



**DEPARTMENT OF FISH AND GAME**

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**Comment Letter No. 6**

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**Draft Environmental Impact Report/Statement  
Lower Owens River Project  
Inyo County**

The Department of Fish and Game has reviewed the Draft Environmental Impact Report/Environmental Impact Statement (DEIR/EIS) for the Lower Owens River Project (LORP). The proposed project includes releases of water to the Lower Owens River to enhance native fish populations, game fisheries, and riparian habitat along 62 miles of river, provides water to the Owens River Delta to maintain and enhance various wetland and aquatic habitats, enhance a 1,500-acre off-river area with seasonal flooding and land management to benefit wetlands and waterfowl, and maintain several off-river lakes and ponds. The project also includes construction of a pump station to capture and recover water releases to the river, and includes range improvements and modified grazing practices on leases in the LORP project area. The LORP has been identified as a mitigation measure for past impacts to wetland and riparian habitats in the Owens Valley pursuant to a previous EIR (1991). Affected species and habitats include shorebirds, waterfowl, songbirds, raptors, beaver, warmwater gamefish, native fishes, river, springs, riparian habitat, and wetlands.

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The Department is providing comments on this DEIR/EIS as the state agency having the statutory and common law responsibilities with regard to fish and wildlife resources and habitats. California's fish and wildlife resources, including their habitats, are held in trust for the people of the State by the Department (Fish & Game Code section 711.7). The Department has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and the habitats necessary for biologically sustainable populations of those species (Fish & Game Code section 1802). The

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6-1 Department's fish and wildlife management functions are implemented through its administration and enforcement of the Fish and Game Code (Fish & Game Code Section 702). The Department is a trustee agency for fish and wildlife under the California Environmental Quality Act (see CEQA Guidelines, 14 Cal. Code Regs. Sec. 15386(a)). The Department is providing these comments in furtherance of these statutory responsibilities, as well as its common law duty as trustee for the public's fish and wildlife.

6-2 The Department is also a responsible agency pursuant to CEQA and will be using the EIR/EIS in processing the Streambed Alteration Agreements (SAA) which will be required for the proposed project. If our concerns are not addressed within this CEQA document, they must be addressed during the Agreement process. As part of the evaluation procedure for risk to resources under Section 1600 of the Fish and Game Code, the Department must evaluate potential adverse impacts that include but are not limited to the following items: state and/or federally listed species, and state fully protected species and species of special concern. A thorough discussion of how the proposed project may alter stream biological characteristics such as changing species composition through the introduction of non-native plants or animals, changing the availability of spatial habitat for any species, change the amount of shelter or escape cover for any species, changing any aspect of the aquatic or terrestrial food chain, changing the availability or quality of any migratory corridor, or changing the availability of fish passage at the up or downstream portion of the stream is required. Additionally, the proposed project must be analyzed from a water quality viewpoint and analyze potential adverse impacts from any increased runoff, sedimentation, soil erosion, and/or urban pollutants on streams and watercourses on or near the project site. If it is determined that the proposed project will have a significant adverse impact in regards to the issues described above, the applicant must provide a series of project alternatives or mitigation measures that avoid, minimize, rectify, reduce, eliminate or compensate for the impact. All potential risk to resources must be reduced to a less than significant level. The project description, impact analysis, and mitigation measures provided in the DEIR/EIS as currently written do not contain the required specificity for the Department to issue a SAA. The Department encourages the Los Angeles Department of Water and Power (LADWP) to include the necessary information in the DEIR/EIS for the project, in order to assure timely processing of the SAA application. If the necessary information is not included in the certified Final EIR, the Department must assume the lead and prepare additional CEQA documents for public review.

The Department has numerous concerns with the project as proposed. These concerns primarily relate to the ability of the project as described to meet the goals of the LORP as stated in the MOU. Our concerns center around required monitoring and adaptive management, flows to the Delta, habitat indicator species, threatened and endangered species, and deleterious non-native species.

### LORP as Mitigation

6-3 As stated on Page 1-1 of the DEIR/EIS, the LORP was identified in the 1991 EIR as compensatory mitigation for groundwater pumping impacts to the Owens Valley by LADWP. The LORP is, in fact, the primary mitigation measure identified in the 1991 EIR. As such, it must meet the standards set forth in CEQA for defining adequate mitigation measures. The DEIR/EIS states on page 3-1 that "The courts have determined that this mitigation is adequate for the purposes of the 1991 EIR. CEQA requires that mitigation measures be feasible and effective and that they be fully implemented." We agree with this statement. However, we also believe that the courts made that determination based on the goals, objectives, and conceptual description of the LORP contained in the MOU. As long as the project is designed and implemented to meet the goals as described in the MOU, then the LORP qualifies as an adequate mitigation measure. The Department does not believe that the LORP as described in the current DEIR/EIS, meets the requirements of CEQA as an effective mitigation measure as intended by the courts and the parties to the MOU. Our primary reasons for reaching this conclusion follow in the next section. For example, throughout the document, statements are made that the required monitoring and adaptive management actions are subject to available funding. This lack of commitment to complete the project as described in the MOU does not meet the CEQA requirement that mitigation measures be effective and fully implemented.

