Willamette River
Habitat Protection and Restoration Program
2010-2015

A Proposal of the Habitat Technical Team

Submitted by

Oregon Watershed Enhancement Board

May 28, 2010

Willamette River
Habitat Protection and Restoration Program
2010-2015
A Proposal of the Habitat Technical Team
May 28, 2010

TABLE OF CONTENTS

ATTACHMENTS

Willamette River
Habitat Protection and Restoration Program
2010-2015

A Proposal of the Habitat Technical Team

I. Abstract

The 2008 Willamette Project Biological Opinions (NMFS 2008, USFWS 2008) include Reasonable and Prudent Alternatives (RPAs) for the Action Agencies to carry out habitat restoration actions and establish a comprehensive habitat protection and restoration program to address effects of the federal Willamette River Basin Flood Control Project (Willamette Project). The Willamette Project includes 13 multi-purpose dams and reservoirs as part of the Federal Columbia River Power System, as well as 42 miles of bank protection projects. The Biological Opinions created the Willamette Action Team for Ecosystem Restoration (WATER) as a coordination body (RPA1.1 through 1.4 and 2.1). The WATER group consists of "technical experts from applicable state agencies and the Tribes," along with the federal Action Agencies.

The specific RPA addressed by this proposal is RPA 7.1.2, which requires the Action Agencies to "develop and carry out a comprehensive habitat restoration program." That program is the subject of this proposal, the Willamette Habitat Protection and Restoration Program (hereinafter referred to as the "Program"). This Program is designed to combine ongoing state-led habitat protection and restoration efforts in accordance with the directions of the Biological Opinion.

Responsibility for the Program resides largely with the Bonneville Power Administration (BPA) funded through the Fish and Wildlife Program of the Northwest Power and Conservation Council (NPCC). Thus, the habitat program should also comply with the NPCC program and use objectives and strategies of the Willamette Subbasin Plan as guidance in addressing priorities for aquatic ecosystem restoration. At the same time, it is the goal of Program proponents to complement, coordinate, and promote other promising habitat restoration programs in the basin.

The WATER Habitat Technical Team (HTT) and Oregon Watershed Enhancement Board Strategic Investment Partnership (OWEB SIP) have jointly developed the Program for Independent Scientific Review Panel (ISRP) review and NPCC/BPA review and funding. The Program covers a project-funding period of five years; total funding for five years is estimated at $10 million.

The fish species most adversely affected by the Willamette Project are Upper Willamette spring Chinook, Upper Willamette steelhead, Oregon chub, and bull trout. Many wildlife species will also benefit from this proposal, including lamprey, sturgeon, as well as amphibians, reptiles, birds, and aquatic mammals.

The Program is a comprehensive, programmatic approach to prioritizing and funding efforts to restore native fish and wildlife habitat in the Willamette River and its floodplain below the major federal hydro projects. We have developed this approach based on strong regional programs and basin-wide efforts that have been underway for the last three to twenty years. Rather than create a parallel process, we propose to use these existing structures to develop and guide

implementation of projects to address limiting factors identified in the Willamette Basin Biological Opinions, the Willamette Subbasin Plan, and the draft Upper Willamette Conservation and Recovery Plan for Salmon and Steelhead. Priority will be placed on areas of high ecological value (herein termed "anchor habitats") in the mainstem Willamette River and the lower reaches of the Willamette's major tributaries. An initial focus in these areas will complement other restoration and recovery efforts underway in upstream portions of the Basin.

Measuring the results of habitat restoration in a large river system is not easy. Our monitoring program will focus on whether the anchor habitats that we protect and restore are large enough and spatially arrayed in such a way that they improve conditions for important aquatic and riparian-dependent species in the Willamette Basin, including anadromous and resident Endangered Species Act (ESA)-listed fish.

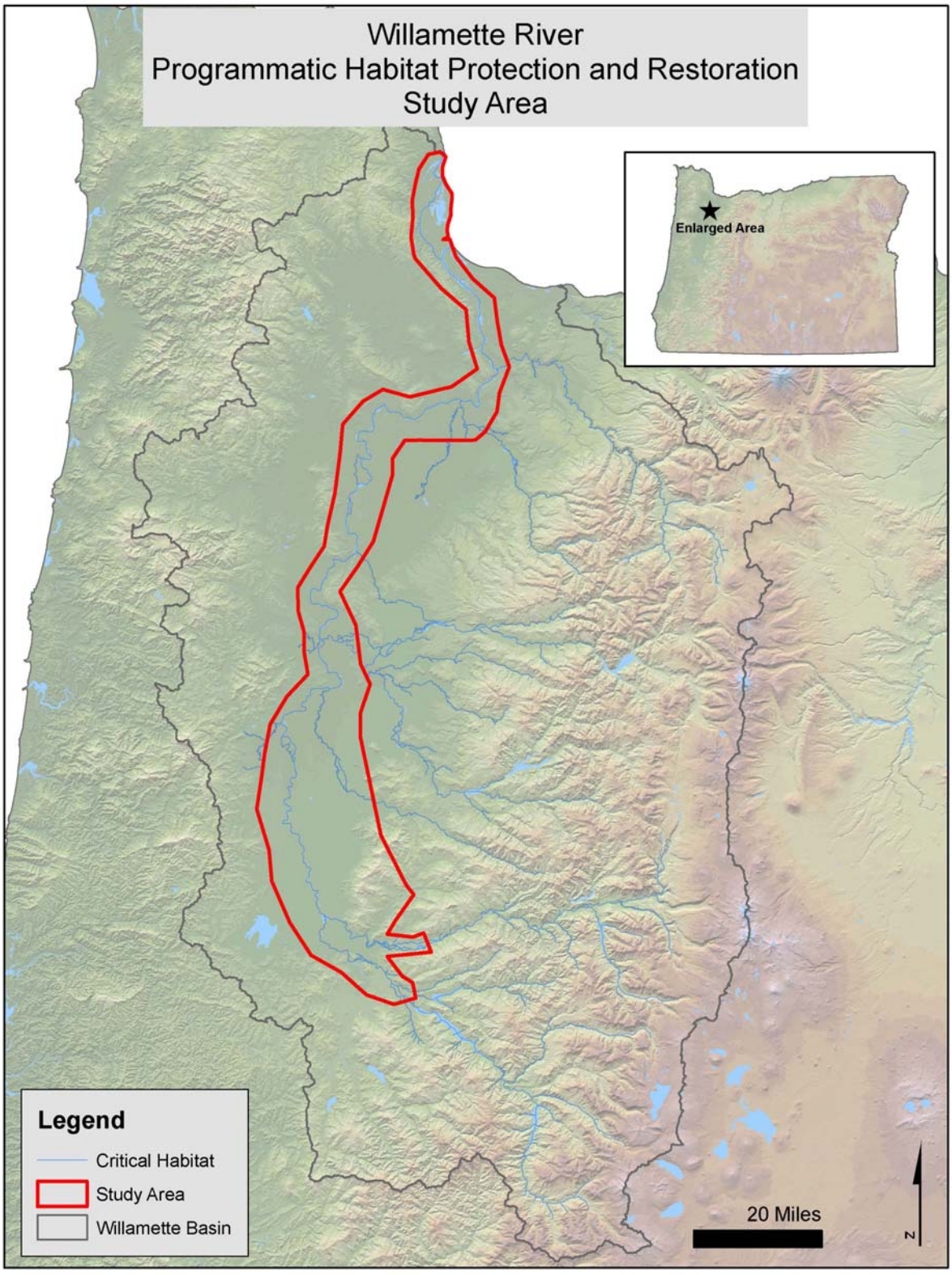
II. Location

The Willamette River Basin is the most densely populated river basin in Oregon, providing a home for three-fourths of the state's nearly four million people. The Willamette River generally flows north, between the Cascade Mountain Range and the Coast Mountain Range. The basin itself was shaped by waters from the Missoula Flood, which – over the course of more than a hundred overflow events – deposited many meters of lacustrine material on the Willamette Valley floor.

The Willamette River is fed by numerous rivers and streams flowing from the two mountain ranges that form its headwaters. Streams that flow from the snowfields of the Cascade Mountains support numerous aquatic species including ESA-listed bull trout, spring Chinook, and winter steelhead. Streams from the Coast Range are characterized by rain-generated flows rather than snow pack, and support ESA- listed winter steelhead and other native fishes. In addition, the complex river network that developed in the Willamette Valley from Eugene to Salem also supported an endemic species – Oregon chub – that inhabited side channels and backwaters along the river corridor.

The area of the Willamette River subject to the Program is the mainstem Willamette and floodplain in its entirety; the North Santiam, South Santiam, McKenzie, and Middle Fork rivers below federal dams; and the areas affected by USACE-maintained revetments. The Program includes the floodplain of the Willamette River to the mouth at the Columbia River, as well as the Multnomah Channel. Figure 1 shows the Willamette Basin and the mainstem Willamette.

Figure 1: Willamette River Proposal Study Area



III. Problem Statement

Human settlement of the Willamette Basin brought with it many structural changes to the Willamette River. During the settlement period of the Willamette Valley, the river was the major north south transportation route. The river system has been simplified, narrowed, and straightened (Sedell and Froggatt 1984, Benner and Sedell 1997). Between 1880 and 1950, federally funded "clearing and snagging" projects removed more than 65,000 snags from the river. Fern Ridge Dam was built in 1941, the first in a series of 13 large dams to control flooding of the river. To protect specific properties from erosion, the Corps constructed 42 miles of revetments, eliminating more than 90 miles of river channel.

These structural changes were designed to protect towns, farms, industries, and residential development in the floodplain. However, the taming and channeling of this mighty river had unintended consequences. In conjunction with floodplain clearing for agricultural purposes, hardening of the river banks, and gravel mining in the river corridor, these structural changes have reduced the capacity of the river to sustain the complex habitats necessary to support juvenile salmon and steelhead. In addition to habitat complexity, the "managed" river is operated in a manner inconsistent with the evolution of the native aquatic species. The federal dams control both high and low flows, reducing sediment transport and the historical connection to the floodplain that foraging juvenile salmonids and resident fish species, such as Oregon chub, depend upon for growth and rearing. Finally, add to these structural and flow changes the effects of 150 years of fertilizers, pesticides, sewage, and urban run-off, and there is little wonder the native fish and wildlife species are in decline.

The cumulative effect of taming the Willamette River and its tributaries is reflected in recent listings of aquatic species under the ESA. Taking action to halt the decline and provide habitat conditions that function similarly to those historically lost is the primary goal of this Program.

a. The Challenge of Restoration in a Large River/Flood Plain System

The Willamette River is the 13th largest river in the contiguous United States in terms of stream flow. The Willamette Basin creates more runoff per unit of land area than any river in the United States. This large river system historically flooded on an annual basis covering much of the valley floor. The Willamette Project was constructed to reduce the frequency, duration and extent of flooding. By the mid twentieth century, many of the revetments along the Willamette River had been constructed, although erosion continued to plague landowners.

Conservation efforts in the 1940's through the1970's to address water quality in the Willamette River focused on direct discharges (point sources of pollution) and did not address the simplification of the river system. Establishment of the Willamette River Task Force in 1997 started a conversation about the Willamette River and the efforts necessary to address the decline in aquatic resources, especially anadromous fish. The Oregon State Legislature passed the Oregon Plan for Salmon and Watersheds along with a $30 million biennial budget, and a ballot measure approved by the voters in 1998 provided long-term funding for restoration and protection of salmon and wildlife habitat from Oregon lottery proceeds.

The Oregon Plan for Salmon and Watersheds was based on the concept that people care most about the watershed they inhabit; it provided an incentive and support system for diverse teams of individuals to work together to improve the condition of their watershed. When the Oregon Plan was adopted in 1997, there were few watershed councils in the Willamette Valley. Today there are 24 watershed councils encompassing nearly all of the watersheds in the Basin.

Watershed councils in the Willamette – as in most of Oregon – have focused their attention on tributary watersheds. The high flows of the mainstem and large, lower tributaries require more complex projects with higher engineering costs, as well as an elevated risk associated with changing a channel course in a highly-altered river system.

All of the anadromous and many resident fish species in the Willamette Basin rely on the mainstem for their survival. The changes in the Willamette River Basin have been chronicled by a research effort that explored alternative futures for the most populated basin in Oregon (Hulse *et al* 2002). This detailed analysis of the river has determined that significant habitat enhancement within the floodplain can be conducted without significantly affecting the developed portion of the basin.

b. The Need for Coordination

OWEB developed a Willamette program called the Strategic Investment Partnership (SIP) to provide funding for projects that increased channel complexity and floodplain connectivity. This effort is a longer-term initiative to restore habitat to provide better support for anadromous and resident native fish populations.

In the Willamette, OWEB entered into an agreement with the Meyer Memorial Trust (MMT), an Oregon-based private foundation, to address Willamette restoration and protection issues – particularly the lack of habitat restoration along the mainstem. The OWEB SIP works closely with local groups, watershed councils, and non-governmental organizations in the basin that have a history and expertise in working with landowners on conservation. This diversity of partners offers opportunities for implementation at a broader scale than can occur on public lands alone. MMT has the flexibility to fund aspects of a project that OWEB is precluded from funding. To date, the OWEB SIP has worked with NGOs – particularly land trusts – to increase their capacity to reach out to landowners along the mainstem and lower tributaries. MMT has provided multi-year support for these community-based efforts, and for research and planning processes intended to provide detailed information on mainstem restoration opportunities.

The OWEB SIP now has more than a dozen restoration projects in various phases of design and completion along the mainstem Willamette. Some of these projects will be described further under Section VII, Relationship to Other Projects.

To meet the requirements of the Willamette Project Biological Opinion, a coordinated and integrated effort is essential in this time of declining budgets to achieve the goals of all parties and reduce duplication of efforts by both restoration providers and agency staff.

c. The Need to Implement Biological Opinion Requirements

The Action Agencies and the WATER HTT were given the charge "to develop and carry out a comprehensive habitat restoration program, in collaboration with the Services, which will include funding for carrying out habitat restoration projects during the term of this opinion." The tasks identified in the Biological Opinion include:

- Develop project selection criteria aimed specifically at addressing factors limiting the recovery of ESA-listed species;
- Develop project selection criteria informed by Willamette Subbasin Plan (WRI 2004), Willamette River Planning Atlas (Hulse *et al* 2002), and other Willamette guidance;
- Forward all proposals for NMFS review and determination;
- Fund priority projects; and
- Complete at least two of the highest priority projects each year from 2011 through the term of the Biological Opinion.

This Program was developed to address these specific Biological Opinion requirements, and to coordinate and integrate funding to achieve a higher level of accomplishments.

IV. Species Addressed and Threats to Recovery

While the Program will benefit many native fish and wildlife species that inhabit the Willamette mainstem, the four described here are a primary focus of this program. Upper Willamette River Chinook salmon (*Oncorhychus tshawytscha*) and Upper Willamette River steelhead (*Oncorhynchus mykiss*) have been listed as threatened by National Marine Fisheries Service (NMFS 1997). Bull trout (*Salvelinus confluentus*) and Oregon chub (*Oregonichthys crameri*) have been listed as threatened by the U.S. Fish and Wildlife Service (USFWS 1999; USFWS 2010b).

a. Chinook Salmon (*Oncorhychus tshawytscha*)

Status

The Upper Willamette River Chinook salmon evolutionary significant unit (ESU) includes seven independent populations (Figure 2) as identified by the Willamette/Lower Columbia Technical Review Team (2003). The Draft Upper Willamette River Conservation and Recovery Plan for Chinook Salmon and Steelhead (ODFW 2010) is a detailed evaluation of the status and necessary actions to recover Chinook in the Upper Willamette to sustainable levels. As shown in Table 1, below, the Technical Review Team of scientists from federal, state, and tribal agencies identified five of the seven populations at high risk of extinction, and two at moderate to low risk of extinction. The populations that inhabit tributaries with high dams (Middle Fork, North Santiam and South Santiam) all have a high risk of extinction. Smaller tributaries (e.g. Molalla, Calapooia) also have populations with a high risk of extinction. The Clackamas River population has the lowest risk of extinction, while the McKenzie population is at moderate risk of extinction.

