John Day Basin Partnership

Strategic Action Plan

Prepared by:

John Day Basin Partnership

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Definitions

Adaptive Management	The iterative, systematic acquisition and assessment of information to inform management decisions over time.
Basin or Basinwide	**All areas within the** John Day River catchment (HUC 170702).
Capacity	Partner staffing to undertake work toward attainment of Partnership outcomes.
High impact projects	Projects that deliver measurable, lasting positive impact upon the ecological, economic, and/or cultural well-being of the basin.
High quality habitat	Functioning habitats, refugia, and designated refuge and natural areas.
Hydrologic Unit Code	A way of identifying drainage basins in a nested arrangement from largest (1st level: region) to smallest (6th field: subwatershed).
Landscape-Scale Planning	Collaboratively plan, finance, and manage projects with significant ecological, economic, and social conservation value to achieve specific objectives across interconnected landscapes.
Logic Model	Links specific activities in a causal (if-then) chain toward specific outcomes.
Capital project	A project that involves design and physical installation and maintenance.
Partner	Participant in the John Day Basin Partnership that have signed the Partnership's Memorandum of Understanding.
Partnership	John Day Basin Partnership.
Protection	An action that directly protects high quality intact habitat from future degradation, including physical actions upstream, upland , or elsewhere in the watershed or contractual actions like agreements and easements.
Non-capital project	A project that involves support for partner capacity, financial management, data collection or analysis, research, or public outreach.
Resilience	Landscapes that have a wide variety of characteristics that enable them to maintain function in the face of change.
Ridge-to-ridge	Planning and projects that span an entire catchment, including in-stream, riparian, and upland areas in public and private ownership.

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Definitions (continued)

Steering Committee	Eight-member committee of partners that will help oversee the work of the John Day Basin Partnership
Strategic Action Plan	The Partnership's landscape-scale "road map" for achieving its vision and outcomes for the John Day Basin.
Subbasin Workgroups	Three workgroups broken up by geography that will lead development of localized sections of the strategic action plan.
Technical Workgroup	A group of partners with expertise in fisheries, hydrology, habitat, range and forest management, agricultural conservation practices, and other relevant disciplines that will set general restoration principles, direct data compilation and analysis, and offer ongoing technical guidance to the Partnership.
Watershed restoration	Actions ridge-to-ridge at the landscape-scale that enhance, protect, and/or manage the health and resilience of native aquatic and terrestrial habitats, foster productive working lands, and support diversified local economic opportunities.

Acronyms and Abbreviations

AWQMAP	Agricultural Water Quality Management Area Plans
BiOp	Biological Opinion
BLM	U.S. Bureau of Land Management
BOR	U.S. Bureau of Reclamation
BPA	Bonneville Power Administration
cfs	Cubic feet per second
CTUIR	Confederated Tribes of the Umatilla Indian Reservation
CTWSRO	Confederated Tribes of the Warm Springs Reservation of Oregon
ESA	Endangered Species Act
ESU	Evolutionarily Significant Unit
FWS	U.S. Fish and Wildlife Service
GIS	Geographic Information System
HUC	hydrologic unit code
ISWR	in-stream water right
JAR	juvenile-to-adult ratios
LWD	large woody debris
MOU	Memorandum of Understanding
NGO	Non-governmental organization
NMFS	National Marine Fisheries Service
NRCS	Natural Resources Conservation Service
NPCC	Northwest Power and Conservation Council
ODA	Oregon Department of Agriculture
ODEQ	Oregon Department of Environmental Quality
ODF	Oregon Department of Forestry
ODFW	Oregon Department of Fish and Wildlife
OWEB	Oregon Watershed Enhancement Board
SWCD	Soil and Water Conservation District
SS/D	spatial structure and diversity
TMDL	Total Maximum Daily Load
USFS	U.S. Forest Service
VSP	viable salmonid population
WC	watershed council
WQMP	Water Quality Management Plan

1. Introduction

A. Background

The John Day River Basin ("basin" or "the John Day") in northeast Oregon is home to native aquatic fish species and habitat of state significance, small rural communities whose economy is centered on agriculture and natural resources, and exceptional historical and cultural riches. A basin map is provided as *Figure 1*. This 8,100 square mile river basin is one of the most important undammed river systems in the West and hosts two of the last remaining intact wild anadromous fish populations in the Columbia River System. Much of the John Day's aquatic habitat is addressed in federal and state conservation plans and is designated a priority for recovery by the Oregon Watershed Enhancement Board's (OWEB) Focused Investment Program. Encompassing nearly 8,100 square miles, the basins has a population of 11,000. Agriculture covers nearly 2 million acres and generates almost $140 million a year annually; while over the last ten years natural resource restoration work has generated $36 million in economic output. The basin is home to three Native American Tribes with treaty rights for fishing, hunting, and gathering and dozens of close-knit rural communities.

For more than two decades a variety of government agencies, foundations, tribes, and private landowners have invested in the region, while local organizations have worked collaboratively to deliver important improvements in basin health. Nevertheless, native fish populations and habitat quality are well below historic levels. Restoration practitioners seeking to accelerate recovery and reach the basin's full potential face a significant challenge: existing funding falls far short of what is needed to achieve their individual and collective goals for the John Day. The spatial structure and diversity of important aquatic resources, new academic research, and the emerging funding approach of government and private philanthropists supports the holistic landscape-scale approach that will be employed in this plan.

The John Day Basin Partnership ("Partnership') first formed in September 2014 around the shared belief that jointly creating and executing a more comprehensive and coordinated basinwide strategic action plan was the best way to reach a common vision and bring in the additional sustained funding needed to substantially increase the pace, scale, and impact of watershed restoration in the basin. The Partnership's general fact sheet, executed *Memorandum of Understanding* (MOU), and approved *Operations Manual* and that describe its beliefs and operations are provided as *Appendix A, B,* and C, respectively. For this effort "watershed restoration" is taken to mean actions taken ridge-to-ridge at the landscape scale that enhance, protect, and/or manage the health and resilience of native aquatic and terrestrial habitats, foster productive working lands, and support diversified economic opportunities for local communities. The Partnership believes strongly that the ecological needs defined in existing environmental plans can be addressed in harmony with the economic, social, and cultural needs of people of the John Day.

This *John Day Basin Strategic Action Plan* ("action plan") serves as a road map for realizing the Partnership's ambitious vision of a healthier and more resilient basin. It will complement existing basin plans, programs, and policies while focusing on actions that are within the specific expertise and ability to be undertaken by the Partnership and its member organizations. This plan was built from the "bottom-up" compiling local perspectives through three local Subbasin Working Groups,

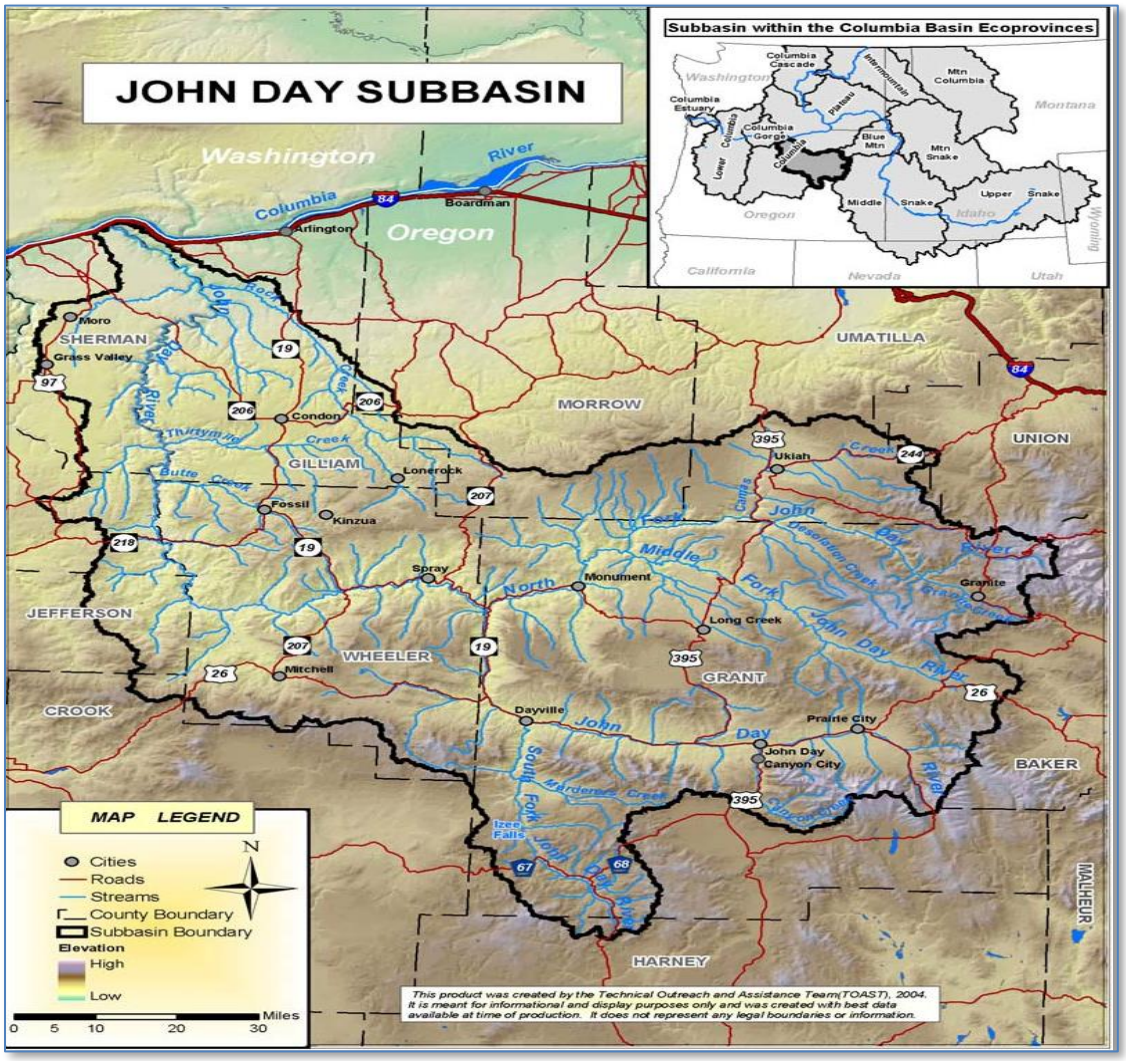
data compilation and analysis by a Technical Working Group and hired consultants, and input of peer reviewers and the public. This final action plan offers a comprehensive of background on the basin, identifies priority actions, the cost and value of those actions, and processes for sustaining progress toward the Partnerships goals, objectives, and desired outcomes from the basin to the site-specific scale.