6-4 CEQA Guideline 15126.4(a)(1)(B) emphasizes that "...Formulation of mitigation measures should not be deferred until some future time. However, measures may specify performance standards which would mitigate the significant effect of the project and which may be accomplished in more than one specified way". Lead agencies may only defer the formulation of mitigation where the adopted measures (1) commit the agency to a realistic performance standard that will ensure the mitigation of the significant effect, and (2) disallow the occurrence of physical changes to the environment unless the performance standard is or will be satisfied. In this case, neither of these standards appears to be met. The proposed monitoring and adaptive management program does not contain the requisite performance standards to ensure that the project will meet the goals contained in the MOU (and therefore meet the mitigation standards required by CEQA). Furthermore, there is no commitment to implement the proposed monitoring and adaptive management program.

The Department believes that a lead agency under CEQA may not rely on a mitigation measure of unknown efficacy in concluding that a significant impact will be mitigated to below a level of significance. This proposed mitigation measure (the project) has not been fully developed, and furthermore, in concept, it has not been proven to be successful.

CEQA Guideline 15147 requires that an EIR shall include "relevant information sufficient to permit full assessment of significant environmental impacts by reviewing

6-5 agencies and members of the public.” The proposed monitoring and adaptive management components of the plan are not complete. No monitoring is being proposed for many of the goals of the LORP as set forth in the MOU. Therefore, the “relevant information” required by this Guideline is absent from the document.

### Goals of the LORP

As stated above, the Department does not believe that that project as described in the current DEIS/EIS will meet the goals of the LORP as stated in the MOU. These goals are (emphasis added):

“The goal of the LORP is the establishment of a healthy, functioning Lower Owens River riverine-riparian ecosystem, and the establishment of healthy functioning ecosystems in the other physical features of the LORP, for the benefit of biodiversity and threatened and endangered Species, while providing for the continuation of sustainable uses including recreation, livestock grazing, agriculture, and other activities. The goal of the LORP includes: 1) Establishment and maintenance of diverse riverine, riparian, and wetland habitats in a healthy ecological condition. The LORP Action Plan identifies a list of habitat indicator species for each of the areas associated with the four physical features of the LORP. Within each of these areas, the goal is to create and maintain through flow and land management, to the extent feasible, diverse natural habitats consistent with the needs of the habitat indicator species. These habitats will be a self-sustaining as possible. 2) Compliance with state and federal laws (including regulations pursuant to such laws) that protect threatened and endangered species 3) Management consistent with applicable water quality laws, standards, and objectives 4) Control of deleterious species whose presence within the Planning area interferes with the achievement of the goals of the LORP. These control measures will be implemented jointly with other responsible agency programs. 5) Management of livestock grazing.”

The LORP also provides for seasonal habitat flows in the river and delta. The purpose of these habitat flows is described as:

“The purpose of the habitat flow is the creation of a natural disturbance regime that produces a dynamic equilibrium for riparian habitat, the fishery, water storage, water quality, animal migration and biodiversity which results in resilient and productive ecological systems. ...the plan will recommend habitat flows of sufficient frequency, duration and amount that will 1) minimize the amount of muck and other river bottom material that is transported out of the riverine-riparian system, but will cause this material to be redistributed on banks, floodplain and terraces within the riverine-riparian system and the Owens River delta for

the benefit of the vegetation 2) fulfill the wetting, seeding, and germination needs of riparian vegetation, particularly willow and cottonwood 3) recharge the groundwater in the streambanks and the floodplain for the benefit of wetlands and the biotic community 4) control tules and cattails to the extent possible 5) enhance the fishery 6) maintain water quality standards and objectives and 7) enhance the river channel.”

Specific goals for the Delta include:

“The goal is to establish and maintain approximately 325 acres of existing habitat consisting of riparian areas and ponds suitable for shorebirds, waterfowl and other animals and to establish and maintain new habitat consisting of riparian areas and ponds suitable for shorebirds, waterfowl and other animals within the Owens River Delta Habitat area. Diverse natural habitats will be created and maintained through flow and land management, to the extent feasible consistent with the needs of the habitat indicator species. Habitats will be as self sustaining as possible. Plan will recommend ...what new habitats will be established, determine amount and use of seasonal habitat flows. Plan will evaluate the feasibility and the relative environmental benefits of the enhancement of existing habitat and the establishment of new habitats. “

Habitat indicator species are defined in the Action Plan and Concept Document (Attachment A to MOU) as:

#### Delta

Resident, migratory and wintering waterfowl  
Resident, migratory and wintering shorebirds  
Resident, migratory and wintering wading birds  
Owens pupfish  
Owens tui chub

