OWEB FI Priority Comments
As submitted by The Freshwater Trust
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1. Proposed Priority Description

a) What is the native fish or wildlife habitat to be conserved or other natural resource issue to be addressed? Eastern Oregon's John Day River basin is a perennial priority for natural resource agencies and conservation organizations alike. With its headwaters in the Strawberry Mountain Range near Prairie City, the John Day River flows 284 miles in a northwesterly direction before entering the Columbia River approximately four miles upstream of the John Day dam. The John Day is the nation's second longest free-flowing river in the contiguous United States and the longest containing entirely un-supplemented runs of anadromous fish. The nearly 8,000 square mile watershed is a restoration centerpiece due to its nearly intact assemblage of native salmonids, large blocks of public ownership, degraded but fixable stream conditions, community support for fish recovery, and the absence of hatchery programs and dams.

In 1999, the National Marine Fisheries Service (NMFS) listed the Middle Columbia River summer steelhead Distinct Population Segment (DPS) as threatened under the Endangered Species Act (ESA). In addition to native summer steelhead, the John Day basin supports wild runs of spring Chinook salmon, westslope cutthroat and bull trout; redband trout and lamprey. Though still relatively productive, the aquatic and upland habitats of the basin have been impacted by both human and natural alterations. The degradation of both aquatic and terrestrial habitats has resulted in the overall decline of species that rely upon them.

A group of natural resource agencies, conservation organizations and local landowners recently formed the John Day Basin Partnership (the Partnership), with a goal of restoring and maintaining the watershed for the ecological, economic, social and cultural well-being of local communities. The designation of the John Day basin as a Focused Investment (FI) Priority by the Oregon Watershed Enhancement Board (OWEB) would present an opportunity for the Partnership to develop, and ultimately implement, a strategic action plan for addressing habitat limiting factors and driving recovery of the watershed and the basin's native species.

b) What are the specific expected ecological outcome(s) to be achieved after this priority is addressed? The John Day basin currently lacks a coordinated and strategic plan for basin-scale restoration of aquatic and upland habitats. In the near-term, the designation of the John Day basin as a FI Priority would catalyze the nascent John Day Basin Partnership to align around a plan for addressing the basin's limiting factors through on-the-ground restoration efforts. With a plan in place, the Partnership could focus its collective resources and expertise to implement prioritized restoration projects. Restoring aquatic, riparian and upland habitats will shift the overall status of the watershed from degraded to historic conditions. Using new metrics to quantify desired fish and habitat response, and employing comprehensive monitoring protocols to track results, will make it possible to more accurately account for and report on long-term progress towards defined objectives. Clean water at sufficient temperatures, along with improved water quality and quantity and a properly functioning watershed are all expected ecological outcomes of restoration, and would help to accelerate and sustain the recovery of native fish and terrestrial species.

c) What is the defined geographic location within which this proposed priority can be successfully addressed? The John Day basin is located in northeastern Oregon in the southern section of the Columbia Plateau Ecological Province. Its drainage area spans over five million-acres, and is bound by the Columbia River (Lake Umatilla) to the north, the Blue Mountains to the east, the Aldrich Mountains and Strawberry Range to the south, and the Ochoco Mountains to the west. The John Day basin incorporates portions of Grant, Wheeler, Gilliam, Sherman, Wasco, Jefferson, Umatilla, Morrow, Crook, Harney, Baker and Union counties.

Both the Mid-Columbia and the John Day Subbasin Plans have extensive information on stream reaches within the basin delineating the level of environmental degradation, limiting factor(s) and potential for recovery. The Partnership seeks to create a strategic action plan to further prioritize subbasins, and reaches within those subbasins where limiting factors can be successfully addressed with restoration.

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 John Day basin is a National Wild and Scenic River and an Oregon Scenic Waterway, and is uniquely free flowing from its headwaters to its confluence with the Columbia River. Historically, the John Day River was one of the most significant anadromous fish producing rivers in the Columbia River Basin (CRITFC 1995). The John Day River's populations of native salmonids continue to play a critical role to successful recovery in the Columbia River basin, making it crucial habitat for threatened and endangered native fish species. The lower reaches of the John Day River are also home to a relic run of fall Chinook. In addition, the entire system supports an unknown number of anadromous Pacific lamprey (John Day Subbasin Plan, 2005). Along with native fish and terrestrial species, the John Day basin also contains declining and distinct native plant communities.