B. Strategic Action Plan Development Process

This action plan was developed over 17 Partnership meetings and ~50 workgroup meetings by a diverse group of 29 partner organizations and other participants from across the basin. The action plan was developed using the following seven (7) general steps:

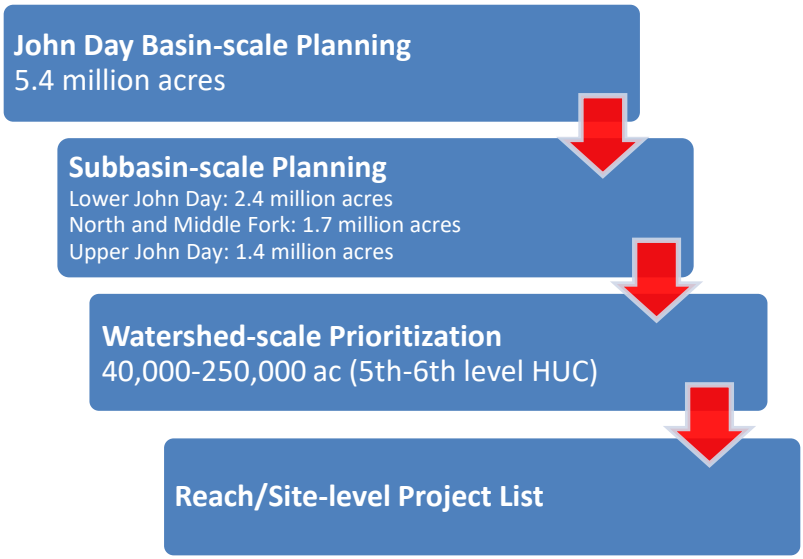
1. Set Partnership goals and governance. The Partnership deliberately created its vision, purpose, principles, goals, outcomes, governance structure, and related documentation (i.e., Operations Manual, MOU) necessary to achieve a high-performing Partnership. See *Section 5* of this document for more details.

Figure 1: John Day River Basin Map (NPCC, 2005)



2. Landscape-scale coverage. The Partnership built upon the Oregon Watershed Enhancement Board (OWEB) strategic action planning template to develop an action plan for the entire John Day Basin (OWEB, 2015). The action plan is fully integrated at the landscape-scale, in that the planning process was inclusive and considered the needs of diverse watershed stakeholders, recognized the critical balance between ecosystem, economic, and community health, and appreciated how activities on the land from ridge-to-ridge impact aquatic and terrestrial systems (Manitoba Watershed Stewardship, Undated). Additional sections were added that describe the Partnership's restoration approach, prioritization strategy, and project selection process. While this action plan covers the entire basin, action planning and subsequent prioritization will also take place at the subbasin, watershed, and individual action/project scale. See *Figure 2* for a depiction these spatial scales.

Figure 2: Multi-Ecosystem Spatial Scales



3. Common components of plan based on existing information. The Partnership compiled and reviewed existing natural resource management information on the John Day Basin and incorporated facts, concepts, data, and analysis into a draft action plan. The full Partnership focused on development of the "common," non-technical parts of the plan that apply across the basin (i.e., introduction, basinwide outcomes, governance, focus area profile, restoration need, project selection, costs and value, evaluating success, adaptive management, and sustainability). Wherever possible, existing information that was still current was applied to avoid duplication in this new planning process. For example, much of *Section 6* that provides a profile of the focus area was adapted from the John Day Subbasin Revised Draft Plan (NPCC, 2005), Oregon's Middle Columbia Steelhead Conservation and Recovery Plan (NMFS, 2009; Carmichael and Taylor, 2010), *John Day River Basin Total Maximum Daily Load and Water Quality Management Plan* (ODEQ, 2010), and the CTWSRO John Day River Watershed Restoration Strategy (CTWSRO, 2015). *Table 1* lists the 25 existing plans that were main sources of material for this action plan.

Table 1: Existing Plans Used as Major Source Material for this Strategic Action Plan

1) Oregon Department of Fish & Wildlife. 2003. Native Fish Conservation Policy.
2) Oregon Department of Fish & Wildlife (eds. Carmichael and Taylor). 2010. Conservation and Recovery Plan for Oregon Steelhead Populations in the Middle Columbia River Steelhead Distinct Population Segment.
3) U.S. Fish & Wildlife Service. 2015. Mid-Columbia Recovery Unit Implementation Plan for Bull Trout (Salvelinus confluentus).
4) Oregon Department of Fish & Wildlife. 2016. The Oregon Conservation Strategy.
5) Oregon Department of Environmental Quality. 2010. John Day River Basin TMDL and Water Quality Management Plan.
6) Oregon Department of Agriculture, Lower John Day Local Advisory Committee. 2015. Lower John Day Basin Agricultural Water Quality Management Area Plan.
7) Oregon Department of Agriculture, Middle John Day Local Advisory Committee. 2015. Middle John Day Basin Agricultural Water Quality Management Area Plan.
8) Oregon Department of Agriculture, North and Middle Fork John Day Local Advisory Committee. 2015. North and Middle John Day Basin Agricultural Water Quality Management Area Plan.
9) Oregon Department of Agriculture, Upper John Day River Local Advisory Committee. 2015. Upper Main Stem and South Fork John Day Basin Agricultural Water Quality Management Area Plan.
10) Oregon Department of Fish & Wildlife. Janaury 2011. Oregon Mule Deer Initiative Plan.
11) Confederated Tribes of the Warm Springs Reservation of Oregon. 2015. John Day River Watershed Restoration Strategy.
12) Confederate Tribes of the Umatilla Indian Reservation. 2008. First Foods Policy and Umatilla River Vision.
13) Confederated Tribes of the Umatilla Indian Reservation, 2015. North Fork John Day Fisheries Enhancement Project's Strategy.
14) Umatilla Indian Reservation. March 2016. Final Camas Creek Oregon Geomorphic Assessment and Restoration Opportunities.
15) Confederated Tribes of the Umatilla Indian Reservation. 2017. Desolation Creek Geomorphic Assessment and Action Plan
16) Columbia River Inter-Tribal Fish Commission. 2011. Tribal Pacific Lamprey Plan for the Columbia River Basin.
17) Ritter Land Management Team. October 2015. Strategic Action Plan,
18) U.S. Bureau of Land Management. 2015. John Day Basin Record of Decision and Resource Management Plan.
19) U.S. Forest Service. 2014. Blue Mountains National Forests Proposed Revised Land Management Plan.
20) U.S. Fish & Wildlife Service. 2015. Recovery Plan for the Coterminous United States Population of Bull Trout.
21) U.S. Fish & Wildlife Service. 2012. Conservation Agreement for Pacific Lamprey.
22) U.S. Fish & Wildlife Service. 2012. Pacific Lamprey Assessment and Template for Conservation Measures.
23) U.S. Department of Agriculture, Forest Service. 2007 Revision. Pacific Northwest Region Aquatic Restoration Strategy.
24) U.S. Department of Commerce, National Marine Fisheries Service. 2009. Middle Columbia River Steelhead Distinct Population Segment ESA Recovery Plan.
25) Northwest Power and Conservation Council. 2005. John Day Subbasin Revised Draft Plan.

4. Technical components of plan based on new data and analysis. Three Subbasin Workgroups made up of partners operating in the subbasin developed preliminary goals, objectives, and actions. The Technical Working Group made up of partners with technical expertise from across the basin, with the assistance of hired consultants, set the restoration approach and refined the Subbasin Working Group goal-setting work to prioritize areas and actions where they should take place (at the 4th-6th field HUC based on available data and restoration progress as of 2018) to maximize impact and resilience. See *Section 5* for more on Working Groups, *Section 10* on restoration approach, *Section 11* for prioritization, and finally *Section 12* for the final SMART (Specific, Measurable, Attainable, Relevant and Timely) objectives and actions that will be pursued under this plan.

5. Plan revision based on internal and external review. The action plan is currently a working draft as several basin-scale data analyses components (e.g., Atlas upland habitat goal setting; restoration economic analysis) are in-development and will be completed in late 2018. This working draft was developed in response to several rounds of review and comment by the Partnership Working Groups, Steering Committee, and Partnership members. The final action plan will be distributed for external review (technical peer and general public).

6. Cost and value of plan. The final SMART goals, objectives, actions will be assessed as described in *Section 13* to develop a cost and value (return on investment) of fully executing the plan. This analysis is under development and scheduled for completion in late 2018. Section 13 and associated sections of the SAP will be revised to incorporate this new information.

The action plan will remain a "living document" that will be adapted as new data are developed, projects are completed, and lessons are learned. The plan will be reviewed annually and a full update considered every five (5) years. Monitoring, adaptive management, and sustainability are further discussed in *Sections 15 -17*.

2. Basinwide Goals and Outcomes

The basinwide goals to be pursued by the Partnership are provided below. Note that more localized goals are developed by the Subbasin Working Groups.

1. Generate increased partner cooperation, project prioritization, and joint fundraising among diverse interests in the John Day River Basin.
2. Conduct public outreach on watershed restoration that is taking place and its value to the community.
3. Annually increase funding for watershed restoration and resultant completion of more high impact projects that meet ecological and local community needs at the landscape scale.
4. Develop plans, new information, and adapt strategy as needed to ensure strong progress toward outcomes.

The specific outcomes to be pursued by the Partnership are listed below.

1. Sustainable financial resources secured by 2025 that enable full execution of the strategic action plan.
2. Positive economic impact on local communities attributable to the work of the Partnership by 2025.
3. A majority of the local community understands watershed restoration progress and its value by 2025.
4. Summer base flows met per the strategic action plan in high priority watersheds by 2030.
5. Water quality standards met per the John Day River Basin TMDL in high priority watersheds by 2030.
6. Passive and active habitat restoration implemented that addresses primary limiting factors and restores ridge-to-ridge ecosystem functions and processes in high priority watersheds by 2035.
7. Long-term trend of increasing fish populations per local, state, federal, and tribal plans by 2040.
8. Fish populations that allow for greater harvest potential by 2040.

3. Vision, Purpose, Principles, and Scope

A. Vision

A John Day Basin with clean water and healthy watersheds sufficient to provide for the ecological, economic, and cultural well-being of the basin.

