Mitigation

One of the key roles of the Inyo County Water Department (ICWD) is to monitor and report on the implementation and management of environmental mitigation projects in the Owens Valley. These projects are mitigation measures adopted by Los Angeles Department of Water and Power (LADWP) in the 1991 EIR, projects that are provided for in the 1997 MOU, and any new mitigation measures that may arise, such as the MOU Additional Projects, and the Klondike Lake South Shore Habitat Area. We also assist in the development of new mitigation projects, including the development of objectives, the setting of schedules for implementation, and monitoring and reporting requirement for these projects. If mitigation project goals are not being met, or are not being managed as required, or simply not being implemented, the ICWD will work with the LADWP and MOU parties to either implement or modify the project.

Over the past year, we have observed continued progress on several mitigation projects, however some have been beset by problems, and others are simply not meeting objectives. In summary, the Lower Owens River Project (LORP) continues to show progress toward developing a functioning riverine-riparian ecosystem and wetlands, but tule encroachment and slow recruitment of trees are growing concerns. The Yellow-billed Cuckoo Habitat Enhancement Project is well underway, but the majority of Cuckoo habitat in the project area was lost in a major wildfire. The Independence Eastside Regreening Project is moving into the construction phase. A water supply for the Big Pine, Northeast Regreening project (30-acres), has been identified and the project is a step closer to implementation. The Klondike South Shoreline Habitat Area has not met objectives, and project alterations or alternatives are now being identified and studied. The Ad Hoc 1600 acre-foot projects are underway.

Lower Owens River Project (LORP)

Four years into the project, the goal of the LORP, to establish a healthy, functioning ecosystem for the benefit of biodiversity and threatened and endangered species, are largely being met. Environmental monitoring of the LORP is continuing to provide information used by the scientific team to assess project conditions, and by most measures the project is on track, but we are seeing the emergence of tules at unexpected levels, and measuring an apparent slowdown in woody recruitment.

In 2010, monitoring activities were carried out in the four LORP management units (River-Riparian System, Blackrock Waterfowl management Area, Off-River Lakes and Ponds, and Delta Habitat Area). The monitoring efforts were comprehensive, and included vegetation mapping at the landscape and site scales, fish habitat survey and fish creel census, hydrologic monitoring, including flood extent, discharge, and gains an losses, rapid assessment survey, water quality, saltcedar and weed conditions, range trends, and an assessment of habitat for indicator species. Not all monitoring tasks are conducted every year. Extensive monitoring, such as took place in 2010, are scheduled at five-year intervals. A monitoring schedule, which describes tasks to be performed by year, can be found in Section 4 and Appendix A.2 of the LORP Monitoring and Adaptive Management Plan (MAMP). A copy of the MAMP can be found on the Inyo County Water Department (ICWD) website (inyowater.org).

Complete observations from the 2009-2010 field season are described in the 2010 LORP Annual Report. From the review of these results, the MOU Consultant makes adaptive management recommendations, which are found in their entirety in Section 12 of the report, which can be found on the ICWD website (www.inyowater.org).

2010 LORP Observations

The most striking observation from this year's monitoring is that encroachment of tule and cattail in the river-riparian area is about 20 percent greater than had been anticipated. Aquatic vegetation is crowding out open water and has taken over the riverbanks throughout most of the project area. This is limiting the recruitment of trees and other vegetation and is limiting recreational access to the river. There is concern that over time the Lower Owens River will become a serpentine marsh with little or no open water.

The new river is not producing many new trees. The number of tree seedlings found in the LORP is down—despite the 2010 seasonal habitat flow that was timed to occur at the peak of willow seed drop. Wind dispersed seeds found their way in to the Lower Owens River channel to the extent that rafts of seed tuff were seen covering the water. To germinate and establish, this river-borne seed needs to reach a bare riverbank, however, a wall of aquatic vegetation now prevents viable seed from reaching the bank.

In August 2010, all 62 miles of the Lower Owens River were surveyed and willow seedlings were located at only 35 sites, this despite an excellent willow seed crop (the cottonwood seed crop was poor in 2010). Taking into account that twenty percent of seedlings that were found were located in soil under mature willows, it appears that river-wide, broad-scale woody recruitment did not occur as hoped. By comparison, in 2009, 73 seedling sites were found, and in 2008, 223 sites were located (fig 1.). The 2007 survey was conducted after flow was established, but before a seasonal habit flow, which can bring seeds up onto higher landforms. In the four years since water was introduced, it appears that tules are becoming a key and limiting factor in the future development and expansion of the riparian ecosystem.

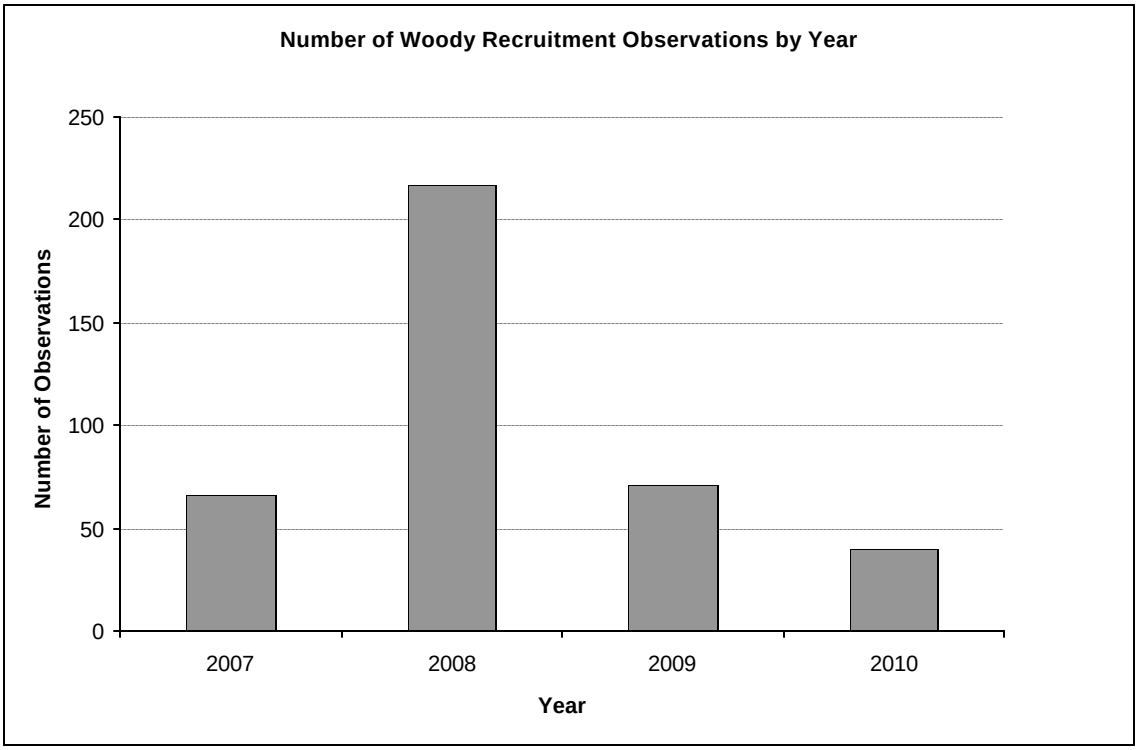

Figure x. Woody Recruitment Observations 2007-2010

Tules (generally speaking, Scirpus acutus, Typha agustafolia and Typha latifolia) are an expected and natural feature of the LORP, however, they are now influencing the developing riparian environment to the extent they are becoming a limiting factor in ecosystem development. The biological consultants have estimated that, depending on the river reach, tules in the river-riparian area have proliferated at a rate up to 20% greater than had been anticipated.

