Sandy River Basin Partners - Proposed Focused Investment Partnership Priority Response

Flowing from Mt. Hood to the Columbia alongside Oregon's largest metropolitan area, the Sandy River is a highly visible example of what we all treasure about Oregon: forests, rivers and mountains that offer habitat for native species, jobs for local economies, and recreation for Oregon families. The Sandy River basin also boasts the Sandy River Basin Partners (Partners); a unique coalition of more than a dozen public and private entities who have brought their collective talents, missions and resources together to accelerate recovery of the basin's Endangered Species Act-listed anadromous fish species. Over the past 14 years, the Partners have made impressive progress on shared restoration goals due to growing success in cultivating the following attributes:

- Strong working partnerships
- Long-term commitment to the basin
- Technically-rigorous assessments and strategies
- A track record of success and innovation
- A strategic action plan that identifies over 100 prioritized restoration projects
- Diverse funding partners to leverage investment

By designating the Sandy River basin a Focused Investment (FI) Priority, the OWEB Board can leverage these existing resources to quickly achieve clear and measurable ecological outcomes in a region that holds special significance for the people, fish and wildlife of Oregon. The motivated and capable Oregonians who make up the Partners are ready, willing and able to join with OWEB to make great things happen in the Sandy River and its tributaries, from Timberline to Troutdale.

1. Proposed Priority Description

a) What is the native fish or wildlife habitat to be conserved or natural resource issue to be addressed? Uniquely situated in Portland's backyard, the Sandy River basin is an area of wild-land and designated salmon refuge in an increasingly urban and suburban landscape. The basin encompasses over 500 square miles of public and private land and provides drinking water for more than 900,000 people. Oregonians treasure the Sandy River, yet human uses in the basin have taken a toll. The reasons are myriad and similar to those impacting most watersheds in the Pacific Northwest. However, unlike most other Lower Columbia tributaries, the Sandy River is now dam free and still shelters almost all of its original wild fish populations; including coho, spring and fall Chinook, Pacific Eulachon, and winter steelhead. It is also a refuge for Pacific lamprey, coastal cutthroat trout and sensitive amphibian species such as the red-legged frog. The Partners are advocating for the Sandy basin to be designated a FI Priority, and ultimately selected as a FI Partnership, so that this regional treasure can continue to provide crucial habitat for fish and wildlife, while also supporting recreational and economic opportunities for the people of Oregon.

b) What are the specific expected ecological outcome(s) to be achieved after this priority is addressed? The primary ecological outcome from a FI Priority designation would be to accelerate the recovery of naturally functioning conditions within ecologically significant stream channels and riparian areas in the Sandy basin; thereby ensuring this critical fish and wildlife habitat is resilient to impacts from urbanization, development and possible negative impacts of climate change.

c) What is the defined geographic location within which this proposed priority can be successfully addressed? The Partners set a goal of restoring the basin's native fish populations through collaborative, holistic, and innovative approaches. The Partners completed a basin-wide assessment and restoration strategy, which provided a hierarchical approach to addressing the watershed's limiting factors through

restoration. The assessment ranked Salmon River, Still Creek and the mainstem Sandy River as the top restoration priorities in the basin. The Partners have aligned on a near-term goal of restoring these priority areas as a means of advancing their long-term goal of restoring salmon and steelhead habitat at the Sandy River basin-scale. If the Sandy River basin is selected as an OWEB FI Priority, the Partners would advocate for initial FI Partnership funding to be directed to these priority sub-basins as a means of advancing a long-term goal of restoring salmon and steelhead habitat at the Sandy River basin-scale.

2. Significance to the State

a) Why is this proposed priority of ecological significance to the state, even though it may not be present everywhere in the state? The Sandy River basin is of ecological significance to the state of Oregon due in large part to its location. Its position downstream of the federal dams on the Columbia River, coupled with the fact that it is the only dam-free river in the lower Columbia, make it crucial habitat for the multiple, self-sustaining populations of listed fish that reside within the Sandy River and its tributaries. In fact, only the Lewis River on the Washington side rivals the Sandy for persistence of a self-sustaining population of native fall Chinook, and the Clackamas River is the only other home to a self-sustaining population of native Lower Columbia coho. That said, the ecological recovery of those rivers will be impaired as long as their dams remain.