Figure 2: Current Distribution of Upper Willamette River Spring Chinook

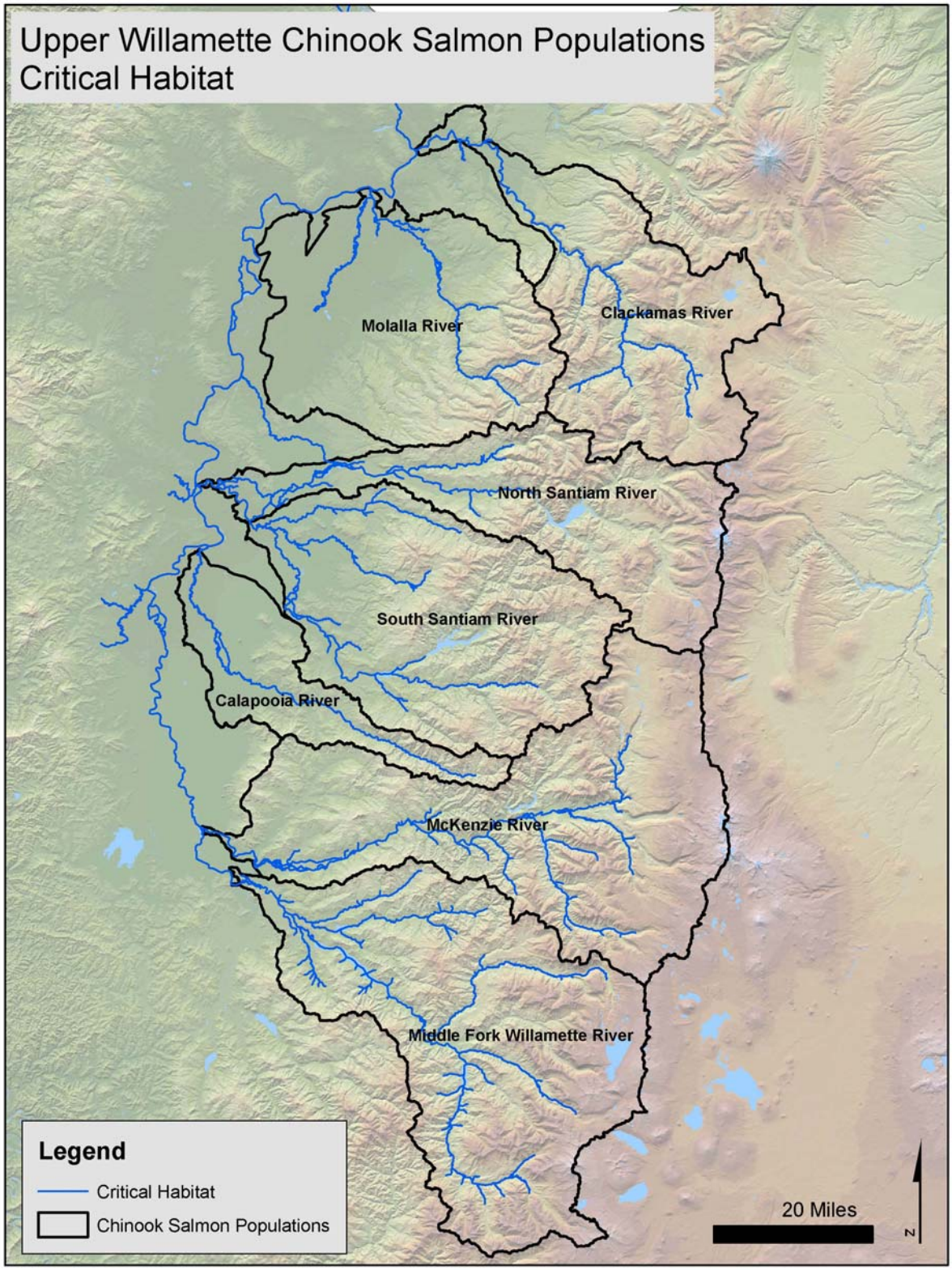


Table 1: Current Status of Upper Willamette Spring Chinook Populations

Upper Willamette River Spring Chinook Salmon Population Status	
Population	**Extinction Risk**
Clackamas	Low
Molalla	Very High
North Santiam	Very High
South Santiam	Very High
Calapooia	Very High
McKenzie	Moderate
Middle Fork Willamette	Very High

Limiting Factors and Threats

The Willamette Basin Biological Opinion (NMFS 2008) states "Habitat in the Willamette River mainstem and lower reaches of all the tributaries to the Willamette River is moderately to severely degraded." Further, the draft Recovery Plan identifies numerous threats and limiting factors for each spring Chinook population, many of which are common to all populations. As described in RPA 7.1.2, this proposal is designed to address the habitat limiting factors in the mainstem and lower reaches of the tributaries, focusing on those limiting factors caused by the Willamette Project (e.g., flood control/hydroelectric construction). Limiting factors include lack of gravel recruitment, impaired sediment recruitment, altered temperatures, reduced peak flows/channel complexity and habitat diversity, and altered flows caused by the flood control/hydro-system that affect habitat in the tributaries below the dams and in the mainstem Willamette River. The limiting factor of impaired physical habitat refers to the straightening and hardening of riverbanks as well as the loss of riparian vegetation (conifer forests and other native plants in the floodplain).

Addressing Limiting Factors

Specific actions identified in the draft Recovery Plan to address limiting factors in the mainstem and lower reaches of the tributaries include the following:

- Restore substrate recruitment using a combination of peak flows and substrate supplementation.
- Identify sites in the mainstem Willamette where habitat restoration is desirable and coupled to peak flows, design restoration projects, implement work, and monitor.
- Protect the highest quality rearing and migration habitats through conservation measures, acquisition, and/or regulation.
- Using the framework in the "Willamette Planning Atlas," protect and restore aquatic habitat function at the mouths of tributaries; increase non-structural capacity of flood water, restore natural riparian communities and their function; restore natural riparian

communities and their function; increase channel complexity; and increase native floodplain forest.

Projects under the proposed program will focus on the above restoration actions. The Program is intended to address limiting factors that affect numerous life stages of spring Chinook salmon in the lower tributary reaches and in the mainstem Willamette River, with a emphasis on juvenile rearing habitat. Other technical teams within the WATER framework are responsible for addressing limiting factors associated with the flood control/hydro-system, such as impaired access to spawning habitat, mortality at dams, and elevated water temperatures. The efforts to correct limiting factors associated with flow from the dams must be complemented by restoration actions in the lower rivers and mainstem Willamette in order for recovery to be successful.

b. Steelhead (*Oncorhynchus mykiss*)

Status

The Upper Willamette River Steelhead distinct population segment (DPS) includes four independent populations, and one area that supports scattered pockets of steelhead that are not strongly enough linked to be considered an independent population (Technical Review Team 2003). A map of these populations and the Westside Cascade species presence is shown in Figure 3. The Draft Upper Willamette River Conservation and Recovery Plan for Chinook Salmon and Steelhead (ODFW 2010) provides a detailed evaluation of the status and necessary actions to recover steelhead in the Upper Willamette to sustainable levels. All four independent populations are at a moderate risk of extinction (Table 2). The Willamette Biological Opinion identifies habitat degradation of the lower reaches of each tributary and the mainstem is a limiting factor to the four independent populations.

Figure 3: Current Distribution of Upper Willamette Steelhead

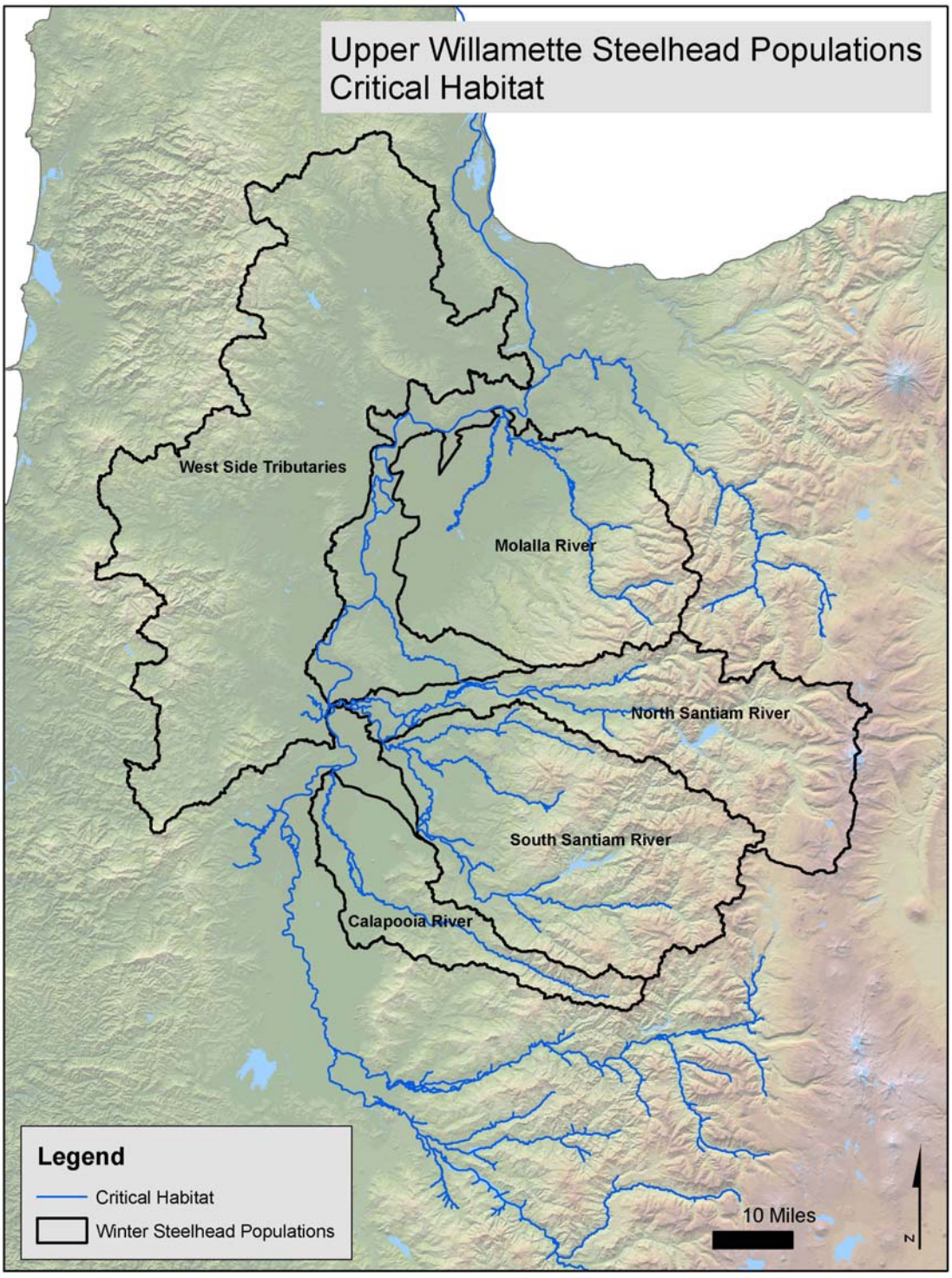


Table 2: Current Status of Upper Willamette Steelhead Populations

Upper Willamette River
Steelhead Population Status

Polupation	Extinction Risk
Molalla	Moderate
North Santiam	Moderate
South Santiam	Low
Calapooia	Moderate
West Side Tributaries	N/A

Addressing Limiting Factors

The Program is designed to address habitat limiting factors for the mainstem Willamette and its tributaries below the 13 federal hydro projects. The analysis conducted for the draft recovery plan identifies impaired physical habitat, which refers to the straightening and hardening of riverbanks, and the loss of riparian vegetation.

The draft recovery plan for steelhead identifies habitat for juvenile rearing as an important limiting factor for both species. Projects developed under the Program will be evaluated against the recovery goals and standards developed under the plan.

The actions to address limiting factors in the mainstem for steelhead are basically the same as those for Chinook. They include:

- Restore substrate recruitment using a combination of peak flows and substrate supplementation.
- Identify sites in the mainstem Willamette where habitat restoration is desirable and coupled to peak flows, design restoration projects, implement work, and monitor.
- Protect the highest quality rearing and migration habitats through conservation measures, acquisition, and/or regulation.
- Using the framework in the "Willamette Planning Atlas," protect and restore aquatic habitat function at the mouths of tributaries; increase non-structural capacity of flood water, restore natural riparian communities and their function; restore natural riparian communities and their function; increase channel complexity; and increase native floodplain forest.

c. Oregon Chub (*Oregonichthys crameri*)

Of the native non-anadromous fish in the basin, USFWS has determined that Oregon chub and bull trout have been seriously affected by the Willamette Project. Oregon chub are listed as threatened (USFWS 2010b) based on a strategy of securing "isolated" populations with sufficient size and genetic diversity to meet recovery criteria. Meeting remaining USFWS recovery objectives will require continued restoration of river dynamics and floodplain function. Oregon chub was the first fish species to be listed in the Willamette River Basin under the ESA (USFWS

1993). The species evolved to inhabit the dynamic network of slack water habitats in the floodplain. The Willamette Project altered the flood plain, simplified channel complexity, and reduced floodplain connectivity. These actions have adversely affected the chub population, which now persists in fragmented, small, and isolated populations. Only one population – Green Island – has access to the Willamette River during regular flood events. The recovery plan for Oregon chub recommends re-establishing a number of independent populations in isolated sites to address the loss and fragmentation of floodplain habitats and the threats posed by non-native fish species.

Known populations of Oregon Chub exist in the Santiam, Middle Fork Willamette, Mid-Willamette (West side), portions of the McKenzie, and the Coast Fork Willamette. The most recent status review (Bangs *et al* 2010) has concluded: "The downlisting of Oregon chub marks a milestone in our efforts to recover the species and presents new opportunities and challenges." The Service published a downlisting proposal in May of 2009. Following the public comment period, the final rule was completed in the spring of 2010 (USFWS 2010b). The USFWS completed a Programmatic Safe Harbor Agreement in 2009. In April of that year, the final proposed designation of critical habitat for Oregon chub was published in the Federal Register. Final designations were adopted in March of 2010 (USFWS 2010a).

The Oregon Chub Recovery Plan focuses on stabilizing independent populations in isolation (USFWS 1998). The Program includes actions designed to increase flood plain connection and increase side channel and other slack water habitat. The USFWS Biological Opinion for the Willamette Project concludes: "It is expected that long-term floodplain restoration actions, along with alternative flow management, may create opportunities for the expansion of Oregon chub into additional habitats that more closely mimic those under which the species evolved" (USFWS 2008).

d. Bull Trout (*Salvelinus confluentus*)

Bull trout was listed as threatened on November 1, 1999 (USFWS 1999). The listing rule consolidated five distinct population segments (DPS) of bull trout into one listed taxon. The Willamette River Core Area contains two of the populations, one is in the Middle Fork Willamette, and the other is the McKenzie. The Middle Fork population is small, and is supplemented by translocation from the McKenzie population. The McKenzie population "was likely a single fluvial population prior to the construction of flood control and hydropower dams in the 1960s" (USFWS 2008). There are currently isolated adfluvial populations above Cougar and Trail Bridge Dams on the upper McKenzie, and a fluvial population below the dams.

Critical Habitat for Willamette Bull Trout was designated by the USFWS for the Coastal DPS – which includes the Willamette River – in November of 2009. The USFWS is currently revaluating the critical habitat designations (USFWS 2009). The current critical habitat designation includes the mainstem Willamette above its confluence with the McKenzie River.

The Willamette National Forest has been working on bull trout recovery since the early 1990's. Projects in the upper McKenzie River and upper Middle Fork Willamette River have included passage projects to restore access to historic habitats, large wood restoration projects, off channel habitat restoration, reservoir complexity projects and road decommissioning. Several million

dollars have been invested to restore habitat and to reintroduce bull trout to historic habitats. The Forest has implemented these projects in coordination with the Upper Willamette Bull Trout Working Group and many other partners.

The Program will address conservation needs of bull trout, include restoring connectivity of the lower tributaries with their floodplain, and promoting viable populations of anadromous fish as a food source. Bull trout rely on structurally complex stream habitats with cool water. The restoration of complex channels in the lower McKenzie and Middle Fork Willamette will also support the recovery of bull trout.

~~V.~~V. The Willamette Habitat Protection and Restoration Program

a. Building on existing efforts

The primary purpose of the Program is to work with partners to fund and implement high priority habitat restoration projects in the Willamette Basin that satisfy the requirements of RPA 7.1.3. As described above, in a large river system with many agencies and NGOs involved in conservation, agreement on high priority projects is not a simple task. Layer upon layer of planning, designing, funding, and implementing is already underway in multiple watersheds at multiple scales. Most of the time, new efforts intend to fill gaps identified in the menagerie of previous and ongoing efforts. Then we "hope" that together these efforts will achieve the desired result – that of improving habitat for fish and wildlife in the Willamette Basin. To date there has been no attempt to measure the overall results of habitat protection and restoration in the basin. Do our collective efforts build a positive trajectory, or are we losing habitat on numerous fronts faster than we can restore it on others?

The approach of this Program has been to survey protection and restoration efforts in the basin, select from the best of these, build a process to coordinate them, and measure results overall – both degradation and restoration.

b. The coordination challenge

While the sum of our conservation efforts in the Willamette has – to date – been insufficient to halt the decline of native species, these efforts are both numerous and substantial. Dozens of local, federal, state, and tribal agencies are involved in restoring fish and wildlife habitat in the Willamette, as well as numerous non-profit associations, watershed councils, soil and water conservation districts, businesses, and private citizens.

Coordinating restoration in this large basin is a significant challenge. How do we increase the chance that one agency knows what another is doing, that restoration funds are being allocated to the highest priorities, and that Willamette projects are achieving the desired results? One way to coordinate restoration is to connect the major funding streams coming into the basin.

NMFS and USFWS 2008 Biological Opinions for the Willamette Project provided a framework for coordinating efforts through WATER. The Program will integrate the program efforts of WATER HTT with the ongoing program administered by OWEB and MMT.

In addition, the Program will coordinate restoration projects in the mainstem Willamette River and in lower reaches of its major tributaries; this focus will complement the largely upper Willamette tributary efforts being implemented under the NMFS 2008 RPA by the Action Agencies.

c. Major Program partners

Federal

NMFS

NMFS completed consultation with the USACE, BPA, and the Bureau of Reclamation on July 11, 2008, on the impact of the Willamette River Basin Project on species listed for protection under the ESA. NMFS found that the proposed action alone was not sufficient to avoid jeopardy or adverse modification of critical habitat for Upper Willamette River Chinook and Upper Willamette River steelhead. NMFS provided additional measures to mitigate for the projects' effects, including conducting habitat mitigation.

The focus of this Program is habitat mitigation under the NMFS biological opinion, guided by the Willamette Subbasin Plan and the draft salmon and steelhead recovery plan. The requirements of the biological opinion include the completion of at least two projects by 2010, with additional projects to be completed each year from 2011 to 2023. These projects will be identified and prioritized by the HTT established to administer the off-site habitat mitigation program. NMFS maintains the authority to determine if the intent and requirements of the Biological Opinion are being met.

NMFS funding from the Open Rivers Program and Community-based Restoration Program may also be used to assist in implementing projects on the Willamette mainstem and its lower tributaries.

BPA

BPA is a federal agency within the U.S. Department of Energy that markets power generated from the USACE Willamette Project dams. As a federal agency, BPA has obligations under the ESA to aid in the conservation of listed species and to ensure that any actions authorized, funded, or carried out by BPA are not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of their designated critical habitats. Further, the Pacific Northwest Electric Power Planning and Conservation Act (Northwest Power Act) requires that BPA protect, mitigate, and enhance fish and wildlife and their habitat affected by the development and operation of federal hydroelectric projects on the Columbia River and its tributaries from which BPA markets power (the Federal Columbia River Power System, or FCRPS), in a manner consistent with the purposes of the Northwest Power Act, the Fish and Wildlife Program adopted by the NPCC under subsection 4(h) of the Northwest Power Act, and other environmental laws (collectively referred to as "Northwest Power Act obligations"). The Program proposed here is intended to use BPA funding to implement RPA 7.1.2 in the Willamette Project Biological Opinion.

USACE

In addition to the responsibility to operate, maintain, and make improvements the Willamette Project dams, the USACE has numerous existing authorities to study and undertake habitat restoration actions throughout the Willamette Basin. These authorities and programs are described in detail in section 3.5.2 of the 2007 Biological Assessment and are summarized in Table 3 below.

Table 3: Summary of USACE Authorities and Programs to facilitate implementation of habitat restoration projects in the Willamette Basin (modified from the 2008 NMFS Biological Opinion).