#### Owens River Riverine-Riparian System

Owens Valley vole	Blue grosbeak
Yellow warbler	Yellow-billed cuckoo
Willow flycatcher	Warbling vireo
Yellow-breasted chat	Tree swallow
Belted kingfisher	Least bittern
Nuttall's woodpecker	Marsh wren
Long-eared owl	Wood duck
Swainson's hawk	Great blue heron
Red-shouldered hawk	Largemouth bass
Northern harrier	Smallmouth bass

Rails  
Channel catfish

Bluegill  
Owens sucker

#### Blackrock Waterfowl Habitat Area

Owens Pupfish  
Owens tui chub  
Resident, migratory and wintering waterfowl  
Resident, migratory and wintering wading birds  
Resident, migratory and wintering shorebirds  
Northern harrier  
Least bittern  
Rails  
Marsh wren

#### Off-River Lakes and Ponds

Largemouth bass  
Smallmouth bass  
Bluegill  
Channel catfish  
Owens pupfish Owens tui chub  
Resident, migratory and wintering waterfowl  
Resident, migratory and wintering wading birds  
Resident, migratory and wintering shorebirds  
Northern harrier  
Least bittern  
Rails  
Marsh wren  
Osprey

### **Areas in which the project as proposed does not meet the goals of the LORP**

#### 1) Delta Habitat Area

The goals for the Delta are:

“to *establish* and maintain approximately 325 acres of existing habitat consisting of riparian areas and *ponds suitable for shorebirds*, waterfowl and other animals and to *establish and maintain new habitat* consisting of riparian areas and *ponds suitable for shorebirds*, waterfowl and other animals within the Owens River Delta Habitat area. Diverse *natural habitats will be created* and maintained through flow and land management, to the extent feasible *consistent with the needs of the*

habitat indicator species. Habitats will be as self sustaining as possible. Plan will recommend ...what new habitats will be established, determine amount and use of seasonal habitat flows. Plan will evaluate the feasibility and the relative environmental benefits of the enhancement of existing habitat and the establishment of new habitats."

6-6 The Department does not believe that the proposed flows for the Delta are adequate to attain the objectives for the habitat indicator species for the Delta. The DEIR/EIS does not focus on the needs of habitat indicator species in its analysis of the water supply being proposed for the delta. Instead, it appears to rely only on perceived needs of the vegetation. Resident, migratory, and wintering shorebirds are included as habitat indicator species for the Delta. They were included because Owens Lake is one of the most important shorebird habitats in interior California. These shorebirds require broad expanses of shallow flooded playa with little to no vegetation. National Audubon Society has designated Owens Lake as a national Important Bird Area, due to its importance to nesting and migratory shorebirds. Owens Lake is also discussed in the U.S. Shorebird Conservation Plan. The U.S. Shorebird Conservation Plan is a partnership effort being undertaken throughout the United States to ensure that stable and self-sustaining populations of all shorebird species are restored and protected. The plan includes recommendations for both regional and national programs that are outlined in detailed reports. The plan was developed by a wide range of agencies, organizations, and shorebird experts who helped set conservation goals for each region of the country, identified critical habitat conservation needs and key research needs, and proposed education and outreach programs to increase awareness of shorebirds and the threats they face. The partnerships responsible for development of the plan are remaining active and are working to improve and implement the plan's many recommendations (Manomet Center for Conservation Sciences). Owens Lake is within the Intermountain West Region of the Shorebird Plan. The Intermountain West is North America's most important region for breeding Snowy Plovers, American Avocets, Black-necked Stilts, and Long-billed Curlews. No inland region of North America is more important to maintenance of the continent's shorebird populations than the Intermountain West (U.S. Shorebird Conservation Plan). Owens Lake is identified in the U.S. Shorebird Plan as one of the most important breeding areas in California for Snowy Plover. Flocks of over 5,000 Western and Least Sandpipers have been recorded during migration, and over 20,000 spring and fall migrating sandpipers have been recorded. The Department agrees with the conclusion on Pages 6-28 and 6-29 that the project as proposed (150 cfs pumpback station, 6-9 cfs average annual flows) will result in decreased habitat for shorebirds in the delta. This is a significant negative impact. However, it is also contrary to the goals for the delta specified in the MOU to "create and maintain habitats consistent with the needs of habitat indicator species".

6-7 During negotiations that led to the completion of the MOU, the parties believed that the pumpback station had a 50 cfs capacity. It was with this understanding that the parties developed the associated language in the MOU, and the estimated flows needed to meet the goals for the delta. It was in that spirit of good faith that the

6-7 language to create and maintain habitat consistent with the needs of the habitat indicator species was developed. We believed at the time, and continue to believe, that the goals of the MOU for the delta could be achieved with an approximately 6-9 cfs baseflow only if the delta received a large influx of water in the spring to “recharge the groundwater in ...the floodplain for the benefit of wetlands and the biotic communities.” When the MOU was being drafted, the parties understood that seasonal habitat flows would reach the delta, which is why the MOU states that seasonal habitat flows are “subject to applicable court orders concerning the discharge of water onto Owens Lake.”

