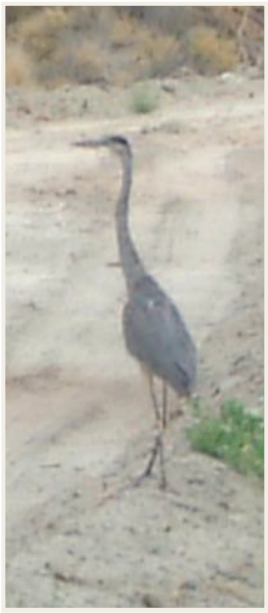
# MITIGATION ORIGINS AND STATUS OF THE PROJECTS



The Inyo County Water Department monitors and reports on the status of environmental mitigation projects in the Owens Valley.

Inyo County is also a partner in funding and implementing the Lower Owens River Project.

## Introduction

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 in 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.

Projects where Inyo and Los Angeles staffs disagree on the status are depicted in table. Table 9.2 summarizes the status of other obligations in the Water Agreement that were not identified as mitigation. Many of these obligations are ongoing assistance, consultation, land management, and planning efforts that LADWP has committed to. In addition, this chapter described two projects in Big Pine and the LORP overseen by the Water Department that are not mitigation under the Water Agreement but could benefit existing mitigation projects. In addition, several potential E/M project concepts prepared by Inyo County and presented to the Technical Group are described.

## Mitigation Projects Origins and Background

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. 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

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.

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 groundwater 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 facilities, habitat enhancement projects, and fish hatcheries.

## 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 twelve environmental projects (Table 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***

Enhancement Mitigation (E/M) projects , were implemented after the Environmental Projects and before adoption of the 1991 EIR (Table 2). The Water Agreement requires that all the E/M projects remain in force, and these projects were considered in the 1991 EIR .

Enhancement Mitigation projects address a number of environmental impacts and address 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 that were identified in the 1991 EIR, 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. [Continued after status tables….]

## *Table 1. Environmental Projects: Description, Impact Mitigated, and Status*

| 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, along with another spreading basin two miles west, where the C-Drain intersects Riverside Road, could be used as replacement or substitute mitigation for the McNally ponds. It is expected that these ponds could be supplied water annually, rather than McNally Pond, which rarely receives its allotment of water. A formal mitigation substitute proposal may be developed and presented to the Technical Group. A substitute or replacement project will 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 2016 to remove emergent vegetation. Under a cooperative agreement between LADWP and CDFW, water is provided year-round to sustain aquatic habitat. |
| **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. |
| **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. | Inyo County Parks and Recreation manage the Millpond Recreation Area. Water is supplied year-round. The project is implemented and ongoing. |

| Description | Impact | Status |
|---|---|---|
| **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 invasive freshwater Quagga mussel. The Water Agreement was the amended in 2003 to reduce the water allocation 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. LADWP reports that Klondike Lake was supplied 1,412 af in runoff year 2019-2020. |
| **Klondike South Shore Waterfowl Management Area** (160 acres): | Compensation for the inability to supply a full allocation of water to the Klondike Lake Project. | This project, created in 2003 when the Klondike Lake project was amended, provides habitat for shorebirds and waterfowl. The elevation between the Lake and the Project is minimal and sediment in the water conveyance can limit flow into the project area—typically in the late winter. A new water gate was installed in 2012 that allowed the full 200 af allocation. With the use of the new water gate new habitat has been created and is being used by desired species. Habitat value is reduced by cattail and bulrush overgrowth, flood timing, and water spread. The response to these challenges appears haphazard. The County has requested that LADWP prepare a plan for the project that guarantees sustainable management with the greatest habitat value. |
| **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 water provided the project 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. |

| Description | Impact | Status |
|---|---|---|
| **Big and Little Seeley Spring:** Two miles south of Tinemaha Reservoir LADWP well number 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 small pond. Additional study of current habitat conditions against baseline conditions might inform management actions that could benefit the project. |
| **Calvert Slough:** Water is provided to maintain habitat in a small pond and marsh area near LADWP Aqueduct Intake. | Non-specific compensation. | LADWP 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 considered as a possible Additional Mitigation measure, but was not selected as one of the final 1600 acre-foot projects. Additional study of the project's conditions might inform management actions that could improve the project. |
| **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, other than Reinhackle Spring. Ecosystem Sciences had developed an inventory of springs and seeps, which included mapping vegetation and noting species of plants and animals in the area. According to the MOU, the inventory should provide baseline data adequate for monitoring change. A habitat monitoring study might compare current conditions to the baseline inventory. |

