APPENDIX A
SUMMARY OF PREVIOUS PUBLIC MEETINGS

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Nimbus Hatchery Weir Replacement Project

Summary of Discussion Forums

DRAFT

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Prepared for:

Bureau of Reclamation

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MIG, Inc.

Introduction

During the first week of December 2003, the Bureau of Reclamation held two discussion forum meetings at the CSUS Aquatic Center in Rancho Cordova, California. The meetings were held to inform and obtain input from the community about the Bureau of Reclamation's Nimbus Hatchery Weir Replacement Project. Approximately 85 community members attended one of the two meetings below held on December 3rd and 4th respectively.

Discussion Forum Background and Purpose

The Bureau conducted the discussion forums as part of an intensive outreach process in the winter of 2003. The purpose of this public involvement effort is to document questions from the community, identify issues & concerns, and solicit suggestions as key inputs to be considered as the Bureau determines a plan for replacing the weir. The final decision regarding replacement of the weir will take place in spring of 2004. The Bureau's final proposed plan will build in the community's feedback to help create a comprehensive proposal. The Bureau will also continually check back with the public during the planning and implementation process.

Discussion Forum Overview

Both of the discussion forums were convened by the Bureau of Reclamation, with assistance from consultants from EDAW and MIG, Inc. The first item on the agenda was a background presentation, which was followed by a brief group discussion. An open house discussion followed group discussion. The four open house stations were focused around the following specific topics:

- Project Overview
- Construction Activities
- Fishing Activities
- Other Planning Efforts

Dave Robinson, Project Manager for the Bureau of Reclamation, provided participants with an overview of the weir's history and the proposed design alternatives for the replacement structure. He began with a presentation about the weir's history, current design faults, and new requirements that the Bureau must achieve. Mr. Robinson presented background information on the two main design alternatives. This information helped to provide participants with a context for the group discussions and open house that followed the overview presentation.

All comments received during each of the discussion forums were recorded on flip charts by Bureau of Reclamation, EDAW, and MIG staff for subsequent review and analysis. The

following pages contain a summary of all participants' comments received during the discussion forum. Additional comments that were received after the discussion forums were also collected and are included in the report as Appendix A, B and C.

Report Organization

This summary is organized into the following sections:

- Introduction
- Summary of Issues
- Discussion of Alternatives
- Appendix A: Comment Sheet Transcriptions
- Appendix B: E-mailed Comments

Summary of Issues

This section presents a summary of the key issues discussed at the workshops:

- Fish Habitat and Spawning
- Fishing Access/Regulations
- White Water Course Issues
- Recreation and Other Access
- Construction
- Costs
- Ongoing Operations and Maintenance Requirements
- Water Flows
- General Project Issues

Fish Habitat and Spawning

Participants emphasized the importance of choosing the alternative that best supports salmon and steelhead spawning. There was strong interest in preserving and enhancing spawning grounds. Specific comments included:

- Implement the alternative that has an efficiency of harvest advantage that would provide a fishery benefit.
- Identify and spawn spring run salmon and expand the hatchery operations to include taking early season runs of salmon.
- Use the project to experiment with fish habitat enhancements, including enhancing Steelhead spawning habitat along the shoal area.
- Maintain cold-water temperatures for spawning.
- Consider options for allowing the salmon to go around the dam and further upstream to access more of their original habitat. This would address the original purpose of the hatchery, which was to mitigate for the loss of salmon and steelhead habitat.
- Enforce the current snagging restrictions and minimize poaching as much as possible.
- Make the area upstream of the hatchery only available for catch and release fishing.

Fishing Access/Regulations

Many workshop participants fish in the project area. They expressed concern about the potential loss of access to fishing that might occur under either alternative. There is a perception that access has been reduced by previous actions on other parts of the American River, which would increase the impact of any loss of access associated with this project.

Alternative 1 Shoal Access. Participants' primary concern is that Alternative 1 (the extended fish ladder) would reduce access to the shoals and result in the enlargement of areas closed by Department of Fish and Game (DFG) regulations. Participants want greater information on how the fishing regulations would change if Alternative 1 were adopted. A concern is that DFG might change regulations in the future to restrict fishing to the area below the USGS cable.

Impacts on Areas Below the Weir. There was also a concern expressed that removing the in-stream structure would result in fewer fish being re-directed to downstream fishing areas. Participants requested that the potential reduction in fishing opportunities at Sailor Bar and the other shoal areas further downstream under Alternative 1 be addressed.

Alternative 2 Impacts on Areas Above the Weir. Some concern was expressed that Alternative 2 would create an impassable barrier and prevent all fish from passing upstream during some times of the year. This was seen as reducing fishing opportunities since the current weir has gaps, which allow some fish to pass upstream. Participants suggested that a replacement weir include methods to allow upstream passage of fish, including juvenile steelhead that would then spawn in the shoals.

Fishing Access for People with Mobility Impairment. There was a desire to preserve access for fishing for people with disabilities.

White Water Course Issues

Many workshop participants were advocates of developing a white water course in the project area. They requested that the project not preclude the development of such a white water course. These participants referenced a previous effort to develop a world-class white water facility. They cited the popularity of white water sports, the potential economic benefits to the area of a course, and the potential for a course to attract visitors to the area. These participants sought to have the economic and social impacts of whitewater recreation considered in the environmental assessment.

The whitewater course advocates also requested that boating safety be considered in the project decision. They asked that the old weir be removed in a way that eliminates any hazards to boating if Alternative 1 is chosen. They also felt that the low head dam in Alternative 2 would also create a hazard to boating.

Participants requested development of play feature in the old weir's location if it is removed. They suggested development of a natural play area using rocks, similar to San Juan rapids.

Recreation and Other Access

Many participants wanted to preserve access to safe recreational and other uses in the project area. Concerns were raised about a) access to the Hatchery, b) access to the multi-use trail, c) access to sufficient parking, and d) continued provision of free parking.

Multiple Uses Under Hazel Avenue Bridge. A specific concern was that Alternative 1 would

require careful planning to avoid unsafe conditions under the Hazel Avenue Bridge. The concern was that the area under the bridge is narrow and having a fish way, a multi-use trail, and pedestrians viewing the fish ladder could be unsafe, especially for small children who are not as attentive as adults.

Connection between Trail and Hatchery. A suggestion was made to create a walking path, on west side of Hazel Avenue at elevation of the ladder to connect the bike trail and the north side of the hatchery.

Community Uses/Collaboration. Participants felt that recreation uses could be enhanced, especially with the extended fish ladder. A suggestion was to coordinate the development of Alternative 1 with the City of Rancho Cordova to identify recreational or educational elements that would benefit the community.

Construction

Participants identified several issues regarding construction.

Minimizing Negative Impacts on Homes. A goal expressed by participants is to minimize the affect of construction on nearby homes. Participants asked how the Classics I development adjacent to the Bureau of Reclamation's 19-acre site would be affected by fencing, dust noise, and lighting. A specific question was to determine the time the construction area would be lighted. In general, participants sought a comparison of impacts between the alternatives.

Construction Timing. Participants sought information on the difference in construction times between the alternatives, for example, the time of day and the time of year impacts would occur. Participants expressed a concern that the project schedule would be lengthened, and requested the development of a realistic final schedule.

Use of Staging and Borrow Areas. Participants asked for more information on the length of time the borrow area would be used, and the location of the staging areas. They expressed a desire to see the 19-acre site developed as a park-type area after its use in the project.

Security. Participants wanted to ensure that construction areas are fenced off and guarded by security staff.

Coordination with Other Construction. Participants felt it important to maximize construction safety by building the footers for the Hazel Avenue foot bride project before constructing Alternative 1. In general, it was recommended that construction be scheduled to coincide with the Hazel Avenue widening project. An opinion was expressed that the Bureau should choose the design that conflicts the least with the Hazel Avenue bridge enlargement and new bike bridge crossing.

Shoal Access. Participants asked if there would be access to the shoals during construction for fishing and access to the bike path.

Costs

Several workshop participants asked for information on the initial and operating costs. They sought to compare these costs for the four alternatives.

Ongoing Operations and Maintenance Requirements

Participants felt that the approach used in ongoing management was an important factor in selecting a preferred alternative. Participants felt that the extended fish ladder alternative might present a significant security issue. For example, there would need to be safeguards against poaching when fish are in the ladder. Some security options, such as fencing, might be visually unappealing and diminish enjoyment of the site as a park with a natural, open space feel. Participants also asked for information on how other unwanted uses of the ladder would be discouraged, for example, graffiti or loitering in the channel when it is not being used to direct fish to the hatchery. Participants did not mention potential maintenance issues for alternative 2 as frequently, though one participant suggested the use of a rotating device to clear debris from a new weir.

Water Flows

Participants asked for further clarification of the minimum flows needed for fish spawning, a white water course, and joint uses, and whether the alternatives could support these requirements. Specifically, information was sought on the economic and environmental impacts of these water allocations, including the impacts of high flow regulations on the proposed alternatives. Participants sought information on whether high flows are beneficial to maintenance of spawning habit by reduction of siltificaion in the channel.

General Project Issues

Several general comments were made:

- Share all comments submitted throughout the process, especially comments made by other agencies to the Bureau of Reclamation.
- Determine the likelihood that there will be a delay to the construction process due to the need that a full EIS will need to be completed.

Discussion of Alternatives

This section presents a summary of participant comments regarding the project alternatives under study. As the comments below indicate, stakeholder opinions are mixed with regard to the two "build" alternatives, with people supporting both Alternative 1 and Alternative 2. There are also members of the public and stakeholders who support the "no build" alternative. (Appendix B includes emails that demonstrate this diversity of opinion and connect stakeholders to their positions.)

- Alternative 1: Building across Nimbus Shoals to bring fish to the hatchery.
- Alternative 2: Building a new weir in the river in approximately the same location as the existing weir.
- No-Build Alternative: Continuing to use and renovate the existing weir.

Alternative 1

Participants had mixed opinions regarding extending a fish ladder across the shoals. Some participants were very concerned about the potential of reduced access to fishing, while some supported a naturalized fish ladder as having aesthetic, spawning, and educational benefits.

Fishing and Recreational Access. As noted in the previous section, several participants fish in the area or use the multi-use trail and are concerned about continued access to these uses if an extended fish ladder is built. Participants requested that a clear description be provided of how access will be maintained. There is a strong concern that Alternative 1 will close too much of the river for fishing. A concern was that vehicle access to the shoals be maintained. A suggestion was to construct a walkway for recreational access to the shoals.

Safety. In addition to access, several comments addressed safety of fishers and recreational users. The concern was that the area under the Hazel Avenue Bridge is already narrow for pedestrians and bicyclists, and that adding a fish ladder will further constrict the space.

Maintenance. Participants asked for information on the methods to be used in keeping the fishing areas clean, suggested that the ladder would bring in more people and more trash.

Flood Risk. A request was to determine the potential likelihood that Alternative 1 will be flooded and wash out.

Aesthetic and Educational Benefits. Participants asked that the aesthetic benefits be documented, suggesting that the building of a natural channel will enhance the beauty of the area. Participants felt that the ladder could increase the visitation and public education possibilities at the hatchery. They suggested that interpretive displays be developed to support the hatchery's education programs, and a sub-surface viewing area be included.

Alternative 2

Participants made several comments regarding the option of developing a new weir in the river.

Impact on Fish. Participants asked how many salmon and steelhead would be able to pass upstream if the new weir is constructed. There was an interest in ensuring that some fish can swim upstream of the weir. To this end, a suggestion was to redesign the flow gates so the steelhead passage area is in the middle of the weir and not to the south side. There was a concern that, during the times when the upstream passage was closed, that there could be biological issues, such as overcrowding, disease transmission, and suffocation.

Safety. Participants wanted to ensure worker safety for operations and maintenance of the upstream replacement. Also, participants requested that the alternative address boater safety, given that the new weir would create a low head dam, which was seen as creating a hazard as significant as the existing weir.

Design. A participant asked whether new weir design had been tested in other places to prove its effectiveness. Other participants suggested that public access be allowed across the new weir, and that the new weir be placed at the same angle as the existing weir. An innovative suggestion was to develop a rotating weir with water flow or mechanical movements that would flush out debris.

Construction. Participants asked what potential disturbances might occur to the north side bank and slope, and what river flows would be during construction.

Project Purpose/No-Build

Some participants requested additional evidence and justification indicating that the old weir structure is beyond repair and needs to be replaced. They suggested consideration of the no build alternative. They believed periodic renovation and repair was viable and would have the fewest impacts and the lowest investment cost. Specific comments included:

- Consider the construction impacts of building. Bringing tractors and backhoes next to the river is a big risk to preserving the fish.
- The current weir design has allowed for juvenile fish passage, both steelhead and salmon due to its semi-porous condition. Occasional maintenance performed after high water events seems to have been very cost-effective.
- Compile historical costs of previous repairs and tabulated these for the EA to show accurate regarding direct expenditures that have achieved the status quo. Maintaining the current allows a lot salmon and steelhead to breed naturally river and in the hatchery; neither alternative would seem capable of achieving the same levels.

Appendix A: Comment Sheet Transcriptions

This appendix presents verbatim transcriptions of comment cards collected at the Discussion Forums.

