From the Archives

Naming the Greats of the Grande Ronde

by Lacey Moore, GRMW

Many stories, often pioneer-themed, circulate about the original source of the names given to the three great mountains in the Grande Ronde Valley: Emily, Harris, and Fanny. Textbooks published throughout the 20th century, such as McArthur's Oregon Geographic Names (1928) and Geer's Fifty Years in Oregon (1912), recount that both historians and citizens have debated the christening of our landscapes.

Mt. Emily

Popular accounts report that the mountain was named after Emily Leasy, the wife of early settler Henry Leasy. The Leasy family was part of the first group to permanently settle on the western side of the Grande Ronde Valley in September 1861. Another explanation published in An Illustrated History of Union and Wallowa Counties (1902) recounts that a young immigrant girl buried at the foot of Mt. Emily is the peak's namesake.

Mt. Fanny

Sources agree that this mountain is named for Fannie Pauline Cowles, who was one of the first settlers in Cove in October 1862. During the following summer, she became the first white woman to climb to the top of Mt. Fanny. In 1865, she became Fannie McDaniels after marrying E.P. McDaniels. Oregon Geographic Names reports her original spelling to be "Fannie McDaniel," leaving it unclear when exactly the spelling of the mountain's appellation diverged from the conventional version of the name.

Mt. Harris

Joseph Harris and his wife, Mary, came to the Grande Ronde Valley in 1865, settled six miles south of present-day Elgin, and had six children. An agriculturalist, Harris expanded his holdings from an original 260-acre purchase to a 1,700-acre estate. A significant portion of this acreage surrounded and included the mountain, which was later named Harris.

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Ripples in the Grande Ronde

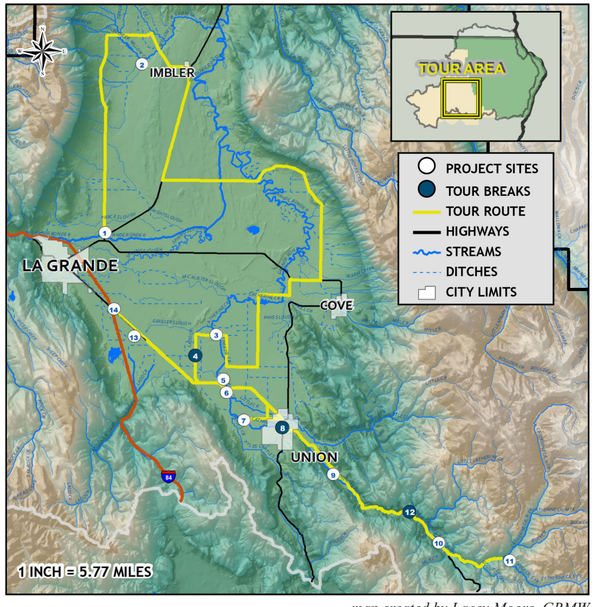
Spring 2012

RIVERS UNITING NEIGHBORS·QUARTERLY NEWS FROM THE GRANDE RONDE MODEL WATERSHED

Touring the Grande Ronde Basin

by Karl Weist, NPCC

The Grande Ronde Model Watershed (GRMW) will host a tour by the Independent Scientific Review Panel (ISRP), the Northwest Power and Conservation Council (Council), and the Bonneville Power Administration (BPA) on April 24, 2013. The tour will feature stops at twelve projects primarily in the upper Grande Ronde and Catherine Creek area, both ongoing and proposed, and will allow time for tour participants to interact with project sponsors. The tour is in conjunction with a review of all habitat restoration work in the Columbia Basin recommended by the Council and funded by the BPA.



map created by Lacey Moore, GRMW

The Council is charged with developing a program for the BPA, the U.S. Army Corps of Engineers, and other federal agencies to "protect, mitigate, and enhance" fish and wildlife affected by the hydroelectric facilities on the Columbia River and its tributaries. Beginning in 2009, the Council and the BPA, with advice from the ISRP, decided to review fish and wildlife projects in categories such as wildlife, monitoring and evaluation, and artificial production. The final category of review, called the Geographic Review, comprises habitat work for anadromous fish like salmon and steelhead. The Grande Ronde subbasin will be the focus of this tour. Project sponsors will have a limited amount of time to present their proposals for 2014-2018 work to the ISRP in Pendleton the following day (April 25, 2013). The tour affords the ISRP, Council, and the BPA an opportunity to see project locations and get a sense of the challenges and issues faced by project sponsors in implementing habitat restoration work.

