A. Coy Kendall

United States Department of the Interior

BUREAU OF RECLAMATION
Washington, DC 20240

IN REPLY REFER TO:
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MEMORANDUM

To: Kenneth L. Salazar
Secretary of the Interior

Through: Anne J. Castle
Assistant Secretary – Water and Science

OCT 22 2012

From: Michael L. Connor
Acting For
Commissioner

OCT 18 2012

Subject: Implementation of the National Fish Habitat Action Plan

On March 5, 2012, you signed a Memorandum of Understanding (MOU) between the Departments of the Interior, Agriculture, and Commerce implementing the National Fish Habitat Action Plan (NFHAP). The MOU requires bureaus within Interior to report to their respective Secretaries this year and at 2-year intervals, thereafter. The Bureau of Reclamation has been participating in the Federal Caucus of the NFHAP for several years.

Guidance on formatting of the report and the various attachments was coordinated with the Federal Caucus of the NFHAP, led by the U.S. Fish and Wildlife Service, to ensure consistency within the Department. Attached is our report of accomplishments under the NFHAP over the last few years.

We look forward to continued participation in the Federal Caucus of the NFHAP and meeting our responsibilities identified in the MOU. Please contact Art Coykendall in Reclamation's Office of Policy and Administration at acoykendall@usbr.gov or 303-445-2915, if you have any questions or need additional information.

Attachment

Multi-Bureau NFHP Highlights

Submitted to the Secretary of the Department of the Interior

BUREAU OF RECLAMATION

Foster New and Support Existing FHPs

(reference the NFHAP Implementation Strategy #1 -*Support existing Fish Habitat Partnerships and foster new efforts.)*

Agency	Project Title	Timeline	NFHAP Goal Addressed
BOR	San Joaquin River Restoration Program	2006-present	2, 3, and 4
	Brief Project or Program Description		
	The San Joaquin River Restoration Program is a comprehensive, long-term effort to restore flows to the San Joaquin River from Friant Dam to the confluence of the Merced River, in order to create a self-sustaining Chinook salmon fishery in the river, while reducing or avoiding adverse water supply impacts from restoration flows. There are two primary Program goals: Restoration and water management. The restoration goal is to restore and maintain fish populations in the main stem of the San Joaquin River below Friant Dam to the confluence of the Merced River, including naturally reproducing and self-sustaining populations of salmon and other fish. The water management goal is to reduce or avoid adverse water supply impacts to all of the Friant Division long-term contractors that may result from restoration flows. Federal participation in the Program is authorized by the San Joaquin River Restoration Settlement Act, part of the Omnibus Public Land Management Act of 2009. Implementing agencies include the U.S. Fish and Wildlife Service and National Marine Fisheries Service, along with the State of California through the California Department of Fish and Game and California Department of Water Resources. To date, the Program has begun releases into the San Joaquin River to re-wet over 60 miles of the once-dry San Joaquin River channel, completed a series of studies related to salmon reintroduction, and is working to complete design and environmental compliance activities that would allow for increased flows in the San Joaquin River and provide for fish passage and fish habitat needs.		
BOR	Red Bluff Fish Passage Improvement	2010-2012	1, 3, and 4
	Brief Project or Program Description		
	The Red Bluff Fish Passage Improvement project involved construction of a pumping plant with associated fish screens to replace the existing Red Bluff Diversion Dam. Prior to the screened pumping plant, the existing dam created a barrier to migrating fish, some of which are listed under the Endangered Species Act. With the addition of the screened pumping plant, the diversion dam gates will be permanently placed in the open position for free migration of fish.		
BOR	Desert Terminal Lakes Program	2006 - Present	1, 2, 3, and 4
	Brief Project or Program Description		
	The $375 million Desert Terminal Lakes Program (DTL Program) funds multiple watershed restoration projects in eastern California and western Nevada, including three terminal lakes (Walker, Pyramid and Summit) and four associated river basins (Walker, Truckee, Carson and Summit). The DTL Program has funded various projects that improve riverine and lacustrine fish habitats, including for two fish species listed under the Endangered Species Act. Within the past two years, these projects have included large scale water acquisition programs in two river basins that result in the substantial improvement of both riverine and imperiled desert terminal lake fish habitats. Installation of a fish barrier for non-native species and hazardous fuels reduction forest management have occurred on land surrounding a unique lake ecosystem in the Sierra mountains allowing for protection of the lake's fisheries. In addition, the Program includes several completed and ongoing river restoration projects that significantly enhance fish habitat. Ongoing federal agency and university research has been funded related to watershed health issues affecting fish habitat, as well as exploration of fish hatchery improvements for a listed species.		

