Sierra Nevada Conservancy-Progress Report

Sierra Nevada Conservancy Grant Program
Safe Drinking Water, Water Quality and Supply, Flood Control
River and Coastal Protection Act of 2008 (Proposition 84)

Grantee Name: **Nevada Irrigation District**

Project title: **Combie Reservoir Sediment and Mercury Removal**

SNC Reference Number: **SNC G0732008** 070150 **Submittal Date: 12/15/2010**

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Check one:

_____ **6-Month Progress Report**
__X__ **Final Report**

6-Month Progress Reports should reflect the previous six months. **Final Reports** should reflect the entire grant period.

A. Progress Report Summary:
The scope of this project included development and submittal of documents for the California Environmental Quality Act (CEQA), Section 404 Dredge and Fill Permit, and Section 401 Water Quality Certification for the Combie Reservoir Sediment and Mercury Removal Project. The environmental review and permitting process was a critical step to leveraging additional project funds and moving the overall project toward full implementation.

Biological, cultural, traffic, and noise studies were completed as supporting documentation to the CEQA Initial Study. The NID Board of Directors issued the Notice of Determination for CEQA in September 2009.

In addition, an anti-degradation study and equipment tests were completed as supporting documentation for the Section 401 certification. The anti-degradation study was completed on October 28, 2010 and submitted to the Central Valley Regional Water Quality Control Board. The Streambed Alteration Notification application was submitted concurrently to the California Department of Fish and Game. A Nationwide Permit Number 16 determination has been issued by the Army Corps of Engineers.

B. Deliverables or Outcomes completed during this Reporting Period or Milestones Achieved:
The primary project deliverable was a completed CEQA document (i.e., project description and initial study) with attached biological, cultural, traffic, and noise studies. The Notice of Determination for CEQA was issued by the NID Board in September 2009.

As part of the CEQA process, three public meetings were held to provide project details to neighboring communities and receive public feedback on proposed activities. Two public meetings were held in February 2009. The first meeting was held in Colfax, CA and the second was at the Higgins Building in Nevada County. There were 32 attendees at the first meeting and 39 at the second. The meetings consisted of a 30-minute presentation of the project, followed by 30 minutes of question-and-answer. Public comments were incorporated into the project

description and follow-up meetings were held at the Meadow Vista Municipal Advisory Council in April 2009.

The anti-degradation study, completed for the 401 Certification, is an additional project deliverable. This study included monthly water quality samples (taken over 12 months) at three locations and on-site tests of the mercury extraction equipment. The equipment tests were conducted in late September and early October 2009. These equipment tests served two purposes: (1) the effluent was sampled in order to determine the water quality impacts of the project on Combie Reservoir, and (2) interested parties, stakeholders, and legislators were invited to tour the facility and become familiar with the project. The results of these equipment tests helped to foster strong working relationships with regulators at the Regional and State Water Resources Control Boards, Nevada and Placer County Environmental Health Departments, and USGS scientists.

The anti-degradation study, which incorporated the results of the equipment tests, was completed in October 2010 and submitted to the Central Valley Regional Water Quality Control Board, as supporting documentation to the 401 Certification application, concurrently with submission of the Streambed Alteration Notification application to the Department of Fish and Game. The results of the equipment tests were attached as an appendix to the anti-degradation study. The goal is to submit the results of the equipment tests to environmental science and engineering peer-reviewed journals.

The studies completed to support environmental permitting are attached on a compact disk.

Additional project deliverables include:

- Habitat maps
- Meetings and initial contact with permitting agencies have occurred, including the Department of Fish and Game, Army Corps of Engineers, Department of Water Resources, and Regional Water Quality Control Board.
- State of the System Report and Literature Review on current conditions
- Water sampling plan reviewed by the water board (February 2009)

C. Challenges or Opportunities Encountered: (Please describe what has worked and what hasn't; include any solutions you initiated to resolve problems. If your project is not on schedule, please explain why here.)