The Council's 2009 Fish and Wildlife Program emphasizes periodic scientific review of new and ongoing actions or projects that implement this program; increases requirements for reporting of results; and emphasizes adaptive management as a way to solve continuing scientific uncertainties in recovering fish and wildlife populations. Many projects that serve to implement the Council's 2009 Fish and Wildlife Program also support the Federal Columbia River Power System Biological Opinion.

As an important function of the project reviews, the ISRP considers past project results and evaluates how well the

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How the River is Flowing at Mile 37:

Catherine Creek Fish Habitat and Stream Restoration Project

by Kathryn Frenyea, USWCD

In 2009, a concerned landowner and lessee from the Catherine Creek area contacted the Union County Soil and Water Conservation District about the severe erosion, bank instability, and flooding they observed on their property. The landowner/lessee was losing significant amounts of soil and fencing as well as occasional calves during high-water events. District staff enlisted the knowledge and resources of partner agencies and developed a project plan that addressed not only current land use needs but also fish habitat issues in this 30-acre site, which included 0.75 miles of Catherine Creek.

Historically, straightened channels, livestock overgrazing, and crop/pasture encroachment has minimalized or eliminated riparian vegetative buffers between farm land and streams across the valley. The restoration of Catherine Creek to its natural condition has been designated as a high priority by local, state, and federal agencies, as it plays an important role in the recovery of Snake River Spring/Summer Chinook Salmon, Steelhead, and Columbia River Bull Trout that are listed as threatened species by the Endangered Species Act (ESA). Spring Chinook spawn, rear, and migrate in Catherine Creek. Bull Trout, Steelhead, and several other aquatic species also use the system for habitat.

ABOVE: Vertical Banks prior to construction re-sloping and setback.

Project Goals and Objectives

The overall project goal was to protect and maintain the utility and economic viability of a working ranch while restoring fish habitat to the natural character and functioning of Catherine Creek. This goal was reached by accomplishing several objectives: enhancing in-stream diversity and complexity, improving floodplain connectivity; enhancing riparian habitat condition; and improving water quality.

Objective 1: Enhance In-Stream Diversity and Complexity

The landowner/lessee was concerned about the nearly vertical, severely eroded stream banks on their stretch of Catherine Creek. By re-sloping stream banks, soil erosion was curbed, and the amount of potential aquatic habitat and riparian re-vegetation increased. The existing creek channel was re-aligned and lengthened by more than 500 feet, adding sinuosity and diversity to the water system. Historically, it was common practice for landowners to use old car bodies, scrap metal, and/or large concrete or rock rip-rap to attempt to stabilize eroding banks. During the course of this project, more than 125 cubic yards of informal bank armoring material of this kind was removed and replaced with habitat-enhancing structures made of wood and boulders. A total of 84 large wood structures were installed at different locations throughout the project to maintain the desired creek channel configuration and increase habitat complexity. Components of these structures included primarily coniferous logs with attached root wads of varying size and composition, which were integrated into woody debris structures of various diameters and lengths. In addition, 250 boulders between 1 and 4 feet in diameter were placed within the project area to create additional stream complexity.

Objective 2: Enhance Floodplain Connectivity

The nearly vertical stream banks also created a low-functioning floodplain. Floodplain function helps to slow and dissipate high water during flood events. To re-establish this floodplain function, the project team constructed a new 399-foot side channel. This channel will become active during typical high spring flows and will slow down water velocity in the channel, thereby decreasing erosion and stream bank loss. In addition, approximately 130 feet of previously abandoned channel was converted into low-water alcove habitat, creating a refuge for juvenile fish and aquatic species. Eight coniferous trees with intact branches and root wads were placed in the alcove to add habitat complexity.

Objective 3: Enhance Riparian Habitat Condition

Native grasses (approximately 600 pounds), including locally derived Great Basin wild rye, Blue-bunch wheatgrass, Idaho fescue, and Tufted hair grass, were planted on 16 acres of stream banks, upland terraces, and adjacent riparian habitat. Approximately 6,200 willow whips and 1,350 containerized plants (Black Cottonwood, River Birch, Hawthorne, Currant, and Dogwood) were planted on floodplain terraces and point bars as well as within log structures to provide stability and protection from high-flow events. Protective pods were also placed around targeted plantings to shield them from wildlife browsing. Geotextile fabric and coconut mesh were added in key stream sections to further improve long-term bank stability. To protect the project area and manage

Transistions in the Board

County Commissioner Mark Davidson

by Jeff Oveson

Since its inception, the Grande Ronde Model Watershed (GRMW) has enjoyed the participation and support of Union County Commissioner Steve McClure on its Board of Directors. Steve has represented the Union County Board of Commissioners as either the GRMW Board member or an alternate since 1992. His latest stint as a Board member is coming to an end as he turns over the role to fellow Commissioner Mark Davidson, while he continues his service as a GRMW Board alternate.

