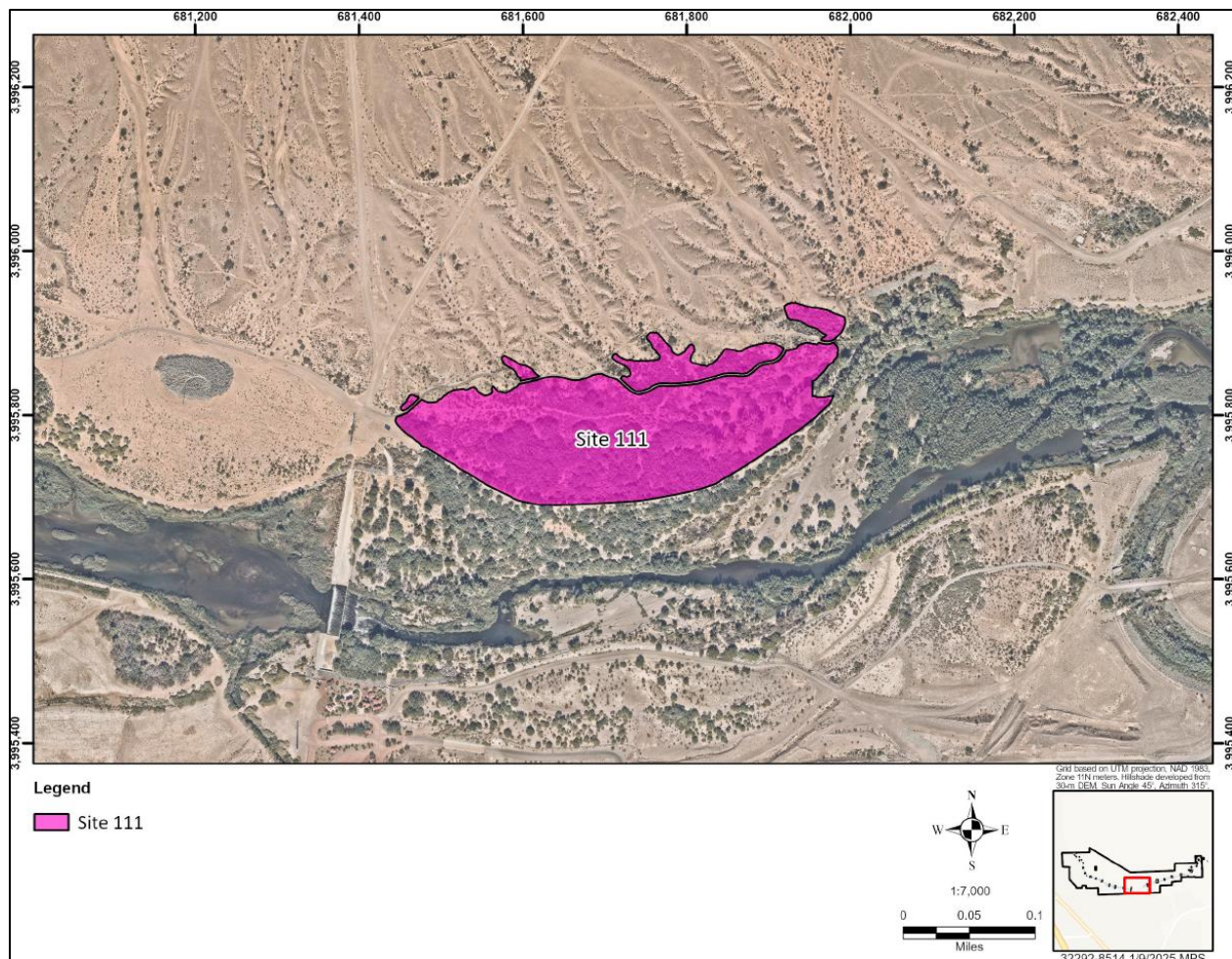


Figure 25. Aerial imagery of Site 111.

3.11 Historic Lateral Weir

Previously designated as two revegetation areas, Historic Lateral Weir and Historic Lateral Weir Expansion have now been combined. Historic Lateral South (HLS) is a 15.10-acre site (Figure 26) that was monitored in the field in 2025. Results indicate that the site has both good species diversity and vegetative cover (Table 16). With a WPI of 4.16, this site's wetland designation is non-wetland. In 2020, 1,500 native plants were installed by a Girl Scout group, including 50 rush milkweed (*Asclepias subulata*). This species has been growing well, and on October 7, staff identified a monarch caterpillar on one of the milkweed plants and an adult monarch butterfly in the area (Figure 27).

Historic Lateral Weir (HLW), Historic Lateral Expansion North (HLEN) and Historic Lateral Expansion South (HLES) were not monitored in the field in 2025. Total vegetative cover for these sites was calculated using high-resolution aerial imagery and LiDAR data (Table 16). HLW had a vegetative cover of 49.16%. HLES, a 1.57-acre site that has not yet been planted had a vegetative cover of 4.61% in 2025. This site has not been, and will not be, monitored in the field until after planting occurs. The vegetative cover for HLEN of 11.71% is much lower than the 25–50% recorded during field monitoring in 2024. If field surveys in 2027 do not show improvement, then this site will also be a good candidate for enhancement under the RMP.