Fisheries/Fishing

- Which alternative is best for the fish? Is there any difference?
- What is the impact of the type of structure in high flow regulation? Are high flow events beneficial to maintenance of spawning habit by reduction of siltificaion in the channel? What are the economic or environmental; impacts of these water allocations?
- Is there an efficiency of harvest advantage with any alternative that would provide a fishery benefit?
- Historical fishing access 365 days/year to mobility impaired. This should supercede other more recent demands. Will FREE parking be maintained for citizenry?
- I am in favor of including a white water course at Nimbus Fish hatchery. However, I wouldn't want to remove a fishermen's traditional place at the river so that boaters could hook a few ends. If issues of concern such as continual access to the "lower flat", yearlong fishing and the health of the fishery are maintained if even improved, then go ahead with the modified fish ladders project. P.S., What about just creating a play feature at the Old weirs?
- Recreation/fishing public access to flats downstream from Nimbus Dam?

White Water

- Remove weir – use rocks, etc to fashion a natural play area (similar to San Juan)
- Study and consider the economic and social impacts of whitewater recreation in EA.
- Remove hazards of weir and create a white water play area.
- Please consider future recreational white water options when completing this project.
- I actually relocated to Sacramento ~6 months ago specifically for the white water opportunities on the American River and surrounding areas.
- It seems that if replacing the existing structure is necessary, then diversion channel offers recreation the least amount of impact as well as opening opportunities to the community.
- Please replace the weir and create a white water course by removing the weir and creating the fish ladder. This way you will create and opportunity to create a white water park that will bring revenue and tourism to the area and open doors for further recreational and functional events? (ladder around nimbus dam if disease issues are dealt with).
- During the agency meeting construction of alternative 1C was proposed as a smaller fish channel at the bottom with a larger boating channel built over the fish channel. So that

initial construction of IC would need to be built for both fish and kayaks. This is different than what was said today, this IC would be built for fish only and changed later to permit kayaking. That is also highly inefficient construction planning.

- The White water course opportunity should be preserved with or without Olympic bids.
- White water play area
- Could a white water feature be created during the removal of the existing weir structure? The existing weir could be used to construct the feature.
- Building a white water course will bring people and money to this area. Rafting and kayaking could be a source of money to this region if supported by local government.
- Would like to see complete weir removal and addition of naturalized fish channel to facilitate more recreation for boaters. White water park would be extremely beneficial to Sacramento tourism as well. PLEASE CARRY OUR VOICES ON!!!

Construction Activities

- Alt. 1A, B, C would disturb a larger area than Alt. 2 (However it is not exactly a pristine area.)
- Building in the main channel far more impact than working on the shoals.
- What is the true footprint of the projects in both width and depth?

Alternative 1

- Go with fish ladder – 1A, B, or C.
- Alternatives 1 A & B sound best as long as environmental & recreational (whitewater course) considerations are considered.
- It is quite narrow underneath the Hazel Ave. bridge. To have a fish way, bicycle trail and pedestrians looking at fish all in the same narrow areas needs very special planning with good separation. Especially for small children who would not be as attentive as adults. Alt 1A, B, or C.
- Alternative A & B sound best – natural
- I am extremely interested in alternative 1A and 1B – as it allows for a naturalized whitewater course.
- I love Sacramento – because of our wonderful American River Parkway! I think the creation of a beautiful naturalized channel for a new fish ladder would make our river even better. The alternative 1C offers more potential for recreation and is therefore my preference. The existing weir pr a replacement are safety hazards and eyesores, so I would like support removal and no replacement of the weir. Thoughtful reclamation of that area of the river could add to the beauty and recreation of the whole area.
- I'd like the old weir to be removed: It seems cheaper, it seems easier, and a new weir will still be hazardous.
- Maintenance/Operation - Would Alt. A,B, or C require more ongoing costs than Alt. 2? Consider both flood releases and flushing flow releases.

Alternative 2

- Weir is best alternative. Options 1A-1B-1C close too much of the river.
- Alt.2 – Some fish could be released upstream of the weir both for fishery and so they can use the existing spawning areas between the weir and Nimbus Dam.
- Alt. 2: has this design been used well in other places or tested?
- Security Alt. 2 provides greater security with all facilities in a compact area. Under Alt. 1A, B, C much of fish way would be more remote. Could fish poaching out of the fish way and/or vandalism be of concern? Fencing both sides of the fish way would not be attractive.
- Employee Safety – any issues with Alt.2?
- Alternative #2 has the advantage of opening and closing the gate on a daily basis (as I understand it). So it would be possible to harvest an early run. It also keeps the river above the bridge open for fishing. I believe a spillway or something could be added for the juvenile steelhead to pass through.

No Action

- Need to consider rebuilding existing weir. Compare long-term maintenance costs.
- I think it is great to preserve and maintain the fish ecological habitat. I am concerned with the construction activities such as building the ladders/kayak facility/etc. Bringing tractors and backhoes next to the river is a big risk. Your chance to preserve the fish could be ruined by fixing something's that is not broken.
- The current weir design has allowed for juvenile fish passage, both steelhead and salmon due to its semi-porous condition. Occasional maintenance performed after high water events seem to have been very cost-effective.
- I oppose alternative 1A, 1B and 1C. I like the style of the existing weir and the location.
- The costs need to be compiled from historical repair episodes and tabulated for the EA to be accurate regarding direct expenditures that have achieved the status quo we now ENJOY. There's lots of salmon and steelhead breeding naturally in the weir, in the hatchery above the weir and below the river. It's hard to imagine any equal or better result by realizing alternative 1A, 1B, or 1C. It's hard to imagine and equal or better result by realizing Alternative 2, without making it a porous structure.

Other Planning Efforts

- White water course – That certainly has the potential to be a preemie adjacent to the CSUS Aquatic Center. Alts. 1A and B appear to pose a potential conflict.
- Hazel Ave. bridge enlargement and new bike bridge crossing. – If Alt 1 A, B, C is chosen the design to avoid a potential conflict.
- Public visitation and education at hatchery. Alt. 2 keeps all parts of the picture in one compact area. Better for school groups.
- Work with Sacramento county: DERA of Planning & Parks if borrowing fill material in

the bureau's 19 acres.

General

- Believe it is not a FONSI issue – request EA at very least
- What are the minimum flows (CFS) for fish vs. kayaking? Kayak course vs. joint course?
- Eliminate the weir and put in a more permanent structure. Go with alternative 1C or alternative 2.
- Remove the old weir

Appendix B: E-mailed Comments

This appendix presents email messages sent to the Bureau after the December meetings.

David C. Ford - Northern California Council, Federation of Fly Fishers

This is to provide the Northern California Council, Federation of Fly Fishers, input on the subject project. We are an organization of 27 fly fishing clubs and 800 individual members and are vitally interested in steelhead in the American River. The American is close to the major urban centers of northern California and provides of sports fishing opportunities for a substantial portion of the Northern California population.

Accordingly, we are pleased that a key reason for the s project is to provide more spawning and rearing habitat for steelhead.

We believe the most effective alternative is Alternative 1.a, the southernmost route for the fish ladder. This will open more fishing area below the hatchery and also increase the area where fishing is closed, thereby protecting steelhead habitat. The area involved has been identified as good habitat for juvenile steelhead, badly needed on the American. We also feel that measures to enhance steelhead spawning, such as adding gravel and boulders similar to what has recently been accomplished on the Mokelumne River, should be part of the project.

Thanks for allowing us to comment.

Bill Felts - California Fly Fishers Unlimited

I am writing on behalf of the 220 members California Fly Fishers Unlimited Club to support the selection of Alternative 1A for the replacement of the Nimbus Fish Weir Project. I attended the recent BOR meeting at Lake Natoma, and from that meeting I am convinced that this alternative is in the best interest of the long term health of the steelhead and salmon in the American River. It will protect the fishery habitat near the Dam, and the fish ladder will provide interpretative and educational benefits for the public.

Thank you for your consideration of this comment.

Joseph Merz

Thanks for the update on the Nimbus Ladder project. It sounds like a great idea. I have several suggestions. Please take into account that I have not seen the full plans so I may be missing a little of the information.

1) The idea of a natural channel is excellent. However, if the channel needs concrete and riprap, it may be better to make a more permanent and engineered structure completely out of the potential spawning habitat that is already there. The reason I am saying this is that you will be trying to get a channel flowing the opposite direction of the river. During very high flow situations, the potential for the partially "natural" channel to blow out during the steelhead run would be quite high.

2) Secondly, if any concrete or permanent structure is needed, it would displace potential spawning habitat in that area.

3) I recommend that you get the new hatchery ladder or channel out of the river channel completely. Then, groom and maintain the gravel upstream to maximize more "naturalized" spawning and rearing habitat.

4) I could see making some type of "natural" channel that the fish could use to access the hatchery or spawn in but if it blew out in high flows, it would affectively disconnect the river form the hatchery. If flows were too high to get in to fix, hatchery production would be cut off until maintenance could be done. If flows were low enough to get in with heavy equipment, the work would potentially damage any redds that had been built in the area.

5) I also recommend that if you don't already have a geomorphologist on board to assess sediment mobilization, sediment budgets and hydrology of the area, you get at least one on board as soon as possible. Kris Vyverberg of the California Department of Fish and Game is already performing gravel enhancement projects in the lower American River for salmon and steelhead. She would be very helpful. Also, Greg Pasternack, from UCDavis has been doing some really good modeling of spawning gravel for us and on several rivers up north. He would also be good to talk to.

Please keep me updated on what is happening. I would really like to look at the feasibility of this for the lower Mokelumne River.

Mr. William Back - California Inland Fisheries Foundation, Inc.

Overall Project: Current weir and ladder system have worked well for almost 50 yrs. Once weir is in, only smaller salmon are able to pass. Holes shown on presentation are downstream from weir. Photos appear to be prior to 1999 restoration. I don't feel the proposed project should be completed. If reaching mitigation goals are truly the mission, money would be better spent enhancing the hatchery itself to include additional raceways. Option 1 would lead to definite maintenance concerns due to high flows when gates are open.

Construction Activities: Spend tax dollars repairing existing weir!!

Fishing Opportunities: Far too many reductions in fishing areas have taken place in the past few years. The option 1 closure are far to restrictive. The arc itself is understandable and would have little impact fishermen using the area now. The straight lines are the areas that concern me. Thousands of anglers that use this area would no longer be able to, myself included. I fish the wall and have for the past 30 years. I know the wall area is a concern in the enforcement area but I feel this can be controlled with adequate warden pressure. A better option would be to put a zero limit in place during sensitive months. This should be put in place in the basin as well as other areas of the river. This would generate a considerable amount of revenue for the state which would pay for additional enforcement. I know many law-abiding anglers that would support this. I don't feel the public was properly notified of this meeting. I would urge another meeting with spots on the two local sports radio show and also a mailer to local fishermen using DFG mailing list.

Mr. Clifford Gormly - Kayaker

Overall Project: As a kayaker, I know that integrating a whit water kayak slalom facility as part of the fish weir replacement project would provide a tremendous recreation opportunity for kaykers nationwide, producing a great revenue generator for whomever would receive the proceeds.

Construction Activities: I am not an expert on the costs of the weir project, but it would appear that a well thought out naturalized fish channel may cost more to initially build, but the long-term recurring maintenance costs would be cheaper for a naturalized fish cannel than an instream diversion weir. As a logistics engineer, experience has proven to me that maintenance costs usually exceed acquisition/construction costs by a fair margin.

Mr. Donald W. Alden - Lake Natoma Rowing Association

Overall Project: Design, in vicinity of the proposed bicycle-pedestrian bridge over the American River, needs to be coordinated with the County Department of Public Works. Possibly the bridge footings may need to be constructed before the man-made "ladder" stream.

Other Planning Efforts: If white-water kayak course is build, parking facilities in this area may not be adequate. The present parking lot is some times insufficient for use by Aquatic Center, fishermen, and bike trail users.

Mr. Ronald S. Castori - Fishing Angler

Overall Project: I am an avid steelheader and have been fishing Nimbus basin/shoals for the last 25 years. I am in favor for alternative 2; keep the basin as in and replacing the old weir with a new one. I am against alternative 1A, 1B, & 1C. The steeled fishing that occurs at Nimbus basin shoals after the weir is removed each year is and can be great, and outstanding fishing. Some of my best fishing has occurred there. For this reason, I do not want to see any changes on restriction if fishing in the Nimbus basin.

The Olympic kayak watercourse proposed is ridiculous; there are many rivers close-by for their activities. Do not mess with an area (Nimbus basin/shoals) that offers great fishing and access to the public at no charge and easy access (even for people that have disabilities)

If any of alternatives 1A, 1B, 1C are selected (which I am totally against) is the intent to take both salmon and steelhead thru the new extensions or canals? Or is it conceivable that steelhead could be taken up the old ladder, since they don't need a weir to turn them.

If steelhead and salmon both will be taken only thru new ladder extensions, then Nimbus basin/shoal area will need to stay closed past the January 1st normal opening date by several months. If the old ladder can stay open for steelhead only, this extended closure would not be necessary. In conclusion, an alternative 2 is the best option that will not affect the fishing at Nimbus basin shoals. I am in favor of keeping things simple, and as they are as opposed to the changes proposed by alternatives 1A, 1B, 1C. I am opposed to any major change to Nimbus basin, because it can be one of the best places to fish on the American River at this time. "Leave it alone."