Steve is a native of Union County, having been raised along Indian Creek just outside Elgin before serving in the U.S. Army in Vietnam and attending Eastern Oregon University when it was Eastern Oregon State College. Steve and his wife, Barbara, have four adult children and six grandchildren, with another expected in May. Steve was part of a group of Union County Commissioners who met Wallowa County Commissioners at Minam State Park more than 20 years ago to sign the original proclamation designating the Grande Ronde Model Watershed Program as a cooperative Local Citizen's Advisory Group under the auspices of Oregon Governor John Kitzhaber. The Confederated Tribes of the Umatilla Indian Reservation, the Nez Perce Tribe, the Oregon Department of Fish and Wildlife, the U.S. Forest Service, several Soil and Water Conservation Districts, the Bureau of Reclamation, the Northwest Power and Conservation Council, and the Bonneville Power Administration were among other partners that provided support to the GRMW Program. Steve recalled expanding the mission of a "water group" working with then-Commissioner John Howard to include efforts to recover populations of Endangered Species Act-listed fish, recognizing that local input into upcoming management decisions was imperative. In the ensuing years, the "Program" was dropped from the name as the GRMW evolved into a 501(c)(3) non-profit organization.

ABOVE: Mark Davidson

Mark is just a few months into his second term as a Union County Commissioner after having been reelected in November 2012. His interest in natural resources management in general and in the GRMW in particular stems from his belief that our local economy and way of life are rooted in natural resources. He sees the GRMW's role as one of "assisting private and public land managers with restoring ecosystem health, as they complement the sustainable economic utilization of our natural resources." He represents Union County in a number of natural resource-related capacities, including serving as the agriculture and federal lands liaison, and has a long history of involvement in local and regional economic development initiatives. Having lived in Union County since 1971, Mark was raised and educated locally. In addition to his active involvement in local politics, he has been self-employed in business since 1990. Mark and his wife, Krystie, have a daughter, Keiva, and three grandchildren: Hailey, Sydney, and Miley.

We here at the GRMW are proud and appreciative of Steve McClure's longtime support and guidance, and we want to express our gratitude for his service. To Mark Davidson, we say "welcome aboard!"

LEFT: Steve McClure

Fish Online!

www.grmw.org

- Adult salmon counts at the dams
- Snake River Basin stream flows
- Snow and precipitation reports
- Habitat enhancement projects
- Meetings, activities, and events
- Past issues of *Ripples* and more!

Grande Ronde Model Watershed

Upcoming Board Meetings

The public is welcome to attend

- Tuesday, April 23 5:00 p.m.
  Elgin Community Center
  260 N. 10th Street
  Elgin, Oregon
- Tuesday, June 25: 5:00 p.m.
  Wallowa Community Center
  204 East Second Street
  Wallowa, Oregon

Meeting dates are subject to change. Please call 541-663-0570 to confirm. Thank you!

Creating a Catherine Creek Wetland:

a Rearing Habitat Project

by Jesse Steele, GRMW

When talking to kids about fish, they often ask the kinds of basic questions to which most fish biologists know the answers but struggle to put into words that young kids can understand. The most common of these difficult-to-answer questions are queries like "Why do fish die after they spawn?" or "Why don't fish have eyelids?" or "Do fish sleep?" Recently, I was telling my three-year-old son about "baby" Chinook salmon in the river, and he asked me one of those "easy" questions: where do they go when the river gets cold and turns to ice? This is a question that the Oregon Department of Fish and Wildlife (ODFW) and the Bureau of Reclamation wanted to answer when they began a winter radio tracking study of Catherine Creek juvenile Chinook salmon in 2009 (see the article entitled, "The Results Are In," from the Winter 2011 issue of the Ripples). The results of that enlightening three-year study have helped to prioritize what kinds of fish habitat restoration projects are being completed on Catherine Creek in the Grande Ronde Valley.