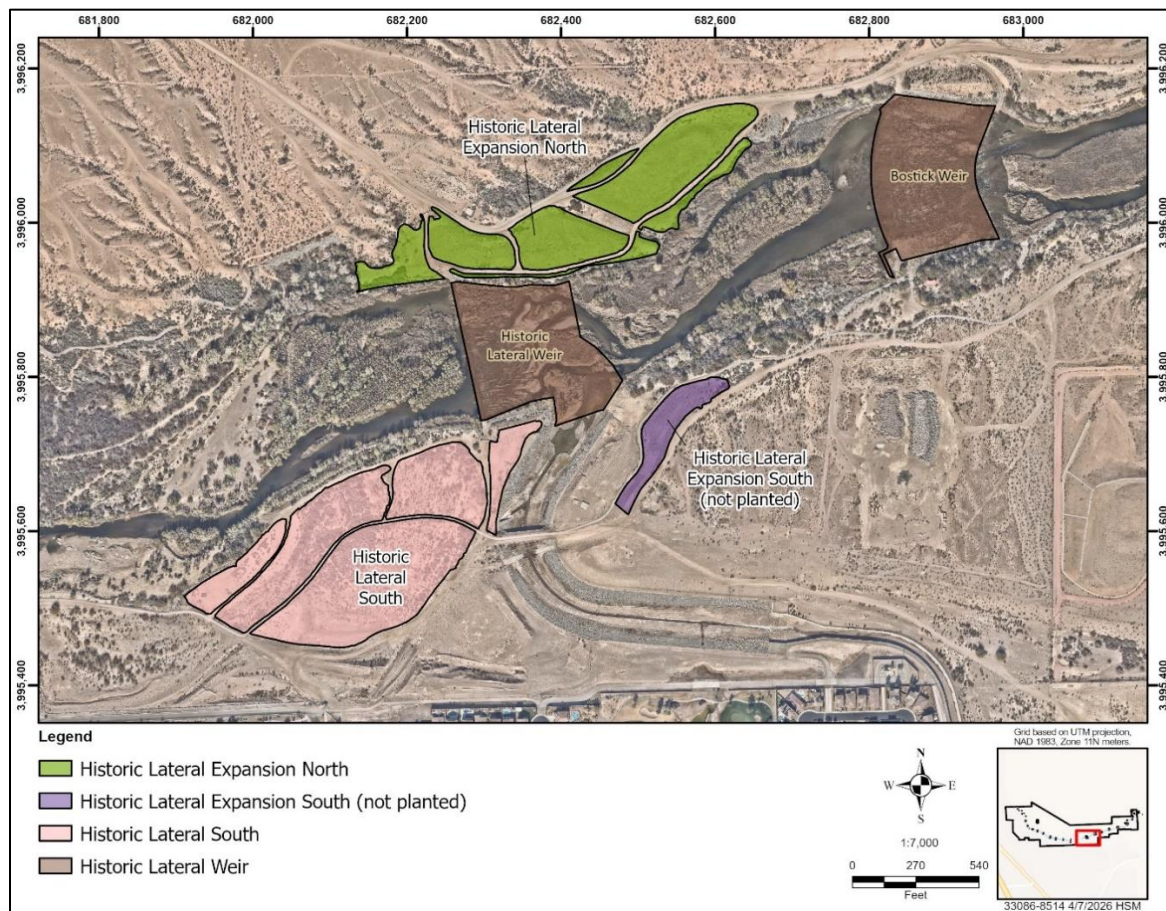


Figure 26. Aerial imagery of Historic Lateral Weir revegetation sites.



Figure 27. A monarch caterpillar and butterfly seen at the Historic Lateral South revegetation site.

Site Code ¹	Acreage	Wetland Status ²	Cover Class Range	Noxious Species Cover	Number of Species	WPI ³	Vegetative Cover ⁴	Field Survey Year ⁵
HLS	15.10	NW	50–75%	3.0%	20	4.16	nm	2025
HLW	6.83	nm	nm	nm	nm	nm	49.16%	2026
HLEN	9.59	nm	nm	nm	nm	nm	11.71%	2027
HLES	1.57	nm	nm	nm	nm	nm	4.61%	—

¹Historic Lateral South=HLS, Historic Lateral Weir=HLW, Historic Lateral Expansion North=HLEN and Historical Lateral Expansion South=HLES

²Wetland status determined by Wetland Prevalence Index (WPI) value: W=wetland and NW=non-wetland

³WPI value: ≤ 3.00 =wetland and > 3.00 =non-wetland

⁴Vegetative cover calculated using aerial imagery and Light Detection and Ranging (LiDAR) data

⁵Initial year a site will be surveyed in the field; an en dash means the site will not be field surveyed

nm=attribute not monitored

Table 16. Vegetation monitoring results for Historic Lateral Weir revegetation sites in 2025.

3.13 Cottonwood Cells

As described in Lantow (2025), the nine previously established sites within the Cottonwood Cells were merged into Cottonwood Cell Non-Wetland (CCNW) and Cottonwood Cell Wetland (CCW) (Figure 29). No sites were monitored in the field in 2025. CCNW received a cover class range of 25–50% during field monitoring in 2024 and, using aerial imagery and LiDAR data, received a vegetative cover of 39.14% in 2025 (Table 17). If the next round of field monitoring does not show an increase in cover, then this site would become a possible candidate for enhancement under the RMP. Both sites are scheduled to be field monitored in the fall of 2027.

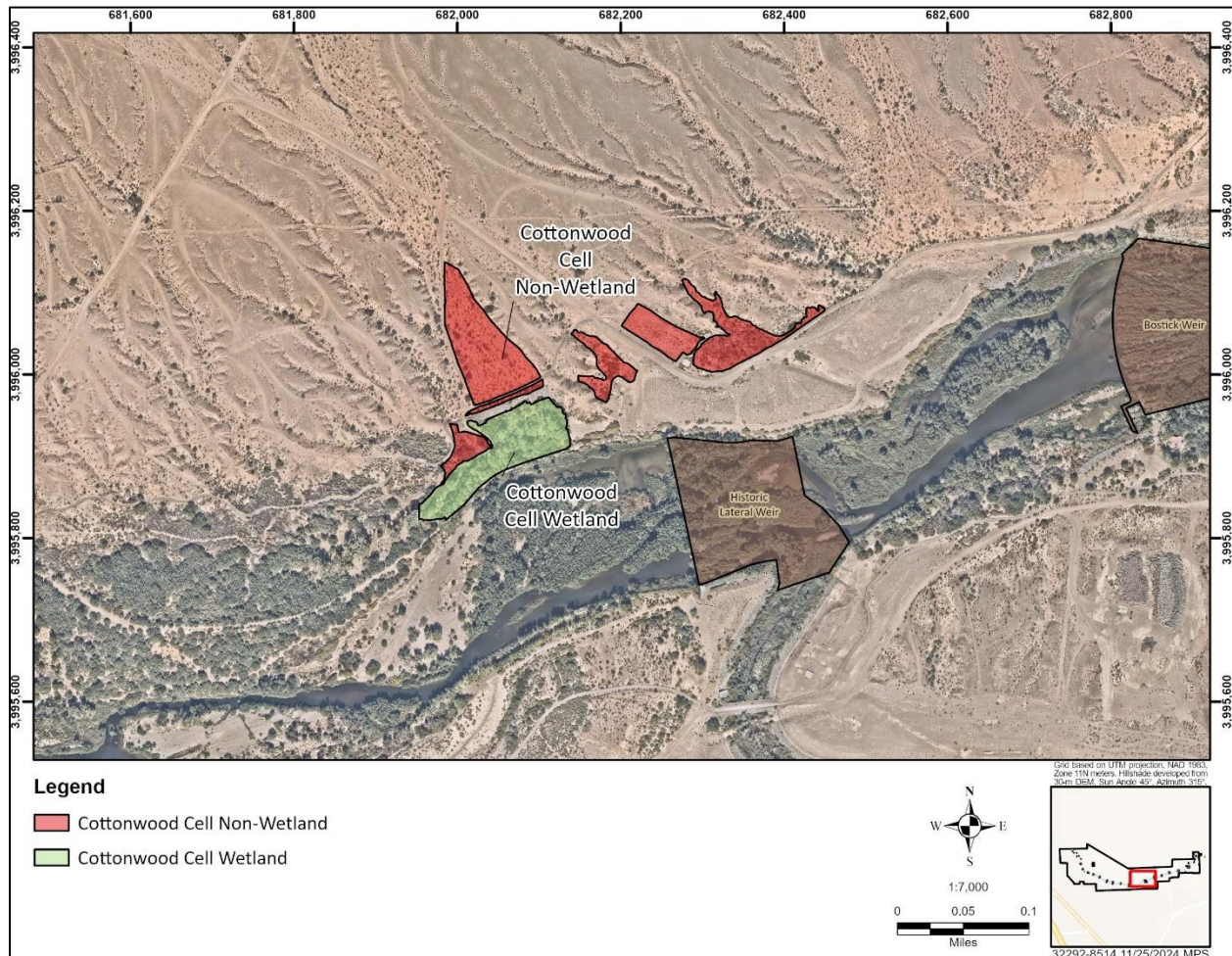


Figure 28. Aerial imagery of Cottonwood Cells revegetation sites.

