

PACIFIC COASTAL SALMON RECOVERY FUND

FY2000 PROGRAM REPORT

INTRODUCTION

The Pacific Coastal Salmon Recovery Fund (PCSRF) was established in FY2000 under P.L. 106-113 (Department of Commerce, Justice, and the State, the Judiciary and Related Agencies Appropriations Act, 2000) to provide grants to the States and Tribes for the purpose of assisting state, local and tribal salmon recovery efforts. The PCSRF was requested by the President and the Governors of the states of Washington, Oregon, California and Alaska in response to listings of coastal salmon and steelhead runs under the Endangered Species Act and the need to form lasting partnerships with state, local and tribal governments and the public for saving Pacific salmon and their important habitats.

West coast salmon populations have declined markedly from historical levels due to the combined effects of hydropower operations, habitat destruction, ocean harvest, hatchery-fish impacts, and poor land-use, transportation and water-resource decisions. The first ESA listing of a salmon run occurred in 1990, and over the ten years the number of listed runs and acreage of associated protected habitat areas has grown dramatically. Recovery and conservation of these ESA listed salmonid populations and their habitats requires participation and cooperation at the local level. A primary goal of salmon conservation is the restoration of healthy populations of naturally spawning wild salmon populations and the habitats upon which they depend across a wide range of environmental conditions which will provide harvestable surpluses to support treaty and non-treaty fishing opportunities consistent with existing law. The PCSRF is intended to supplement existing and proposed federal programs and promote the development of federal-state-tribal-local partnerships in salmon recovery and conservation which will promote efficiencies and effectiveness in the recovery effort through enhanced sharing and pooling of capabilities, expertise and information.

BACKGROUND

Congress appropriated 58 million dollars for the PCSRF in FY2000 to be used for 1) salmon habitat restoration; 2) salmon stock enhancement; 3) salmon research; and, 4) implementation of

the Pacific Salmon Treaty Agreement and related agreements [Section 623(d)(3) of P.L. 106-113]. The \$58M PCSRF appropriation was distributed \$50M to the States, \$6M to Pacific coastal tribes, and \$2M for Columbia River tribes in accordance with Section 623(d)(3) of P.L. 106-113. The Conference Report to the Department of Commerce, Justice, and the State, the Judiciary and Related Agencies (H. Rept. 106-479) stipulated that the \$50M PCSRF for the states would be distributed \$18M for Washington State, \$14M for Alaska, \$9M for Oregon, and \$9M for California. P.L. 106-113 also mandated that the PCSRF funds to States would be subject to a 25 percent non-federal match, and that administrative costs for States would be limited to 3 percent.

The FY2000 Appropriations Conference Report (H. Rept. 106-479) also 1) encouraged development of Memorandum of Understandings (MOUs) between NMFS and State/Tribes on distribution of funds to qualifying projects, and that such MOUs will not require NMFS approval of individual projects, but will define recovery strategies for projects; 2) placed additional requirements on the PCSRF funds to Washington, Oregon and Washington tribes; and 3) imposed a September 1, 2000 reporting requirement on the states and tribes. This report summarizes the individual reports submitted to the Congressional Committees pursuant to the September 1 reporting requirement. Copies of the individual reports are available from NMFS Northwest Regional Office.

AGREEMENTS AND GRANTS/CONTRACTS FOR THE PCSRF FUNDS

In accordance with Congressional direction, NMFS developed MOUs with all 4 states, the Northwest Indian Fisheries Commission (on the behalf of 20 western Washington treaty tribes), and the Columbia River Inter-Tribal Fish Commission (on the behalf of 4 Columbia River basin tribes). The MOUs established processes for State/tribal distribution of the funds using criteria for effective use of the funds towards salmon recovery including reporting requirements, monitoring and evaluation, and other performance measures or standards to ensure full accountability and public access to the information and data collected with these funds.

