

# Findings of Fact and Statement of Overriding Considerations for the Nimbus Hatchery Fish Passage Project

Rancho Cordova, California



California Department of Fish and Game

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## List of Acronyms

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CCR	Code of California Regulations
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
DWR	California Department of Water Resources
EIS/EIR	environmental impact statement/environmental impact report
ESA	Endangered Species Act
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
USC	United States Code
USFWS	US Fish and Wildlife Service
USGS	US Geological Survey

# 1. Introduction

The California Department of Fish and Game (CDFG), as state lead agency, in cooperation with the United States Bureau of Reclamation (Reclamation), as the federal lead agency, prepared the joint Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the Nimbus Hatchery Fish Passage Project. The draft EIS/EIR was published in October 2010 (State Clearinghouse No. 2009042050), and the final EIS/EIR was published in August 2011. The EIS/EIR was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, 42 United States Code (USC), Section 4321 et seq.; the Council on Environmental Quality regulations for implementing NEPA, 40 Code of Federal Regulations (CFR), Parts 1500-1508; the California Environmental Quality Act (CEQA) of 1970, California Public Resources Code, Section 21000 et seq., as amended; the Guidelines for Implementation of CEQA, Title 14, California Code of Regulations (CCR), Section 15000 et seq.; and Reclamation and CDFG guidelines.

These findings, as well as the accompanying Statement of Overriding Considerations, have been prepared in accordance with CEQA and the CEQA Guidelines. The purpose of these findings is to satisfy the requirements of Sections 15090, 15091, 15092, 15093, and 15097 of the CEQA Guidelines, in connection with the approval actions proposed by the CDFG as part of the Nimbus Hatchery Fish Passage Project. Reclamation will take separate appropriate actions to ensure compliance with NEPA.

# 2. Background

The Nimbus Fish Hatchery (the Hatchery) is on the lower American River, approximately a quarter-mile downstream of Nimbus Dam. The Hatchery was built as mitigation for the loss of spawning areas for Chinook salmon (*Oncorhynchus tshawytscha*) and Central Valley steelhead trout (*O. mykiss*) that were blocked by the construction of Nimbus Dam. The weir and Hatchery were constructed in 1955. The weir was built to create a barrier in the river that allows adult Chinook salmon to locate the entrance to the fish ladder for collection at the Hatchery. The weir is needed from mid-September through mid-December during the Chinook salmon spawning season. Its superstructure is removed for the remainder of the year, although its foundation and concrete piers remain in place year-round. Without the weir superstructure in place to block upstream passage of Chinook salmon, sufficient numbers to meet Hatchery mitigation production goals could not enter the ladder. However, steelhead do locate the ladder entrance in sufficient numbers to meet mitigation production goals for their species without the weir superstructure in place.

Reclamation is obligated to raise four million Chinook salmon smolts and 430,000 steelhead yearlings annually at the Hatchery. This obligation was established as a result of the Fish and Wildlife Coordination Act Report (August 14, 1946, 60 Stat. 1080) (United States Fish and Wildlife Service [USFWS] and CDFG 1953), which recommended measures to mitigate the impacts of constructing Nimbus Dam, as authorized by the American River Basin Development Act (October 14, 1949, 63 Stat. 852). Reclamation formed a partnership and executed a service contract with the CDFG to operate and manage the Hatchery. The CDFG also has responsibility statewide for overseeing fish hatchery operations and managing fishery resources.

The Hatchery, weir, and fish ladder were constructed and became operational in 1955. Since then, much of the Hatchery infrastructure has been modernized, but the weir and ladder system are largely unchanged. The weir structure is aging and shows the signs of over 50 years of use.

The proposed project supports Reclamation's need to address problems with the weir that could jeopardize adult fish collection and its ability to meet mitigation obligations. The weir foundation and piers are periodically damaged by significant winter river flows, which required major repairs in 1963, 1982, 1986, and 1999. Extensive repairs have been necessary to fix weir damage, such as the eroded foundation. (Erosion creates holes that allow adult Chinook salmon to pass through the weir and continue upstream past the fish ladder entrance.) In years where extensive damage has occurred, flow reductions of approximately five to nine days have been necessary to repair the weir. There are also annual operational and maintenance problems with the weir that could jeopardize adult fish collection and Reclamation's ability to meet its mitigation obligations. Installing and maintaining the weir require lowering river flows to levels that negatively affect steelhead, a protected species under the federal Endangered Species Act (ESA) and California Endangered Species Act. Extended periods of flow reduction negatively impact the availability of steelhead habitat in the river, which reduces the amount of cover from predators and increases fish densities in the remaining habitat, thus increasing the potential for predation and for disease to spread. Lowering flows can also degrade habitat by raising temperatures and decreasing dissolved oxygen levels (National Marine Fisheries Service [NMFS] 2009). In addition, the weir racks and pickets cannot handle flows over 5,000 cubic feet per second and sometimes require removal before sufficient numbers of adult fall-run Chinook salmon can be collected. Worker safety during installation and removal and routine cleaning is also a primary concern.