6-8 The current proposal to construct and operate a 150-cfs pumpback station would diminish eliminates seasonal habitat flows to the delta below effective levels. They would occur only in the highest than average runoff years. The Department agrees with Impact Assessment No. 2 in the DEIR/EIS that the quantity of water now proposed by LADWP is not sufficient to maintain existing wetland habitat in the delta, nor is it sufficient to maintain habitat consistent with the needs of the habitat indicator species. We also believe that the current proposal is inconsistent with the language in the MOU that envisioned seasonal habitat flows to the delta to “recharge the groundwater in ...the floodplain for the benefit of wetlands and the biotic communities.” We believe that the wetlands currently found in the delta are sustained by the existing base flows which currently come down the river. Reducing these base flows to 6-9 cfs is likely to allow saline groundwater underneath the delta to wick to the surface within the root zone, reducing vigor and killing the vegetation. Under this scenario the seasonal habitat flows are considered necessary to recharge the freshwater lens that exists below the delta vegetation allowing this vegetation to persist.

6-9 Moreover, the current proposal suggests that 9 cfs is a rigid cap on base flows. It is not. The MOU states that the range of 6 to 9 cfs is an approximation. Base flows, seasonal flows, and land management together must meet the goals for the delta. The flows must be calibrated to meet the goals, not vice versa. And LADWP is obligated to adjust the flow regime to meet the goals of the project through adaptive management.

6-10 The Department believes alternatives exist which would allow seasonal habitat flows as envisioned in the MOU. These alternatives may involve some manipulation to the delta to allow the water to spread and develop characteristics suitable for the habitat indicator species. The restrictions placed upon this type of manipulation by LADWP are unreasonable and unwarranted. The argument has been proposed that the MOU restricts manipulation of the habitat due to the provision that “These habitats will be a self-sustaining as possible”. We believe that first; the goals for the habitat indicator species must be met. Within that framework, the habitats should be as self-sustaining as possible. Additionally, the goals for the Blackrock Waterfowl Area contain the same language regarding self-sustaining habitats. Yet a significant amount of manipulation in the way of dikes, roads, berms, water control structures, ditches, etc. are proposed for Blackrock. We believe that a minor amount of similar manipulation may be necessary in the delta in order to achieve the goals of the MOU. The argument that any water passing through the delta and entering the brine pool would violate a court order is

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unfounded. As stated in the DEIR/EIS., Page 6-28, water may be deposited onto Owens Lake for the purpose of implementing the LORP. Meeting the needs of the habitat indicator species is a valid purpose and constitutes implementation of the LORP. Further, the 19 acres of disturbance that is cited in the DEIR/EIS as a significant impact can be mitigated and is outweighed by the benefits of the wetland and riparian habitat enhancement associated with the project.

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An additional concern is found on Page 2-35, Section 2.4.2.2. monitoring trigger "(2) A 20% or greater reduction in habitat suitability, as measured at 15-year intervals after the commencement of releases of baseflows to the delta." We believe a 15-year interval is too long to wait to determine if base flow releases require adjustment. A significant amount of habitat can be lost in a 15-year time frame. The formula "acres plus delta conditions" is unacceptably vague and should be clarified.

## 2) Monitoring and Adaptive Management

The project is defined as an adaptively managed project. Adaptive management is defined in the MOU as a "method for managing the LORP that provides for modifying project management to ensure the project's successful implementation, and/or the attainment of the project goals, should ongoing data collection and analysis reveal that such modifications are necessary." The MOU also states "Monitoring sites and water flow gaging stations will be identified and a program for data collection, analysis and reporting (which will identify pathways to allow feedback to indicate where adaptive modifications to management are necessary) will be described as part of this plan. Should the reported information reveal that adaptive modifications to the LORP management are necessary to ensure the successful implementation of the project, or the attainment of the LORP goals, such adaptive modifications will be made."

The DEIR/EIS states on Page 2-2 "The LORP Plan is grounded in the concept of adaptive management." The DEIR/EIS goes on to acknowledge "...use adaptive management to create desirable habitat for habitat indicator species. Monitoring has been designed to gauge desirable habitat characteristics and to assess whether the system is favorably trending toward the project goal." Despite the clear direction provided in the MOU (and in CEQA) the monitoring program as proposed is not capable of monitoring progress toward achievement of the several of the goals.

Following are some specific examples of areas in which the monitoring and adaptive management program do not meet the goals or the intent of the MOU. These are areas of primary concern, but this is not an all-inclusive list of deficiencies in the monitoring and adaptive management program.