Because of its species diversity, historic productivity, and potential for successful restoration actions, the Lower Columbia River (LCR) Recovery Plan for Oregon Populations of Salmon and Steelhead views the Sandy basin as key to species recovery and eventual de-listing of these species. The Sandy River populations of these native species have possibly the greatest potential for recovery in the lower Columbia because so much of the potential habitat is already protected within National Forest Boundaries, is designated as Wilderness or as Wild and Scenic, is set aside for drinking water, and/or is managed under Oregon's comprehensive land use rules.

The Sandy River basin is contained within the West Cascades Ecoregion and Willamette Valley Ecoregion as described in the Oregon Conservation Strategy (ODFW 2006). The Strategy identifies Lower Columbia River Chinook salmon (spring and fall run), coho salmon, and steelhead winter runs as species that benefit from conservation efforts, which aligns with the Partners' strategic planning documents. Key habitats identified within the Strategy's Sandy basin Conservation Opportunity Areas (Sandy River area and Bull Run-Sandy Rivers) that are also identified by the Partners include aquatic, late successional Douglas-fir forest, riparian, floodplain forest, and wetland habitats. Within the Sandy Basin Conservation Opportunity Areas, the Strategy recommends conservation actions implemented by the Partners, such as: maintain or enhance in-channel watershed function; connection to riparian habitat, flow and hydrology; maintain and restore riparian habitat and ecological function; and maintain or restore floodplain wetlands and forests.

The mission of the Oregon Plan for Salmon and Watersheds is to restore watersheds and recover salmon populations in a manner that provides substantial environmental, cultural and economic benefits. The Sandy River basin represents a significant opportunity to implement the key approaches described in the Plan, which are directly aligned with the Partner's approach and include: supporting voluntary restoration actions by private landowners; coordinated state and federal agencies to advance restoration; comprehensive monitoring of watershed health, water quality, and salmon recovery; and strong scientific oversight. In fact, the Oregon Plan's Independent Multidisciplinary Science Team (IMST) is a contributor to the LCR Recovery Plan, which utilized the Partners planning documents to inform Sandy recovery plan actions. Further, a team of scientists organized by the Wild Salmon Center identified the Sandy River basin

as a Salmon Stronghold Demonstration Site – one of only nine such sites identified in the Pacific Northwest, further underscoring the importance of salmon recovery in the Sandy. The fact that an area adjacent to the state's largest population center and a mecca for thousands of outdoor enthusiasts can claim such intact biodiversity is a model for how Oregon can grow and maintain its rich natural heritage.

b) Are there any social and/or economic considerations that the Board should understand regarding this proposed priority? The diverse array of public and private interests that have aligned on a peer-reviewed restoration plan for the Sandy River basin present OWEB with a powerful opportunity to rapidly advance on-the-ground implementation of projects with meaningful ecological outcomes. The Partners are ready to accelerate on-the-ground implementation of the basin-wide restoration effort, and can leverage potential future investments made through the FI Partnership program. It is also worth noting here that the Portland Water Bureau is investing approximately $93 million in ratepayer dollars to implement the 50-year Bull Run Water Supply Habitat Conservation Plan (HCP) in the Bull Run watershed and other parts of the Sandy River basin, and Metro's Natural Areas Levy will provide as much as $2-3 million in funding for restoration in the basin through 2018.