Subsequent to execution of the MOUs, the PCSRF funds were distributed to the four states, NWIFC, and CRITFC through the issuance of NOAA grants. PCSRF funding was also provided to the Yurok Tribe, Hoopa Valley Tribe and the Round Valley Indian Tribes through the issuance of NOAA grants. PCSRF funding to five tribes in Oregon and southwest Washington was issued through Bureau of Indian Affairs (BIA) contracts under a NMFS/BIA reimbursable agreement. Issuance of these grants and contracts for the PCSRF funds began in April 2000 with some grants/contracts not being in place until the end of the fiscal year (September 2000) causing delays in the commencement of work such that some work will be occurring in 2001 or later. For example, some of the instream and riparian habitat restoration work can only occur in the summer construction “windows” thus pushing the actual work into 2001 and beyond. Also, the state procedures set forth in the MOUs for distribution of PCSRF funds to locally based qualifying projects involved application preparation and submission timeframes, and review and selection processes that will result in the actual distribution of the PCSRF funds to successful applicants in 2001 and actual on-the-ground work occurring at a later time, possibly into 2002

and beyond, when planning and permit actions are completed and field conditions are appropriate for the work.

SUMMARY OF STATE/TRIBAL PCSRF PROJECTS AND ACTIVITIES

The PCSRF is being used by West Coast states and Tribes for a variety of projects and activities to assist in the recovery of salmon as described in the state/tribal reports (available from NMFS). A summary of the FY2000 state/tribal programs from the reports submitted is provided below.

State of Washington

In accordance with the FY2000 Appropriations Conference Report (H. Rept. 106-479), the \$18.0M PCSRF funds for Washington were provided to “the Washington State Salmon Recovery Funding Board to distribute for salmon habitat projects, other salmon recovery activities, and to implement the Washington Forest and Fish Agreement authorized by the Washington State Legislature.” The Salmon Recovery Funding Board is a Washington State body created by the Washington state legislature in 1999 to effectively invest state and federal funds for salmon recovery projects. The Conference Report further stipulated that “the Board will establish performance standards to inform its project funding decisions, and will give due deference to the project prioritization work being performed by local watershed organizations. Entities eligible to receive federal funds for salmon recovery projects and activities from the Board include local governments, tribes and non-profit organizations.” The Washington Salmon Recovery Funding Board entered into an MOU with NMFS through its Administrative Office, the State of Washington Interagency Committee for Outdoor Recreation, a state agency. The MOU established PCSRF priorities, criteria and strategy for the efficient allocation of funds for projects and activities.

The Washington State Salmon Recovery Funding Board provided \$4.0M of the PCSRF funds to the Washington Department of Natural Resources (DNR) to support Washington’s Forest and Fish Agreement in accordance with the Conference Report (H. Rept. 106-479). The DNR is using the PCSRF to design and construct hydrography and forest roads databases, map upland slopes and update landslide inventories, increase staffing capacity for field work to implement new Forest and Fish rules, and improve public access and review of proposed forest practice activities.

The Washington Salmon Recovery Funding Board will distribute the remainder of the FY2000 PCSRF funds in a statewide grant competition, which commenced in June 2000. The funds will be used to support proposals derived through local watershed groups, known as lead entities. To help ensure the Board’s work and local efforts incorporate good science, the Board established a multidisciplinary technical panel with broad expertise. To date, the panel has visited each of the lead entities throughout the state. This has enabled effective understanding of local watershed conditions and local strategies for achieving salmon recovery. Based on the requests and the technical panel’s review and recommendations, final funding decisions for distribution of Washington’s FY2000 PCSRF funds to qualified, priority projects occurred in January 2001,

together with state funds. The types of projects funded include acquisition of key salmon habitat, habitat improvements (including vegetation plantings for stream shading, fish passage barrier removal, and large woody debris placement), and feasibility studies that will help to identify future priority projects.

State of Oregon

In accordance with the FY2000 Appropriations Conference Report (H. Rept. 106-479), the \$9.0M PCSRF funds for Oregon were provided to the Oregon Watershed Enhancement Board (OWEB). The Conference report stipulated that OWEB would “provide funding for salmon recovery projects and activities including planning, monitoring, habitat restoration and protection, and improving state and local council capacity to implement local projects which directly support salmon recovery.” OWEB entered into an MOU with NMFS that established PCSRF priorities, criteria and strategies for the efficient allocation of funds for statewide projects and activities. The MOU incorporated the Conference Report stipulations as well as an OWEB priority to encourage watershed enhancement efforts that support recovery of native salmonids.