| Description | Impact | Status |
|---|---|---|
| **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. | Once a separate mitigation effort, the ponds are now incorporated into the LORP and are managed as a component of the River-Riverine system under the LORP Monitoring, Adaptive Management, and Reporting Plan. Since the establishment of a 40 cfs flow, more than half of the area that was formerly open water has converted to marsh, and as a result, open water recreational opportunities have been lost at this location. |
| **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. | Lower Owens River Project replaces the Rewatering Project. Billy Lake, Twin Lakes, Thibaut Pond are managed under the LORP Monitoring, Adaptive Management, and Reporting Plan as Off-River Lakes and Ponds. Other component areas of the LORP include the River-riparian corridor, the Blackrock Waterfowl Management Area, and the Delta Habitat Area. |

| Description | Impact | Status |
|---|---|---|
| **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, Diaz Lake will be supplied a secure source of water, which reduces dependence on water pumped by Inyo County up to 250 acre-feet per year. 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 2. E/M Projects: Description, Impact Mitigated, and Status*

| 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. | The County manages this recreation project. The project is 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 approximately 185 acres. LADWP reports that water supply for runoff year 2019-2020 was 874 af. |

| Description | Impact | Status |
|---|---|---|
| **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. LADWP reports water supply for runoff year 2019-2020 as 1,412 af |
| **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. |

| Description | Impact | Status |
|---|---|---|
| **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 had reported that they couldn't separate this project's water accounting from adjacent irrigated parcels. LADWP reports that water supply for runoff year 2019-2020 was 1200 af. |
| **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 served as a flooding basin this year and the ponds, as well as adjoining basins were filled to capacity. The adjacent 100-acre pasture to the east is maintaining patchy grass cover. The ponds have received their full share of water only 3 times since 2004. Water for the pasture, east of the ponds, can only be supplied infrequently when the Lower McNally Ditch is run. To provide substitute mitigation, Inyo County Supervisors have approved diversion of water from Bishop Creek Canal to supply pastureland north of Riverside Drive. During the 2019-2020 runoff year the ponds received 1,082 af. McNally Ditch losses were estimated by LADWP to be 1,603 af. |

| Description | Impact | Status |
|---|---|---|
| **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. LADWP reports runoff year 2019-2020 water use was 1,526 af for the pastureland and 1,742 af for the Springfield. |
| **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. In 2019-20, water use reported for these projects was 410 af, which includes conveyance losses. |

| Description | Impact | Status |
|---|---|---|
| **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. LADWP reports water use for runoff year 2019-2020 was 454 af. |
| **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. | This facility 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, based on management guidelines agreed to by Inyo Co. and LADWP, needs to be developed. Drought stress resulted in dieback of cottonwood in both lots. Many of the larger trees show dieback. LADWP thinned the trees in 2016-17. The Independence lot was supplied 114 af and Lone Pine 78 af during 2019-2020 runoff year. |

| Description | Impact | Status |
|---|---|---|
| **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 and the museum pond was excavated to clear debris. |
| **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. | Non-mitigation E/M project. 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. |

| Description | Impact | Status |
|---|---|---|
| **Hines Springs:** Creates 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) Well 355 now supplies water to a small pond used by livestock. 2) Aberdeen Ditch 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. The goal of developing 1-2 acres of riparian vegetation in the Hines Springs area has not been achieved. Instead, approximately 0.3 acres of low-quality riparian habitat has been produced so far (2020). 1600 acre-feet were released to the eight Ad Hoc projects in 2019-2020, so no balance water was released at Warren Lake. |

- **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 seven projects prepared by an Ad Hoc group of Inyo, LADWP, and CDFW 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.

**Additional Mitigation Projects 2016 Annual Monitoring Report**

The Additional Mitigation Projects directed a five-year monitoring program for the eight projects. These projects were monitored for water deliveries, and assessed using pedestrian surveys, photo points, and vegetation and flooded extent is 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 and Irrigation in the Laws Area MND**

Revegetation projects mitigate for environmental damages due to groundwater pumping and/or discontinuation of agriculture. The 1991 EIR identified land that had become barren due to changes in surface or groundwater management (Map Figure 1). A mitigation plan prepared by the Inyo/Los Angeles Technical Group for these projects dates was submitted to the Standing Committee in 1999 (www.inyowater.org).