Beyond funding committed to restoration, the Sandy River as a whole supports a very popular recreational fishery for coho, spring Chinook, and winter steelhead. On-the-ground restoration work is anticipated to increase the production of coho, spring Chinook and winter steelhead in the Sandy and its tributaries, thereby increasing the number of fish available in the Sandy River and Lower Columbia River fisheries. Restoration work also has a positive economic impact on the communities where it occurs: previous research on the economic impact of restoration in Oregon[1] shows that 80% of restoration dollars are spent locally and over 90% are spent within the state. It is estimated that every $1 million invested in equipment-intensive in-stream restoration generates 20 higher paying jobs, with total economic benefits of $2.32 to $3.9 million.

c) In addition to its significance to the state, identify how the proposed priority fits within regional & local ecological priorities. The entities that make up the Partners came together based on a shared commitment to restoring the habitat of the Sandy basin. Below are brief descriptions of how the Sandy basin fits into the priorities of a subset of the Partners:

The ***Portland Water Bureau*** created the Bull Run Water Supply Habitat Conservation Plan in 2008 to protect and improve aquatic habitat while continuing to manage the Bull Run watershed as a water supply for the City of Portland. The 50-year plan identified 49 separate conservation, or habitat improvement actions, that the City will implement in the Bull Run watershed and other parts of the Sandy River basin, investing approximately $93 million in ratepayer dollars over the HCP term. Implementation of the plan started in 2010.

The preservation of the Sandy River has been a priority for ***Metro*** since the passage of the 1995 natural area acquisition bond. Between the 1995 and 2006 natural area acquisition bonds, Metro has acquired over 1300 acres of natural areas in the lower Sandy River watershed. Metro has shown a history of implementing restoration projects on our natural area properties, including large scale projects like the lower Sandy River Habitat Assessment and Candidate Site Design Project in 2010 which has led to the construction of the Happy Creek and Camp Collins Restoration Projects (all funded by OWEB). Metro also

[1] Hibbard, M. and S. Lurie. 2006. Some community socio-economic benefits of water councils: A case study from Oregon. Journal of Environmental Planning and Management 49:891-908 in Nielsen-Pincus, M. and Moseley C. 2009. A Preliminary Estimate of Economic Impact and job Creation form the Oregon Watershed Enhancement Board's Restoration Investments. Briefing Paper #13. Institute for a Sustainable Environment. University of Oregon.

manages Oxbow Regional Park which is utilized for fishing, camping, and hiking, and education trips. In May 2013, the region's voters approved a five-year local option levy to care for Metro's growing portfolio of natural areas and regional parks which will raise about $10 million per year. Metro is planning to invest 2-3 million dollars in the next 5-7 years to restoration projects on Metro managed lands in the lower Sandy River watershed.

The ***Sandy River Basin Watershed Council*** (SRBWC) works with landowners and agencies on restoration, conservation and community engagement throughout the basin and its tributaries. SRBWC organized an assessment of the Middle Sandy above the former Marmot Dam site, identifying a range of reach-scale opportunities to reconnect isolated habitat in the mainstem Sandy. SRBWC has engaged communities affected by recent flooding, channel migration and bank erosion in development of Restorative Flood Response strategies that apply restoration approaches to improve habitat and where possible reduce potential future flood risk. The Council is also actively engaged in the Sandy River Vegetation Restoration Coalition, and works with a range of public and private partners in restoration efforts on the Sandy Delta.

The Sandy Basin is the highest priority watershed for restoration for the Cascades Resource Area of the Salem District ***Bureau of Land Management.*** BLM manages lands in the basin that provide spawning and rearing habitat for four federally listed fish species: spring and fall Chinook, coho, winter steelhead, and eulachon. Additionally, BLM manages land in two of the three highest priority watersheds (Salmon River and Sandy corridor) identified for restoration actions in the Sandy Basin restoration plan. BLM lands are in anchor habitats in both watersheds.

Protection of lands in the Sandy basin by ***The Nature Conservancy*** began in 1970, when the Diack family donated 156 acres to the organization. Today, after years of planning and coordination by the BLM, state agencies, Metro and private conservation groups, most of the Sandy River Gorge is protected and managed for its natural, scientific, educational and recreational values. The Conservancy now owns several properties in the gorge, and identified the Sandy River as a priority in its East Cascades-Modoc Plateau and West Cascades Ecoregional Assessment (2007).