Mr. William H. Griffith - American Red Cross and California Canoe and Kayak

Past Sacramento County Park and Recreation Commissioner Retired Save American River Association Director 20 years

Overall Project: The old hatchery weir has been disintegrating for decades. I know because in the mid '60's I swam and crawled across the upstream face of the underwater footing and located numerous holes so DFG hatchery personnel could drop rocks from above to block those holes. Alternatives 1 A, B, and C would add about 1/3 mile of navigable waterway to the American River Parkway. Alternative C would allow the future development of a highly accessible and much needed and used white water canoe and kayak course.

Construction Activities: Alternative C will require borrow material. This would provide the opportunity to greatly enhance the borrow site to scenic wildlife habitat as mitigation.

Fishing Activities: Access to the added navigable 1/3 mile is essential for fishermen and fisherwomen visiting the banks prior to spawning closure. Also, this access is needed for car top boats (canoes and kayaks and rafts).

Other Planning Efforts: Lake Natoma presently provides internationally acclaimed rowing shell race water and highly used flat water (fundamental) canoe and kayak training sites. The lower American River provides excellent moving water training sites for canoes and kayaks. Alternative 1C and a future white water course would round out this area as an international attraction for rowers and paddlers.

Ms. Judy Reule - Classics No. 1 Housing Development

Additional Concerns: Residential units backing up to this area now enjoy relative solitude due to mounds of rock that will be removed for the project. Request that a heavy planting of screening shrubs and trees be considered for along this fence line when project complete.

Residential complex known as Classics No. 1 located on Gold County backs up to the area referred to as the "borrow" location. Concerns: (1) dust; (2) noise; (3) lights at night; (4) noise at night; (5) security.

Mr. Mark Rindal

Overall Project: The current system works well with quotas being met yearly. With no plans to increase yield, it seems the money can be better spent elsewhere. The Madd River Hatchery is closing because of no funds!

Fishing: If you can continue with plan 1, the only way to limit poaching and illegal activities would be to make the whole section above the cable to the hatchery. CATCH & RELESE ONLY. Then the fishermen can self-police.

APPENDIX B
SCOPING MEETINGS SUMMARY REPORT

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Nimbus Hatchery Fish Passage Project

Summary of EIS/EIR Public Scoping Meetings

April 30, 2009

June 22, 2009

Bureau of Reclamation

California Department of Fish and Game

Nimbus Hatchery Fish Passage Project

Summary of EIS/EIR Public Scoping Meetings

April 30, 2009

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Introduction

On April 30, 2009, the Bureau of Reclamation (Reclamation) and the California Department of Fish and Game (CDFG) held two public scoping meetings for the Nimbus Hatchery Fish Passage Project Environmental Impact Statement (EIS)/Environmental Impact Report (EIR). Reclamation is the lead federal agency for the EIS under the National Environmental Policy Act (NEPA); CDFG is the lead state agency for the EIR under the California Environmental Quality Act (CEQA). The meetings took place at the California State University, Sacramento (CSUS) Aquatic Center in Gold River from 1:00 PM to 3:00 PM and from 6:30 PM to 8:30 PM. The two meetings were held to share information with community members about the identified project alternatives and to obtain input from the community regarding the scope of the project EIS/EIR. A combined total of 30 community and agency staff members attended the two meetings. Several participants, including agency staff, attended both meetings.

Scoping Meeting Background and Purpose

In December 2003, Reclamation held two public scoping meetings as part of an environmental assessment for the then-named Nimbus Fish Hatchery Weir Replacement Project. Significant public input received from this outreach process indicated that Reclamation should proceed with an EIS/EIR to evaluate the environmental impact of project alternatives. The April 2009 scoping meetings initiated the EIS/EIR process and continue the environmental review process started in 2003. A graphic summarizing the project history and schedule is included as Appendix A of this document.

Scoping Meeting Overview

The two scoping meetings used the same format. David Robinson, Project Manager for Reclamation, provided an overview of the project purpose, project need, and the proposed alternatives. Joe Johnson, Project Manager for CDFG, discussed proposed changes to fishing regulations in relation to the project alternatives. Following the presentation, participants were given the opportunity to ask questions and comment on the project scope and proposed alternatives.

Also attending were additional staff from Reclamation, the Nimbus Fish Hatchery and interested agencies, including California's Department of Parks and Recreation (CDPR) and Department of Boating and Waterways. These staff members helped provide more detailed answers to participant questions during the comment period. Following the comment period, participants were invited to discuss the alternatives individually with project sponsors and agency representatives.

Questions and comments and agency responses provided publicly during the meetings were recorded by consulting team staff from MIG, Inc. and Tetra Tech, Inc. and are summarized in the following pages. Meeting participants were also invited to share written comments on

the scope of the environmental document. Written comments are summarized in this report, and comment letters received are included as Appendix B.

Project Alternatives

The Nimbus Hatchery Fish Passage Project has a long history, beginning in the early 1990s with feasibility studies and the design of an alternate structure to replace the weir. Deterioration of the weir system is the catalyst for this project, and a new structure is needed to maintain a functional hatchery and produce the fish necessary to meet Reclamation's annual mitigation requirement. Other considerations include the need to minimize operational impacts on sensitive fish species and the need to improve worker and public safety at the weir site. Three alternatives for replacing the weir are under consideration, as follows:

- Take no action;
- Replace the fish weir; and
- Extend the fish ladder and remove the weir structure.

No Action

The No Action Alternative continues using the diversion weir. Under this alternative, the weir superstructure would eventually need to be replaced. No action would require a continuing need for periodic significant repairs to the weir foundation and annual flow reductions to install and remove the weir superstructure. Future changes to fishing regulations or recreation opportunities in the project area may or may not take place under the No Action Alternative.

Replace the Weir

Under this alternative, the diversion weir would be replaced with a new concrete weir immediately upstream of the existing structure. Additional entrances would be added to the existing fish ladder, and a set of bypass bays would prevent the need for annual flow reductions for operations and maintenance. This alternative would not allow adult fish passage but would make provisions to pass juvenile steelhead. No immediate changes in fishing regulations or recreation are anticipated with this alternative.

Extend the Fish Ladder

This alternative involves constructing a modified fishway and removing the diversion weir. The modified fishway would extend to the stilling basin below Nimbus Dam and would consist of a concrete flume fishway, a pool and drop fish ladder, and a rock-lined trapezoidal channel. Reductions in flows would not be required. Development of an extended ladder

option would require changes to fishing regulations, as proposed under one of the three following alternatives:

- 1A—Fishing closure within 250 feet of the new fishway entrance;
- 1B—Fishing closure from the Hazel Avenue Bridge to Nimbus Dam; and
- 1C—Fishing closure from the US Geological Survey (USGS) cable to Nimbus Dam.

Summary of Meeting Comments

Participants who attended the two meetings asked a variety of questions about the project and shared their concerns for consideration in the EIS/EIR process. This section presents a summary of the key issues discussed at the two meetings. When possible, the summary notes where specific issues relate to one of the proposed alternatives. Most of the discussion focused on the extended fish ladder alternative, since implementation would provide new opportunities for access and use of the river and integration with habitat restoration efforts. Few specific comments were raised about the proposed changes to fishing regulations that are part of the alternative to extend the fish ladder.

The following issues were the main topics of discussion:

- Habitat and fisheries protection;
- Fishing, boating, and recreation;
- Safety and public access;
- Design and construction; and
- The invasive New Zealand mud snail.

Habitat and Fisheries Protection

Fishway Design/Operation and Environmental Flows. Reclamation and CDFG stated that the extended ladder project meets all functional requirements and is half the estimated cost of replacing the weir. The extended ladder alternative also appears to provide the greatest amount of protection for sensitive fish species and would have less of an impact on hatchery operations (i.e., increased flexibility to collect fish without concern for flows in the lower river). None of the alternatives will require any changes to downstream flows or upstream reservoir operations, but there would be localized, project-specific and construction related effects. A biological assessment would be conducted to assess impacts on all sensitive species.

Habitat Restoration. Habitat restoration is not one of the project goals but is a secondary design objective under the proposed alternatives. Mr. Robinson noted that Reclamation is analyzing the secondary benefits and potential opportunities for other activities that could occur as a

result of the removal of the existing weir structure. This includes the opportunity for spawning habitat improvement under the Central Valley Project Improvement Act (CVPIA), which includes a program to introduce spawning gravels into the American River. The latest effort on the American River was successful, and efforts will continue to focus on the area below Nimbus Dam extending downstream to the Mississippi bar.

A National Marine Fisheries Service (NMFS) representative stated that this project is an opportunity to enhance stewardship of the river through habitat enhancement, increased species protection, and public education. This brings value to the project from the NMFS's perspective.

Security and Illegal Take. In the 2006 Project Alternatives Solutions Study (PASS), which was conducted to receive agency input on alternatives development, security in the area is noted as a significant issue. During the scoping meetings, members of the public expressed concern that implementing the extended fish ladder alternative would increase illegal take. With the open fishway there would be no opportunity for fish to escape poaching. In addition, concerns were also expressed related to the security of the Nimbus Dam and power plant.

There was discussion on how poaching could be prevented with an extended ladder. Commenters noted, for example, that if a cement wall was used at the end of the ladder to keep people out, there could be visual issues as well as issues with graffiti on the wall, and flood issues because a wall may change erosion patterns. It was recognized that with an extended ladder, poaching will occur and would likely compare to current poaching in the form of snagging (an illegal fishing method). The EIS/EIR will evaluate enforcement potential. Others noted that implementation of additional fishing closures would aid enforcement.

Environmental Stewardship. One participant voiced strong support for the Nimbus Hatchery Fish Passage Project. Federal listing of the Central Valley steelhead and this project have together created multiple opportunities for enhanced stewardship, a very important benefit.

Fishing, Boating and Recreation

Fishing Closure Areas. One participant requested that CDFG clarify the extent of the current 250-foot fishing closures at the fish ladder entrance and fishway outfall. One proposed solution is to use landmarks to help denote areas where fishing restrictions apply. Another participant questioned whether the extended fish ladder would warrant a closure 250 feet downstream of the Nimbus Dam, in accordance with current regulations, since the dam could be construed as a diversion structure. CDFG responded that the dam would not be considered a diversion as referenced in the applicable CDFG code for this project but that the matter could be reviewed further.

Boating Safety. Enforcement of boating regulations in the project area is very important. At least one participant noted that the existing weir structure is dangerous and that paddling is a serious public safety issue. Enforcement of regulations is extremely limited.

Whitewater Course. Participants supportive of creating enhanced boating opportunities were concerned about the loss of the opportunity to create this water feature. At least one participant requested that boating should be a consideration as Reclamation determines which structure to build. Implementing the extended fish ladder alternative as proposed would preclude development of a whitewater course within Nimbus Shoals. However, if a portion of the existing weir is left in place, it could serve as a whitewater play structure.

Boating Access. Meeting participants expressed interest in and concern with the project's impact on boating access and boat launch areas. According to one member of the public, people would come to boat if the existing weir structure were removed. One participant asked if providing access to launch boats at Nimbus Shoals is still under consideration as part of this project. Another participant expressed a desire to establish access to the river that would allow for launching boats upstream of the bridge.

Mr. Robinson stated that hand launching boats at the shoals is a potential recreation opportunity that had been discussed but would likely be considered incidental to the project's scope of providing fish passage to the hatchery. Any effort to make this possible would require partnerships with other agencies.

Reclamation noted that bridge and roadway access on top of the ladder would continue to provide access to the shoals. Right now there are no other defined project features that will modify access, though the need for access to the river will be informed by the changes that are made to fishing regulations. One agency representative noted that there is a County ordinance that prohibits boating within 1,000 feet of the dam. This regulation would need to be considered.

Parks Plan. One participant noted that the new plan for the Folsom State Recreation Area should be considered as this project moves forward. The plan anticipates a fish channel at the shoals. In addition, it discusses the need for resolving access issues and limited/confined parking in the project area. Both of these issues have a clear connection to the Nimbus Hatchery Fish Passage Project. Reclamation and the CDPR will need to coordinate further on providing for recreational improvement opportunities at Nimbus Shoals as part of the Fish Passage Project.

Project Impact on Bike Trail. One member of the public asked about the potential project impact on the bike trail. The bike trail may be redirected slightly uphill as a result of project implementation.

Safety and Public Access

Enhanced Viewing Opportunities. One participant asked specifically about enhanced viewing opportunities with the extended ladder alternative. Reclamation is working with CDFG to explore possibilities to design observation facilities, with visitor safety and the visitor experience in mind. There may be an opportunity for a viewing area at the transition point where the low-gradient flume enters the fish trap. In addition, there may be an opportunity

to add interpretive displays along the extent of the existing ladder at the concrete wall.

Facility Access. With the extended ladder alternative, the new ladder would be a closed facility and visitors would not be encouraged to visit that particular location. Public access at the weir location would likely be minimal after 5 PM. One agency attendee identified the Feather River as an example of a facility that is closed after working hours.

Parking. One participant expressed the need for more parking to improve public access at the project location.

Design and Construction

Site Geology and Hydrology. One agency representative noted the importance of considering site geology and hydrology as it relates to construction, viewing and access, and enhancing the site for other uses. This area has hard bottom clays and massively moved gravels. The public would most likely want to soften this area aesthetically. The site is also very open to flows that would rearrange the site hydrology, creating side channels and reconfiguring the area.

Design Flow. The survivability of any structures within the active river channel under flood conditions was questioned. Reclamation is looking at future probable maximum flows, with a design flow of 160,000 cubic feet per second (cfs) for the in-river structures. The alternatives will be designed so that all facilities can withstand minimal damage in the event of major flows. Current average flows at the fish ladder are roughly 2,000 to 3,000 cfs.

