MITIGATION BACKGROUND & OVERVIEW

Introduction

The Los Angeles Department of Water and Power (LADWP) is legally obligated to implement mitigation projects to enhance recreation, diversify land use, improve or create habitat for wildlife and vegetation, and mitigate for a range of impacts in the Owens Valley. A central role of the Inyo County Water Department (ICWD) is to monitor and report on the status of environmental mitigation projects in the Owens Valley. More than 64 projects, spread throughout the Valley, mitigate for a range of environmental impacts due to abandonment of irrigated agriculture and groundwater pumping in the Owens Valley. These improvements range in size from single-acre spring projects to the 78,000-acre Lower Owens River Project (LORP). The majority of these projects are described throughout the Water Agreement and associated 1991 EIR (Water from the Owens Valley to Supply the Second Los Angeles Aqueduct), and in the 1997 MOU (Resolving conflicts and concern over the 1991 EIR), which can be found on the ICWD website (www.inyowater.org).

ICWD participates in the development of new projects, evaluates the effectiveness of ongoing mitigation, and oversees modifications of existing projects that have been changed by the Inyo/LADWP Standing Committee or the courts.

This report provides background and status on all mitigation projects and other commitments in the Water Agreement. This section includes tables summarizing the origin and status of projects described in the 1991 EIR and other documents and a summary of projects receiving special attention in the *2020-2021 Projects in Focus* section. A separate Mitigation Status Table (Appendix A) provides a list of all projects and obligations and their status according to LADWP and Inyo County.

Mitigation Projects--Origins and Background

Descriptions of mitigation projects are found in the collection of documents that govern the activities of the LADWP in the Owens Valley. These documents were developed over time and include the 1991 Long Term Water Agreement and associated EIR, the 1997 MOU, and other court stipulations and orders.

LADWP is legally obligated to implement mitigation projects to enhance recreation, diversify land use, improve or create habitat for wildlife and vegetation, and mitigate for a range of impacts in the Owens Valley. Although the environment of the Owens Valley had begun to suffer the effects of large- scale water diversions to supply water to Los Angeles Aqueduct beginning in 1913, all of the mitigation projects described in this report mitigate for impacts after 1970 that resulted from the operation of the second Los Angeles Aqueduct. These mitigation projects will to a certain degree repair, restore and compensate for adverse impacts from the operation of the second aqueduct. Descriptions of mitigation projects are found in the collection of documents that govern the activities of the LADWP in the Owens Valley.

More than 58,000 acres of groundwater dependent vegetation is found in the Owens Valley. Between 1970 and 1990, increased groundwater pumping, and the resulting fluctuations in the water table, has had a significant effect on more than 1,000 acres; 655 acres of groundwater dependent vegetation has entirely died-off. Most of the mitigation projects include goals to improve vegetation in the Owens Valley.

Mitigation Alternatives

With respect to mitigation, the Water Agreement generally follows the framework of the California Environmental Quality Act (CEQA), which allows several alternative forms of mitigation. These are generally considered in sequence (i.e., with preference given to avoidance first and compensation last). These actions include:

- **Avoiding the impact altogether by not taking a certain action or parts of an action.** Local example: Well on/off provisions. When soil water and projected contribution from precipitation is inadequate to maintain vegetation, wells are not operated.
- **Minimizing impact by limiting the degree or magnitude of the action and its implementation.** Local example: Shutting down pumping wells, as was done at Five Bridges when groundwater drawdown degraded nearby vegetation.
- **Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment.** Local example: Revegetation and regreening projects, which compensate for the effects of the abandonment of irrigated agriculture leading to areas of blowing dust and dirt.
- **Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.** Local example: Salt cedar control, ongoing irrigation of fields
- **Compensating for the impact by replacing or providing substitute resources or environments** Local example: Lower Owens River Project, civic projects, recreational

Origin of Mitigation Efforts

Mitigation planning, development, and implementation are ongoing activities that are undertaken cooperatively with LADWP; Inyo County and LADWP developed the majority of mitigation projects in the Owens Valley during three discrete periods of time in response to judgments or potential legal and administrative actions:

Environmental Projects (EP), 1970-1984

Between 1970 and 1984, LADWP committed about 10,000 acre-feet of water annually to implement 12 environmental projects (Table 6.1). The primary purpose of these projects was to restore habitat that had been negatively affected or lost due to water gathering. These areas may have exhibited vegetation changes, or reduction in wildlife using a particular habitat. The goal was to provide a regular water supply to habitats such as ponds, lakes, sloughs, springs, and the Lower Owens River (LOR). Objectives differed between the projects, depending on the type of the impact that had occurred, but the overall goal of the environmental projects was to improve wildlife, forage, fisheries, and public recreation facilities.

In many instances it was impractical to mitigate at the original impact site, or the affected area was not well defined, or the impact was sporadic. In these cases, a project was constructed at a site that would best accommodate the goals of the mitigation.

Enhancement/Mitigation Projects 1985- 1991

The Enhancement Mitigation (E/M) projects are environmental projects that were implemented prior to

adoption of the 1991 EIR (Table 6.2). The Water Agreement required that all E/M project continue. Some of these projects were included in the 1991 EIR as mitigation for impacts due to LADWP's water gathering activities.

These projects addressed a number of environmental impacts and filled community needs. Projects include the revegetation of abandoned agricultural lands and lands that experienced vegetation loss due to groundwater pumping, delivery of water for public parks, improved wildlife habitat, and a partial rewatering of the lower Owens River. For each project, specific goals and objectives were established and environmental documentation was prepared in accordance with CEQA.

Additional Mitigation Projects, 1997 MOU and 2004 Amended Stipulation and Order
The 1997 MOU identifies Additional Commitments that include studies, evaluations and commitments to specific issues (Section III.A). One of the issues brought forward in the MOU in Section III.A.3. is Additional Mitigation. This requires that LADWP allocate 1,600 acre- feet of water per year to implement on-site mitigation measures at Hines Springs and on-site or off-site mitigation at Fish Springs, Big and Little Seeley Springs and Big and Little Blackrock Springs. Also assigned is a commitment to improve wildlife habitat

- **Yellow-Billed Cuckoo (YBC) Enhancement Mitigation Project:** These projects located near Big Pine on Baker Creek and Hogback Creek near Lone Pine were designed to enhance vegetation conditions and direct land management actions to enlarge and enhance existing YBC habitat
- **1600 acre-feet of water:** Commits 1600 acre-feet of water at seven sites. The initial project recommended by the MOU consultant was replaced by eight identified projects prepared by an Ad Hoc group of Inyo, LADWP, and CFG staff, local lessees, and representatives of the Owens Valley Committee and the Sierra Club. A report describing these projects can be found on the ICWD website.