Historic channelization, timber harvest, fires and road building have degraded aquatic and riparian habitats in the Sandy River basin, including on ***Mt. Hood National Forest*** lands. Because of these past disturbances and the potential for restoration, Still Creek was selected as the top priority for restoration on Mt. Hood National Forest as part of the Forest Service's Watershed Condition Framework, and the Salmon River is one of the top priority watersheds in the Forest Service's Regional Aquatic Restoration Strategy. The Forest Service has developed an extensive Watershed Restoration Action Plan and a Still Creek Rehabilitation Plan to restore natural watershed functions.

3. Limiting Factors

a) What ecological limiting factors exist that relate to the proposed priority identified? Limiting factors are the physical, biological, or chemical conditions and associated ecological processes and interactions (e.g., population size, habitat connectivity, water quality, water quantity, etc.) experienced by the habitat that may influence viable population parameters (i.e. abundance, productivity, spatial structure, and diversity).

b) Reference any framework(s) that exist (Recovery Plans, Implementation plans, etc.).

Combined response to 3a and b: The Lower Columbia River Recovery Plan for Oregon Populations of Salmon and Steelhead Plan cites loss of or impaired habitat complexity and diversity as key/primary limiting factors and threats for coho, spring and fall Chinook, and winter steelhead. The Plan identifies priority actions of reconnecting side channels and off-channel habitats, restoring natural channel form,

increasing stream habitat complexity through large wood placement and restoring natural riparian vegetative communities. In addition, the US Forest Service concludes that pool habitat, large woody debris, and large wood recruitment are outside or at the low end of the range of natural variability for the Salmon River and Still Creek watersheds; resulting in degraded habitat and negatively impacting the production of coho, Chinook and steelhead. The Sandy basin and priority conservation actions are described in various planning documents, many of which are cited previously in this document.

While restoration planning documents and strategies identify limiting factors, priority reaches, and needed actions, they do not provide a clear road map for species recovery. To identify priority restoration opportunities within the basin, the Partners applied the Ecosystem Diagnosis and Treatment (EDT) model for the Sandy River. The model defines historical conditions in the basin according to 46 habitat attributes as they relate to productivity of the various life stages of the key salmonid species. Local scientists rated current conditions for 136 river reaches in the basin using recent stream surveys. The gaps between historical and current conditions were used to identify and prioritize habitat improvement actions. The Partners then developed and published a basin-wide assessment[2], as well as a restoration strategy[3] which prioritizes sub-watersheds within the Sandy basin and provides a hierarchical approach to addressing the watershed's limiting factors through restoration work. These efforts identified Still Creek, Salmon River and the mainstem Sandy River corridor as providing key habitat for spring Chinook, coho, and winter steelhead, and the Partners prioritized these areas for habitat restoration. The strategy recommends side-channel and floodplain reconnection, riparian restoration and large wood additions and log jam placements to address altered watershed processes. The Partners have aligned on a near-term goal of restoring these areas as a means to advance the long-term goal of Sandy basin-wide recovery.

4. Threats and Benefits

a) What overall threats exist to the proposed priority identified? Threats are the human actions (e.g., fishing, development, road building, etc.) or natural (e.g., flood, drought, volcano, tsunami, etc.) events that cause or contribute-to limiting factors. Threats may be associated with one or more specific life cycle stages and may occur in the past, present, or future. The aquatic habitat of the Sandy River has been impaired by the legacy effects of land use and traditional river management efforts, and continues to be threatened by increasing residential development pressure. Timber harvest, road construction and landslides have increased the sediment supply and bedload, reducing stability in some areas of the basin. Flood control activities resulted in channelization and the removal of boulders, log jams and large wood from basin waterways and their floodplains. Channelization also disconnected side channels and reduced floodplain connectivity; increasing flow velocities, shear stress, and routing of gravels. Side channels, meanders, wood jams with scour pools and pool tailouts that provide crucial spawning and rearing habitat for salmon and steelhead were lost. The elimination and degradation of historic conditions and naturally-occurring structures have negatively impacted fish populations.