OWEB distributed the PCSRF funds in tandem with the state funds, allowing flexibility to target investments to both meet local needs and achieve significant, long-term improvements in salmon and watershed health. Criteria for assessing proposals and awarding funds were established by Oregon state rules, and were applied through regional teams comprised of state and federal natural resource field staff with first hand knowledge of local conditions. Through these competitive and technical review processes, OWEB distributed the FY2000 PCSRF funds to 1) watershed enhancement projects; 2) assessment of watershed conditions; 3) monitoring of watershed conditions; 4) education and outreach; and, 5) Watershed Council support; and 6) State agency projects supporting watershed restoration.

OWEB used the PCSRF funds for watershed enhancement projects consisting of locally sponsored restoration projects designed to recover pacific salmon and restore and enhance watershed health through creation of salmon habitat in streams; removal of barriers to salmon migration; enhancement of riparian, wetland and estuarine areas; reduction of point and non-point sources of water pollution; reduction of non-natural erosion to streams; increasing instream water flows to benefit salmon; and, acquiring interests in land and water to protect salmon and watershed health. Local watershed councils and soil and water conservation districts are conducting watershed assessments with PCSRF funds to find out where, within a given watershed, work is needed to restore natural processes or features related to fish habitat and water quality. Watershed conditions are monitored to better understand trends in salmon populations and watershed health and to determine whether completed restoration projects have achieved their intended goals. PCSRF funds distributed to Watershed Councils are being used to undertake restoration activities, partnering with agencies and private ' interests, educating and involving people in restoration, and monitoring watershed conditions to understand the effectiveness of restoration work. PCSRF funds to state agencies is for projects such as analysis of stream temperature and assessment of salmon needs; water quality and habitat monitoring equipment; production of watershed assessment manuals; wetland and riparian inventory and

mapping; state outreach and education program; and mapping of streams and salmonid distribution. PCSRF also were used to fund the Independent Multidisciplinary Science Team that was established to provide independent, scientific review and oversight of the implementation of the Oregon Plan for Salmon and Watersheds.

State of California

The California Resources Agency and Department of Fish and Game entered into an MOU with NMFS that established the approaches and strategies that California will use for developing an effective program for distribution of the PCSRF funds. Eligible projects for the \$9.0M of PCSRF funds for California include fish passage improvement projects (e.g. culvert repair and replacements, check dam/small dam removal, and construction of fishways); conservation easement and other incentive program projects; projects that protect and improve water quality and quantity, including acquisition of water from willing sellers; coastwide demonstration project such as the Redwood Creek proposal in Humboldt County; research projects that advance the science of anadromous fish recovery and result in recommendations for restoration and management activities; protection and restoration of watersheds and riparian corridors; education projects; and, monitoring projects that provide baseline and/or trend data for anadromous fish populations or physical factors known to be limiting their recovery.

California distributed the PCSRF funds to projects by two means; through a competitive process and through a discretionary process to facilitate funding of on-the-ground projects that could be initiated in the summer of 2000. Thirty restoration projects out of 117 proposals were funded from the discretionary funds based on having a high likelihood of immediate benefit to salmon over a large scale of watershed and initiation during the seasonal low water period in summer. A total of 423 proposals totaling \$66M were submitted for the competitive process. Those applications were being evaluated for technical merit in September 2000. Successful projects for the FY2000 PCSRF funds should be issued in time to commence work in the summer of 2001.

State of Alaska

The Alaska Department of Fish and Game (ADFG) entered into an MOU with NMFS that establishes PCSRF priorities, criteria and strategy for the efficient allocation of funds for statewide projects and activities. The MOU designates four specific project areas for funding: 1) salmon habitat and stock research and monitoring; 2) habitat stewardship and restoration; 3) increasing economic opportunities for Southeast Alaska fishers and, 4) cooperative projects with Canada, treaty Indian tribes, and Pacific Northwest States. The State has developed the processes and programs necessary to ensure that the funds are directed to the highest priority needs, are wisely and efficiently allocated, and involve stakeholders and scientists in a meaningful process.

ADFG will use the \$14.0M of PCSRF funds for Alaska to conduct a landscape-scale assessment of Southeast Alaska salmon habitat and stocks in order to identify monitoring and research gaps and priorities, and habitat stewardship and restoration opportunities. As of September 1, 2000,

none of the PCSRF funds had been distributed. Approved projects for the PCSRF funds include 1) the retooling of the Pacific Salmon Commission's chinook model for chinook salmon abundance on the West Coast that can be used as a tool for salmon fisheries management; 2) the operation of Crystal Lake Hatchery which will produce salmon that contribute to the common property harvest and provide significant economic benefits for the Southeast Alaska fishers; and 3) a Taku River transboundary watershed assessment that will be used to improve salmon habitat and fisheries data and information regarding risks to sustaining optimum salmon production and foster discussions with Canada on how the watershed should be managed to insure the long-term sustainability of the common salmon resource.