B. Purpose

The John Day Basin Partnership's unifying purpose is to bring together stakeholders from across the basin with the common interest of restoring and maintaining our watersheds to maximize their ecological, economic, social, and cultural benefits. We apply deep knowledge of the basin, best available science, and cooperative planning and fundraising to empower more actions that establish healthy and resilient native habitats, working landscapes, and local communities for future generations.

C. Guiding Principles

The eight guiding principles for execution of the vision and purpose are:

1. *Local leadership*. The knowledge and commitment of local people is essential to achieving healthy and resilient native habitats and working landscapes.
2. *Collaboration.* Decision-making must integrate management goals of both private and public lands.
3. *Fundraising*. Joint planning and fundraising at the basin-scale can help deliver the long-term funding necessary to achieve outcomes.
4. *Science*. The best available science and technology will be applied to all decisions and actions.
5. *Voluntary Efforts*. Proactive, voluntary restoration is preferable to mandated or emergency action.

6. *Ecological and Socioeconomic Balance.* The needs of the natural environment must be balanced with the economic, social, and cultural needs of rural communities.
7. *Scale.* A holistic "ridge-to-ridge" approach to restoration is vital to meeting the long-term needs at the landscape scale.
8. *Adaptive management*. Persistent monitoring and adaptation is essential to realizing lasting change.

D. Scope

The focus area for this action plan is the entire 8,100 square mile John Day River Basin. Additional details about the focus area are provided in *Section 6*. There is a more than twenty-year history of joint planning and financial investment in watershed restoration that helps native aquatic habitat and local communities across many organizations in the basin. The John Day community and its restoration practitioners are quite tightknit and most partners have worked closely together before. The majority of public planning efforts to date are keyed to a specific John Day subbasin (e.g., agricultural water quality plans), species (e.g., ESA recovery plans), treaty resource (e.g., tribal restoration strategies), land use (e.g., federal land management plans, aquatics strategy), or limiting factor (e.g., John Day Basin TMDL). Oregon's Conservation Strategy (ODFW, 2016) and the John Day Subbasin Revised Draft Plan (NPCC, 2005) summarize many of these issues. All of this work to date significantly advanced the understanding of the needs and health of the basin.

The Partnership believes strongly that the best way to achieve its ambitious vision is to develop a more coordinated and comprehensive plan that emulates and builds upon existing work by looking more holistically at the challenges, solutions, and opportunities for the basin. The Partnership used a blind survey, facilitated processes in two Partnership meetings, and direct discussions with existing funders of restoration work in the basin to thoughtfully consider alternatives and make the collective decision to focus on the John Day basin as a whole.

This chosen approach is bolstered by the fact that the diversity in spatial structure of our focal species and habitats are both affected by a variety of local historic and ongoing influences that cross land use, watershed, and political boundaries basinwide (NPCC, 2005; NMFS, 2009; Carmichael and Taylor, 2010; ODFW, 2011; CTWSRO, 2015; ODFW, 2016). Thus, a wide focus is needed to prioritize areas for restoration that pose the greatest need and potential for ecological and community lift. Further, landscape-scale plans can be more readily designed to address future change and related stressors, including climate change, urbanization, fire, habitat fragmentation, and pests (USFS, 2009; Tilman, 2012). Finally, this method is very much in line with recent work of river ecosystem academia and large landscape restoration funders who are increasingly calling for restoration practitioners to undertake a more holistic and coordinated approach to ensure work is carried out as effectively and cost-effectively as possible (Palmer, 2006; OWEB, 2015).

The breakdown of land ownership in the basin is roughly: 61% private, 38% federal, and 1% state (CTWSRO, 2015). All the major federal land managers (the Forest Service manages 83% of federal lands in the basin) and the primary organizations that engage with private agricultural landowners in the region (54% of the basin is agricultural land) are partners in this endeavor. Representatives of these entities sit on the Steering Committee and the Working Groups that helped develop this

action plan. Overall, the private, public, and non-government organization (NGO) interests are well represented in the Partnership.

The Partnership currently has 29 partner organizations and an average of over 30 individuals attending each Partnership meeting, representing nearly every major geography and natural resource stakeholder in the region and hundreds of paid and thousands of volunteer in-kind hours to date. There is very clearly expertise and commitment in place to address the entire John Day basin.

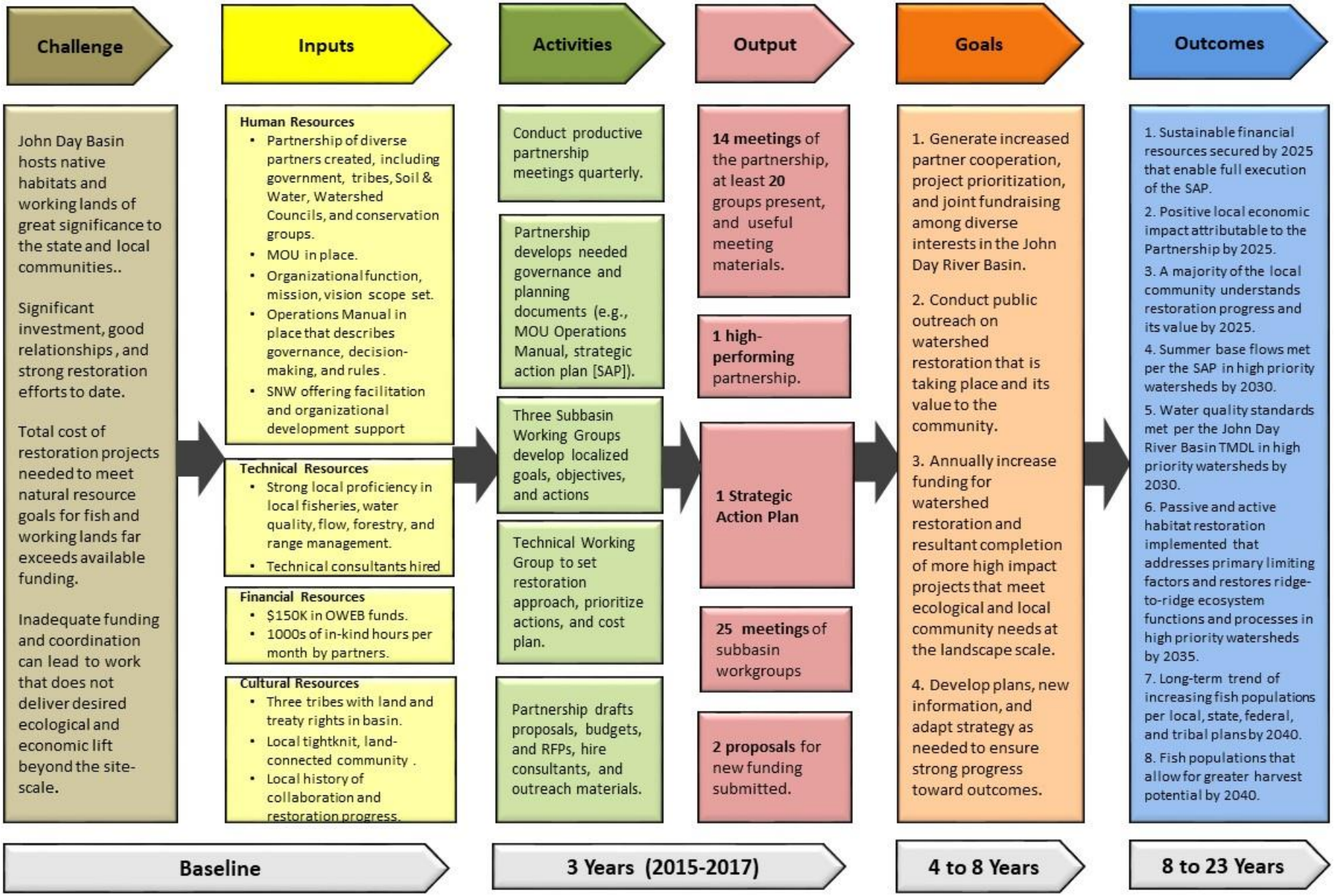
4. Logic Model

The Partnership has created a logic model to accompany this action plan. A logic model is a kind of flow chart that connects inputs and actions along a causal "if-then" chain that leads to the desired basinwide goals and outcomes. In other words, if action 'x' 'is undertaken, then outcome 'y' is achieved. Funders are now regularly requiring these models to provide a visual depiction and associated timeline of the connection between proposed actions and desired outcomes. The partnership's current logic model includes:

- Challenges: the problem the effort is working to overcome.
- Inputs: essential pre-conditions and invested resources.
- Activities: specific actions taken.
- Outputs: immediate results that can be measured.
- Goals: Broad statement that describes the desired impact (shorter term).
- Outcomes: Specific statement of future state (long-term).

The partnership's current logic model is provided as *Figure 3*. Note that this logic model will be updated as necessary as projects are completed, goals, objectives, and outcomes evolve, new metrics are developed, and as more resources are brought to bear to execute the action plan.

John Day Basin Partnership Logic Model



5. Governance

A. Memorandum of Understanding

1. Governance Document

The Partnership has decided not to pursue 503(c)3 status or become a membership organization. The group also does not plan to hire staff or acquire a physical office. However, as a pre-condition of applying for and accepting money from most funders, the Partnership must come together formally in some manner. Therefore, the Partnership has decided to use a Memorandum of Understanding (MOU) that documents the shared beliefs that unify the group, including its function, vision, purpose, and guiding principles. The MOU is provided as *Appendix B*.

2. Formal Partners

Those organizations that sign the MOU will be considered "formal partners" or "partners." The MOU applies to organizations when taking part in Partnership activities and otherwise acting on behalf of the Partnership. For the purposes of this MOU, a formal partner refers to an individual government, tribal, non-government organization, or businesses that has signed this MOU. In the case of organizations and businesses it is the *organization or business* entity itself that is the partner, not individual employees or contractors for the organization or business. Further, organizations need not be physically located within basin boundaries to be a partner, but they must have documented interest in improving the health and resilience of the basin. Means to document interest include, but are not limited to, mission/vision statements, grant agreements, existing or planned projects, and/or partnerships with organizations located in the basin. To respect the autonomy of each organization, it is at the sole discretion of each organization to decide who within their organization signs the MOU.