The effects of this aggressive tule colonization have been significant:

1) water loss from the river intake to Pumpback Station is greater than had been anticipated because more tules means greater evaporative transpiration;
2) tules are having an effect on river flow dynamics; water velocity is greater in the narrowed channel. The full ramifications of this are not well known;
3) tules have kept willow and cottonwood seed from reaching appropriate soil;
4) tules block access to much of the river. Anglers have reported excellent catches of warm water fish, but are finding that popular fishing locations are becoming inaccessible, and open-water is becoming limited. Kayakers and other boaters are finding that previously navigable Lower Owens waterways are now choked by aquatic vegetation.

Tules can be controlled, by four means:

1) drowning by submerging the plants below average water level for several days;
2) increasing flows to the point that plants are mechanically dislodged, or bent and submerged and drowned;
3) shading to decrease photosynthesis;
4) competition from other riparian species
5) control using herbicide.

To determine if we can control tules through adjusting the river's flow, a river modeling study will be conducted in FY 2011-2012. This model will simulate river dynamics at a range of different flows. The model will represent existing channel topographic and vegetation conditions and will provide information on the relationship of water velocity and depth to flow rates. Open water will also be estimated at various flows.

At this time, no investigation has been made to determine the effectiveness of using shade to control tules in the LORP, but this study will be discussed and considered.

The Bishop office of the California Department of Fish and Game is experimenting with displacing cattails, which can grow into water to a depth of 1-1.5 meters, by first removing the plant and rhizome and in its place, cultivating three-square bulrush (Scirpus americanus), a much smaller native tule (up to 220 cm), which grows in water only to a depth of approximately 0.5 meters. So far, the small-scale experiment has demonstrated that three-square can be easily cultivated and can outcompete cattail. Although expensive, removing tules and transplanting three-square bulrush rhizomes in their place may, through competition, keep larger tules in check. Such treatment could be considered where access to water features is desired. We will be following the progress of this experiment.

The use of Herbicide in a municipal water supply is unlikely to be permitted.

LORP Seasonal Habitat Flow (SHF)
The objective of the higher flows generated by the SHF is to provide significant out-of-bank flooding to transport waterborne seed, stimulate germination of riparian vegetation, and recharge local water tables. The amount of water released in the SHF is linked to Sierra Nevada runoff projections. When runoff is projected at 100% of normal, a maximum of 200 cubic per second is released at the river intake. The flow is released in incremental stages over the course of 14 days, peaking at day 7 and returning to baseflow on day 14. In 2010, the Sierra snowpack was 95% of normal; close enough to 100% that managers agreed to release the maximum 200 cfs flow. The effects of the 2010 SHF are documented in Section 12.3.6 of the 2010 LORP Annual Report. This report can be found on the ICWD website (www.inyowater.org).

LORP Recreational Use Plan (RUP)
It is anticipated that the LORP area will be a high-use recreation area that will appeal to those who enjoy bird watching, wildlife viewing, hunting and fishing and many other outdoor activities in a natural and unique ecosystem (LORP MAMRP, 3-75). Increases in visitor use are expected each year for the first 10-15 years of the project. It is expected that impacts from visitations will increase proportionally. Impacts include road deterioration, waste and litter accumulation, facility and ecological vandalism, fire, unauthorized road use, artifact gathering, vegetation trampling, and soil disturbance.

The Sierra Nevada Conservancy (SNC) Grant Program has made available Proposition 84 funds for the first phase in developing a RUP for the LORP. The development of the RUP will occur in two phases, where the first will conclude with the completion of a draft RUP, and the second will end with the adoption of the final plan by Inyo County and LADWP.

The RUP will identify resource-appropriate recreational opportunities and evaluate these in relation to environmental objectives to protect the river and other LORP related resources. Community concerns that cultural resources and working landscapes be protected will be considered, as well as the feasibility of implementing and maintaining of any new programs and uses.

The development of a recreational use plan is described in the Lower Owens River Project, Post Implementation Agreement (PIA) Section II, C. (1&2):

Unless otherwise agreed by the Parties, the County will have the sole responsibility for planning, operating, constructing, and maintaining the following activities (should any such activities be planned, constructed and maintained) and for all costs arising from such activities.

> *1. The development of a recreational use plan for the portion of the Owens River within the project area. (Should any such plan be developed, the implementation of the plan or of any component of the plan will require approval by LADWP before it is implemented.)*
>
> *2. The development of any campgrounds along the Owens River within the project area. (Should any such campground be proposed for development, the campground will require the approval of LADWP before it is implemented.)*

The County has hired a Recreational Use Consultant, MIG, out of Berkeley CA. Consultants have met with individuals and groups representing federal, state, county and local government

officials, Owens Valley tribal leaders, LORP area ranchers, local conservation leaders, representatives of the hunting and angling community, civic leaders, recreational proponents, directors of local interpretive organizations, and area business leaders. Two public workshops were held to solicit public opinion and capture ideas for the plan. The written results from the consultant's initial survey, as well as maps and tabulated results from the workshop, and a survey can be found at www.lowerowensriver.org.

It is expected that a draft RUP will be released in the fall of 2011.

Yellow-Billed Cuckoo Habitat Enhancement Project
Implementation of a project to enhance and maintain Yellow-Billed Cuckoo habitat was begun in the spring of 2009. The project site was fenced and planting of cottonwood and willow began in the spring of 2010.

On March 18-19, 2011, the "Center Fire" began at the western edge of the Baker Creek, which, driven by 70 mile-per-hour wind, destroyed the bulk of the forest canopy deemed most suited for the cuckoo. There are indications that the area will recover. Three months after the fire, new growth is emerging from blackened willow stumps and burned trees. It is unknown how long it will take the habitat to return to a condition that will support breeding cuckoos. The Hogback Creek site experienced a catastrophic fire in 1998, and by 2009 had reestablished a dense hardwood canopy.

Independence Eastside Regreening
This project consists of constructing a new water supply well in the town of Independence and irrigating an approximately 30 acre parcel immediately north of Market St. and east of Clay St. The final scoping document for this enhancement mitigation project that was approved by the Standing Committee in 1988 describes that:

- Water will be supplied from a new well, to be drilled and equipped on the parcel northerly of the old Robinson House parcel. Output from the well will be supplied through buried pipelines and riser valves to allow flood irrigation of the parcel. By connecting these pipelines into other existing pipelines, water supply to the woodlot, pastureland, and spring field will be augmented. Connection may also be made from the well discharge into the Independence town distribution system to allow supplemental emergency fire flow capability. The Department would select a lessee to flood irrigate the 30-acre area, establishing irrigated pasture.