Site Code ¹	Acreage	Wetland Status ²	Cover Class Range	Noxious Species Cover	Number of Species	WPI ³	Vegetative Cover ⁴	Field Survey Year ⁵
CCNW	5.59	nm	nm	nm	nm	nm	39.14%	2027
CCW	2.55	nm	nm	nm	nm	nm	93.30%	2027

¹Cottonwood Cell Non-Wetland=CCNW and Cottonwood Cell Wetland=CCW

²Wetland status determined by Wetland Prevalence Index (WPI) value: W=wetland and NW=non-wetland

³WPI value: ≤ 3.00 =wetland and > 3.00 =non-wetland

⁴Vegetative cover calculated using aerial imagery and Light Detection and Ranging (LiDAR) data

⁵Initial year a site will be surveyed in the field; an en dash means the site will not be field surveyed

nm=attribute not monitored

Table 17. Vegetation monitoring results for Cottonwood Cells revegetation sites in 2025.

3.14 Bostick and Calico Ridge Weirs

Of the seven sites now associated with these weirs (Figure 30, Table 18), BS was monitored in the field in 2025. This 30.65-acre site required two TMS and received a cover class range of 50–75% with 30 species identified (Table 18). Four sites will be field monitored in 2026.

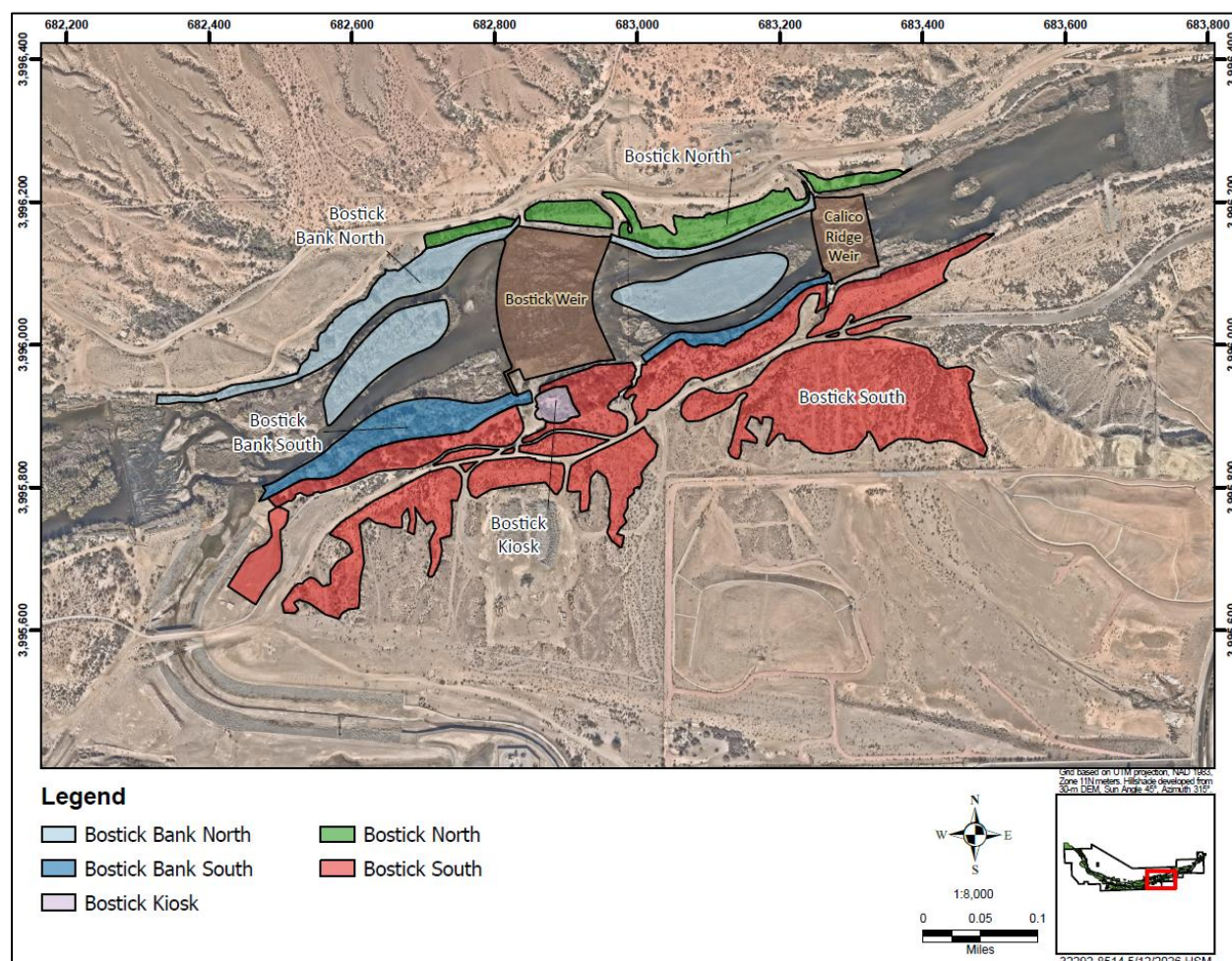


Figure 29. Aerial imagery of Bostick and Calico Ridge weirs revegetation sites.

Site Code ¹	Acreage	Wetland Status ²	Cover Class Range	Noxious Species Cover	Number of Species	WPI ³	Vegetative Cover ⁴	Field Survey Year ⁵
BN	4.23	nm	nm	nm	nm	nm	42.17%	2027
BBN	10.68	nm	nm	nm	nm	nm	94.80%	2026
BS	30.65	NW	50–75%	1.8%	30	4.26	nm	2025
BBS	4.47	nm	nm	nm	nm	nm	87.72%	2026
BK	0.57	nm	nm	nm	nm	nm	83.31%	–
BW	6.77	nm	nm	nm	nm	nm	81.02%	2026
CRW	2.07	nm	nm	nm	nm	nm	46.61%	2026

¹Bostick North=BN, Bostick Bank North=BBN, Bostick South=BS, Bostick Bank South=BBS, Bostick Kiosk=BK, Bostick Weir=BW and Calico Ridge Weir=CRW

²Wetland status determined by Wetland Prevalence Index (WPI) value: W=wetland and NW=non-wetland

³WPI value: ≤ 3.00 =wetland and >3.00 =non-wetland

⁴Vegetative cover calculated using aerial imagery and Light Detection and Ranging (LiDAR) data

⁵Initial year a site will be surveyed in the field; an en dash means the site will not be field surveyed

nm=attribute not monitored

Table 18. Vegetation monitoring results for Bostick and Calico Ridge weirs revegetation sites in 2025.

3.15 Lower Narrows and Homestead Weirs

The 2025 spring Wash Green-Up site, known as Lower Narrows South Green-Up 2025 (LNSGU25) is adjacent to Lower Narrows South Green-Up 2024 (LNSGU24; Figures 31 and 32). Three sites were monitored in the field in 2025 including both Green-Up locations and Lower Narrows South (LNS; Table 19).

2025 was the second of five consecutive field monitoring years for LNSGU24. Total cover increased from 25–50% in 2024 to 50–75% in 2025 likely due to Green-Up plant growth. This site was enhanced because it lacked diversity. Field staff recorded 26 species in 2025, showing that the Green-Up significantly improved the site. There was a slight increase in its WPI, from 2.93 in 2024 to 3.03 in 2025, so the site's wetland status is now non-wetland (Table 19).