Northwest Indian Fisheries Commission (western Washington)

Nisqually Tribe	Squaxin Island Tribe
Puyallup Tribe	Jamestown S'Klallam Tribe
Port Gamble S'Klallam Tribe	Lower Elwha Klallam Tribe
Skokomish Tribe	Swinomish Tribe
Sauk-Suiattle Tribe	Upper Skagit Tribe
Stillaguamish Tribe	Muckleshoot Tribe
Suquamish Tribe	Tulalip Tribe
Nooksack Tribe	Lummi Tribe
Makah Tribe	Hoh Tribe
Quileute Tribe	Quinault Tribe

The 20 treaty Indian tribes in western Washington, through their Northwest Indian Fisheries Commission (NWIFC), entered into an MOU with NMFS that established PCSRF priorities, criteria and procedures for intertribal allocation of the funds. The tribes are using \$5.0M of the PCSRF Pacific coastal tribe funds to build upon tribal recovery programs that restore habitat to improve conditions essential to viable salmon populations; to conduct research and increase tribal capacity to improve the tribes' understanding of what salmon need and how to most efficiently and effectively provide those needs; to supplement wild salmon stocks in a manner that does not impede their recovery; and, to undertake hatchery reforms to minimize the impacts of artificial propagation on wild salmon.

The western Washington tribes are utilizing PCSRF monies to build on ongoing cooperative efforts such as the "Wild Stock Restoration Initiative" and "Comprehensive Coho and Comprehensive Puget Sound Chinook Planning" and as part of a groundbreaking new cooperative approach -- "Shared Strategy"-- to salmon recovery in Washington. The "Shared Strategy" links ongoing wild salmon recovery initiatives at the tribal, state, federal and local levels to create a plan that will be viable and cost-effective. The Shared Strategy establishes, organizes and manages these links; identifies necessary long and short-term actions and coordinates funding needs; and proposes laws or policies needed to support wild salmon recovery.

In the area of habitat restoration, NWIFC member tribe projects included a program by the Nisqually Tribe to design and implement restoration projects targeting the most highly

productive salmon habitat on the mainstem Nisqually River basin; cooperative work by the Skagit System Cooperative, which serves three tribes in the Skagit watershed, with a local watershed council and Seattle City Light Co. to restore badly degraded estuaries and undertake flood control activities while restoring salmon habitat in the Skagit River Valley; a project by the Suquamish Tribe in conjunction with the City of Bremerton and the state to restore salmon access to prime spawning and rearing habitat in over 85 percent of the Gorst Creek watershed that has been blocked since the early 1900s; Jamestown S'Klallam Tribe work through the local watershed council, the Dungeness River Management Team, for a wide range of cooperative habitat restoration efforts such as constructing engineered log jams in the Dungeness River to provide channel stability and improved habitat for juvenile and adult salmon; an estuary restoration project on Jimmycomelately Creek by the Jamestown S'Klallam Tribe; Hoh Tribe work on big wood and coarse sediment storage; salmon habitat restoration in the Snohomish and Stillaguamish river basins by the Tulalip Tribes; constructing engineered logjams in the Sekiu River by the Makah Tribe; and, Skokomish River basin fish passage/channel improvements and a salmon habitat research initiative by the Skokomish Tribe.

Salmon research conducted by NWIFC member tribes using the PCSRF funds include studies on the effects of fresh water and marine habitat conditions on fish populations; studies by the Hoh Tribe on the impacts of forest practices on functioning salmon habitat by measuring tree growth rates across a forested river basin through different types of soil and hydrologic regimes; research by the Skagit System Cooperative on how wild salmon respond to habitat restoration and destruction, information necessary to develop an accurate measurement of the link between habitats and the numbers of fish produced by those habitats; composition analysis of chinook, coho and chum runs in the Skagit River system; cooperative research by the Jamestown S'Klallam Tribe with the county and federal agencies on analysis of sediment transport and diking along the Dungeness River and the impact of flood protection structures on fish habitat; and, research by the Makah Tribe on factors limiting natural production of Lake Ozette sockeye; research and assessment of salmon recovery activities in the Nooksack River basin by the Lummi Tribe in cooperation with salmon co-managers, land-use managers, volunteer groups and citizen interest groups; groundwater and heat transport in the Hoh River watershed; spawner surveys and habitat assessments to determine fish passage in the Sol Duc River basin by the Quileute Tribe; Nooksack River basin spring chinook quantitative data collection by the Nooksack Tribe; studies on restoring salmon to the Elwha River basin by the Lower Elwha Klallam Tribe; Grovers Creek salmon research by the Suquamish Tribe; water quality research and monitoring of Tulalip, Battle and Quilceda creeks; and a juvenile fish trapping project that provides a direct measure of chinook and coho production and survival on the lower Skykomish River by the Tulalip Tribes.