The Environmental Impact Report (EIR) pertaining to the second Los Angeles aqueduct identified land that had become barren due to changes in surface or groundwater management (City of Los Angeles Department of Water and Power and County of Inyo 1990). Table 9.3 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).

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 99 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 99 Plan includes prescriptions to recover the Five Bridges vegetation; including permanently shutting off W385 and W386. In 2018, after further consideration, LADWP agreed with the County that the 99 Plan was developed by the Technical Group and presented to the Standing Committee.

LADWP, in their annual report has asserted that a number of the revegetation projects have been completed, 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 it is shown that the Five Bridges Impact Area has not achieved 99 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.

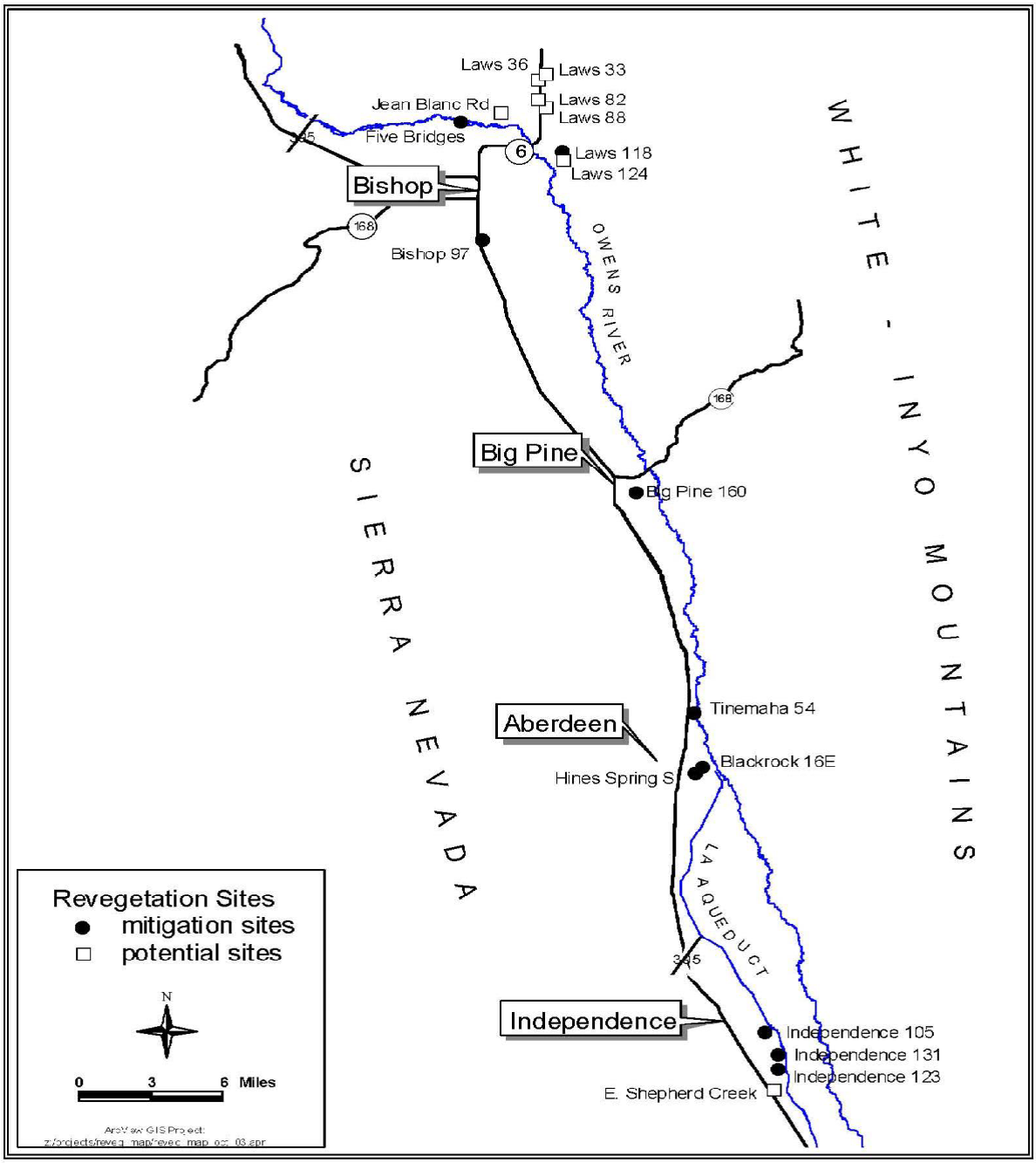



*Figure 1. Locations of revegetation projects in the Owens Valley described in the 1991 EIR.*