From 2002 to 2008, the project underwent several rounds of review and reconsideration by the public, the Board of Supervisors, the Water Commission, the Technical Group, and the Standing Committee. In April 2009, the Standing Committee revised the scope of the project to allow sprinkler irrigation, to relocate the well to reduce noise at neighboring residences, and to allow for a stable and corral being included in the project. The next steps toward implementing the project are for the Technical Group to evaluate the proposed new well at the site, and for LADWP to develop a request for proposals to identify a lessee for the acreage.

Big Pine Northeast Regreening (30 acres)
The Inyo County/ LADWP Technical Group approved an amended mitigation plan in the spring of 2010. Modifications include a change in water source. The Big Pine Canal was identified as a

source of project water. Replacement water, equal to or less than 150 AFY, will be supplied by Well 375. The effect of pumping Well 375 to supply this project has been modeled and water drawdown has been predicted to be negligible. The Water Department modeled the effects of pumping Well 375 continuously for ten years. The model took into consideration pumping effects at three locations and if Well 375 was pumped at 150 AFY the water table at these sites will decline less than 0.2 feet. The new project scope also allows sprinkler irrigation as well as flood irrigation. The original project description anticipated flood irrigation. It is estimated that sprinklers will reduce the project's water use from 150 AFY to 90 AFY. The CEQA analysis is underway for this project, and implementation is anticipated for the 2012 irrigation season.

MOU Additional Mitigation Projects

The 1997 MOU identifies mitigation projects in addition to projects in the Water Agreement and 1991 EIR. Included are commitments to use 1,600 acre-feet of water each year to mitigate for impacts to springs, and to evaluate Yellow-billed Cuckoo habitat at Baker Creek near Big Pine and Hogback Creek near Lone Pine.

The initial project recommended by the MOU consultant was replaced by seven 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 prepared by the group is on the ICWD website. Hines Springs will receive 385 acre-feet annually of surface and pumped water to create ponded water or tule marsh, and provide water for cattle. At Freeman Creek, water will be diverted back into ancestral washes to support a riparian corridor and pasture. At a site north of Mazourka Canyon Road, a new flowing well will augment an old well and create spring and seep habitat, and provide stock water. Four miles southeast of Independence, the Homestead project will use an existing and new flowing well to create a flowing channel, riparian vegetation, and a one acre pond. The "Well 368" project drills a new well to augment water that is creating an aquatic habitat supporting Owens Valley Pupfish. Warren Lake, north of Big Pine will receive the balance of water not used in the above projects to enhance shorebird and wildlife habitat. In addition, Diaz Lake will be supplied a secure source of water, which reduces dependence on water pumped by Inyo County. These projects are underway. They must be completed by March 2012.

CONCERNS

Yellow-billed Cuckoo Habitat Enhancement Project
As the result of two major fires--the 2007 Apple Orchard Fire and the 2011 Center Fire--little remains of the dense forest canopy at Baker Creek that made it an ideal site for this project. Based on our experience with the 1987 Hogback Creek Fire, it will take at least 12 years to build up another tree canopy.


YBC Habitat, Brown Exclosure

The Center Fire affected areas that had not yet been planted. However, less than two weeks after the catastrophic fire, planting was occurring using the "as-built" plans, without regard for the dramatic change in environmental conditions, and without consultation with stakeholders. The opportunity to modify the project to plant within the burn area and help speed recovery was missed. Plantings were made without considering the new state of the environment. For example, with the complete loss of mature trees, it can be expected that the water table will rise considerably in areas that had been recently planted. How this will affect the plantings is unknown, but should have been investigated. The tree canopy, that had dictated where planting were to occur no longer exists, but plants put into the ground, two or three weeks after the fire, were located simply as dictated in the "as-built" plans, without regard to the new environment.

There is still an opportunity to address how the project might evolve to accommodate the new conditions in the project area. Additional planting are described and scheduled in the "as-built" plans. These plans should be assessed, evaluated, and modified to produce the best results in the new conditions. It is expected that the Ad Hoc group that developed the project will meet and discuss options to accommodate new conditions.

Klondike Lake South Shore Habitat Area (SSHA)
Among the objectives of the 1986 Klondike Lake Enhancement/Mitigation Project was to release lake water to a native habitat area on the south shore of the lake with the goal of providing nesting and feeding areas for waterfowl. No specific water allocation was projected for the habitat area, but when available, water was released.

A 200 acre-feet of water per year (AFY), water allocation for the SSHA was established in 2003 when water use for the Klondike Lake Enhancement/Mitigation Project, which was initially estimated at 2,200, would only accommodate 1,500 AFY. The Klondike Lake water allocation was permanently reduced to approximately 1,700 AFY (in 2009-2010 1,169 AF was supplied). The 500 acre-foot imbalance was reallocated, with 300 AFY allotted the Big Pine Ditch System Project, and 200 AFY allocated to the SSHA.

At the outset, it was recognized that the general lack of relief in the project area—0.7 foot gradient between the lake edge and project area—could limit the success of the project, and indeed it has. Each year, the amount of water able to make it to the site has decreased. Water releases were measured to be 96 AF in 2007, 89 AF in 2008, 80 AF in 2009, and 92 AF in 2010.


Klondike Lake, South Shore Habitat Area

Now there is very little open water—perhaps as little as three acres. Encroaching tules, rather than creating desirable habitat, primarily consume the water that is now reaching the site. A habitat assessment and continuation of local bird surveys would be necessary to assess whether this project is meeting its goals, but it does not appear to be.

Options to improve or change the project include: providing an additional on-site source of water, physically altering the project site, relocating the project, or allocating water to another project. If the project were to remain at the current site, a plan to control tules would be needed. A meeting of the MOU parties, LADWP, Inyo County, and the interested public will be scheduled to discuss these options.

Laws Revegetation Projects: Parcels 90, 94, and 95

The goal for these projects is to establish 10% cover of native perennial vegetation by the year 2013, but none of these projects are on track to meet this deadline. This is especially frustrating for nearby residents whose health and property continue to be harmed 14 years after the projects were first described. Only very small portions of the barren fields near the town of Laws and Rudolph have been revegetated.


Dust rising above Laws 90

It is possible that after a slow start LADWP has found a method of growing plants that will accelerate the pace of revegetation. At Laws 90, located at the east end of Jean Blanch Road, an ambitious irrigation project is making some headway toward the goal of growing native

vegetation in barren soil. Drip irrigation, which is buried, is effectively delivering water to the root zone of native plants, while being out of reach of rodents, who, when the drip line was above ground, chewed the pipe to access water.

The survival rate of transplants had been estimated to be less than 40%, but now LADWP is producing its own native plant stock in greenhouses. Deep-rooted transplants from the greenhouse have proven to be far more robust than stock that had been grown elsewhere.