During the spring 2025 Green-Up, 5.37 acres were planted. The LNSGU25 site was enhanced because it lacked cover. Following its first year of monitoring, 25 species were recorded covering 50–75% of the site. Field monitoring will continue annually through 2029. LNSGU25 received a WPI of 3.37 making it a non-wetland (Table 19).

During survival surveys, LNSGU24 had an estimated survival rate of 94.4% while LNSGU25 received a 95.2% showing that both sites are doing well following the Green-Up events.

LNS had a total cover of 25–50% with 21 species identified (Table 19).

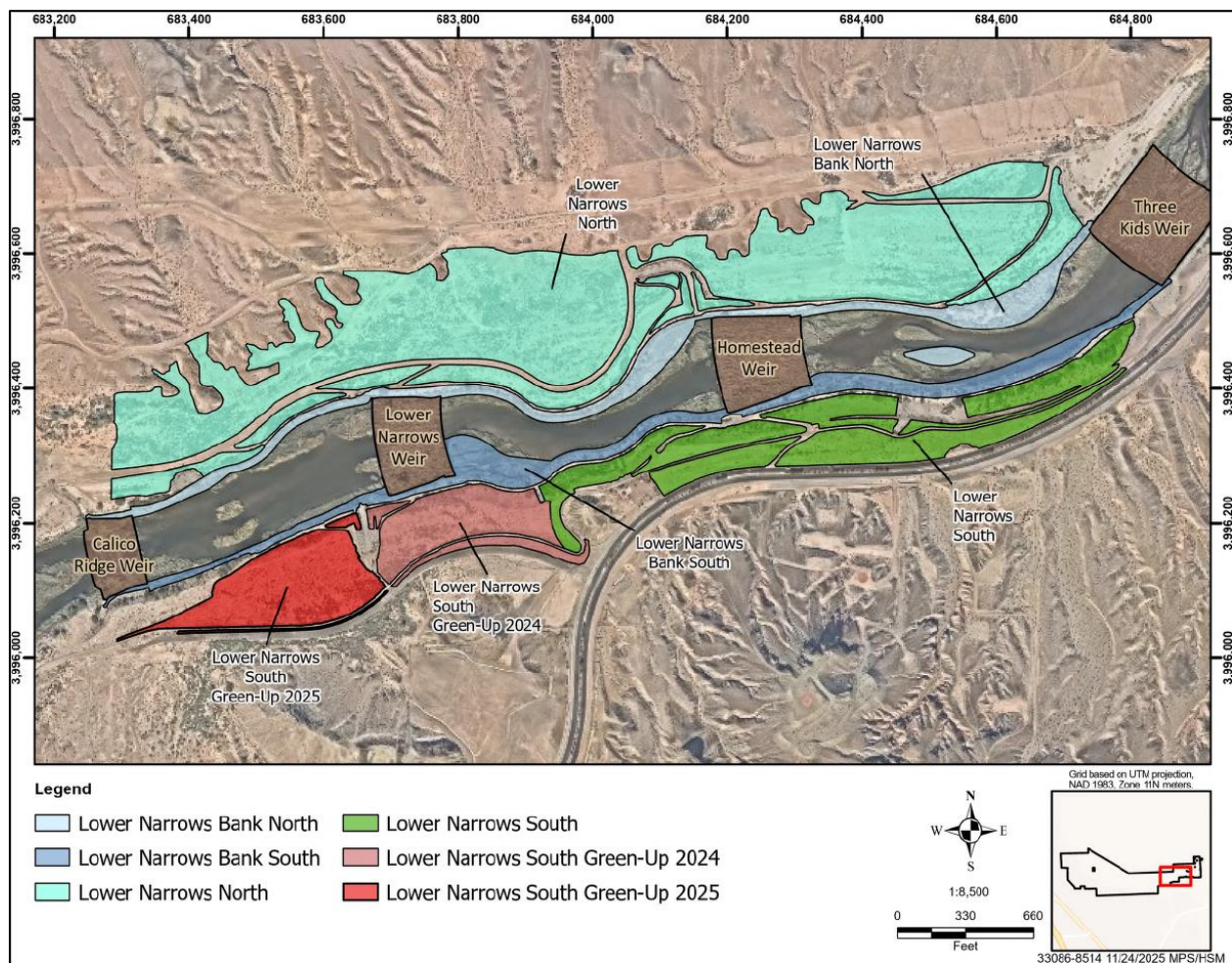


Figure 30. Aerial imagery of Lower Narrows and Homestead weirs revegetation sites.



Figure 31. The spring 2025 Green-Up site filled with new plants and irrigation for watering.

Site Code ¹	Acreage	Wetland Status ²	Cover Class Range	Noxious Species Cover	Number of Species	WPI ³	Vegetative Cover ⁴	Field Survey Year ⁵
LNN	50.78	nm	nm	nm	nm	nm	31.20%	2027
LNBN	8.20	nm	nm	nm	nm	nm	89.08%	2026
LNS	13.72	NW	25–50%	0.5%	21	4.44	nm	2025
LNBS	8.19	nm	nm	nm	nm	nm	80.92%	2026
LNSGU24	6.05	NW	50–75%	0.5%	26	3.03	nm	2025, 2026, 2027,
LNSGU25	7.4	NW	50–75%	0.5%	25	3.37	nm	2025, 2026, 2027
LNW	3.38	nm	nm	nm	nm	nm	87.96%	2026
HW	4.11	nm	nm	nm	nm	nm	90.63%	2026
TKW	5.39	nm	nm	nm	nm	nm	77.53%	2026

¹Lower Narrows North=LNN, Lower Narrows Bank North=LNBN, Lower Narrows South=LNS, Lower Narrows Bank South=LNBS, Lower Narrows South Green-Up 2024=LNSGU24, Lower Narrows South Green-Up 2025=LNSGU25, Lower Narrows Weir=LNW, Homestead Weir=HW and Three Kids Weir=TKW

²Wetland status determined by Wetland Prevalence Index (WPI) value: W=wetland and NW=non-wetland

³WPI value: ≤ 3.00 =wetland and >3.00 =non-wetland

⁴Vegetative cover calculated using aerial imagery and Light Detection and Ranging (LiDAR) data

⁵Initial year a site will be surveyed in the field; an en dash means the site will not be field surveyed

nm=attribute not monitored

Table 19. Vegetation monitoring results for Lower Narrows and Homestead weirs revegetation sites in 2025.

3.16 Rainbow Gardens and Powerline Crossing Weirs

Powerline South (PLS) includes what was previously known as Upstream Rainbow South Plateau, and it was the first site planted for enhancement under the RMP, during the spring 2023 Green-Up (Figures 33 and 34). One of the species planted during this event was alkali sacaton. Data suggests that this species does not do well when planted in upland areas; only a few green leaves remained on each plant and its cover decreased from 5–25% in 2024 to 1–5% in 2025 (Table 20, Figure 34). PLS has seen an increase in vegetative cover from 25–50% to 50–75%, likely due to Green-Up plant growth. This site received a WPI of 3.62, remaining a non-wetland. Lantow (2025) suggested PLN was a good candidate for enhancement because it had low vegetative cover and only two species. Using aerial imagery and LiDAR data, the vegetative cover for PLN was 38.61% (Table 20), continuing to indicate that the site would benefit from additional planting.