### a) Habitat Indicator Species

The Habitat Indicator Species were selected in part because they utilize different components of the desirable habitats envisioned for the restored river and delta areas. Some riparian bird species utilize the canopy, others are more dependent on tree cavities, some require dense understory vegetation as well as canopy cover, others require shallow open water and little vegetation. When some or all of these habitat components are present, they indicate "healthy, functioning, wetland and riparian/riverine habitat. The intent of the LORP per the MOU is to "create and maintain ... diverse *natural habitats consistent with the needs of the habitat indicator species.*" Despite this clear language, neither the LORP Ecosystem Management Plan (August 2002) nor the monitoring program described in Table 2-18 contain goals for creation or maintenance of these habitat parameters, nor is monitoring described to measure if these habitat parameters are present in the LORP area.

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Using the proposed monitoring found on Page 2-78 (Table 2-18) for riparian habitat management as an example, the project objectives are to "Develop native and riparian habitats important to the habitat indicator species and special status species". What are these habitats that are important to the habitat indicator species and special status species? Are they dense woody riparian with a closed canopy? Or open water? Or marsh vegetation? There is no description of the type of habitats these species need. The monitoring objectives are to "Measure trends in habitat characteristics that relate to the habitat indicator species, special status wildlife species, and plants of concern to Native Americans." Once again, what are the habitat characteristics that relate to these habitat indicator species and special status species? Should the understory be dense and impenetrable or be more open? What density of trees should be present? How can the trends in habitat characteristics be measured if they haven't yet been defined? The monitoring proposed is to "measure habitat characteristics at permanent monitoring sites to assess habitat development along the river." What characteristics are going to be measured? Recruitment? Growth? Density? Species diversity?

The Department believes the project as described has little or no chance for success. Using this monitoring strategy, there will be no way to know whether operation of the LORP is making progress toward attainment of the LORP goals for the habitat indicator species. Therefore, it does not meet the intent of the MOU that monitoring and adaptive management will be used to "to ensure the project's successful implementation, and/or the attainment of the project goals".

Goals and objectives should be written to present specific actions to take to achieve desired conditions. Technical Memorandum #19, Riparian Wildlife Management, and #20, Special Status Species Accounts, are very well researched and contain a significant amount of information regarding riparian wildlife habitat requirements. Unfortunately this information does not appear to have been used to prepare the Ecosystem Management Plan. Specific objectives for size and location of habitat patches should be developed. Specific objectives for habitat structure should also be developed. While we acknowledge that not all

targets for habitat size, structure, and location will be met, at least having them in the plan provides a goal and can direct monitoring. If monitoring and adaptive management prove that the targets are unattainable, they may be modified in the future. In its present state, it will be impossible to determine if the plan is successful. What parameters will be measured? Technical Memo #19 contains a well reasoned summary of riparian wildlife management on Page 27. This could be used as a good starting point for developing goals and objectives for riparian habitat. This technical memo also refers to a "reference reach" of the river located above Tinemaha Reservoir. A description of this reference reach should be included, as this could be used to develop goals and objectives for desirable habitat characteristics within the LORP area.

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The most important habitat variables should be identified in the Ecosystem Management Plan, and goals and objectives should be written to guide the agencies in managing the habitat to optimize those habitat variables for those species. For example, pages 25-26 of Technical Memo #20, Special Status Species, contain a well-researched summary of habitat requirements for southwestern willow flycatcher. Specifically, "On the South Fork Kern River, Willow Flycatcher tend to nest in areas that had more trees greater than 5 m tall, a larger amount of canopy cover, and a larger amount of foliage volume from 0 to 4 m than random areas (Whitfield 1990)." Also, "On the South Fork Kern River, mean canopy cover on plots around the nest was 74.4% (Whitfield and Enos 1996). Nests are typically found in areas with multiple canopies and are usually not found where the canopy cover is less than 60-65% in vegetation less than or equal to 2 m high (M. Whitfield, pers. comm)." Goals and objectives for creation and enhancement of southwestern willow flycatcher habitat can easily be written using the above information. These goals and objectives could be specific to certain reaches. An objective could be to create habitat with a majority of trees greater than 5 m tall and high amount of foliage volume from 0-4 m. An objective could be written to achieve mean canopy cover of 74.4% in vegetation over 2 meters high. If it appears unlikely that suitable habitat will ever be created along a certain reach, the goal could be written to exclude that reach. These are realistic objectives which should be measured in a monitoring plan.