Watering native planting below ground seems to be the key to getting these revegetation projects on track, but watering is not all that is needed. Of great concern is the incursion of weedy plants, primarily tumbleweed (Salsola tragus), which cover large swathes of these parcels. Most troubling are the weeds that have taken advantage of moist soils at the drip emitters. Fast growing weeds are sprouting up within centimeters of the native seedlings and out-competing the natives. Without weed management, many of the new plants will be needlessly lost. At this time, there does not seem to be any effort to control weeds.

Native vegetation plants staked in cages; tumbleweed is dominant cover at Laws 90.

Given the investment of time and money, relatively little ground has been revegetated. If the newest irrigation method, and greenhouse grown native vegetation is proven successful, we would hope that the revegetation program be provided the resources needed to enlarge, and accelerate the effort to meet project goals.

Laws 118, and 129, other revegetation parcels in the Laws area, will be surveyed in the summer and fall of 2011.

MITIGATION BACKGROUND

Descriptions of mitigation projects are found in the collection of documents that govern the activities of the LADWP in the Owens Valley; these are the 1987 EIR and Interim Agreement, the 1991 EIR and Long Term Agreement, the MOU and other court Stipulations and Orders. Together they form layers of required mitigation projects.

It is appropriate to note that all of the mitigation projects mitigate for impacts after 1970. The environment of the Owens Valley will never be as rich, or diverse, as it was in 1913. That said, the courts have directed LADWP and Inyo County to avoid future environmental damage and implement mitigation and enhancement projects that to a certain degree repair, restore and compensate for ecological richness and farming that has been lost.

Few, if any, of the more than 50 required mitigation projects can provide on-site restoration. Seeps and springs, such as Blackrock and Fish Springs, will never flow again; topsoil blown from abandoned agricultural fields cannot be easily replaced, valley floor meadows have been overtaken by shrub; groundwater dependant shrubs have been succeeded by rainfall dependant species.

In the Owens Valley more than 58,000 acres of vegetation is groundwater dependent and at risk. Between 1970 and 1990, increased groundwater pumping has had a significantly adverse effect on more than 1,000 acres. Of this, 655 acres of groundwater dependant vegetation has completely died-off.

MITIGATION ALTERNATIVES

CEQA allows several alternative forms of mitigation, which are generally considered in sequence (i.e., 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: Permanently shutting down water wells

- **Minimizing impact by limiting the degree or magnitude of the action and its implementation.**

  Local example: Well on/off provisions

- **Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment.**

  Local example: Revegetation and regreening projects

- **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

LOCAL MITIGATION EFFORTS

Mitigation projects in the Owens Valley were primarily developed during three periods (in response to real or anticipated 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 several environmental projects. Their purpose was primarily to restore the habitat that had been affected due to water gathering. Areas in the valley were identified as having been adversely impacted due to due to water gathering. These areas may have exhibited vegetation increase or change, or reduction in wildlife using a particular habitat. As a result, one of the main goals was to provide a regular water supply to a variety of habitats, such as ponds, lakes, sloughs, springs, and the Lower Owens River (LOR). Objectives may have differed between the projects, depending on the type of the impact that may have occurred, but the overall goal of the environmental projects was to improve wildlife and forage, fisheries, and public recreation facilities.

- **Farmer's Ponds:** Water provided in fall of each year to offer increased habitat for migrating waterfowl; two miles north of Bishop.
- **Buckley Ponds:** Water is provided for a warm-water fishery and waterfowl area; three miles southeast of Bishop.
- **Saunders Pond:** Water is provided to a warm-water fishery and waterfowl area, similar to Buckley Ponds, five miles southeast of Bishop.
- **Millpond:** Water provided to pond at recreation area either by creek flow or well at site.
- **Klondike Lake:** Water provided for permanent wildlife habitat area (now incorporated in Klondike Lake E/M Project).
- **Tule Elk Field:** Water provided to field heavily used in summer by tule elk herd; between U.S. Highway 395 and Tinemaha Reservoir.
- **Seely Spring:** Maintained by LADWP well adjacent to Owens River to provide waterfowl and shorebird habitat larger than had existed at Seeley Spring; two miles south of Tinemaha Reservoir.
- **Calvert Slough:** Water provided to maintain habitat; small pond and marsh area near LADWP Aqueduct Intake.
- **Little Blackrock Spring:** Water diverted from ditch to maintain wet area at original spring site.
- **Lone Pine Pond:** Similar to Buckley Ponds and Saunders Pond; water provided by natural seep or spring flow in river with supplemental releases from Alabama Gates (now incorporated in lower Owens River E/M Project); north of Lone Pine Station.
- **Lower Owens River:** Water releases begun in 1975 to provide year-long minimal flows in lower Owens River, as well as releases to Twin Lakes, Billy Lake, and Thibaut Ponds; to

maintain waterfowl, marsh, shorebird, and upland gamebird habitat, as well as a warm-water fishery (now incorporated in lower Owens River E/M Project). The Lower Owens River Project, with its Off-river Lakes and Ponds, Blackrock Waterfowl Management Area, and Delta Habitat Area, replaced earlier projects. In July 2007, a flow of 40 cfs was permanently established in the Lower Owens River.

- **Diaz Lake:** Supplemental water supply provided to Diaz Lake recreational area.

ENHANCEMENT/MITIGATION PROJECTS, 1984-1991

The Enhancement/Mitigation projects are environmental projects that were implemented prior to the 1991 EIR. Some of these projects were included in the 1991 EIR as mitigation for impacts due to LADWP's water gathering activities.

A public process, involving meeting with the communities in the valley established the Enhancement/Mitigation (E/M) projects. E/M projects included revegetation of abandoned agricultural lands or lands that experienced vegetation loss due to groundwater pumping; regreening of public parks; improving wildlife habitat; and partial rewatering of the lower Owens River. For each project, specific goals and objectives were established and environmental documentation was prepared under CEQA. After implementation, LADWP and Inyo Country staff reviewed each project for consistency with its goals and objectives.

- **Millpond Recreation Area Project:** Located west of Bishop, was the first enhancement/ mitigation 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.
- **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 maintained only sparse annual vegetation since 1976. This area was a source of blowing dust.
- **Klondike Lake Project:** Previously, the 160-acre lake, located north of Big Pine, had been filled only during above-normal water runoff years. Now, a dedicated volume of water sustains the lake year-round. Attractions 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 allocated to project could not be attained, so the project was modified to permanently reduce the water allotment. The balance of this water allocation was apportioned the Big Pine Ditch System and the Klondike South Shore Habitat Area as an "E/M credit".
- **Laws Historical Museum Project:** Provides a regular water supply to improve the native vegetation on a 21-acre parcel, establish irrigated pasture on 15 acres, and establish windbreak trees, all adjacent to the museum.
- **640 acres near Laws:** Revegetating with non-groundwater dependent native plants.
- **Laws-Poleta Native Pasture Project:** Provides water for irrigation of 220 acres of sparsely vegetated land to reestablish native vegetation on abandoned pasturelands and increase livestock grazing capabilities.