Based on considerable discussion and the near consensus of Partnership participants to date, individual landowners may not sign the MOU and join the Partnership or serve on the Steering Committee. The perspective of the Partnership is that Soil & Water Conservation Districts, Watershed Councils, and landowner organizations represent the interests of landowners. The Partnership Operations Manual makes clear that landowners and other members of the public are welcome at all Partnership meetings, and their ability to become formal partners could be reevaluated at a later date.

Lastly, all formal partners are expected to adhere to the meeting rules described in the Operations Manual and avoid any of the actions described in *Subsection 5C* below that can lead to involuntary removal from the Partnership.

3. MOU Amendment or Termination.

The MOU may be amended or terminated by a three-quarters vote of the Partnership. Similarly, a new formal partner may be added to the MOU at any time after January 31, 2016 by (1) providing written notice to all members of the Partnership's current Steering Committee and (2) an affirmative vote of three-quarters of the partners.

A partner may voluntarily withdraw from this MOU by providing written notice to the Partnership's Steering Committee.

A partner may be involuntarily removed from the MOU with cause through a four-step process.

1. A partner must bring forward an organization to the Steering Committee for consideration for removal (the identity of the organization/person bringing the nomination will be kept private);
2. The Steering Committee will formally determine if any one of the following pre-conditions are met that provide cause for removal vote by the Partnership:
    - Failure to attend a Partnership or Working Group meeting for one (1) year without providing a written justification deemed acceptable by a majority vote of the Steering Committee;
    - Actions while working on behalf of the Partnership that are grossly inconsistent with the Partnership's vision, purpose, function, and guiding principles as determined through a majority vote of the Steering Committee;
    - Repeated failure to comply with the terms of contracts entered into with the Partnership; or
    - Actions during Partnership-affiliated meetings or events that are determined to be inconsistent with meeting rules and generally accepted public decorum as determined through a majority vote of the Steering Committee.
3. The Steering Committee will notify the partner and let them know their removal from the Partnership will be scheduled for a vote of the full Partnership. At that time, the partner under consideration for removal may request the ability to speak with the Steering Committee or full Partnership prior to the vote.
4. If the Steering Committee determines consideration for removal is justified, a partner can be removed by an affirmative vote of three-quarters of the partners.

Partnership decisions, including changes to the MOU, will be effective as described in *Subsection 5G* below.

4. Outreach to Potential New Partners

Amy Charette of the Confederated Tribes of the Warm Springs Reservation of Oregon solicited interest in forming a John Day Partnership in May 2014. An inclusive list of local and regional stakeholders was included in that initial invitation and is attached to the Operations Manual. Many of the organizations on this list have become formal partners by signing the Partnership MOU. After January 31, 2016, partners that want to invite new organizations to pursue joining the Partnership are encouraged to bring the name of the organization to the full Partnership for discussion. This is especially important for organizations that may have a divisive history in the basin or with existing partners. This extra step will ensure clear expectations for the new organization and Partnership from the beginning. New organizations may become formal partners per the process described in *Subsection 5A.3* above.

B. Operations Manual

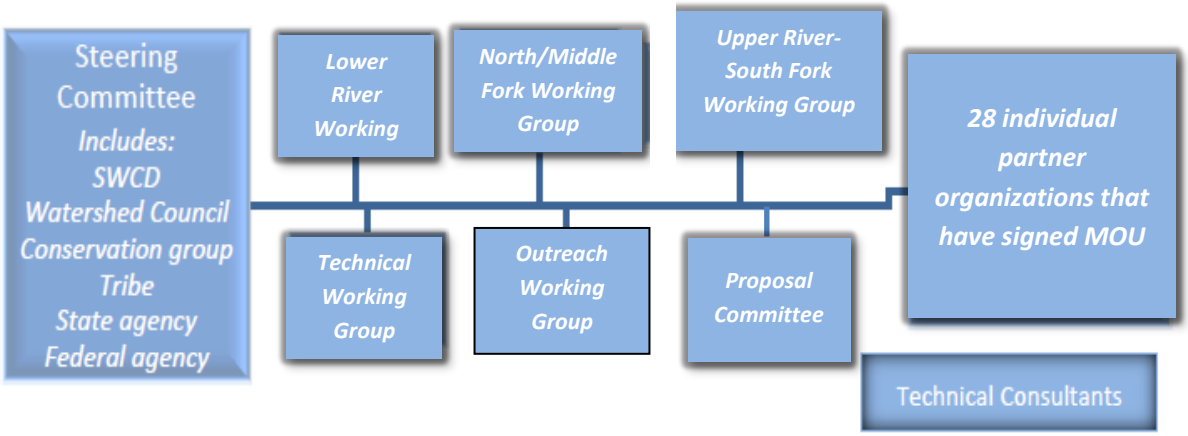
The Partnership has developed and formally approved a detailed Operations Manual that provides the procedures, rules, and forms that cover the day-to-day operation of the organization. The manual is provided as *Appendix C*.

C. Organizational Structure.

1. Structure

The Partnership will rely upon a "Steering Committee" of eight (8) partners to oversee actions delegated to them by the Partnership. The group will also utilize Working Groups to accomplish some tasks. The Partnership will depend in large part on the individual partner organizations to voluntarily fill the roles necessary to meet the Partnership vision and desired outcomes. Roles are discussed further in *Subsection 5D*. *Figure 4* below and the remainder of this subsection defines the Partnership's governance structure.

Figure 4: John Day Partnership Governance Structure



2. Steering Committee

The Partnership will utilize an eight (8) member elected Steering Committee of partners that will oversee decisions and other actions specifically delegated to them by a vote of the full Partnership. The committee will be made up of two categories of members:

1. Organizational Types. One representative of the six "types" of organizations that participate in the Partnership will be included on the Committee, which includes Soil and Water Districts, Watershed Councils, conservation groups, Tribes, state agencies, and federal agencies. Representatives of each organization type shall nominate someone from their type to serve on the Committee. The Partnership will vote on the nominees per procedures laid out in *Subsection 5G*.
2. At Large. Up to two (2) at-large representatives will be elected beginning after July 1, 2016. These members may come from any organization type. Partners may volunteer or nominate others for the Committee. The Partnership will vote on at-large members, and such a member will only be seated if they achieve a super-majority of votes as described in *Subsection 5G*.

The members of the first iteration of the committee seated in June 2015 volunteered or were suggested by active participants in the Partnership. Subsequent committees assembled after July 2015 will require a majority vote of the Partnership.

The goal is to create a committee that meets the following criteria:

1. Made up of partners that signed the MOU,
2. Have committed to participate actively in committee efforts,
3. Offers balance based on interests and geography, and
4. Includes organizations and individuals that work and/or reside in the region.

The responsibilities of the committee will be the following:

1. Represent the interests of the organization type they are representing and the broader Partnership, not their own organization or individual interests.
2. Assist the Partnership facilitator in designing Partnership and Working Group meetings,
3. Review draft Partnership documents (e.g., manuals, fact sheets, plans, proposals),
4. Determine if a decision should be put to majority vote of the Partnership,
5. Oversee all Partnership grant proposals and awards,
6. Evaluate and score project proposals if insufficient partner volunteer come forward to form a Funding Evaluation Committee for an individual funding opportunity,
7. Resolve any ties in project ranking,
8. Oversee development and adaptive management of the strategic action plan, and
9. Hold quarterly coordination phone calls.

After the first Steering Committee seated in July 2015, all future committees will be elected by a majority vote of the Partnership. The term of Steering Committee membership will be two (2) years. Existing members may seek another term, and there are no term limits at this time. The Partnership may stagger seating of new Committee members to avoid a wholesale change of participants at one time. Any member that departs the Committee will be replaced as soon as possible through a nomination or volunteer and a majority vote of the Partnership. A temporary proxy for a Committee member will be allowed with the majority approval of the organization type that the member represents and written notice to the entire Steering Committee.

Partnership Coordinator (Tentative, pending voting results)

In June 2018, the Partnership is voting to decide on whether or not to add a Coordinator position to its' organizational structure in response to the expansion of its' operating structure since 2014. The proposed purpose of the Coordinator is to serve an integral role as a liaison between the Steering Committee and the Working Groups/Committees to ensure that Partnership activities are meeting scheduled deadlines and proposed outcomes, and formal reports are compiled and submitted to funding entities in a timely manner. This section will be updated as soon as the voting results are available (~July 2, 2018).

3. Working Groups and Committees

The Partnership has decided to use Working Groups to address tasks that can be more efficiently accomplished with a smaller number of people or those with specific expertise or interests. The standing Working Groups/Committees are the (1) Subbasin Working Groups, (2) Technical Working Group, (3) Outreach Committee, and (4) Fundraising Committee. Further, ad hoc Working

Groups to take on short-term tasks are also expected. Working Group members need not have signed the MOU and there will be no term limit.

In the event that a Working Group is unable to complete its assigned roles in a timely and effective manner, it will be the responsibility of the Partnership to assume any tasks left uncompleted.

(i) Subbasin Working Groups

Three geographically-focused Working Groups made up of local partners were convened to lead development of the parts of the action plan that require more localized perspective and information, specifically the preliminary goal, objective, and action-setting discussed in *Section 10* and the final objectives and actions in *Section 12*. The three Subbasin Working Groups include:

- Lower John Day Working Group
- North/Middle Fork John Day Working Group
- Upper River/South Fork John Day Working Group

At least two (2) leads will be selected for each Working Group. The term of Subbasin Working Group leads is two (2) years. After the selection of initial Subbasin Working Group leads in July 2015, subsequent leads will be selected by a majority vote of Working Group participants that have joined at least 50% of meetings. Participation in Working Groups will be open to any partner who volunteers. The goal will be for at least five (5) members to sit on each Working Group.

These Subbasin Working Groups will conduct at least the following core activities for their region:

1. Determine which focal species and habitats apply to the subbasin,
2. Set preliminary goals, objectives, and actions that meet conservation needs in their area,
3. Coordinate with and review work of the Technical Working Group and hired consultants as they compile data, assess data gaps, conduct analysis to prioritize actions, and refine the action plan based on this further work,
4. Assist the Partnership with progress evaluation and adaptive management for their subbasin,
5. Conduct new research and/or data collection,
6. Complete targeted outreach and education, and
7. Receive, raise, and deploy funds for local projects not under the Partnership's name.