#### b) Threatened and Endangered Species

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Despite the stated goal in the MOU that "The goal of the LORP is the establishment of a healthy, functioning Lower Owens River riverine-riparian ecosystem, and the establishment of healthy functioning ecosystems in the other physical features of the LORP, for the benefit of biodiversity and Threatened and Endangered Species" no monitoring for threatened and endangered species or their habitat is contemplated in the proposed monitoring plan. Similarly, no monitoring is proposed to measure biodiversity within the project area. Biodiversity is defined in the MOU as "the variety and relative abundance of plant and animal species associated with a given area." These are variables that can and should be monitored. Once again, monitoring is required to assure the attainment of project goals. Absence of a plan to monitor

whether these project goals are being achieved, and subsequent lack of adaptive management measures, indicates a lack of commitment to a significant portion of the project.

c) Deleterious species

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Another stated LORP goal which was passed by in development of the monitoring plan is "Control deleterious species whose presence within the LORP area interferes with the achievement of the goals of the LORP". No monitoring is proposed to determine the extent of deleterious species. A monitoring plan should be developed listing the species known to exist within the project area and others that could become a risk within the life of the project. A monitoring program for these species should be developed. For example, The New Zealand mud snail (NZMS), an aquatic invasive species present in the Owens River Basin, was not addressed in the DEIR/EIS. Currently, CDFG has an agreement with LADWP to post informational signs in areas of high human/recreational use to help prevent the spread of this organism. As a responsible land owner, LADWP should inform the public of the presence of the NZMS. The Department is willing to provide up-to-date information. In addition, protocols should be in place for controlling the spread of the NZMS through construction projects, such as maintenance of weirs, culverts, and development of structures. No monitoring has been presented and no measures to control the spread of the NZMS were presented in the DEIR/EIS.

d) Lack of Commitment to Complete the Monitoring

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The document states on Page 2-71, Section 2.10 "Although funding limitations affect the ability of LADWP and the County to implement monitoring and adaptive management, the proposed project includes a monitoring program..." As stated above, the MOU describes the necessity for a monitoring program to ensure the attainment of the project goals. Monitoring and adaptive management are key elements of the entire project. Without a firm commitment to implement a comprehensive monitoring program, the likelihood of attaining the project goals is in serious question. In other words, the lack of commitment to complete the monitoring constitutes a lack of commitment to complete the LORP.

The Department believes that a more thorough monitoring program should be developed. This monitoring program must measure the habitat parameters required by the habitat indicator species. Goals and objectives for these habitat parameters for the habitat indicator species must be developed. Monitoring should be developed for each goal of the LORP. A commitment must be given to fully fund and complete the requisite monitoring program.

3) Threatened and Endangered Species

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The project as presented fails to meet its goal to benefit threatened and endangered species because it does not include active reintroduction and management of native fishes. The potential for providing native fish habitats in the specific LORP habitat areas is discussed in greater detail below. The 2002 Ecosystem Management Plan proposes a management objective of establishing and maintaining 5 sanctuaries for native fishes within in the "Lower Owens River conservation area." Identified actions include installation of stream gages, predatory fish removal, and installation of water control structures. The EIR should disclose these components of the LORP and identify a timetable for their completion.

The Department supports the establishment of sanctuaries as part of the LORP, and understands the landowner's desire to defer actual stocking of sanctuaries until negotiation of a Habitat Conservation Plan (HCP). HCPs which address species listed under the California Endangered Species Act require approval of the Department of Fish and Game as well as the U.S. Fish and Wildlife Service.

#### Lower Owens River Riverine-Riparian System-Section 2.3.11

6-18

The opinion "Ecosystem Sciences believes that habitat suitable for Owens pupfish and Owens tui chub will be maintained and created in the river as a result of the LORP" is flawed and unsupportable. It is important to understand the underlying factor which nearly eliminated the formerly common Owens pupfish: "competition and predation by non-native species and adverse habitat modification caused by water diversion..." (USFWS 1998). The recovery plan for this endangered fish concludes "the current distribution of native and non-native fish species indicates that native fishes cannot survive in many habitats occupied by introduced fish." The recovery plan considers all predatory fishes (bass, sunfish, catfish) to be "deleterious species" because they "extirpate populations" of natives (USFWS 1998). This is not a matter of mutual incompatibility, rather, warmwater gamefish predictably and consistently eliminate populations of Owens pupfish. As noted in the DEIR/EIS, "All known populations of pupfish are established in areas isolated from largemouth bass."

Similarly, Owens tui chub became endangered through "competition, predation, and hybridization; and diversion and impoundment of water" (USFWS 1998). In practice, warmwater gamefish displace tui chubs as they do pupfish. In addition, nonnative tui chubs have colonized available habitats along the main stem of the Owens River. This means that any population of native chubs in communication with the river is vulnerable to invasion and hybridization by the more numerous nonnatives. If past performance is any indication, there is no chance any tui chub population in the river could maintain its genetic integrity over time.

The 1998 recovery plan concludes "Neither named tributaries nor the main stem can be or will be reclaimed as habitat for the native fish assemblage." The DEIR/EIS states "The enhancement of the existing warmwater fishery is considered a beneficial impact" (section 4.6.2). This warmwater fishery consists of two species of bass,

sunfish, and catfish. Creating habitat for native pupfish and chubs in the river is incompatible with the existing and future fishery.