- **McNally Ponds Project:** Provides water for 300 acres during the spring and summer months to mitigate and sustain vegetation, and to provide water to 60 acres of ponds during the fall months for waterfowl habitat.
- **Independence Pasture Lands/and Spring Field Projects:** Revegetated approximately 910 acres of abandoned croplands and sparsely vegetated land to create native pasture lands and provides water to native vegetation lands. Involved conversion of sparsely vegetated land east of Independence to productive native pastureland by flood irrigation. The project mitigated a source of blowing dust and stabilized soil previously affected by severe wind erosion.
- **Lone Pine Riparian Park:** Projects have reestablished abandoned pastureland, provide water to approximately 320 acres of native vegetation lands, and increase livestock grazing capabilities.
- **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.
- **Woodlots:** Irrigated projects in Lone Pine and Independence provide a sustainable source of firewood for the needy.
- **Independence Roadside Rest:** This project consists of planting of shade and windbreak trees and grass, installation of an i rrigation system, and placement of picnic tables on a 1/2-acre site south of the town of Independence. The project is an aesthetic improvement over the previously blighted area.
- **Eastern California Museum:** This project enhanced the appearance of the Eastern California Museum grounds in Independence. It consists of a small pond, trees, expanded lawn areas, and installation of an irrigation system.
- **Town Regreening Projects:** 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.
- **Lower Owens River Rewatering Project:** This project provided up to 18,000 AFY of continuous flow of water in a 50-mile, 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. The new fishery supports such warm water species as largemouth bass; and the project's lakes provide breeding and feeding grounds for waterfowl and shorebirds.
- **Hines Springs:** Create 1-2 acres of aquatic, riparian, and marshland habitats. Project will serve as a restoration research project.

ADDITIONAL MITIGATION PROJECTS, 1997 MOU AND 2004 AMENDED STIP AND ORDER

- **Yellow-Billed Cuckoo (YBC) Enhancement Mitigation Project:** These projects located near Baker Creek and Hogback Creek use vegetative treatments and land management prescriptions 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 seven 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 prepared by the group is on the ICWD website. Hines Springs will receive 385 acre-feet annually of surface and pumped water to create ponded water or tule marsh, and provide water for cattle. At Freeman Creek, water will be diverted back into ancestral washes to support a riparian corridor and pasture. At a site north of Mazourka Canyon Road a new flowing well will augment an old well and create spring and seep habitat, and provide stock water. Four miles southeast of Independence, the Homestead project will use an existing and new flowing well to create a flowing channel, riparian vegetation, and a one acre pond. The "Well 368" project drills a new well to augment water that is creating an aquatic habitat supporting Owens Valley Pupfish. Warren Lake, north of Big Pine will receive the balance of water not used in the above projects to enhance shorebird and wildlife habitat. In addition, Diaz Lake will be supplied a secure source of water, which reduces dependence on water pumped by Inyo County.

MITIGATION TABLE

#	Project	Mitigation Origin	Impact	Prescription	From LADWP Annual Operations Plan	Development Stage	Status
1	Laws/Poleta Native Pasture (southeast of Laws) (216 acres)	E/M 1985-1990[1] 1991 Ovens Valley EIR Impact Number 10-16	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.	Annually provide water to approx. 216 acres in two locations to enhance and maintain existing vegetation and increase livestock grazing capacities while continuing the activity that caused the impact. (First implemented 1988).	This project is complete and the goals for this project are being met.	In progress. This project and McNally Ponds were supplied a combined 1,267 acre-feet in2010-11.	One pasture is adjacent to and east of Hwy. 6 (160 acres, parcel 44). Only the eastern half of the pasture has been effectively irrigated. The native pasture SE of Laws (60 acres, parcel 138) does not appear to be fully irrigated, possibly due to the use of flood irrigation on uneven terrain.

							Plant cover is poor, grasses are mainly limited to ditches, and weeds are prevalent. LADWP reports that they cannot separate this project's water supply from contiguous irrigated parcels.
2	McNally Ponds and Native Pasture (348 acres)	E/M 1985-1990 1991 Ovens Valley EIR Impact Number 10-18	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.	Create waterfowl habitat by annually filling ponds Sept-Jan. Enhance and maintain vegetation and increase livestock grazing capacities by irrigating 100 acres of native vegetation and ~200 acres of native pasture. (First implemented 1986-1987).	The Standing Committee decided in 1991 to eliminate the water commitment to the McNally Ponds Project because of dry conditions. In most normal and below normal runoff years since that time the Standing Committee had eliminated water releases to this project. Because of abundant runoff in 2006-2007, the project received its full allotment of water for that year. In the 2009-2010 the project did not receive water under the Interim Management Plan.	Implemented and ongoing This project and Laws Poleta Native Pasture were supplied a combined 1,267 acre-feet in2010-11.	In the past, the Inyo Board of Supervisors has approved water reductions due to drought conditions. LADWP currently describes the water supply to the ponds as provided only when water is diverted from the Owens River to the McNally canals. The adjacent 100-acre pasture has poor cover with some patches of good grass cover. Pastures on the east side of the river (200 acres) maintain good grass cover. LADWP reports it is not possible to separate water supply to this project from the Laws/Poleta water supply project. Thus, uses for both combined were 1,267 acre-feet in 2010-11.
3	Revegetation near Laws	E/M 1985-1990	The Laws area has lost all or	Standing Committee to		In progress	The Standing Committee has

	(640 acres)		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.	consider revegetating with non-groundwater dependent native plants and continuing the activity that caused impact.			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.
4	Five Bridges area revegetation (300 acres)	Non-E/M Project	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)	Manage pumping to restore water table levels, supply surface water, and restore meadow and riparian vegetation through active revegetation efforts. Inyo and LA are responsible for plan development and implementation.		In progress	Water has been spread over the affected area since 1988. By the summer of 1990, revegetation of native species had begun on approximately 80 percent of the affected area. LADWP and Inyo County are developing a plan to revegetate the entire affected area with riparian and meadow vegetation. This plan will be implemented when it has been completed. Several activities have taken place in the Five Bridges area, but the Technical Group has not approved management changes to the mitigation plan. Providing surface water to the site has increased cover in some areas. The area north of the river that was

							originally in the impact area appears to have declined in cover and requires attention but his area was not addressed in the mitigation plan. In March 2005, LADWP informed the Water Department that limited grazing in some enclosures had resumed. The Technical Group needs to agree on a revised mitigation plan for the Five Bridges area.
5	Farmers Pond	EP 1970-1984	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.	Water provided in fall of each year to offer increased habitat for migrating waterfowl; two miles north of Bishop.		Implemented and ongoing	
6	Revegetation near Laws (160 acres)	Non-E/M Project	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. EIR v1 (10-66)	Native plant revegetation. Mitigated Negative Declaration (MND) allows approx. 32 acres to be converted to flood irrigated pasture.		Incomplete	The Technical Group implemented a 10-acre study plot in 2001 in lieu of initiating the planting of container plants as required in the Mitigation Plan. The mitigation project area has decreased in size due to the Laws reirrigation MND.