BOR	Federal Columbia River Power System Tributary Habitat Program	2006-present	1, 2, 3 , and 4
	Brief Project or Program Description		
	• Reclamation works in partnership with local landowners, representatives from states, Tribes and other federal agencies, and conservation groups on habitat projects to improve spawning and rearing habitat for Columbia River Basin salmon and steelhead listed under the Endangered Species Act. • The program is focused on providing technical services including project coordination, environmental compliance, permit application, engineering design, and construction monitoring to local project sponsors. • Reclamation contributes to projects that increase streamflow through water acquisition or lease; remove barriers to improve access to a greater range of spawning and rearing habitat; replace screens on water diversions; increase channel complexity.		
BOR	Bay-Delta Conservation Plan	Ongoing	1, 2, 3 & 4
	Brief Project or Program Description		
	The Bay Delta Conservation Plan (BDCP) is a large and complex science-based ecosystem restoration program for the San Francisco Bay-Delta Estuary. Reclamation is providing technical assistance in the development of the BDCP and associated Environmental Impact Report/Environmental Impact Statement.		
BOR	Central Valley Project Implementation Act (CVPIA)	2006 - present	1,2,3, and 4
	Brief Project or Program Description		
	• Reclamation provides funding and cooperates with the U.S. Fish and Wildlife Service in carrying out the numerous and varied mandates of the Central Valley Project Improvement Act of 1992, including those in Section 3406(b)(1) of the Act to make all reasonable efforts to double natural production of anadromous fish in Central Valley streams. • Reclamation funds and/or carries out activities associated with the Anadromous Fish Screen Program (AFSP), spawning gravel augmentation, hydrologic modeling, fish studies, in-stream flow augmentation, and fishery habitat restoration as required by the Act.		
BOR	Implementation of Reasonable and Prudent Alternative (RPA).	Ongoing	1, 2, 3 & 4
	Brief Project of Program Description		
	Reclamation leads a group of Federal and State agencies in a collaborative effort to implement the RPA from the 2009 Biological Opinion for the long-term operation of the State Water Project and Central Valley Project in California. RPA actions include floodplain habitat restoration, providing specific flows and water temperatures, improving fish passage and spawning habitat, and improving species genetics. To date various habitat restoration projects have been implemented and specific criteria developed to meet water quality criteria for Endangered Species Act listed species.		
BOR	Science Task Force	Ongoing	3 & 4
	Brief Project of Program Description		
	The Science Task Force was established in 2010 through a Congressional request, with the goal to incorporate new science into the process for implementing the biological opinions for management of the San Francisco Bay-Delta, and development of an integrated biological opinion for management of the Delta. Reclamation provides leadership, funding, staff, and resources.		