The watershed is also a mecca for thousands of outdoor enthusiasts, featuring activities such as hiking, biking, hunting, fishing, whitewater rafting, camping, wildlife viewing, horseback riding, scientific research and outdoor educational programs. The basin is home to the John Day Fossil Beds National Monument and the recently designated Cottonwood Canyon State Park. The John Day Fossil Beds National Monument is a world class paleontological site with record of plant and animal evolution, changing climate, and past ecosystems that span over 40 million years. Cottonwood Canyon State Park is the second largest in the state and is uniquely situated along the lower mainstem of the John Day River. It encompasses 8,000 acres with an additional 10,000 acres of public land surrounding it managed by the Bureau of Land Management.

The John Day basin is arguably one of the most important fisheries in the state. Historic tensions between conservation and agriculture in the region are lessening, making this an opportune time to collectively advance meaningful restoration work to benefit the basin's unique assemblage of fish and wildlife.

b) Are there any social and/or economic considerations that the Board should understand regarding this proposed priority? Local communities in the John Day basin are relatively small and largely dependent on natural resources. As climate change and population growth continue to stress our ecosystems, they will also impact the ability of agriculture and forestry to meet human needs in a sustainable way. Efforts to restore aquatic and upland habitat must be strategic and well planned in order to effectively balance ecological resilience with resource demands.

The restoration and preservation of sustainable fisheries and watershed conditions will have broad social and economic benefits. Public outreach and education, both locally and regionally, will provide further exposure to John Day Basin. These activities provide the potential to increase the number of visitors to local communities where they would boost local economies.

It is also worth noting that restoration work has a positive economic impact on the communities where it occurs: previous research on the economic impact of restoration in Oregon shows that 80% of restoration dollars are spent locally and over 90% are spent within the state (Hibbard and Lurie 2006). 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. It is estimated that every $1 million invested in equipment-intensive instream restoration generates 20 higher paying jobs, with total economic benefits of $2.32 to $3.9 million. Beyond direct employment benefits, in time, improved salmonid habitat and water quality will lead to improved watershed health and resilience for a cornerstone basin within the Columbia River system; driving social and economic benefits for local residents.

c) In addition to its significance to the state, identify how the proposed priority fits within regional & local ecological priorities. The John Day Subbasin Plan serves as a "…blueprint for the recovery of ten Columbia River (Mid-C) steelhead populations that occupy Oregon tributaries to the Columbia River…" one of which is the John Day River. This plan provides information required by NOAA's National Marine Fisheries Service (NMFS) to satisfy their requirements for both the Endangered Species Act (ESA) and the State of Oregon's Conservation Plan.

As is evidenced by the development of the Partnership, state, federal and local agencies and representatives from across the John Day basin recognize the significance of the basin, and the need for a collaborative approach to support restoration, preservation and the overall environmental and economic health of the watershed. The Partnership effort is closely aligned with regional goals such as the mission of The Pacific Coastal Salmon Recovery Fund (PCSRF) established by Congress in 2000 which was enacted "…to reverse the declines of Pacific salmon and steelhead… The program is essential to preventing the extinction of the 28 listed salmon and steelhead species on the West Coast." The planned approach of the John Day Basin Partnership is also in alignment with The Oregon Plan for Salmon and Watersheds, which lists the following Key Elements:

- Voluntary restoration actions by private landowners with support from citizen groups, businesses and local government
- Coordinated state and federal agency and tribal actions to support restoration efforts, effectively administer regulatory programs, soundly manage public lands and promote education and awareness about watersheds and salmon.
- Monitoring watershed health, water quality, and salmon recovery to document existing conditions, track changes, and determine the impact of programs and actions.
- Strong scientific oversight by an independent panel of scientist who evaluate the plan's effectiveness, identify needed changes, and guide research investments.

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 answer, 3a and 3b) The limiting factors identified in the *Conservation and Recovery Plan for Oregon Steelhead Populations in the Middle Columbia River Steelhead Distinct Population Segment* (Oregon Mid-Columbia Plan) and the *John Day Subbasin Plan* are described below. The Partnership will use these documents in developing its recommendations for prioritized restoration actions.