Program	Water Body	Description
Continuing Authorities Program (CAP); (USACE Sections 206 & 1135 Programs)	Oregon	Continuing Authorities Program funds small restoration projects that address a variety of water resource and land related problems. A description of the CAP program is provided in section 3.5.2.3 of the Supplemental BA (USACE 2007)
General Investigation Program (GI); USACE)	Oregon	Authority to conduct complex, large-scale, multiple purpose water resource projects. Applicable existing GI studies are described in Section 3.5.2.2 of the Supplemental BA and include: the Willamette River Floodplain Restoration Study; Eugene-Springfield Metro Area Watershed Feasibility Study, Lower Willamette Ecosystem Restoration Feasibility Study
Planning Assistance to States (PAS); USACE)		Authority to work with non-Federal sponsor to study and evaluate water and related land resource problems. Current study of North Santiam Gravel under this authority
Upper Willamette Watershed Ecosystem Restoration Authority (USACE Sec 3138 program)	Willamette watershed upstream of Albany	New authority from WRDA 2007 to conduct ecosystem restoration studies for the upper Willamette basin to protect, monitor, and restore fish and wildlife habitat.
Ecosystem Restoration and Fish Passage Improvement Authority (USACE Sec 4073)	Oregon	New authority in WRDA 2007 to conduct studies for ecosystem restoration and fish passage improvement on rivers throughout Oregon. Emphasis on fish passage and restoration to benefit species that are ESA listed. In conjunction with study, pilot project to demonstrate effectiveness of actions is authorized.
Sustainable Rivers Partnership with The Nature Conservancy	Willamette Basin	Cooperative agreement between USACE and the Nature Conservancy to assess and implement dam operational changes to better mimic natural river flows in the Willamette basin

The USACE is currently developing implementation guidance for the new authorities from Water Resources Development Act 2007 (Section 4073 and 3138) listed above, which could provide opportunities in the near future (pending appropriations) to partner on habitat restoration projects.

Further, RPA 7.4 requires the USACE to assess restoration opportunities at USACE revetments. The USACE could use some of the above authorities, with necessary non-federal sponsors, to identify and implement restoration projects at revetments.

USFWS

The USFWS has responsibility under the ESA for native fish, wildlife and plant species, and has issued a companion Biological Opinion on the operation of the Willamette Project. They have cooperated with the OWEB SIP and partnered with a number of the OWEB SIP restoration projects. The USFWS funds cooperative restoration projects through a number of competitive grant programs. The North American Wetlands Conservation Act provides funding that may also be used for projects compatible with the restoration objectives of the Program.

NRCS

The NRCS has a number of cost share programs that could assist private landowners achieve conservation outcomes consistent with the Biological Opinion. The Emergency Floodplain Restoration Authority and the Wetlands Reserve Program are two programs that effectively complement the objectives of the proposed Program.

State and Private

ODFW

The Oregon Department of Fish and Wildlife plays a key role as technical advisor for habitat restoration and protection initiatives in Oregon. For the Willamette SIP, ODFW will focus their efforts on advising both local project developers and the OWEB SIP RRT on the effectiveness of projects in addressing aquatic habitat needs of listed species.

OWEB

The Oregon Watershed Enhancement Board is a public foundation that uses constitutionally dedicated lottery funds to protect and restore fish and wildlife habitat throughout the state. OWEB has been the prime funder for salmon recovery efforts throughout Oregon. The Program will coordinate and combine funding opportunities to achieve common purposes. The effort is part of a long term commitment the OWEB policy board has made to achieve increased levels of restoration in the Willamette Basin.

MMT

The Meyer Memorial Trust is one of the largest private philanthropic foundations in the Pacific Northwest. Based in Oregon, the foundation provides grants for social and environmental improvement throughout the Oregon and southwest Washington area. MMT has committed to a Willamette Initiative with goals shared by OWEB to increase the pace and capacity for restoration in the Willamette basin.

Willamette Special Investment Partnership

As mentioned previously, OWEB established the Willamette SIP to address channel complexity and flood plain connection between the Willamette River and its flood plain. The Willamette SIP provides dedicated funding ($6 million for the 2009-2011 biennium with a commitment to add in future biennia) for specific purposes associated with the improvement of Willamette River habitats below the dams. Shortly thereafter, MMT independently developed a Willamette Initiative, committing $1.5 million per year over a seven year period “to achieve meaningful, measurable improvements in the health of the Willamette River and selected tributaries by 2015, and to create a national model for effective philanthropic engagement in the restoration of large,

complex ecological systems." In 2008, OWEB and MMT joined forces through a memorandum of agreement (Attachment E) to jointly fund project development, implementation, and monitoring of projects consistent with the Willamette SIP goals. For more information, refer to: http://www.mmt.org/initiatives/river/. The Willamette SIP now engages a wide range of local, state, federal, and tribal agencies, (Attachment F) universities, non-profit organizations, and private citizens who are working together to restore native species habitat in the Willamette River Basin.

To ensure that projects for this large and dynamic river system were strategically prioritized and designed, in 2008 the Willamette SIP partners established a Restoration Review Team (RRT). This team is comprised of university, federal and state agency experts. The RRT includes fish and wildlife biologists from the USFWS, ODFW, and Oregon State University. It also includes hydrologists and technical experts from state and federal agencies, as well as experts on basin restoration programs. As a part of the Willamette Program, the RRT would expand to include members from National Marine Fisheries Service, Bonneville Power Administration, the Grand Ronde Tribe, and the Corps of Engineers (expanded RRT listed in Attachment A). The RRT members will be required to comply with the "conflict of interest" policy developed by OWEB.

The purpose of the RRT is to ensure that projects target limiting factors, are well placed, well designed, and likely to meet the objectives of the SIP. Primary objectives of the SIP are to increase channel complexity, connectivity between the flood plain and the river, and increase forest cover.

Typically the RRT reviews a project at three stages: 1) design concept roughly one-third complete, 2) design concept complete, and 3) project implementation complete. If a project has multiple phases, review will occur at each phase. Refer to Attachment G for a diagram of the existing Willamette SIP Project Review process.

The philosophy of the RRT toward restoration is to make it possible for the natural processes of river dynamics to move material and create or reopen channels (Willamette Subbasin Plan priority 5.2.2.5). At the same time, this approach makes monitoring of river changes extremely important, including adapting an approach to achieve the desired result (see V.f., Measuring success).

d. Proposed Program funding partnership

The goal of the Program proposal is to identify and implement high-priority habitat protection and restoration projects in order to fulfill the requirements established in RPA 7.1.2 and 7.1.3 in the Willamette Project BiOp. Rather than create a duplicate process, we are proposing to utilize the existing evaluation structure set up by OWEB for the Willamette SIP. In brief, that process relies on OWEB to maintain an open solicitation process, sort applications, and facilitate scientific reviews for SIP funding recommendations. Under a joint process, the OWEB RRT would review habitat proposals for both SIP and the Willamette Project BiOp to ensure that they meet the established selection criteria for the two programs and are technically and scientifically sound. Proposals that are favorably reviewed by the RRT will be sorted to determine which are most appropriate for BPA funding under the NWPCC and which are most appropriate for OWEB

SIP funding. The solicitation process and the implementation of proposals for both of the programs will be administered by OWEB.

Proposed project selection process:

1. The make-up of the Willamette RRT will be expanded to include National Marine Fisheries Service, Bonneville Power Administration, the Corps of Engineers, and the Grand Ronde Tribe to ensure that both SIP and BiOp criteria are incorporated into the review.

2. The Willamette RRT will maintain an open solicitation for proposals for protection and restoration projects for the Willamette using criteria developed by the HTT. The project selection criteria are shown in Attachment C.

3. When the RRT receives project proposals, they notify the HTT and set up a meeting for proposal review. Members of the HTT who are not members of the RRT are welcome to attend and provide input during the scientific review process. During the review process, the RRT will ensure that the proposals will meet the established selection criteria and are technically and scientifically sound. The RRT may also recommend project modifications to best meet the criteria.

4. Following the RRT meeting, the OWEB staff will provide feedback to project sponsors if they were not present for the RRT discussion and on any recommended proposal modifications. This feedback loop will also enable sponsors to address any questions that were raised during the review process or provide additional information.

5. Proposals that are favorably reviewed by the RRT will then be reviewed for funding suitability. This review will be conducted by OWEB, MMT, BPA, NPCC, COE, NMFS, and USFWS, who will determine which projects are more appropriate for SIP funding and which are more appropriate for Willamette BiOp funding. The federal team members will also discuss proposal feasibility under the BiOp to ensure compatibility with federal authorities and the intent of the BiOp.

6. At this point, projects go to the HTT for final prioritization and recommendation. HTT will provide an update on the final project recommendation list to the WATER Steering Team.

7. Final decisions for BiOp funding will be made by the appropriate federal agencies. Once BiOp and SIP funding decisions have been made, OWEB will award grants to begin implementation. OWEB staff in conjunction with the Willamette RRT will oversee the development and implementation of projects. OWEB staff will report project progress to the HTT and to BPA on a quarterly basis and will provide an annual report of BPA-funded projects to meet BPA requirements. In addition, OWEB will provide an annual monitoring report on all funded projects.

A diagram of the proposed process is shown in Attachment H. Aspects of the Program are already being implemented; for example, in order to improve coordination between the HTT and RRT, the Willamette SIP has already added NMFS, Tribal, and BPA members to the RRT.

e. Setting realistic restoration goals: anchor habitats as stepping stones

What kind of habitat restoration and protection is possible in the floodplain of a large river system with 13 dams, 42 miles of revetments, nearly three million people, and a population expected to double in less than 50 years? The HTT struggled with this question, and engaged agency, university, and NGO scientists in an attempt to develop a credible approach. We settled on a strategy to first protect and restore a series of relatively intact habitats in a stepping stone fashion along the mainstem river corridor. Aldo Leopold described this approach as a basic conservation principle about protecting the best remaining habitat, first, and then building outward.

Identifying "the best" in the Willamette Basin was not difficult because of work already completed. The Nature Conservancy (TNC) had recently completed a project to "synthesize" many conservation planning efforts in the Willamette Valley, with the objective of creating a unified set of basin-wide fish and wildlife priorities. Working with many partner organizations in the Willamette, they combined their own Ecoregional Assessment; USFWS and NMFS Critical Habitat Designations and Recovery Plans; ODFW's Statewide Conservation Strategy; Pacific Northwest Ecosystem Research Consortium's Willamette River Basins Alternative Futures (described in more detail in V.f below); and the NPCC Willamette Subbasin Plan. Over two years, they identified some 300 priority upland and aquatic sites across the basin, including a dozen sites focused on the Willamette River, major tributary confluences, and opportunities to re-connect the historic the river's floodplain. On the mainstem Willamette, these sites were selected within the 100-year floodplain to emphasizing areas of significant public ownership or high restoration potential, intact native habitat, cool water, and some care was given to the distribution of sites (i.e. distance between anchor habitats). Boundaries were also refined to exclude areas with major infrastructure.

The HTT has adopted the TNC "synthesis" sites along the mainstem and has defined them as "anchor habitats." The HTT will work with TNC to convene partners that were involved in site identification to consider revisions to the conservation priorities every two years. Accordingly, the defined anchor habitats may be modified over time to reflect the most strategic opportunities in the Willamette Basin. Five maps of the Willamette mainstem anchor habitats are presented in Attachment D. (More detailed maps of the anchor habitats are available upon request.)

The Project Selection Criteria used by the HTT and the RRT are the same; they were developed by the HTT to be followed both teams. The Project Selection Criteria are listed in Attachment C; they give preference to the anchor habitats mapped in Attachment D.

f. Measuring results

Monitoring the results of habitat protection and restoration at the project scale in a large river system will tell us little about species survival unless we evaluate and understand the context for those efforts. In a heavily populated basin such as the Willamette, land use and anticipated

growth of the human population are an important part of that context. The objective of the Willamette Program is to establish a network of anchor habitats along the mainstem and in the lower reaches of its major tributaries. Thus, the key question that must be addressed by the monitoring program is straightforward: Have sufficient anchor habitats been established to ensure that beneficial ecological processes are supported and function to improve overall conditions for important aquatic and riparian species? Sufficient anchor habitat means that the areas protected and restored are large enough and spatially arrayed such that they create a network that will improve conditions at a scale that incorporates much of the aquatic and riparian landscape of larger rivers within the Willamette Basin.

To address the key monitoring question, it is necessary to construct a set of subordinate questions that are appropriate for different scales. For example, at the project scale of a habitat easement or acquisition, it is most appropriate to document the location, area, ownership or duration of the agreement. At this scale, however, it would not be appropriate, or possible, to monitor whatever incremental impact the project might have on the survival of migrating populations of juvenile Chinook salmon. Table 4 provides an overview of how the monitoring questions are structured at different spatial scales and identifies the general questions, metrics, and methods envisioned for monitoring changes to the main stem of the Willamette River. To make reading of the table easier, the spatial scale of questions are shaded from light green at the site scale, to darker green at the river scale. Monitoring tasks directly associated with the Program and supported by the HTT are also described in the table.

In addition to identifying appropriate spatial scales for monitoring, it is important to assign monitoring tasks appropriately and to support integration and synthesis of monitoring results. Monitoring activities directly associated with projects prioritized, selected, and funded through the Program will be part of a broader monitoring effort underway in the Willamette Basin. The composition of the HTT membership and the structure of the WATER Steering Team will facilitate necessary coordination and integration with other groups. Connections to ODFW spring Chinook salmon Life History Project (Schroeder et al.2007) and Hatchery Monitoring Program are established. Members of the HTT contribute to the WATER Research, Monitoring and Evaluation Oversight Team will implement a monitoring strategy (USACE 2010) called for in the Willamette Project Biological Opinion. Population viability and restoration effectiveness monitoring under development for the ODFW/National Marine Fisheries Service ESA Recovery Plan for Salmon and Steelhead in the Upper Willamette ESU will provide additional context (ODFW 2010).

Table 4: Overview of monitoring questions, scale, and methods as applied to the Willamette Habitat Restoration and Protection Program. Questions are associated with key program objectives and ecosystem processes.

Question	Scale	Metric(s)	Method(s)	Frequency of Measurement
Objective 1: Protect functioning river corridor habitat Process: Establish and protect a network of anchor habitats where landscape scale processes may function.				
Have the projects implemented over the last 5 years added to the area of protected habitat?	River	Area of protected habitat	GIS mapping of protected areas	Once every 5 years
Objective 2: Restore channel morphology and complex aquatic/riparian habitats Processes: Channel formation and maintenance, channel migration, flood plain connectivity.				
Did the restoration project add channel length to the Willamette?	Site	Stream flow in restored channel at low flow.	Stage measurement at restored site.	Weekly stage readings during low flow periods
	Reach	Length of channel	Photo measurements in "slices" through affected reach.	Every five years
Objective 3: Protect, restore, and enhance habitat for native fish species Processes: Aquatic species migration and colonization (population dynamics).				
Is the restoration project area used by native fish species?	Site	Fish species abundance.	Spot check. (electroshock, nets)	Bi-weekly during smolt migration period
	Reach	Fish species distribution	BACI Reach Sampling (electroshock, nets) ODFW Spring Chinook Project Protocols	Bi-weekly during smolt migration period

Is there a change in relative abundance of warm water native species?	Site	Fish species relative distribution in "slices"	Sampling (electroshock, nets, traps) ODFW Oregon Chub Protocols	Seasonally throughout year
Did the restoration project or increase appropriate habitat for native cold water species?	Site	Temperature profile of restored site.	Direct water temperature recording. DEQ/VEMCO protocols.	Continuous: Summer - Fall
Did the restoration project provide or increase appropriate habitat for native warm water species?	Site	Temperature profile of restored site.	Direct water temperature recording. DEQ/VEMCO protocols.	Continuous: Spring – Summer - Fall
Has the restoration **program** improved connectivity of main stem refuge habitats?	Reach and River	Spatial distribution of cold water refuge habitats	Measurement using the "slices"	Every 5 years
Objective 4: Increase floodplain forest cover Processes: Seedling establishment, vegetative succession, impacts of invasive species.				
Is there an increase in floodplain forest cover?	Site	Forest restoration planting survival	Sampling survival	Annually
	Reach	Area of forest in "slices"	Aerial Photographic Survey	Every 5 years
Objective 5: Facilitate flow/landscape interactions – anchor habitats where channel forming and flood flow processes operate Processes: River hydrology, sediment transport, nutrient input and cycling.				
Have the projects (either protection or restoration) allowed frequent flooding?	Reach	Area of 2, 5 and 10 year flood within restoration and protection sites.	GIS analysis and river elevation modeling.	Every 5 years

Objective 6: Contribute to a net increase in aquatic and riparian habitat Processes: Same as Objective 1, but evaluated over time at the landscape-scale.				
Have the projects (either protection or restoration) outpaced the development of habitats by other forces?	Reach	Area of functioning habitat in "slices"	Aerial photo analysis and GIS mapping.	Every 5 years
	River	Area of functioning habitat in "slices"	Aerial photo analysis and GIS mapping.	Every 5 years

The overall approach for documenting current habitat conditions and monitoring changes associated with implementation of anchor aquatic/riparian habitats in Willamette Basin is derived from the by the Willamette Planning Atlas (Hulse *et al* 2002). This Atlas is one result of an unprecedented, science-based evaluation of the Willamette River that began some 20 years ago to better understand the interaction of human land use with aquatic and terrestrial species and their habitats. The evaluation was funded by the Environmental Protection Agency (EPA) and was undertaken by scientists from EPA, Oregon State University, and the University of Oregon. The group joined forces as the Pacific Northwest Ecosystem Research Consortium (Consortium).

The focus of the study was on river dynamics within a developed flood plain environment. The Atlas portrays plausible future scenarios for development in the Willamette Basin, and models the effects of policy choices on future floodplain conditions. The Atlas postulated areas of restoration potential in a uniform manner along the river (Figure 4).