7	Laws Museum Pastures (21acres and 15 acres)	E/M 1985-1990	Significant adverse vegetation decrease and change have occurred in the Laws area due to a combination of factors, including abandoned agriculture, groundwater pumping, water spreading in wet years, livestock grazing, and drought.	Enhance the museum grounds by irrigating pastures east and west of the museum. This project was revised in the Laws reirrigation MND.		Implemented and ongoing Supplied 152 acre-feet of water in 2010-11	Both museum pastures had a cover of weedy species in the past. Condition of project and irrigation system will be monitored.
8	Laws area		Significant adverse vegetation decreases and changes have occurred in the Laws area due to a combination of factors, including abandoned agriculture, groundwater pumping, water spreading in wet years, livestock grazing, and drought.	Monitor and reduce groundwater pumping where suspected impacts have occurred. Mitigate according to the Agreement, if necessary.		Incomplete	County and LADWP are in disagreement over the need to operate the McNally canals to avoid impacts to vegetation. Monitoring of select vegetation parcels is ongoing. In 2010-2011, all water pumped in Laws is being used in Laws for irrigation.
12	Millpond Recreation Area	EP 1970-1984; E/M 1985-1990	Non-specific compensation.	Pay for costs of running well to provide water to pond and thus create wet habitat.		Implemented and ongoing	Implemented and ongoing.
13	Buckley Ponds	EP 1970-1984	Non-specific compensation.	Provide habitat for warm-water fishery and waterfowl by maintaining a year-round pond.		Implemented and ongoing	

14	Bishop Area Revegetation Project (120 acres)	Non-E/M Project	Non-specific compensation.	Revegetate with non-groundwater dependent native vegetation.		In progress	In progress, but behind schedule. LADWP estimates that successful revegetation could take a decade or longer. Fencing to eliminate disturbance has been installed. The Mitigation Plan (MP) provided that test plots would be implemented if the area did not demonstrate vegetation recovery. Vegetation cover was re-sampled in 2003 to compare with 1999 baseline cover. Results showed little to no change. Another survey is planned for 2011. The MP provides that revegetation efforts would be expanded in 2009, five years after implementation of test plots. No project schedule has been provided.
15	Saunders Pond	EP 1970-1984	Non-specific compensation.	Provide wet habitat by maintaining operation of year-round pond.		Implemented and ongoing	Implemented and ongoing.

16	Klondike Lake	EP 1970-1984; E/M 1985-1990	Non-specific compensation.	Improve waterfowl habitat and provide recreation in the Big Pine area. The Big Pine Ditch MND (2004) reducœd the water supply to 1,700 acre-feet, provided maintenance of native pasture and wetland habitats adjacent to Lyman ditch, and committed LADWP to maintain a described a lake level. Up to 200 acre-feet/year would be used for a native habitat area. (First implemented 1987).		In progress LADWP reports runoff year 2010-11 water use was 1,195 acre-feet.	ICWD believes that rechannelization of Lyman Ditch may adversely affect the adjacent native pastures included in the project description. ICWD will monitor. Beginning in the spring of 2009, motorized recreation on the lake has been limited to prevent the introduction of the freshwater quagga mussel.
16b	Klondike South Shore Waterfowl Management Area (160 acres)	2005	Compensation for the inability to supply water to the Klondike Lake Project.	When initiated, the Klondike Lake Project was expected to use 2,200 AF, but the project consumes less than 1,500 AF. South Shore project was initiated to create waterfowl habitat just south of the lake with water that could not be delivered to Klondike Lake. Two hundred AF was allocated for this purpose.		In progress LADWP reports runoff year 2010-11 water use was 92 acre-feet.	The elevation between the Lake and the Project is minimal and sediment in the water conveyance limits the flow to the project. Tules are now limiting the size of the habitat available to shorebirds and waterfowl. A habitat assessment and the continuation of local bird surveys would be necessary to assess whether this project is meeting its goals, but it does not appear to be. Options to improve the project are being investigated.

17	Big Pine Northeast Regreening (30 acres)	E/M 1985-1990	Regreening project implemented to enhance the aesthetics of abandoned agricultural or pasture lands in areas a round the town. Water is supplied from LADWP to promote and maintain vegetation.	Manage pumping in accordance with the Agreement and establish irrigated crop.		In progress	The Inyo County/ LADWP Technical Group approved an amended mitigation plan in the spring of 2010. Modifications include a change in water source. The Big Pine Canal will serve as a source of project water. Replacement water, (equal to or less than 150 AFY) will be supplied by Well 375. The new project scope allows sprinkler irrigation as well as flood irrigation. It is estimated that sprinklers will reduce the project's water use from 150 AFY to 90 AFY.
18	Big Pine Ditch System	Non-E/M Project	Non-specific compensation.	Establish/restore ditch system through Big Pine.		Implemented and ongoing	This project was completed in the summer of 2010, and provides water to 85% of Big Pine residents.
19	Big Pine Regreening (20 acres)	E/M 1985-1990	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.	Establish an irrigated crop while continuing the activity that caused the impact.		Incomplete and ongoing	LADWP reports "The site was fenced in 2007 to eliminate disturbances and encourage natural revegetation. If this area does not revegetate naturally, it will be included with LADWP's ongoing revegetation efforts." ICWD will survev the

							area in 2011.
20	Revegetation near Big Pine (160 acres)	Non-E/M Project	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.	Revegetate with non-groundwater dependent native species while continuing the activity that caused the impact.		Incomplete and ongoing	LADWP reports, "The site has been fenced. Permanent transects were run in 2006. In the spring of 2011 approximately 20 acres were drill seeded with locally collected seed." ICWD will survey the area in 2011.
21	Steward Ranch	Non-E/M Project	Compensation for loss of well.	Compensation agreement with ranch owner.		Implemented and ongoing	Mitigation agreement is in place.
22	Big Pine general		Non-specific compensation.	Valley-wide mitigation by Agreement management provisions.		Inactive	Under investigation.
23	Fish Springs Hatchery	EP 1970-1984; Non-E/M Project	CDFG fish hatchery and the LORP serve as compensatory mitigation.	No on-site mitigation will be implemented at Fish Springs, however, the CDFG fish hatcheries at these locations serve as mitigation of a compensatory nature by producing fish that are stocked throughout Inyo County.		Implemented and ongoing ICWD calculates runoff year 2009-10 water use was 23,004 acre-feet	Hatchery is in place. The LORP is implemented. LADWP has not reported water use for the 2010-11 runoff year.
24	Tule Elk Field	EP 1970-1984	Non-specific compensation.	Provide water in summer to field used by tule elk between U.S. Highway 395 and Tinemaha Reservoir.		Implemented and ongoing	The water supply to this project has been reduced since 2002. ICWD does not agree the project allocation is sufficient in all years to meet project goals..