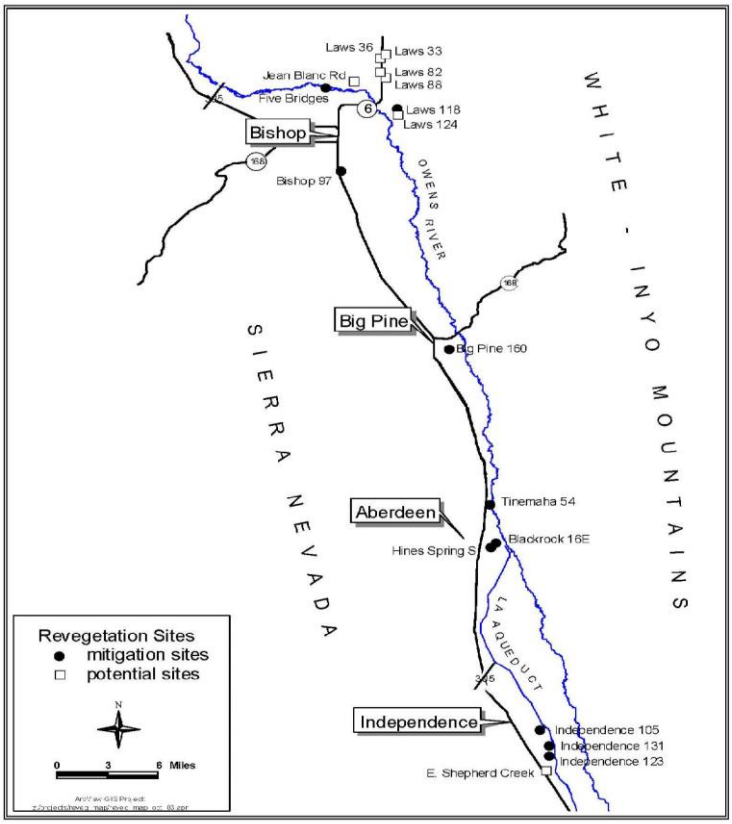
The Additional Mitigation Projects established a five-year monitoring program for the eight projects. These projects were monitored for water deliveries, assessed using pedestrian surveys and photo points, and vegetation and flooded extent was mapped. Data collections, and monitoring, were tasks shared by Inyo County and LADWP. LADWP was required to document the five-year finding in a report. This report is found in their 2017 Annual Owens Valley Report (Section 3.2.1.1).

Revegetation projects in the 1991 EIR
Revegetation projects mitigate for environmental damages due to groundwater pumping and/or abandonment of agriculture. The 1991 EIR identified land that had become barren due to changes in surface or groundwater management (Figure 9.1). Subsequent to the 91 EIR, the MOU directs that mitigation plans be produced for all on-site mitigation projects, which would include revegetation projects. The Revegetation Plan for Impacts Identified in the LADWP, Inyo County EIR for Groundwater Management (1999 Plan), was prepared by the Inyo/Los Angeles Technical Group and submitted to the Standing Committee in 1999. The plan provides specific guidance as to goals to be reached and sustained. Goals include attainment of percent vegetation coverage, level of species richness (composition), and recruitment, which is a measure of sustainability.

In 2016-17, the County and LADWP had disagreed over the authority of the 1999 Plan. Although the MOU required such a plan be developed by 1999, LADWP claimed that the 1999 Plan was an unapproved draft. This assertion, if accurate, would have relieved LADWP from the requirement that

wells W385 and W386, in the Five Bridges area, be permanently shut off. Operation of these wells in the late 1980's led to significant native vegetation decline. The 1999 Plan includes prescriptions to recover the Five Bridges vegetation and directs that nearby wells, W385 and W386 be permanently shut off. After further consideration, LADWP agreed with the County that the 1999 Plan was developed by the Technical Group and presented to the Standing Committee.

LADWP, in their annual report has asserted that, based on reaching cover and composition goals, four of 13 revegetation projects are complete, including the Five Bridges revegetation project. In 2018, Inyo County made a site assessment of the Five Bridges Impact Area and based on multiple lines of evidence we established that the Five Bridges Impact Area has not achieved 1999 Plan goals. This evidence includes vegetation cover and species composition measurements along field transects, satellite remote sensing of vegetation indices, vegetation community mapping from aerial photography, and comparison of conditions within the Impact Area to nearby areas of similar vegetation. The County is now collecting data from all of the revegetation projects to assess LADWP's claims of having met cover and composition goals. The assessment will also look at year-to-year variability due to water availability and other environmental factors. LADWP has never made a claim that any of the revegetation projects are sustainable. A measure for such a status is not available.



Locations of revegetation projects in the Owens Valley described in the 1991 EIR and 99 Plan.

Revegetation Plans for Lands Removed From Irrigation in the Laws Area (ILA)

Subsequent to the 1999 Plan, a Mitigated Negative Declaration was prepared in 2003 to address three abandoned agricultural parcels in the Laws area (Parcels 90, 94, 95). The 234-acre revegetation effort also includes parcel 129 and portion of parcel 118 (Figure 1). Like the 1999 Plan, the ILA has specific cover, composition, and sustainability goals. As of 2021, none of these parcels have achieved goals. LADWP has put considerable effort into these projects and is having success developing near monoculture cover that functionally reduces dust blowing from the fields, but does not satisfy the overarching goal of developing a mix of vegetation similar in composition to nearby native landscape. In 2016, LADWP made an effort to revise the ILA mitigation plan to conform to their new non-compliant approach, but the draft plan was

not submitted to the Technical Group.

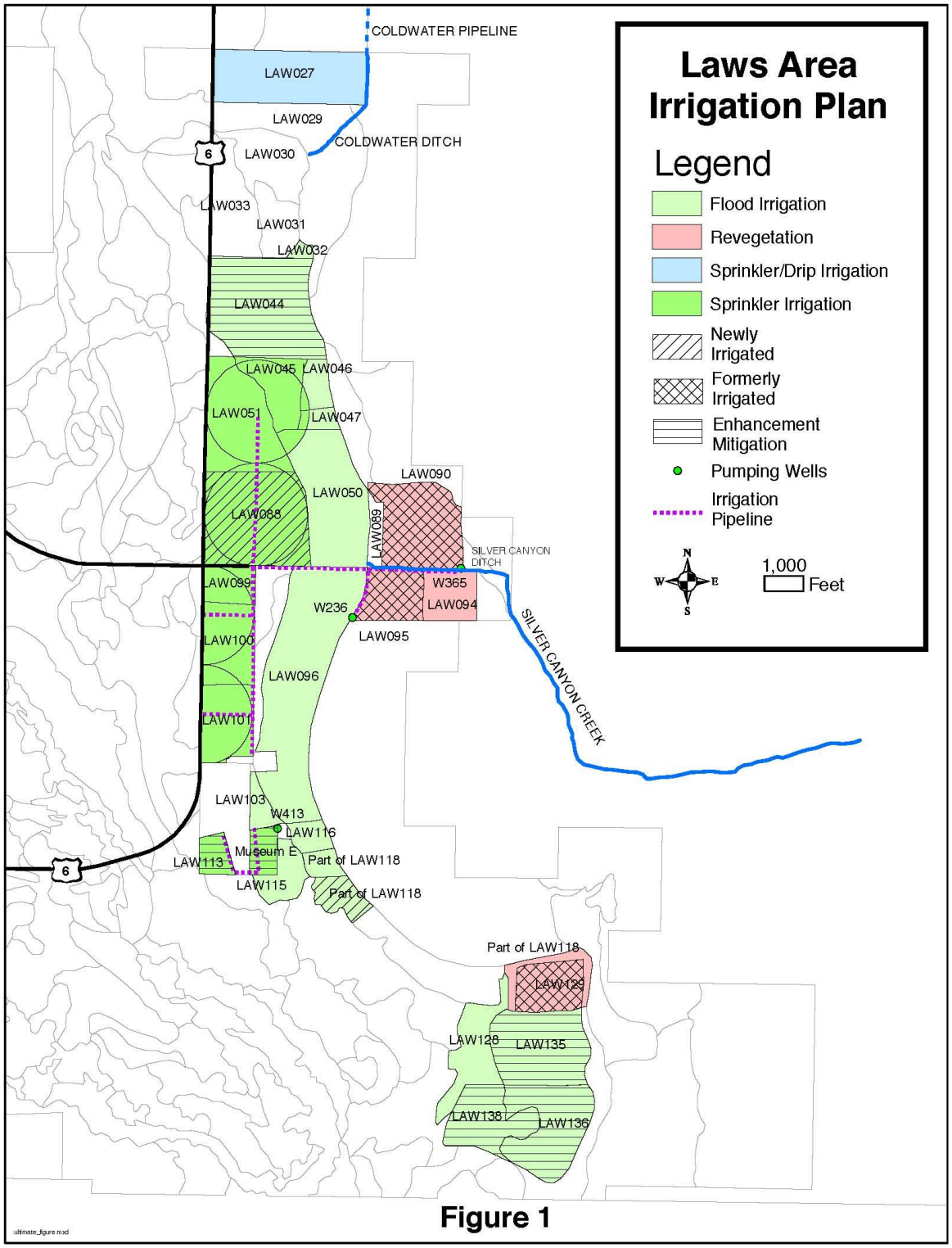


Figure 1

MITIGATION PROJECT STATUS

Responsibility and Monitoring

LADWP is solely responsible for implementing and managing mitigation projects on their lands in the Owens Valley.