The most recent flood to significantly damage the weir foundation and river embankment next to the Hatchery occurred in January 1997. Reclamation consulted with the NMFS on potential impacts of the repair project, including continued weir repair and associated flow reductions on federally protected fish. The NMFS recommended that “. . . Reclamation and CDFG develop a long-term solution and a schedule for implementation to minimize flow fluctuations associated with the installation and removal of the Nimbus Fish Hatchery fish diversion weir racks and pickets by June 2000” (NMFS 1999).

Reclamation's efforts to find a lasting solution to problems with the weir began in the early 1990s. In 1996, Reclamation completed a concept study that described alternative designs for correcting the design deficiencies of the weir (Reclamation 1996). Subsequently, attention focused on repairing the damage to the weir foundation from a significant flood in 1997. On completion of the repair project in 1999, Reclamation convened an interagency interdisciplinary workshop to further develop the best ways of resolving the problem (Reclamation 1999). Participants in this value analysis workshop considered the following potential solutions:

- Replace the weir foundation and use the existing fish screen assembly;
- Replace the weir with a solid foundation and a downward sloping bar rack on the downstream surface;
- Collect fish near the tailrace (power plant water channel) of Nimbus Dam and truck them to the Hatchery; and
- Collect fish near the tailrace of Nimbus Dam and transport them to the Hatchery via a sluice (water channel).

Those participating in the concept study and the value analysis workshop did not consider the passage of juvenile salmonids. At the time, spawning and rearing habitat upstream of the weir were considered minimal, and the selection of an alternative that replaced the structure was expected to meet the need to maintain a functional Hatchery. Reclamation advanced a design that replaced the diversion weir with a similar in-river structure immediately upstream of the weir. However, toward the end of the design process, steelhead were formally listed as a threatened species under the ESA. In accordance with its obligations under the ESA, Reclamation initiated informal consultation with the NMFS on the replacement weir design. The NMFS requested that the weir design provide passage upstream of the weir to accommodate the threatened Central Valley evolutionary significant unit of West Coast steelhead. Several design modifications were made to accommodate juvenile steelhead passage but were expected to have limited utility, given that the then preferred alternative, a replacement weir, was designed to block fish.

Consequently, Reclamation revisited concepts for diverting salmon into the Hatchery and requested that the California Department of Water Resources (DWR) Fish Passage Improvement Program provide review and comment on Reclamation's replacement weir design. The DWR suggested extending the fish ladder to the stilling basin downstream of the Nimbus Dam and using the dam as the diversion weir to direct salmon into the ladder. This suggestion was similar to two recommendations in the concept study, except that it used a fish ladder to transport the fish to the Hatchery, rather than using trucks or a sluiceway. After reviewing this alternative, Reclamation prepared a conceptual design for a fish ladder from the Hatchery to the south side of the Nimbus Dam stilling basin, in the Nimbus Shoals area. This design is represented in the EIS/EIR as Alternative 1.

Reclamation also continued to advance a design for a replacement weir, which is represented in the EIS/EIR as Alternative 2.

Reclamation addressed alternative solutions to the problems with the weir in a series of planning studies between 1996 and 2003. In December 2003 Reclamation held two public meetings in Rancho Cordova to document questions from the community, to identify issues and concerns, and to solicit suggestions on the weir replacement.

In 2006, Reclamation convened a Project Alternatives Solutions Study to assist in refining alternatives. The workshops included input from the USFWS, the NMFS, the CDFG, and the California Department of Parks and Recreation.

Reclamation prepared an administrative draft environmental assessment in 2006, which never reached the public draft stage. The administrative draft environmental assessment contained an extended fish ladder alternative, a weir replacement alternative, and a no action alternative. Due to public and agency interest in the project, potential changes to CDFG fishing regulations, and the need for further analysis of potential project impacts, Reclamation decided to begin the EIS/EIR process.