25	Big and Little Seely	EP 1970-1984	Non-specific compensation.	Maintained by LADWP well adjacent to Owens River to provide year-round waterfowl and shorebird habitat larger than had existed at Seeley Spring Two miles south of Tinemaha Reservoir LADWP well number 349, 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. Riparian vegetation has become established around this pond. (eir v1, 10-62)		Implemented and ongoing	An operations plan is needed.
26	Calvert Slough	EP 1970-1984	Non-specific compensation.	Water provided to maintain habitat for a small pond and marsh area near LADWP Aqueduct Intake.		Inactive	This project has not been receiving a regular water supply since 1998. 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 status of this project will be investigated in 2011-2012

27	Hines Spring	E/M 1985-1990; 1997 MOU; 204 and 2010 Stipulation and order.	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 Hines Spring vent and its surroundings will receive on-site mitigation. Water will be supplied to the area from an existing, but unused, LADWP well at the site. As a result, approximately one to two acres will either have ponded water or riparian vegetation. Hines Spring will serve as a research project on how to re-establish a damaged aquatic habitat and surrounding marshland. Riparian trees and a selection of riparian herbaceous species will be planted on the banks. The area will be fenced. (EIR) v.1 10-62)		In progress	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 will supply 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 supplies water to a ditch just to southeast of the former spring that will be used by livestock.
28	Taboose/Hines Spring – Blackrock Areas Revegetation Project (80 acres)	Non-E/M Project	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.	Manage pumping and revegetate with native species. These lands will not be permanently irrigated, but will be revegetated with native Owens Valley vegetation not requiring irrigation except during initial establishment.		In progress	This mitigation measure consists of 3 sites that total approx. 115 acres. Hines Spring. A mitigation plan and schedule for will be developed 3 years after the Hines Spring mitigation project has been completed. Tin 54 (0.3 acres) 108 alkali sacaton plants were planted in

							1999. A drip irrigation system has been utilized. The status of this revegetation project will be investigated by ICWD in 2011-2012. Blk 16E 7.2 acres. LADWP reports that based on 2010 transects the project has attained the cover and composition goals in the revegetation plan. The cover goal is 35%
29	Little Blackrock Springs	EP 1970-1984	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.	LADWP will continue to supply water from Division Creek to the site of the former pond at Little Blackrock Springs, to maintain marsh vegetation at this site will thus be maintained.		Implemented and ongoing	An operations plan is needed. LADWP had reported that the Goodale Bypass Ditch that supplies the project normally runs all year at less than 1 cfs, providing approx. 700 acre feet a year.
30	Big Blackrock Springs	Non-E/M Project	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.	No on-site mitigation will be implemented at Big Blackrock Springs; however, the CDFG fish hatcheries at these locations serve as mitigation of a compensatory nature by producing fish that are stocked throughout Inyo County.		Implemented and ongoing ICWD calculates runoff year 2009-10 water use was 13,354 acre-feet	The fish hatchery is in place. The exempt wells for this project, W351 and W356, have a capacity of 13,320 and 8,110 respectively.

31	Thibaut/Sawmill marsh habitat	Non-E/M Project	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 Blackrock Waterfowl component of the LORP will provide compensatory and some on-site mitigation. Vegetation impacts will be mitigated under the Agreement.		Implemented and ongoing	Implemented under the LORP.
32	Independence Pasture Lands (610 acres)	E/M 1985-1990	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.	Develop and irrigate pasture or alfalfa fields (first implemented 1987-1988).		Implemented and ongoing LADWP reports runoff year 2010-11 water use was 2,397 acre-feet.	Site topography prevents flood irrigation from reaching some portions of the project.
33	Billy Lake	EP 1970-1984	Non-specific compensation.	Maintain wet habitat to provide waterfowl habitat in the region.		Implemented and ongoing	Operations plan is needed.
34	Independence East Side Regreening (30 acres)	E/M 1985-1990	Regreening projects implemented to enhance the aesthetics of abandoned agricultural or pasture lands in areas around the towns of Big Pine, Independence, and Lone Pine. Water is supplied from LADWP to promote and maintain vegetation.	Manage pumping and establish irrigated crop.	Project modified to relocate well, to change irrigation method from flood to sprinkler and add corrals and stables. An amendment to the project scoping document that incorporates these changes was approved by Standing Committee on April 23, 2009.	In Progress	LADWP board approved MND in 2005. Project should be completed in 2011-2012

35	Independence Woodlot (21 acres)	E/M 1985-1990	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.	Create irrigated crop.	The Woodlot has achieved its goals. California Department of Forestry helps with harvesting and cleanup and volunteer groups distribute wood to needy individuals according to the operations plan and management guidelines developed by the Technical Group.	Implemented and ongoing LADWP reports that water supply during runoff year 2010-11 was 569 acre - feet.	IMACA has been managing the project since 1997. An operations plan is needed based on management guidelines agreed to by Inyo Co. and LADWP
36	Independence Springfield (283 acres)	E/M 1985-1990	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 vegeta tion.	Manage pumping and establish native pasture or alfalfa (first implemented 1988).		Implemented and ongoing Water supply during runoff year 2010-11 was 1,356 acre -feet.	40 acres were identified as still requiring mitigation.
37	Additional regreening w/in Independence Springfield (40 acres)	E/M 1985-1990	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.	Revegetate with native pasture.		Not Implemented	This project is long overdue. LADWP reports that planting will be initiated in the 2011-2012 runoff year.

38	Symmes/Shepherd wellfield revegetation (60 acres)	Non-E/M Project	Increased groundwater pumping from wells in the Symmes-Shepherd area has caused a substantial reduction of vegetation cover in approximately 60 acres in three areas immediately to the east of the pumping wells. The affected vegetation was previously supplied by shallow groundwater and surface seeps. EIR v1 (10-59)	A revegetation program will be implemented for these effected areas utilizing native vegetation of the type that that has died off. Water may be spread as necessary in these areas to accomplish the revegetation. EIR v1 (10-59)			One of the 3 sites that comprise this mitigation measure is behind schedule. The 3 sites total approx. 115.2 acres. Ind 123 (28.4 acres) did not have test plots implemented in 2002 as scheduled in the Mitigation Plan. LADWP in 2011 reports that goals have been attained. Ind 131, north and south. (73.2 acres). The Technical Group implemented revegetation test plots in Dec. 2001. A final report from the consultant was received in Nov. 2003. LADWP's consultant conducted additional revegetation studies, and reports on methods and results from this effort have not been made available. The schedule in the Mitigation Plan called for expanding revegetation efforts for Ind 123 and 131 in 2007. LADWP reports in 2011 that the north plot is not attaining goals. Transects will be required. The

							south plot was drilled with native seed in 2011. Ind 105 (13.6 acres) cover data increased from 1999 to 2001, thus no active revegetation activities are planned. The initial cover of 8.1% increased to 13.5%. The goal for the site is 17% perennial native cover. The site will be re-sampled in 2006 to re-evaluate progress. ICWD will investigate the progress of this plot.
39	Shepherd Creek Alfalfa Field (200 Acre)	E/M 1985-1990	Dust mitigation	Manage pumping and establish irrigated crop on approx (first implemented 1986).		Implemented and ongoing LADWP reports that water supply for runoff year 2010-11 was 1,212 acre-feet.	Alfalfa planted and maintained on approx. 185 acres.
40	Expand Shepherd Creek Alfalfa (60 acres)	E/M 1985-1990	Dust mitigation	Expand E/M project to east of Hwy 395 if vegetation cover in that area remains sparse.			The Technical Group does not have a mitigation or monitoring plan for this mitigation measure. LADWP has conducted vegetation transects and concluded that vegetation cover has increased from baseline and thus the mitigation is not necessary.