Inyo County Water Department staff monitor the condition of these projects over time to assure that the value of each of the mitigation efforts is as intended and prescribed. Mitigation performance is judged against project descriptions and plans that appear in governing documents.

ICWD engages a number of methods to assess project conditions and determine project status. Site visits are conducted seasonally. Imagery taken from the ground, air, and satellite, allow visual and spectral band assessment of project conditions over time. Vegetation surveys are conducted to determine the success of revegetation projects. Since the majority of the projects are sustained by the application of water, the hydrologic record is used to monitor project maintenance.

Projects that are not meeting goals, or are underperforming, receive focused attention and specific investigations to determine why the project is failing to provide intended mitigation. These investigations conducted independently or jointly, can lead to corrective management or a full reassessment of the project.

One of the challenges in assessing mitigation project success is lack of background and guidance. Few of the Enhancement/Mitigation Projects (E/M), which makes up the bulk of LADWP's mitigation commitment, have written objective goals or management plans:

- The 91 EIR identifies impacts to be mitigated, but provides little guidance as to how the projects are to be implemented and maintained aside from basic objectives and modest direction for implementation. Quantifiable goals, performance standards, and a schedule are lacking. There are no penalties for failure to achieve even the most basic mitigation goals. Lacking clear goals, it's often up to the observer to determine if the effort is truly satisfying the intent of the projects described in the 1991 EIR and other environmental documents. LADWP will claim a project is implemented and on-going, while an outside observer might look at the same project and find it failing to provide acceptable in-kind or replacement mitigation for an environmental impact or lost resource.

- The 1997 MOU corrects some of the deficiencies of the 1991 EIR by directing the development of mitigation plans for on-site mitigation. The 1999 "Revegetation Plan for Impacts Identified in the LADWP, Inyo County EIR for Groundwater Management (Reveg Plan)," is an example of a meaningful mitigation plan. The Reveg Plan prescribes specific actions, provides a schedule, and sets quantifiable goals. Still, many of the reveg prescriptions are weak and LADWP ignores the objective core of the 1999 Plan, which is to grow an assemblage of plants that resembles surrounding native vegetation. LADWP selects fast-growing plants are easy to establish by means of drill seeding (mechanically sowing seed) or by transplanting greenhouse grown plant along drip irrigation lines. As a result, many hundreds of acres of revegetation are simply a monoculture of rabbit brush or other fast-growing native crop that certainly do not resemble

surrounding vegetation. While LADWP might have achieved one objective of revegetation, reducing dust blowing off barren lands (and thus avoiding expensive air pollution distract penalties), the goal of creating diverse native cover has all but been abandoned. As well, the Reveg Plan directs that vegetation obtained is sustained, but LADWP has chosen not to assess recruitment when considering the status of revegetation, making claims of project completion based solely on plant cover and composition while ignoring sustainability.

- Three environmental documents and plans produced subsequent to the 1991 EIR include the 2003 Revegetation Plans for Lands Removed from Irrigation in the Laws Area; the 2004 LORP EIR and management plan, and "Ad Hoc" 1600 acre-foot projects, both off-spring of the MOU.

Mitigation project success and conditions lie on a spectrum. Mill Pond Recreation Area, Diaz Lake, Lone Pine Sports Complex, all fall into the community benefit category. The County manages these projects under LADWP leases, and they are well kept. Lower Owens River Project management is tightly prescribed and adaptively managed and the project receives considerable attention. The trees in the tree lots in Lone Pine and Independence, meant to provide wood to heat the homes of the disadvantaged, are managed by LADWP and receive little attention. The production of firewood appears limited, but difficult to judge because no accounting is available for the numbers of cords produced. Many of the trees in the lots that were planted in 1987 are still standing; the greatest value of these lots now might be as wildlife habitat. The majority of habitat related E/M projects have only the vaguest of goals and few are offering the ecological value they could if they were studied and adaptively managed. Habitat project success is often judged simply on the basis that the project is receiving water.

Water Delivery to Projects

LADWP, in their annual Owens Valley Report, provides an accounting of water delivered to each of the E/M projects. Table 3 below shows the amount of water provided annually since 2002

Resources

The archives of information associated with mitigation projects are considerable, and include project scope, establishing and guiding documents, legal orders, project proposals, environmental studies, condition reports, and studies and reports. The most relevant and recent of these are posted on the ICWD website www.inyowater.org.

For an at-a-glance mitigation status report, the County and LADWP maintain a Mitigation Table (Appendix A). This chart provides a listing of all 64 mitigation projects and 49 other obligations required under the various agreements that address environmental, economic, and social impacts associated with the water-gathering activities by the City of Los Angeles Department of Water and Power in the Owens Valley. The table, ordered alphabetically, provides information about the origin and current status of each of the projects. LADWP and the County mostly agree on project status. Text in red indicates that there is a difference of opinion as to how the project is performing, or that ICWD needs more information to make an assessment. The table is dynamic, reflecting that project status might change over the years as new studies are undertaken, projects discontinued or transformed, or new mitigation projects added. All these changes are noted in the Mitigation Table.

Additional relevant information about the Environmental and Enhancement/Mitigation projects can be found in the narrative tables (Tables 2-4) in this report. These tables include a project Description, identify the Impact being mitigated, and provide a short updated overview of the project's status.

A new resource for understanding and tracking the status of mitigation projects is under development. The County is engaged in the process of developing a Mitigation Projects Portfolio. This accessible online resource will provide users a host of information about each of the mitigation projects, including a narrative description, maps, photos, links to relevant material, references, information about studies underway, and project status. The Mitigation Portfolio will contain all of the information found in this report and more. Combined with the dynamic Mitigation Table, the Mitigation Portfolio hosted on the Inyo County Water Department website, will satisfy a diverse audience; from the public just beginning to explore the variety of projects, to students learning about environmental mitigation, to decision makers who are looking for background, to LADWP and County staff looking for links to historic data or studies.

2020-2021 Projects in Focus

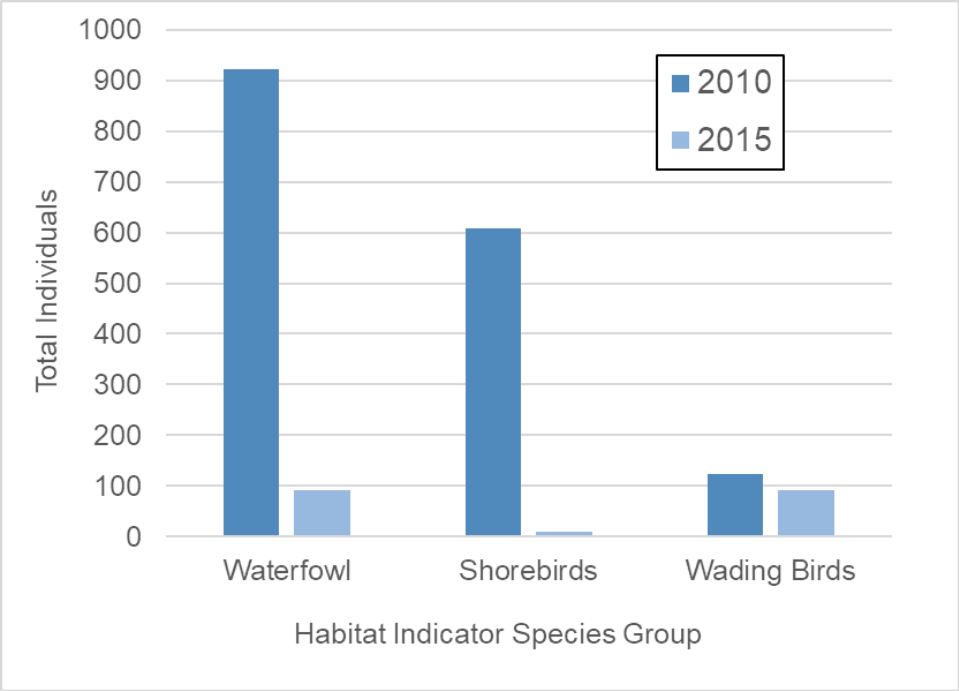
Each annual mitigation report attempts to highlight a few projects that are under new management or being actively reviewed. In 2020-2021 the projects receiving special attention included the Blackrock Waterfowl Management Area (BWMA), a component of the Lower Owens River Project, the ponds component of the McNally Ponds and Native Pasture project in the Laws area, as well as Freeman Creek, Hines Spring Well 355 and Hines Spring Aberdeen Ditch--the last three associated with the Additional Mitigation Projects Developed by the MOU Ad Hoc Group. The status of revegetation projects is also covered in this section.