Further, due to climate change, the Pacific Northwest is expected to see dramatic increases in temperatures with more rain in winter and spring, increased variability in peak flows, reduced snow-packs and drier summers. Pacific Northwest streams are particularly sensitive to climate change because of the strong influence of winter snowpack on water supply and discharge in this largely mountainous region. The Partners' planning documents recommend actions that will recover natural river processes

[2] Sandy River Basin Working Group. 2006. Salmon and steelhead conservation: an assessment of anchor habitat on the Sandy River, Oregon. Oregon Trout. Portland, Oregon. *See* http://www.sandyriverpartners.org/pdfs/SandyHabRptFINAL_2.pdf

[3] Sandy River Basin Working Group. 2007. Sandy River basin aquatic restoration strategy: an anchor habitat-based prioritization of restoration opportunities. Oregon Trout. Portland, Oregon. *See* http://www.sandyriverpartners.org/pdfs/SandRestStrategWEB.pdf

and riparian function by reactivating the floodplain and naturally aggrading the rivers, which will disperse flood flows providing high velocity refuge and attenuating downstream flooding, increase hyporheic flows and decrease water temperature, providing cold water refuge and carbon sequestration in healthy diverse native riparian stands that exclude invasive plants. Visible and intense flood events, particularly the most recent one in January 2011, has Sandy basin residents recognizing that the dynamic, migrating Sandy River can't be 'tamed' by conventional riverbank hardening. As a result, landowners are becoming more receptive to restoration-based practices.

b) What will happen if the threats aren't addressed? If the issues impacting the health of the Sandy River basin are not addressed, the region's freshwater ecosystems could remain in a degraded condition for a century or more. Given that the Sandy River's salmon and steelhead are listed as threatened under the federal ESA, a lack of strategic action could result in extinction for these important species and could drive the decline of currently healthy fish and wildlife populations.

c) Describe the economic, social, iconic and cultural benefits of addressing the outcome and impacts of not addressing it. Identifying the Sandy River basin as a FI priority and investing in efforts to restore the basin's freshwater ecosystems will provide substantial environmental, cultural and economic benefits to the state of Oregon. All inhabitants will benefit from cleaner, healthier water – including the iconic salmon species that are central to our region's cultural and economic identity. Restoration of aquatic and riparian habitat will enhance recreational opportunities on a renowned fishery, and side channel restoration will reduce flood risks and increase land value for private landowners. Over the past 14 years, the Partners and their on-the-ground restoration efforts have become a part of the local culture in the Sandy River basin. Local businesses have gotten directly involved in restoration efforts that have, in turn, generated lasting partnerships and expanded markets for those businesses. Restoration efforts have also created opportunities for landowners, students and other visitors to become better educated about the importance of healthy, functioning ecosystems.

Beyond contributing to the decline of fish and wildlife populations as described above, not addressing the region's habitat issues would significantly impact the recreational, educational and economic opportunities that exist due to its natural resources and scenic beauty.

d) Briefly summarize how much has been done already, how much is remaining.
e) What is your best estimate of cost to address the priority, and as a result, how economically feasible do you believe it is to address this priority over time?
Combined response to 4d and e: Members of the Sandy River Basin Partners have worked diligently for nearly 15 years to thoroughly analyze habitat conditions, nurture working relationships, and build consensus around scientifically-sound strategies. The Partners' science-based assessments are complete, and have been translated into priority restoration work plans. As a result, the Partners have guided over $10 million in restoration investment to the basin since 2007, and have completed a significant amount of on-the-ground work that no member could have accomplished alone. Below is a summary of the work remaining, as well as estimates of the funding needed to complete restoration actions in the priority areas of Still Creek, Salmon River and Sandy main stem.

Salmon River Targets:

1) Remove passage barriers: 100% Completed; 0% remaining.
2) Reconnect side channel/off-channel habitat. 91% completed; 9% percent remaining. $375,000 in funding needed; $1,000,000 raised to date.
3) Road decommissioning: 100% completed; 0% remaining.