# *Table 3. Inyo and LADWP Mitigation Table, with Project Origin and Status*

| 1991 EIR Mitigation | 1991 EIR Environmental Projects | 1991 EIR E/M Project | Revised Project | 1997 MOU | LADWP MITIGATION PROJECT COMMITMENTS | Completed | Implemented as Required[2] | Implemented and Ongoing[3] | Fully Implemented Not Met Goals[4] | Not Fully Implemented[5] |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | X | Aberdeen Ditch Project (Additional Mitigation Projects Developed by the MOU Ad Hoc Group (MOU Section III.A.3)) | | | X[7] | | |
| X | X | | | | Big and Little Seely Springs (1 acre pond near Well W349; EIR Impact 10-14, EIR Table 5-2) | | | X | | |
| X | | | X | | Big Pine Area Revegetation Project (160 acres; EIR Impact 10-19) | | | | X | |
| X | | | X | | Big Pine Area Revegetation Project (20 acres; EIR Impact 10-19) | | | | X | |
| X | | | | | Big Pine Ditch System (EIR Impact 10-19) | | | X | | |
| X | | X | X | | Big Pine Northeast Regreening (30 acres; EIR Impact 10-11, EIR Table 5-3) | | | X | | |
| X | | | X | | Bishop Area Revegetation Project (124 acres; EIR Impact 10-16) | | | | X | |
| X | | | X | | Blackrock 16E Revegetation Project (EIR Impact 10-11) | LA | | IC[7] | | |
| X | X | | | | Blackrock Hatchery (EIR Impact 10-14) | | | X | | |
| X | X | | | | Buckley Ponds (EIR Impact 10-5 and 11-1, EIR Table 5-2) | | | X | | |
| X | X | | | | Calvert Slough (EIR Impact 10-5, EIR Table 5-2) | | | X | | |
| X | | | | | Olancha-Cartago Irrigated Fields | | | X | | |
| X | X | | | X | Diaz Lake (EIR Table 5-2, Additional Mitigation Projects Developed by the MOU Ad Hoc Group (MOU Section III.A.3)) | | | X | | |
| X | | X | | | Eastern California Museum (EIR Tables 4-3 and 5-3) | | | X | | |
| X | X | | | | Farmers Pond (EIR Impact 10-5, 10-18, 11-1, EIR Table 5-2) | | | X | | |
| X | X | | | | Fish Springs Hatchery (EIR Impact 10-14) | | | X | | |
| X | | | X | | Five Bridges Area Revegetation Project (300 acres; EIR Impact 10-12) | LA | | | IC | |
| | | | | X | Freeman Creek Project (Additional Mitigation Projects Developed by the MOU Ad Hoc Group (MOU Section III.A.3)) | | | X[7] | | |
| X | | | | X | Hines Spring (1 to 2 acres, EIR Impact 10-14), implemented as the Additional Mitigation Projects Developed by the MOU Ad Hoc Group (MOU Section III.A.3) | | | X | | |
| X | | | X | | Hines Spring South (EIR Impact 10-11) | | | | X | |
| | | | | X | Hines Spring Well 355 Project (Additional Mitigation Projects Developed by the MOU Ad Hoc Group (MOU Section III.A.3)) | | | X[7] | | |
| | | | | X | Homestead Project (Additional Mitigation Projects Developed by the MOU Ad Hoc Group (MOU Section III.A.3)) | | | X | | |
| X | | | X | | Independence 105 (EIR Impact 10-13) | LA | | IC[7] | | |
| X | | | X | | Independence 123 (EIR Impact 10-13) | LA | | IC[7] | | |
| X | | | X | | Independence 131 (EIR Impact 10-13) | | | X | | |
| X | | X | | | Independence Ditch System (EIR Table 4-3) | | | X | | |
| X | | X | | | Independence East Side Regreening Project (23 acres; EIR Impact 10-11, EIR Table 5-3) | | | X | | |
| X | | X | | | Independence Pasturelands and Native Pasturelands (610 acres; EIR Impact 12-1, EIR Tables 4-3 and 5-3) | | | X | | |