The analysis of the first year of data collected by the ODFW's tracking study indicated that juvenile Chinook salmon prefer slow, deep water with nearby cover. The study also showed that the majority of juvenile Chinook salmon in Catherine Creek spend the winter months in the area of the river between Union and Cove. For those familiar with the stretch of Catherine Creek between these towns, you know that slow, deep water is common in that reach, but vegetative cover is sparse. Catherine Creek has a history of being stripped of large wood and vegetation as the result of efforts to alleviate flooding. Overhanging vegetation, root wads, and large woody debris all provide ideal cover for juvenile fish, but they can create a potential flooding hazard for those making a living along the creek. To develop in-stream cover for juvenile fish while minimizing flooding risks, we constructed off-channel habitat. By creating side channels, backwater areas, and wetland ponds, we could fill these types of habitat with wood and vegetation without impeding the flow of Catherine Creek. Even better, these off-channel areas could relieve flooding by allowing more space for flood waters to disperse.

RIGHT: Outlet of side channel with large wood structure being installed

LEFT: Steve Lindley Contracting Inc. excavating the side channel

Designing and Constructing Winter Habitat for Catherine Creek Juvenile Chinook

During Fall 2010, members of the Grande Ronde Model Watershed (GRMW) staff began planning a fish habitat project specifically designed to improve habitat on Catherine Creek for overwintering juvenile Chinook salmon. The future project was located where the fish are overwintering and provided enough room to create a significant amount of off-channel habitat. Throughout planning and implementation of the project, the goal remained the same: to create slow-moving, deep water with good in-stream cover. During Fall 2012, GRMW staff completed this project cooperatively with the Bonneville Power Administration, Anderson-Perry & Associates, Inc., Steve Lindley Contracting, Inc., and the landowner, David Baum. The Catherine Creek Baum Wetland and Rearing Habitat Project is located one quarter-mile upstream of where Highway 203 crosses Catherine Creek. Although relatively small, the project may produce large benefits for juvenile Chinook salmon and steelhead that overwinter in the valley reaches of Catherine Creek.

The project involved relocating the levee farther from the stream and creating nearly 1,000 feet of side channel, 2.5 acres of wetland, and several large wood structures. Construction began in August 2012 and was completed in October 2012 by Steve Lindley Contracting, Inc. First, the levee was moved, the area designated to be wetlands was brought down to grade, and the side channel was unearthed. Wood structures were then installed, and the side channel was lined with erosion control fabric. All disturbed areas were seeded with a wetland seed mix, and the relocated dike was seeded with an upland seed mix. The construction contractor planted about 100 willow cuttings around the wood structures, and wetland plots were embedded with sedge and rush plugs from the Ladd Marsh Wildlife Area. In March 2013, GRMW staff collected 450 willow cuttings and 100 Redosier Dogwood cuttings from the Ladd Marsh Wildlife Area. These cuttings were planted along the length of the side channel using a waterjet stinger.

LEFT: Leigh Collins and Coby Menton planting willow and dogwood cuttings.
BELOW: Completed side channel

At the end of December 2012, volunteers worked with the Ladd Marsh Wildlife Area to collect discarded Christmas trees. We used these trees to add more habitat structures to the side channel. Trees were bundled in groups of five to ten and staked down in the side channel with wood stakes. These trees will provide essential cover for juvenile fish for several years. This type of cover is especially important for the first few years while the recently planted tree and brush species become established.

Monitoring the Impact of the Project

As part of the post-project monitoring, the GRMW will evaluate vegetation survival during the first three years. If survival is not sufficient to provide greater than 50% ground cover and to stabilize the banks of the new side channel, then GRMW staff will replant as needed. Fish use during winter months also will be monitored using snorkel surveys. One snorkel survey was completed in December 2012 shortly after completion of construction. High densities of cyprinids, mainly red-sided shiners, were found to be using the side channel. Several juvenile Chinook salmon were seen to be using the side channel, but because of the high numbers of shiners, an accurate count of Chinook salmon could not be obtained. Fish surveys have been difficult to complete due to poor visibility underwater in this portion of Catherine Creek. One of the objectives of the project was to create 2.5 acres of wetlands. The successful creation of this wetland will be monitored for five years via the presence of hydrophytes and the duration of surface water in the new wetlands.