BOR	Battle Creek Salmon and Steelhead Restoration Project	2009 - Present	1,2,3,4
	Brief Project or Program Description		
	Battle Creek is one of the most important anadromous fish spawning streams in the California Sacramento Valley. Reclamation's Mid-Pacific Region is managing the collaborative effort between Reclamation, Pacific Gas and Electric Company and various resource agencies, including the California State Water Resources Control Board, the U.S. Fish and Wildlife Service, National Marine Fisheries Service, the California Department of Fish and Game, and the Federal Energy Regulatory Commission to restore 48 miles of habitat in Battle Creek and its tributaries, while maintaining a renewable energy resource for electric customers in California. To date, a hydropower diversion dam has been removed, two fish screens and ladders have been installed, and a powerhouse bypass and tailrace connector have been constructed. In FY 2012, larger numbers of Chinook salmon returned to spawn in restored habitat upstream of where the diversion dam was removed; over four times the number of salmon redds (fish nests) were seen than in previous years.		
BOR	Lewiston Temperature Management Study	2011-Present	3 and 4
	Brief Project of Program Description		
	Reclamation's Mid-Pacific Region is preparing a technical memorandum for the Trinity River Restoration Program (TRRP) Temperature Work Group (TWG) that includes descriptions and preliminary cost estimates for alternatives to improve the transmission of cold water through Lewiston Reservoir, improve habitat on the Trinity River, increase salmon production, and maintain recreational benefits. The TRRP TWG is a collaborative work group comprised of multi-agency representatives that addresses the challenges of managing water releases for temperature control compliance and coordinates projects focused on temperature monitoring and modeling.		
BOR	Conner Creek Mouth Fish Passage Enhancement Feasibility Study	FY2012	1,2,3,4
	Brief Project or Program Description		
	• The Trinity River Restoration Program (TRRP) provides support to the NFHP through funding of cooperative watershed restoration projects conducted with matching and in-kind contributions from a wide range of local, regional, State, Tribal and federal partners and collaborators. • In 2012 TRRP, with partners and collaborators, is determining the feasibility, hydraulics, hydrology, fish passage, cost, and timeline to restore Conner Creek flow to the original confluence with the Trinity River to allow unimpeded access and cool water refugia for steelhead and coho juveniles during migration flows. Connor Creek is a 2012 NFHP "Water to Watch".		
BOR	Lower American River Flow Management Standard	2006-present	1,2,3,4
	Brief Project or Program Description		
	The Lower American River Flow Management Standard is intended to improve the condition of the aquatic resources in the Lower American River, particularly for fall-run Chinook salmon and Central Valley steelhead, and to promote a dynamic, resilient and diverse fish assemblage within the context of water availability and operational constraints at Nimbus and Folsom Dams. The standard consists of three elements: (1) Minimum flow requirements and water temperature objectives; (2) Lower American River Group (ARG); and (3) a monitoring and evaluation program. Reclamation has been operating to these flows and temperatures, within the constraints of water availability since 2006. Reclamation serves as the ARG sponsor, and carries out a number of other activities related to management of the flow standard.		
BOR	San Clemente Dam Removal Project, Carmel River, Monterey County, California	2009-2011	3 and 4
	Brief Project or Program Description		
	Cal American Water (CAW) is the owner of the old (circa 1921) San Clemente Dam located 18.5 miles up the Carmel River. This dam is considered obsolete and is proposed to be removed. At the request of the CAW, Reclamation provided a Design, Estimating & Construction review (DEC Review) of how the dam is proposed to be removed and the stream channel restored. Reclamation's reviews concluded that there were several ways the deconstruction process could be improved. Removal of this dam would result in creation of more than 25 miles of prime steelhead trout habitat on the Carmel River.		