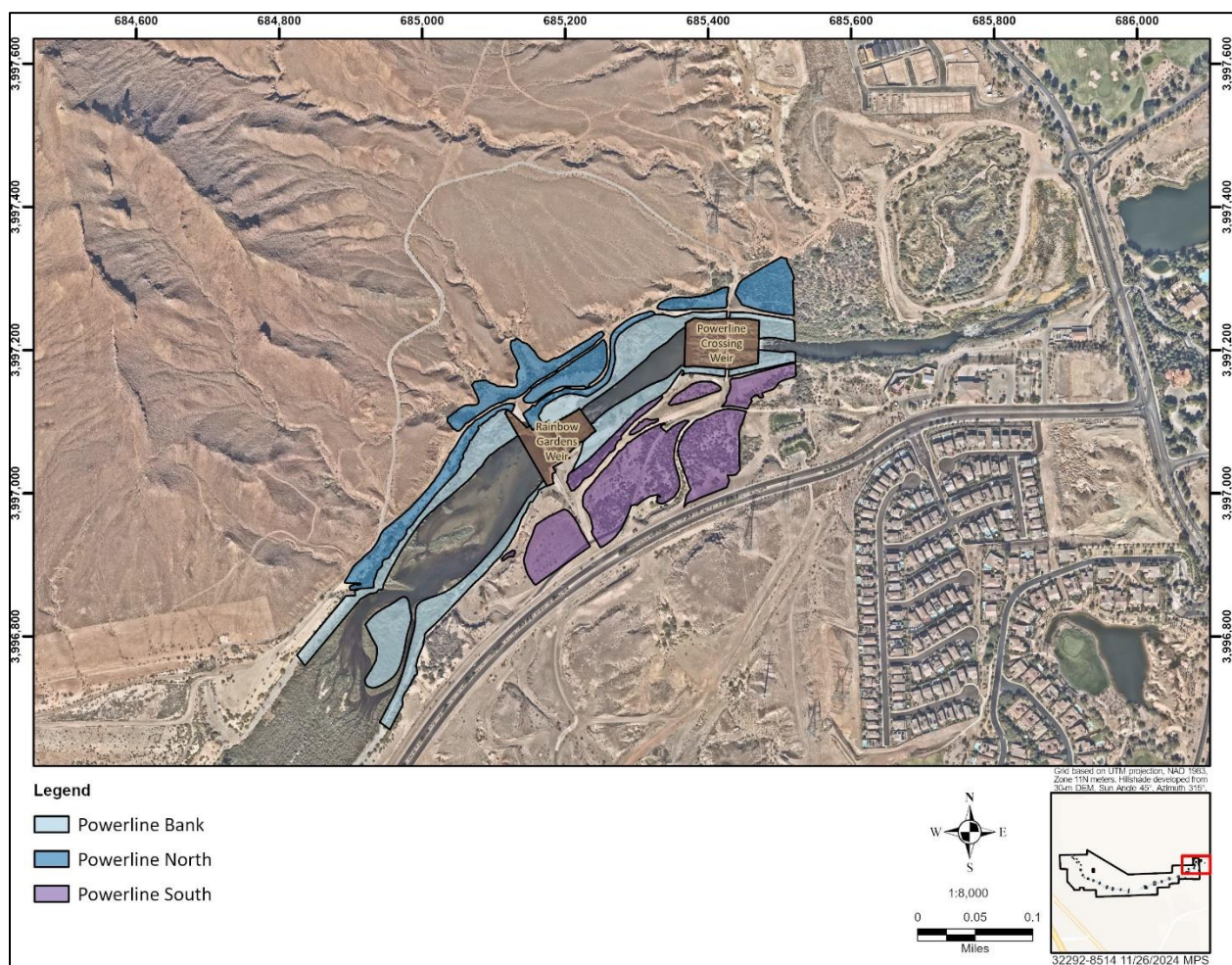


Figure 32. Aerial photograph of Lower Narrows and Homestead weirs revegetation sites.



Figure 33. Alkali sacaton and other native species planted during the spring 2023 Green-Up.

Site Code ¹	Acreage	Wetland Status ²	Cover Class Range	Noxious Species Cover	Number of Species	WPI ³	Vegetative Cover ⁴	Field Survey Year ⁵
PLN	6.13	nm	nm	nm	nm	nm	38.61%	2027
PLS	8.22	NW	50–75%	0%	16	3.62	nm	2025, 2026, 2027
PLB	8.91	nm	nm	nm	nm	nm	74.42%	2026
RGW	1.39	nm	nm	nm	nm	nm	17.19%	2026
PLCW	1.70	nm	nm	nm	nm	nm	68.87%	2026

¹Powerline North=PLN, Powerline South=PLS, Powerline Bank=PLB, Rainbow Gardens Weir=RGW and Powerline Crossing Weir=PLCW

²Wetland status determined by Wetland Prevalence Index (WPI) value: W=wetland and NW=non-wetland

³WPI value: ≤ 3.00 =wetland and > 3.00 =non-wetland

⁴Vegetative cover calculated using aerial imagery and Light Detection and Ranging (LiDAR) data

⁵Initial year a site will be surveyed in the field; an en dash means the site will not be field surveyed

nm=attribute not monitored

Table 20. Vegetation monitoring results for Rainbow Gardens and Powerline Crossing weirs revegetation sites in 2025.

3.17 Waterway

Total vegetative cover for the waterway polygons was calculated using aerial imagery and LiDAR data, and 49.23 acres of the 150.36-acre area were covered with vegetation in 2025 (Appendix A). No field surveys are scheduled for the polygons, and only total vegetative cover will be calculated and reported.

3.18 Weirs and Drop Structures

Total vegetative cover for each weir and drop structure polygon was calculated using aerial imagery and LiDAR data (Table 21). Of the 58.32 total acres, 37.56 acres (64%) were covered with vegetation in 2025 (Table 21, Appendix A). Percent vegetative cover varied from weir to weir and ranged from 17.19% to 92.90%. Field monitoring of weirs and drop structures will occur in the fall of 2026 and consist of visual surveys to determine the amount of woody vegetation present.

Weir or Drop Structure	Vegetation Acreage	Percent Vegetative Cover
Rainbow Gardens Weir ¹	0.24	17.19%
Pabco Weir ¹	0.46	22.82%
DU Wetlands No. 1 Weir	0.79	28.05%
Monson Weir	0.18	32.89%
Visitor Center Weir	0.28	39.76%
Upper Diversion Weir ¹	0.39	40.35%
Calico Ridge Weir	0.97	46.61%
DU Wetlands No. 2 Weir	0.68	47.72%
Historic Lateral Weir	3.41	49.87%
Upper Diversion Drop No. 1	0.37	54.45%
Sunrise Mountain Weir	0.95	57.60%
Upper Narrows Weir	2.17	57.76%
Upper Diversion Drop No. 2	0.38	58.29%
Archery Weir	1.43	58.70%
Upper Diversion Drop No. 3	0.46	65.10%
Powerline Crossing Weir	1.17	68.87%
Tropicana Weir	1.65	69.29%
Three Kids Weir	4.18	77.54%
Silver Bowl Weir	1.91	78.33%
Bostick Weir	5.49	81.02%
Lower Narrows Weir	2.97	87.96%
Homestead Weir	3.73	90.63%
Duck Creek Confluence Weir	3.29	92.20%

¹Weir designed with mostly concrete material so vegetative cover is expected to be low.