Because of research being conducted by the ODFW, we know that juvenile Chinook experience high mortality rates during the winter and spring months in the Grande Ronde Valley. We now know where they reside during those months and what habitat they prefer to use. The next question may prove to be much more difficult to answer: why are the mortality rates so high? By building this habitat, we hope to answer the question of whether these juvenile Chinook will have a better chance of surviving if they are provided with their preferred winter habitat. The GRMW and partners will continue to create habitat for overwintering juvenile Chinook salmon along Catherine Creek as opportunities arise, and juvenile Chinook abundance and survival will continue to be monitored by the ODFW. The GRMW and our partners will continue to monitor our projects for effectiveness and work together to improve our local Chinook salmon populations.

The GRMW would like to thank the landowner, David Baum, and his family for making this project possible. We would also like to thank the ODFW Northeast Fish Research and Ladd Marsh Wildlife Area for their assistance with this project. The GRMW appreciates the technical guidance provided by the Confederated Tribes of the Umatilla Indian Reservation, the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, the U.S. Army Corps of Engineers, and the Oregon Department of State Lands.

The 'Atlas'

by Jeff Oveson, GRMW

It seems as though we here at the Grande Ronde Model Watershed (GRMW) are always developing a new "process" or revising an existing process so that we have better ways to identify priorities and implement projects. Accurately developing priorities and plans to address those priorities is essential, but we always run the risk of the process becoming the project. For several years, the GRMW has utilized a project selection methodology referred to as the "StepWise" process, a relatively simple process designed to ensure consistency in selection criteria and transparency for partners who seek Bonneville Power Administration (BPA) restoration funding through the GRMW. StepWise leveraged the meaningful technical expertise of numerous restoration partners through their involvement in the GRMW Technical Committee, a group of people with a broad range of specialized knowledge that reviewed project proposals and participated in site visits to assess the technical merits of a project. The GRMW Board of Directors used these assessments to help guide funding decisions.

The Federal Columbia River Power System Biological Opinion (BiOp), developed in 2008 and amended in 2010, guides the operation of the Columbia River system dams as well as hatchery, harvest, and habitat restoration activities. The BiOp also identified priority fish populations, including salmon, steelhead, and bull trout in the Grande Ronde and Imnaha sub basins. Under this BiOp as well as other laws and authorities, the federal action agencies (the BPA, Bureau of Reclamation, and the U.S. Army Corps of Engineers) carry out a wide range of activities to help improve the survival of Endangered Species Act-listed fish at all stages of their lifecycles. These activities include habitat restoration, hatcheries management, improvement of river conditions, enhancement of fish passage through dams, and harvest management. Although a variety of planning and prioritization efforts have coincided with the BiOp, the accurate and transparent prioritization of potential habitat restoration projects still lacks the refinement needed to ensure that the action agencies and taxpayers are funding the highest-priority projects.

Layering Habitat Data onto Digital Maps of Project Sites

The GRMW has always faced the challenge of gathering all of the mapping data that it collects about specific locations and stream reaches in a way that synthesizes this information well enough to accurately guide restoration efforts. Using sophisticated Global Information Systems (GIS) data provided by many partner agencies, the GRMW's Lacey Moore and Mason Bailie have converted several dozen data layers into a series of maps that can be superimposed over each other, thereby illustrating where specific conditions overlap. These layers might show the relative geographic coincidence of a specific population of fish, the life stages of that population, the periodicity of the population (when they use the specific stream reach and at what life stage), available habitat, limiting factors to the population (stream temperatures, sediment, habitat complexity, etc.), and more. For example, by layering data, a picture of a specific stream reach might indicate that juvenile salmon spend the summer months there, when stream temperatures do not get too high, but that stream reach has a shortage of pools for refuge or an absence of woody material on which the invertebrates that provide a food source for young fish thrive. Other layers might show that late summer flows are often very low or that fish could use more low-velocity habitat outside of the main channel during periods of high flows. The layered data might also demonstrate that erosion is excessive in a particular reach, that a channel is confined by a narrow canyon, or a highway is at risk for flooding or erosion. The land adjacent to a particular stream might be pasture, timberland, farm ground, wilderness, or a suburban housing development.