BOR	Shasta Lake Water Resources Investigation Draft Feasibility Report and Preliminary Draft EIS	2012	2, 3, and 4
	Brief Project or Program Description		
	Reclamation prepared a Draft Feasibility Report and Preliminary Draft EIS in coordination with cooperating agencies, other resource agencies, stakeholders, and the public, to evaluate the potential enlargement of Shasta Dam and Reservoir to (1) improve anadromous fish survival in the upper Sacramento River, (2) increase water supply reliability in the Central Valley of California, and (3) address related water resource problems, needs, and opportunties. When the Feasibility Report and EIS are finalized, the Secretary of the Interior will use both documents and supporting information to provide a recommendation to Congress.		
BOR	North-Of-Delta Offstream Storage Investigation	2006-Present	2, 3, and 4
	Brief Project of Program Description		
	Reclamation is conducting a study to determine if there is federal interest in an offstream storage facility north of the Sacramento-San Joaquin Delta. One of the primary objectives includes improving the reliability of cold-water carry-over storage in the Shasta, Oroville, Trinity, and Folsom reservoirs for anadromous fish and other aquatic species. This objective also includes increasing supplemental flows for cold water releases for salmon and steelhead on the Sacramento and American Rivers, and providing supplemental Delta outflow during summer and fall months to improve estuarine habitat for anadromous fish and other estuarine-dependent species. This study is ongoing and planned for public release in 2013.		
BOR	Klamath Basin Restoration Program - Enhance overwintering salmonid habitat in McGarvey Creek, Lower Klamath River	2011-current	2
	Brief Project or Program Description		
	Funding is provided to the Yurok Tribal Fisheries Program to conduct stream and floodplain enhancement activities in a watershed which supports coho salmon, chinook salmon, steelhead, and coastal cutthroat trout. Project objectives include creating complex off-channel rearing habitat for natal and non-natal salmonids, de-constructing priority floodplain roads and stream crossings, and installing complex wood jams to improve aquatic habitat conditions for fish and wildlife.		
BOR	Klamath Basin Restoration Program - Mid Klamath River Habitat Enhancement Project	2010-current	2
	Brief Project of Program Description		
	This project implements treatments to improve thermal refugia habitat and off-channel and side channel habitat for rearing ESA listed coho salmon in the Klamath River. Project treatments enhance cover complexity through placement of on-site large woody debris, small woody debris (brush bundles), and willow plantings along 4 miles of lower tributary reaches identified as important summer refugia habitat for juvenile coho salmon.		
BOR	Klamath Basin Restoration Program - Harriman Spring and Fourmile Creek Restoration, Upper Klamath Lake, Oregon	2010-2012	2
	Brief Project of Program Description		
	This project addresses the problem of poor habitat quality for Lost River suckers and shortnose suckers by restoring natural hydrologic characteristics to the springs, stream channel, and wetland.		
BOR	Barkley Springs Habitat Restoration Project, Upper Klamath Lake, Oregon	2008-2012	2
	Brief Project or Program Description		
	Reclamation has partnered with other agencies to re-create an historical spawning habitat site for endangered shortnose and Lost River suckers native to Upper Klamath Lake. Project objectives included reestablishment of spawning population of endangered suckers, increasing populations of endemic fish species, providing for existing park and boater uses, and protecting cultural resources. The project created approximately 1 acre of marsh and riparian habitat, and 1,500 feet of a meandering spring-fed channel.		

BOR	Upper Klamath Lake Shoreline Wetland Project, Oregon	2010-2011	2
	Brief Project of Program Description		
	This project created 1.5 acres of lake fringe wetland habitat consisting of largewood, rock sills, willows, and soil substrate for emergent vegetation. The project added habitat diversity to the Upper Klamath Lake shoreline for endangered suckers and other aquatic species.		
BOR	Klamth Basin Restoration Program - Barkley Springs Sucker Entrainment Reduction Project	2010-2012	2
	Brief Project of Program Description		
	This project eliminated an irrigation diversion in the newly created Barkely Springs sucker spawning habitat area and relocated it to a new diversion point to allow landowner irrigation management practices to continue. The project provided biological benefits by elminating a potential entrainment site for endangered suckers and other aquatic species.		
BOR	Klamath Basin Restoration Program - Lower Klamath Sub-basin Erosion Control Project	2009-current	2
	Brief Project or Program Description		
	This project provides funding to the Yurok Tribes' Watershed Program to prevent sediment from entering Klamath River tributaries and to restore spawing and rearing habitat by de-commissioning forest logging roads.		
BOR	Klamath Basin Restoration Program - Bluff Creek Road De-commissioning, Mid Klamath River	2010-current	2
	Brief Project of Program Description		
	This project provides funding to the Karuk Tribe to protect and enhance habitat for coho salmon, Chinook salmon, and steelhead trout populations by decreasing present and future erosion and subsequent sediment deposition from a U.S Forest Service road complex in the Bluff Creek watershed.		
BOR	Klamath Basin Restoration Program - Cottonwood Creek fish passage improvement, Mid Klamath River	2007-current	2
	Brief Project of Program Description		
	This project involves removal of a fish passage barrier in order to open up 15 miles of additional anadromous spawning habitat within the Cottonwood Creek watershed. The project will remove a low water crossing to alleviate a situation in which coho salmon and steelhead cannot migrate upstream into areas of the watershed where habitat improvements have been completed, including sediment reduction and fish screening of diversions on private and public lands.		
BOR	Gila River Basin Native Fishes Conservation Program	2006 - Present	1, 2, 3 , and 4
	Brief Project or Program Description		
	• The GRBNFCP assisted with development of the Desert FHP, and is available to continue further support as needed.		
BOR	Lake Havasu Fisheries Improvement Program Partnership	2006 - Present	1, 2, 3 , and 4
	Brief Project or Program Description		
	The Bureau of Reclamation is continuing to partner with FWS, BLM, USGS, Arizona Game and Fish, California Department of Fish & Game, Angles United, and the City of Lake Havasu. The Partnership continues to improve fisheries habitat, monitor the habitat and fishery size and population. Is working on developing the sixth free acessible fishing access facility, and fishing education and information for Lake Havasu. Working with Clark County Reclamation has developed additonal free fishing aceess facilities in the Laughlin area. Working with Mohave County in Bullhead City area we have helped develop an acessible fishing facility at Davis Dam Camp receation area.		