Wild stock enhancement and supplementation by NWIFC member tribes using PCSRF funds included supplementation of Queets River wild coho through capture of adult coho in the upper reaches of the watershed for use as broodstock by the Quinalt Tribe; increasing production of Queets River wild coho by enhancing the river's nutrient content through distribution of spawned hatchery salmon carcasses in the watershed; and research by the Quinalt Tribe on an array of

enhancement and supplementation strategies to boost production of Quinault River sockeye; and enhancement by the Puyallup Tribe of White River spring chinook and salmon in the upper Puyallup River watershed.

With the PCSRF funds, the treaty Indian tribes in western Washington are becoming key participants in salmon recovery by building the necessary infrastructure to effectively implement recovery efforts necessary to restore wild salmon stocks. The PCSRF funds are being used for development of salmon recovery strategies and planning in the usual and accustomed fishing areas of the tribes including development of salmon recovery strategy for southern Puget Sound by the Squaxin Island Tribe; development of chinook and coho recovery strategies for the Stillaguamish and Snohomish basins by the Tulalip Tribe; salmon recovery planning and coordination in the Nooksack River basin by the Lummi Tribe; salmon recovery and habitat restoration by the Port Gamble S'Klallam Tribe; Kitsap County salmon recovery plans by the Suquamish Tribe; and, a Stillaguamish River watershed integrated chinook salmon recovery project by the Stillaguamish Tribe.

Columbia River Inter-Tribal Fish Commission

Confederated Tribes and Bands of the Yakama Nation (Washington)

Confederated Tribes of the Warm Springs Reservation of Oregon

Confederated Tribes of the Umatilla Indian Reservation (Oregon)

Nez Perce Tribe (Idaho)

The \$2.0M of PCSRF funds for the Columbia River was issued to the Columbia River Inter-Tribal Fish Commission (CRITFC) for the Confederated Tribes and Bands of the Yakama Nation, the Confederated Tribes of the Warm Springs Reservation of Oregon, the Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce Tribe. CRITFC entered into an MOU with NMFS that established program priorities, criteria and procedures for distribution of the funds to the four tribes for use in salmon habitat restoration, salmon stock enhancement, salmon research, and implementation of the Pacific Salmon Treaty Agreement.

CRITFC staff is using PCSRF funds in support of tribal projects, including aid in annual project evaluation and monitoring, review of scientific basis of Evolutionary Significant Units and Artificial Propagation Policy, aid in development of Hatchery Genetic Management Plans, and development of methods for risk/benefit analyses.

The Confederated Tribes of the Warm Springs Reservation of Oregon is using the PCSRF to assess fish production on the Warm Springs Reservation; to improve methodology for estimating fall chinook population in the Deschutes River; to participate in the John Day watershed restoration program; to outplant spring chinook under the Shitike Creek supplementation project; and, to undertake habitat restoration on reservation lands in the Warm Springs River and Shitike Creek including eradicating 13 miles of road, completing 5 miles of riparian planting, installing 5 miles of riparian protection, and removing a headworks structure from Shitike Creek.

The Confederated Tribes and Bands of the Yakama Nation is using the PCSRF funds for the Hanson Ponds Flood Restoration Project that included removal of levees adding a mile of side channel habitat, restoring riparian habitat immediately adjacent to the river, and improving channel complexity; for increasing passage over Castile Falls for spring chinook and steelhead; for a coho re-introduction program utilizing the Washougal Hatchery; and, reversing habitat degradation caused by grazing in Ahtanum Creek by fencing and re-vegetating about 14 miles of the creek and constructing 9 off-channel stock watering sites.