Table 21. Total vegetative cover by acreage and percentage for each weir and drop structure, listed in ascending order.

4.0 CONCLUSIONS

For comprehensive environmental programs such as the one along the Wash, there are various goals and multiple facets of each goal. This monitoring report describes how the Wash program is performing in relation to select quantitative measurements of native plant restoration. More difficult-to-measure goals include providing wildlife habitat and increasing the overall ecological health of the system. Wildlife surveys and the summation of other measurements, however, should indicate to managers and stakeholders whether these goals are being met as well.

Twenty sites consisting of upland and riparian sites on the south side of the Wash and grant-funded sites with five or less growing seasons were surveyed in the field in 2025. Since site boundaries for most sites were recently modified, it is difficult to compare past with present results. Comparisons will begin in the fall of 2028 for the sites monitored in the field during 2025.

Three of the 20 field monitored sites are good candidates for enhancement (Table 22). Human-caused fires are the main reason they qualify (Figure 35). UNNS, UNSF and HLES will not be monitored in the field until initial or additional plantings occur at each site but also qualify for enhancement (Table 22). The NDEP revegetation site in Site 108 qualified for targeted invasive and other undesirable species removal. This list will likely change annually and will be used to guide future revegetation efforts along the Wash.

Although trash is not one of the criteria to qualify a site for enhancement under the RMP, it should still be considered and removed when possible. Four sites monitored in the field in 2025 had a significant amount of trash: UDI-1, NDSP, NDEP and SNPLMA V. UDI-1 is located just below UDW and captures large amounts of trash during storm events. Whenever UDW requires trash removal, when practical, this site should be included. The other three sites with large amounts of trash are all located within Site 108. When possible, the trash within these sites should be removed.

Site Code	Candidate for Enhancement	Possible Candidate for Enhancement Following Additional Monitoring	Candidate for Targeted Invasive and Other Undesirable Species Removal
UDS	2025		
UDI-2	2025		
ASBS	2025		
UNNS	*		
UNSF	*		
NDEP			2025
HLES	*		
CCNW		2024	
BN	2024		
LNN		2024	
PLN	2024		

*Those sites with an asterisk represent sites that have not yet been planted and so do not receive field monitoring.

Table 22. Vegetation monitoring sites that are candidates or possible candidates for enhancement and candidates for targeted invasive and other undesirable species removal following the Las Vegas Wash Long-Term Revegetation Management Plan. Each site is labeled with the year in which the designation was made.



Figure 34. The aftermath of the June 24, 2025, fire that burned an estimated 25–50% of Archery and Silver Bowl South revegetation site.

Revegetation program success is gauged by several metrics, such as increasing native plant cover up to a self-sustaining level, high survivorship of planted plants and ongoing control or reduction of noxious weeds. Of the sites monitored in the field in 2025, not including those with five or less growing seasons, 77% of sites had a total cover greater than 50%. Only one site had noxious species cover greater than 3% and the two recent Green-Up sites, LNSGU24 and LNSGU25, had an estimated survival rate of greater than 90%.

A new vegetation monitoring protocol began in the fall of 2024 and has helped streamline and simplify the survey process. Although there is a three-year lag in the ability to make true comparisons between sites, this updated protocol allows staff to focus more on the Wash as a whole. The new field and remote survey methods should continue to be used with the possibility of further modifications if deemed appropriate. When each site has been surveyed more than once following the TMS method, direct comparisons of the data can be made between each field survey season. Under the new protocol, sites are field surveyed every third year; this schedule can be altered if there are significant changes between field survey years (Table 23).

5.0 RECOMMENDATIONS

Annual monitoring of revegetation sites along the Wash should continue, as it provides important information. Furthermore, staff should continue to use the modified site boundaries, new protocol, and field and remote methods described in Lantow (2025). Although the new site boundaries make

comparing past data with current data difficult, this is only temporary. The median cover class range for the sites monitored in the field in 2025 was 50–75%. This is particularly good given that all but four of the sites monitored are non-wetland, and non-wetland sites typically have less vegetative cover since the plants' access to water is more limited.

All Green-Up sites within their second to fifth growing season showed an increase in total cover except for SMS-2. SMS-2 was planted as a Green-Up site in the fall of 2021. Hundreds of potted plants of several species were installed, but desert globemallow (*Sphaeralcea ambigua* ssp. *rugosa*), honey mesquite (*Neltuma glandulosa*) and rush milkweed were the only species identified during field monitoring. Species planted in large quantities that did not survive include desert milkweed (*Asclepias erosa*), Pinto Beardtongue (*Penstemon bicolor*), firecracker penstemon (*Penstemon eatonii*) and desert willow (*Chilopsis linearis*). Given this information, these species should not be used in the spring 2026 Green-Up. Some species that were not planted but have been identified on site and should be considered for the Green-Up are brittlebush and screwbean mesquite (*Strombocarpa pubescens*).

What is now known as LNSGU25 was selected as the location for the 2025 spring Green-Up because it lacked cover. Since it borders the Wetlands Park bike trail, more aesthetically pleasing species were selected. The planting event installed additional vegetation to improve overall cover and provide better habitat for wildlife per the RMP. Fall of 2025 was the first time the site was monitored following the planting. Results show that the site now has 25 species and a cover class range of 50–75%, showing the value of such efforts. Field monitoring for this grant-funded site will occur annually through 2029.

5.1 Data Retention

Grants have played a significant role in the Wash revegetation program, funding many of the sites in this report. SNWA is required to track grant-funded sites along with permitted areas in perpetuity. There is a legacy revegetation database that is associated with grants and permitted areas from 2003 through 2023. A new database was created and will be updated annually that includes all grants and permitted areas beginning in 2024. This database lays out all information for each grant-funded site, permitted area and associated polygon(s) in ArcGIS. The legacy database will no longer be modified but can still be found in the Wash Team's revegetation monitoring SharePoint folder for reference. Maintaining the new database will help ensure that grant and permit requirements are met.