4) Riparian restoration: 21% completed; 79% remaining. $1.6 million needed; $325,000 raised to date.
5) Large wood placement, creation of pool/pool tailout habitat: 35% completed; 65% percent remaining. $8.6 million in funding needed; $1.6 million raised to date.

Still Creek Targets:

1) Remove passage barriers: 10% Completed; 90% remaining. $200,000 required to complete this objective.
2) Reconnect side channel/off-channel habitat. 32% completed; 68% percent remaining. $1.5 million needed; $200,000 raised to date.
3) Road decommissioning: 100% completed; 0% remaining.
4) Riparian restoration: 15% completed; 85% remaining. $160,000 needed; $110,000 raised to date.
5) Large wood placement, creation of pool/pool tailout habitat: 19% completed; 81% percent remaining. $1.3 million needed; $200,000 raised to date.

Sandy Mainstem:

1) Remove passage barriers: 100% Completed; 0% remaining.
2) Reconnect side channel/off-channel habitat. 10% completed; 90% percent remaining. $7.5 million needed; $2.8 million raised to date.
3) Road decommissioning: 100% completed; 0% remaining.
4) Riparian restoration: 40% completed; 60% remaining. $8.5 million needed; $600,000 raised to date.
5) Large wood placement, creation of pool/pool tailout habitat: 0% completed; 100% percent remaining. $3.8 million needed; $0 raised to date.

The Partners estimate that an additional $51.5 million investment is needed to implement similar actions in addition sub-basins to achieve historic conditions throughout the entire Sandy River basin.[4]

5. Opportunities

a) Ecological:

1. What are the measures of ecological success? What's the likelihood of ecological success in the short (6-year), medium and long-term (define the term lengths)? The Partners' measures for ecological success are based on the desired habitat and biological response from restoration work within a process-based restoration framework. A primary assumption of this framework is that once habitat is restored, ecosystem processes (e.g, large wood and gravel recruitment) contribute to self-sustaining habitat features and function. Term lengths are determined by projected available funding and the response time for habitat actions to produce desired conditions (e.g reconnect habitats = 1-5 years to achieve response; riparian vegetation = 5-20 years; and in-stream habitat restoration = 1 to 5 years (see Roni et al. 2002)). Completed planning documents have identified the restoration actions needed to address primary limiting factors and restore historic habitat conditions for the benefit of salmon and steelhead at the basin-scale. Known restoration actions in the Salmon River, Still Creek and Sandy River corridor are $10.6 million, $3.2 million and $19.7 million respectively ($33.4 million total for these prioritized sub-basins).

The time to complete term lengths is constrained largely by availability of funding. For example, assuming a future FI Partnership Implementation award of $4 million per biennium and a 50% match from other sources (an additional $2 million per biennium), the Partners believe they can complete

[4] Sandy River Basin Working Group. 2007. Sandy River basin aquatic restoration strategy: an anchor habitat-based prioritization of restoration opportunities. Oregon Trout. Portland, Oregon. *See* http://www.ortrout.org/pdf/Sandy%20Resto%20Strategy%20WEB.pdf

100 percent of actions needed in the three priority sub-basins over a short-term, 6 year period. Observed habitat and fish response of past actions implemented in these priority sub-basins suggests that we would expect responses on a strong upward trajectory at the end of this time period. The medium term would be defined as years 7 through 15 with the term defined by the number of years required to implement the remaining actions in the Salmon River, Still Creek and mainstem Sandy Corridor, as well as all known remaining actions in remaining sub-basins, assuming a *second* successful FI Partnership investment and 50% match. Ecological success here would be analogous to the short term success described above, plus a strengthening ecological response in the initial priority watersheds as habitat and biological response continues. The long term would be defined as years 16 to 36. This timeframe is defined by the longest expected response time from habitat actions completed at the end of the medium term period, and includes required maintenance, and any new actions as determined via adaptive management informed by effectiveness monitoring.