The Nez Perce Tribe is using the PCSRF funds for modifications to the Cottonwood Creek Acclimation facility to facilitate restoration of Snake River fall chinook to Grande Ronde River; for monitoring and evaluation of the Clearwater River coho supplementation program; for culvert removal in the Lolo Creek Watershed to restore salmon access and reduce sedimentation from failing culverts.

The Confederated Tribes of the Umatilla Indian Reservation is using the PCSRF funds for a cooperative program with agencies and landowners to improve instream passage in the upper Walla Walla River; for acquisition of 5 parcels totaling 612 acres in the Squaw Creek subbasin, encompassing 1.4 miles of fish bearing streams and 0.8 mile of ephemeral tributaries, providing permanent protection of salmon and steelhead spawning and rearing habitat; for replacement of a county road culvert in the upper Mission Creek Drainage with a bottomless, arch culvert; for a cooperative effort to provide upstream passage in Whiskey Creek, a tributary to the Touchet River, by removing an abandoned irrigation diversion dam; for purchase of a vehicle needed to assist tribal supplementation efforts, including moving adult broodstock as well as juveniles for acclimation and outplanting; and, for a public education program to increase awareness on Umatilla salmon life histories and on-going restoration efforts.

Other Pacific Coastal Tribes

Confederated Tribes of the Chehalis Reservation (Washington)

The Confederated Tribes of Grand Ronde (Oregon)

Confederated Tribes of the Siletz Indians (Oregon)

Coquille Indian Tribe (Oregon)

The Klamath Tribes (Oregon)

Yurok Tribe (California)

Hoopa Valley Tribe (California)

Round Valley Indian Tribes (California)

The Confederated Tribes of the Chehalis Reservation is using \$50K of the PCSRF Pacific coastal tribe funds for habitat restoration projects in the Upper Chehalis River Basin. Project goals are to increase aquifer recharge capacity, add salmonid over-wintering habitat, and generally improve fish and wildlife habitat to the watershed. In Lincoln Creek, the Tribe is restoring natural hydrology to a 20 acre site by rerouting flows to pre-development conditions; increasing aquifer recharge capacity by re-establishing wetland complexes that are connected, by a series of weirs; eliminating drain tiles to add to the recharge capabilities of this stream reach; expanding

salmonid over-wintering habitat through weir placement and alcove construction; augmenting plant diversity through revegetation using a mixture of native species; and, improving in-channel habitat through large woody debris (LWD) placement. Off-channel/wetland restoration projects in Lincoln Creek include construction of 2000 feet of livestock exclusion fence, additional placement/loading of LWD into existing off-channel habitat; additional weir placement to increase water storage; and, additional revegetation to improve plant diversity and to replace plant/tree mortalities.

The Confederated Tribes of Grand Ronde is using \$50K of the PCSRF Pacific coastal tribe funds to remove and replace four culverts that are restricting fish passage on four streams of the Tribe's Reservation. The Tribe also partnered with neighboring landowners to remove and replace three additional culverts outside of the Reservation thereby improving fish passage across streams that cross property boundaries. The Tribe's culvert replacement projects will restore fish passage to approximately 6.4 miles of stream in the Willamette River basin enhancing upstream movement of juvenile and adult salmonids for rearing and refuge from high waters. The habitat restoration projects will benefit Upper Willamette steelhead which are listed as threatened under the ESA.

The Confederated Tribes of the Siletz Indians of Oregon is using \$50K of the PCSRF Pacific coastal tribe funds on a Salmonid Estuarine Habitat Restoration Project under a cooperative partnership with the U.S. Forest Service and the U.S. Fish and Wildlife Service. Long-term project goals for the salmonid habitat restoration in estuarine environments include 1) restoring previously diked salt marsh wetlands (degraded farm pastures) to natural tidally influenced salt marsh wetlands and 2) examining success rates (levels of fish use) for varying (partial or full dike removal) types of restoration methods. Over 1200 acres of previously diked salt marsh lands in the USFWS refuge are scheduled for restoration during the next few years. The USFWS will undertake the habitat restoration work and the Tribe will conduct studies on the response of fish populations to the restoration efforts. The USFS will coordinate monitoring with upstream land management activities. Initial work in this project includes GIS mapping of infrared aerial photography used to delineate plant communities and elevation data.