Reach	Conservation and Recovery Plan for Oregon Steelhead Populations in the Middle Columbia River Steelhead Distinct Population Segment (Oregon Mid-Columbia Plan)	John Day Subbasin Plan
Lower mainstem John Day River	Degraded channel structure and complexity (habitat quantity and diversity), altered sediment routing, degraded water quality (water temperatures) and altered hydrology (low flows). Impaired fish passage is also a high priority limiting factor in Bridge, Butte, Kahler, Muddy, Rock and Thirtymile Creeks. The effects of naturally spawning stray hatchery fish on viability of wild fish and the Columbia River mainstem hydrosystem passage are both listed for the entire John Day Basin.	Channel stability, flow, habitat diversity, obstructions, sediment load, temperature and key habitat quantity.
North Fork John Day River	Degraded floodplain connectivity and function, degraded channel structure and complexity (key habitat quantity, habitat diversity, channel stability), altered sediment routing, degraded water quality (water temperatures), and altered hydrology (low flows).	Flow, habitat diversity, obstructions, sediment load, temperature and key habitat quantity.
Middle Fork John Day River	Degraded channel structure and complexity (habitat quantity and diversity), degraded floodplain connectivity and function, altered sediment routing, altered hydrology, and degraded water quality (water temperatures).	Flow, habitat diversity, sediment load, temperature and key habitat quantity.
South Fork John Day River	Altered sediment routing, degraded channel structure and complexity (habitat quantity and diversity), altered hydrology and low flow, degraded water quality (water temperatures), and impaired fish passage.	Sediment load, temperature and key habitat quantity.
Upper Mainstem John Day River	Degraded channel structure and complexity (habitat quantity and diversity), degraded riparian areas and LWD recruitment, altered sediment routing, degraded water quality	Flow, habitat diversity, obstructions, sediment load, temperature and key habitat quantity.

	(water temperatures), altered hydrology, and degraded floodplain connectivity and function. Impaired fish passage is also a priority limiting factor in Beech and Laycock Creeks.	

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. Certain historic and current land use practices have degraded both aquatic and upland resources within the John Day basin. Water withdrawals have reduced stream flows, particularly during the warmer growing season and periods of drought, contributing to higher water temperatures. Grazing, agricultural operations, timber harvesting, mining and pushup dams have reduced riparian vegetation and contribute to elevated water temperatures and reduced habitat diversity. Residential, agricultural, road development and recreational use within riparian areas have also contributed to the decline of native and historic habitat.

Areas of the John Day basin were subject to intensive stream channelization, flow modifications and drainage (including some tiling of drainage ditches) projects between 1943 and 1951. These projects were encouraged and supported by various agencies to improve crop production. This work was accomplished as "a conservation priority and was considered the stream science at the time" (ODA 2002). These activities greatly altered natural, complex and properly functioning systems into areas of less ecological value for fish and wildlife. 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. This will stress already degraded systems in this arid, agricultural region of the state. It is crucial to engage agricultural and forestry interests in ecologically sound restoration projects that assist, rather than polarize, local communities and economies.

Beyond these direct, physical, chemical and ecological threats to the John Day basin, the recovery of the region's aquatic and upland habitats and its native species have been threatened by the lack of a coordinated and scientific approach to restoration. Larger projects and/or smaller projects located in close proximity to one another tend to see greater ecological uplift than smaller, dispersed activities. Until the formation of the Partnership, restoration has largely occurred opportunistically by individual or small groups of entities for one-off projects; meaning local groups with similar or complementary goals are often in direct competition for limited conservation dollars.

Although new metrics and modeling methodologies make it possible to prioritize, monitor and track the results of restoration actions with more accuracy than ever before, these "quantified conservation" approaches are not yet being applied on a broad scale. To return the John Day basin's aquatic and upland habitat to functional health will require coordinated effort from diverse partners and alignment on a strategic plan for achieving specific and quantifiable ecological outcomes. The Partnership would make it a priority to quantify conservation results at the basin scale.

b) What will happen if the threats aren't addressed? If the issues impacting the health of the John Day River basin are not addressed, the region's freshwater ecosystems could remain in a downward

ecological trend for a century or more. Given that some populations of the John Day River's salmon and steelhead are listed under the ESA, a lack of strategic action could ultimately result in extinction for these important wild salmonids and could drive the continued decline of currently healthy fish and wildlife populations. If ecosystem needs are not sustainably met, the accelerating pressures from climate change and the increased resource needs of growing populations could ultimately cause the collapse of local, resource-based economies and communities.

c) Describe the economic, social, iconic and cultural benefits of addressing the outcome and impacts of not addressing it. Restoring the John Day 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; riparian and side channel restoration will reduce flood risks and add essential salmonid habitat. Further, adoption of sustainable upland farming practices will reduce nonpoint pollution discharges into the river system and improve water quality within the watershed.