One participant inquired if increased flows and increased elevations in the ladder have been addressed. Reclamation has looked at a structure that allows for getting fish to enter in a wider range of flows, and higher flows are unlikely to occur during chinook season. Fish generally do not come into the hatchery when the flows are high, so this is generally a steelhead versus salmon issue. A representative said Reclamation has had success in the past with attracting fish during increased flows but that it needed to address how to help fish find the ladder.

Proposed Weir Structure. One participant noted that the proposed weir structure has many variables and asked if there are other models that can be referenced to help determine the chances of its success at the Nimbus site.

Invasive Species: The New Zealand Mud Snail

Hatchery Contamination. The New Zealand mud snail has been found downstream of the weir. Outreach to educate people about the threat of the New Zealand mud snail, the implications of its spread, and how to prevent its further spread is extremely important for this area. There is serious concern among the agencies and the public that people coming in and out of hatchery grounds may spread the mud snail into the two hatcheries at the Nimbus site–the Nimbus Hatchery and the American River Hatchery.

To protect the hatcheries, CDFG will continue to be strict about isolating each hatchery area and preventing hatchery contamination from the mud snail. Any fish that leave the Nimbus Hatchery go to the Sacramento River or the American River. In the event of contamination at Nimbus, operations at the salmon hatchery would continue because the fish are anadromous. Since salmon migrate between fresh and salt water, mud snails are less of a concern. However, trout from the American River Hatchery are distributed to 17 counties, and if snails get into the American River Hatchery, CDFG would need to shut it down.

Economic Impacts of Contamination. The American River Hatchery is California's largest producer of trout, and dire financial implications would result if the mud snail were to enter the hatchery. The cost to replace the hatchery alone would be 60 to 70 million dollars. This figure does not account for the legal and financial implications of contaminating other water bodies throughout California.

Boating and the Spread of the Mud Snail. One participant asked if CDFG is concerned with contaminating the river downstream if people are allowed to float through the infected area. In response, Mr. Johnson, representing CDFG, stated that floating through the area would be permissible but that people would not be allowed to launch in the contaminated area. CDFG has worked with the Aquatic Center to disinfect boats. Mr. Johnson confirmed that there is a good chance that launching and taking out above the bridge could lead to the spread of the mud snail.

Summary of Written Comments

In this section are summaries of the four letters submitted in response to the invitation to provide written comment on the scope of the EIS/EIR for the Nimbus Hatchery Fish Passage Project.

California Department of Boating and Waterways

The California Department of Boating and Waterways submitted a letter expressing its interest in possibly removing the diversion weir, which prevents boating directly below Nimbus Dam. Given the opportunity for paddlecraft boaters in this portion of the Lower American River, the Department strongly supports the alternative that extends the fish ladder and removes the weir. If this alternative is implemented, the Department could provide funding to improve boating access to the Lower American River in this area of the basin and could modify the riverbed to create eddies for paddlers.

Horseshoe Bar Fish & Game Preserve, Inc.

Horseshoe Bar Fish & Game Preserve submitted a letter in support of Alternative 1B to extend the fishway, to remove the weir, and to impose a regulatory fishing closure from the

Hazel Avenue Bridge to Nimbus Dam. Mr. Thomas Bartos, President and Founder, requested that this alternative include in-stream modifications to allow for the passage of steelhead and salmon into Lake Natoma and its tributary streams. This modification, he comments, would allow natural spawning and reproduction of salmon and steelhead and would help advance reintroduction of anadromous fish into the American River Watershed.

California Department of Parks and Recreation

CDPR submitted a letter expressing its support for Alternative 1C, which would extend the ladder, remove the weir, and close the river to fishing from the USGS cable to Nimbus Dam. CDPR manages the Folsom Lake State Recreation Area, of which the Nimbus Shoals is a part. According to CDPR, Alternative 1C proposes fishing regulations that would provide the best protection for fish and that are the easiest to enforce.

If the in-stream weir is removed, CDPR supports launching small car-top boats, such as rafts, canoes, and kayaks, at Nimbus Shoals. In addition to delineating a designated boat launching site, CDPR requests that Reclamation create a small, confined gravel parking area for public use on the river side of the fish channel.

CDPR also requests that if Alternative 1C or any project alternative, including fishing closures, is implemented, Reclamation construct a fence along the north side of the river below the paved bike trail to prevent illegal fishing access. Currently, this area presents enforcement problems for State Park Rangers. Please see Appendix B to view a map that includes CDPR's proposed public use features for the project area.

CDPR does not support constructing an artificial whitewater course in the project area. However, if the weir were removed, CDPR encourages Reclamation to explore the feasibility of creating an in-stream water feature to provide an interesting recreational opportunity for river boaters that is designed and constructed to enhance habitat for salmon and steelhead.

United States Environmental Protection Agency

In accordance with the NEPA, the US Environmental Protection Agency reviewed the Notice of Intent to Prepare an EIS for the Nimbus Hatchery Fish Passage Project and provided several comments and recommendations on the scope of the Draft EIS (DEIS) in a letter. The EPA's comments were specific to the following topics:

- Water resources;
- Habitat, vegetation, and wildlife;
- Endangered species;
- Air quality; and
- Cumulative effects.

Water Resources. The EPA discussed concerns and provided its recommendations on DEIS

compliance with Clean Water Act Section 404, which regulates discharges of dredged or fill materials into waters of the US, and Section 303(d), which regulates the impacts on water quality. The EPA also noted requirements of the Safe Water Drinking Act, with respect to the DEIS and the role of the federal government in protecting sources of drinking water.

Habitat, Vegetation, and Wildlife. The EPA advises that the DEIS describe species habitat in the project area and identifies impacts the proposed project will have on species and their habitats. Reclamation should present a proposed mitigation plan that details steps it would take to minimize or eliminate any adverse impacts. The DEIS should also identify specific best management practices that Reclamation would implement during the project.

Endangered Species. The EPA included detailed advice on how the DEIS should address potential impacts on endangered, threatened, or candidate species and their habitats listed under the Endangered Species Act (ESA), as well as sensitive species. The DEIS also should:

- Identify any such species and critical habitat within the project area and surrounding areas;
- Identify any impacts the project would have on the species or their critical habitats;
- Identify how the proposed project would meet all requirements under the ESA;
- Include a summary of a biological assessment, if an assessment has been prepared, and append the assessment to the DEIS; and
- Describe any consultation conducted under Section 7 of the ESA and summarize or append the Biological Opinion or concurrence received.

Air Quality. The DEIS for this project should include an analysis of impacts from construction of the proposed alternatives, including estimates of emissions for all criteria pollutants and six priority air toxics. The EPA recommends that the following elements be included in the DEIS:

- The required General Conformity Determination, with a description of mitigation and offset measures and
- A description of the projected operational emissions that the completed project would generate and any measures that could be taken to reduce those emissions.

Cumulative Effects. In its letter, the EPA notes that "only by considering all actions together can one conclude what the impacts on environmental resources are likely to be." As such, it states that the proposed project should assess impacts over the entire project area and should consider effects when added to other past, present, and reasonably foreseeable future projects in or near the project area. The EPA noted the guidance document it has issued for consideration of cumulative impacts and briefly summarized the five key areas that should be addressed.

Appendix A: Project Milestones

The following Project Milestones document provides a summary of the history and major phases and accomplishments of the Nimbus Hatchery Fish Passage Project.

Nimbus Hatchery Fish Passage Project

Schedule Milestones

1990

Mid - 1990s — Explored long-term solutions to correct design deficiencies.

1996 - 1999 — Formulated and designed an in-river replacement structure.

1997 - 1998 — Significant winter flow events damaged the weir foundation.

Mar 1998 — Central Valley steelhead listed as an endangered species.

1999 — The National Marine Fisheries Service recommends finding a solution that does not require annual flow reductions.

1999 — Reclamation convened an interdisciplinary Value Analysis Workshop to develop conceptual solutions.

1999

2000

2000 - 2003 — Evaluation of Value Analysis Workshop recommended to re-examine the alternatives to accommodate juvenile steelhead.

Dec 2003 — Two public meetings held in Rancho Cordova to solicit public input.

2004 - 2005 — Preliminary analysis of environmental impacts associated with weir replacement design alternatives.

2006 — Convened a Project Alternatives Solution Study to receive agency input on alternatives.

2006 - 2008 — Reclamation further refined design alternatives.

2008

2008

2008 — Begin EIS/EIR process.

Apr 2009 — April 30 public scoping meetings.

Dec 2009 — Anticipated date of release of Draft EIS/EIR.

Jan 2010 — Anticipated date of public hearing on Draft EIS/EIR.

Sep 2010 — Anticipated date to finalize EIS/EIR and issue Record of Decision.

2010

2011

Summer 2011 — Anticipated implementation of fish passage project.

2011 - 2013 — Evaluate implementation of fish passage project.

2013

Future dates are estimates.

Appendix B: Written Comments

This appendix includes all public and agency comments received during the comment period for the Nimbus Hatchery Fish Passage Project EIS/EIR scoping process.

STATE OF CALIFORNIA - CALIFORNIA NATURAL RESOURCES AGENCY
ARNOLD SCHWARZENEGGER, *Governor*

DEPARTMENT OF BOATING AND WATERWAYS
2000 EVERGREEN STREET, SUITE 100
SACRAMENTO, CA 95815-3888
(888) 326-2822
www.dbw.ca.gov

May 5, 2009

David Robinson
Bureau of Reclamation
Central California Office
7794 Folsom Dam Road
Folsom, CA 95630-7179

Subject: Nimbus Hatchery Fish Passage Project Comments

Dear Mr. Robinson:

The Department of Boating and Waterways' mission is to provide safe and convenient public access to California's waterways and leadership in promoting the public's right to safe, enjoyable, and environmentally sound recreational boating. To that end the possible removal of the exiting Nimbus Hatchery Fish Passage Diversion Weir, which currently prevents boating on the section of the Lower American River directly below Nimbus Dam, is of interest to the Department. The Lower American is a great opportunity for paddlecraft boaters because of its relatively easy rapids and its location. There are very few class I and II rivers available to boaters throughout California, so where they exist they should be utilized to the fullest extent possible. The location of the basin below the Nimbus Dam is in close proximity to the Sacramento State Aquatic Center and could be used as a launch point for their instructional programs should the area open for access. For these reasons, the Department strongly supports the alternative that removes the diversion weir and replaces it with the construction of a fishway from the stilling basin to the fish hatchery.

As you may be aware, the Department has a program titled "Boating Trails" that provides funding for improved paddlecraft boating throughout California. There is the possibility that the Department can provide funding for access improvements to the Lower American River in the area of the basin, should access to the river below the dam become available. The Department may also be interested in the funding of river bed modifications such as the placement of rocks in the project area that would provide eddies that could be used by paddlers.

Should you have any questions, please feel free to contact me at the number below.

Sincerely,

for Mike Ammon
Contract Administrator
(916) 485-1213

Bayer, Kelly

From: Horseshoe Bar Fish & Game Preserve, Inc. [hbp@surewest.net]
Sent: Sunday, May 31, 2009 12:40 PM
To: hatchpass@mp.usbr.gov
Subject: Nimbus Hatchery Fish Passage Project

5/27/09

David Robinson
Bureau of Reclamantion
Central California Office
7794 Folsom Dam Road
Folsom, CA 95630-1799

Dear Mr. Robinson,

I would like to express my desire to support Alternative 1B with regards to the changes proposed for the Nimbus Fish Passage Project.

I would also like to propose that modifications be made to allow for excess steelhead and salmon to pass into Lake Natoma which has a stream that would allow for natual spawning & reproduction. Additionally, by introducing Salmon and Steelhead into Lake Natoma it advanace one step closer to reintroducing these anadromous fish into the American River Water shed where they once thrived.

Sincerely,

Thomas G.M. Bartos
President and Founder
Horseshoe Bar Fish & Game Preserve, Inc.

Gold Fields District
7806 Folsom Auburn Road
Folsom, CA 95630

May 27, 2009

David Robinson
U.S. Bureau of Reclamation
Central California Area Office
7794 Folsom Dam Road
Folsom, CA 95630

This letter is to express the concerns and recommendations of the California State Parks (DPR) regarding the scope of the Environmental Impact Statement/Environmental Impact Report (EIS/EIR) being prepared for the Nimbus Hatchery Fish Passage Project. DPR staff has participated in some of the planning that has previously occurred for this project, including the public meetings and scoping in 2003 and in portions of the Project Alternative Solutions Study (PASS) in 2006. DPR previously provided comments on this project to Reclamation in an October 28, 2003 letter.

California State Parks manages Folsom Lake SRA, which includes the Nimbus Shoals area, through an agreement with Reclamation. State Parks is also part of an agreement between Reclamation, the California Department of Fish and Game (DFG) and State Parks regarding the management of the Nimbus Shoals.

State Parks is supportive of the alternatives which would replace the existing in-stream weir with a fish passage channel across the Nimbus Shoals area. Specifically, we are supportive of Alternative 1C which would implement a fishing closure year round from the USGS cable to Nimbus Dam. DPR believe this alternative provides the best protection for the fish and is the option which would be easiest to enforce.