Reclamation formally announced the EIS/EIR process with the publication of the notice of intent (NOI) in the *Federal Register* on April 7, 2009, and the CDFG announced the release of the notice of preparation (NOP) on April 9, 2009. During the scoping period, the lead agencies hosted two public scoping meetings to share information about the project alternatives and to obtain input from the community. On October 1, 2010, Reclamation and the CDFG announced the availability of the draft EIS/EIR for formal public review. Open house sessions were held to obtain further public input on the project alternatives that had been developed and the analysis in the draft EIS/EIR. The final EIS/EIR was published in August 2011. In addition to evaluating the weir replacement alternatives, the EIS/EIR evaluated the effects of interrelated actions pertaining to fishing regulations and public access to Nimbus Shoals.

The Nimbus Fish Hatchery is in the lower American River corridor, in a major metropolitan area. The American River Parkway and its associated biking and hiking trails lie next to the Hatchery and continue upstream and downstream. The Lake Natoma State Recreation Area and the California State University Sacramento Aquatic Center lie immediately upstream. The Hatchery itself and the visitor center are attractions that provide interpretive opportunities for school children and other visitors.

The lower American River is open to fishing year-round from Nimbus Dam to the Hazel Avenue Bridge, in accordance with Title 14 CCR, Section 7.50(b)(5)(A). The river is open to fishing from January 1 to September 14 from the Hazel Avenue Bridge to the Fair Oaks USGS gaging station cable crossing, which is approximately 900 feet downstream of the weir. It is closed during spawning season from September 15 to December 31, in accordance with Title 14 CCR, 7.50(b)(5)(B). Downstream of the project area, the river is open to fishing from January 1 to October 31, from the USGS gaging station cable to the Sacramento Municipal Utility District power line crossing at



the southwest boundary of Ancil Hoffman Park (CDFG 2008). (Note: Fishing closures reported in the EIS/EIR are for 2010. Because these regulations are subject to annual review and modification, if warranted, fishing regulations at the time of publication of the final EIS/EIR may differ from those presented in the final EIS/EIR.)

The CDFG maintains native fish, wildlife, plant species, and natural communities for their intrinsic and ecological value and benefits. This includes protecting and maintaining habitat to ensure the survival of all species and natural communities. The CDFG is also responsible for the diversified use of fish and wildlife, including recreational, commercial, scientific, and educational uses. In consideration of the alternatives proposed by Reclamation to address problems with the weir and in order to fulfill its mission, the CDFG must continue to regulate fishing in a manner that adequately protects Chinook salmon and Central Valley steelhead trout in the project vicinity. Two implementation options for Alternative 1—Alternative 1A and Alternative 1C—were evaluated in the EIS/EIR because the CDFG is considering modifying fishing closure regulations in the project area.

The area between Hazel Avenue Bridge, which crosses the river just east of the Hatchery, and Nimbus Dam is known as Nimbus Shoals. The public has full access to Nimbus Shoals from 6:00 AM to 9:00 PM during the summer and from 7:00 AM to 7:00 PM during the winter. The area is heavily used by anglers, and vehicles are not restricted in the shoals area. Some boats are illegally launched in this area, and recreational use of Nimbus Shoals contributes to surface water quality degradation, due to lead sinkers, erosion, and vehicle fluids. Other issues associated with visitor use of the shoals are poaching, trash accumulation, vandalism, and vehicle break-ins. Operation and maintenance at the shoals are minimal and are primarily to remove trash and to maintain portable toilets.

In addition to the diversion weir replacement alternatives, the EIS/EIR analyzed three alternatives to current public access at the programmatic level; the alternatives were developed and analyzed to address concerns with visitor use of Nimbus Shoals and anticipated changes in visitor use with implementation of the weir replacement alternatives.

### **3. Alternatives Considered**

Two approaches to meet the purpose and need for the project are evaluated in the EIS/EIR: modifying the fish passageway by extending the ladder to Nimbus Dam and removing the diversion weir structure (Alternative 1) and replacing the weir structure (Alternative 2).