#### Off River Lakes-Section 2.6.3

6-19

Off channel lakes share a common water source with the river and aqueduct. The Department believes the same factors which preclude establishing Owens pupfish and Owens tui chub in the river apply to off-river lakes. We dispute Ecosystem Sciences' belief "that habitat suitable for Owens pupfish and Owens tui chub will be created in the off-river lakes as part of the LORP." Any substantive evidence to the contrary should be included in the DEIR/EIS.

#### Delta Habitat Area-Section 2.4.1

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The Department agrees the LORP might create suitable habitat for Owens pupfish and Owens tui chub in the delta habitat area, provided active management is implemented to create isolated waters.

#### Blackrock Waterfowl Habitat Area-Section 2.5.3

6-21

We are disappointed with the opinion "Blackrock Waterfowl Habitat Area will not provide suitable habitat for Owens pupfish and Owens tui chub." The overall management strategy described in the DEIR/EIS is compatible with the straightforward habitat requirements of both species: water, and isolation from predatory fishes. We do not see a biological conflict between the periodic drying cycles, as this simulates conditions for which the native fishes are adapted. "Each Owens basin native fish is vagile (highly mobile and rapidly invades vacant habitats), has a high reproductive capacity, and each species is a habitat generalist" (USFWS 1998). In favorable conditions, pupfish produce multiple generations within a single year and undergo explosive population growth. Such qualities explain why native fishes rapidly populate vacant habitats, and why viable populations of these species could be maintained under a rotational drying scheme. "For example, substantial pupfish mortality may be acceptable with wetland water drawdowns if adequate escapement of sufficient breeding pairs to other Blackrock wetland cells or corridors is provided" (Ecosystem Sciences 2002).

The Owens basin multi-species recovery plan (USFWS 1998) envisions development of a "Blackrock Conservation Area" where all four species of native fish would be reintroduced, and waterfowl and shorebird habitat would be enhanced. Moreover, the MOU designates Owens pupfish and Owens tui chub as indicator species for the Blackrock area. However, the 2002 Ecosystem Management Plan concludes this would conflict with LORP goals since "Periodic drawdown and drying of wetland cells...could constitute a 'take'..." of endangered fishes. The DEIR/EIS states "Therefore, the project does not include any actions to create sanctuaries in the Blackrock area for these species."

6-22

To support the MOU goals, the DEIR/EIS should specify actions to maintain the potential to conjunctively use Blackrock area for wetland, waterfowl, and native fish recovery. Specifically, we urge that facilities be designed to prevent access of predatory fishes into, and to allow complete drying of each Blackrock wetland cell and corridor. The opportunity to maximize conjunctive uses and benefits of the Blackrock Waterfowl Habitat Area should not be wasted by failing to consider the needs of fishes in project design.

We concur with the EIR statement "Any actions to introduce Owens pupfish and Owens tui chub in the Blackrock area would only occur under the provisions of a Section 10(a) permit and Habitat Conservation Plan approved by the U.S. Fish and Wildlife Service." Since these species are also protected under the California Endangered Species Act, we would add that Department of Fish and Game approval of the HCP would also be required.

#### Other Comments

##### 1) Water Quality Degradation Due To New Flows

6-23

The LORP EIR relies heavily on observations of dissolved oxygen (DO) made during a flow test done in July and August 1993 to conclude "No mitigation measures are considered feasible to reduce or avoid the significant temporary water quality impacts associated with the initial release regime for the 40 cfs baseflow and seasonal habitat flows." Proposed mitigation measures include augmenting flows with fresh water, and restocking of fish.

The proposed mitigation by augmenting flow with fresh water will tend to increase the severity of any DO problems, not mitigate, as increased flow rate will liberate additional oxygen-consuming organic substrate. The problem occurs when partially decomposed organic matter is entrained in the water through erosion of the channel bottom. Microbial decomposers and chemical reactions then consume oxygen to break down the organic material, removing dissolved oxygen from the water.

6-24

A potential mitigation which was not considered is to increase the flow rate while water temperature is very cold (December-February). We believe this would be an effective alternative for three reasons:

- Oxygen concentration in the river is higher due to the higher solubility in cold water. In the lower Owens, 27°C water seen in the 1993 flow test would contain 6.7 mg/L of oxygen at saturation. In winter the water might be 4°C and saturate at 10.8 mg/L, a 62% increase in oxygen saturation.
- Biochemical and microbial oxygen consumption is slowed in cold water, and therefore removes far less oxygen.

- Fish oxygen consumption is also reduced in winter, due to cold water and lowered feeding rates. For this reason fish need far less oxygen to survive at this time of year.

6-24

The river not only has higher solubility for oxygen in winter, but the rate at which oxygen re-dissolves from the atmosphere is faster as well. Coupled with the much reduced need of fish for oxygen, these factors argue strongly to perform the "inaugural" flushing flow at the coldest time of year.