Currently the public can drive down to the Nimbus Shoals gravel bar are park anywhere on the bar. It is our understanding that all of the fish passage channel options being considered would also provide a small bridge for vehicle access across the channel. If the existing in-stream weir is removed as part of this project, State Parks is supportive of allowing for the hand launching of small car top boats (such as rafts, canoes and kayaks) at Nimbus Shoals. We believe a designated launching site could be delineated which would not interfere with the fish passage channel. We also believe a small gravel parking area could be delineated with large boulders just on the river side of the fish channel to provide a confined parking area for public use of the shoals and the car top boat launching. State Parks would like to see this parking area incorporated as part of the project. See the attached map which diagrams these public use features that State Parks would like to see incorporated into the project. It is our understanding that the County currently prohibits launching of boats on the River within 1,000 feet of Nimbus Dam. Representatives of Sacramento County Regional Parks have indicated they would be willing to work with State Parks to modify this regulation if needed.

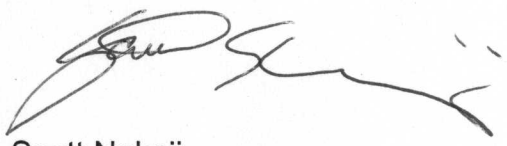
With any of the fish passage channel alternatives, fishing regulations at the shoals will change. As we previously indicated we are supportive of Alternative 1C which closes the area to fishing year round from the USGS cable below the Hazel Avenue Bridge to Nimbus Dam. As part of this or the other fishing closure alternatives, State Parks would like to see Reclamation construct a fence along the north side of the river, below the paved bike trail to help prevent fishing access to this side of the river. This area is an enforcement problem for State Park Rangers. State Parks believes that a barrier fence along with the new fishing regulations would help prevent illegal fishing in this location in the future. This north side of the river is not suitable for other recreation activities such as swimming or boat launching.

Lastly, if the existing in stream weir is removed and a new fish passage channel constructed across Nimbus Shoals, State Parks encourages Reclamation to consider if some type of in stream water feature which would be suitable and attractive for river boaters, could be retained or created as part of the weir removal. This might involve leaving portions of one or more of the concrete columns supporting the weir along with large boulders to create a wave and/or eddy which would provide an interesting recreational opportunity for river boaters. It would be interesting to explore if such a feature could also be designed and constructed to enhance habitat for salmon and steelhead. Such a concept would require specific expertise and some careful design.

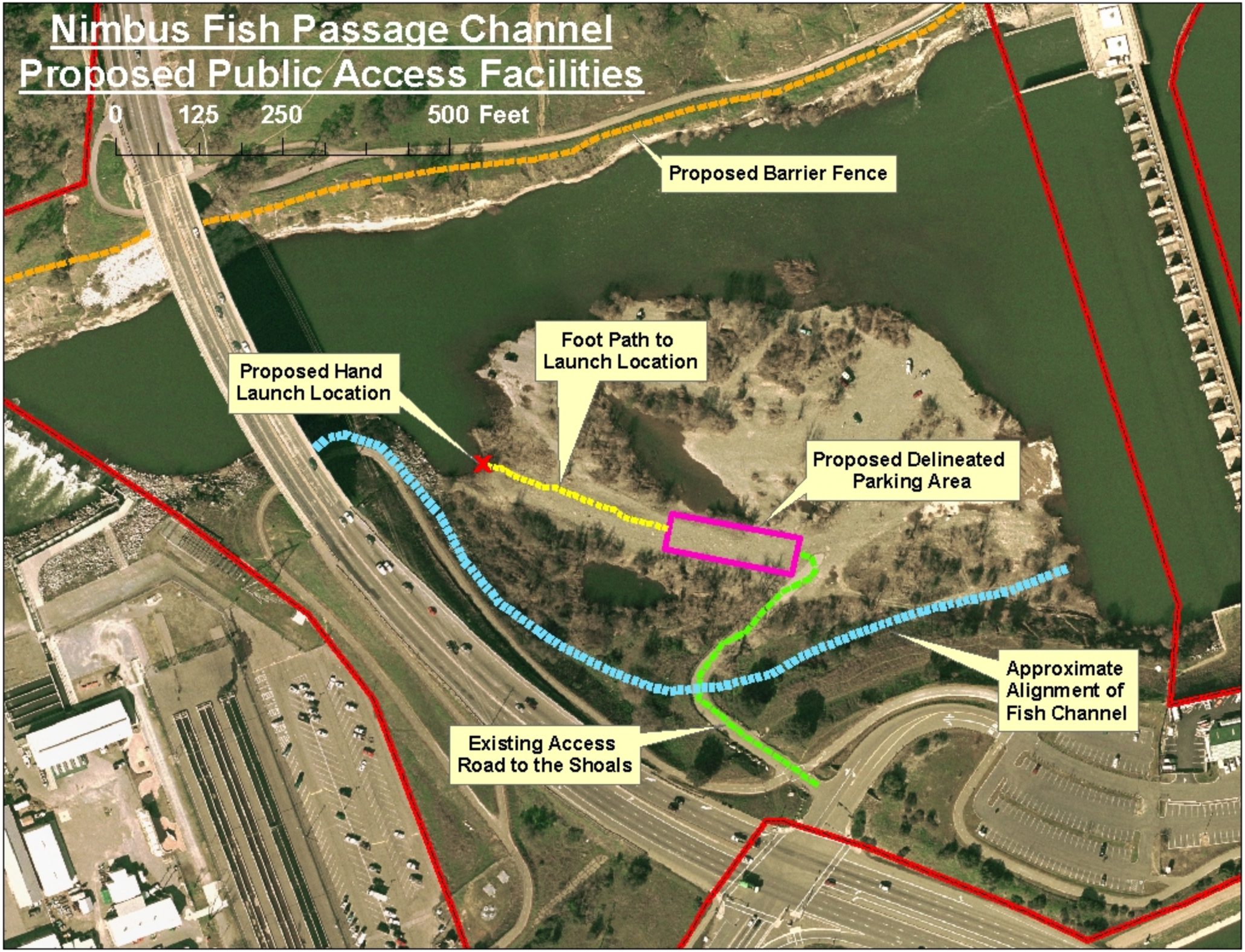
As you know, during the public involvement and meetings for the fish diversion project in 2003, whitewater boating interests were promoting creating an artificial whitewater course between Nimbus Shoals and the South Canal. Part of the impetus for such a concept was the unsuccessful San Francisco Bay Area bid for the 2012 Olympics. State Parks was not and is not supportive of the concept of an artificial whitewater course from the river to the top of Nimbus Dam (or the South Canal). However, State Parks and Reclamation did meet with whitewater boating interests during this time period and as part of the ongoing Folsom Lake SRA General Plan/Resource Management Plan process. Through these meetings the concept of providing some type of water feature attractive to whitewater boating as part of the weir removal was first discussed and explored.

If you have any further questions regarding this matter, please contact Gold Fields District Planner Jim Micheaels at (916) 988-0513. Thank you.

Sincerely,



Scott Nakaji
Gold Fields District Superintendent


Nimbus Fish Passage Channel
Proposed Public Access Facilities
0 125 250 500 Feet
Proposed Barrier Fence
Foot Path to Launch Location
Proposed Hand Launch Location
Proposed Delineated Parking Area
Approximate Alignment of Fish Channel
Existing Access Road to the Shoals

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

May 28, 2009

David Robinson
Central California Area Office
Bureau of Reclamation
7794 Folsom Dam Road
Folsom, CA 95630-1799

Subject: Notice of Intent to Prepare an Environmental Impact Statement for the Nimbus Hatchery Fish Passage Project, Lower American River, California

Dear Mr. Robinson,

The U.S. Environmental Protection Agency (EPA) has reviewed the above referenced document. Our review and comments are provided pursuant to the National Environmental Policy Act (NEPA), the Council on Environmental Quality's NEPA Implementation Regulations at 40 CFR 1500-1508, and our NEPA review authority under Section 309 of the Clean Air Act.

Construction, operation, and maintenance of structures within and around a river can impact both the quality of its water as well as lives of species living in and around the river. EPA has several recommendations regarding the scope of the Environmental Impact Statement (EIS) that you will find in the attached Detailed Comments.

EPA appreciates the opportunity to review this Notice of Intent. Please send one hard copy and one CD-ROM of the Draft EIS to this office (mailcode: CED-2) at the same time it is officially filed with our Washington D.C. Office. If you have any questions, please contact me at (415) 947-4121, or at johnson.britta@epa.gov.

Sincerely,

Britta Johnson
Environmental Review Office
Communities and Ecosystems Division

Enclosure: EPA's Detailed Comments

EPA DETAILED COMMENTS ON THE NOTICE OF INTENT TO PREPARE AN ENVIRONMENTAL IMPACT STATEMENT FOR THE NIMBUS HATCHERY FISH PASSAGE PROJECT, MAY 28, 2009

Water Resources

The DEIS should identify aquatic resources that would be potentially impacted by construction, maintenance and operation of the proposed project. The project will likely require a Section 404 permit under the Clean Water Act. Section 404 regulates the discharge of dredged or fill material into waters of the U.S., including wetlands and other special aquatic sites. The DEIS should describe all waters of the U.S. that could be affected by the project. The discussion should include acreages and channel lengths, habitat types, values, and functions of these waters.

If a Section 404 permit is required, EPA will review the project for compliance with *Federal Guidelines for Specification of Disposal Sites for Dredged or Fill Materials* (40 CFR 230), promulgated pursuant to Section 404(b)(1) of the CWA ("404(b)(1) Guidelines"). Pursuant to 40 CFR 230, any permitted discharge into waters of the U.S. must be the least environmentally damaging practicable alternative available to achieve the project purpose. The DEIS should include an evaluation of the project alternatives in this context in order to demonstrate the project's compliance with the 404(b)(1) Guidelines. If, under the proposed project, dredged or fill material would be discharged into waters of the U.S., the DEIS should discuss alternatives to avoid those discharges. If a discharge to waters of the U.S. becomes necessary, the DEIS should discuss how potential impacts would be minimized and mitigated. Mitigation should be implemented in advance of the impacts to avoid habitat losses due to the lag time between the occurrence of the impact and successful mitigation.

Water quality degradation is one of EPA's primary concerns. The DEIS should list the water quality standards applicable to waters in the project area – particularly those standards pertaining to parameters that may be affected by the proposed project -- and identify any that are not currently being met. Section 303(d) of the Clean Water Act (CWA) requires States (and Tribes with approved standards) to identify water bodies that do not meet water quality standards and develop water quality restoration plans to meet established water quality criteria and associated beneficial uses. The DEIS must disclose which waters may be impacted by the projects, the nature of potential impacts, and specific pollutants and changes to other parameters (e.g., temperature, pH, dissolved oxygen, etc.) likely to impact those waters. It should also report those water bodies potentially affected by the project that are listed on the States' and Tribes' most current EPA-approved 303(d) list . The DEIS document should describe existing restoration and enhancement efforts for those waters, how the proposed project will coordinate with on-going protection efforts, and any mitigation measures that will be implemented to avoid further degradation of impaired waters.

Source water is water from streams, rivers, lakes, springs, and aquifers that is used as a supply of drinking water. Source water areas are delineated and mapped by the states for each federally-regulated public water system. The 1996 amendments to the Safe Drinking Water Act (SDWA) require federal agencies to protect sources of drinking water for communities. As a result, state agencies have been delegated responsibility to conduct source water assessments and provide a database of information about the watersheds and aquifers that supply public water

systems. Source water areas may exist within the watershed in which the proposed project would be located.

Since construction and operation of the project may impact sources of drinking water, EPA recommends that the Bureau of Reclamation contact the State Water Resources Control Board to help identify source water protection areas within the project area. The DEIS document should:

(a) Identify all source water protection areas within the project area
(b) Identify all activities that could potentially affect source water areas
(c) Identify all potential contaminants that may result from the proposed project
(d) Identify all measures that would be taken to protect the source water protection areas in the DEIS

Habitat, Vegetation, and Wildlife

The DEIS should describe the habitat for the species and identify any impacts the proposed project will have on the species and their habitats. A proposed mitigation plan with detailed mitigation steps that will be taken to minimize or eliminate adverse impacts should be presented. For example, site activities should be timed to minimize the disturbance of plants and animals at key stages in their lifecycles.

Equipment and materials should not be placed or stored in any environmentally sensitive areas. Where possible, excavation should be done from non-sensitive areas. The specific Best Management Practices (BMPs) that would be used for the project should also be identified in the DEIS.

Endangered Species

The proposed project may impact endangered, threatened, or candidate species listed under the ESA (e.g. Chinook salmon and steelhead), their habitats, as well as sensitive species. Evaluation of the proposed project should identify any such species and/or critical habitat within the project area and surrounding areas that may be affected by the proposed project. The DEIS should describe the habitat for the species; identify any impacts the project would have on the species and/or their critical habitats; and how the proposed project will meet all requirements under ESA, including consultation with the U.S. Fish and Wildlife Service (FWS) and/or National Oceanographic and Atmospheric Administration (NOAA). If a biological assessment has been prepared, it should be summarized in, and appended to, the DEIS. If consultation with FWS or NOAA under Section 7 of the ESA has been completed, the DEIS should describe the outcome of the consultation and summarize and append the Biological Opinion or concurrence received. Bureau of Reclamation actions should promote the recovery of declining populations and species. Site activities should be timed to avoid disturbing plants and animals during critical periods in their lifecycles.