Mobilize and Focus National Support (reference the NFHAP Implementation Strategy #2 -*Mobilize and focus national and local support for achieving fish habitat conservation goals.)*			
Agency	**Project Title**	**Timeline**	**NFHAP Goal Addressed**
BOR	Gila River Basin Native Fishes Conservation Program	2006 - Present	1, 2, 3, 4
	Brief Project or Program Description		
	• The GRBNFCP assists with the implementation of recovery plans and thereby supports fish habitat conservation goals outlined in those plans, especially the removal or control of nonnative invasive species. • The Program has funded or helped fund the chemical removal of nonnative fishes from two streams, and has funded mechanical removal efforts at two additional streams.		

Measure and Communicate Aquatic Habitat Needs

(reference the NFHAP Implementation Strategy #3 -*Measure and communicate the status and needs of aquatic habits.)*

Agency	Project Title	Timeline	NFHAP Goal Addressed
BOR	Central Valley Steelhead Spawning Survey	2006 - Present	1,2,3
	Brief Project or Program Description		
	The primary objective of the survey (January - Mid-April) is to provide yearly estimates of in-river spawning steelhead abundance in California's Central Valley, or an index of abundance that will be comparable from year to year. Secondarily, the survey helps to determine how flows affect steelhead spawning locations, timing, and egg to fry survival and determining what proportion of in-river spawning steelhead are of natural (vs. hatchery) origin. Reclamation coordinates with NMFS, FWS and California Department of Fish and Game to conduct the surveys.		
BOR	Interagency Ecological Program (IEP)	Ongoing	1, 2, 3 & 4
	Brief Project or Program Description		
	IEP is collaboration of Federal and State agencies that collects scientific information to assist in the management of the San Francisco Bay-Delta Estuary. Reclamation provides leadership, funding, staff, and resources. IEP's goals are to: describe the status and trends of aquatic ecology; develop an understanding of environmental factors affecting aquatic ecology; provide long-term monitoring and research to support natural resource planning, management, and regulatory activities. IEP hosts a yearly conference that provides a forum for sharing new information and data. All data collected from the IEP long-term monitoring programs and studies are made available to the public.		
BOR	Water Education Foundation - Technical speaker	Ongoing	1, 2, 3 & 4
	Brief Project of Program Description		
	Reclamation's Mid-Pacific Regional staff participate as technical speakers on the Water Education Foundation tours. The Water Education Foundation's goal is to create a "better understanding of water resources and foster public understanding and resolution of water resource issues through facilitation, education and outreach."		
BOR	Stranding and isolation pool surveys, Lower American River, California	2009-present	1, 2 and 3
	Brief Project or Program Description		
	During flow release changes that fluctuate above and below a certain threshold on the Lower American River, these surveys are conducted to ensure that areas previously connected to the channel are continuing to receive flows and temperatures appropriate to support juvenile rearing habitat, steelhead spawning and fall Chinook salmon spawning. Participation in meetings and ongoing coordination with USFWS, NMFS, and the Department of Fish and Game help to ensure that areas are monitored and appropriate action is taken. Recent years have involved more sophisticated mapping of the side-channel habitats and predictions on what areas will likely isolate at various flows. This monitoring also contributes to validation of gravel augmentation efforts and subesequent years' design standards and monitoring requirements.		
BOR	Klamath River Fish Health Studies	2006 - Present	3
	Brief Project or Program Description		
	This project monitors the myxozoan parasite, *Ceratomyxa shasta* , in Klamath River Chinook and coho salmon, and develops appropriate models that correlate parasite abundance with physical parameters to explain mortality patterns in these species.		
BOR	Long-term Fish Disease Monitoring in the Lower Klamath River	2008 - Present	3
	Brief Project of Program Description		
	This project is developing a multi-year dataset of the prevalence and severity of infection by *Ceratomyxa shasta* and *Parvicapsula minibicornis* in juvenile Chinook salmon collected in the Klamath River from Iron Gate Dam to the confluence of the Trinity River, and within the Klamath River Estuary. Emphasis is placed on supporting current model development of natural juvenile Chinook salmon abundance and disease prevalence. Abundance and disease prevalence will be used in disease modeling to estimate juvenile out-migrant Chinook mortality.		