(ii) Technical Working Group

The Partnership has also formed a Technical Working Group made up of volunteer partners with specific expertise from ridge-to-ridge, including but not limited to hydrology, range and forest management, agricultural conservation practice, fish and wildlife management, and other relevant disciplines. The group will strive to have at least five (5) members. There are no term limits. This Working Group will:

1. Help establish the Partnership's restoration approach and principles,
2. Lead compilation and organization of existing basinwide data,
3. Identify data gaps,

4. Select appropriate models for prioritization, and
5. Refine the action plan as needed based on analysis and comment, including prioritization of actions set by Subbasin Working Groups.
6. Hire consultants as needed to support data compilation, analysis, and review. and
7. Otherwise advise on technical issues as they arise.

(iii) Outreach Committee

The Partnership formed an Outreach Committee of volunteer partners to develop an outreach plan and associated documents to engage, inform, and seek feedback from partner Boards, Councils, and management, local and regional stakeholders, landowners, and the public. The Committee received an OWEB capacity grant in 2017 to develop a media toolkit and expand the Committee's ability to document Partnership progress, coordinate with local landowners and stakeholders, and develop Partnership education and outreach tools.

(iv) Fundraising Committee

The Partnership formed a Fundraising Committee of volunteer partners to support the Steering Committee in: determining fundraising goals, identifying prospective funding sources, coordinating with Partnership members to identify sources of financial support (cash and in-kind services), and developing grant applications and project budgets.

(iv) Proposal Committee

The Partnership will form an ad hoc Proposal Committee when (1) a partner notifies the Steering Committee of a grant opportunity and (2) the Steering Committee determines that the opportunity is consistent with the Partnership's guiding principles and strategic action plan. Based on the short notice and turnaround provided for some funding opportunities, the Steering Committee may need to field grant ideas and form Proposal Committee's between quarterly Partnership meetings. The Proposal Committee will both develop proposals and review partner projects seeking funding if the proposal is ultimately funded. The Committee will include the proposed submitter, fiscal agent, and/or main contact and volunteer partners with expertise necessary to aid the effort. Partners who will be seeking project funding from an individual grant may not participate on that grant's Proposal Committee. Finally, if insufficient volunteers come forward to form an evaluation committee for a funding opportunity, the Steering Committee will fill this role. Note that the Subbasin Working Groups will assume the Steering Committee role for projects conducted in their geography that are <u>not</u> submitted under the name of the Partnership. Fundraising is further discussed in Section 13.

(v) Ad hoc Working Groups

The Partnership may form ad hoc Working Groups to address specific short-term issues and opportunities to advance the Partnership's work in achieving its' goals,

(vi) Facilitator

The Partnership has chosen to use an outside facilitator to assist with Partnership operation. Sustainable Northwest is currently (2018) proving these services through a contract provided by the Warm Springs Tribes. If the FIP grant is awarded to the John Day Partnership, a part-time project coordinator will then be hired and take on management of the award and ongoing

facilitation. The facilitator's duties will be assigned by the Steering Committee and may include but not limed to:

1. Meetings. Organize and conduct Partnership convenings, Partnership Working Groups and other groups as assigned by the Steering Committee. Meeting support may include pre-meeting research and attendee interviews, agenda and presentation development, meeting logistics, large and small group facilitation, and meeting notes.
2. Writing. Complete drafts and coordinate revision of strategic action plans, governance documents, standard operating procedures, grant reports, and other technical and organizational documents.
3. Fundraising. Identify new funding opportunities, draft and oversee revisions of Partnership and partner grant proposals and budgets.
4. Diplomacy. Lead multi-party processes, offer one-on-one coaching, and provide shuttle diplomacy among diverse basin constituencies, including Partnership members, agency staff, funders, and other stakeholders to ensure high-performing groups and continued momentum.
5. Records. Maintain all written materials online.

(vii) Roles for Various Tasks

Table 2 below distinguishes who is the lead for various tasks between the Partnership and Working Groups. Roles include Lead, Refine, Review, or Oversee.

Table 2: Roles for Various Tasks

Tasks	Subbasin WGs	Technical WG	Partnership
Ensure all activities under the name of the Partnership are consistent with the mission, MOU, Operations Manual, action plan.			Lead
Develop organizational governance procedures and documents.	Review		Lead
Select focal species/habitats.	Lead		Oversee
Determine most appropriate plans and data to consider.	Review	Lead	Oversee
Set preliminary subbasin goals, objectives, and actions for action plan.	Lead	Refine	Oversee
Define restoration approach.	Review	Lead	Oversee
Select models and prioritize actions.	Review	Lead	Review
Develop final SMART goals, objectives, and actions	Co-lead	Co-lead	Review

Table 2: Roles for Various Tasks

Tasks	Subbasin WGs	Technical WG	Partnership
Develop final action plan	Review	Review	Lead
Decide whether to pursue a grant under the Partnership's name			Lead
Decide whether to pursue a grant under a Subbasin Working Group's name	Lead		Oversee
Deploy and manage monies raised by Partnership		Review	Lead
Deploy and manage monies raised by workgroup	Lead		Oversee
Conduct Outreach	Co-lead		Co-lead

4. Main contact

The Partnership will request a formal partner(s) to volunteer as the main contact for individual grants. In certain circumstances, decisions regarding the main contact for a Partnership grant may be vetted through the voting process. In general, it is expected that the main contact will work with the fiscal agent of the individual funding source to lead distribution of grant funds and otherwise oversee grant execution.

D. Roles

1. Role identification

A niche exercise completed by the Partnership confirmed that partner organizations have the desire and expertise to take on all key roles needed to fulfill the organization's vision; this includes operation of the Partnership and implementation of capital and non-capital projects funded through the Partnership. Depending on the partner, they may be compensated for their work through capacity grants and/or in-kind services. There is no intention for the Partnership itself to hire staff, conduct field projects itself, or otherwise overlap with any roles already fulfilled by partners. When volunteers or specific expertise are not available or an outside voice is most appropriate, the group may consider hiring consultants as funding allows (e.g., facilitator, fiscal agent, data collection and analysis). *Table 3* defines the different types of Partnership and project roles.

Table 3: Types of Partnership and Project Roles

Partnership Role	Description	Project Role	Description
Partnership Governance	Partners may serve on the Steering Committee and Working Groups.	**Landowner Recruitment**	Identify, cultivate, match with funding, and sign-up landowners for projects.
Facilitator	Organize, manage, and record Partnership and Working Group meetings.	**Funder**	Provide funding for individual on-the-ground or outreach projects.

Table 3: Types of Partnership and Project Roles

Partnership Role	Description	Project Role	Description
Main Contact(s)	Serve as the main contact for the Partnership for specific grants.	**Technical Assistance**	Provide ongoing assistance on technical matters and track and share new research.
Fiscal Administrator	Accept and distribute grant funds, manage contracts with consultants, track match, and reporting.	**Project Design**	Create project-specific drawings and plans.
Strategic Action Planning	Participate in strategic action plan development and adaptation.	**Permitting**	Assist landowners with project permits.
Project Review and Selection	Review, score, and rank projects to receive funding raised by the partnership.	**Project Management**	Oversee contractor work.
Technical Assistance	Provide ongoing assistance on technical matters and track/share new research.	**Project Implementation**	Field installation of projects.
Fundraising	Prospect research and proposal writing.	**Monitoring**	Confirm project installed and maintained as promised.
Outreach	Develop and share materials with stakeholders, funders, elected officials, and the public.	**Outreach**	Develop and share materials with landowners, elected officials, and the public.

2. Role assignment

Table 4 lists current partners, their experience, prospective primary roles, and the typical number of employees from each partner that attend Partnership meetings. The most appropriate niches and roles are generally standardized for each type of organization, and known to the Partnership for individuals currently employed by them. Because the Partnership is relatively new and roles are evolving, all partners and their potential roles are provided. As the Partnership matures and further niche identification takes place tied to individual funding opportunities a more refined definition of roles may be created.

Table 4: Prospective John Day Partnership Roles From Niche Exercise

Partner*	Applicable Experience	Anticipated Roles	FTEs
FEDERAL GOVERNMENT			
U.S. Bureau of Land Management	Grazing, Natural Resource Management, Noxious Weeds	Partnership Governance, Action Planning, Permitting, Technical Assistance.	1
U.S. Bureau of Reclamation	Water Management, Flow	Project Design, Technical Assistance.	1
U.S. Fish & Wildlife Service	Fish and Wildlife Management	Permitting, Funder, Technical Assistance.	1

Table 4: Prospective John Day Partnership Roles From Niche Exercise

Partner*	Applicable Experience	Anticipated Roles	FTEs
U.S. Forest Service—Malheur	Forests, Fire, Wildlife Conservation, Public Lands Planning.	Partnership Governance, Action Planning, Technical Assistance.	1
U.S. Forest Service—Umatilla	Forests, Fire, Wildlife Conservation, Public Lands Planning.	Partnership Governance, Action Planning, Technical Assistance.	1
U.S. Forest Service-Wallowa Whitman	Forests, Fire, Wildlife Conservation, Public Lands Planning.	Action Planning, Technical Assistance.	1
U.S. Natural Resource Conservation Service	Agriculture, Agricultural Conservation Practice, Farm Bill.	Project Design, Technical Assistance Funder.	2
Bonneville Power Administration (BPA)	BPA Funding Programs	Funder and Permitting.	1
TRIBES			
Confederated Tribes of the Umatilla Indian Reservation	Fisheries, Tribal Funding Programs, GIS Mapping, Cultural Protection.	Partnership Governance, Action Planning, Technical Assistance, Funder, Project Implementation, Monitoring.	1
Confederated Tribes of the Warm Springs Reservation of Oregon	Fisheries, Tribal Funding Programs, Cultural Protection.	Partnership Governance, Action Planning, Technical Assistance, Funder, Project Implementation, Monitoring.	3
Burns Paiute Tribe	Fisheries, Tribal Funding Programs, Cultural Protection.	Action Planning, Technical Assistance, Funder, Project Implementation, Monitoring.	1
STATE AGENCY			
Oregon Dept of Fish & Wildlife	Fish and Wildlife Management, Data Collection.	Partnership Governance, Project Design, Monitoring, Permitting, Funder.	2
Oregon Dept of Parks & Recreation	Outdoors Recreation, Wildlife Management.	Action Planning, Project Implementation	1
Oregon Dept of State Lands	Wetland law and regulation.	Permitting.	1
Oregon Dept of Agriculture	Water Quality on private agricultural lands.	Technical Assistance, Action Planning.	1
SOIL & WATER CONSERVATION DISTRICTS			
Gilliam County SWCD	Relationships with landowners, Agricultural	Partnership Governances, Landowner Recruitment, Technical Assistance,	2