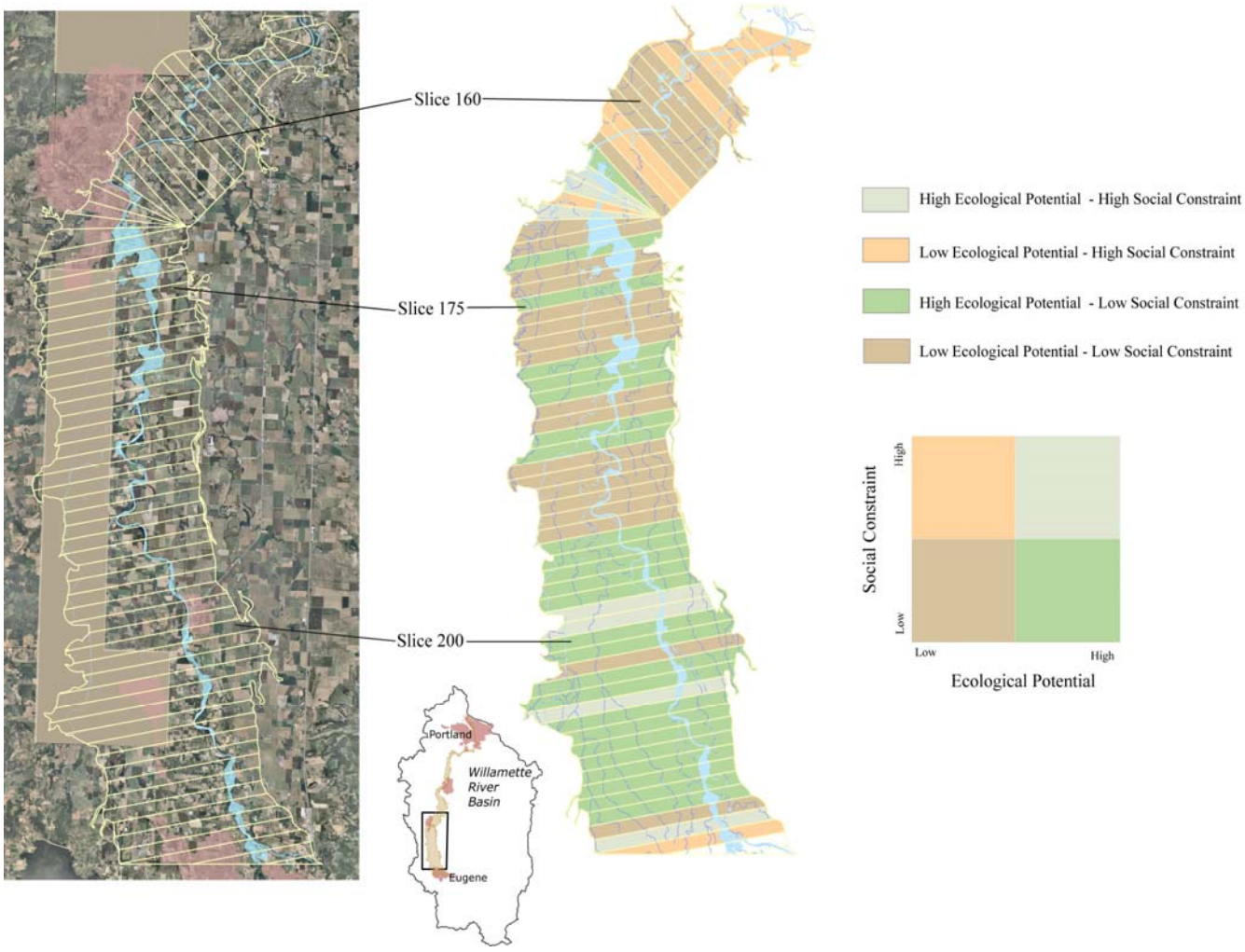
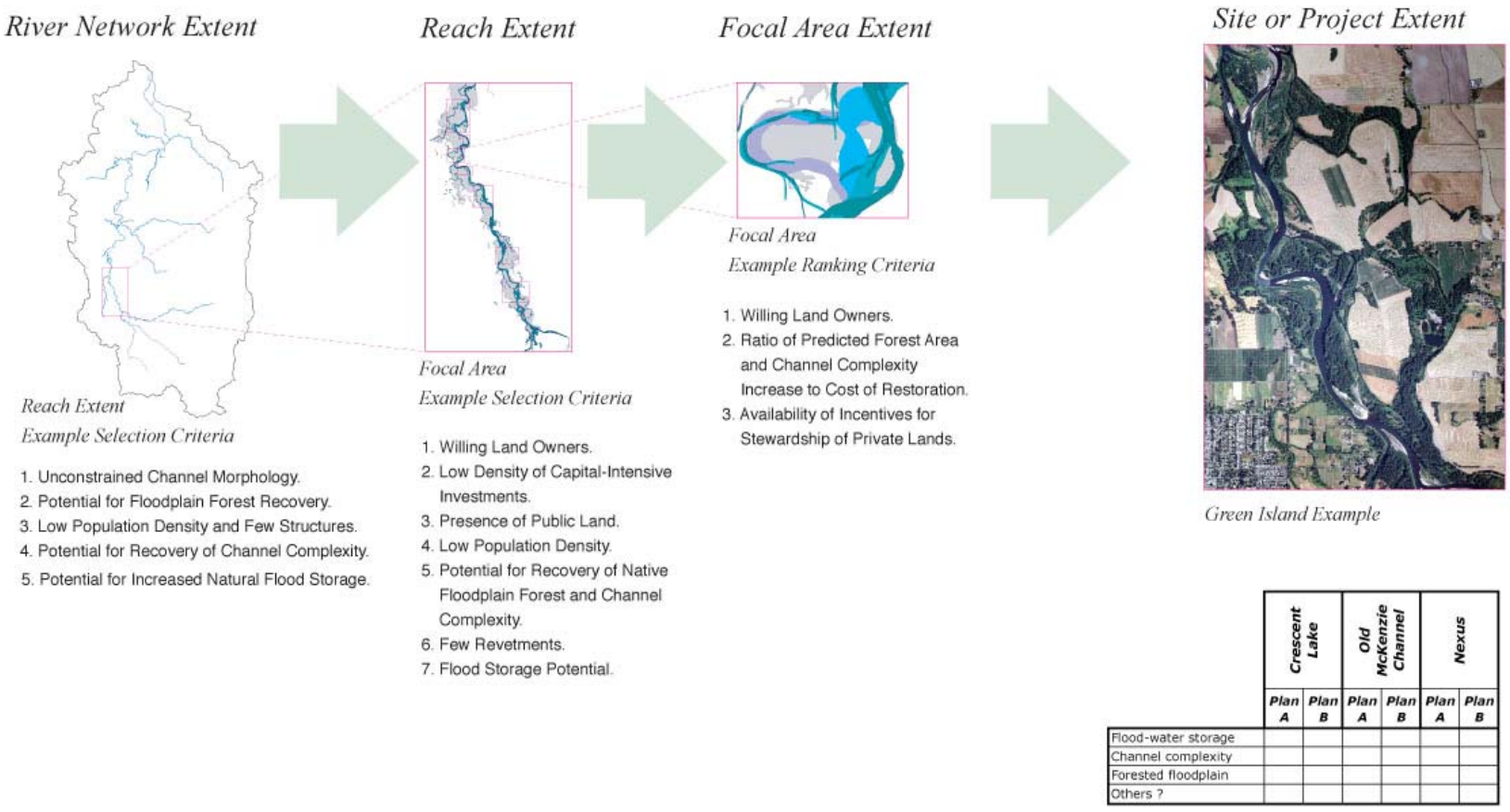


Figure 4: Restoration Priorities for the Willamette River

Beyond the comprehensive evaluation of conditions and projection of alternative futures, the Consortium has developed a monitoring approach to track changes in the river system over time. The river "slices" are a tool that can be used to evaluate at a project level, reach level or river system level changes in floodplain forest, channel complexity, flood storage and aquatic diversity (Figure 5).



	Crescent Lake		Old McKenzie Channel		Nexus	
	Plan A	Plan B	Plan A	Plan B	Plan A	Plan B
Flood-water storage						
Channel complexity						
Forested floodplain						
Others ?						

Figure 5: Monitoring scales from the Willamette Planning Atlas

The slices have recently been refined to more discretely measure changes. The slices are now 100 meters in width, a refinement of the 1-kilometer width originally developed (Figure 6).

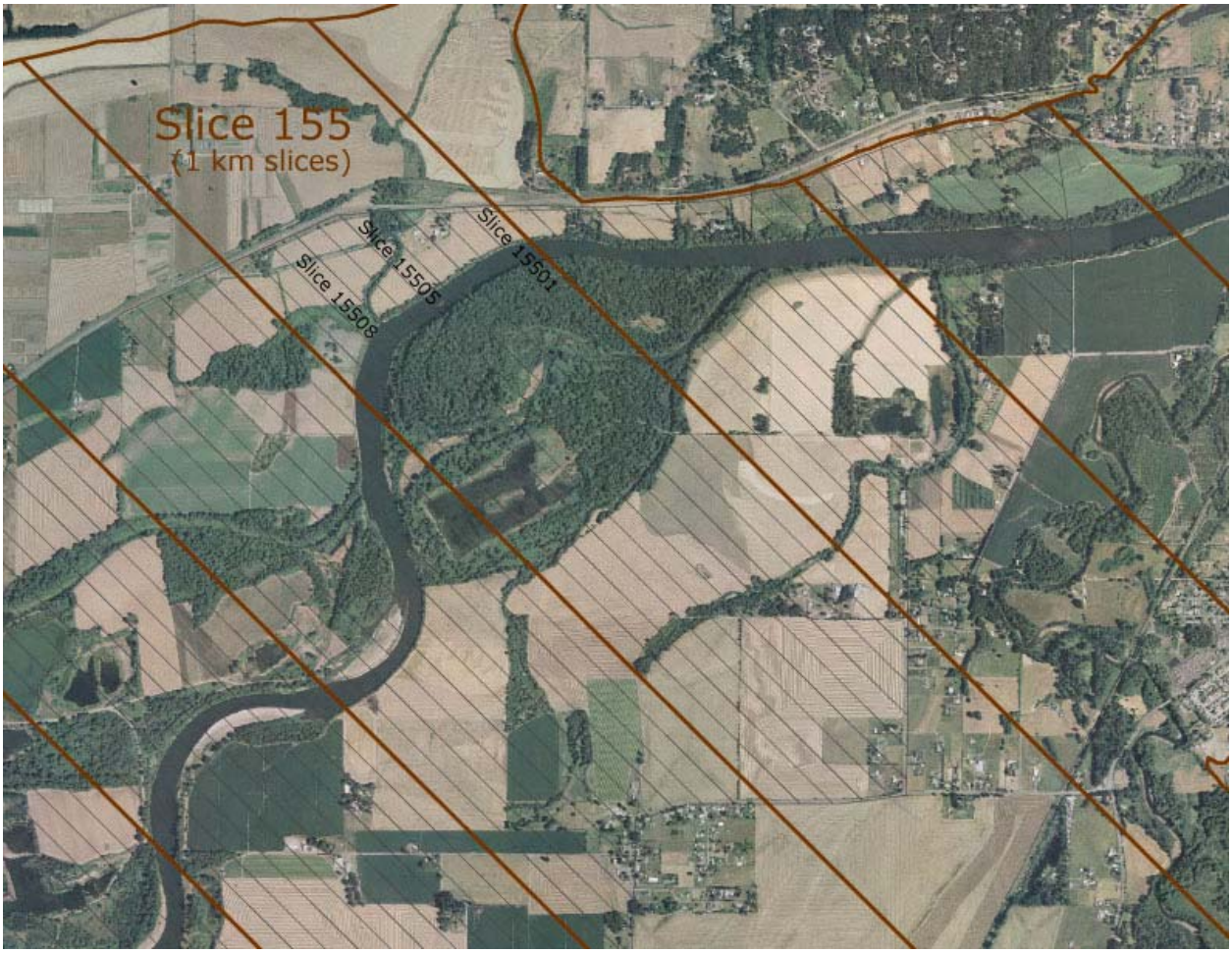


Figure 6: Fine grained "slices" of the Willamette River

The HTT has been working closely with the scientists participating in the Consortium. The primary authors of the Willamette River Atlas participate on the RRT. The RRT reviews and recommends funding for restoration projects under the Willamette SIP. The Program is an attempt to bridge the gap between research and policy; it is the first significant step at implementing some of the findings of the Consortium.

OWEB and MMT have funded the development of 100 meter elevation transects or "slices" of the Willamette Valley which will provide data on channel complexity, floodplain forest composition, fish species habitat diversity, and flood storage data as of 2009. This information provides a critical context for measuring effects of the program. Other efforts to prepare background information, such as modeling flood inundation from 2, 5, and 10 year flow events using LiDAR digital elevation model data and flood-stage data, will add to the context information usable for monitoring reach and river scale changes.

Evaluation of channel, habitat, and vegetation changes using the "slices" approach will be conducted at the reach scale. Status and trend monitoring evaluation at the river scale will be accomplished using the same "slices" to characterize physical conditions. That information will be supplemented with more intensive protocols for biotic community structure, water quality, and species specific habitat based on geospatially referenced tessellated sampling (GRTS) protocols (Stevens and Olsen 2004, Crawford and Rumsey 2009). GRTS based sampling has been successfully implemented to evaluate Oregon Coast Coho ESU populations and their habitats (State of Oregon 2007) and recommended for use throughout the Columbia Basin by the Pacific Northwest Aquatic Monitoring Partnership (PNAMP) monitoring guidance (Hillman and O'Neal 2009).

Project Implementation Monitoring

Information regarding the establishment of each habitat project will be reported to the HTT, funding agencies, OWEB SIP, and the WATER Steering Committee. Project location, including maps showing spatial extent and relationship to existing channels and floodplains, will be documented. Additional reporting will conform to protocols established by the OWEB that are consistent with the requirements of the Department of Commerce Pacific Coast Salmon Recovery Fund (PCSRF).

For each project funded under the Program, data will be gathered to answer the questions at the site scale and time frame identified in Table 4. For channel reconnection projects, stage, temperature and fish use will be measured for at least five years following construction. Reforestation projects will be required to monitor survival of both dominant species and as understory species.

Reach Scale Monitoring

At the end of each year, a "Willamette River Reach Report" will be prepared for reaches where projects have been implemented. The Reach Report will include measures of change in 100 meter "slices" in channel length, floodplain forest, protected lands, and flood storage. These reports will provide an interim evaluation of the progress and magnitude of effect of the Program.

River Monitoring

Every five years, the information on the 100 meter "slices" will be updated to document changes to the river system. This monitoring will provide a context for evaluation of the Program and provide the opportunity to refocus efforts where change is in the direction towards or away from recovery.

VI. Relationship to Regional Programs

The Willamette River Habitat Restoration and Protection Program is structured to address the problems identified in Section III and to coordinate the allocation of resources across federal and state agencies to achieve the shared purposes of restoring mainstem species habitat. The Program and forthcoming projects will be designed and implemented with full awareness of other significant work underway in the Willamette Valley, including the other elements of the NMFS and USFWS Willamette Biological Opinions, the Willamette Subbasin Plan, the recovery plan for Chinook and steelhead, the Bull Trout Recovery Plan, the State Conservation Strategy, and many other federal and state priorities.

a. Willamette River Project Biological Opinion – NMFS

This Program has been developed to implement the reasonable and prudent action (RPA) that is identified as "7.1 Willamette River Basin Mitigation and Habitat Restoration." Specifically, the Program will work in concert with the Action Agencies and the WATER HTT through the project selection criteria developed by the WATER Steering Committee. (See Attachment B for a full description of the WATER HTT and its relationship to the Steering Committee.) The proposal includes implementation of RPA 7.1.2. It is specific to the projects and processes identified in the Biological Opinion. The Program will also fund projects consistent with the OWEB/MMT Willamette SIP using non-federal funds.

b. Willamette River Basin Project Biological Opinion – USFWS

The USFWS issued a Willamette Project Biological Opinion on July 11, 2008. This Program addresses the species considered in that biological opinion under RPA 7.1.2. The USFWS is a member of the OWEB/MMT SIP partnership and has assisted in the project selection for non-federal funded projects. The Program has been developed to consider, to the extent possible, both fish species of concern to the USFWS (bull trout and Oregon chub).

c. Willamette Subbasin Plan

The Willamette Subbasin Plan, developed and adopted into the NPCC's Fish and Wildlife Program, identifies Upper Willamette spring Chinook, Upper Willamette steelhead, bull trout, and Oregon chub as aquatic focal species. These same species serve as the focus for the Willamette Program. The Willamette Subbasin Plan basinwide priorities include restoring lowland riparian areas (5.2.2.4), restoring low-cost, high-return areas of the floodplain (5.2.2.5), letting the river cool itself (5.2.2.6) and ensuring that all the priority themes are taken up in an organized way at the local level (5.2.2.7). The Willamette Program supports and implements these Willamette Subbasin Plan priorities.

Restoration of physical habitats in the mainstem Willamette River and its tributaries is a key aquatic strategy identified in the Willamette Subbasin Plan. The plan also identifies connecting

favorable habitats as a key aquatic strategy (Table 5.3 of the Willamette Subbasin Plan). The initial focus of the Program will be to restore aquatic habitats in the mainstem Willamette.

d. Draft Willamette Chinook and Steelhead Recovery Plan

The Draft Upper Willamette River Conservation and Recovery Plan for Chinook Salmon and Steelhead (ODFW 2010) is a detailed evaluation of the status and necessary actions to recover Chinook and steelhead in the Upper Willamette to sustainable levels. The draft plan identifies habitat for juvenile rearing as an important limiting factor for both species. Projects developed under this Program will be evaluated against the recovery goals and standards developed when the plan is completed.

e. Willamette River Floodplain Restoration Study

The USACE and the Mid-Willamette Valley Council of Governments are cost-sharing a feasibility study to evaluate opportunities to modify existing floodplain features along the Middle Fork and Coast Fork of the Willamette River to restore natural floodplain ecosystem function and conditions. Restoration measures include removal/modification of revetments and levees to reconnect floodplain and off channel areas, removal of structures or fill from floodplain, removal of non-native vegetation, revegetation of riparian/floodplain zones with native species, restoration and reconnection of off-channel features, such as side-channels and oxbows, placement of wood or engineered log jams in the floodplain or in-channel, and gravel mine pit restoration. These restoration alternatives will improve habitat conditions for ESA-listed aquatic species and other species of fish and wildlife.

f. Habitat Conservation Plans and Safe Harbor Agreements

Currently the only Habitat Conservation Plans for listed species that are a focus of this Program address Oregon chub. The USFWS developed a Safe Harbor Agreement for private landowners to reintroduce Oregon chub to ponds in the Willamette Valley. This Program does not anticipate any effect on those agreements.

VII. Relationship to Other Projects

BPA/NPCC Funding

Lower Columbia River Estuary Program (LCREP) The Willamette Program is a relatively new approach, modeled after LCREP (Project Number 2003-011-00). Like LCREP, the Willamette Program seeks to coordinate and encourage habitat protection and restoration. Like LCREP, the Willamette Program is a multi-year, multi-agency strategy to identify, fund, and implement the highest priority restoration projects in the target area.

Willamette Basin Wildlife Mitigation (WBWM) The Willamette Program builds upon some of the work performed though the long-term wildlife mitigation program in the Willamette (Table 5). Through the WBWM (Project Number 1992-068-00), ODFW has facilitated the acquisition

of several properties that have significant fish benefits in addition to their benefits for wildlife. Examples include Green Island (1100 acres, acquired in 2005 with cost share from OWEB), located at the confluence of the McKenzie River and the Willamette mainstem, and Big Island (179 acres, acquired in 2001), located on the McKenzie River. Green Island is located in an anchor habitat that was and formed at the historic mouth of the McKenzie River. Management objectives for Green Island include the restoration of natural river processes, including the potential restoration of a former McKenzie River channel.