The Coquille Indian Tribe is using \$50K of the PCSRF Pacific coastal tribe funds for road decommissioning and riparian zone brush conversion in the Big Creek watershed in Oregon. The Tribe is decommissioning about 1 mile of roads on tribal lands to reduce fine sediment delivery into salmon habitat from old roads and culvert failure. The work includes ripping, planting, outsloping and water barring as needed to reduce the extended stream channel network. This project would also remove 25-30 culverts and their associated fill, restoring a more natural hydrologic flow connectivity of up-slope areas to the drainage network. Maximum temperature standard have been exceeded in Big Creek during summer flows and it is on DEQ's statewide 303(d) list of water quality limited water bodies. To begin providing a more natural thermal regime in the watershed over the long-term, the Tribe is also using the PCSRF for 13 acres of riparian zone brush-to-conifer conversion to provide for increased shade and down logs. This project will restore natural vegetation patterns and assemblages as well as critical components of riparian function.

The Klamath Tribes is using \$50K of the PCSRF Pacific coastal tribe funds to address water quality problems in the Upper Klamath Basin above Upper Klamath Lake in south-central Oregon. The highly degraded condition of Upper Klamath Lake and its watershed affects salmon and steelhead populations using the lower Klamath River system and potential future restoration of salmon to the upper basin. The PCSRF funds are being used to assess and address non-point source water pollution in the mainstem Sprague River, a major tributary to Upper Klamath Lake through which a disproportionately large amount of the overall nutrient load enters the lake system. The Tribe is developing a GIS-based watershed model, along with appropriate sub-models, to both quantify non-point source pollution and to model its response to various management actions

The Yurok Tribe is using \$250K of the PCSRF Pacific coastal tribe funds for habitat restoration projects in the Lower Klamath River, water quality monitoring in the Lower Klamath Tributary, assessment of anadromous salmonid stocks in Blue Creek, and Klamath River ecological investigations. The habitat restoration projects in the lower Klamath River include upslope restoration activities to reduce sedimentation problems in McGarvey Creek; construction of instream habitat structures in McGarvey Creek and stabilizing streambanks at key erosion points using boulder and cobble substrate; installation of rock gabions in a tributary to Blue Creek to encourage the stream to maintain connectivity with mainstem Blue Creek; and planting native conifer species throughout the riparian corridor in McGarvey and Blue Creeks. The water quality monitoring project includes the installation permanent stream gauging and water quality monitoring stations for lower McGarvey and Blue Creeks. Salmonid stock assessments include the operation of rotary screw trap in lower Blue Creek to monitor the emigration of juvenile salmonids from Blue Creek, and surveys using snorkeling techniques to enumerate adult salmonids and document spawning activity throughout the Blue Creek drainage. The Yurok Tribe is also participating in a multi-agency flow evaluation of the Klamath River and using PCSRF funds for personnel and equipment to collect physical and biological data in the Klamath River basin.

The Hoopa Valley Tribe is using \$250K of the PCSRF Pacific coastal tribe funds for habitat restoration projects, water quality monitoring, water diversion screen design and construction for Supply Creek, and conducting juvenile outmigrant monitoring in six tributaries of the lower Trinity River. The habitat restoration projects include an assessment of roads in Hostler and Sotkish Creek watersheds to determine road systems needing decommissioning/stormproofing; road improvement work at various culvert locations in Supply, Pine and Sotkish Creeks; heavy equipment operator training to reduce heavy equipment impacts to water quality and fish habitat; habitat and channel evaluations Sotkish, Pine, and Hostler creeks. Water quality monitoring includes benthic macroinvertebrate sampling as an indicator of water quality/ watershed conditions, and installation of continuous water quality monitoring stations on Hostler and Sotkish Creeks.

The Round Valley Indian Tribes is using \$250K of the PCSRF Pacific coastal tribe funds for road and culvert repair on the Big Bend Ranch Road to reduce sedimentation run-off into

salmon bearing tributaries of the North Fork Eel River; determining coho and steelhead usage and trends in watersheds within the tribe's stewardship; purchase of heavy equipment for instream restoration and upslope road stabilization projects; development of a tribal warden program to enforce environmental laws and serve in an outreach capacity; continuation of a watershed monitoring program that collects physical and biological data from class 1 waterways within tribal boundaries; collection of fish license and tag data and development of a data system; and tribal infrastructure for instream monitoring, habitat assessments and watershed monitoring.

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