| 1991 EIR Mitigation | 1991 EIR Environmental Projects | 1991 EIR E/M Project | Revised Project | 1997 MOU | LADWP MITIGATION PROJECT COMMITMENTS | Completed | Implemented as Required[2] | Implemented and Ongoing[3] | Fully Implemented Not Met Goals[4] | Not Fully Implemented[5] |
|---|---|---|---|---|---|---|---|---|---|---|
| X | | X | | | Independence Roadside Rest Area (0.5 acres; EIR Tables 4-3 and 5-3) | | | X | | |
| X | | X | | | Independence Springfield (286 acres; EIR Impact 12-1, EIR Tables 4-3 and 5-3) | | | X | | |
| X | | X | | | Independence Woodlot (20 acres; EIR Impact 10-11, EIR Table 4-3) | | | X | | |
| X | X | X | | | Klondike Lake Aquatic Habitat (160 acres; EIR Impact 10-5 and 11-1, EIR Tables 4-3, 5-2, and 5-3) | | | X | | |
| | | | | | Klondike SSHA (Big Pine Ditch System MND) | | | X[7] | | |
| | | | X | | LAWS 118 (19 acre portion) (Laws Type E Transfer MND) | | | | X | |
| | | | X | | LAWS 129 (Laws Type E Transfer MND) | | | | X | |
| | | | X | | LAWS 27 (Native Seed Farm) (Laws Type E Transfer MND) | | | | X | |
| | | | X | | LAWS 90 (Laws Type E Transfer MND) | | | | X | |
| | | | X | | LAWS 94 (Laws Type E Transfer MND) | | | | X | |
| | | | X | | LAWS 95 (Laws Type E Transfer MND) | | | | X | |
| X | | | X | | Laws Area Revegetation Project (140 acres; EIR Impact 10-18) | | | | X | |
| X | | X | | | Laws Historical Museum Pasturelands (21+15 acres; EIR Impact 10-18, EIR Table 5-3) | | | X | | |
| X | | X | | | Laws/Poleta Native Pasture (216 acres; EIR Impact 10-16, EIR Tables 4-3 and 5-3) | | | X | | |
| X | X | | | | Little Blackrock Springs (EIR Impact 10-14, EIR Table 5-2) | | | X | | |
| X | | X | | | Lone Pine East Side Regreening (11 acres; EIR Impact 10-16, EIR Table 5-3) | | | X | | |
| X | | X | | | Lone Pine-North Lone Pine Clean Up (EIR Table 4-3) | X | | | | |
| X | | X | | | Lone Pine Riparian Park (320 acres, EIR Tables 4-3 and 5-3) | | | X | | |
| X | | X | | | Lone Pine Sports Complex (EIR Table 5-3) | X | | | | |
| X | | X | | | Lone Pine West Side Regreening (8 acres; EIR Impact 10-16, EIR Tables 4-3 and 5-3) | | | X | | |
| X | | X | | | Lone Pine Woodlot (12 acres; EIR Impact 10-11, EIR Table 4-3) | | | X | | |
| X | X | X | | X | LORP Project (60 miles, perhaps more than 1,000 acres)/ Lower Owens Rewatering Project) | | | LA | IC[6] | |
| X | | X | | | McNally Ponds and Native Pasturelands (300 acres pasture, 60 acres ponds; EIR Impact 10-5 and 10-18, EIR Tables 4-3 and 5-3) | | | X[7] | | |
| X | X | X | | | Millpond Recreation Area (EIR Impact 10-5, EIR Table 5-2 and 5-3) | | | X | | |
| | | | | X | North of Mazourka Canyon Road Project (Additional Mitigation Projects Developed by the MOU Ad Hoc Group (MOU Section III.A.3)) | | | X | | |
| X | | | | | Reinhackle Spring (EIR Impact 10-14) | | | X | | |
| X | | X | | | Richards Fields (160 acres; EIR Impact 10-16, EIR Table 4-3) | | | X | | |
| X | X | | | | Saunders Pond (EIR Impact 10-5, EIR Table 5-2) | | | X | | |
| X | | X | | | Shepherd Creek Alfalfa Field (198 acres; EIR Impact 10-11, EIR Tables 4-3 and 5-3) | | | X | | |
| X | | X | | | Shepherd Creek Potential (60 acres; EIR Impact 10-11, EIR Table 5-3) | X | | | | |
| X | | | | | Steward Ranch (EIR Impact 9-14) | X | | | | |
| X | | | X | | Tinemaha 54 Revegetation Project (EIR Impact 10-11) | | | | X | |
| X | | X | | | Tree Planting along Roadways (EIR Table 4-3) | | | X | | |
| X | X | | | | Tule Elk Field (EIR Table 5-2) | | | X | | |