Since natural historic watershed processes have been eliminated, altered or reduced in many areas, habitat restoration activities are the primary method for reintroducing the necessary functions. Restoration activities will support natural processes that are indicative of healthy watersheds, including improved water quality, water quantity, habitat complexity, flood plain interaction, vegetation structure, and species diversity. The basin's restoration needs and land uses provide a unique opportunity to combine voluntary restoration approaches, and to link private and publicly-owned project sites to address basin-scale conservation issues.

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 answer, 4d and 4e) The John Day Basin Partnership is newly formed, and seeks to collectively and comprehensively assess and answer these questions, along with many others, to address the ecosystem needs and priorities in the John Day basin. The identification of the basin as an FI Priority will help to catalyze this action.

The goal of the Partnership is to come to a consensus of what work has been completed, what methodologies have and have not been successful, and to develop a comprehensive strategic action plan for the basin. Once the plan complete it is our hope that individuals, agencies and partnerships alike can use it as a tool to effectively identify, prioritize and implement restoration actions, using a quantified conservation approach to track results in terms of ecological uplift.

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 Partnership seeks to define success in quantifiable metrics through the development of a strategic action plan. Anticipated qualitative measures of success in the John Day basin would include increased stream corridor habitat, thriving populations of native fish and wildlife, increased water quantity, and improved water quality. Quantitative metrics could include reductions in stream temperature (measured in

kilocalories of solar load blocked by healthy riparian corridors), reductions in pollutant loads (measured in pounds of phosphorus, nitrogen and sediments), and improved salmon habitat. However, the specific metrics and timelines associated with ecological success have not yet been determined for the John Day basin.

2. What types of voluntary conservation actions could be undertaken to address the proposed priority? The development of a strategic action plan will help to identify and prioritize sites for specific actions to ensure that they are undertaken where they can generate the greatest amount of ecological uplift. Some voluntary conservation actions that have been successful in the basin include: fish passage improvements, riparian restoration, livestock exclusion fencing, invasive species removal, bank stabilization, irrigation management, stock water development, grazing management and hot season irrigation shutoff.

3. Should the proposed priority be divided into geographic areas that are appropriate for partners to address? As stated previously, the future development of a strategic, basin-scale action plan will allow the John Day Partnership to collectively address questions related to timelines, proposed actions and prioritized geographic areas. It is anticipated that a comprehensive strategic basin plan will be comprised of a series of subbasin plans. The comprehensive John Day Basin Plan would seek to further prioritize subbasins, and reaches within those subbasins where limiting factors can be successfully addressed through restoration actions.

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. Yes. Though numerous formal and informal partnerships have long been present in the basin, the newly-formed Partnership is the largest effort to coordinate restoration planning and implementation. Formally established in September 2014, the Partnership is made up of a diverse group of stakeholders from across the basin with the common interest of restoring and maintaining our watershed for the ecological, economic, social, and cultural well-being of local communities. The Partnership seeks to apply best available science, deep knowledge of the basin, and an effective collaboration to develop and fund implementation of a coordinated plan for creating healthy and resilient native habitats and species.

2. What social opportunities exist to address the proposed priority? Is there momentum built? The Partnership members come to the table with diverse expertise and backgrounds, and are well respected in the basin. The members have individually demonstrated success in raising awareness and funding support for a variety of project types, including outreach, implementation, volunteer coordination and monitoring. Formalizing this locally-led, grass roots social structure will lend important support to John Day basin's capacity building and implementation efforts in the future.

Nearly 40% of the basin's lands are publicly-owned. Both public and private landowners are represented in the Partnership, as are conservation organizations. This ability of the collective Partnership to consider and respond to the needs of all stakeholders will result in restoration solutions that are built to last.