Air Quality

The project area is located in an area designated as non-attainment for ozone and fine particulate matter. The DEIS should include a thorough analysis of impacts from the construction of the

proposed alternatives. It should include estimates of emissions for all criteria pollutants, including those applicable to the federal 8-hour ozone and annual PM2.5 National Ambient Air Quality Standards, and six priority air toxics—benzene, formaldehyde, acetaldehyde, 1.3-butadiene, acrolein, and diesel particulate matter—from construction equipment.

We recommend the required General Conformity Determination be included in the DEIS with a description of the mitigation/offset measures that will be implemented prior to the project start date. The DEIS should also include a description of the projected operational emissions that would be generated by the completed project, as well as any measures that could be taken to reduce those emissions.

Cumulative Effects

The proposed project should assess impacts over the entire area of impact. The project evaluation should consider the effects of the proposed project when added to other past, present, and reasonably foreseeable future projects in and near the project area, including those by entities not affiliated with the Bureau of Reclamation. Only by considering all actions together can one conclude what the impacts on environmental resources are likely to be.

EPA has issued guidance on how we are to provide comments on the assessment of cumulative impacts, *Consideration of Cumulative Impacts in EPA Review of NEPA Documents*, which can be found on EPA's website at: http://www.epa.gov/compliance/resources/nepa.html. The guidance states that in order to assess the adequacy of the cumulative impacts assessment, five key areas should be considered. EPA will assess whether the cumulative effects analysis:

(a) Identifies resources, if any, that are being cumulatively impacted;
(b) Determines the appropriate geographic (within natural ecological boundaries) area and the time period over which the effects have occurred and will occur;
(c) Looks at all past, present, and reasonably foreseeable future actions that have affected, are affecting, or would affect resources of concern;
(d) Describes a benchmark or baseline; and
(e) Includes scientifically defensible threshold levels.

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APPENDIX C
ENVIRONMENTAL COMMITMENTS

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Appendix C. Environmental Commitments

Reclamation has made the following environmental commitments during the project plan and design and has included them in the EIS/EIR. Reclamation has the primary responsibility to see that these commitments are met if the project is implemented. These environmental commitments would be integrated into the project to reduce its environmental impacts.

Biological Resources

The project incorporates features to minimize effects on biological resources. To reduce biological resources impacts, the following measures are incorporated into the project:

- BIO-1. Worker Environmental Training Program
    - Personnel would participate in and comply with a government-provided environmental training program. This program would include training regarding the following:
        - Federal, state, and local environmental laws and regulations and permits, as well as the penalties for noncompliance with permit environmental requirements, conditions, and measures;
        - Threatened and endangered species, species of concern, and species of special concern;
        - Environmentally sensitive locations;
        - Weed abatement; and
        - Environmental protection measures, mitigation, compensation, and restoration.
    - A member of Reclamation's staff would participate in the training sessions to discuss environmental protection plans. On completion of each training session, employees would sign a statement that they have received the training.

- BIO-2. Demarcation of Environmentally Sensitive Locations

    - Qualified biologists and environmental resource specialists would be retained to locate and fence, stake, or flag environmentally sensitive locations. This would include areas that support threatened and endangered species, species of concern and special status species, migratory bird nesting, woody riparian vegetation, wetlands, and perennial drainage crossings. These areas would be avoided.

- BIO-3. Environmental Monitors

    - Qualified biologists and environmental resource specialists would be retained to monitor construction. They would work with Reclamation to ensure that environmental protection measures, such as environmental fencing, flagging, staking, and setback buffers, were maintained, that environmental guidelines were followed, and that appropriate environmental compliance documentation were maintained.

- BIO-4. Use Areas

    - Construction-related activities would be performed within use area limits. All marked environmentally sensitive locations in and outside use area limits would be avoided.

        – Use and storage of construction equipment would be confined to the designated use area limits;

        – Trees and shrubs growing in the use area limits would be removed only if they had been designated for removal;

        – Existing roads and access points would be used to the extent possible to minimize disturbance to wildlife and their habitats;

        – Excavating, filling, and other earth-moving activities in use areas would be completed gradually to allow wildlife to escape in advance of machinery and moving soils;

        – Riparian vegetation or wetlands temporarily affected by loss or reduction of water supplies as a result of construction would be provided with replacement water supplies; and

        – Staging areas, borrow material sites, parking locations, stockpile areas, and storage areas would be located outside of environmentally sensitive locations and would be clearly marked and monitored.

- BIO-5. Environmental Timeframes

    - All activities would be completed in a timely manner to minimize duration and resulting impacts. To avoid or minimize impacts, all activities would take place during times of the year that are least detrimental to the environment.

To mitigate potential adverse effects from introducing and spreading invasive weeds, the following measures would be implemented:

- BIO-6. Noxious Weed Control

    - Small, isolated, noxious weed infestations would be treated with approved eradication methods, at the appropriate times, to prevent or destroy viable plant parts or seed;

    - All equipment would be washed before being allowed onto the project sites and after leaving noxious weed infestation areas; and

    - Certified weed-free native mixes would be used for all revegetation.

To mitigate adverse effects on jurisdictional waters of the United States, the following measures would be implemented:

- BIO-7. Wetlands and other waters of the United States

    - Before implementation of the project, a qualified wetland biologist would be retained to delineate jurisdictional wetlands of all areas affected by the project could be subject to USACE jurisdiction under Section 404 of the CWA. The delineation would be submitted to the Sacramento District of the USACE for verification. If verified, all conditions contained in the CWA Section 404 Permit would be complied with for the project;

    - As part of the Section 404 permitting process, a qualified wetland biologist would develop a conceptual wetlands mitigation plan. The acreage of waters of the United States that would be removed would be replaced or restored and enhanced on a “no-net-loss” basis, in accordance with USACE regulations. The mitigation plan would quantify the total jurisdictional acreage lost and would describe creation/replacement ratios for acres filled, annual success criteria, potential mitigation sites, and monitoring and maintenance requirements. A qualified wetland biologist would prepare the plan in accordance with, and through consultation with, the USACE. Implementing the plan would fully compensate for the loss of jurisdictional waters of the United States;

    - Biologists would stake and flag wetland areas. The exclusion zones would include wetland buffer areas and would be demarcated by orange

construction barrier fencing placed at least 20 feet beyond the staked and flagged boundaries of the wetland;

- Environmental monitors and construction inspectors would routinely inspect protected areas to ensure that protective measures were in place and were effective; and

- All protective measures would remain in place until construction had been completed.

- BIO-8. Woody Riparian Vegetation

  - Woody riparian vegetation exclusion zones would be demarcated by placing orange construction fencing 20 feet beyond the drip line of the vegetation;

  - Trees and shrubs in the use area would be removed only if they had been designated for removal;

  - Long-term impacts on woody riparian vegetation would be minimized by trimming limbs and branches rather than removing trees and shrubs. Where possible, trees and shrubs would be cut at least a foot above the ground level to leave the root systems intact and to allow for more rapid regeneration following construction;

  - Environmental monitors and construction inspectors would routinely inspect protected areas to ensure that protective measures were in place and were effective; and

  - All protective measures would remain in place until construction had been completed.

- BIO-9. Native Oak Woodland Habitat

  - To avoid impacts on mature oak trees (those with a six-inch minimum diameter at breast height), orange construction barrier fencing would be installed at least 20 feet outside their drip lines;

  - Trees in the use area would be removed only if they had been designated for removal;

  - Where avoidance were not possible, long-term impacts on oaks would be minimized by trimming limbs and branches over access roads or construction zones and by avoiding parking and excavating in the root zone;

- Environmental monitors and construction inspectors would routinely inspect protected areas to ensure that protective measures were in place and were effective; and

- All protective measures would remain in place until construction had been completed.

To reduce impacts on valley elderberry longhorn beetle, the following measures would be implemented:

- BIO-10. Blue Elderberry Shrubs

    - Because blue elderberry shrubs can provide habitat for the valley elderberry longhorn beetle, a federally listed species, "Reasonable and Prudent Measures and Conservation Measures" associated with the blue elderberry shrubs would be discussed in the federal ESA biological opinion. The USFWS would prepare the biological opinion and would provide a copy to Reclamation (USFWS 1999), and Reclamation would comply with these measures;

    - To avoid disturbance, orange construction barrier fencing would be installed around elderberry shrubs within 100 feet of the construction zone. No ground-disturbing activities would be permitted within 25 feet of each elderberry shrub;

    - Elderberry shrubs that could not be avoided by project activities would be transplanted or replaced. Transplanting would be done during the dormant period (from approximately November to mid-February), with a qualified biologist monitoring potential unauthorized take. At the discretion of the USFWS, the plants could be exempted from transplanting if they could not be transplanted because of access problems;

    - Environmental monitors and construction inspectors would routinely inspect protected areas to ensure that protective measures were in place and were effective; and

    - All protective measures would remain in place until construction had been completed.

The following measures would be implemented to minimize and mitigate adverse effects on migratory birds:

- BIO-11. Migratory Bird Nesting

    - Riparian and woody vegetation would be removed outside the breeding season, from September 1 through February 1. Peak noise and other nondestructive disturbance levels would be set at the start of the nesting

season, February 1 through May 1, to create the basis for nesting birds to establish thresholds of tolerance to these disturbances. Birds that choose to nest under those conditions would be assumed to not be adversely affected by these disturbances during the breeding season;

- If riparian and woody vegetation could not be removed outside the breeding season or if peak noise and other disturbance levels could not be established and maintained from February 1 through May 1, additional measures would be developed in consultation with the USFWS and CDFG. If an active, known, or potential migratory bird nest were located during the preconstruction survey, the USFWS would be notified and the nest would be protected to the extent practicable;

- Environmental monitors and construction inspectors would routinely inspect protected areas to ensure that protective measures were in place and effective; and

- All protective measures would remain in place until construction activities had been completed.

- BIO-12. Raptor Nesting

  - A pre-construction raptor nest survey shall be conducted within 30 days prior to the beginning of construction activities by a CDFG approved biologist in order to identify active nests in the project site vicinity. Results of the survey shall be submitted to CDFG. If active nests are found, a quarter-mile (1320 feet) initial temporary nest disturbance buffer shall be established. If project related activities within the temporary buffer are determined to be necessary during the nesting season, then an on-site biologist/monitor experienced with raptor behavior will monitor the nest, and shall along with the project proponent, consult with the CDFG to determine the best course of action necessary to avoid nest abandonment or take of individuals. Work may be allowed to proceed within the temporary nest disturbance buffer if raptors are not exhibiting agitated behavior such as defensive flights at intruders, getting up from a brooding position, or flying off the nest. The designated on-site biologist/monitor shall be on-site daily if necessary during construction related activities and shall have the authority to stop work if raptors are exhibiting agitated behavior. In consultation with the CDFG and depending on the behavior of the raptors, over time it may be determined that the on-site biologist/monitor may no longer be necessary due to the raptors' acclimation to construction related activities. Any trees containing nests that must be removed as a result of project implementation shall be removed during the non-breeding season, however the project proponent shall be responsible for off-setting the loss of any raptor nesting trees. The extent of any necessary compensatory

mitigation shall be determined by the project proponent in consultation with the CDFG.

- BIO-13. Central Valley Steelhead
    - Because Central Valley steelhead is federally listed as threatened, Reclamation would consult with and would provide a copy of correspondence from NOAA Fisheries and would comply with any measures therein;
    - Instream work would be conducted during low-flow (low flood potential) periods. Construction activities would be timed with awareness of precipitation forecasts and likely increases in stream flow;
    - Environmental monitors and construction inspectors would routinely inspect protected areas to ensure that protective measures were in place and were effective; and
    - All protective measures would remain in place until construction had been completed.
- BIO-14. Replacement Trees and Shrubs
    - All replacement trees and shrubs would be of the same species as the removed tree or shrub or other species, and
    - All replacement trees and shrubs would be of the same size as the removed trees or shrubs, or they would be the maximum practicable size that could be planted and sustained in the particular environment.
- BIO-15. Preservation and Protection
    - Natural landscape and existing vegetation not required or otherwise authorized to be removed would be preserved and protected;
    - Unnecessary destruction, scarring, or defacing of natural surroundings would be prevented in the vicinity of the project;
    - Crews and equipment would be moved in rights-of-way and over routes provided for access to work in a manner that would prevent damage to land or property;
    - Vegetation would be protected from damage or injury caused by construction operations, personnel, or equipment by using protective barriers or other methods;

- Clearings and cuts through vegetation would be minimized. Authorized clearings and cuts would be irregularly shaped to soften undesirable aesthetic impacts; and

- Trees would not be used for anchorages except in emergency cases or as approved by Reclamation. For such use, the tree trunk would be wrapped with a sufficient thickness of approved protective material before any rope, cable, or wire were placed.

- BIO-16. Repair and Treatment

  - Injuries to vegetation caused by operations, personnel, or equipment would be the responsibility of Reclamation, and

  - Injured vegetation would be repaired or treated without delay and as recommended by and under direction of an experienced horticulturist or licensed tree surgeon.

- BIO-17. Replacement

  - Trees or shrubs not required or otherwise authorized to be removed that, in the opinion of Reclamation, were damaged or injured beyond saving would be removed and disposed, and

  - Removed trees or shrubs would be replaced with trees or shrubs approved by Reclamation.

Geological Resources

The project incorporates features to minimize impacts on geological resources. To reduce any construction-related soil erosion impacts, the following measures would be implemented:

- GEO-1. Grading and other activities resulting in ground disturbance would require airborne dust-suppression strategies, as outlined in AQ-1 through AQ-7;

- GEO-2. An erosion control plan would be developed and implemented, consistent with the SWRCB's NPDES General Permit for Stormwater Discharges Associated with Construction Activity.