Alternative 1 involves the construction of a fish passageway from the Hatchery to the stilling basin downstream of Nimbus Dam and removing the diversion weir. Nimbus

Dam would function as the upstream barrier to fish migration. Two implementation options for Alternative 1—Alternative 1A and Alternative 1C—were evaluated because the CDFG is considering modifying fishing closure regulations. Alternative 1A is consistent with current fishing regulations for the American River and would not require any change in these regulations. Under Alternative 1A, fishing closures would apply all year within a radius of 250 feet of the modified fish passageway entrance and the existing Hatchery fishway outfall. Under Alternative 1C, an amendment to the current fishing regulation would be implemented to close fishing year-round between Nimbus Dam and the USGS gaging station cable crossing. Alternative 1C, the preferred alternative, requires a modification of fishing regulations to be approved by the Fish and Game Commission. The Commission must consider and adopt new regulations or changes to existing regulations at no fewer than three meetings annually (Fish and Game Code, Section 204, et seq.). Providing protection through a regulatory change is outside Reclamation’s authority, so its decision is limited to implementing the fish ladder alternative and related visitor management.

Alternative 2 involves replacing the weir with a new weir immediately upstream. This alternative would add additional entrances to the fish ladder but calls for continuing to use most of the ladder. The structure would prevent adult fish from bypassing the weir and continuing upstream. The structure would be permanent, would not require annual installation or flow reductions, and would include a six-bay bypass to allow maintenance without reducing river flows. Fishing closures within 250 feet of the fish ladder entrance and outfall would remain in effect.

Under the No Action Alternative, the diversion weir would continue to be used. Regular and extraordinary repairs to the weir foundation and piers, requiring construction and in-river work, would be expected in years following significant floods. The weir would continue to degrade, and flow reduction would continue to be required annually to install, maintain, and remove the weir.

Also analyzed under Alternatives 1A, 1C, and 2 were three visitor management options for Nimbus Shoals: 1) public vehicle access with defined parking, 2) walk-in only (no public vehicle) access, and 3) no public access. Administrative access for such purposes as operations and maintenance, patrolling, and law enforcement would continue under all three options. A visitor use management team, including representatives of appropriate agencies, would be designated to implement the selected option and long-term management of visitors at Nimbus Shoals. The management team may include representatives of the CDFG, California Department of Parks and Recreation, Reclamation, and other agencies or entities not specifically mentioned here.

Alternative 1C was identified in the final EIS/EIR as the preferred alternative. Reclamation intends to implement Alternative 1, which would involve constructing a new fish passageway and removing the diversion weir. In conjunction with the new fish passageway, Reclamation intends to implement new visitor management guidance at Nimbus Shoals, specifically public vehicle access with defined parking. In response to Reclamation’s proposed action of constructing a new fish passageway and removing the

diversion weir, the CDFG intends to recommend to the California Fish and Game Commission year-round closure of fishing in the area that extends from Nimbus Dam to the Fair Oaks USGS gaging station cable just downstream of the Hatchery. Because replacing the diversion weir and managing visitor use of Nimbus Shoals are outside the CDFG's authority, its decision is limited to implementing the fish closure modification.

## 4. Findings Under CEQA

Public Resources Code section 21002 provides that “public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such project.” Section 21002 further states that the procedures required by CEQA “are intended to assist public agencies in systematically identifying both the significant effects of proposed projects and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects.” Section 21002 also states that, “in the event specific economic, social, or other conditions make infeasible such project alternatives or such mitigation measures, individual projects may be approved in spite of one or more significant effects thereof.”

CEQA, PRC Section 21000 et seq., requires a lead agency to make written findings of project effects whenever the lead agency decides to approve a project for which an EIR has been certified (PRC Section 21081). Regarding these findings, Section 15091 of the State CEQA Guidelines (CCR Title 14) states, in part:

(a) No public agency shall approve or carry out a project for which an EIR has been certified which identifies one or more significant environmental effects of the project unless the public agency makes one or more written findings for each of those significant effects, accompanied by a brief explanation of the rationale for each finding. The possible findings are:

(1) Changes or alterations have been required in, or incorporated into, the project, which avoid or substantially lessen the significant environmental effect as identified in the final EIR.

(2) Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.

(3) Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the final EIR.

The “changes or alterations” referred to in the CEQA Guidelines may be mitigation measures, alternatives to the project, or changes to the project by the project proponent. CEQA requires that the lead agency adopt mitigation measures or alternatives, where feasible, to substantially lessen or avoid significant environmental impacts that would otherwise occur. Reclamation made multiple environmental commitments during the project planning and design stages to reduce adverse effects from the proposed action on air quality, biological resources and fisheries, geology and soils, noise, visual resources, and water resources. These measures are incorporated into the project description, along with industry-standard best management practices, which would be used to reduce potential impacts during construction and demolition. Mitigation measures were identified in the final EIS/EIR to reduce impacts on fisheries, biological resources, recreation, and cultural resources from construction of the fish ladder and removal of the diversion weir. None of the mitigation measures identified in the EIS/EIR are for actions within the CDFG’s decision making authority, and Reclamation would be responsible for implementing these measures.