BOR	Karuk Tribe and Yurok Tribe Annual Funding Agreements (P.L. 638) for Klamath River Fish Studies	2008 - Present	3
	Brief Project of Program Description		
	This project provides funding for the Karuk and Yurok Tribes for fish ecology, fish disease, fish distribution studies on ESA-listed coho salmon and Tribal trust aquatic species in the mid and lower Klamath River.		
BOR	Gila River Basin Native Fishes Conservation Program	2006 - Present	1, 2, 3, 4
	Brief Project or Program Description		
	• The GRBNFCP has funded numerous aquatic habitat assessments intended to identify the problems of nonnative fishes create for native fish habitat. • Nonnative species problems are communicated via a public website, issuance of technical reports and publications, and oral presentations.		

Provide National Leadership and Coordination (reference the NFHAP Implementation Strategy #4 -*Provide national leadership and coordination to conserve fish habitats.)*			
Agency	**Project Title**	**Timeline**	**NFHAP Goal Addressed**
BOR	Middle Rio Grande Endangered Species Collaborative Program (Collaborative Program)	Ongoing	1, 2 ,3 and 4
	Brief Project or Program Description		
	The Collaborative Program has: • Restored and improved over 1,500 acres of habitat. • Released, to date, over one million Rio Grande silvery minnows into the Rio Grande at Big Bend National Park in Texas. • Developed a new Long-Term Plan and Adaptive Management Plan. • Propagated more than 250,000 Rio Grande silvery minnows at the Dexter National Fish Hatchery and Fish Health Center. In addition, Southwestern willow flycatcher numbers continued to rise throughout fiscal year 2012 (there are a total of 336 territories from the south boundary of Isleta to Elephant Butte Reservoir).		
BOR	Upper Colorado River Endangered Fish Recovery Program and San Juan River Basin Recovery Implementation Program (Programs)	Ongoing	1, 2, 3 and 4
	Brief Project of Program Description		
	The Programs have: (1) Constructed seven fish passages opening up over 400 miles of critical habitat to unimpeded fish migration on the Colorado, Gunnison, and San Juan rivers; (2) constructed and or contracted with existing fish hatcheries to meet the Programs' stocking goals for Colorado pikeminnow, razorback sucker, and bonytail chub; (3) implemented reoperation plans for Federal and non-Federal reservoirs that have delivered millions of acre-feet of water to meet multiple uses including instream flows to support endangered fish recovery goals; (4) serve as the reasonable and prudent alternative for over 2,400 Federal and non-Federal water projects depleting 3.6 million acre-feet annually; and (5) established and maintained schedules to down-list and de-list the four Federally-listed species by 2023 (humpback chub, bonytail chub, Colorado pikeminnow, and razorback sucker).		
BOR	Gila River Basin Native Fishes Conservation Program	2006 - Present	1, 2, 3, 4
	Brief Project or Program Description		
	• The GRBNFCP is implementing nonnative fish removal efforts that are resulting in the creation of high value native fish habitats of national renown. • The Program is funding a USGS study that is intended to develop a new species-specific piscicide that could greatly simplify stream renovations in the region and elsewhere.		