- GEO-3. A geotechnical analysis and report would be completed, and the recommendations in that report would be implemented.

Water Quality

Before and during the implementation of the selected alternative, Reclamation would incorporate a variety of BMPs and standard operating procedures to minimize impacts on water quality. These include the following:

- WQ-1. Pollution prevention measures would be incorporated into all final design and construction plans. The pollution prevention measures include erosion and sediment control measures and measures for nonstormwater discharges (i.e., construction dewatering and appropriate spill prevention and containment measures). Reclamation would obtain coverage under the NPDES General Stormwater Permit for Construction Activities from the SWRCB and would obtain any applicable waste discharge requirements. Work under NPDES jurisdiction requires the preparation of a stormwater pollution prevention plan (SWPPP). The SWPPP would describe the proposed construction and pollution prevention measures that should be implemented to prevent a discharge of pollutants. The SWPPP would also include a description of inspection and monitoring activities that would be conducted. Construction and post-construction monitoring would be conducted to ensure that all pollution prevention efforts are performed as described in the SWPPP. The SWPPP would be amended in the event modifications to the pollution prevention measures become necessary.

- WQ-2. All water quality, erosion, and sediment control measures included in the SWPPP would be implemented in accordance with the guidelines also set forth in the SWPPP. The SWPPP would also identify responsibilities of all parties, contingency measures, agency contacts, and training requirements and documentation for those personnel responsible for installing, inspecting, maintaining, and repairing erosion control measures, as well as those responsible for overseeing, revising, and amending the SWPPP.

- WQ-3. The SWPPP would also identify construction areas, activities, and schedules; temporary storage and borrow areas; construction materials handling and disposal; dewatering and treatment and disposal of groundwater removed from excavations; discharges; equipment washing; inspection and maintenance measures; final stabilization and cleanup; and appropriate use of seeding, mulching, erosion control blankets, and other erosion control measures.

- WQ-4. The SWPPP would include an erosion control plan, whose general goals would be to minimize runoff from leaving the construction site, to remove sediment from on-site runoff before it leaves the site, to slow runoff rates across construction sites, and to provide soil stabilization during and after construction.

- WQ-5. A comprehensive environmental monitoring and mitigation compliance and reporting program for construction and operations of the entire project would be included in the SWPPP. The plan would focus on required measures and would establish clear standards for environmental compliance, construction inspection

and monitoring, environmental-awareness training, contractor and agency roles and responsibilities, compliance levels and reporting procedures, variance request and response procedures, and communication protocols. The goal would be to ensure that all required measures and permit terms and conditions were implemented.

- WQ-6. All necessary permits and requirements specified by local, state, or federal agencies, in whole or in part, would be obtained for water quality protection, including
    - RWQCB Section 401 certification or waiver,
    - NPDES SWPPP for General Construction,
    - RWQCB General Order for Dewatering and Other Low-Threat Discharges (Order No. 5-00-175), and
    - CWA Section 404 compliance through the Corps.
- WQ-7. BMP measures implemented to minimize and mitigate adverse impacts on water quality include
    - Litter and construction debris would be removed from the floodway and disposed of at an appropriate upland site,
    - Any temporary access roads constructed in the floodway or near any body of water would have adequate provisions (e.g., sediment barriers and drainage settling basins) to prevent sediment from getting into the water,
    - After project construction, temporary access roads would be removed, regraded to original contours where feasible, and restored,
    - Equipment and vehicles would be refueled only in a designated part of the staging areas where potential spills could be readily contained,
    - Equipment and vehicles operated in the staging areas in the floodway or near any water bodies would be checked and maintained to prevent leaks of fuels, lubricants, or other fluids,
    - Any spills of hazardous material would be cleaned up immediately and spills would be reported in construction compliance reports,
    - Appropriate erosion control measures would be incorporated into the stormwater pollution-prevention program, and
    - Any construction material placed in the water would be nontoxic. Any combination of wood, plastic, concrete, or steel would be acceptable,

provided there are no toxic coatings, chemical antifouling products, or other toxic treatments that may leach into the surrounding environment.

Air Quality

To reduce air quality impacts, the following measures would be incorporated into the project:

- AQ-1. Reasonably available methods and devices would be used to prevent, control, and otherwise minimize atmospheric emissions or discharges of air contaminants;

- AQ-2. Equipment and vehicles emitting excessive exhaust would not be operated until corrective repairs or adjustments were made to reduce such emissions to acceptable levels. A visual survey would be made of all operating equipment at least weekly.

- AQ-3. To reduce construction-generated fugitive dust emissions impacts, the following measures would be implemented:

    - Exposed soil would be watered twice daily and

    - All trucks hauling dirt, sand, soil, or other loose materials would be covered or would maintain at least two feet of freeboard (i.e., minimum vertical distance between top of the load and the top of the trailer).

  To further lessen short-term construction emissions, the following environmental commitments would also be implemented:

    - Ground cover in disturbed areas would be replaced as quickly as possible,

    - All excavating and grading operations would be suspended when wind speeds (as instantaneous gusts) exceed 25 mph,

    - If visible soil material were carried onto adjacent public paved roads, streets would be swept at the end of the day (using water sweepers with reclaimed water is recommended), and

    - Traffic speeds would be 15 mph or less on all unpaved roads;

- AQ-4. Dust would be controlled and abated during construction;

- AQ-5. Dust pollution would be prevented, controlled, and abated on rights-of-way during construction;

- AQ-6. Labor, equipment, materials, and efficient methods would be provided to prevent dust nuisance or damage to persons (such as recreationists) and property (such as wildlife habitats and residences) from traffic and similar sources or dust; and

- AQ-7. Atmospheric discharges of dust would be eliminated during mixing, handling, and storing of cement, pozzolan (a material that reacts with slaked lime to form a strong slow-hardening cement), and concrete aggregate.

Noise

The following measures are incorporated into the project to minimize construction-related noise impacts:

- NOISE-1. Performing Earthwork, operating heavy equipment, or performing other activities that produce high-impact noise would not be done from 9:00 PM to 7:00 AM; AND

- NOISE-2. Equipment would be provided with efficient noise-suppression devices, and other noise-abatement measures would be used, such as enclosures and barriers, to protect the public. In addition, operations would be scheduled and conducted so as to minimize, to the greatest extent, disturbances to the public in noise-sensitive areas.

Visual Resources

The following mitigation measures would be incorporated into the proposed project to minimize construction-related visual resource impacts:

- VIS-1. Construction-related lighting would be directed and shielded to shine downward at an angle less than horizontal, such that it would not be a nuisance to surrounding areas;

- VIS-2. All fencing would have nonreflective surfaces;

- VIS-3. Vegetative management measures would occur before, during, and after construction, as applicable, to minimize immediate and long-term impacts on vegetation and associated visual resources:

    - Revegetation plans would be developed and implemented for areas temporarily disturbed during construction, including the use of native species. Revegetation efforts would include topsoil salvage and reuse, topsoil preparation (if needed), placement of native seeds and plants, and mulching for areas temporarily disturbed by construction activities,

- Vegetation would be salvaged to the extent possible for use in revegetating disturbed areas, and

- To minimize the use of highly sensitive sites, fencing would be installed along river edges and wetlands and signs would be installed as needed to direct use to more appropriate areas. The placement of fencing and signs would be determined in consultation with biological resources staff; and

- VIS-4. Any lighting control problems would be corrected.

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APPENDIX D
AIR QUALITY

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DESCRIPTION OF THE CNSTEMIS SPREADSHEET MODEL

OVERVIEW OF THE CNSTEMIS MODEL

Emissions from construction and demolition activities have been estimated using a detailed spreadsheet model (CNSTEMIS). The CNSTEMIS spreadsheet model calculates criteria pollutant emissions, diesel particulate emissions, and greenhouse gas emissions from construction or demolition activities and equipment. Criteria pollutant emission estimates are provided for reactive organic compounds, nitrogen oxides, carbon monoxide, sulfur oxides, inhalable particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$). Particulate matter emissions from diesel engines contain known and suspected carcinogens, and consequently have been designated as a toxic air contaminant by the California Air Resources Board. Exhaust emissions of PM_{10} from diesel-fueled equipment provide the estimate of diesel particulate matter emissions. Greenhouse gas emission estimates are provided for carbon dioxide, methane, and nitrous oxide. The overall global warming potential of greenhouse gas emissions also is calculated in terms of carbon dioxide equivalents.

Version 11F of the CNSTEMIS model includes a database of 403 entries covering 97 basic equipment types. Entries for each equipment type are subdivided into engine size and fuel type categories that correlate with emission standards that have been adopted in recent years by the US Environmental Protection Agency (EPA) and the California Air Resources Board (CARB). In addition to equipment powered by conventional diesel, gasoline, and compressed gas (propane/CNG/LNG/LPG) engines, the database includes information for stationary diesel engines, oxy-fuel welders, oxy-fuel cutting torches, plasma cutting torches, and large equipment powered by diesel-electric or turbine engines. Database entries also address multi-engine equipment designs for scrapers, concrete pavers, mining shovels, and off-road haul trucks. Metal fume emissions have been incorporated into the PM_{10} emission rates for welders and cutting torches. Fugitive PM_{10} emissions have been incorporated into the emission rates for rock drills, jackhammers, pavement breakers, and concrete/industrial saws. Default database entries are provided for the appropriate range of small, medium, and large engine sizes for each equipment type. The current database provides default data for 403 combinations of equipment type, engine size range, and fuel type. Default engine sizes are representative of current equipment models from several major manufacturers (Caterpillar, Komatsu, Terex, John Deer, Case, Bobcat, Gradall, and others) as well as older equipment models that are still in use.

Greenhouse gas emission rates used in the CNSTEMIS model are based on Appendix C of the California Climate Action Registry (CCAR) 2007 general greenhouse gas emissions reporting protocol. Most of the greenhouse gas emission rates in the CCAR protocol document are based on equipment or vehicle fuel consumption rates. Equipment fuel consumption estimates used in the CNSTEMIS model are derived from horsepower-hour based fuel use data presented in documentation reports for the 2005 version of the EPA NONROAD model. The model computes the overall global warming potential of carbon dioxide, methane, and nitrous oxide emissions using carbon dioxide equivalence factors identified by the Intergovernmental Panel on Climate Change (IPCC). Users can select from the 1995, 2001, or 2007 IPCC equivalence factor data sets.

The main calculation sheet of the CNSTEMIS model allows construction or demolition projects to be divided into four activity phases. Multiple CNSTEMIS workbooks can be used for projects involving more than four activity phases. Separate CNSTEMIS workbooks by calendar year are encouraged when construction or demolition activity will occur in more than one calendar year. The main calculation sheet provides for simple data entry by the user: lookup table codes for equipment types by size range; number of items of each type by construction activity stage; and active hours per day for each equipment type by construction activity stage. Default equipment parameters (engine horsepower, average load factor, and typical use time within active hours) are automatically loaded into the calculation sheet. User can modify default equipment parameters under each activity stage.

CNSTEMIS users can select from three primary emission rate datasets: emission rates based on the original 1991 EPA non-road equipment database (useful only for estimates of emission rates in the absence of emission standards); emission rates adjusted for California and EPA emission standards and fuel sulfur limits (for projects in California); or emission rates adjusted for EPA emission standards and fuel sulfur limits (for projects in states other than California). When the user specifies the construction activity year, the equipment database sheet calculates appropriate average emission rates for the mix of older and newer equipment models of each equipment entry, recognizing the fleet replacement period for each equipment type and the implementation years for relevant California or EPA emission standards and fuel sulfur limits. Equipment entries are assigned fleet replacement times of 10, 15, 20, 25, or 30 years. Users can modify the fleet replacement times in the database if desired.

In addition to equipment engine emissions, CNSTEMIS calculates emissions from several other sources: fugitive dust emissions from general construction and demolition site disturbance; fugitive dust from building demolition; fugitive dust from construction blasting; volatile organic compound emissions from the curing of asphalt pavement; volatile organic compound emissions from paints and surface coatings; and PM_{10} aerosol emissions from spray painting activities. The fugitive dust database sheet in the model provides a range of default fugitive dust generation rates for construction activity and building demolition, information on the PM_{10} and $PM_{2.5}$ content of soils according to soil texture class, information on water application rates for fugitive dust control, a calculator to estimate the required number of water trucks, and a calculator to estimate fugitive PM_{10} and $PM_{2.5}$ emissions from construction blasting. The fugitive volatile organic compound (VOC) database includes a database of 49 categories of paints and coatings; a database of federal, state, and California air pollution control district limits for the VOC content of architectural coatings; and a calculator to generate project-specific fugitive VOC emission rates for up to 4 categories of coatings (e.g., exterior paints, interior paints, roof coatings, and floor coatings). The VOC emission rates account for the number and thickness of applied paint coats, which can include up to 3 coating types (primers, main coats, top coats) in each coating category. The demolition debris sheet in CNSTEMIS allows users to estimate demolition debris volumes, tonnages, and debris haul truck loads when independent estimates are not available. Additional database sheets in the model provide information on typical material densities and typical heavy equipment work rates. A detailed unit conversion factor database sheet also is included in the model.