Section 15092 of the CEQA Guidelines states that after consideration of an EIR, and in conjunction with the Section 15091 findings identified above, the lead agency may decide whether or how to approve or carry out the project. The lead agency may approve a project with unavoidable adverse environmental effects only when specific economic, legal, social, technological, or other considerations outweigh those effects. Section 15093 requires the lead agency to document and substantiate any such determination in a “statement of overriding considerations” as a part of the record.

These findings do not attempt to describe the full analysis of each environmental impact contained in the EIS/EIR. A full explanation of these environmental findings and conclusions can be found in the EIS/EIR, and these findings hereby incorporate by reference the discussion and analysis in the EIS/EIR and the record as a whole supporting the CDFG’s determinations regarding the impacts of the project.

The documents and other materials constitute the record on which the CDFG based its decision, and these findings can be reviewed at the agency’s North Central Region Office, 1701 Nimbus Road, Rancho Cordova, California 95670.

For all impacts identified as less than significant in the EIS/EIR, the CDFG hereby confirms the less than significant impact determination, based on the evidence and analysis provided in the record.

The EIS/EIR identified significant impacts on fisheries, cultural resources, and noise that may be caused in whole or in part by the project.

### ***Impacts on Fisheries***

Removing the weir would allow all spawning fish to enter the Nimbus Dam stilling basin, instead of being directed into the Hatchery at the weir. With the increase in fish densities in the stilling basin, angler success rates are expected to increase, along with the number of anglers using the area, resulting in increased sportfishing pressures on Chinook salmon

and steelhead in the area. Chinook salmon and steelhead are protected under both the federal and state ESAs, so a significant adverse effect could occur under Alternative 1A. This is because these protected species would be highly vulnerable to sport fishing harvest under the existing fishing regulations, especially during spawning time in the area of the stilling basin.

Findings: With respect to the above-identified impact, the CDFG hereby makes findings (a)(1) and (a)(2), as stated in the State CEQA Guidelines Section 15091 and as required by PRC Section 21081.

Facts Supporting the Findings:

- The decision to construct a new fish ladder and remove the diversion weir is outside the CDFG's authority.
- The CDFG intends to recommend to the California Fish and Game Commission year-round closure of fishing in the area that extends from Nimbus Dam to the Fair Oaks USGS gaging station cable just downstream of the Hatchery. Eliminating fishing in the area under Alternative 1C would protect sensitive fish species at critical life stages, likely increasing the number of fish that rear and spawn in the stilling basin. This would reduce impacts from sportfishing harvest to less than significant. While no fishing would be legal in the project area, some illegal fishing or harvesting could still occur, so there would be some adverse impacts on the fish species in these areas, but those impacts would likely be less than significant.
- As stated as a mitigation measure in the EIS/EIR, if the State Fish and Game Commission does not close year-round fishing from Nimbus Dam to the USGS Fair Oaks gaging station cable downstream of the Hatchery, Reclamation would restrict visitor access to Nimbus Shoals to avoid significant impacts on fishery resources. These restrictions may involve full-time or seasonal closures of Nimbus Shoals to the public or to public vehicle access.

***Impacts on Cultural Resources***

Under Alternatives 1A and 1C, there is a potential to significantly impact unrecorded or subsurface archaeological resources in the direct impact zones of the flume, ladder, rock channel, auxiliary water supply pipes, and construction access pathways and staging area on Nimbus Shoals. Mitigation would be implemented to reduce impacts due to unanticipated discoveries to less than significant.

Findings: With respect to the above-identified impact, the CDFG hereby makes finding (a)(1) and (a)(2), as stated in the State CEQA Guidelines Section 15091 and as required by PRC Section 21081.

Facts Supporting the Findings:

- The decision to construct a new fish ladder and to remove the diversion weir is outside the CDFG's authority.

- As stated as a mitigation measure in the EIS/EIR, to avoid impacts on unanticipated archaeological resources, all work within the vicinity of any potential archaeological finds would be halted until a Reclamation archaeologist could assess the find. Work would not recommence until the requirements of Section 106 (36 CFR, Part 800.13) regarding unanticipated discoveries have been met.