Table 5: BPA/NPCC funded project in the Willamette Basin

Project Number	Project Title	Subbasin	Sponsor	FY07 Council	FY08 Council	FY09 Council	Council Rec. FY 07-09 Total
1992-068-00	Willamette Basin Mitigation	Willamette	ODFW	$760,657	$694,143	$706,310	$2,161,110

Since the acquisition of the properties described above, ODFW has provided additional funding to the McKenzie River Trust (MRT) to enhance and restore the riparian and aquatic habitats on these properties in order to increase their benefits for fish. In 2007, MRT removed a flood control levee on Green Island and the Willamette began to reclaim some of its historic floodplain. This year, a 12-acre section of the island was washed out by a high flow event, opening a new channel toward the center of the island. Monitoring will take place to determine fish use of the new channel and the changing floodplain structure. Also in 2010, MRT expanded restoration efforts on both Green Island and Big Island and is negotiating to acquire land parcels adjacent to these properties. Restoration on Green Island in 2010 has focused on additional partial levee removal that will reconnect floodplain habitat on the island. Green Island has the only known Oregon chub population that occurs in a mainstem backwater habitat. In the future, WBWM will continue to provide restoration opportunities on properties that are permanently protected for fish and wildlife to promote the longevity of the restoration activities.

The WBWM has also provided funding for the Willamette Floodplain Restoration Study (Study). The Study was implemented to determine if new flow measures could restore lost – or enhance degraded – floodplain functions. Among these functions are water quality and quantity, island and habitat formation, nutrient cycling and structural or hydro-geomorphic features that benefit aquatic and terrestrial species along the Coast and Middle Forks of the Willamette River. The cost share provided by the project helped leverage $4 million in funding from the USACE. Results of the Study will be used in the Biological Opinion's technical analysis that includes linking terrestrial and aquatic modeling to develop a range of future restoration scenarios. The Study also examines potential restoration such as modifying flows from Dexter Dam, removing dikes or riprap, restoring backchannel areas, reconnecting floodplains, and restoring riparian forests and wet meadows. Collaborating with TNC and their Willamette Flow Management Program also led to development and mapping of the anchor habitats that form the basis for the Willamette Program. Funding for some of the TNC work also came from OWEB and MMT.

The attempts at funding coordination to date have resulted in the development of several outstanding projects; it is clear to all participants, however, that more systematic coordination as a part of this Program will result in greater efficiencies and higher levels of accomplishment.

Willamette SIP-Funded Projects

The Willamette SIP funded by OWEB and MMT have initiated a number of projects. The following table (Table 6) lists the projects that have been funded under the cooperative effort to date. A brief description of each project and its relationship to the Program follows the table.

Table 6: Willamette Special Investment Partnership funding by OWEB

Project ID	Project Objective	Grantee	Project Name	Project Amount
6899	Restore upstream habitat connection and improve habitat complexity at the confluence of Stephens Creek and the Willamette River.	City of Portland BES	Lower Willamette River Off-Channel Habitat Restoration at the Confluence of Stephens Creek	$199,060
6900	Restore floodplain vegetation and back channel habitat on the Middle Fork of the Willamette River.	Friends of Buford Park & Mt Pisgah	South Meadow Floodplain Enhancement Phase III	$204,823
6927	Restore flow to a back channel of the Willamette River at Mission Park.	Willamette Riverkeeper	Willamette Mission Programmatic Reconnection Project	$953,370
7548	Restore upstream habitat connection and improve habitat complexity at the confluence of Tryon Creek and the Willamette River.	City of Portland BES	Tryon Creek Confluence Habitat Enhancement Project	$100,000
8035	Restore floodplain vegetation and tributary channel habitat to the Little Willamette River.	Greenbelt Land Trust	Little Willamette Property Restoration, Phase 1	$25,050

Stephens Creek The City of Portland has been aggressive at planning and implementing fish restoration projects in the urban area. These projects are important in order to provide a respite for fish migrating through the poor quality fish habitat in the urban corridor. The purpose of the project at the confluence of Stephens Creek and the Willamette was to improve the quality fish habitat and provide better shading along the stream. This project was funded and completed prior to establishing the RRT and identifying anchor habitats. Future efforts through the Metro Area will focus on maintaining the relatively clean and cold-water inputs from Forest Park, the Clackamas River, and other sources, and then expanding fish habitat through restoration and acquisition where these tributaries meet the mainstem.

Buford Park Buford Park is located between the confluence of the Coast and Middle Forks of the Willamette. The SIP has funded several projects to expand and improve floodplain habitat and connectivity in this area, including the South Meadow habitat enhancement project. The project included restoration of back channel habitat and restoration of floodplain vegetation. This work has been supported by the RRT. Additional acquisition of relatively high quality habitat is currently under negotiation in the area.

Willamette Mission Willamette Mission is an old slough along the river that has filled in with sediment over time. The area is now managed by the Oregon Department of Parks and Recreation, and the state has been working with Willamette Riverkeeper to replace a culvert with a bridge so the culvert does not impede flow, and to remove vegetation that has grown over the sediment to allow the river to scour out the old stream channel. Considerable engineering has been completed for this project, including LiDAR analyses to identify the best opportunities for expanding fish habitat. Unfortunately, this project has been stalled in USACE permitting over the last year owing to the concerns of an adjacent landowner who supported construction of a nearby revetment many years ago. The Willamette Mission project is within an anchor habitat, and is an example of the type and location of restoration projects supported by the RRT.

Tryon Creek The temperature flowing from Tryon Creek Park – a forested zone between Lake Oswego and Portland – is more than two degrees cooler than the mainstem Willamette at the confluence of the two water bodies. This project expands cool water off-channel habitat for salmon and steelhead making their way through the two-mile long urban corridor. The restoration project will improve fish passage into Tryon Creek, remove channel-hardening structures, and revegetate the floodplain. The project also includes improving confluence habitat through the placement of large wood in the Tryon Creek channel and at the confluence with the Willamette. This project was approved by the RRT prior to the identification of anchor habitats.

Little Willamette The Little Willamette is an old river channel of the mainstem that is no longer connected to the river. This project was designed to promote partnerships with landowners along the Little Willamette in order to reconnect portions the old channel to the current channel. BPA has provided funding for one conservation easement in this area (Project Number 1992-068-00), which will be paired with OWEB restoration funding for floodplain reforestation.

VIII. Bibliography

Bangs, B.L., P.D. Scheerer, S.M. Kramer, and S.E. Jacobs. 2010. 2009 Oregon Chub Investigations. Annual Progress Report. Oregon Department of Fish and Wildlife. Fish Research Project 13420-8-J837 and W9127N-09-0007-0001.

Benner, P.A. and J.R. Sedell. 1997. Upper Willamette River Landscape: An Historic Perspective. In: River Quality, Dynamics and Restoration. A. Laenen and D.A. Dunnette (eds.) Lewis Publishers, New York. 463 p.

Hulse, David, Stan Gregory, and Joan Baker. Eds. 2002. Willamette River Basin Planning Atlas: Trajectories of Environmental and Ecological Change. Oregon State University Press. Corvallis. 178p.

Johannessen, C.L., W.A. Davenport, W.A. Milet, and S. McWilliams. 1970. The vegetation of the Willamette Valley. Annual Association of American Geographers. 61:286-302.

McElhany, P., M. Chilcote, J. Myers, and R. Beamesderfer. 2007. Viability status of Oregon salmon and steelhead populations in the Willamette and Lower Columbia Basins. Prepared for Oregon Department of Fish and Wildlife and National Marine Fisheries Service. National Marine Fisheries Service, Northwest Fisheries Science Center, Seattle, Washington.

Myers, J., C. Busack, D. Rawding, and A. Marshall. 2002. Relationships between historical demographically independent and present day Chinook salmon and steelhead populations in the Lower Columbia River and Upper Willamette River. Appendix C in Identifying historical populations of Chinook and chum salmon and steelhead within the Lower Columbia River and Upper Willamette River Evolutionarily Significant Units.
Willamette/Lower Columbia Technical Recovery Team.

Myers, J., C. Busack, D. Rawding, and A. Marshall. 2003. Historical population structure of Willamette and Lower Columbia River Basin Pacific salmonids. Willamette/Lower Columbia Technical Recovery Team Report.

Myers, J., C. Busack, D. Rawding, A. Marshall, D. Teel, D. M. Van Doornik, and M. T. Maher. 2006. Historical population structure of Pacific salmonids in the Willamette River and lower Columbia River basins. Dept. of Commerce, NOAA Tech. Memo., NMFSNWFSC-73.

NMFS. 2006. Endangered and threatened species: final listing determinations for 10 distinct population segments of West Coast Steelhead. Final rule. Federal Register 71:3(5 January 2006):834-862.

NMFS. 2005a. Endangered and threatened species; final listing determinations for 16 evolutionarily significant units of West Coast salmon, and final 4(d) protective regulations for threatened salmonid ESUs. Final rule. Federal Register 70:123(28 June 2005):37160-37204.

NMFS. 2005b. Endangered and threatened species; designation of critical habitat for 12 evolutionarily significant units of West Coast salmon and steelhead in Washington, Oregon, and Idaho. Final rule. Federal Register 70 (2 September): 52630.

NMFS. 2005c. ESA Recovery Planning for Salmon and Steelhead in the Willamette and Lower Columbia River Basins: Status of Planning Effort and Strategy for Completing Plans. December 2005.19p.

NMFS. 2008. Endangered Species Act Section 7(a)(2) Consultation Biological Opinion & Magnuson-Stevens
Fishery Conservation & Management Act Essential Fish Habitat Consultation on the "Willamette River Basin Flood Control Project".

Scheerer, P.D., P.S. Kavanaugh, and K.K. Jones. 2003. Oregon Chub Investigations. Oregon Department of Fish and Wildlife. Annual Progress Report. Fish Research Project E-2-33, Annual Progress Report.

Sedell, J.R. and J.L. Froggatt. Importance or streamside forests to large rivers: the isolation of the Willamette River, Oregon U.S.A. from its floodplain by snagging and streamside forest removal. *Verh. theor. Ange. Limnol.* 22:1828-1834.

Towle, J.C. 1982. Changing geography of the Willamette Valley woodlands. Oregon Historical Quarterly. 83:66-87.

USFWS. 1998. Recovery Plan for the Oregon Chub (*Oregonichthys crameri).* Portland, Oregon. 69p.

USFWS. 2008. Biological Opinion On the Continued Operation and Maintenance of the Willamette River Basin Project and Effects to Oregon Chub, Bull Trout, and Bull Trout Critical Habitat Designated Under the Endangered Species Act. As Proposed by: U.S. Army Corps of Engineers (Department of Army) Bonneville Power Administration (Department of Energy) and Bureau of Reclamation (Department of Interior)

USFWS. 2010a. Endangered and Threatened Wildlife and Plants: Designation of Critical Habitat for Oregon Chub (*Oregonichthys crameri).* Federal Register 75(46): 11010-11067.

USFWS 2010b. Endangered and Threatened Wildlife and Plants; Reclassification of the Oregon Chub From Endangered to Threatened. Federal Register 75(78): 21180-21189.

List of Acronyms

Action Agencies The federal agencies responsible for the actions covered under an Endangered Species Act consultation. For the Willamette Biological Opinion, the Action Agencies are USACE, BPA, and BOR.

BACI Before, after, control impact design. A specific study design to examine the effects of a management project compared to conditions before the action, with a comparable control site and after the impact (management action).

Biological Opinion Biological Opinion or BiOp is the opinion of the USFWS or NMFS on the impacts of a proposed action on an endangered species. The opinion is based on the best available science.

BOR The Bureau of Reclamation is a water resource management agency of the Department of Interior.

BPA Bonneville Power Agency, a power marketing agency in the Department of Interior with responsibilities under the Northwest Power Act to mitigate for fish and wildlife effects of the federal power system.

DEQ The Oregon Department of Environmental Quality, a state agency with delegated Clean Water Act responsibilities among others.

DPS Distinct population segment is a genetically distinct subpopulation of a species subject to protection under the federal Endangered Species Act.

EPA The Environmental Protection Agency, an independent cabinet level agency of the federal government responsible for water and air quality and hazardous materials control.

ESA Endangered Species Act adopted in 1973 by congress to protect the nation's native species. The act requires the USFWS and NMFS to take actions to list species, develop recovery plans and to consult on federal actions that might affect listed species.

ESU Evolutionary significant unit is comparable to a distinct population segment in that it is a genetically distinct subpopulation of a species subject to the protections of the federal Endangered Species Act.

FCRPS The federal Columbia River power system composed of both federal (USACE and BOR) and federally licensed dams that produce power that is marketed by BPA.

GIS Geographic information system is any system that captures, stores, analyzes, manages, and presents data that are linked to location.

GRTS Generalized Random Tessellation Stratified *(spatially-balanced probability sampling)* is a sampling method that balances random samples with spatial representation of samples to achieve an improved representation of data over both time and space.

HTT Habitat technical team is a group of public agency representatives with participating non-governmental and Tribal representatives involved in habitat restoration in the Willamette basin. The HTT was created by the Willamette Project BiOp.

ISRP Independent Science Review Panel is a group of scientists empanelled by the NPCC to provide science recommendations on proposed projects to be awarded by NPCC and funded by BPA.

LiDAR **Li**ght **D**etection **A**nd **R**anging is an optical remote sensing technology that measures properties of scattered light to find range and/or other information of a distant target. The prevalent method to determine distance to an object or surface is to use laser pulses.

MMT Meyer Memorial Trust, is a regional philanthropic foundation that invests in people, ideas and efforts that deliver significant social benefit to Oregon and southwest Washington. The Trust has invested in a Willamette Initiative over a seven year period.

NGO Non-governmental organizations are any organization that is privately founded, operated and managed.

NMFS National Marine Fisheries Service is a federal agency in the Department of Commerce. NMFS has responsibilities for anadromous fish and oceanic species under the Endangered Species Act and has a number of other management authorities for coordination and protection of ocean and coastal resources.

NPCC Northwest Power and Conservation Council is a body created by the Northwest Power Act who has responsibility for power demand forecasting and management and fish and wildlife mitigation for the federal power system.

NRCS Natural Resources Conservation Service is a Department of Agriculture agency responsible for administering most of the Farm Bill programs.

ODFW Oregon Department of Fish and Wildlife is a state agency responsible for the management of state fish and wildlife resources for the good of all citizens of the state.

Oregon Plan The Oregon Plan for Salmon and Watersheds was created by Governor Kitzhaber in 1996 and adopted by the Oregon Legislature in 1997. The Plan is based on citizen involvement in restoration on private lands, agency enforcement of state laws, science oversight and dedicated funding for private land restoration actions.

OWEB The Oregon Watershed Enhancement Board is a state agency created in 1999 to administer dedicated funds for fish and wildlife habitat restoration and protection as identified in the Oregon Plan.

OWEB SIP A Special Investment Partnership made by the OWEB Board to dedicate funds over a protracted period for specific ecological outcomes.

PCSRF Pacific Coastal Salmon Recovery Fund is an annual congressional appropriation to assist state salmon recovery actions.

PNAMP Pacific Northwest Aquatic Monitoring Partnership is a forum for coordinating state, federal, and tribal aquatic habitat and salmonid monitoring programs.

RPA Reasonable and prudent actions are specific actions developed to minimize the take of listed species in the opinion of the Service responsible for evaluating species effects under the ESA.

RRT Restoration review team established by OWEB to provide science based review of project applications under the Willamette SIP.

TNC The Nature Conservancy a private non-profit land trust organization.

TRT Technical Recovery Team of scientists appointed by NMFS to provide technical evaluations of ESA listed species population structure and other relevant information necessary for recovery planning.

USACE U. S. Army Corps of Engineers, an Army agency that has significant civil works authorities and responsibilities. The USACE constructed and operates hydroelectric dams and navigation structures in the nation's waterways.

USFWS The U. S. Fish and Wildlife Service is a Department of Interior agency responsible for fish and wildlife resources and coordination of federal actions that might affect the Nation's fish and wildlife resources.

WATER The Willamette Action Team for Ecosystem Restoration was created as a coordinating and management group under the Willamette Project BiOp.

Willamette Project The Willamette River Basin Flood Control Project includes the operation and maintenance of the 13 dams and 42 miles of bank protection works in the Willamette River. This project is the subject of consultation under the ESA which resulted in a BiOp from the USFWS and NMFS in june of 2008.