BWMA Interim Management and Monitoring Plan

Under the LORP, the primary management objective for the BWMA is to create and maintain diverse natural habitats consistent with the needs of "habitat indicator species" (Section II.C.4 of the MOU). This was to be achieved by maintaining up to 500 acres of wetland in four shallow basins flooded year-round. The size of the flooded area was dictated by predicted runoff in the Owens River watershed. In average or above average years about 500 areas would be flooded. In below normal years, flooded acreage was decreased proportional to expected runoff.

BWMA Drew Unit, showing infilling by emergent vegetation. January 21, 2021

By the 2014 LORP MOU Party Summit—a discussion of the status of the LORP—it was becoming clear that under water management prescribed by the MOU, habitat goals were not being realized. Although a seasonal pedestrian survey of flooded acreage showed that water management was successful at maintaining prescribed wetland acreage, imagery showed that wetland ponds were filling in with Cattail and Bulrush to the extent that open-water was becoming limited—greatly exceeding the 50% goal of open-water to marsh that would be considered ideal. Avian surveys conducted by LADWP and ICWD staff determined that waterfowl use was declining year over year.



Decline in Habitat Indicator Species use in Year 2 vs. Year 7 of active flooding of the Drew Unit

LADWP indicated at the 2014 LORP Summit they would begin a process of evaluating BWMA management and recommend actions that could improve the project, but despite annual encouragement from ICWD it wasn't until 2020 that LADWP, moved by a LORP evaluation (2019 LORP Annual Report), prepared a plan for consideration by parties to the MOU (CA Department of Fish and Wildlife, CA State Lands Commission, Inyo County, Owens Valley Committee, Sierra Club). The plan was developed collaboratively with the County.

The 5-year BWMA Interim Management and Monitoring Plan—an adaptive management experiment--was released February 5, 2021. The plan calls for seasonal, rather than permanent, flooding of 500 acres in the fall, winter, and early spring that is rotated among five units, irrespective of runoff forecasts. Open water would be withdrawn during the spring/summer growing season to limit emergent vegetation growth. At the same time, growing season irrigation pulses would be provided to maintain moist soils conducive to growing forage crops for waterfowl.

Initial treatments involve drying and discing of the wetland basins to reduce stands of emergent vegetation to prepare for flooding beginning September 15, 2021. Robust monitoring and documentation will assess the effects of this adaptive management on habitat objectives. Avian monitoring, vegetation transects, flooded acreage measurements, water depth readings, and other hydrologic investigations, will provide feedback on which adjustments are need for the following year's management. The results of the monitoring will be included in the LORP Annual Report, which is released to the public in December. The success of the 5-year experiment (ending May 19, 2026) will be assessed and future management determined.

The full plan, including MOU Party comments, can be found on the Inyo County Water Department website (www.inyowater.org). The Standing Committee, at their May 26, 2021, set the BWMA flooded

acreage at a seasonally flooded 500 acres as suggested in the interim plan.

Ponds component of the McNally Ponds and Native Pasture
This project, in the Laws area north of Bishop, implemented in 1986, was intended to provide irrigation to sustain two native pastures, and water to fill 60 acres of ponds in the fall and winter to support waterfowl. Unfortunately, due to circumstance unforeseen by the project proponents, one of the pasture meadows has proven challenging to irrigate primarily due to undulating topography, and water for the ponds has not been available because of water cutbacks in the Mono Basin supply and On/Off well management constraints and possible vegetation impacts associated with local pumping. The challenged meadow continues to receive a supply of water from a nearby well and is in fair condition, but the ponds have not received a full allocation of water in most years. LADWP regularly requests that the County relieve them of the obligation to supply water to the ponds.

McNally Ponds and Native Pasture. The pond basins are in the middle of the photo.

The water supply for the ponds was to be the Owens River, however, with water cutbacks in Mono Basin, supplying river water through the McNally canals is not feasible except during high runoff years to spread water in the area—the ponds were originally designed and continue to be used as spreading basins. The majority of years that the ponds received their water allocation were in high run-off years; operational needs, rather than mitigation obligations took precedent. Operational water, when available, is typically available in the spring only. Runoff water spreading cannot satisfy the objective of providing water in the autumn and winter.

McNally Ponds and Native Pasture. The flooded basin in the foreground and dry basin in the distant are the two primary ponds. November 10, 2020

The ponds are fed off of the Lower McNally Canal, and wells along the canal could be used to fill the various basins through a network of diversion and ditches, but groundwater in the Laws area is cyclically depressed, and any additional pumping could adversely impact vegetation in the area.

Given that the ponds portion of the project is not implemented regularly and thus cannot provide agreed on mitigation, in 2018 Inyo County presented a proposal to LADWP to substitute basins below the Farmers Pond mitigation, 1.7 miles to the south, for the McNally Canal adjacent ponds that can't be reliably filled. The basins below Farmers Ponds can more easily be allocated a regular supply of water, and appear to be surrounded by habitat richer in vegetation and topographically more varying.

As an alternative to the existing McNally ponds, basins below Farmers Pond might be flooded to provide fall waterfowl habitat.

For the pond swap to be practical the substitute would need to provide greater or equal mitigation value from that described in the 1991 EIR. Studies are now underway to assess the water supply and conveyance to the Farmers Pond basin. If water delivery is found to be feasible, additional studies will

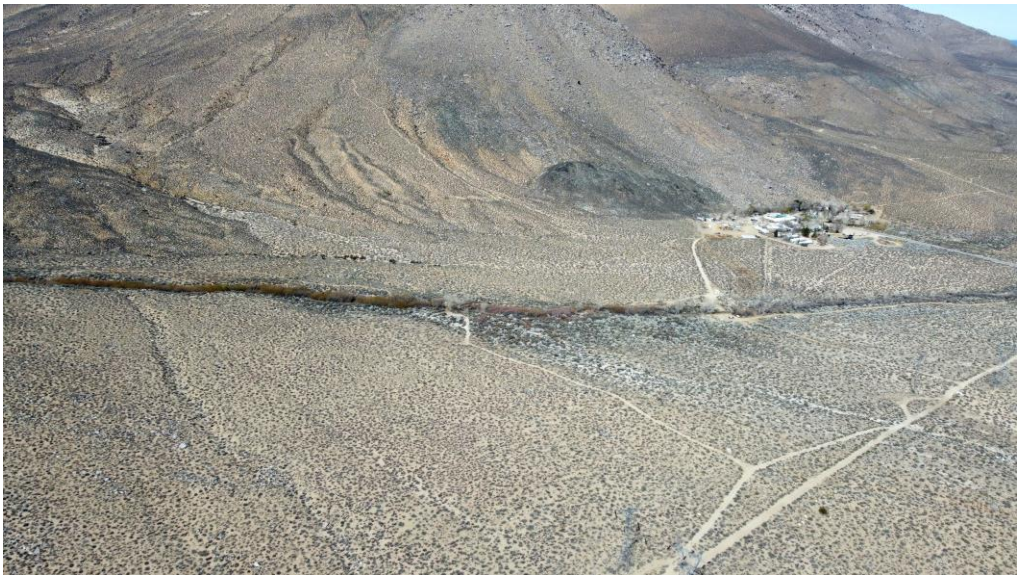
be conducted and a CEQA document prepared.