A fantastic opportunity to submit an appropriations request to Senator Feinstein for the project implementation funds was completed February 5, 2010. If approved, we will have successfully leveraged the CEQA permitting funds provided by the Conservancy to acquire approximately $3.4 million to carry out the project.

The main challenge encountered during project implementation was the bond freeze that began on December 17, 2008 and continued until November 2009. This required a revision of the work plan to reflect accurate dates for deliverables and deadlines.

In addition, it was necessary to change the Natural Heritage Institute's report on flow augmentation to meet the needs of the project and the requirements for CEQA. As a result, a private consultant was hired to take over this work from NHI. Thus, new tasks were developed and the grant contract with the SNC was amended. These tasks more clearly reflected the work needed to complete CEQA and support the project through implementation.

USGS processed the sediment samples taken during the equipment tests for mercury. The inter-governmental agreement between NID and USGS took longer than anticipated to execute, which resulted in a minor delay of the release of sediment data taken during the equipment tests and subsequent completion of the Water Quality Report. This did not have any negative affects on the overall implementation of the project.

D. Unanticipated Successes Achieved:

There have been a few unanticipated successes beyond completing scheduled tasks during the reporting period. For example, NID has had successful meetings regarding the project with the Department of Fish and Game, Department of Water Resources, and the State Water Resources Control Board. These regulatory agencies have been receptive and supportive of the project moving forward.

Also, a cultural survey to protect any historical areas in the project area was conducted as part of the CEQA process.

Demonstrations of the project activities (held at Combie Reservoir in September and October 2009) enabled NID to conduct a series of show-and-tell events for county supervisors, regulatory staff, local politicians, organizations, and community members. This not only generated a lot of positive press and support for the project, but also led to the Feinstein appropriations request for FY2011.

E. Compare Actual Costs to Budgeted Costs: (Please refer to your grant agreement to list your deliverables/budget categories and budgeted costs compared to actual costs incurred during this reporting period in the table below.)

PROJECT BUDGET CATEGORIES	Budgeted SNC Dollars	Actual Dollars (to date)
Meetings with consultants and permitting agencies	$15,000	$15,000
Initial study and environmental review, including sampling, mapping, inventory, and analysis	$10,000	$10,000
Preparation of CEQA documents	$60,000	$60,000
Permits	$15,000	$15,000
GRAND TOTAL	**$100,000.00**	**$100,000.00**

F. Do you have information to report on the project-specific Performance Measures for your project?

Performance measures were not required under the grant agreement. Project deliverables and outcomes are discussed in detail in other sections of this final report.

G. Were there any other relevant materials produced under the terms of this Agreement that are not a part of the budgeted deliverables? If so, please attach copies.

- Maps of the project area that were developed by the NID GIS department
- Biological Survey conducted by Garcia Associates
- Cultural Survey conducted by Sonoma State University

- A project video (see http://nidwater.com/mercury-removal.cfm)
- Project brochure
- Project white paper

H. Next Steps:

NID will participate in the 2010-2011 SNC Legislator's Tour (originally scheduled for November 19, 2010 and postponed – new date to be determined). During this tour, legislators, staff, and others will be provided with information regarding the project activities and ongoing implementation. The potential beneficial impact of the project on a larger scale will be shared with attendees so they understand the importance of the overall project.

Additional environmental permits will be obtained. Specifically, the 401 certification and Streambed Alteration Notification applications were submitted Nov 1, 2010. There is a 60-day review period for these applications. A Nationwide Permit Number 16 determination has been made by the U.S. Army Corp of Engineers.

An application for Cleanup and Abatement Funds through the State Water Resources Control Board has been drafted. We expect to submit the application in February 2011.

An application for funding the initial construction activities of the project has been submitted to the Sierra Nevada Conservancy under the FY 2010-11 Proposition 84 Grant Program.