| 1991 EIR Mitigation | 1991 EIR Environmental Projects | 1991 EIR E/M Project | Revised Project | 1997 MOU | LADWP MITIGATION PROJECT COMMITMENTS | Completed | Implemented as Required[2] | Implemented and Ongoing[3] | Fully Implemented Not Met Goals[4] | Not Fully Implemented[5] |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |
| **X** | | **X** | | | Van Norman Fields (170 acres; EIR Impact 10-16, EIR Table 4-3) | | | **X** | | |
| | | | | **X** | Warren Lake Project (Additional Mitigation Projects Developed by the MOU Ad Hoc Group (MOU Section III.A.3)) | | | **X** | | |
| | | | | **X** | Well 368 Project (Additional Mitigation Projects Developed by the MOU Ad Hoc Group (MOU Section III.A.3)) | | | **X** | | |

[1]*Project has no outstanding commitments*

[2]*These measures are only implemented when necessary (monitoring and reporting for mitigation measures for new projects, construction, etc.)*

[3]*Project is fully implemented and is currently meeting goals; however, there are ongoing water or financial commitments or monitoring and reporting requirements*

[4]*Project is fully implemented but has not yet met, or has failed to sustain prescribed goals or success criteria*

[5]*Project under development or under construction, but not fully implemented*

[6]*Inyo County- Most but not all LORP goals have been achieved (see LORP Annual Report).*

[7]*Project currently under review*

## *Table 4. Inyo and LADWP Table, with Commitment Origin and Status*

| Water Agreement | 91 EIR | 91E EIR Environmental Project | 91 EIR E/M Project | Revegetation Project Other Agreement | 97 MOU | LADWP OTHER OBLIGATIONS | Completed [1] | Ongoing as Necessary and Required [2] | Implemented and Ongoing [3] | Fully Implemented But Not Meeting Goals [4] | Not Fully Implemented [5] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | X | Aerial Photo Analysis (MOU Section III.E) | X | | | | |
| | | | | | X | Annual Report on the Owens Valley (MOU Section III.H) | | | X | | |
| | | | | X | | Blackrock 94 (EIR Impact 10-14) | | | X | | |
| X | | | | | | Cooperative Studies (Water Agreement Section IX) | | | X | | |
| X | | | | | | Dispute Resolution (Water Agreement Section XXVI) | | X | | | |
| | | | | | X | Dispute Resolution and Litigation (MOU Section VI) | | X | | | |
| X | | | | | | Enhancement/ Mitigation Projects (Water Agreement Section X) | | | X | | |
| X | | | | | | Exchange of Information and Access (Water Agreement Section XVII) | | | X | | |
| X | | | | | | Financial Assistance- Big Pine Ditch System (Water Agreement Section XIV.E) | | | X | | |
| X | | | | | | Financial Assistance- General Financial Assistance to the County (Water Agreement Section XIV.D) | | | X | | |
| X | | | | | | Financial Assistance- Park & Environmental Assistance to City of Bishop (Water Agreement Section XIV.F) | | | X | | |
| X | | | | | | Financial Assistance- Park Rehabilitation, Development, & Maintenance (Water Agreement Section XIV.B) | | | X | | |
| X | | | | | | Financial Assistance- Salt Cedar Control (Water Agreement Section XIV.A) | | | X | | |
| X | | | | | | Financial Assistance- Water and Environmental Activities (Water Agreement Section XIV) | | | X | | |
| | | | | | X | Financial Provisions (MOU Section IX) | X | | | | |
| | | | | | X | Fish Slough (MOU Section IV) | | | X | | |
| X | | | | | | Groundwater Management (Water Agreement Section II) | | | X | | |
| X | | | | | | Groundwater Pumping on the Bishop Cone (Water Agreement Section VII) | | | X | | |
| X | | | | | | Groundwater Recharge Facilities (Water Agreement Section VIII) | | X | | | |
| | | | | | X | Habitat Conservation Plan (MOU Section III.B) | X | | | | |