Ad Hoc Projects: Freeman Creek, Hines Spring Well 355 and Hines Spring Aberdeen Ditch
The 97 MOU identified additional mitigation commitments including a provision to provide 1,600 acre-feet of water per year on-site at Hines Spring or off-site in other parts of the south valley. An Ad Hoc group of MOU Party representatives and ranchers was assigned to come up with a group of projects to fulfill this commitment, after a consultant failed to develop feasible project plans. Eight projects were developed. These are presented in Exhibit A, Additional Mitigation Projects Developed by the MOU Ad Hoc Group. This document is found on the ICWD website (www.inyowater.org).

These projects were initiated in 2011-12 and monitored for five years. According to LADWP the 1,600 acre-feet of water has been supplied every year, although key components of the project are undersupplied or not receiving water potentially due to lack of runoff or other hydrogeologic constraints. As a result, two of the projects are underperforming and another is failing to perform. The County has undertaken preliminary investigations and LADWP has been made aware that adaptive management, or project substitution might be required to satisfy the Ad Hoc project objectives.

Freeman Creek in the distance. Many of the mature trees in the Freeman Creek drainage and outwash are in decline or dead.

The Freeman Creek project involves diverting the creek flow back into ancestral washes to redevelop diverse riparian habitat and provide irrigation to pasture and a shallow marsh. Unfortunately, the creek is not providing a consistent water supply and the majority of habitat that had developed when the project was initiated has been lost. The creek was known to have a variable and unpredictable flow, so in terms of water accounting toward the share of 1,600 acre-feet, the yearly allotment is 215 acre-feet regardless of actual measurement. Since 1972 Freeman Creek has averaged less than 100 acre-feet of water per year, and has never had an flow volume exceeding 202 acre-feet. Regardless of the accounting, the creek is seldom able to provide water to the ancestral wash or the meadow and marsh below. In fact, mature riparian habitat that had established ½ mile above the wash is dead or dying. The creek flow ends abruptly, with a healthy, mature riparian strip above a point where the creek waters disappear in the sand.



Freeman Creek. Surface flows end approximately where the road leading to the west crosses the river.

Hines Spring Well 355 involves running water from a well above the former Hines Spring vent into a nearby ancestral spring channel. The project is to create and enhance aquatic, riparian, and spring habitat. One to two acres of ponded water or riparian vegetation was to be established, supplemented by the planting of riparian trees and riparian herbaceous vegetation along the banks. Unfortunately, the project has created only the narrowest strip of riparian vegetation, in places 6-10 feet wide. Open water is largely absent, and surface flow stopped approximately 700 feet from the discharge pipe. There is no evidence that trees and vegetation have been planted.

Well 355. The former spring vent is outlined by grasses and weeds. The riparian strip developed is in the upper left.

Hines Spring Aberdeen Ditch is just west of, and runs parallel to, the Hines Well 355 project. Water is supplied off of the Aberdeen Ditch. Like the Well 355 project, water is discharged in an ancestral spring vent wash. And like the Well 355 project, the water doesn't make it far—500 to 800 feet—before disappearing in the mud overlying the porous basalt flow below. Temporary irrigation pipe was installed to route the water past the most permeable section of the wash, and water does flow in sections of the

wash below the 450’ pipe extension. Like Well 355, the project is to create and enhance aquatic, riparian, and spring habitat, and enhance livestock grazing opportunities through sub-irrigation. Creeping Wild Rye, a valuable pasture grass has developed in the sloughs at the tail end of the channel and satisfies the enhanced grazing goals.

Hines Spring Aberdeen Ditch. Plastic pipe is used to convey water past highly transmissive soils.

Though both the Well 355 and the Aberdeen Ditch projects create brief, narrow strips of riparian vegetation. What has developed by no measure approximates what had been in these channels and outflow washes when Hines Spring flowed freely. Additional and ongoing efforts are necessary to better mitigate the habitat losses.

Revegetation Status Table

Table 1 shows the status of revegetation projects relative to prescriptions found in the 1999 *Revegetation Plan for Impacts Identified in the LADWP, Inyo County EIR for Groundwater Management (99 Plan)*, as well as projects related to the 2003 *Irrigation in the Laws Area* MND (ILA)

Table 1

					Percent Live Native Cover		Number of Species		Recruitment Success
Guidance[3]	Project name	Acres	Impact[2]	Met goal	Goal % (90%)	Reported % (survey year)	Goal (75%)	Reported	Goal 25% of surveyed hits
EIR, 99 MP	LAWS 118	107	ABAG	NO	11.5 (10.4)	5.5 (2019)	11 (8.25)	15	Not reported
EIR, 99 MP	BISHOP AREA REVEGETATION 120	124	ABAG	NO	15 (13.5)	14.3 (2019)	12 (9)	4	Not reported
EIR, 99 MP	FIVE BRIDGES	300	GP	NO[1]	60 (54)	7/35 at 2 sites (2016)	4 (3)	2/6 at 2 sites	Not reported
EIR, 99 MP	BIG PINE AREA REVEGETATION 20	20	ABAG	NO	17.7 (15.9)	2.4 (2019)	10 (7.5)	3	Not reported
EIR, 99 MP	BIG PINE AREA REVEGETATION 160	211	ABAG	NO	17.7 (15.9)	10 (2019)	10 (7.5)	11	Not reported
EIR, 99 MP	TINEMAHA 54	0.4	GP	NO	33 (29.7)	5 (2016)	3 (2.3)	4	Not reported
EIR, 99 MP	BLACKROCK 16E	7.5	GP	NO	34 (31.5)	31 (2010)	6 (4.5)	5	Not reported
EIR, 99 MP	HINES SRING SOUTH	9	GP	NO	35 (31.5)	10.2 (2019)	4 (3)	5	Not reported
EIR/99 MP	INDEPENDENCE 105	13.4	GP	UNK[1]	17 (15.3)	23 (2017)	4 (3)	12	Not reported
EIR, 99 MP	INDEPENDENCE 123	42	GP	UNK[1]	17 (15.3)	17 (2006)	4 (3)	4	Not reported
EIR, 99 MP	INDEPENDENCE 131 N	23	GP	UNK[1]	17 (15.3)	15 (2012)	4 (3)	5	Not reported
EIR, 99 MP	INDEPENDENCE 131 S	50	GP	NO	17 (15.3)	10 (2017)	4 (3)	6	Not reported
ILA	LAWS 90	101	ABAG	NO	10 (9)	Not surveyed	10 (7.5)	Not surveyed	Not reported
ILA	LAWS 94	40	ABAG	NO	10 (9)	Not surveyed	10 (7.5)	Not surveyed	Not reported
ILA	LAWS 95	46	ABAG	NO	10 (9)	Not surveyed	10 (7.5)	Not surveyed	Not reported
EIR, 99 MP	LAWS 118	140	ABAG	NO	10 (9)	3 (2016)	8 (6)	Not reported	Not reported
ILA	LAWS 118/129	65	ABAG	NO	10 (9)	3 (2016)	8 (6)	Not reported	Not reported
ILA	LAWS 27 (SEED FARM)	118	ABAG	NO	10 (9)	Not surveyed	8 (6)	Not surveyed	Not reported

[1]LADWP claims Five Bridges, claims Independence 105, 123, and 131N are complete based on one-time attainment of cover and composition goals. Sustainability per the 1999 Revegetation Plan has not been established. ICWD assessment underway.