Capacity-Building Results and Collaboration and Cooperation with Stakeholders: Several partnerships were initiated and others strengthened as a result of the project. Jim Molinari, Dianne Feinstein's chief of staff, participated in the project demonstration and this resulted in an FY2011 appropriations request.

In addition, the partnerships with the Sierra Fund and the U.S. Geological Survey were strengthened. Both of these organizations will continue to be involved in project activities as the overall project is implemented. This means that the partnerships will not only be sustained but we will have additional opportunities to strengthen our work with these organizations and their staff.

NID's relationship with the Central Valley Regional Water Quality Control Board was strengthened. NID met with the water board three times before submitting our permit application and received feedback throughout the process. The water board's comments assisted us in refining the environmental permit and process. This relationship will be sustained through ongoing discussions regarding permitting and project activities.

A relationship with the Delta Tributary Mercury Council was initiated during project implementation. This relationship will be sustained through ongoing information sharing and reciprocal attendance at meetings.

In addition, NID has had successful meetings regarding the project with the Department of Fish and Game, Department of Water Resources, and the State Water Resources Control Board. These regulatory agencies have been receptive and supportive of the project moving forward.

Description of Project Accomplishments:

1. **Most Significant Accomplishment**
   The most significant accomplishment that resulted from this grant was the completion of the initial mercury extraction equipment tests, which proved that it is possible to quantify mercury removal from the sediment in the reservoir. Four equipment tests resulted in the removal of 804 mg of elemental mercury from 944 kg of materials taken from Combie Reservoir, and the advancement of our understanding of how mercury behaves.

2. **WOW Factor**
   The ability to effectively and efficiently remove mercury from sediments that have built up in our water storage facilities is a major accomplishment. If implemented throughout the Sierra Nevada, a project such as this could result in tremendous benefits that would be felt throughout the state of California. The research opportunities associated with this project are also critical to improving our understanding of the fate and transport of legacy mercury throughout our watersheds. The completion of CEQA and environmental permitting leads directly to our ability to implement the overall project and achieve these goals.

3. **Design and Implementation**
   There were two lessons learned that we feel are important to keep in mind when implementing this type of project. First, don't underestimate the work that goes into environmental permitting, and second, allow for sufficient time and budget to support several drafts of materials.

4. **Indirect Impact**
   This project is included in the Sacramento/San Joaquin Basin Plan. The methylmercury TMDL will evaluate strategies to remove mercury from the upper watershed. The inclusion of upper watershed sources as an element of the American River TMDL is also being considered as a result of this project. The existence of a potential solution has encouraged people to acknowledge the scope and source of the problem, rather than turning a blind eye.

5. **Collaboration and Conflict Resolution**
   The overall Combie Reservoir Sediment and Mercury Removal Project includes many project partners, such as the Nevada County Resource Conservation District, The Sierra Fund, U.S. Geological Survey (USGS), Pegasus Earth-Sensing, Inc. (Pegasus) and the CABY IRWMP. USGS, Pegasus and CABY have been involved not only in project activities but have contributed to the overall development and design of the project. These partnerships have improved the overall project and strengthened coordination across the Sierra Nevada around the important topic of legacy mercury contamination. No conflicts were encountered during project design or implementation.

6. **Capacity-Building**
   NID was founded in 1921 and has been operating for almost 90 years. NID is an independent special district operated by and for the people who own land within its 287,000-acre boundaries. NID provides service in an expansive geographic area that makes the district one of the largest in the State of California. The district is organized primarily to supply water for irrigation, municipal, domestic and industrial purposes. NID water is available in wide areas of Nevada and Placer counties; the district also has storage and distribution facilities in Sierra and Yuba counties. NID collects water on 70,000 acres of high mountain watershed, owns and operates an extensive reservoir and canal system and network of water treatment plants. The district produces hydroelectric energy and provides outdoor public recreation.

   As a public agency, NID operates under authority conferred by the California Water Code. NID board meetings are conducted in public and the district's records are open to public inspection during normal business hours.