41	Reinhackle Spring	Non-E/M Project	Increased groundwater pumping has periodically reduced the flow from Reinhackle Spring. This spring is the source of water for a large pasture area and supports many large tree willows. EIR v1 (10-61)	Manage groundwater pumping to avoid reductions in flow, and monitor and maintain vegetation to avoid significant change or decrease as provided in the Agreement and the Green Book.		Under investigation	A 2004 study concluded that the water flowing from Reinhackle Spring is similar in composition to aqueduct water and not similar to the deep aquifer samples or up-gradient shallow aquifer wells. Testing to monitor the effect of pumping conducted May 2010 to April 2011. Data from these tests are being analyzed. Management plan needs to be prepared.
42	Lone Pine Ponds	EP 1970-1984; E/M 1985-1990	Non-specific compensation.	Wildlife enhancement. Similar to Buckley Ponds and Saunders Pond; water provided by natural seep or spring flow in river with supplemental releases from Alabama Gates (now incorporated in lower Owens River E/M Project); north of Lone Pine Station.		Implemented and ongoing	This project will be included as part of the off-river lakes and ponds in the LORP.
43	Lone Pine East Side Regreening (11 acres)	E/M 1985-1990	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	Create irrigated pasture.		Implemented and ongoing	LADWP did not report water use for this project in runoff year 2004-05.

			vegetation.				
44	Lone Pine Woodlot (12 acres)	E/M 1985-1990	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.	Revegetate and provide irrigation.		Implemented and ongoing LADWP reports water use was 123 acre-feet for runoff year 2010-11	Lone Pine FFA irrigates the woodlot and distributes wood according to plan developed by the Technical Group.
45	Richards Field (189 acres)	E/M 1985-1990	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.	Create irrigated pasture or alfalfa field (first implemented 1987).		Implemented and ongoing LADWP reports water use for Richards Field and Lone Pine Park was 1,037 acre-feet for runoff year 2010-11	This project has been modified without Standing Committee approval. During the non-irrigation season, water normally flows to the project after flowing through Lone Pine Riparian Park. LADWP informed the Water Dept. that the project will no longer receive water during the non-irrigation season. Water to this project is not measured separately from the park supply.
46	Van Norman Field (160 acres)	E/M 1985-1990	Regreening project implemented to enhance the aesthetics of abandoned agricultural or pasture lands in areas around the town. Water is supplied from	Create irrigated pasture or alfalfa field.		Implemented and ongoing LADWP reports water use was 102 acre-feet for runoff year 2010-11	A portion of the project is not capable of being irrigated due to the site topography. Inyo recommends an evaluation of this portion of the project.

			LADWP to promote and maintain vegetation.				
47	Lone Pine West Side Regreening (7 acres)	E/M 1985-1990	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.	Create irrigated pasture.		Implemented and ongoing LADWP reports water use was 257 acre-feet for runoff year 2010-11	
48	Diaz Lake	EP 1970-1984	Non-specific compensation.	Provide supplemental water to recreation area and create wet habitat.		Implemented and ongoing	LADWP's lease with Inyo County (Lease No. 1494, in effect until June 30, 2015) has been updated to reflect the additional water supply commitments (up to 250 AFY) and accounting requirements of this project agreed to by LADWP.
49	Lower Owens Rewatering Project	E/M 1985-1990	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	Re-water the Owens River to create wet habitat for wildlife. Project includes off-river lakes and ponds. Under the project, 18,000 acre-feet of water per year were to be released from the Blackrock Spillgate to maintain continuous flow in the Lower Owens River from the Blackrock area to		Replaced LADWP reports water use was 0 acre-feet for runoff year 2010-11	The Lower Owens River Project incorporates this project

			jointly implemented between 1985 and 1990.	the Owens River Delta. (first implemented, step 1, 1986).			
50	Lower Owens River Project	1991 DEIR; MOU 1997	The LORP is a in-kind compensatory mitigation for impacts related to LADWP's groundwater pumping that are difficult to quantify or mitigate directly such as the drying up of springs, seeps and loss of wetlands.	The Lower Owens River Project settles more than 24 years of litigation between the Department and Inyo County over groundwater pumping and water exports. The project is intended to mitigate for a host of lost environmental values in the reach of the Owens River from the Los Angeles Aqueduct Intake to Owens Lake, and associated springs and seeps and off-river lakes and ponds. 64 miles of the Owens River channel will be rewatered. The project includes the Delta Habitat Area, Off-river Lakes and Ponds, and a 1500 acre Blackrock Waterfowl Management Area		Implemented and ongoing LADWP reports water use was approximately 17,020 acre-feet for runoff year 2010-11	Project implemented. In December 2006, LA began to release a 40 cfs flow down the river channel. Permanent base flows of 40 cfs were established on February, 20, 2007. In February 2008, Los Angeles initiated the first seasonal habitat flow. Adaptive management requires ongoing monitoring. Additional information about the LORP can be found at inyowater.org.
51	Meadow/riparian vegetation dependent on agricultural tailwater		Decrease in irrigated land resulted in reduction or withdrawal of tailwater and associated loss of dependant vegetation.	LORP serves as compensatory mitigation.		Replaced	

52	Salt Cedar Control Program		Between 1970 and 1990, LADWP continued to spread surplus water in wet years in the spreading areas created by the dikes east of Independence between the aqueduct and the river. This activity increased soil moisture and water tables, but also fostered conditions favorable to the spread of salt cedar, which was established prior to 1970. (91 EIR)	Implement salt cedar control program in accordance with the Agreement.		Ongoing implemented	Approx. 23 mi. of the Owens River floodplain south of the aqueduct intake has been cleared of saltcedar. The program also monitors and maintains cleared areas. The current program is focused on clearing saltcedar thickets in water spreading basin adjacent to the Lower Owens River.
53	Irrigated fields, including Cartago and Olancha		Decrease in irrigated land resulted in reduction or withdrawal of tailwater and associated loss of dependant vegetation.	Continue irrigation practices since 1981-82 and thereafter.			Ongoing. Irrigated lands are not directly monitored; instead, lessees are relied upon to indicate if there are changes in water for irrigation.
54	Fish Springs, Big and Little Seely, and Big and Little Blackrock		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.	Monitor and maintain vegetation to avoid significant change or decrease as provided in the Agreement and the Green Book.			The Technical Group does not have a plan for monitoring flows or vegetation at springs and seeps. Ecosystem Sciences has completed a draft inventory of springs and seeps. According to the MOU, the inventory should provide baseline data adequate for monitoring change. ICWD provided extensive

							comments on the draft to Ecosystem Sciences.

[1] DEIR, V1 (p. 5-19)
[2] DEIR, V1 (p. 5-20)
[3] Last status report Oct 2008