[2]Impacts include abandoned agriculture land (ABAG) and groundwater pumping (GP)

Table 2. Status of Environmental Projects

Description	Impact	Status
Farmers Ponds: Water is provided each fall of each year to offer habitat for migrating waterfowl. The Project is two miles north of Bishop just off Highway 6.	The Laws area has lost all or part of its vegetation cover due to increased groundwater pumping, abandonment of irrigated agriculture to supply water to the second aqueduct, livestock grazing and drought.	East of the main Farmers Pond are a series of four cascading spreading basins that drain overflow from the main Farmers Pond. These additional basins, which are typically dry, might be used as replacement or substitute mitigation for the McNally ponds. It is expected these additional ponds could be supplied annually, as opposed to the existing McNally Pond, which now receives water only when providing water would satisfy LADWP's operational needs, or when Laws 1 linked supply wells are in On Status. A formal mitigation substitute proposal will be developed and presented to the Technical Group. A substitute or replacement project would need to provide equal or greater mitigation value.
Buckley Ponds: Water is provided for a warm-water fishery and waterfowl area, which is located three miles southeast of Bishop.	Non-specific compensation.	This main pond and string of other ponds were created in the 1950's. In 1976 LADWP and CDFW created a Habitat Management Plan. The string of ponds were treated and excavated in 2012-14 to remove emergent vegetation.
Saunders Pond: Water is provided to a warm-water fishery and waterfowl area, which is located five miles southeast of Bishop.	Non-specific compensation.	Implemented and ongoing. The project has developed a healthy hemi-marsh (emergent vegetation open-water mix).
Millpond Recreation Area: Water is provided either by creek flow or a well at the site. The project is located five miles northwest of Bishop.	Non-specific compensation.	Implemented and ongoing.
Klondike Lake: Improve waterfowl habitat and provide recreation in the Big Pine area. The project is located 2 mile north of Big Pine.	Non-specific compensation.	Motorized recreation on the lake has been limited to prevent the introduction of the freshwater Quagga Mussel. In 2004 the water supply allocated the lake was reduced from 2,500 to 1,700 af, while still requiring that LADWP maintain a described lake level, and also assure that native pasture and wetland habitats adjacent to Lyman ditch, which feeds the lake, were preserved. The 800 af difference was made up by providing water to seasonally fill the Big Pine Ditch, and by providing 200 af of water for flood irrigation immediately south of the Lake to attract shore birds and waterfowl.

Klondike South Shore Waterfowl Management Area (160 acres):	Compensation for the inability to supply a full allocation of water to the Klondike Lake Project.	The County has requested that LADWP prepare a habitat management plan prepared for the project. The elevation between the Lake and the Project is minimal and sediment in the water conveyance limited flow to the project. A new water gate was installed and from the 2011-12 runoff year to present, a full 200 af allocation was supplied. With the use of the new water gate new habitat has been created and is being used by desired species; however the original project area receives little water and is almost completely tule chocked. It has been the practice of LADWP to release water to the project area during waterfowl migration season, usually beginning releases in late winter. In 2015 the area was disked to cut down emergent vegetation. 32 af was supplied the project in 2020 (April-May; Oct.).
Tule Elk Field: Provides water in summer to field used by Tule Elk. Located between Fish Springs Road and Tinemaha Reservoir.	Non-specific compensation.	The water supply to this project has been reduced since 2002. ICWD does not believe the project water provided is sufficient in all years to meet project goals, especially in the area east of highway 395. In 2016-17 high runoff allowed flooding of the fields east of cultivated fields east of Highway 395.
Big and Little Seely Spring: Two miles south of Tinemaha Reservoir LADWP well 349 near the Owens River discharges water into a pond approximately one acre in size. This pond provides a temporary resting place for waterfowl and shorebirds when the pumps are operating or Big Seely Spring is flowing.	Non-specific compensation.	Riparian vegetation has become established around this pond. Provided water from W349.

Calvert Slough: Water is provided to maintain habitat in a small pond and marsh area near LADWP Aqueduct Intake.	Non-specific compensation.	LADWP has regularly reported that low flows in the creek do not allow supplying the project because of high ditch losses and the off status of the two wells upstream of the project. No water was supplied to this project for seven years (1998- 2004). The enhancement of the Calvert Slough wetland was a possible Additional Mitigation measure, but was not selected as one of the final 1600 acre-foot projects. The area was burned in 2021 to improve vegetation.
Little Blackrock Spring: Water is diverted from ditch to maintain wetland area at original spring site; west of the aqueduct intake.	Ground water pumping has lowered depth to water to a level where springs and seeps no longer flow. Associated riparian and wetland vegetation is lost.	The Technical Group does not have a plan for monitoring flows or vegetation at springs and seeps. Ecosystem Sciences had developed an inventory of springs and seeps. According to the MOU, the inventory should provide baseline data adequate for monitoring change.
Lone Pine Pond: Water is provided by natural seep or spring flow in river with supplemental releases from Alabama Gates (now incorporated in the Lower Owens River E/M Project). The project is located just north of Lone Pine Narrow Gauge Road.	Non-specific compensation.	Included in the LORP. The Lone Pine Ponds are managed under the LORP Monitoring, Adaptive Management, and Reporting Plan as a component of the River-Riverine system. With the 40 cfs maintained flow, the ponds have largely converted to marsh.
Lower Owens River Rewatering Project: Water releases began in 1975 to provide year-long minimal flows along the lower Owens River, as well as releases to Twin Lakes, Billy Lake, and Thibaut Ponds. The goal is to maintain waterfowl, marsh, shorebird, and upland game bird habitat, as well as provide for a warm-water fishery. The project has now been replaced by the Lower Owens River E/M Project, which provides water to all of the formerly dry stretch of the Owens River. The 78,000-acre project site is located east of the towns of Aberdeen, Independence, and Lone Pine.	The Lower Owens Rewatering Project was initiated in 1986 by the LADWP and Inyo County to improve habitat for shorebirds, waterfowl, and fish in the river corridor and at the Delta. The project was one of 25 E/M Projects jointly implemented between 1985 and 1990.	Superseded by the Lower Owens River Project. Billy lake is managed under the LORP Monitoring, Adaptive Management, and Reporting Plan as an Off River Lake.
Diaz Lake: A supplemental water supply is provided to Diaz Lake recreational area. The accounting of water supplied to this project has been revised as part of the MOU 1600 ac-ft. projects described below. The lake is three miles south of Lone Pine.	Non-specific compensation.	Under the Additional Mitigation project description (2012), Diaz Lake will be supplied a secure source of water, which reduces dependence on water pumped by Inyo County up to 250 afy. LADWP's lease with Inyo County (Lease No. 1494, in effect until June 30, 2015) has been updated to reflect these additional water supply commitments and accounting requirements of this project agreed to by LADWP.

Table 3. Status of E/M Projects

Description	Impact	Status
Millpond Recreation Area Project: Located west of Bishop, was the first E/M measure to be completed. Since October 1985, funds have been provided to operate the recreation area's sprinkler irrigation system that waters 18 acres of the community park, including two softball fields.	Non-specific compensation.	Implemented and ongoing.
Shepherd Creek Alfalfa Lands Project: Revegetated 198 acres of abandoned cropland adjacent to U.S. Highway 395 with sprinkler- irrigated alfalfa and windbreak trees. The property between Lone Pine and Independence had only sparse annual vegetation since 1976, and was a source of blowing dust creating a traffic hazard.	Primarily Dust mitigation.	Alfalfa planted and maintained on approx. 185 acres.
Klondike Lake Project: Previously, the 160-acre lake located north of Big Pine had been filled only during above-normal runoff years. Now, less than 1,700 af of water maintains the lake year-round. Benefits include nesting and feeding areas for waterfowl, and recreation including skiing, windsurfing, and other water sports in summer months. Due to the shape and size of the Klondike lakebed, the full volume of water (2,200 af) allocated to the project was more than the lake required, so the project was modified to permanently reduce the water allotment. The balance of this unused water allocation was apportioned the Big Pine Ditch System and the Klondike South Shore Habitat Area.	Non-specific compensation.	Due to the shape and size of the Klondike lakebed, the full volume of water (2,200 af) allocated to the project was more than the lake required, so the project was modified to permanently reduce the water allotment. The balance of this unused water allocation was apportioned the Big Pine Ditch System and the Klondike South Shore Habitat Area.