   Current tenure of capital improvement programs includes $250 million dollars, with an average of $12 million per year. NID has 175 employees, and 22,000 agriculture and treated water customers. NID runs seven water treatment plants and seven hydroelectric plants. In addition, the district maintains and manages 10 reservoirs

with 280,000 acre-feet of storage. The district also maintains and manages 400 miles of canals and 300 miles of pipeline.

As discussed in the response to question 5, this project enabled NID to increase coordination across the region with several organizations. Further, the District was able to coordinate and communicate effectively with the general public throughout the Sierra Nevada and surrounding watersheds.

This project has allowed NID to expand and enhance their role as stewards of the watershed.

7. Challenges

The main challenge encountered during project implementation was the bond freeze that began on December 17, 2008 and continued until November 2009. This required a revision of the work plan to reflect accurate dates for deliverables and deadlines.

In addition, it was necessary to change the Natural Heritage Institute's report on flow augmentation to meet the needs of the project and the requirements for environmental permitting. As a result, a private consultant was hired to take over this work from NHI. Thus, new tasks were developed and the grant contract with the SNC was amended. These tasks more clearly reflected the work needed to obtain environmental permits and support the project through implementation.

USGS processed the sediment samples taken during the equipment tests for mercury. The inter-governmental agreement between NID and USGS took longer than anticipated to execute, which resulted in a minor delay of the release of sediment data taken during the equipment tests and subsequent completion of the Water Quality Report. This did not have any negative affects on the overall implementation of the project.

Several changes to the project's design were made as a result of the CEQA process, including the public meetings and review. The most significant was the decision to use an electric dredge. This decision resulted from feedback gathered during the public meetings. Additional studies were also conducted, such as the cultural, noise, and traffic studies. While these were not initially anticipated, they resulted in the collection of information that allowed us to further refine the project design and overall implementation.

8. Photographs

Five photos illustrating the project site are attached on a compact disk.

9. Post Grant Plans

Immediate post-grant plans are as follows:

NID will participate in the SNC Legislator's Tour for 2010-2011. During this tour, legislators, staff, and others will be provided with information regarding the project

activities and ongoing implementation. The potential beneficial impact of the project on a larger scale will be shared with attendees so they understand the importance of the overall project.

It is expected that additional environmental permits will be approved by April 2011. These include the 401 Certification and Streambed Alteration Permit (applications were submitted Nov 1, 2010). There is a 60-day review period for these applications.

An application for Cleanup and Abatement Funds through the State Water Resources Control Board has been drafted. We expect to submit the application in February 2011, following our receipt of the environmental permits.

An application for funding the initial site setup and construction activities has been submitted to the Sierra Nevada Conservancy.

We plan to submit the results of the mercury removal equipment tests to environmental science and engineering peer-reviewed journals.

The project partners that have been identified in the current project design will remain involved and NID will continue to seek feedback and input from regulatory agencies and others, as appropriate.

The results of ongoing project implementation will be shared with organizations throughout the region, as well as the general public. Events, such as the Legislator's Tour, will be an important element of future outreach activities.

10. Post Grant Contact

Who can be contacted a few years from now to follow up on the project? Please provide name and contact information.

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Items included on Attached Disk

1. Army Corps of Engineers Nationwide Permit Documents
2. Antidegradation Analysis
3. CDFG Notification of Lake or Streambed Alteration
4. CDFG Notification II
5. CEQA Documents
    a. Cover Sheet Project Description
    b. Project Description
    c. Initial Study
    d. Biological Evaluation
    e. Cultural Resources Study
    f. Noise Assessment
    g. Traffic Analysis
    h. Traffic Appendix
    i. CDC Letter
    j. CDC Combie Sands and Gravel
    k. Notice of Determination
6. Mercury White Paper

FIG 1 Location Maps

FIG 2 Site Map

FIG 3 Area of Work

FIG 4 Work Area

FIG 5 Process Flow Diagram