***Impacts on Noise***

Reclamation’s replacement of the diversion weir is anticipated to result in unmitigable significant adverse impacts on noise during construction. Significant noise impacts would occur from construction equipment operating in the riverbed when the weir is removed. It is not practical to provide noise shielding for equipment operating in the riverbed, so there are no practical noise mitigation measures that could be implemented. The construction noise impacts would be temporary. Construction would not generate significant noise during evening or nighttime hours because it would be limited to normal daytime work hours. Cumulative effects are expected to be significant for noise due to the impact of project construction overlapping with other construction activities in the area.

Findings: With respect to the above-identified impact, the CDFG hereby makes finding (a)(2), as stated in the State CEQA Guidelines Section 15091 and as required by PRC Section 21081.

Facts Supporting the Findings:

- The decision to construct a new fish ladder and to remove the diversion weir is outside the CDFG’s authority.
- While the preparers of the EIS/EIR concluded that the significant impacts on noise cannot be mitigated to less than significant, the EIS/EIR identifies measures that Reclamation would implement to reduce noise impacts from construction.

## **5. Statement of Overriding Considerations**

CEQA prohibits an agency from approving a project that will have significant, unavoidable environmental impacts unless the agency adopts a statement describing the specific benefits of the project that will outweigh its expected unavoidable impacts. If the project’s specific economic, legal, social, technological, or other benefits outweigh the unavoidable adverse environmental effects, those effects may be considered acceptable, notwithstanding the fact that they cannot be avoided. This Statement of Overriding Considerations must be supported by substantial evidence (CEQA Guidelines Section 15093).

The CDFG recognizes that the project would have significant, unavoidable noise impacts, as addressed in the EIS/EIR; however, the decision to remove the diversion weir, which

would result in this impact, is outside the CDFG's authority. The CDFG's decision is limited to implementing the fish closure modification, which would mitigate significant impacts on fisheries from sportfishing harvest that would result from removing the diversion weir and constructing a fish ladder under existing fishing regulations.

Although unavoidable significant effects on noise will result from decisions outside the CDFG's authority, the CDFG finds these impacts are outweighed by the benefits offered by the project, specifically that it would provide the following benefits:

- Eliminating fishing in the area would protect sensitive fish species at critical life stages, likely increasing the number of fish that rear and spawn in the stilling basin. By increasing the overall abundance of fish in the area, the Hatchery would be more likely to meet its production goals, which would be a beneficial impact. Eliminating fishing from Nimbus Dam downstream to the USGS gaging cable would also have the beneficial impact of helping to limit anglers spreading the New Zealand mudsnail (*Potamopyrgus antipodarum*).
- Degradation of natural resources that occurs from recreational use of Nimbus Shoals would be reduced through the CDFG's closure of the area to fishing and Reclamation's visitor management guidance.
- Removing the weir and operating the new fish passageway would have a beneficial impact on all fish species in the lower American River by eliminating the need to reduce the river flow during weir installation and repair, which can adversely impact fisheries.
- Placing a viewing plaza at the Hatchery would enhance viewing opportunities and would allow for greater interpretive opportunities.
- Although the project would result in fewer fishing opportunities in the project area, it would indirectly result in beneficial impacts on this recreation resource by increasing the overall abundance of fish in the area. This would likely create better sportfishing opportunities in the lower American River.
- Risks associated with installing, removing, and maintaining the weir would be eliminated once the weir is removed. Although some risk of accidents would remain for persons conducting maintenance on the fish passageway, the overall impact on worker safety would be beneficial because it would not involve in-river work.
- The project would have beneficial impacts on energy production, a gain of 3,723 megawatt-hours per year, valued at \$186,150 per year.
- Removing the weir would be beneficial to visual and aesthetic resources because the weir compromises the visual character of the American River. Its removal would aesthetically enhance the view of the river.
- During construction, the project would result in a marginal increase in employment. Potential spending by construction employees in the project area could result in a short-term, localized, beneficial economic stimulus over the construction period.

## 6. References

- CDFG (California Department of Fish and Game). 2008. Freshwater Sport Fishing Regulations 2008-2009.
- NMFS (National Marine Fisheries Service). 1999. Biological and Conference Opinion Letter from NMFS to Reclamation, September 17, 1999.
- Reclamation (US Department of the Interior, Bureau of Reclamation). 1996. Nimbus Fish Hatchery Fish Rack Structure Modifications Concept Study. Sacramento, California. October 21, 1996.
- \_\_\_\_\_. 1999. Fish Diversion Investigation Nimbus Fish Hatchery Value Analysis Workshop Report. Sacramento, California.