Table 4: Prospective John Day Partnership Roles From Niche Exercise

Partner*	Applicable Experience	Anticipated Roles	FTEs
	Conservation Practice, Watershed restoration.	Project Design, Project Implementation.	
Grant SWCD	Relationships with landowners, Agricultural Conservation Practice, Upland aspen, Watershed restoration.	Fiscal Administrator, Landowner Recruitment, Technical Assistance, Project Design, Project Implementation.	2
Monument SWCD	Relationships with landowners, Agricultural Conservation Practice, Watershed restoration	Partnership Governances, Landowner Recruitment, Technical Assistance, Project Design, Project Implementation.	2
Sherman County SWCD	Relationships with landowners, Agricultural Conservation Practice, Watershed restoration.	Partnership Governances, Landowner Recruitment, Technical Assistance, Project Design, Project Implementation.	1
Wheeler County SWCD	Relationships with landowners, Agricultural Conservation Practice, Watershed restoration.	Partnership Governances, Landowner Recruitment, Technical Assistance, Project Design, Project Implementation.	1
WATERSHED COUNCILS			
Gilliam East John Day WC	Watershed restoration, Relationships with local community.	Fiscal Administration, Project Design, Project Implementation Outreach.	1
Mid John Day-Bridge Creek WC	Watershed restoration, Relationships with local community.	Fiscal Administration, Project Design, Project Implementation Outreach.	1
North Fork John Day WC	Watershed restoration, Flow, Relationships with local community.	Fiscal Administration, Project Design, Project Implementation Outreach.	1
South Fork John Day WC	Watershed restoration, Ecosystem monitoring, Aspen, Relationships with local community	Project Design, Project Implementation, Monitoring, Outreach.	1
CONSERVATION GROUPS			
Blue Mountain Land Trust	Watershed restoration, Land Protection	Action Planning, Technical Assistance, Fundraising, Project Design, Project Implementation, Monitoring	1
Sustainable Northwest	Facilitation, Organizational Development, Technical Writing.	Facilitator, Technical Assistance, Strategic Action Planning, Fundraising.	1
The Freshwater Trust	Flow, Mapping, Ecosystem	Partnership Governances, Action	2

Table 4: Prospective John Day Partnership Roles From Niche Exercise

Partner*	Applicable Experience	Anticipated Roles	FTEs
	monitoring, Water purchase.	Planning, Technical Assistance, Monitoring	
Trout Unlimited	Fisheries, Water Use Efficiency.	Project Design, Project Implementation, Monitoring.	1
PRIVATE			
Ritter Land Management Team	Relationships with landowners, Forests, Fire, Watershed Restoration, Private lands.	Landowner recruitment, Technical Assistance, Action Planning,	1

Notes:
(1) Partners in **black** serve more than one subbasin and those in **red** primarily serve the Lower River, those in **green** primarily serve the North/Middle Fork, and those in **blue** primarily serve the Upper River/South Fork.
(2) Project Prioritization is included in 'Action Planning.'
(3) Project Management is included in 'Project Implementation.'
(4) Partnership Fundraising may be undertaken by any partner depending on the specific opportunity.
(5) FTE refers to the number of Full Time Employees that routinely participate in Partnership efforts.

E. Fiscal Administration

New monies brought in by the Partnership must be managed according to the Partnership's Operations Manual, funder requirements, and applicable laws. Further, resources must be administered efficiently to maintain relationships, effectively leverage other funding, and ensure progress toward achievement of outcomes. Fiscal administration will include a variety of tasks, including:

1. Receipt of outside funds,
2. Execution of contracts with funders, partners, and consultants,
3. Distribution of funds to partners and consultants,
4. Tracking of match and in-kind contributions,
5. Reporting to funders, and
6. Ensuring compliance with Partnership, funder, and government policies.

It is preferable for a partner to take on the fiscal administrator or "fiscal agent" role to keep monies raised in the basin. It is expected that a partner will volunteer to serve as the fiscal agent for specific funding opportunities. If more than one partner volunteers to manage finances for a particular grant, one partner will be selected by a majority vote of the Partnership. Note that there should be no need for ongoing fiscal management duties for the Partnership as long as it continues not to have staff, dues paying membership, or a physical office.

F. Contracts

The fiscal agent will execute and manage all contracts. The Partnership does not expect to hold any contracts; all contracts will be directly between funders and partners, and partners and hired contractors. A template contract for hiring contractors is in the Partnership Operations Manual.

Some Partnership decisions will require a formal vote. The following decisions will always be subject to a vote:

1. Addition or removal of partners from the MOU,
2. Election of partners to the Steering Committee,
3. Election of Working Group leads,
4. Approval to submit a proposal under the Partnership's name.
5. Selection of a fiscal agent for a funding opportunity if more than one partner is interested in filling this role,
6. Provision of matching funds or a letter of support for a project not funded by the Partnership,
7. Revision of standard capital and non-capital project evaluation criteria included in *Section 14*, and
8. Other votes may be called by a member of the Steering Committee if in their judgment there is significant disagreement on a particular issue.

The following rules apply to all voting:

- Each partner organization that signed the MOU will receive one vote.
- The individual that signed the MOU will be considered the voting party unless the organization assigns temporary or permanent voting authority to another party as described in the Operations Manual.
- A quorum of the Partnership shall be required for all votes. A quorum shall consist of 2/3 of the partners signed on to the MOU at the time of the vote. An approved proxy is considered part of the quorum.
- At least thirty (30) days' notice will be provided for all votes.
- Voting will be conducted by submission of ballots via email to a pre-assigned Steering Committee member or a virtual process deemed appropriate by the Steering Committee.
- There will be two types of votes: policy and people. All votes that do not involve the specific name of an individual will be considered policy votes. Person votes are those votes that will be using a party's name (e.g., voting on Steering Committee members). Individual policy votes and aggregate results of person votes will be public.
- Partners may abstain from a particular vote.

A <u>majority</u> vote of the full Partnership will be used for most decisions. However, a <u>three-quarters super-majority</u> vote will be required to amend the MOU. In other words, instead of a majority like other votes, support of three-quarter of voters is required for an amendment to advance. Specific amendments include: (i) adding a partner to the MOU after January 31, 2016, (ii) involuntarily removing a partner after November 1, 2015, (iii) altering specific terms of the MOUS, or (iv)

terminating the MOU in its entirety. The specific conditions under which partners may be added or removed from the MOU are described in *Subsection 5A.3* . With one exception, changes to the MOU will be effective thirty (30) days after the Steering Committee's receipt of the affirmative vote results. The exception is that involuntary removal of the partner will take effective immediately after an affirmative vote.

6. Focus Area Profile

This action plan covers the entire John Day River Basin (HUC 170702). The John Day's spatial extent, topography, and soil diversity fosters a variability of climate and land cover that enables it to support a unique variety of natural resources and people. Further details on the current geography, water resources, biotic systems, local communities, and economy are provided in this section. Much of this information is excerpted or adapted from the existing planning documents that cover the entire basin, including the Oregon Middle Columbia River Steelhead Conservation and Recovery Plan (Carmichael and Taylor, 2010) John Day Subbasin Plan (NPCC, 2005), the John Day River Watershed Restoration Strategy (CTWSRO, 2015), John Day Basin Total Maximum Daily Load (TMDL) and Water Quality Management Plan (WQMP)(ODEQ, 2010), Oregon's Conservation Strategy (ODFW 2016), the Bureau of Land Management (BLM) Resource Management Plan (BMP, 2015), and the Blue Mountains National Forests Plan (Forest Service, 2014), and John Day Subbasin Revised Draft Plan (NPCC, 2005).

The Partnership's basinwide prioritization process and Initiative Areas for native fish habitat and upland habitat are described in Sections 10-12.

A. Context

Historical descriptions indicate that the John Day River was once a relatively stable and healthy river. However, watershed conditions in the John Day Basin have changed significantly over the past 150 years (NPCC, 2005). A myriad of water and land use practices, from mining to livestock grazing to riverine habitat degradation to invasive species, have contributed to these changes. These disturbances have impaired water quality in hundreds of stream miles, degraded riparian corridors and disconnected floodplains, reduced biodiversity, and fish populations, and changed the structure and function of upland habitats (NPCC, 2005; Carmichael and Taylor, 2010; ODEQ, 2010).

In spite of these past disturbances, basin conditions have improved over the last twenty years and it continues to support strong wild runs of anadromous salmonids and a wide assemblage of resident wildlife. Watersheds that drain federal lands are healthier now and private landowners applying best agricultural and watershed health practices have recovered formerly degraded streams and human-impacted uplands (NPCC, 2005). The public and private landowners have greatly accelerated efforts to work in accord with restoration goals. While progress has been made, more work is needed to achieve the ambitious vision and outcomes of the Partnership.

B. Physical Geography

The John Day Basin is the fourth largest drainage basin in Oregon, encompassing nearly 8,100 square miles in northeastern Oregon (CTWSRO, 2015). It is bound by the Columbia River 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 (NPCC, 2005). Elevations range from 9,000 feet in the Strawberry Range to 200 feet at the Columbia River confluence (CTWSRO, 2015).

The John Day system contains a diverse network of tributaries that cover 500 river miles. The John Day itself is the third largest undammed river in the western United States (CTWSRO, 2015). The river flows generally northwest for 284 miles from its origin in the Blue Mountains before draining into the Columbia River (NPCC, 2005). The mainstem John Day River begins in the Strawberry Mountains in the Malheur National Forest. The largest tributary is the North Fork, which originates in the Wallowa-Whitman National Forest in the Blue Mountains (NPCC, 2005). The North Fork flows westerly for 112 miles and joins the mainstem near Kimberly. The Middle Fork originates south of the North Fork in the Blue Mountains of the Malheur National Forest, flows westerly for 75 miles, and merges with the North Fork above Monument (NPCC, 2005). The South Fork originates in the Malheur National Forest and flows 60 miles north until it merges with the mainstem near Dayville. Upon merging into the mainstem at Kimberly, the John Day River travels through deep canyons to the Columbia River (NPCC, 2005).