2) The Department is supportive of an accelerated re-watering schedule for the 62 miles of the Lower Owens River, as proposed in the Draft EIR/EIS. We recognize that accumulated organic sediments will be liberated as flows increase to the 40 cfs base flow and during the initial years of the 200 cfs habitat flows. A rationale for mitigating this impact is presented in the paragraph above. However, water quality may degrade to the point that resident fishes in the river die. In that event, the proposed restocking of sport fishes five years after rewatering is initiated may unnecessarily delay the recovery of the recreational fishery. In support of an accelerated rewatering schedule the Department recommends that sport fish should be restocked shortly after fish losses occur, after water quality improves to acceptable levels. These fish can be procured from in-valley sources that do not unreasonably impact existing recreation, such as from waters that are closed to angling. The Department, at our expense, will commit our personnel and equipment to capture, transport, and restock affected reaches so that short term fishery impacts are lessened. If in-valley stocks are inadequate to meet this need, we suggest that the LADWP purchase replacement fish under Department guidance to restock soon after each fish kill event, once water quality returns to acceptable levels.

6-25

3) The DEIR/EIS states that sensitive springs and seeps will be fenced "if deemed necessary," but no criteria are presented for this judgment.

6-26

The DEIR/EIS erroneously states that pupfish habitat at Well 368 is fenced, and proposes additional fencing. A former part of this aquatic system, now dry, is surrounded by a cattle exclusion fence. All existing habitat is unfenced. We believe the population and habitat are thriving without fencing and see no compelling reason to change this. The largest problem at Well 368 is invasion by Tamarisk and Russian Olive trees at the downstream margin of flow.

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4) The Lower Owens Valley Seeps and Springs Data Summary, dated February, 2001, is supposed to provide a baseline from which future monitoring will occur. However, inconsistencies and either incomplete surveys and/or documentation render the summary an inadequate platform from which to base further monitoring.

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5) New power line, Page 2-40. Any new power line constructed at the lake should be fitted with anti-predator perching devices in order to minimize predation on snowy plovers and other shorebirds nesting at Owens Lake.

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6-30

6) Page 5-8 Pumpback station. An alternate spoil site should be found to locate the sediment stockpiling area associated with the pumpback station.

6-31

7) Mosquitoes. The DEIR/EIS presents credible evidence that mosquitoes and human exposure to mosquito-borne illness could increase as a result of implementation of the LORP, particularly in the Blackrock Waterfowl Habitat Area. In his book Inland Fishes of California (1976) Dr. Peter Moyle writes "The presence of Owens pupfish in shallow water among emergent plants, coupled with the comparative absence of mosquitoes in the Owens Valley, led Kennedy (1917) to conclude that the pupfish kept the mosquitoes under control. As the pupfish became rare, mosquitoes became a problem (Miller, 1948)." Reviews of the scientific literature on mosquito control question the view that mosquitofish are effective in reducing mosquito populations or reducing the incidence of mosquito-borne diseases (Arthington, A.H. & L.L. Lloyd. 1989. Introduced poeciliids in Australia and New Zealand; and Courtenay, W. R., Jr., and G. K. Meffe. 1989. Small fishes in strange places: a review of introduced poeciliids; in G.K. Meffe, and F.F. Snelson, Jr., editors. Ecology and evolution of livebearing fishes (Poeciliidae). Prentice Hall, Englewood Cliffs, NJ.) There is modern evidence for the effectiveness of pupfishes in mosquito control (see Legner, E.F., and R.W. Warkentin. 1989. Rationale for the desert pupfish, *Cyprinodon macularius*, as a complement to *Gambusia* in mosquito control. Proceedings of the California Mosquito and Vector Control Association 57:142-145). We recommend making use of Owens pupfish to mitigate probable mosquito impacts in Blackrock Waterfowl Habitat area and suitable isolated wetlands. We believe such a venture would be likely to attract federal and state endangered species recovery dollars which could help offset funding shortfalls detailed in the DEIR/EIS. The Department is willing to help secure federal and state permits and binding agreements required to implement the activity and protect landowner interests.

## Conclusion

6-32

The Department recommends that the deficiencies outlined above should be corrected and a revised DEIR/EIS be recirculated for public review. Recirculation is required when "...significant new information is added to the EIR after the availability of the draft EIR for public review under Section 15087 but before certification. Significant new information requiring recirculation include,...(1) A new significant environmental impact would result from the project or from a mitigation measure proposed to be implemented." (CEQA Guidelines 15088.5).

The Department appreciates the opportunity to review and comment on the project as proposed. If you have any additional questions, please contact Ms. Denyse Racine, Senior Wildlife Biologist, at the letterhead address and telephone number.

Sincerely,



Alan Pickard  
Deputy Regional Manager  
Eastern Sierra - Inland Deserts Region

cc: State Clearinghouse  
Mr. Curt Taucher, Regional Manager, Eastern Sierra – Inland Deserts Region  
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