Using Layered Data to Prioritize Habitat Restoration Efforts

The GRMW has given this mapping project the title of "Restoration Atlas," which will be the product of technical and scientific cooperation between partners such as the Oregon Department of Fish and Wildlife, the National Marine Fisheries Service, the U.S. Fish and Wildlife Service, the Confederated Tribes of the Umatilla Indian Reservation, the Bureau of Reclamation, the Bonneville Power Administration, the U.S. Forest Service, and more. The goal of this Restoration Atlas undertaking is to more clearly define habitat restoration priorities and identify opportunities to integrate habitat restoration efforts with current land use. Interested landowners will be able to understand what habitat restoration might look like before restoration activities begin and how restoration efforts can be complementary to the current land practices they employ. Financial assistance available through a variety of programs will become more evident.

These high expectations for a new process cannot be achieved without the knowledge of accomplished research biologists, engineers, field biologists, GIS technicians, administrative personnel, and stakeholders who know, understand, and appreciate the culture and history of the people and natural resources of the area. The insight gained from this collaborative effort will be very meaningful, but the true value will only be realized when those who manage the land understand what the Restoration Atlas could mean for them in terms of opportunities for habitat restoration and improved land use.

livestock grazing, 1.52 miles of riparian fences were installed, which will protect 21 acres of riparian, stream, and wetland habitat for many years to come. In addition, a single permanent livestock watering access point and hardened crossing were installed.

Objective 4: Improve Water Quality

Catherine Creek seasonally lacks areas with cool water temperatures. Channel width-to-depth ratios were modified to support the development of a healthy riparian plan community by increasing shading. Sloping and replanted stream banks also reduced the severe erosion and sediment load that polluted the creek. Channel connectivity and reactivated wetlands will likely increase the water table by improving groundwater interaction and bringing cooler water back into the creek system.

Project Partners

After a public review bid process, Partney Construction was awarded the project contract and quickly went to work. Construction occurred from mid-July until the end of October 2012. All of the project goals were met, and the scope of work was completed ahead of schedule. Project partners included the Bureau of Reclamation (BOR), the Oregon Department of Fish and Wildlife (ODFW), and the Confederated Tribe of the Umatilla Indian Reservation (CTUIR), who were instrumental in the planning, permitting, design, and construction of this project. The Grande Ronde Model Watershed secured project construction funding from the Bonneville Power Administration (BPA). Additional funding was provided by the BOR, CTUIR, and ODFW. Without the help of the concerned landowner/lessee and the dedication of our partnership agencies, this

ABOVE: New meander. Excavated and re-sloped banks and widened floodplain. Large wood structures placed. Banks were mulched, re-seeded, and planted.

Continued from Page 1

Tour:

projects have adapted proposed work based on those results. The ISRP and Council also will evaluate how well the project sponsors have responded to the scientific and management issues identified in previous reviews. The ISRP will provide the Council with a final report on its evaluation of the projects in August 2013.

Through the Geographic Review, the Council and the BPA hope to better understand the relevance and priority of ongoing and proposed habitat restoration work in relation to the Grande Ronde subbasin plan, recovery plans, and other project planning documents and activities. The review will help justify continued funding of priority habitat restoration work.

Call for Program Amendments

Separate from the Geographic Review, the Council issued a call for amendments to the Fish and Wildlife Program on March 27, 2013. The Northwest Power Act requires the Council to call for recommendations to amend the Fish and Wildlife Program at least every five years, prior to the required five-year review of the Council's Power Plan.

The Council must begin a program amendment process with a formal request in writing to the region's American Indian tribes and state and federal fish and wildlife agencies to solicit recommendations for:

- "measures which can be expected to be implemented by the [Bonneville] Administrator, using authorities under this Act and other laws, and other federal agencies to protect, mitigate, and enhance fish and wildlife, including related spawning grounds and habitat, affected by the development and operation of any hydroelectric project on the Columbia River;
- establishing objectives for the development and operation of such projects on the Columbia River and its tributaries in a manner designed to protect, mitigate, and enhance fish and wildlife; and
- fish and wildlife management coordination and research and development (including funding) which, among other things, will assist protection, mitigation, and enhancement of anadromous fish at, and between, the region's hydroelectric dams."

The Council must allow 90 days for the submission of amendments. They plan to close the submission window in July 2013. The Council encourages amendment submissions from the public. All recommendations must be accompanied by detailed information and data in support of the recommendations. The Council allows for extensive public review and comment as well as consultations on the amendment recommendations and on a draft of the amended Program based on the recommendations, including public hearings in all four states of the Council.

After closing the submission period, the Council has one year to adopt a new program based on the proposed amendments as specified in the Northwest Power Act. The adopted program serves as the basis for the BPA to use its funds "in a manner consistent with" the Fish and Wildlife Program.