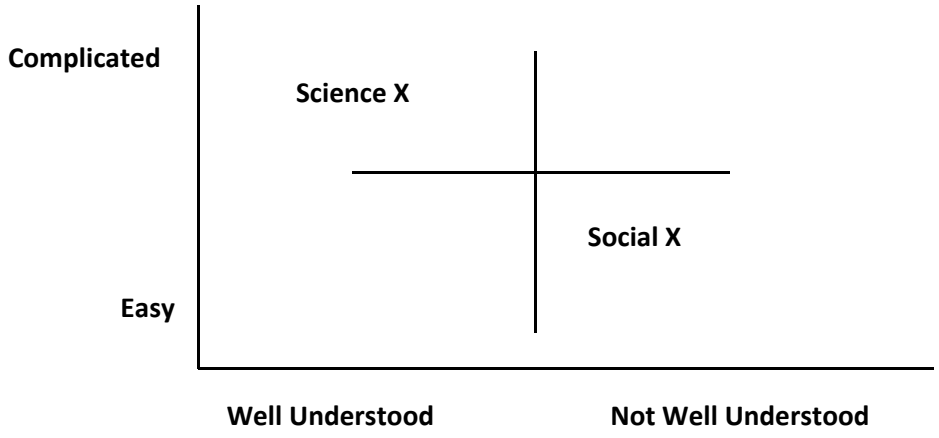
3. Describe educational benefits, if any. There are a number of natural resource agencies and organizations that conduct education and outreach activities within the John Day basin. One of the goals of the Partnership will be to assess the existing opportunities within the basin and develop a collaborative approach for a strong and sustaining natural resource educational program. The use of strategic basin plan with the quantified ecological outcomes of restoration will provide a unique opportunity to communicate the value of this work in a new way.

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: As described above, there is a great deal of momentum to successfully restore habitat and recover listed fish species in the John Day basin. Over the years, the individual members of the Partnership have successfully leveraged funding, landowner and volunteer investment/involvement for restoration activities – albeit in an ad hoc and opportunistic way. Existing and successful partnerships elsewhere in the state (such as the Sandy River Basin Partners in the Sandy basin, of which The Freshwater Trust is an active member) provide a strong model for the collaborative leveraging of expertise and financial resources to implement recommended restoration actions in high priority areas in a coordinated way. The Partnership seeks to emulate this model to multiply potential OWEB FI Partnership investment in the future.

c) Economic Benefits

1. Describe the economic benefits of addressing the ecological proposed priority, including ecosystem services. As described above, restoration of aquatic and riparian habitat will enhance recreational opportunities on a renowned fishery, and floodplain and riparian 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 technical aspect of restoring watersheds is relatively well researched and largely understood. However, the scientific aspects can be very complex in nature, are dynamic and evolve as new developments emerge. For example, several decades ago it was thought that channelizing streams was a good management practice; we now know this not to be true and it came at a high ecological cost, which we are still working to repair today. Further, metrics that measure the actual ecological benefits of restoration to ecosystem function did not even exist until recently; new methodologies and protocols are now being developed and refined at a rapid pace.

The social aspect of watershed restoration is also variable. It is clear, however, that understanding management practices, landowner objectives, and the benefits/risks for the landowner, partners and other decision-makers lead to better clarity and alignment on restoration approaches.

A strong partnership with the capacity to develop and implement a coordinated strategic action plan with well defined metrics can help ensure long-term restoration success. In the John Day we are confident with the right plan, partnerships, and resources, we can ensure that the basic science and social elements ultimately land in the "easy/well understood" quadrant.

7. Is there other information the Board should know regarding this priority? The John Day Partnership looks forward to building a unified coalition and coordinated strategic action plan to address limiting factors through prioritized restoration actions, and to track quantifiable ecological outcomes against established basin restoration targets. The designation of the basin as a FI Priority would create an incredible opportunity to partner with OWEB for the plan's development and implementation.

With the right mix of coordinated planning, funding, momentum and expertise, The Freshwater Trust is confident that the Partnership can build upon ongoing voluntary instream and upland restoration efforts. The goals are to enhance the basin's position as a stronghold for salmon and steelhead, nurture upland biodiversity, and support small natural resource-based communities across the watershed.

8. In lieu of attaching letters of support for this proposal, please submit a list of other supporting individuals or organizations. At the meeting on September 4, 2014 the following stakeholders were present and officially agreed to form the John Day Basin Partnership (in order of introductions at the meeting): Upper South Fork Watershed Council, Umatilla National Forest, Prineville Bureau of Land Management, The Confederated Tribes of Warm Springs, Malheur National Forest, North Fork John Day Watershed Council, NOAA Fisheries, The Nature Conservancy, Mid John Day/Bridge Creek Watershed Council, The Freshwater Trust, Confederated Tribes of Umatilla, US Fish and Wildlife Service Partners Program, Oregon Department of State Lands, Oregon State Parks, Oregon Watershed Enhancement Board, Monument SWCD, Gilliam SWCD, Grant SWCD, Oregon Department of Fish and Wildlife, Bonneville Power Administration, Wallowa Whitman National Forest. Please note that this list of participants may change.