ATTACHMENTS

A Willamette RRT Membership
B HTT Guidelines, Procedures, and Membership
C HTT and RRT Project Selection Criteria
D Willamette Mainstem Anchor Habitats
E OWEB/Meyer Memorial Trust SIP Agreement
F OWEB State Agency Memoranda of Agreement
G Existing Willamette SIP Project Review Process
H Willamette Habitat Restoration and Protection Program Process

ATTACHMENT A

Willamette SIP and Willamatte Restoration Review Team (RRT)
March 28, 2010

Stan Gregory
Professor, Fisheries & Wildlife
104 Nash Hall
Oregon State University
Corvallis, Oregon 97331-3803
Work: (541) 737-1951
Fax: (541) 737-3590
Stanley.Gregory@oregonstate.edu

Dave Hulse
Philip H. Knight Professor
Dept. of Landscape Architecture
Institute for a Sustainable Environment
University of Oregon
Eugene, OR. 97403-5234
Work: (541) 346-3672
Fax: (541)346-3626
dhulse@uoregon.edu

Steve Smith
Partners for Fish & Wildlife Program
Willamette Valley NWR Complex
US Fish and Wildlife Service
26208 Finley Refuge Rd.
Corvallis, OR 97333
Work: (541) 757-7236
Fax: (541)757-4450
Cell: (541)760-2872
steve_smith@fws.gov

Kathy Verble
Wetlands Specialist
Department of State Lands
775 Summer Street NE, Suite 100
Salem, OR 97301
Work: (503) 986-5295
Fax: (503) 378-4844
Cell: (503)580-9109
kathy.verble@state.or.us

Anne Mullan
Willamette Coordinator
Habitat Conservation Division
NOAA Fisheries
1201 NE Lloyd Blvd
Portland, OR 97232
Work: (503) 230-5400
Fax: (503) 231-6893
anne.mulan@noaa.gov

Pam Wiley
Liaison to the Willamette SIP
Meyer Memorial Trust
425 NW 10th Avenue Suite 400
Portland OR 97209
Cell: (503) 997-6209 (best method)
Fax: (503)228-5840
Meyer Trust: (503)228-5512
wileypam@comcast.net

Mike Karnosh
Cultural Resource Program
Natural Resources Division
47010 SW Hebo Road
PO Box 10
Grand Ronde, OR 97347
Work: (503) 879-5211 michael.karnosh@grandronde.org

Dorothy Welch
Funding Coordinator
Willamette Biological Opinion
Bonneville Power Administration
P.O. Box 3621
Portland, OR 97208
Work: (503) 230-5479
Fax: (503) 230-4564
dwwelch@bpa.gov

Jim Morgan
Natural Resource Mgr, Dept of Parks & Rec

Dennis Wiley
Willamette Valley District Manager
10991 Wheatland Rd NE
Gervais OR 97206
Work: (503) 393-1172 Ext. 21

Fax: (503) 393-8863
Cell: (971)240-7929
dennis.wiley@state.or.us

Mike Wolf
Water Quality Manager, TMDLs
Dept of Environmental Quality
1102 Lincoln Street, Suite 210
Eugene, OR 97401
Work: (541) 686-7848
Fax: (541) 686-7551
mike.wolf@state.or.us

Paula Burgess
Owner/ Consultant
One Planet Consulting / OWEB
4985 Bonnet Drive
West Linn, OR 97068
Cell: (503) 703-4913
JD Office: (541) 454-2456
pburgess@salmonstronghold.org

Rose Wallick
Hydrogeologist
US Geological Service
2130 SW 5th Avenue
Portland, Oregon 97201
Work: (503) 251-3219
rosewall@usgs.gov

Kelly Moore
Manager, Corvallis Research Lab
Oregon Dept of Fish and Wildlife
28655 Hwy 34
Corvallis, OR 97330
Work: (541) 737-7623
kelly.moore@oregonstate.edu

Ken Bierly
Deputy Director
Oregon Watershed Enhancement Board
775 Summer Street NE, Suite 300
Salem, OR 97301
Work: (503) 986-0182
Fax: (503)
ken.bierly@state.or.us

ATTACHMENT B

Willamette Action Team for Ecosystem Restoration (WATER)
Habitat Technical Team (HTT)
Guidelines, Organization, and Procedures

May 20, 2010

Background

The purpose of the Willamette Action Team for Ecosystem Restoration (WATER) is to provide a forum for coordination and recommendations among the sovereign governments (federal/state/tribal) working to implement strategies for Endangered Species Act (ESA) compliance associated with the Willamette Project, which consists of 13 federal dams operated and maintained by the U.S. Army Corps of Engineers, Portland District (USACE) in the Willamette River Basin (Willamette Project), 42 miles of revetments, and the hatchery mitigation program. Establishment of WATER is a core feature of the adaptive management strategy in the Reasonable and Prudent Alternative (RPA) developed during consultation on the Willamette Project (NOAA Fisheries 2008)[1]. The Habitat Technical Team (HTT) is one of several technical teams established by WATER to assist the Action Agencies in implementation of the Willamette Biological Opinion (BiOp). In addition to the HTT, WATER created technical teams to address Fish Passage, Flows, Hatcheries, and Research, Monitoring, and Evaluation.

The Action Agencies (Bonneville Power Administration, U.S. Army Corps of Engineers, and Bureau of Reclamation), in collaboration with the Services [National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS)], will develop and carry out a comprehensive habitat restoration program to address limiting habitat factors for ESA-listed fish populations during the term of Willamette Project BiOp. The focal species for this program will be ESA-listed Upper Willamette River (UWR) Chinook salmon, UWR steelhead, bull trout and Oregon chub that are affected by the Willamette Project; however other species that may benefit from the restoration projects include lamprey, Lower Columbia River (LCR) Chinook, LCR steelhead, and LCR coho salmon. This program will also likely benefit other resident fish and wildlife species, as well as ecological functions such as water quality. This program is required by NMFS' Reasonable and Prudent Alternative (RPA) 7.1.2 in NMFS' BiOp (NMFS, 2008).

Goal

The Habitat Technical Team (HTT) is established under the leadership of Bonneville Power Administration to assist in the implementation of RPA measure 7.1.2 and 7.1.3 of the NMFS BiOp. The goal of the HTT is to provide strategic guidance and coordination in the Willamette Basin for the purpose of protecting, restoring and enhancing habitat for ESA-listed species affected by the thirteen federal hydro projects. In general, it is the intention of the HTT to assist the Action Agencies in the prioritization of high-priority, habitat restoration projects for funding

[1] Please see Willamette Action Team For Ecosystem Restoration (WATER) GUIDELINES, ORGANIZATION, AND PROCEDURES, dated December 2008, for more detailed information on the WATER structure and its goals and guidelines.

in order to successfully implement RPA 7.1.3, which calls for the implementation of approximately two projects each year starting in 2010.

Participation

The HTT is comprised of representatives of federal agencies, state agencies, including municipality and county entities, and tribes active in the Willamette Basin. At this time, participation includes: Bonneville Power Administration, U.S. Army Corps of Engineers, National Oceanic and Atmospheric Administration – Fisheries, U.S. Fish and Wildlife Service, U.S. Forest Service, U.S. Environmental Protection Agency, Northwest Power and Conservation Council, Confederated Tribes of the Grand Ronde, Oregon Department of Fish and Wildlife, Oregon Department of Environmental Quality, Oregon Department of State Lands, Oregon Parks and Recreation Department, Oregon Watershed Enhancement Board, and City of Portland - Bureau of Environmental Services. Many non-governmental organizations (NGOs) are active within the Willamette Basin and have amassed crucial knowledge of the basin and its functions. These NGOs and the public are invited to attend general meetings in order to provide their technical expertise and to offer their views for consideration. Meeting dates and times are posted on the following website:

http://www.nwp.usace.army.mil/pm/programs/biop/home.asp

Administration

The Habitat Technical Team is currently chaired by the Bonneville Power Administration. The HTT has agreed to meet monthly until the process to identify and recommend habitat restoration projects is finalized. Meetings will generally fall on the first Thursday of each month. At some point in the future, it is contemplated that the HTT may switch to one full-day meetings every quarter. Meetings will be held within the Willamette Basin in locations appropriate to the topics being addressed. Conference lines will be established for each meeting to allow for easy participation. They may include a variety of topics that are of interest to the HTT and may include field tours for the purpose of understanding habitat needs. Documents that are developed by the HTT will be posted online at the website included above for public review.

Each entity will designate a primary and alternate representative who will participate in consensus-building for the development of priorities and recommendations made by the HTT, such as the recommendation to fund specific habitat restoration projects (see Appendix A). As mentioned above, the public is invited to attend general meetings, but only federal agencies, state agencies, and tribes are able to participate in meetings during which consensus is being sought. If consensus cannot be obtained within the HTT, then the issue under debate will be elevated to the WATER Steering Team.

The HTT will continue implementing its goal and procedures until the authority of the team has been revoked or the group chooses to disband.

Appendix A: Primary and Alternate Representatives from State, Tribal, and Federal Agencies

Bonneville Power Administration (BPA) - Current HTT Chair

Primary Representative: Dorothy Welch
dwwelch@bpa.gov
Alternate Representative: Jason Karnezis
jpkarnezis@bpa.gov

City of Portland - Bureau of Environmental Services

Primary Representative: Trevor Diemer
Trevor.Diemer@bes.ci.portland.or.us
Alternate Representative:

Confederated Tribes of the Grand Ronde (CTGR)

Primary Representative: Mike Karnosh
Michael.Karnosh@grandronde.org
Alternate Representative: Lawrence Schwabe
Lawrence.Schwabe@grandronde.org
Alternate Representative: Brandy Humphreys
Brandy.Humphreys@grandronde.org

National Oceanic and Atmospheric Administration (NOAA) Fisheries

Primary Representative: Anne Mullan
Anne.Mullan@noaa.gov
Alternate Representative: Stephanie Burchfield
Stephanie.Burchfield@Noaa.gov

Northwest Power and Conservation Council (NPCC)

Primary Representative: Karl Weist
kweist@nwcouncil.org
Alternate Representative: N/A

Oregon Department of Environmental Quality (DEQ)

Primary Representative: Nancy Gramlich
Gramlich.Nancy@deq.state.or.us
Alternate Representative: Doug Drake
DRAKE.Doug@deq.state.or.us
Alternate Representative: James Bloom
BLOOM.James@deq.state.or.us

Oregon Department of Fish and Wildlife (ODFW)

Primary Representative: Kelly Moore
kelly.moore@oregonstate.edu
Alternate Representative: David Jepsen
David.B.Jepsen@state.or.us

Oregon Department of State Lands (ODSL)
Primary Representative: Louise Solliday
Louise.Solliday@state.or.us
Alternate Representative:

Oregon Parks and Recreation Department (OPRD)
Primary Representative: Jim Morgan
Jim.Morgan@state.or.us
Alternate Representative: Dennis Wiley
Dennis.Wiley@state.or.us

Oregon Watershed Enhancement Board (OWEB)
Primary Representative: Ken Bierly
ken.bierly@oweb.state.or.us
Alternate Representative: Melissa Leoni
Melissa.Leoni@oweb.state.or.us

U.S. Army Corps of Engineers (USACOE)
Primary Representative: Christine Budai
Christine.M.Budai@usace.army.mil
Alternate Representative: Richard Piakowski
Richard.M.Piaskowski@usace.army.mil

U.S. Environmental Protection Agency
Primary Representative:
Alternate Representative:

U.S. Fish and Wildlife Service (USFWS)
Primary Representative: Steve Smith
Steve_Smith@fws.gov
Alternate Representative:

U.S. Forest Service (USFS)
Primary Representative: Johan Hogervorst
jhogervorst@fs.fed.us
Alternate Representative: Nikki Swanson
nswanson@fs.fed.us

ATTACHMENT C

Willamette Action Team for Ecosystem Restoration (WATER)
Habitat Technical Team (HTT)
Willamette River Project Selection Criteria

Goals

The Action Agencies (Bonneville Power Administration, U.S. Army Corps of Engineers, and Bureau of Reclamation), in collaboration with the Services [National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS)], will develop and carry out a comprehensive habitat restoration program to address limiting habitat factors for ESA-listed fish populations during the term of Willamette Project Biological Opinions (BiOp). The focal species for this program will be ESA-listed Upper Willamette River (UWR) Chinook salmon, UWR steelhead, bull trout and Oregon chub that are affected by the Willamette Project; however other species that may benefit from the restoration projects include lamprey, Lower Columbia River (LCR) Chinook, LCR steelhead, and LCR coho salmon. This program will also likely benefit other resident fish and wildlife species, as well as ecological functions such as water quality. This program is required by NMFS' Reasonable and Prudent Alternative (RPA) 7.1.2 in the NMFS BiOp (NMFS, 2008).

The Habitat Technical Team (HTT) is established under the leadership of Bonneville Power Administration to implement RPA measure 7.1.2 of the NMFS BiOp. It will serve as an advisory technical team within the Willamette Action Team for Ecosystem Restoration (WATER), the oversight team established to advise the Action Agencies in implementation of the BiOps.

The goal of the Habitat Technical Team (HTT) is to work with the Action Agencies to identify projects and provide strategic guidance and coordination for protecting, restoring and enhancing habitat for the ESA-listed species covered under the BiOp. In this document, the HTT identifies project selection criteria aimed specifically at addressing factors limiting the recovery of Willamette basin ESA-listed fish populations, focusing on, but not limited to, those factors caused at least partially by the Willamette Project. This document and the project selection criteria may be amended as needed by the HTT, with approval by the Action Agencies and NMFS, based on new information and experience with implementing this program.

Objectives

The project selection criteria will address the following primary objectives:

1. Protect and Restore Limiting Aquatic Habitats: The top priority of the HTT is to protect those reaches of the river that currently provide important habitat for listed fish species from further decline.
2. Identify at-risk habitats: The HTT has identified numerous important habitat areas in the main stem Willamette River, which are commonly referred to as anchor habitats that support at least one anadromous fish life history stage with functioning processes and structures. It

will complete an analysis of the anchor habitats that are at risk of being lost and initially focus on protecting them.

3. Encourage Restoration within Anchor Habitats: The HTT will encourage restoration to occur within these anchor habitats, but when choosing between restoring a degraded site versus protecting an at-risk site, the HTT will recommend protection first.
4. Provide Long-term Protection for Anchor Habitats: Once at-risk sites within anchor habitats have been protected, the HTT will seek long-term and secure management for the remainder of the anchor habitat through mechanisms such as acquisition of land or conservation easements.
5. Expand Anchor Habitats: Once long-term protection of anchor habitats has been secured, the HTT will work to restore habitat located up- and downstream of anchor habitats and incorporate restoration efforts of partners that are underway.

Principles for Selecting Protection and Restoration Projects:

- Degree and Timing of Risk: If two projects are being considered simultaneously and they are of approximately equal habitat value, focus on the habitat at imminent risk of destruction.
- Quality of Habitat: If two projects are at risk and one is of higher habitat value than the other, focus first on the best habitat and habitat that is frequently inundated. Consider the potential to gain or lose floodplain connectivity in making this decision, such as the possibility down the road of opening remnants of former river channels, side channels, and oxbows. Also consider the possibility of removing revetments and reshaping banks to allow more land within the floodplain to be inundated more frequently by high flows in areas and ways that do not result in unmitigated economic hardship.
- Rare Habitat Types: The species in decline in the Willamette Basin are generally those that were dependent upon habitat types that have been reduced to make room for human use of the floodplain. Protect and restore habitat types that were once common along the river while providing the diversity of habitats necessary to support these species at all life stages.
- Protect and Expand Cold Water Habitats: Protect and enhance cold-water habitats at the mouths of Willamette tributaries and those created by hyporheic flows for the benefit of anadromous and resident native fishes.
- Location of Habitats: Projects located along the mainstem Willamette or in the lower reaches of the Middle Fork Willamette, McKenzie, and Santiam rivers are generally considered higher priority than those located in other subbasins and tributaries due to the larger effect that the Willamette Project has had on aquatic and riparian habitats in these river reaches.
- Magnitude: An objective of the HTT is to promote projects of substantial scope and scale to ultimately make significant headway toward the goal above.
- Resilience: The HTT supports projects that are likely to succeed in both the short and long term, understanding that adaptive management is essential in a dynamic river system.
- Avoiding Extinction: Protect, restore, and enhance habitats for UWR Chinook salmon and UWR steelhead to keep them from going extinct. HTT projects that also protect, restore, and enhance habitats for other ESA-listed fish, wildlife, and plant species is encouraged, provided the primary focus for this Program is on the UWR Chinook salmon and UWR steelhead affected by the Willamette Project.

- Use Scientific Plans and Assessments: Many science-based assessments and plans that have been developed for the Willamette Basin identify high priority actions to protect and restore habitat. We encourage the use of these assessments in conjunction with these criteria.
- Rely on Natural River Processes: Restoration is expensive and the amount of money we have to spend is limited. The HTT encourages projects that make use of the river's natural processes to connect and restore the floodplain, including taking advantage of improvements in flow regimes under the biological opinion to move sediment and restore habitats.
- Expand Buffers: Expand the existing buffer of forests and other native vegetation along the river to dissipate the energy of floods, filter upland runoff, and enhance habitats for fish and wildlife. On private lands, this objective includes working with landowners to establish conservation easements and developing or implementing approaches to encourage landowner participation and/or mitigate financial loss.
- Community Support and Capacity: Seventy percent of Oregon's population lives in the Willamette Basin. Projects to protect and restore fish and wildlife habitat in the basin will have high visibility and will influence the future of habitat enhancement programs for many years. The HTT encourages projects with broad community support, realistic plans for monitoring and maintenance, and will consider projects to build capacity where it is needed to achieve these objectives.

Threshold Criteria —Protecting Habitats

- The project protects or restores high quality habitat for UWR Chinook salmon, UWR steelhead, bull trout and/or Oregon chub
- Habitat is at imminent risk of being lost
- Potential to improve river dynamics and floodplain connectivity

Preference Criteria –Within Anchor Habitats

- Within an anchor habitat
- Benefit to non-listed native species
- Substantial scope and scale
- Likely to have enduring benefits
- In an area frequently inundated (e.g. 2-5 year floodplain)
- Broad community support or encourages landowner participation
- Listed as a high priority in a scientific plan or assessments
- Relies on or enhances natural river processes
- Restores/protects habitat complexity and diversity
- Project location assists in revetment effects reduction (consistent with RPA 7.4)

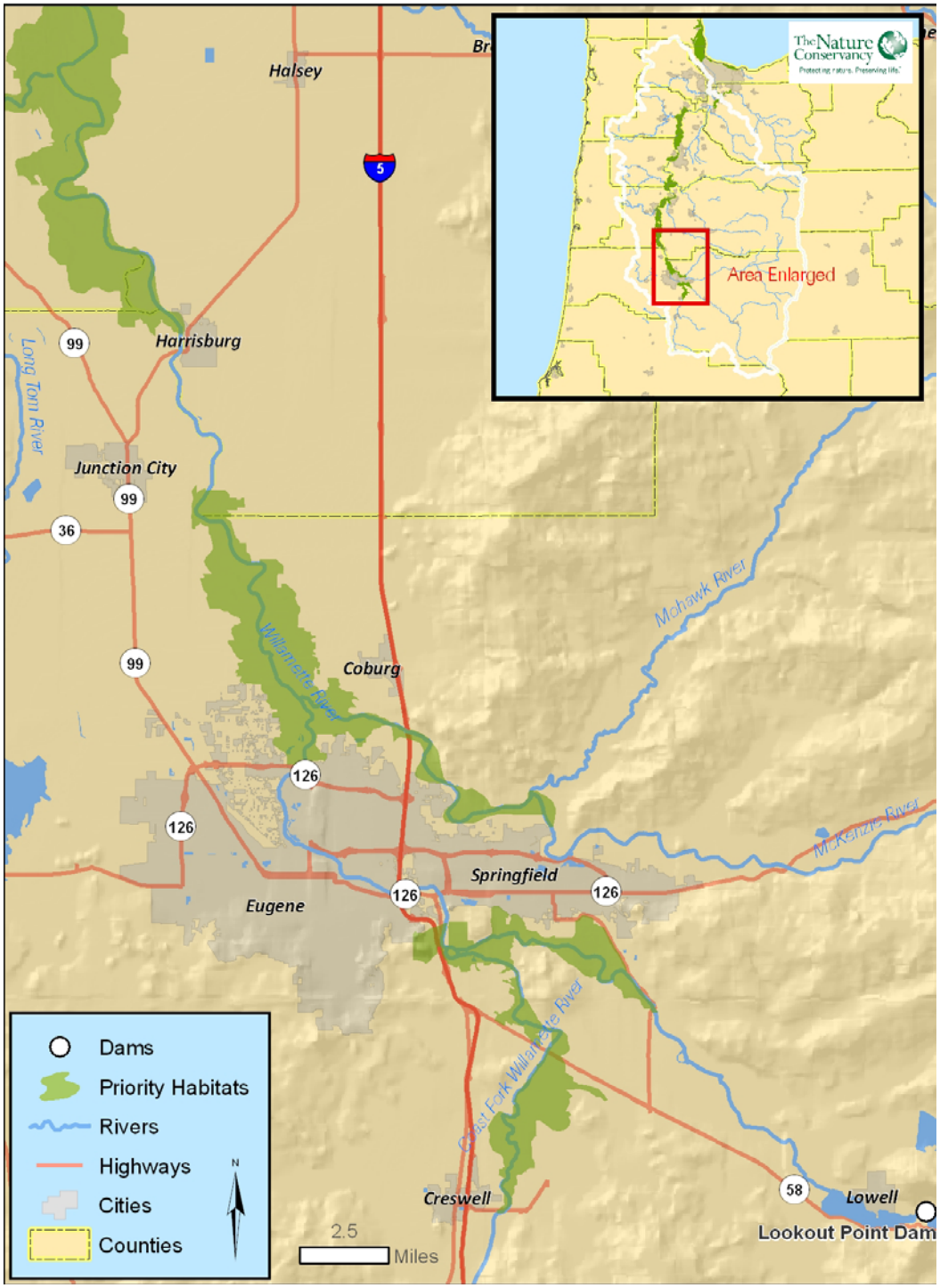
Application of Criteria

The Willamette Restoration Review Team (RRT) will use the above criteria to evaluate project proposals. Each proposal will be submitted to the RRT on forms developed by OWEB. The RRT will review the project against the threshold and appropriate preference criteria. The project must meet the threshold criteria to be recommended for funding. The preference criteria