The EDT model will continue to play an important tool for assessing restoration progress. Project designs and project outcomes are evaluated to determine the degree to which we are recreating conditions that are as equivalently productive as the historical conditions to which the fish are adapted. At the end of twenty years the Partners expect self-sustaining, restored habitat conditions working at the basin-scale to support restored populations of salmon and steelhead.

2. What types of voluntary conservation actions could be undertaken to address the proposed priority? The restoration strategy prioritized project work on public and private land. Identified restoration actions include side-channel and floodplain reconnection, large wood additions and log jam placements, riparian restoration and conservation easements. The Partners have a long track record of working with private landowners to implement voluntary conservation actions.

3. Should the proposed priority be divided into geographic areas that are appropriate for partners to address? As described previously, the Partners have identified the Salmon River, Still Creek and Sandy River as priority geographic areas.

b) Social:

1. Do partnerships exist to address the proposed priority? If so, briefly describe. If not, note why this proposed priority is important enough that partnerships may form to address it. As discussed throughout this narrative, a strong partnership exists in the Sandy River basin. The Partners consist of public and private organizations that were prompted to begin their collaborative work by two announcements in 2000: the listing of steelhead trout and Chinook salmon on the threatened species list under the federal Endangered Species Act, and Portland General Electric's announcement that it would remove the Little Sandy and Marmot dams. Through coordinated fundraising efforts and ongoing prioritization of restoration projects, the Partners actively apply their joint research to achieving their vision for the Sandy River basin. The Partners were recently honored with the 2013 Stream Project Award from the Oregon State Land Board.

2. What social opportunities exist to address the proposed priority? Is there momentum built? Landowners within the Sandy basin are generally well informed and receptive to restoration actions. Previous projects have engaged individual private landowners, homeowners associations, and a range of public agencies managing portions of key habitats. Demonstration projects on the Salmon River, Still Creek and the Lower Sandy have provided the opportunity to show residents the scale and impact of restoration actions. Multi-agency monitoring of initial restoration actions has indicated significant, positive biological response including increased spawning and rearing in restored areas. Landowners

notice, and are enthusiastic to recover historic wild fish abundance that many still recall, or have heard about from their parents and grandparents. Landowner participation has been high in riparian zone efforts to contain invasive plants and replace with natives, with dozens of landowners representing hundreds of acres supporting the collaborative Sandy River Vegetation Restoration Coalition. A recent Early Detection and Rapid Response effort in the Salmon River gained over 80% participation among landowners in target reaches.

The Partners also cultivate community support of this work by involving youth and adult volunteers in tree planting projects. Volunteer crews that have participated in past projects include Wilderness Volunteers, Mazamas, Mt. Hood Community College's Youth Employability Support Services, Northwest Youth Corps, and local high schools. In addition, local businesses have gotten directly involved in restoration efforts that have, in turn, generated lasting partnerships and expanded markets for those businesses. For example, restoration of a stream channel on the Resort at the Mountain golf course has expanded habitat to the point that golfers come to the Resort to experience golfing within wild salmon habitat and are advised to watch for spawning fish below one tee area. The plantings have matured such that they provide a harvest source for other native wetland plantings downstream on the Salmon River, and the golf course hosts volunteer maintenance events annually. The project feeds community involvement and supports local jobs by providing a market advantage with conservation minded customers.

3. Describe educational benefits, if any. Thousands of school children from the Portland metro area come to the Sandy River every year to learn about Oregon's native ecosystems and species, including rivers and salmon. Programs include Outdoor School sessions housed at a number of Sandy basin summer camps, the World Salmon Council's Salmon Watch program, as well as Wolftree's Cascade Streamwatch programs at BLM's Wildwood Recreation Area. Portland State University's Student Watershed Research Program has targeted the Sandy among watersheds where it is expanding its citizen science water quality and invertebrate monitoring with high school students and community members.