Laws Historical Museum Project: Provides a regular water supply to improve the native vegetation on a 21-acre parcel, provide for irrigated pasture on 15 acres, and establish windbreak trees, all adjacent to the museum.	Non-specific compensation.	Implemented and ongoing.
640 acres near Laws: Revegetate with non-groundwater dependent native plants (potential project that would require Standing Committee approval to implement).	Between 1987 and 1988, two wells in the Five Bridges area that were pumped to supply water to enhancement mitigation projects contributed to a lowering of the water table under riparian and meadow areas along Owens River. Approximately 300 acres of vegetation were affected, and within this area, approximately 36 acres lost all vegetation due to a wildfire. EIR v1 (10-58).	The Standing Committee has not evaluated the need for mitigation of this area. Desert Aggregates expanded gravel mine operation includes at least 174 acres in the western part this potential mitigation site.
Laws-Poleta Native Pasture Project: Provides water for irrigation of approximately 216 acres of sparsely vegetated land to reestablish native vegetation on abandoned pasturelands and increase livestock grazing capabilities.	The Laws area has lost all or part of its vegetation cover due to increased groundwater pumping, abandonment of irrigated agriculture to supply water to the second aqueduct, livestock grazing and drought.	One pasture, 2.5 miles north of Laws and just east of Hwy. 6 (160 acres, parcel 44) has achieved good pasture cover on 65-70% of the eastern half of the parcel. The other 60-acre pasture two miles southeast of Laws (parcel 138) adjoins the McNally Ponds and Pasture project. Due to the configuration of release points and topography, not all of this pasture can be effectively irrigated. LADWP has reported that they couldn't separate this project's water accounting from adjacent irrigated parcels.
McNally Ponds and Pasture: To provide a regular water supply to existing ephemeral ponds (60 acres) in the Laws area to create waterfowl habitat, and to provide spring and summer irrigation to enhance and maintain existing vegetation on 300 acres of pastureland.	The Laws area has lost all or part of its vegetation cover due to increased groundwater pumping, abandonment of irrigated agriculture to supply water to the second aqueduct, livestock grazing, and drought.	The ponds and adjoining basins are maintained to handle operational water spreading. The ponds portion of the project has been supplied water approximately one-third of the time since its inception. The ponds portion of the project is under active review and alternatives are being considered. Water for the pasture, east of the ponds, is provided when the Lower McNally Canal is run or when W247 is in On Status. Inconsistent water, uneven topography, and constructed berms have produced areas of patchy forage. When water is not available, to provide substitute mitigation, the Inyo Supervisors have approved diversion of water from Bishop Creek Canal to supply an alternative pasture north of Riverside Drive.

Independence Pasture Lands/and Spring Field Projects: Provides approximately 910 acres of abandoned croplands and sparsely vegetated land with irrigation to create native pasturelands and provide water to native vegetation. Flood irrigation converted sparsely vegetated land east of Independence into productive native pasture. The project mitigated a source of blowing dust and stabilized soil previously affected by severe wind erosion.	Revegetation project to mitigate for impacts including dust in town caused by groundwater pumping and surface water diversions. Provides irrigation for pasture or alfalfa.	Site topography prevents flood irrigation from reaching some portions of the project.
Lone Pine Riparian Park/Richards Field: Provides a continuous water supply to a ditch running through Russell Spainhower Park then east under the highway to supply water to Lone Pine Woodlot and Richards and Van Norman Fields projects.	Water conveyed through the park provides irrigation to lands formerly removed from irrigation.	LADWP, in their annual Owens Valley Report, lists water use for this project and Richards Field together. Water use records for these projects include conveyance losses.
Van Norman Field (170 acres) and Richards Field (160 acres): Provides surface and pumped water to establish pastureland and increase livestock grazing capabilities on abandoned agricultural land.	Regreening project implemented to enhance the aesthetics of abandoned agricultural or pasture lands in areas around the town. Water is supplied from LADWP to promote and maintain vegetation.	A replacement well was drilled in the fall of 2012 and began production in April 2014. The new well is located in a position that should allow the establishment of additional acres of pasture. In 2013, as part of an E/M evaluation, Inyo County and LADWP agreed to expand the project to include irrigating an adjacent 10-acre parcel operated as a school farm by Lone Pine High School. On April 29, 2014 the Standing Committee agreed to modify the Van Norman Field Enhancement/Mitigation (E/M) Project by adding approximately ten acres of the Lone Pine High School Farm on to the Van Norman Field E/M Project. The total acreage of the modified Van Norman Field E/M Project is now 170 acres. The additional acres will be irrigated pasture. The total annual water supply for the project will remain 480 acre-feet, which will result in an annual water distribution within the project boundaries of approximately 2.8 acre-feet per acre.
Lone Pine Sports Complex: At the request of the community, portions of the Lo-Inyo Elementary School and vacant LADWP property were converted to an outdoor sports complex consisting of baseball fields, soccer fields, and related parking, picnic and park areas.	Community enhancement project.	Includes 3 irrigated ball fields and two multipurpose fields, with an irrigated area totaling 12.5 acres. Asphalt replaced the former dirt parking area in 2013 and 139 parking spaces were outlined

Independence and Lone Pine Woodlots: Two irrigated projects in Lone Pine and Independence provide a greenbelt and are harvested as sustainable source of firewood for those in need.	Regreening project implemented to enhance the aesthetics of abandoned agricultural or pasture lands in areas around the town. Water is supplied from LADWP to promote and maintain vegetation.	Lone Pine FFA is managing both woodlot projects, with some wood going to Independence residents and other wood being sold in Lone Pine to support FFA activities. An operations plan is needed based on management guidelines agreed to by Inyo Co. and LADWP. Drought stress resulted in dieback of cottonwood in both lots. Many of the larger trees show dieback. LADWP thinned the trees in 2016-17.
Independence Roadside Rest: This project consisted of planting and maintaining shade and windbreak trees and grass, installation of an irrigation system, and placement of picnic table on a 1/2-acre site south of the town of Independence. The project improves a previously barren parcel at the entrance to town.	Enhancement project to improve aesthetics on LADWP lands near towns.	Implemented and ongoing.
Eastern California Museum: This project enhanced the appearance of the Eastern California Museum grounds in Independence. It consisted of a small pond, trees, expanded lawn areas, and installation of an irrigation system.	Community project.	Implemented and ongoing. Flooding in 2017 resulted in natural stream alteration.
Town Regreening Projects: Three projects designed to enhance the aesthetics of abandoned agricultural or pasture lands in areas around the towns of Big Pine, Independence, and Lone Pine. Lone Pine has been implemented; Big Pine and Independence should come into operation in 2014.	These projects were implemented to enhance the aesthetics of abandoned agricultural or pasture lands in areas around the towns of Big Pine, Independence, and Lone Pine. Water was supplied from LADWP facilities to promote and maintain vegetation.	In 2015-2016 it was evident that many trees have died in Lone Pine, Big Pine, Independence, and Bishop due to reductions or elimination of irrigation during recent years of drought.