6.0 LITERATURE CITED

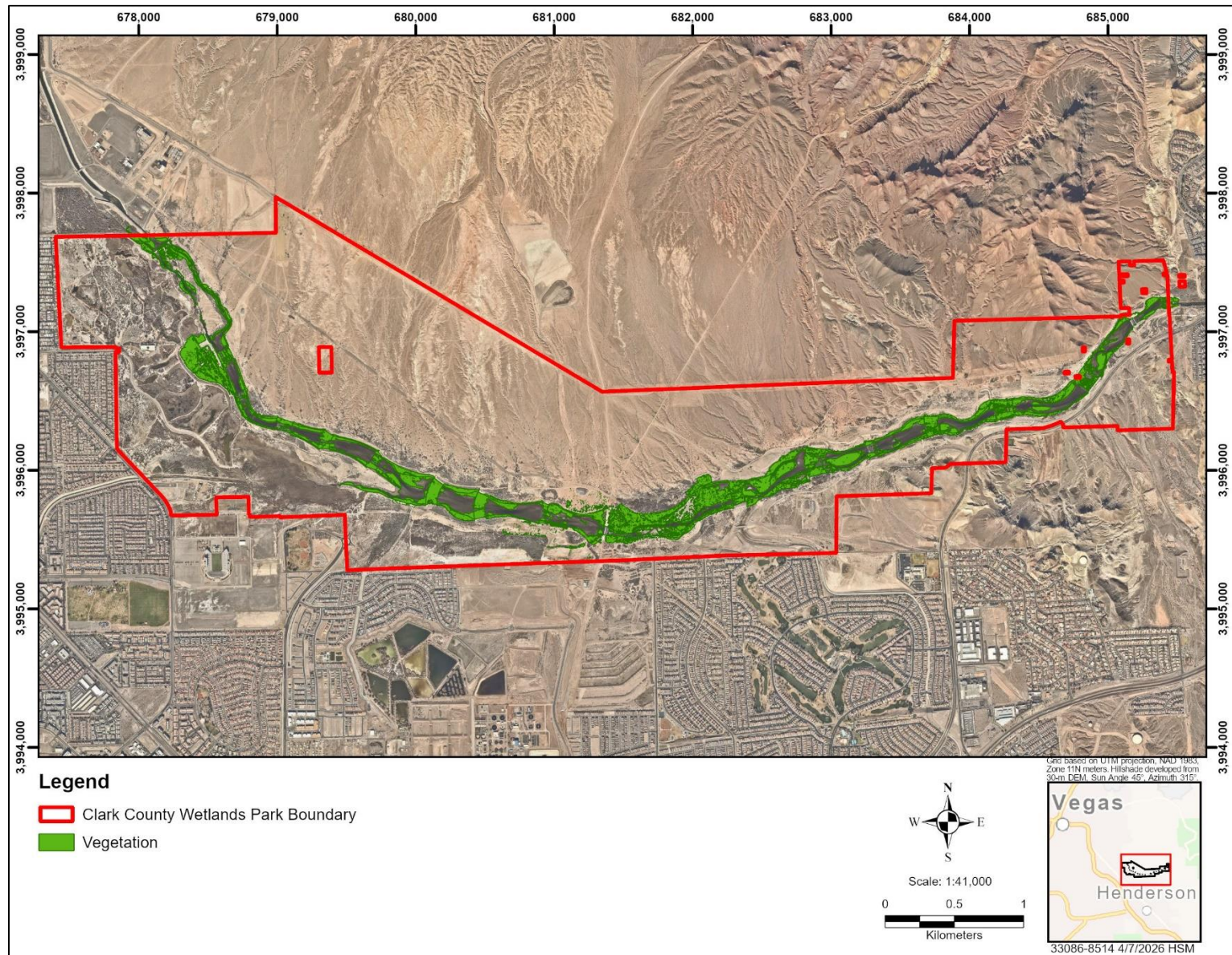
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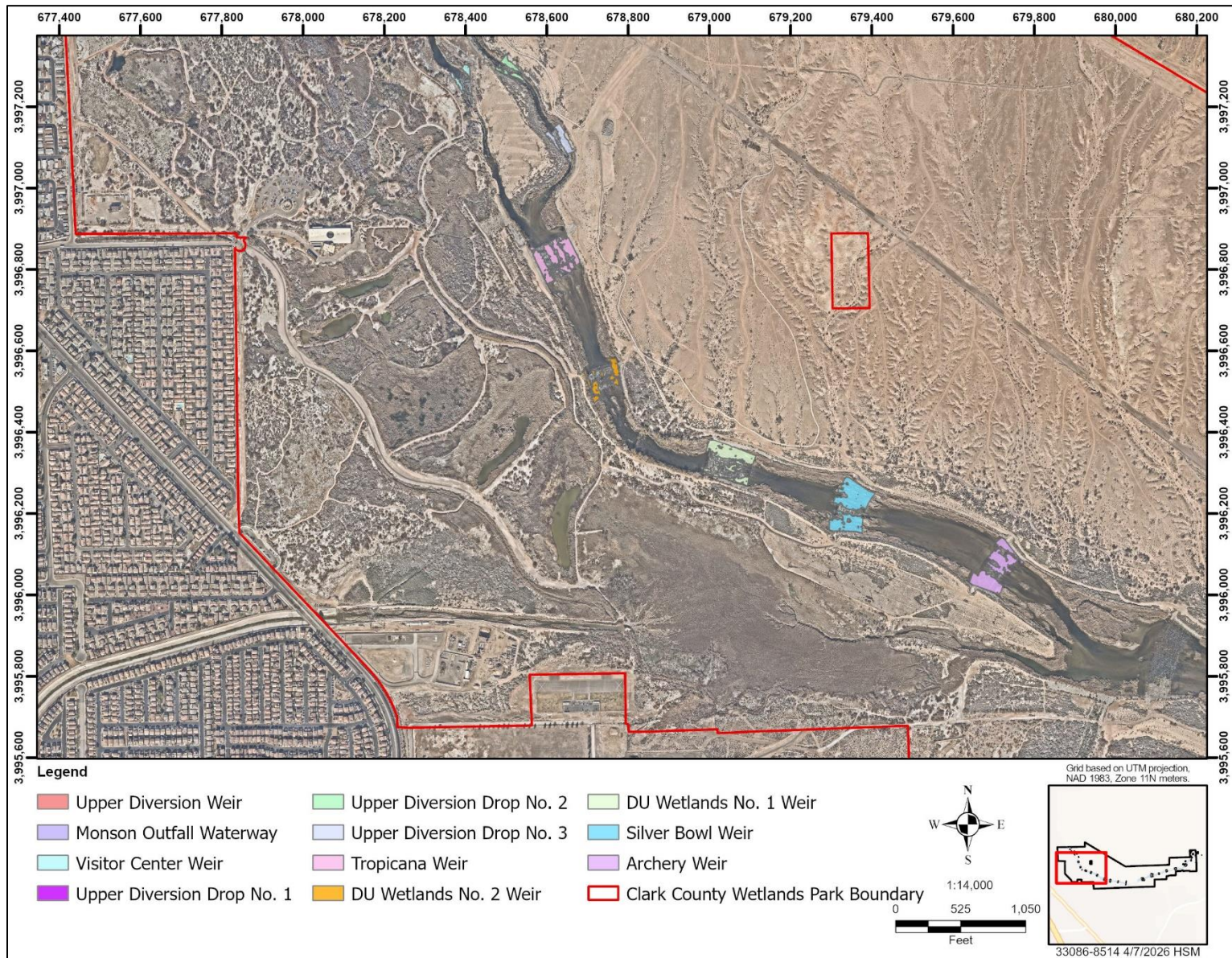
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APPENDIX A