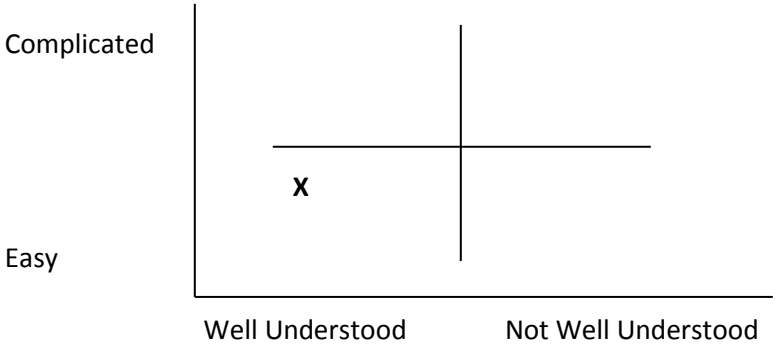
4. Summarize the social, community, political, regulatory or other factors that will help lead to the success of this proposed priority.
5. What can be leveraged to address the proposed priority (funding, acreage impacts, other resources)?
Combined response, 4 and 5: The elements needed for measured, significant, and highly leveraged success in a 6 year timeline are already present in the Sandy basin. As described above, there is significant momentum within the Partners, as well as among the broader community. The Partners are comprised of representatives from federal, state and local agencies and governments, as well as nonprofit organizations, and have already established clear roles and responsibilities. Due to collaborative effort over the past 14 years, the Partners have successfully leveraged agency, landowner and volunteer investment/involvement and funding resources to address its priorities. The Portland Water Bureau's $93 million commitment, the recent Metro levy, program investments by federal agencies, electric utility habitat funds and foundation support would multiply potential OWEB investment.

c) Economic Benefits

1. Describe the economic benefits of addressing the ecological proposed priority, including ecosystem services. Restoration of aquatic and riparian habitat will enhance recreational opportunities on a renowned fishery, and side channel restoration will reduce flood risks and add

improvements and increase land value for private landowners. More restoration work means more jobs, which translates into incentives for business growth in the stream restoration sector, ultimately resulting in the diversification and strengthening of local economies. Beyond direct employment benefits, in time, improved salmonid habitat and water quality will lead to improved commercial fisheries and improved recreational opportunities in the Pacific Northwest.

6. FOR ALL SUBMISSIONS: Assess the proposed priority by locating the proposed priority in one of the quadrants below. Describe why the proposed priority falls in this quadrant. There is no wrong answer to this question and there may be multiple answers.



The limiting factors for salmon and steelhead in the Sandy River basin are well understood, and there is a comprehensive strategy in place to address those factors. While sometimes complex, the restoration techniques for improving in-stream and riparian habitat are relatively straightforward and well tested. The Partners have demonstrated that they are a highly functioning collaboration with diverse expertise working across boundaries to implement high priority restoration projects. Much of the NEPA and ESA consultation work has been completed, and in most areas the Partners have full landowner consent to implement restoration actions. The Sandy River basin should be strongly considered as a Focused Investment Priority.

7. Is there other information the Board should know regarding this priority?
"If we are going to achieve recovery in the Lower Columbia River, it's got to happen here, it's got to happen now." Todd Alsbury, ODFW District Fisheries Biologist speaking at the Sandy River-Salmon River confluence on the OWEB Quarterly Board Meeting field tour, September 2012.

8. In lieu of attaching letters of support for this proposal, please submit a list of other supporting individuals or organizations.
Current members of the Sandy River Basin Partners include:

- Association of Northwest Steelheaders
- Clackamas County
- East Multnomah Soil and Water Conservation District
- Metro Regional Government
- Multnomah County
- Oregon Department of Fish and Wildlife
- Oregon Department of Environmental Quality
- Portland Water Bureau
- Sandy River Basin Watershed Council
- The Freshwater Trust
- The Nature Conservancy
- USDA Forest Service-Mt. Hood National Forest
- USDC National Marine Fisheries Service
- USDI Bureau of Land Management
- USDI Fish and Wildlife Service
- Western Rivers Conservancy