These major rivers are low in gradient through much of their length. Valleys tend to be trough-shaped, with steep slopes separating narrow riparian areas from uplands. The narrow and sometimes meandering valleys often limit channel migration and sinuosity (ODEQ, 2010). The North Fork is distinctive, having a more slender and steep-walled valley with greater discharge than the mainstem at their confluence. The Lower River Subbasin has a plateau form, broken by the sinuous valley of the mainstem and its steep-walled tributaries (ODEQ, 2010). Much of the North Fork Subbasin is a plateau as well. The Middle Fork and Upper River drainage include the few areas of wide riparian meadow complexes in the basin, though both are interspersed with confined reaches and narrow valley floors (ODEQ, 2010). The South Fork drainage area is included in the Upper River Subbasin, though in character it is different from the upper mainstem and its other tributaries. It is the largest upper subbasin tributary and has a much narrower valley than the mainstem (ODEQ, 2010). Much of the South Fork valley is trough or v-shaped, with a large mid-section of coniferous riparian area and a relatively arid upper watershed. This contrasts with most upper basin streams, which become increasingly steep, forested, and wet with increasing elevation (ODEQ, 2010).

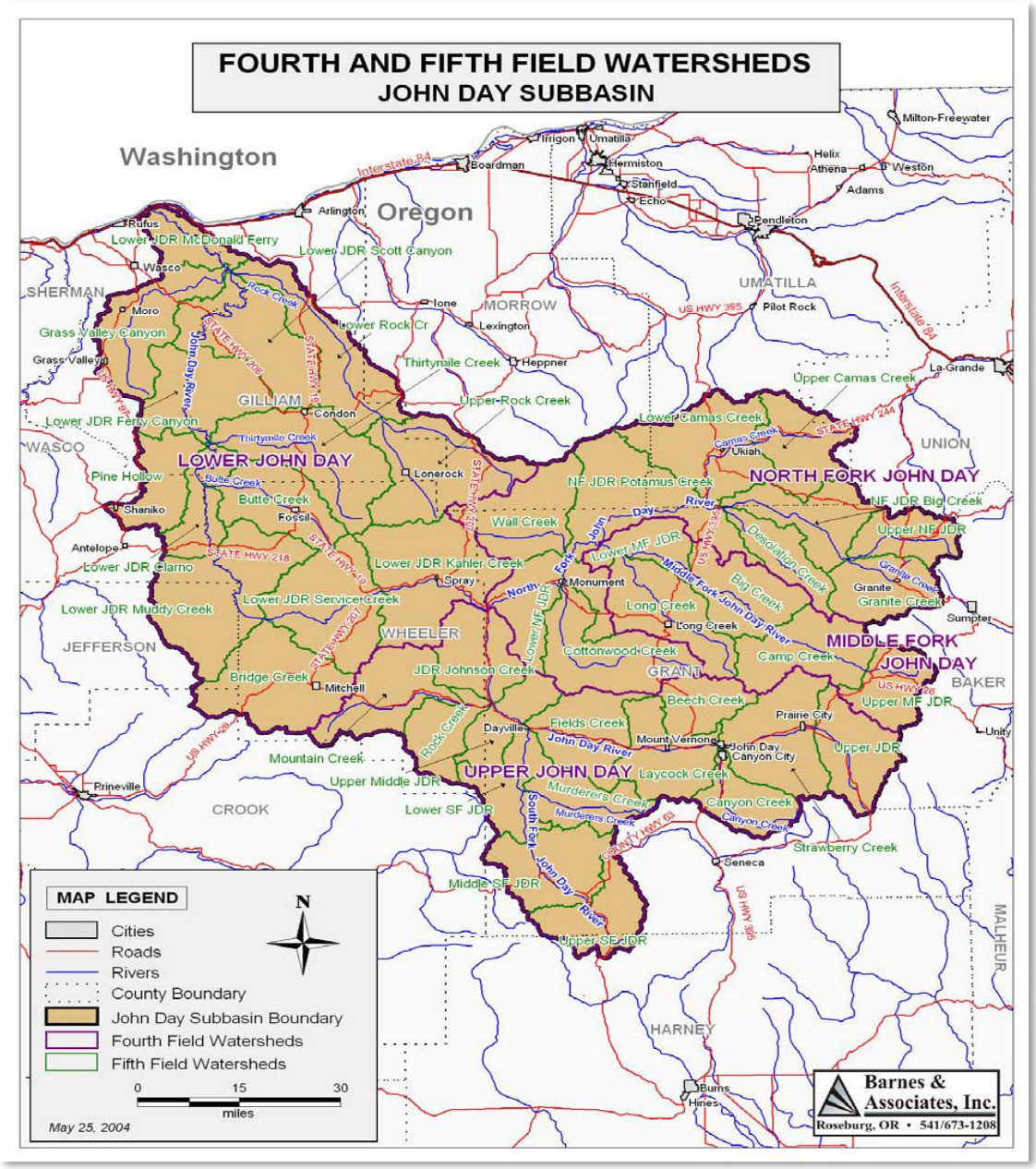
The John Day Basin is characterized by diverse landforms ranging from loess-covered plateaus in the lower sections to alpine peaks in the headwaters. Rock assemblages include masses of oceanic crust, marine sediments, volcanic materials, ancient river and lake deposits, and recent river and landslide deposits (NPCC, 2005). Major geologic events shaping the subbasin include volcanic eruptions, uplifting, faulting, and erosion. Columbia River basalts are the dominant rocks at elevations below 4000 feet. Igneous rocks are exposed in the higher reaches of the basin, while the Lower River subbasin exposures are primarily extrusive rocks, ash, and wind-blown loess. (NPCC, 2005)

C. Water Resources

The basin is divided into four subbasins (4th-level HUC) and 43 watersheds (5th-level HUC). The subbasins include the North Fork John Day (1800 square miles), Middle Fork John Day (810 square miles), Upper John Day (2140 square miles), and Lower John Day (3150 square miles). The Upper John Day Subbasin includes the upper mainstem and the South Fork John Day River. The Lower John

Day Subbasin includes the middle and lower mainstem (NPCC, 2005). The subbasins, while differing substantially in terms of elevation, climate and soil, do have characteristics in common. In much of the basin, channel morphology is strongly influenced by valley form, alluvial fans, and large terraces (ODEQ, 2010). *Figure 5* offers a depiction of subbasins and watersheds (NPCC, 2005).

Figure 5: John Day Basin 4th and 5th-level Hydrological Unit Map (NPCC, 2005)



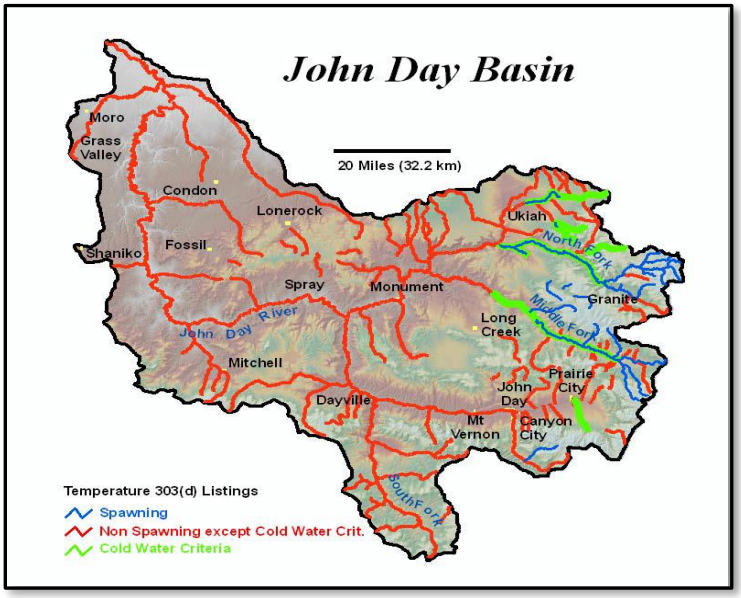
The basin is drained by 500 miles of rivers and streams. Most water comes from the basin's headwaters, primarily in the form of melting snow. The North and Middle Forks provide 60% of the flow to the main stem (NPCC, 2005). Groundwater provides much of the base flow for the Lower River in the summer. Precipitation occurs primarily between November and March, with the lower

elevations receiving less than 12 inches per year and the upper elevations getting up to 50 inches (NPCC, 2005).

Discharge from the free-flowing river system is highly variable from peak to low flows. Peak flows occur from March through May, while low flows typically occur from August through October (NPCC, 2005). Peak flows can account for 70% of the annual discharge (ODA—Middle John Day, 2012). Flood events occur in December and January which can result in extreme runoff (ODA—Lower John Day, 2011). From year to year peak flows can vary from 300 to 700%. The hydrologic curve has shifted from historic times, with peak flow higher than the past and late season flows more diminished due to reduced soil infiltration and riparian and in-channel storage (NPCC, 2005). Flow data is available dating to 1904, with a mean annual discharge into the Columbia River of 2000 cubic feet per second (NPCC, 2005). The vast majority of the irrigation comes from surface waters of the main stem and its tributaries, so agriculture can play a major role in modifying local and regional hydrology (ODEQ, 2010).

The John Day's rivers and streams now exceed water quality standards and are therefore included on the state's Clean Water Act 303(d) list for temperature, bacteria, dissolved oxygen, sedimentation, and biological criteria. Elevated water temperature related to fish health is the primary water quality limiting factor in the basin (ODEQ, 2010). A map of streams on the 303(d) list for temperature is provided as *Figure 6*. Most water quality problems in the basin stem from vegetation removal, stream relocation, livestock grazing, timber harvesting, water withdrawals for irrigation, and historical mining and dredging (NPCC, 2005). Stressors and restoration needs are further described in **Section 7**.

Figure 6: John Day Temperature 303(d) Listings (ODEQ, 2010)



The North Fork has the best water quality with most streams considered to be in relatively good condition, with the exception of late summer elevated water temperatures that exceed water quality standards (NPCC, 2005). The Middle Fork has satisfactory water quality, with elevated summer water temperature the most serious problem. The Upper River and South Fork have fair

water quality, with high water temperatures in the summer, and turbidity in the winter/spring being the leading issues (NPCC, 2005). In the Lower River, elevated temperature and total phosphorus, increased biological oxygen demand, and fecal coliform limit water quality in the late summer when flows are lowest (NPCC, 2005).

Beneficial uses in the John Day that water quality standards are seeking to protect include domestic water supply, industrial water supply, irrigation, livestock watering, fish and aquatic life, wildlife and hunting, fishing, boating, water contact recreation, and aesthetic. Standards are set based on the most sensitive beneficial use. In this case, temperature and dissolved oxygen standards are based on salmon and trout, and the bacteria standard is based on water contact recreation (ODEQ, 2010). TMDL implementation for these standards is underway.