| Water Agreement | 91 EIR | 91E EIR Environmental Project | 91 EIR E/M Project | Revegetation Project Other Agreement | 97 MOU | LADWP OTHER OBLIGATIONS | Completed [1] | Ongoing as Necessary and Required [2] | Implemented and Ongoing [3] | Fully Implemented But Not Meeting Goals [4] | Not Fully Implemented [5] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | |
| X | | | | | | Haiwee Reservoir (Water Agreement Section XIII) | LA | | | | IC |
| | | | | | X | Inventory of Plants and Animals at Spring and Seeps (outside LORP Planning Area) (MOU Section III.C) | X | | | | |
| | X | | | | | Laws Area Potential Mitigation-Consideration by Standing Committee (640 acres; EIR Impact 10-18) | | X | | | |
| X | | | | | | Legislative Coordination (Water Agreement Section XVI) | | | X | | |
| | | | | | X | LORP Agency Consultation and Public Involvement (MOU Section II.D) | X | | | | |
| | | | | | X | LORP EIR (MOU Section II.F) | X | | | | |
| | | | | | X | LORP Implementation (MOU Section II.H) | X | | | | |
| | | | | | X | LORP Monitoring and Adaptive Management Plan (MOU Section II.E) | | | X | | |
| | | | | | X | LORP Permits Approvals and Licenses (MOU Section II.I) | X | | | | |
| | | | | | X | LORP Plan (MOU Section II.A) | X | | | | |
| | | | | | X | LORP Planning Area- Inventory of Plants and Animals at Spring and Seeps (MOU Section III.A.2) | X | | | | |
| | | | | | X | LORP Pumpback System (MOU Section II.G) | X | | | | |
| | | | | | X | Lower Owens Off River Lakes and Ponds (MOU Section II.C.3) | | | X | | |
| X | | | | | | Lower Owens River (financial commitment) (Water Agreement Section XII) | | | X | | |
| | | | | | X | Lower Owens River Delta Habitat Area (MOU Section II.C.2) | | | X | | |
| | | | | | X | Lower Owens River Project 1500-Acre Blackrock Waterfowl HHabitat Area (MOU Section II.C.4) | | | X | | |
| | | | | | X | Lower Owens River Riverine- Riparian System (MOU Section II.C.1) | | | X | | |
| | | | | | X | Mitigation Plans for Impacts Identified in the 1991 EIR and the Water Agreement (MOU Section III.F) | | | | | X |
| X | | | | | | New Wells & Production Capacity (Water Agreement Section VI) | | | | | X |
| X | | | | | | Owens River Recreational Use Plan (Water Agreement XV.B) | | | | | X[6] |
| | | | | | X | Owens Valley Land Management Plans (MOU Section III.B) | | | X | | |

| Water Agreement | 91 EIR | 91E EIR Environmental Project | 91 EIR E/M Project | Revegetation Project Other Agreement | 97 MOU | LADWP OTHER OBLIGATIONS | Completed [1] | Ongoing as Necessary and Required [2] | Implemented and Ongoing [3] | Fully Implemented But Not Meeting Goals [4] | Not Fully Implemented [5] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| X | | | | | | Release of City Owned Lands - Lands for Public Purposes (Water Agreement Section XV.D) | | X | | | |
| X | | | | | | Release of City Owned Lands- Bishop (Water Agreement Section XV.B) | X | | | | |
| X | | | | | | Release of City Owned Lands- Inyo County (Water Agreement Section XV.A) | X | | | | |
| X | | | | | | Release of City-owned lands- Additional Sales (Water Agreement Section XV.C) | X | | | | |
| | | | | | X | Technical Group Meetings (MOU Section III.G) | | X | | | |
| X | | | | | | Town Water Systems (Water Agreement Section XI) | X | | | | |
| | | | | | X | Type E Vegetation Inventory (MOU Section III.D) | X | | | | |
| | | | | | X | Yellow-billed Cuckoo Habitat (MOU Section III.A.1) | | | X[7] | | |

[1] *Project has no additional commitments required (no water allotment or other financial or environmental mitigation; no continual monitoring and reporting)*

[2] *These measures are only applied when necessary (monitoring and reporting for mitigation measures for new projects, construction, etc.)*

[3] *Project is fully implemented and is currently meeting goals; however, there may be ongoing water or financial commitments or monitoring and reporting requirements*

[4] *Project is fully implemented but has not yet met prescribed goals or success criteria*

[5] *Project under development, or under construction, but not fully implemented*

[6] *Inyo County Commitment*

[7] *Project status under discussion*