Lower Owens River Rewatering E/M Project: This project provided up to 18,000 AFY of continuous flow of water in the previously dry (1913-1986) portion of the river channel, creating a warm water fishery and wildlife habitat in the southern Owens Valley. The project also supplies water to five small lakes along the river route providing improved waterfowl habitat in the region. This project has been superseded by the Lower Owens River Project, which was fully implemented in December 2006.	The Lower Owens Rewatering Project was initiated in 1986 by the LADWP and Inyo County to improve habitat for shorebirds, waterfowl, and fish in the river corridor and at the Delta. The project was one of 25 Enhancement/ Mitigation Projects jointly implemented between 1985 and 1990.	Superseded by the Lower Owens River Project. Billy lake is managed under the LORP Monitoring, Adaptive Management, and Reporting Plan as an Off River Lake.
Hines Springs: Create 1-2 acres of aquatic, riparian, and marshland habitats. Project will serve as a research project on how to reestablish a damaged aquatic habitat.	Ground water pumping has lowered depth to water to a level where springs and seeps no longer flow. Associated riparian and wetland vegetation is lost.	The initial concept, to provide water at the spring vent, proved impractical. MOU Parties entered into an ad hoc process and agreed to build two projects at the spring site; 1) water from Well 355 now supplies water to a small pond used by livestock. The solar power source designed to power Well 355 would be insufficient, so the project was modified to include a new above-ground power line to the project; 2) Aberdeen Ditch. A 2700' pipeline now supplies water to a ditch just southeast of the former spring to be used by livestock. The ground in the area is highly permeable so conveyance of the water along natural contours has proven challenging. To overcome the losses LADWP installed PVC pipe to extend the flow, but even this has proven ineffective. ICWD has suggested installing T-valves along the length of the extension pipe to better direct water. This was rejected by LA.

Table 4. Status of EIR Requirements (select)

Description	Impact	Status
Big Pine Ditch System: LADWP agreed to provide up to $100,00 to reconstruct and upgrade existing residential ditches in the community of Big Pine. A flow of up to 6 cfs is to be established.	Water management practices in a portion of the Big Pine Well Field have resulted in significant adverse change and decrease of plant cover.	An Initial Study and Mitigated Negative Declaration for the Big Pine Ditch System and Modification to the Klondike Lake Project in the Big Pine Area of Inyo County was circulated in 2003 and was approved by the Board of Water and Power Commissioners on November 12, 2003. The Water Agreement was also amended at this time, changing the project as originally described. Well 415, west of town, may provide make-up water. Testing of this well is expected to in 2021. Impacts to vegetation in the vicinity of the well will be monitored.
Blackrock Hatchery: Increased groundwater pumping has reduced or eliminated spring flows from Fish Springs. No onsite mitigation is specified. The hatchery provides compensatory mitigation by producing fish that are stocked throughout the region.	Increased groundwater pumping has reduced flows at Reinhackle Spring leading to vegetation decline.	The hatchery, operated since 1952 by the California Department of Fish and Wildlife provides stock trout to water bodies in Inyo and Mono Counties. Efforts are underway to assess water needs at the hatcheries to determine if water supply reductions can be made to conserve groundwater and still effectively run the fisheries operation.
Fish Springs Hatchery: Increased groundwater pumping has reduced or eliminated spring flows from Fish Springs. No onsite mitigation is specified. The hatchery provides compensatory mitigation by producing fish that are stocked throughout the region.	Increased groundwater pumping has reduced flows at Reinhackle Spring leading to vegetation decline.	The hatchery, operated since 1941 by the California Department of Fish and Wildlife provides stock trout to water bodies in Inyo and Mono Counties. Efforts are underway to assess water needs at the hatcheries to determine if water supply reductions can be made to conserve groundwater and still effectively run the fisheries operation.
Haiwee Reservoir: Described in Water Agreement Section XIII, the project is a legal commitment. The Reservoir lakes (north and south), are located south of Owens Lake, and have long been a popular recreational resource and prized fishery. In 2005 LADWP shutdown public access over security concerns.	Recreation	A recreation plan to be developed by LADWP and Inyo County was put on hold after LADWP conducted a security audit. The audit was not shared with Inyo County, but according to LADWP the report concluded that the reservoir should be closed to the public. LADWP prepared a Negative Declaration to close the water body to the public on December 16, 2004. According to LADWP, the reservoir was officially closed in 2005. There is strong interest, and push by the public to return access to the site. Inyo County has proposed reassessing the closure.

Reinhackle Springs: Increase groundwater pumping has reduced flows from this natural spring.	Increased groundwater pumping has reduced flows at Reinhackle Spring leading to vegetation decline.	This spring supports a large pasture and many large tree willows. When it was determined in the late 1980s that groundwater pumping in the Bairs Georges wellfield was affecting the flow from Reinhackle Spring (north of the Alabama Hills), pumping from certain wells in the area was discontinued and the spring flow increased. No significant adverse impacts on vegetation in this area have resulted from the reduced flow. In the future, either groundwater pumping in the area will be managed to avoid causing such a reduction in flow from this spring to the degree that decreases or changes in native riparian vegetation will result, or LADWP will supply surface water to the native riparian vegetation supplied by the spring to avoid any such decreases or changes due to reduced flow caused by groundwater pumping. A 2004 groundwater geochemical study found that Reinhackle Spring discharge is more chemically similar to aqueduct water then it is to local well water.

Table 4. Water Supplied to Enhancement/Mitigation Projects 2004-2021 in acre-feet (source LADWP Annual Owens Valley Reports)

Project	Normal Year Allocation (EIR)	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
McNallyLaws/Poleta Native Pasture Lands	660	1,682	1,269	1,241	1,396	1,320	1,764	1,267	2,306	1,460	1,149	1,376	1,259	1,530	1,573	1,364	1,200	1,470
McNally Ponds	4,000	0	1,522	1,491	0	0	0	368	857	0	0	0	0	1,500	753	1,096	1,082	664
Laws Historical Museum	150	32	59	99	147	63	131	152	105	138	112	119	101	113	105	94	110	94
Klondike Lake	1,700	1,278	1,203	314	1,201	1,195	1,169	1,195	1,086	1,144	1,515	1,600	1,411	1,496	1,552	1,457	1,412	1,649
Big Pine NE Regreening	150	0	0	0	0	0	0	0	0	0	0	103	75	110	102	84	94	109
Independence Pasture Land	2,350	2,489	3,330	2,785	3,272	2,588	1,962	2,397	2,545	2,324	1,852	1,932	1,731	1,900	1,931	1,677	1,526	1,327
Independence Springfield	1,500	280	519	1,850	1,962	1,554	1,530	1,356	1,136	1,188	958	1,427	1,569	1,476	1,196	1,208	1,742	1,288
Independence Ditch System	725	451	356	359	380	515	446	497	496	165	129	343	65	260	577	334	530	272
Independence Woodlot	120	276	190	226	237	335	220	569	175	334	150	186	64	110	92	96	114	95
Independence East Regreening	150	0	0	0	0	0	0	0	0	0	0	63	71	70	73	69	70	66
Shepherd Creek Alfalfa Lands	990	1,072	1,152	1,206	1,100	1,183	1,166	1,212	1,073	1,019	884	980	872	920	926	992	874	918
Lone Pine Park/Richards Field	1,230	916	1,085	870	570	1,012	1,037	1,037	1,194	481	416	429	344	644	450	352	410	348
Lone Pine Woodlot	120	76	100	120	78	51	58	123	120	156	70	74	55	60	61	60	78	67
Lone Pine Van Norman Field	480	337	474	512	306	28	147	102	116	97	79	343	426	481	453	409	454	478
Lone Pine Regreening	95	238	180	107	232	228	283	257	298	223	216	233	211	230	107	242	307	249
Total	**14,420**	**9,127**	**11,439**	**11,180**	**10,881**	**10,072**	**9,913**	**10,532**	**11,507**	**8,729**	**7,530**	**9,208**	**8,254**	**10,900**	**9,951**	**9,534**	**10,003**	**9,094**

[1] Scoped at 2,200, but in 2004 reduced to 1,500 af