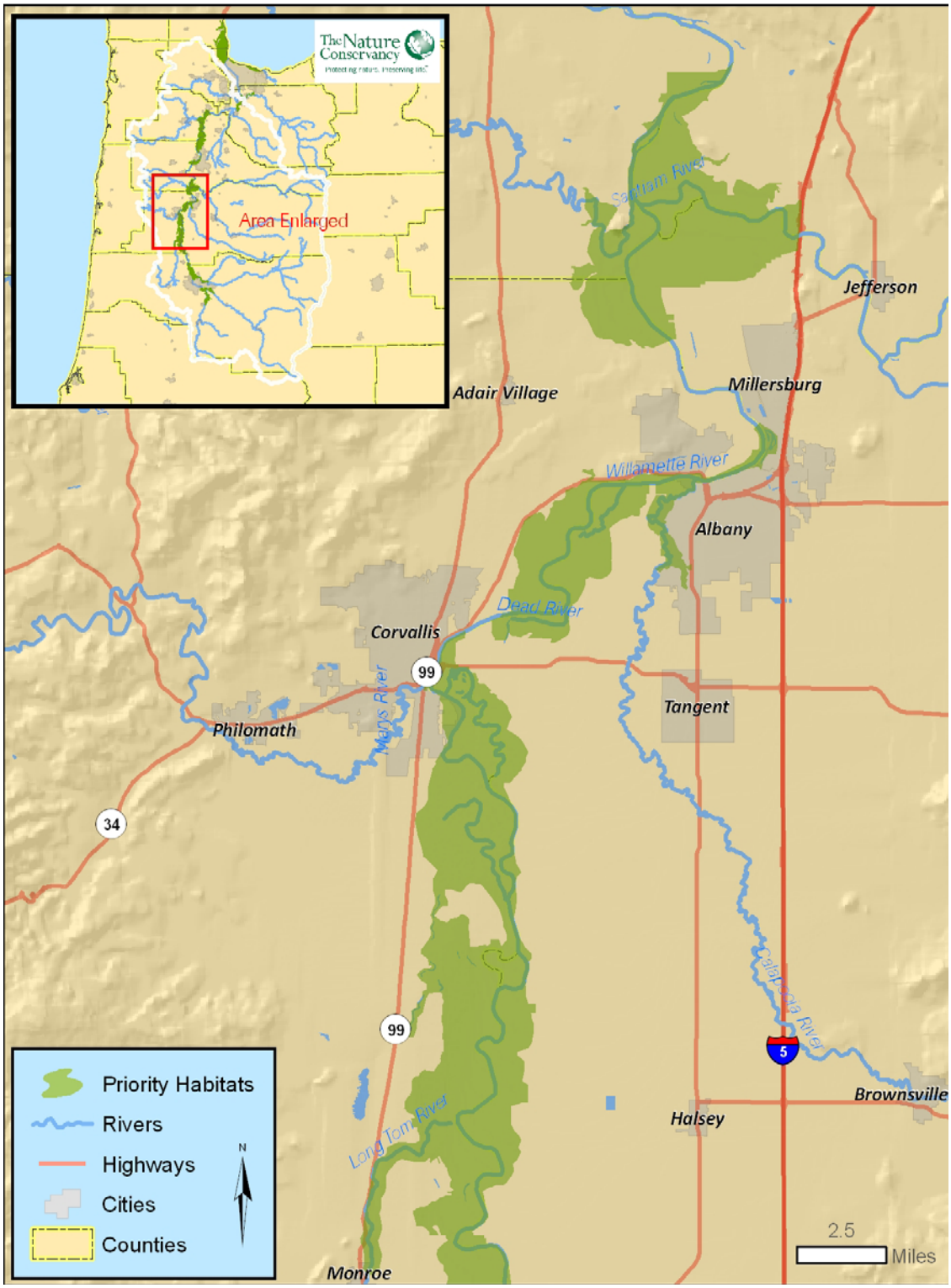
will be used to select between competing projects for recommendation. The RRT will use a structured review and discussion process to make sure the evaluation is consistent between projects. OWEB will maintain all records of the discussions and evaluations. A written record of recommendations of the RRT will be prepared for the action agencies and applicants.

The review of applications will be shared with the Action Agencies and the WATER team. The HTT will make decisions on projects for the coming year by January of that fiscal year (e.g. decisions for 2012 will be made by January of 2012). The full process is illustrated in Attachment H.

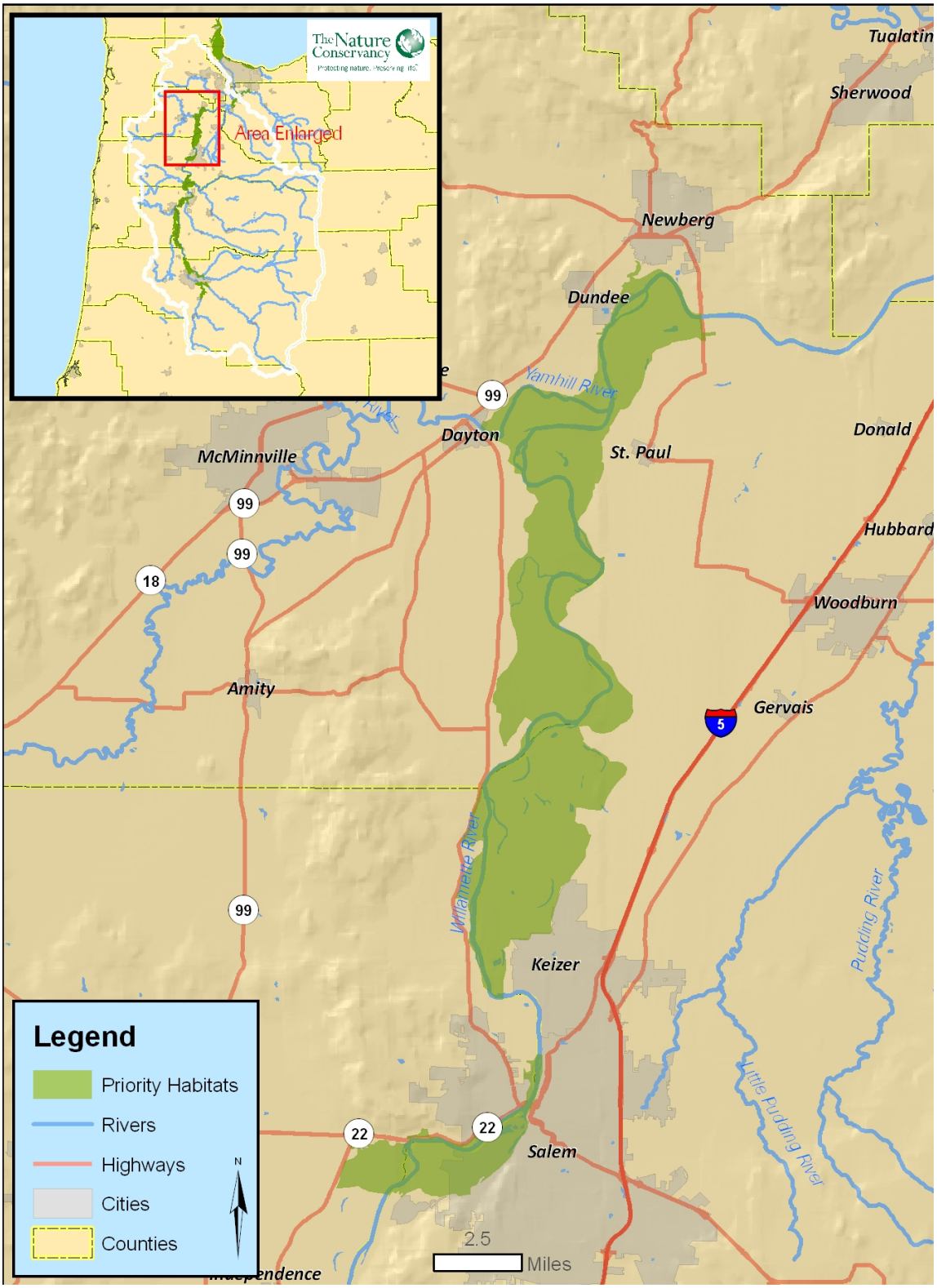
Middle Fork – Coast Fork Confluence to Long Tom Confluence: Willamette River Anchor Habitats



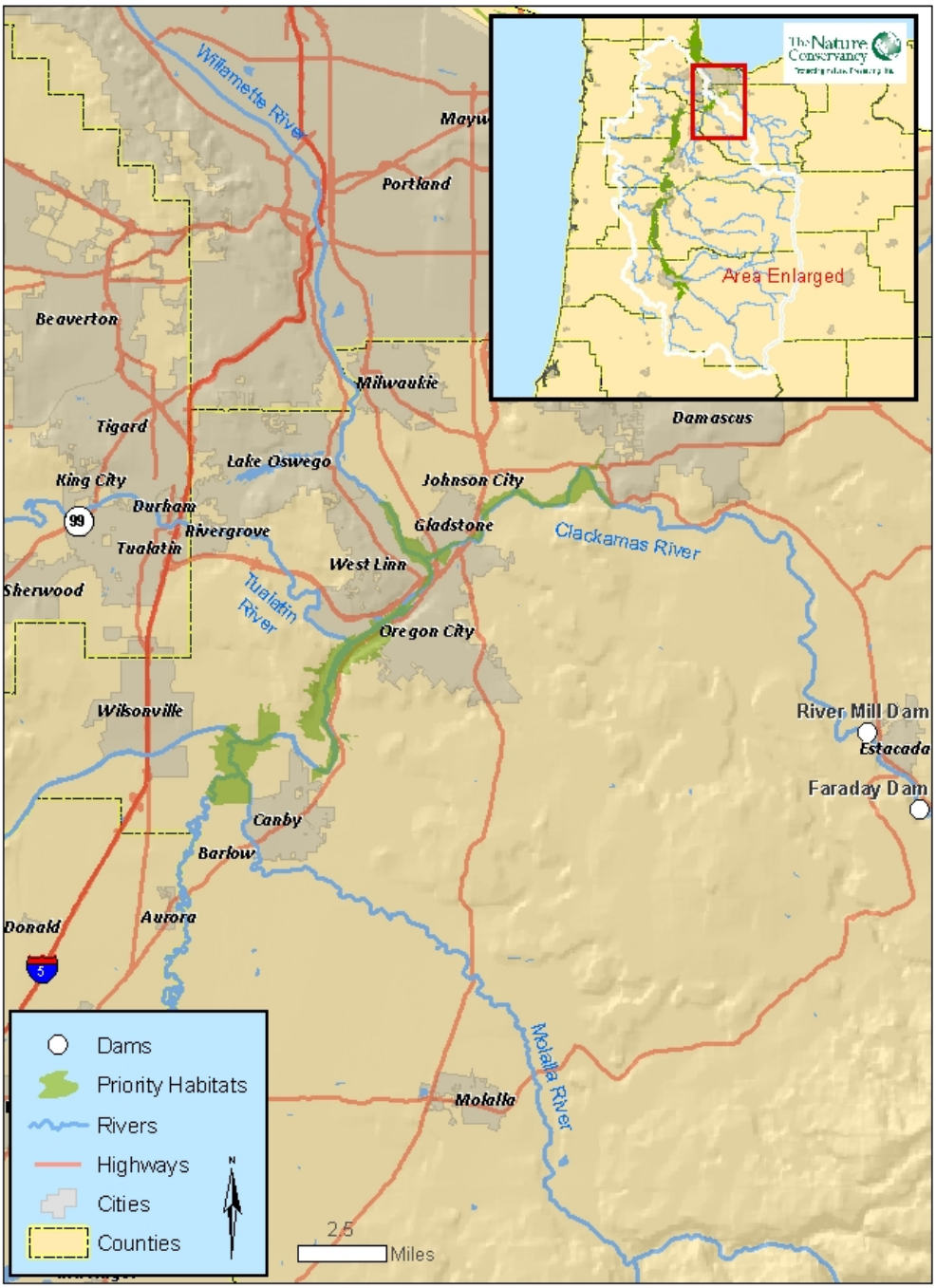
Long Tom Confluence to Santiam Confluence: Willamette River Anchor Habitats



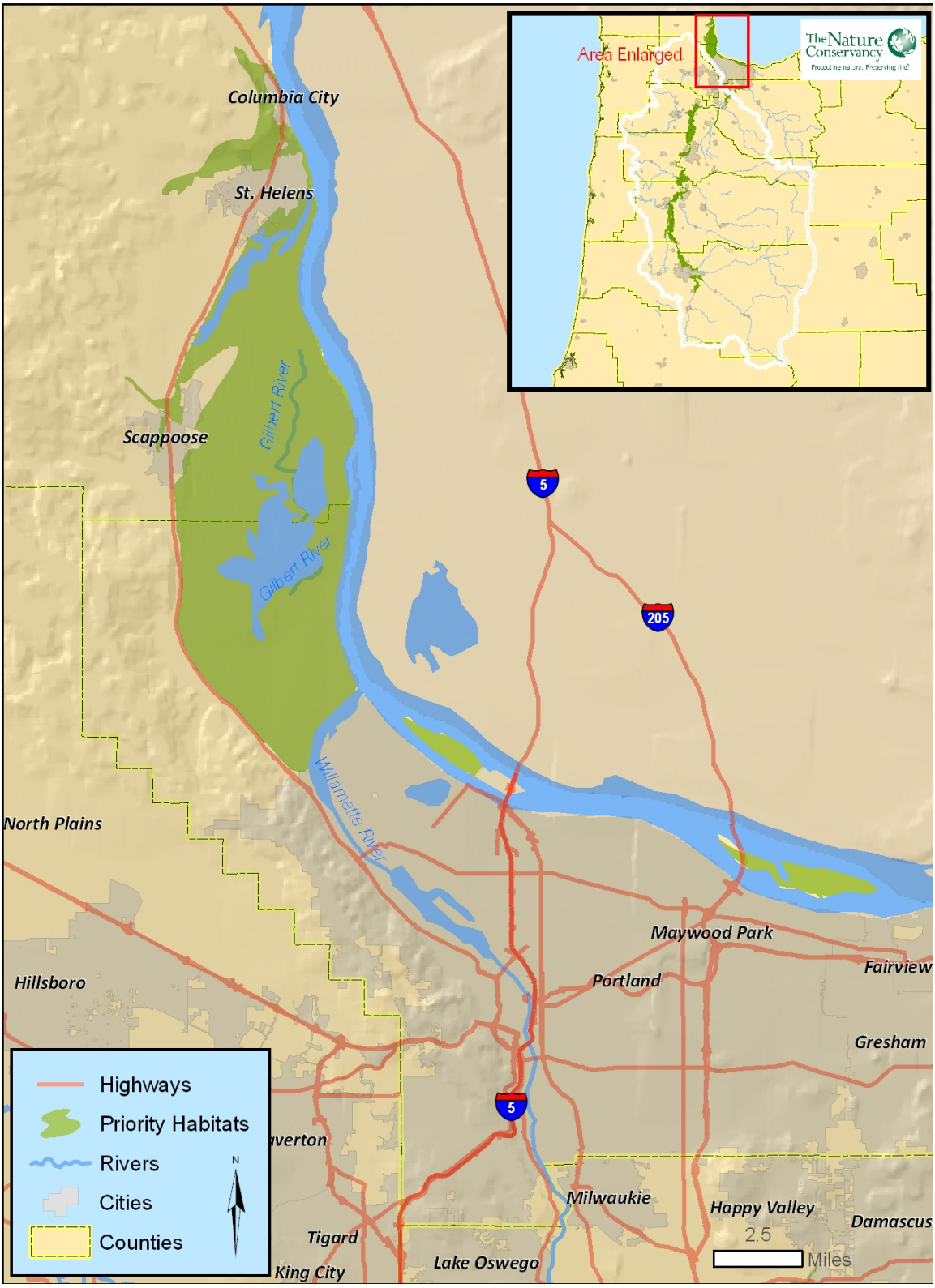
Minto Island to Yamhill Confluence: Willamette River Anchor Habitats



Pudding - Molalla - Willamette Confluence to Clackamas Confluence: Willamette River Anchor Habitats



Willamette – Columbia Confluence: Willamette River Anchor Habitats



Cooperative Agreement
Between the
Oregon Watershed Enhancement Board and Meyer Memorial Trust

I. Purposes

OWEB and MMT recognize a shared interest in restoration of the Willamette River as described below:

A. The Oregon Watershed and Enhancement Board (OWEB), a state agency, has adopted the *Willamette Special Investment Partnership (SIP)* with the main objectives of re-establishing channel complexity and re-connecting the river with its floodplain in the historic meander corridor of the main channel of the Willamette and its major tributaries. Achievement of these objectives will restore aquatic and riparian habitats for a wide variety of species and support restoration of river processes that contribute to good water quality. The Willamette SIP allows OWEB to develop partnerships with other major funding sources and implementing entities to focus funds on significant beneficial project(s).