The summary sheet in the CNSTEMIS model summarizes disturbed acreages, total equipment item numbers, total equipment use hours, total equipment fuel use, off-site truck trips, criteria pollutant emissions, diesel particulate matter emissions, and greenhouse gas emissions for each phase of activity. The summary sheet also provides a detailed tabulation of equipment items by activity phase, including the assumed horsepower, load factor, operating time factor, number of items, active hours per day, hourly fuel use rate, criteria pollutant emission rates, and greenhouse gas pollutant emission rates for each item type. In addition to the annual emissions summary, the summary sheet provides a phase overlap calculator that allows the extent of overlap among work phases to be identified and used for summarizing maximum day and maximum calendar quarter emissions. The construction phase overlap calculator allows the user to specify the number of work days by calendar quarter (default average values are 64 days for a 5-day work week schedule, 77 days for a 6-day work week schedule, and 89 days for a 7-day work week schedule).

The $PM_{2.5}$ emission estimates provided by the CNSTEMIS model are extrapolated from the PM_{10} emission estimates using separate $PM_{2.5}$ fractions for engine exhaust, fugitive dust, and spray painting, with the option of setting $PM_{2.5}$ fractions separately for each of these categories by construction phase. Default $PM_{2.5}$ fractions for engine exhaust and spray painting are based on the California Air Resources Board CEIDARS (California Emission Inventory Data and Reporting System) database. The default fugitive dust $PM_{2.5}$ fraction can be based on soil texture class using the fugitive dust database sheet in the model, or a more generic fraction from the CEIDARS database can be used. Users can substitute alternative $PM_{2.5}$ fractions for any of the default values.

COMPARISON OF THE CNSTEMIS AND URBEMIS MODELS

The CNSTEMIS model was developed to provide flexible but detailed calculation of emissions from construction and demolition activity applicable to any US location, not just California. Early versions of the CNSTEMIS model were developed before construction and demolition emissions were included in the URBEMIS model. The URBEMIS model was originally developed to estimate emissions from highway traffic associated with urban development projects. Modules addressing construction activities and various other emission sources are more recent additions to URBEMIS. The CNSTEMIS model has been designed with an emphasis on flexibility to address almost any type of construction or demolition project. In contrast, the URBEMIS model is designed with an emphasis on relatively simple default use, rather than for flexibility to address complex or unusual projects. The CNSTEMIS model undergoes frequent revision and improvement, and continues to provide a more flexible and comprehensive analysis of construction and demolition activity emissions than the URBEMIS model. Similarities and differences between the current version of the CNSTEMIS model and the construction activity module in URBEMIS2007 are noted in the table below.

Summary Comparison of Construction Emissions Analyses in the CNSTEMIS Model and URBEMIS2007

Component	CNSTEMIS 11F	URBEMIS2007
Source of uncontrolled equipment emission rates	EPA 1991 nonroad engine and vehicle emissions study	CARB database
Incorporates emission and fuel sulfur standards for California locations	Yes	Yes
Incorporates emission and fuel sulfur standards for non-California locations	Yes	No
Size of equipment database	97 equipment types, 403 total entries	36 equipment types, 212 total entries
Engine/Fuel types in database	Diesel, Gasoline, Compressed Gas, Diesel-Electric, Turbine-Electric	Diesel only
Multi-Engine equipment types in database	Yes	No
Allows user expansion of equipment database	Yes	No. Users can change equipment entry names, but cannot add new entries or change emission rate data.
Program provides default equipment types and number of items by construction phase	No. Users select expected equipment by phase from database, with number of items for each type entered separately.	Yes. Default equipment types provided according to pre-defined construction phases. Default list tends to be short, but vary somewhat by project size. Number of items based on overall project acreage. Users can modify default equipment lists.
Program provides default engine horsepower	Yes. Defaults by relative size category for each equipment type. Users select equipment entries from multiple HP ranges tagged with general descriptions of size categories (mini, small, medium, large, giant, etc.).	Yes. Program default is statewide average engine size for equipment type. Users can override with alternative HP value.
Program provides default load factor	Yes, based mostly on EPA data	Yes, based on CARB OFFROAD model
Users can modify default horsepower value and load	Yes	Yes

Component	CNSTEMIS 11F	URBEMIS2007
factor		
Program provides default equipment use hours per day	No. User specifies active hours for each equipment entry in each construction phase.	Yes, with minor variations by construction phase and total project acreage.
Explicit consideration of percent operating time during active hours	Yes, with defaults provided for each equipment type.	No.
Equipment fleet replacement cycle periods	User-modifiable defaults of 10, 15, 20, 25, or 30 years assigned in equipment database.	Based on the CARB OFFROAD model, but not further identified in URBEMIS2007 documentation. Other sources indicate the CARB OFFROAD model uses 2 to 32 years for different equipment types. No user modification option.
Equipment replacement rates can vary within an equipment type according to engine size	Yes. Default values identified in database.	CARB OFFROAD model data, but not further identified in URBEMIS2007 documentation. Other sources indicate the CARB OFFROAD model varies replacement period for small engine sizes in some equipment types.
Fugitive PM_{10} emissions included for rock drills, jackhammers, pavement breakers, and concrete saws	Yes	No. Database does not include rock drills, jackhammers, or pavement breakers.
Fugitive metal fume emissions included for cutting torches and welders	Yes	No. Database does not include cutting torches.
Fugitive NOx emissions included for plasma cutting torches	Yes	No. Database does not include cutting torches.
Includes calculation of both PM_{10} and $PM_{2.5}$ emissions	Yes	Yes
Includes calculation of diesel particulate matter emissions	Yes (equipment exhaust PM_{10})	Yes (equipment exhaust PM_{10})
Direct calculation of greenhouse gas emissions	CO_2, CH_4, and N_2O, with 9 fuel type distinctions (Calif. diesel, non-Calif. diesel,	CO_2 only, diesel fuel only

Component	CNSTEMIS 11F	URBEMIS2007
	biodiesel, gasoline, dual fuel, propane, CNG, LNG, and LPG. Choice of IPCC data sets for calculating CO_2 equivalents.	
Calendar Year limits	None	2005 through 2040 only
Flexibility for defining work phases	Complete flexibility, no pre-defined phases. Basic worksheet accommodates 4 phases. Multiple workbooks can be used to accommodate more than 4 phases.	Must select from 7 pre-defined phase types (demolition, mass grading, fine grading, trenching, building construction, asphalt paving, and architectural coating). User can duplicate pre-defined phase types to accommodate a larger number of phases as long as duplicated phases have different start or end dates.
Flexible treatment of work phase overlaps	Yes	Yes
Options for specifying work days per week	Yes, with defaults for 5-day, 6-day, and 7-day work weeks.	Yes, with defaults for 3-day, 4-day, 5-day, 6-day, and 7-day work weeks.
Database for identifying PM_{10} and $PM_{2.5}$ fractions of fugitive dust based on soil texture class	Yes	No
Fugitive dust emissions included in all construction phases	Yes	No. Only included for mass grading and fine grading phases.
Fugitive dust emission rates can be varied by phase to reflect the phase-specific extent of site disturbance	Yes	No. Default values only, and only for mass grading and fine grading phases. Choice of 4 methods to calculate fugitive dust emission factors based on available construction details.
Fugitive dust control factors can be varied by phase	Yes	Limited. Users can apply items on a default list of mitigation measures only for mass grading and fine grading phases
Includes fugitive dust from mechanical building demolition	Yes	Yes
Includes fugitive dust from explosive building demolition	Yes	No

Component	CNSTEMIS 11F	URBEMIS2007
Calculation of demolition debris quantities	Optional worksheet for direct calculation of debris volume, debris tonnage, and truck loads from building size and shape, extent of interior walls, extent of debris grinding, truck capacity, etc. Also default suggestions based on building type for quick analysis.	Default calculation of truck loads from building volume and truck capacity. No debris tonnage estimates.
Includes fugitive dust from construction blasting	Yes	No
Calculation of painted surface areas	Optional worksheet for direct calculation from building size and shape, extent of interior walls, extent of non-painted exterior area, etc. Also default tables for quick analysis.	Default calculation based on square footage of nonresidential buildings and number of residential units. Fixed default building square footage values for residential land uses.
Flexibility of architectural coating emission calculations	Optional worksheet for up to 4 surface coating categories at a time, each category allowing multiple coats of up to 3 different coatings with user-specified coating thickness.	Default calculations only. A fixed paint coverage factor and 2 fixed coating categories (exterior and interior) for each land use type, with mitigation option of specifying % reduction from use of low VOC coatings. No option for user-specified coating types or VOC content.
Accuracy of architectural coating emission calculations	Proper calculation converting regulatory VOC content into actual volumetric VOC content. Internal database of properties for 49 coating types. Users can substitute product-specific data. Internal database of regulatory VOC limits for EPA, CARB, and California APCDs.	Incorrect calculation methodology, treating regulatory VOC content as actual volumetric VOC content. No provision for user correction. Internal database of regulatory VOC limits for California APCDs.
Includes PM_{10} emissions from spray painting	Yes	No
Includes fugitive VOC emissions from the curing of asphalt pavement	Yes	Yes

Component	CNSTEMIS 11F	URBEMIS2007
Direct calculation of emissions from on-site truck traffic	Yes	Only if users add truck items and use hours to the default equipment lists.
Direct calculation of emissions from construction worker commute vehicles	No. Users should calculate separately using URBEMIS2007 or EMFAC2007 for projects in California and MOBILE6.2 for projects in other states.	Yes, for each construction phase. URBEMIS generates default trip data.
Direct calculation of emissions from off-site truck traffic	No. Users should calculate separately using URBEMIS2007 or EMFAC2007 for projects in California and MOBILE6.2 for projects in other states. CNSTEMIS allows users to compute a direct estimate of truck trips by project phase.	Yes, but only for Demolition, Grading, Building Construction, and Asphalt Paving phases. URBEMIS generates default trip data.

Comparisons of diesel equipment emission rates generated by the CNSTEMIS model and URBEMIS2007 generally show that the CNSTEMIS model generates somewhat higher emission rates (grams per horsepower-hour) than does the URBEMIS2007 model. The differences are most likely due to the differences in uncontrolled emission rates (EPA database in CNSTEMIS) and differences in equipment fleet replacement times (generally longer in CNSTEMIS). Differences in overall construction activity emission estimates between CNSTEMIS and URBEMIS are more difficult to predict. The CNSTEMIS database includes many types of equipment not covered by the URBEMIS database, including gasoline and compressed gas fueled equipment. The larger database allows CNSTEIMS analyses to account for more types of equipment than can be addressed by URBEMIS. In general, URBEMIS uses only a short list of default equipment types for each construction phase, and the default equipment lists do not include many items commonly seen at construction sites (tracked dozers, wheeled loaders, heavy trucks, trenchers, skid steer loaders, aerial lifts, air compressors, etc.). On the other hand, URBEMIS tends to assume relatively high default use hours for most equipment types, with no adjustment for the fact that most items do not operate continuously, even in active hours. The CNSTEMIS model explicitly addresses this issue through an operating time factor (percent operating time during active use hours). CNSTEMIS users select equipment items by engine size range, rather than relying on statewide average engine size defaults as in URBEMIS. In many cases, the URBEMIS statewide average horsepower rating is higher than the midpoint of the size range distribution for an equipment type. Overall, the CNSTEMIS model allows for a more comprehensive analysis than can be provided by the URBEMIS model.

APPENDIX E
SHPO CONCURRENCE LETTER

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07 September 2010

In Reply ~~Refer To BUR1008~~ 2B

Michael A. Chotkowski
Regional Environmental Officer
Bureau of Reclamation
Mid-Pacific Regional Office
2800 Cottage Way
Sacramento, CA 95825-1898

RE: Section 106 Consultation for the Replacement of the Nimbus Fish Hatchery, Sacramento County, CA

Dear Mr. Chotkowski,

Thank you for initiating consultation with me pursuant to 36 CFR Part 800, the regulation that implements Section 106 of the National Historic Preservation Act of 1966 (16 U.S.C. 470f), as amended, and other applicable regulations. The Bureau of Reclamation (Reclamation) letter of 12 August 2010 requests that I concur with the determination of No Adverse Effect for the undertaking.

As I presently understand it, Reclamation proposes to construct a new fish passageway from the Hatchery to the stilling basin below Nimbus Dam and remove the existing diversion weir. Nimbus Dam will function as the upstream barrier to fish migration. The new fish ladder will tie into the existing fishway at the top of the fish ladder section near the Hatchery, and the ladder below the point will be abandoned. The new ladder will be a concrete flume, a pool and weir fish ladder, and a rock-lined channel.

The Reclamation defined the Area of Potential Effects (APE) to include the Hatchery, comprised of north and south banks of the lower American River; the Hatchery complex and adjacent parking lot; and Nimbus Shoals on the eastern side of Hazel Avenue. I find this sufficient pursuant to 36 CFR 800.4(a)(1).

One potential historic property was identified within the APE for the undertaking, the Nimbus Fish Hatchery Complex. Reclamation has determined the complex is not eligible for inclusion in the National Register of Historic Places (NRHP). I concur with this determination.

Because there are no historic properties within the APE for this project, Reclamation has determined that no historic properties will be affected by this undertaking and I concur with this determination.

Thank you for considering historic properties in your planning process and I look forward to continuing consultation. Please direct any questions or concerns that you may have to Amanda Blosser, Project Review Unit architectural historian, at 916-445-7048 or at ablosser@parks.ca.gov.

Sincerely,

Susan K Stratton for

Milford Wayne Donaldson, FAIA
State Historic Preservation Officer

MWD:ab