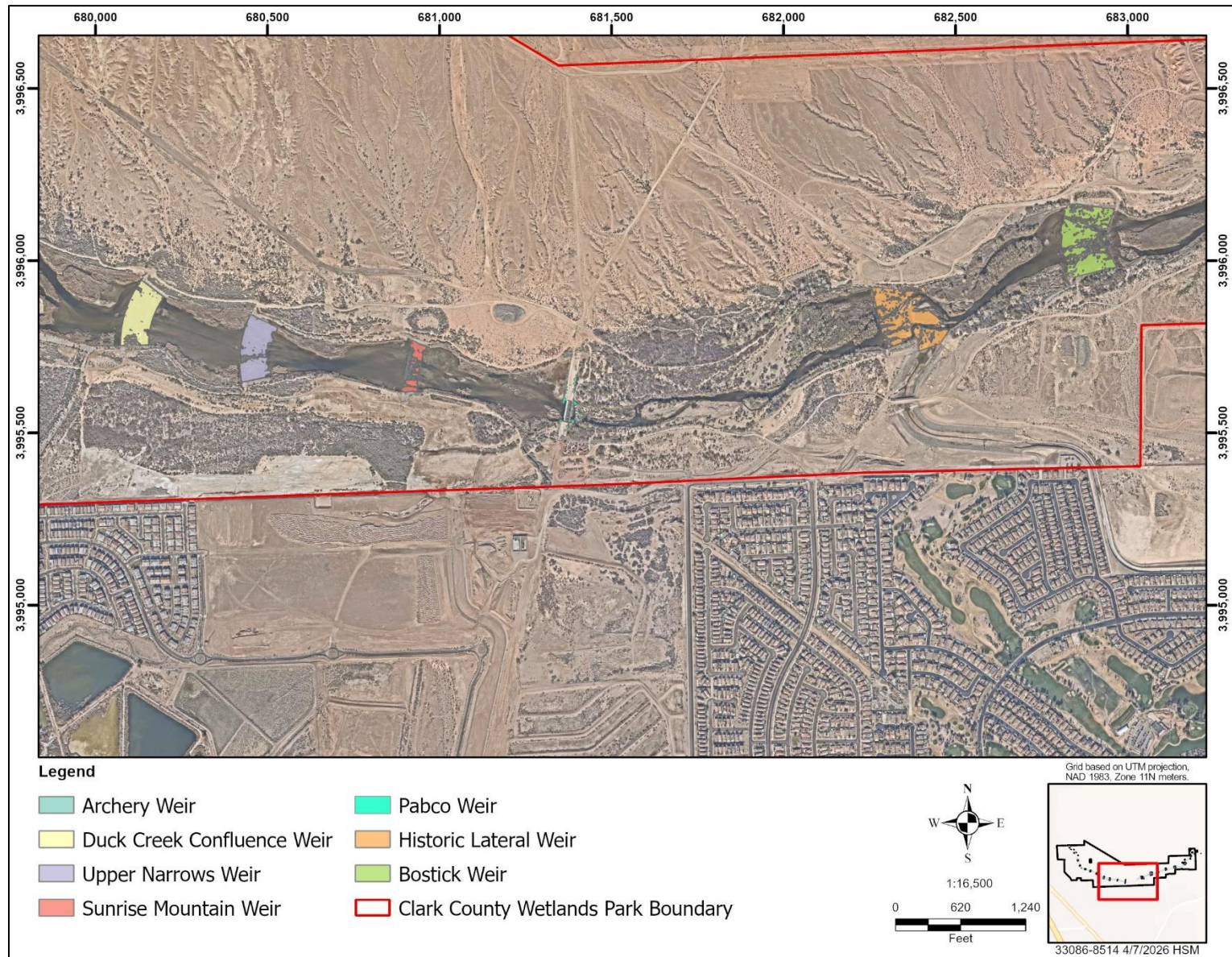
Aerial Imagery of the Vegetation Identified within the Waterway Polygons and
on Weirs and Drop Structures



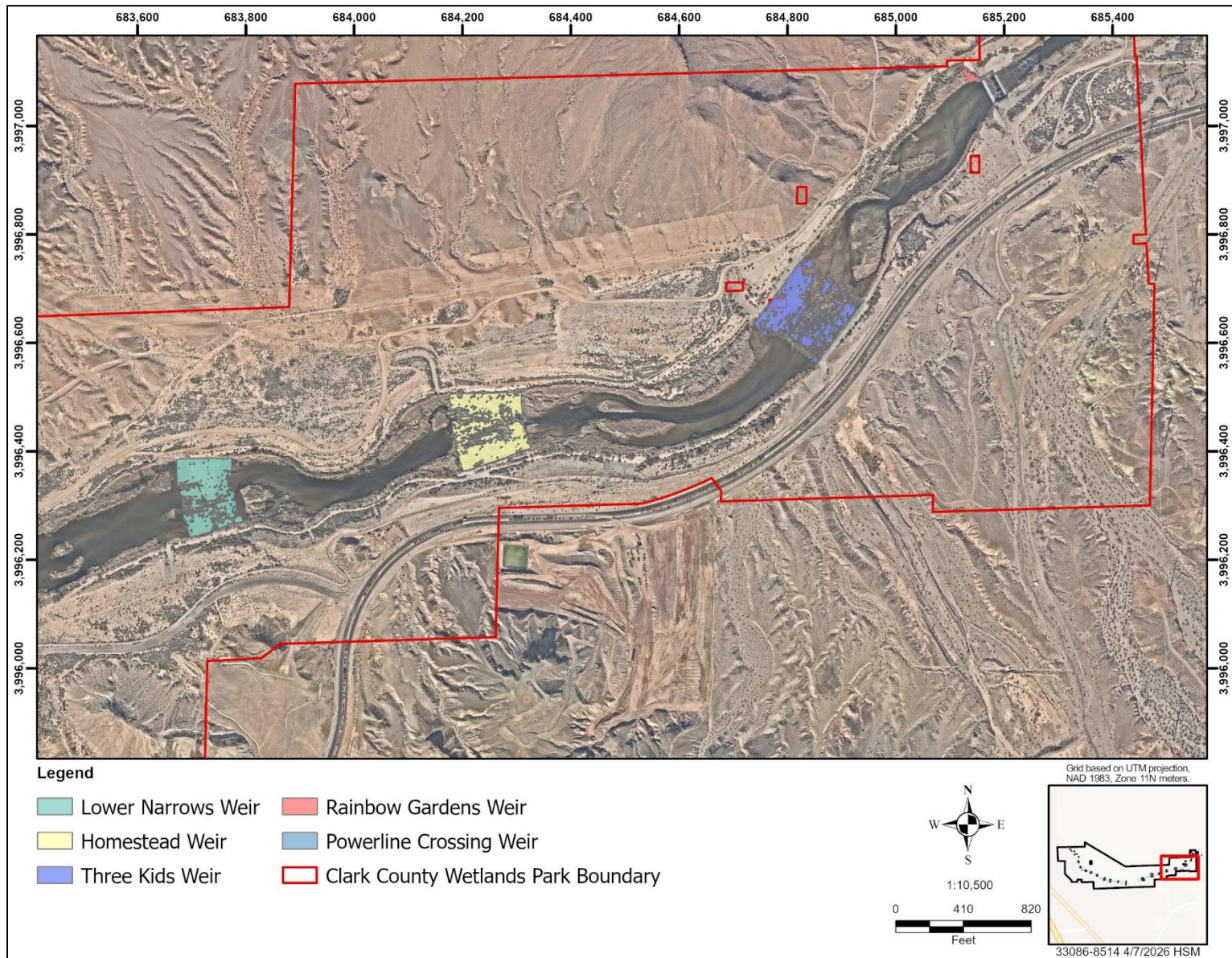
Vegetation identified within the waterway polygons using aerial imagery and LiDAR data.



Vegetation identified on each weir and drop structure in the upstream section of the Las Vegas Wash.



Vegetation identified on each weir and drop structure in the midstream section of the Las Vegas Wash.



Vegetation identified on each weir and drop structure in the downstream section of the Las Vegas Wash.