B. Meyer Memorial Trust (MMT), a private foundation, has adopted the *Willamette River Initiative* with the goals of achieving meaningful, measurable improvement in the health of the Willamette River and selected tributaries by 2015, and creating a national model for effective approaches to restoring large, complex ecological systems. An early objective of the MMT Willamette Initiative is to expand and accelerate effective on-the-ground restoration along the main channel and selected tributaries of the Willamette River. MMT seeks to achieve this objective in part by supporting projects that restore channel complexity and re-connect the river to its floodplain in the meander corridor of the mainstem Willamette above Willamette Falls. MMT will advance its goals and objectives for the river through partnerships with public agencies, local watershed groups, non-profit organizations and private landowners.

To advance their shared interest in the Willamette, OWEB and MMT have agreed to work in partnership to fund projects identified in the Willamette SIP-eligible project table adopted by the OWEB Board on March 19, 2008. The purpose of this agreement is to establish the respective roles, responsibilities and commitments of MMT and OWEB in this partnership.

II. Quantifiable Outcomes

OWEB and MMT agree that all jointly-funded projects will be planned, designed and implemented to achieve quantifiable outcomes. Quantifiable outcomes from successful SIP projects may include, but are not limited to, such things as:

A. For projects seeking to create or restore alcoves:
- The length of the thalweg (line of maximum depth in a stream) from the landward end of the alcove to its confluence with an active channel, and
- The surface area of the alcove.

B. For re-connected oxbow lakes and other former river channels:
- The length of the thalweg from the landward or upstream end of the lake of cut-off channel to its confluence with an active channel, and
- The surface area of the newly reconnected lake or cut-off channel.

C. For a re-connected floodplain (measured at the average 5-year, 10-year, 25-year, 50-year, and 100-year high flow events):
- The surface area of the floodplain, and
- The volume of water detained.

D. For created or restored wetlands (measured for an average water year):
- The surface area of the wetland at low water and high water, and
- The extent, distribution and type of particular wetland habitats expected to be present.

E. For restored native vegetation:
- The area restored
- Successful re-establishment of desirable species over periods of 2 years, 4 years, and 6 years, and
- The extent, distribution and type of vegetation/habitat restored.

F. For projects initiated and implemented as part of 10-year tributary sub-watershed restoration plans developed through MMT's Willamette Model Watershed Program, outcomes A-E, above, and improvements in specific parameters of watershed condition and recovery of native biota as identified in model watershed plans.

III. Roles and Responsibilities

A. OWEB
1. OWEB will allocate an amount of funding for the Willamette SIP for the current biennium. For the 2007-09 biennium, OWEB has allocated $6.0 million to the Willamette SIP.
2. OWEB funds will be used for the following SIP project purposes:
   a. Pre- and post-project monitoring necessary to evaluate project effectiveness;
   b. Project design and engineering costs directly associated with project implementation;
   c. Project implementation costs agreed to in the work plan and/or budget of an OWEB-approved project grant agreement; and
   d. In general, any project expenses that comply with the "Capital" fund requirements of ORS 541.351(4).
3. OWEB will also:
   a. Establish and run a technical review process to certify that projects receiving funding meet technical and fiscal standards;
   b. Work with the partners to design and implement effectiveness monitoring;
   c. Execute the necessary contractual agreements;
   d. Review and respond to payment requests; and
   e. Review interim and final reports from project managers on project accomplishments.
4. In addition to funding and grant management, OWEB will:

a. Review progress with the OWEB Board to seek allocation of funds for subsequent biennia;
b. Seek to engage other public and private funders in supporting SIP projects;
c. Develop public information materials about the partnership and SIP projects; and
d. Seek to align regulatory and permitting requirements for SIP projects to the extent possible.

5. OWEB has identified MMT's tributary watershed restoration funding strategy (Willamette Model Watershed Program) as a possible partnership project under the SIP. Accordingly, OWEB may allocate funds to be available to contribute to the implementation of restoration project priorities identified through MMT's tributary strategy and related to Willamette SIP objectives. However, OWEB is under no obligation to fund any particular restoration project under MMT's tributary strategy even though MMT may have elected to provide funding for that project.

B. MMT

1. MMT will allocate an amount of funds to be available for Willamette SIP projects each year that OWEB allocates such funds through July 1, 2014. MMT funds will be used to help design and implement projects approved by OWEB for funding under the Willamette SIP. MMT funds may be used for but are not limited to the following purposes:
    a. Up-front costs of project development such as aerial and land surveys, general site plans, preliminary hydrologic studies, alternative restoration scenarios, risk assessment, and initial project coordination;
    b. Technical designs and specifications for SIP projects;
    c. Landowner and other public outreach for both existing and potential projects;
    d. Pre- and post-project monitoring & evaluation;
    e. Project documentation (case studies, photo/video documentation, etc.);
    f. Interpretive displays, signage and other information designed to educate the public about the purposes and benefits of the project;
    g. Up-front costs of land acquisition made in good faith anticipation of purchase, including appraisals and preliminary site designs; and
    h. Project management.
3. MMT may also fund certain capital costs associated with SIP projects; however, MMT funds may not be used to purchase land, buildings or equipment, or to fund state agency personnel.
4. In addition to funding, MMT will:
    a. Serve on the technical review team for the Willamette SIP and participate in the review and discussion of projects located on the mainstem and in tributary watersheds above Willamette Falls (participation by MMT in discussion of projects below Willamette Falls is optional);
    b. Seek to engage other public and private funders in supporting SIP projects;

c. Help bring public attention to SIP progress, successes and lessons (e.g. by profiling projects on its website);
d. Participate in project planning and implementation meetings; and
e. Review interim and final reports from project managers on project accomplishments.

5. MMT is under no obligation to fund any particular project or any particular expense type associated with a project, even though OWEB may have elected to provide SIP funding for that project or expense type.
6. This agreement in no way constrains MMT from funding any projects or activities of its choice regardless of whether or not OWEB also funds the project or whether or not it was on the OWEB approved list of SIP eligible projects and project concepts.

IV. Funding Commitments

A. OWEB commits to provide up to $6 million in Measure 66 Capital funds from those funds available in the 2007-09 biennium.
B. OWEB commits to consider the commitment of additional funding in future biennia through 2014 if funding is available in the state budget.
C. For MMT FY 2008-09 (began in April 2008), up to $600,000 has been allocated. For MMT FY 2009-10, up to $1.2 million has been allocated.
D. MMT may fund up to one-third of the total cost of an approved SIP project located on the main channel of the Willamette or its tributaries above Willamette Falls. The exact amount of the MMT contribution will be determined on a case-by-case basis considering total project costs, project phasing, the amount and availability of other funds, and other factors.
E. MMT will participate as a SIP partner as described above in each year that OWEB commits funds to the Willamette SIP through 2014. However, after the 2007-09 biennium, MMT participation as a SIP partner will be contingent upon funding from OWEB in subsequent years, the participation of other (non-OWEB) public and private funders in each project funded by MMT, and promising results from initial projects, including timely and cost-effective implementation and observable progress toward achieving project goals.

V. Implementation

A. Any projects and actions in the implementation work plan for which partner funds will be used will be subject to detailed scrutiny and approval under a project screening and evaluation process designated by OWEB.
B. MMT will be copied on all correspondence related to technical review and will participate in site visits, meetings, conference calls and other communications regarding technical review. MMT may retain independent technical advisors to review project proposals. Should such advisors recommend against MMT participation in a particular SIP project, MMT may refrain from contributing funds for that project.
C. Implementation must proceed in a timely manner. If the entire amount of OWEB's Willamette SIP allocation for the current biennium is not committed by July 1, 2009, the

OWEB Board reserves the right to redirect the unallocated amount of their SIP commitment to other uses. Likewise, if the entire amounts of MMT's FY 2008-09 or FY 2009-10 allocations are not committed by the close of those fiscal years (March 31, 2009 and March 31, 2010, respectively), MMT reserves the right to redirect the unallocated amount to other uses.

D. OWEB SIP funds may be used for acquisition of conservation easements or title to land and water only if OWEB's standard acquisition program criteria and due diligence requirements have been satisfied.

VI. Fiscal Administration and Accounting

A. OWEB –Willamette SIP funds will be administered in accordance with all current OWEB grant administration rules and procedures, except that projects receiving "do fund" recommendations from the Willamette SIP Technical Review Team may be approved for and receive funding without further review by the OWEB board.
B. MMT - MMT funds in support of the Willamette SIP will be made available on a project-by-project basis as follows:

1. Full project costs for all Willamette SIP projects will be developed by the project partners in concert with MMT and be reviewed as part of the technical review process.
2. For each SIP project approved by OWEB, a detailed project budget in matrix format will be developed showing all anticipated costs and funding sources by line item. The project budget will also indicate which implementing partner is responsible for each major project element.
3. MMT will make funds for its portion of the project budget available directly to appropriate implementing partners within 15 business days of the award of the project grant agreement by OWEB.
4. MMT and OWEB will make every effort to use a joint project reporting form to reduce paperwork for grantees.
5. OWEB will produce an annual report showing combined SIP program revenue and expenses, by project, and progress toward goals.
6. MMT may retain an independent auditor to examine project reports and accounts to ensure appropriate fund expenditures and tracking.

VII. SIP Partnership and Project Oversight and Coordination

Primary oversight for the SIP is the responsibility of the OWEB Board SIP Subcommittee. At the project level, OWEB will designate oversight on a project-by-project basis, but will generally follow existing project oversight protocols. MMT will participate in SIP Subcommittee meetings upon request. In addition, OWEB and MMT may convene an SIP partners group to ensure on-going agency-level coordination and advancement of SIP goals, objectives and activities, and to develop new SIP opportunities.

VIII. Effective Date, Expiration and Termination

This agreement is effective through June 30, 2009 at which time it will expire unless extended. Funding allocated to a specific project pursuant to this agreement will have the effective date and expiration date as specified in its grant agreement, and both dates may be different from the effective date and expiration of this partnership agreement. Either party may terminate its participation in this agreement at any time in writing.

IX. Execution

Signed by:

For MMT	For OWEB
CEO	Executive Director
Title	Title
11/12/08	12/17/08
Date	Date

Received By
OWEB

JUL 11 2008

Memorandum of Agreement

For

Implementing the Willamette Special Investment Partnership

Between

Oregon Watershed Enhancement Board,
Oregon Parks and Recreation Department,
Oregon Department of State Lands,
And
Oregon Department of Geology & Mineral Industries.

WHEREAS: The Oregon Watershed Enhancement Board (OWEB) is responsible for granting funds for the restoration and protection of fish and wildlife habitat, water quantity and quality, and watershed functions, and

WHEREAS: OWEB has adopted the Willamette Special Investment Partnership (SIP) goals and objectives to (a) re-establish channel complexity and length and (b) re-connect, wherever feasible, flood plains in the historic meander corridor of the Willamette main stem and the major tributaries and

WHEREAS: OWEB has provided funding to meet these objectives which will contribute significantly to restoration of river processes that improve water quality, native species habitats, flood minimization, and water-based recreation, and

WHEREAS: The ability to address the key ecological objectives requires close partnerships with other public and private entities, and

WHEREAS: The Oregon Parks and Recreation Department (OPRD) owns lands in the historic meander channel of the Willamette that include opportunities for projects to implement the SIP objectives, and is responsible for establishing, maintaining, and operating state parks in Oregon, and

WHEREAS: The Oregon Department of State Lands (DSL) owns lands in the historic meander channel of the Willamette that include opportunities for projects to implement the SIP objectives, and is responsible for sound stewardship of state lands, wetlands, and waterways, and

WHEREAS: The Oregon Department of State Lands (DSL) owns lands in the historic meander channel of the Willamette that include opportunities for projects to implement the SIP objectives, and is responsible for sound stewardship of state lands, wetlands, and waterways, and

WHEREAS: The Oregon Department of Geology and Mineral Industries (DOGAMI) implements the Mined Land Regulation and Reclamation Program, and works with the aggregate industry and the public to minimize the impacts of mining and optimize the opportunities for floodplain and habitat reclamation, and

WHEREAS: Many excellent opportunities to implement the SIP exist on and adjacent to public lands and to aggregate mines, and

WHEREAS: The parties to this agreement seek to restore and protect the natural hydrologic functions of the Willamette River Basin, to the extent feasible given the need to protect public and private property from flood damage, and

WHEREAS: Implementing SIP projects on public land is a strategic and economical use of funding and staffing resources, can proceed relatively quickly, is a visible demonstration of the state's commitment to the goals and objectives of the program, and can serve as a nucleus around which similar projects on adjacent and nearby private lands may be developed in the future with interested land owners.

THEREFORE: It is mutually agreed that each party to this agreement shall:

1. Designate a primary contact for the Willamette SIP overall and designate other contacts for specific projects as necessary.
2. Work with other partners to develop concepts and approaches for SIP projects, particularly on lands in the agency's jurisdiction.
3. Share information that will assist the Willamette SIP implementation.
4. Provide in-house technical assistance where appropriate.
5. Meet periodically with other partners to discuss SIP projects.

IT IS FURTHER UNDERSTOOD THAT:

1. The lead responsibility for staffing the Willamette SIP rests with OWEB.
2. Any SIP project receiving OWEB funding will be subject to OWEB requirements for fiscal accountability, status reporting, and the documentation of expenses and implementation.
3. All projects completed under the Willamette SIP will be reported to the Oregon Watershed Restoration Inventory and their status will be annually reported to each of the parties to this agreement.
4. For most SIP projects and to the greatest extent possible non-governmental organizations or local governments will be selected to manage project implementation and will be the OWEB grantee.
5. Critical decisions about a project will be made by OWEB, the land owner(s), the project manager(s)/grantee(s), appropriate regulatory entities, and by any other project funding source(s).

IT IS FURTHER UNDERSTOOD THAT THIS AGREEMENT:

1. Does not eliminate or relieve participants from any existing rules, regulations, or requirements.
2. Does not eliminate or alter any other relationships between the participants.
3. Does not substitute for government to government consultation when appropriate.
4. Can be terminated upon thirty days notice and resolution of all fiscal arrangements by any party.
5. Will be annually reviewed along with the overall effort to assess the need to modify or amend the agreement.
6. Can be modified at any time with the mutual consent of all parties.

AGREED:

Thomas Byler, Director
OWEB

7/7/08
Date

Tim Wood, Director
OPRD

6/19/08
Date

Louise Solliday, Director
DSL

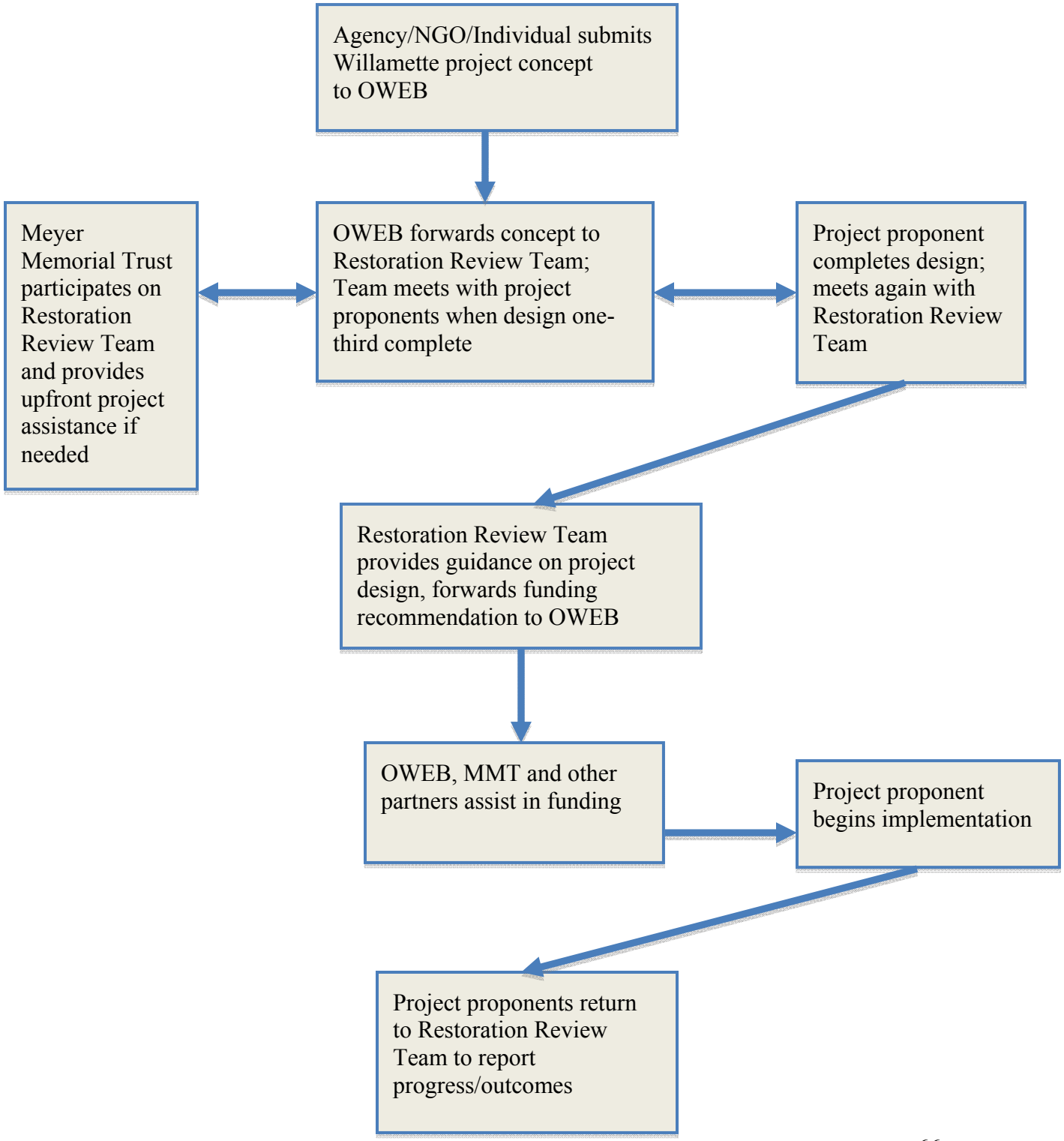
7/7/08
Date

Vicki McConnell, Director
DOGAMI

7/10/08
Date

ATTACHMENT G

Existing Willamette SIP Project Review Process



Willamette River Habitat Protection and Restoration Program Process