D. Biotic Systems

The John Day Basin supports unique and rich biodiversity. The variety of landform, elevation, and climate in the Blue Mountains and adjacent private lands result in a unique diversity of plants and animals, including 250 wildlife species (Forest Service, 2014). Since most of the basin is in federal or private ownership, actions on these lands will be vital to addressing selected focus species and habitats. A complete discussion of terrestrial wildlife is provided in Oregon's Conservation Strategy (ODFW, 2016), Oregon's Mule Deer Initiative (ODFW, 2011), and the John Day Subbasin Revised Draft Plan (NPCC, 2005).

Oregon Conservation Strategy Habitats that lie within the basin include: aspen woodlands, late successional mixed conifer forests, ponderosa pine woodlands, grasslands, sagebrush habitats, wetlands, natural lakes, and flowing water and riparian habitats (ODFW, 2016b). The present plant communities differ from the original flora found in the basin due to the long list of challenges discussed in more detail in *Section 7*. Today the basin's dominant vegetation depends on topographic position, ranging from coniferous forest (ponderosa pine, lodgepole pine, Douglas fir, white fir) at higher elevations to perennial grassland at middle elevations to desert shrub-steppe at lower elevations. The basin supports four ESA-listed threatened and endangered plants: South Fork John Day milkvetch (*Astragalus diaphanus var. diurnus*, Threatened), Arrow-leaf thelypody (*Thelypodium eucosmum*, Threatened), Lawrence's milkvetch (aka Laurent's milkvetch, *Astragalus collinus var. laurentii*, Threatened), and Northern wormwood (*Artemisia campestris var. wormskioldii*, Endangered) (Data.Oregon.Gov, 2014). Riparian corridors are largely degraded and a moderate amount of wetlands have been lost (NPCC, 2005). These areas are usually flooded during part of the growing season and completely dry during mid to late summer. Land has been converted to grazing and dry-land wheat at mid-elevation and irrigated agriculture in the floodplain (NPCC, 2005). Noxious weeds and undesirable native plants are the greatest threat to native rangelands and recovery of healthy watersheds in the basin (ODA—Lower John Day, 2011).

Central to the John Day's aquatic ecosystem are the anadromous salmonids (CTWSRO, 2015). The river system supports one of the most significant anadromous fish runs in the Columbia Basin (NPCC, 2005). The basin still supports the strongest wild runs of spring Chinook and ESA-listed summer steelhead in the Columbia River drainage. It nurtures four different species of naturally reproducing native salmonids (USFS, 2014). The Lower John Day also supports fall Chinook salmon, and anadromous Pacific lamprey are present throughout the basin (CTWSRO, 2015). Pacific lamprey play an important ecological and cultural in the region (Close, 2012). Other important fish

species include ESA-listed bull trout, westslope cutthroat trout, and interior redband trout (resident *O. mykiss*). It is estimated that there are 27 species of fish, including 17 native species, in the basin (ODA—Lower John Day, 2011). Further details on the current abundance of summer steelhead, spring Chinook, bull trout, and Pacific lamprey are offered below.

Presently, summer steelhead is the most widely distributed salmonid species, seasonally occupying most tributaries and mainstem habitats in the John Day basin. Spawning and rearing distribution occurs in the mainstem, lower mainstem tributaries downstream of the North Fork confluence, in the North, Middle, and South Fork channels and tributaries, and in the John Day River and tributaries upstream of the North Fork confluence (CTWSRO, 2015). However, Mid-C summer steelhead remain ESA-listed as threatened in the John Day basin and throughout the species' distribution due to past and current factors that continue to limit their viability (NMFS, 2009; Carmichael and Taylor, 2010; NMFS, 2016). The John Day River summer steelhead major population group (MPG) is one of four MPGs in the Middle Columbia River Steelhead Distinct Population Segment (Mid-C steelhead DPS) and the only MPG wholly within Oregon. Primary threats to John Day Summer Steelhead MPG viability include mainstem Columbia River hydrosystem facilities and operations and degraded tributary habitat. There are no hatcheries in the John Day, resulting in the John Day River MPG being the only wild summer steelhead MPG in the Mid-C Steelhead DPS. The John Day River summer steelhead MPG includes five populations: the Lower Mainstem, North Fork, Middle Fork, South Fork, and Upper Mainstem (NMFS 2009; Carmichael and Taylor 2010). Populations are the primary units of recovery and the Oregon Middle Columbia River Steelhead Conservation and Recovery Plan outlines priority management actions and action areas within each population for coordinated, habitat protection and restoration (Carmichael and Taylor, 2010; ODFW, 2012). Ongoing monitoring (e.g., Bare et al., 2017; MFIMW, 2017) and life-cycle model development (McHugh et al., 2017) are critical tools for informing the current status of steelhead life-stage limitations, the contributing limiting factors, and restoration approaches that will maximize ecological uplift for steelhead and co-benefit species. See *Sections 7, 8, 11, and 12*.

Although Middle Columbia spring Chinook are not ESA-listed, the three John Day populations are designated Oregon sensitive species (ODFW 2016b). Spring Chinook distribution is slightly more confined to mainstem habitats and larger tributaries compared to steelhead, although juvenile Chinook migrate into cool-water tributaries during summer months. Spring Chinook primarily spawn in the upper mainstem, in the Middle Fork above Armstrong Creek, and the North Fork about the mouth of Camas Creek (CTWSRO, 2015). In the Middle Fork John Day, high water temperatures and low stream flows have resulted in significant spring Chinook fish kills in recent summers (2007, 2013, and 2015). See *Sections 7, 8, 11, and 12*.

ESA-listed as threatened in 1999, bull trout are distributed across 12 populations throughout headwater streams of the North Fork, Middle Fork, and upper mainstem core habitat areas (USFWS, 2015). Spawning and rearing of bull trout is highly fragmented now because of poor habitat quality (CTWSRO, 2015; USFWS, 2015). Adult and subadult bull trout migrate seasonably among North Fork tributaries for rearing and foraging. In the upper mainstem, adult and subadults may head downstream seasonally to near the town of John Day. Bull trout in the Middle Fork are believed to be limited to Clear Creek, Granite Boulder Creek, and Big Creek Watersheds (CTWSRO, 2015; USFWS, 2015). The US Fish and Wildlife Service released the final Recovery Plan for the

Coterminous United States Population of Bull Trout (*Salvelinus confluentus*) in 2015. The bull trout recovery implementation plan for the Middle Columbia Recovery Unit, including the John Day, is currently in development by federal, state, and tribal co-managers to identify priority recovery actions and locations within the unit; implementation plan development is scheduled for completion by the end of 2018. Information from the implementation plan will be incorporated into the SAP as it becomes available. See *Sections 7, 8, and 11*.

Pacific lamprey populations continue to decline despite or, in some cases, due to measures taken to protect and restore salmonid species. Counts of adult Pacific lamprey at Bonneville dam have declined from an estimated 1,000,000 in the 1960's and 1970's to approximately 20,000 in current years (CRITFC, 2011). Populations measured at the John Day Dam since 2000 average 9000, with a decline from 27,000 in 2000 to 1,700 in 2010. In the Upper John Day, North Fork, Middle Fork, and Lower John Day, lamprey are critically imperiled, with adult populations generally ranging from 50-1000, a 50-70% short-term decline (USFWS, 2011). Oregon's Snake, Columbia and Coastal Oregon Conservation Plan for Lampreys: Pacific Lamprey (*Entosphenus tridentatus*), Pacific Brook Lamprey (*Lampetra pacifica*), Western Brook Lamprey (*L. richardsoni*), and Western River Lamprey (*L. ayresii*) is currently in development. Future versions of the Partnership's Strategic Action Plan will incorporate updated information from the lamprey plan as it becomes available. See *Sections 7, 8, and 11*.

Further, all three Pacific Northwest freshwater mussel genera are represented in the John Day River system. The Western Ridged Mussel (*Gonidea angulata*) and the Floaters (*Anodonta* spp.) occur in lower gradient reaches, and the Western Pearlshell (*Margaritifera falcata*) occurs in faster flowing reaches (Brim Box et al. 2006). Healthy populations of freshwater mussels can be a large portion of the benthic biomass in a river system, increasing nutrient recycling, retention, and storage, biotic coupling from the benthos to pelagic environment, biofiltration, and an increase of substrate stability (reviewed in Vaughn, 2017). Numerous species benefit from these services; for example increased growth rates of juvenile pacific lamprey in the presence of Western Pearlshell mussels (Limm and Power, 2011). As sessile filter feeders, mussels are vulnerable to habitat degradation and system alterations. Sedimentation, pollution, altered fish communities, altered flow patterns, river impoundments are some of the threats to healthy mussel populations (Bogan 1993, BrimBox and Mossa 1999, Haag and Williams 2014).

Freshwater mussels in the order Unionoida are among the most imperiled freshwater fauna in the world (Bogan 1993, reviewed in Haag and Williams 2014) with ~65% of mussel species considered imperiled in the United States. Western mussel species declines are similar. The Western Ridged Mussel and Winged Floater (*Anodonta californiensis*/*nuttaliana*) are Vulnerable, and the Western Pearlshell is considered Near Threatened, based on categories of extinction risk in the IUCN Red List. Evaluation by the Xerces Society shows a 43% range reduction for the Western Ridged Mussel, though survey data is patchy and population reductions are likely more extensive (Xerces Society). The John Day system has, in places, remained a stronghold of mussel abundance and diversity, though substantial mussel declines have been noted in recent years. This system remains an important system for conservation of western mussel species.

With populations below historic levels, many fish species are now listed at the federal and/or state level (Table 8). Mid-Columbia summer steelhead and bull trout were ESA-listed as threatened in 1998 and 1999, respectively (NMFS 2009; Carmichael and Taylor, 2010; USFWS, 2015). Summer steelhead, bull trout, and westslope cutthroat trout are listed as sensitive-critical species by the State of Oregon (ODFW, 2016a). Pacific lamprey are a federal species of concern and an Oregon sensitive species. Spring Chinook (John Day SMU) and western brook lamprey are Oregon sensitive species (Table 8 of this plan; ODFW, 2016).

Over the last century, the integrity and health of habitats in the John Day have been severely degraded. This is a cause of population declines for all native salmonids and the Pacific lamprey. Stream corridors in some areas have been simplified, fragmented, and disconnected from floodplains, creating poor habitat for native fish (CTWSRO, 2015). These stressors are further discussed in *Section 7*.

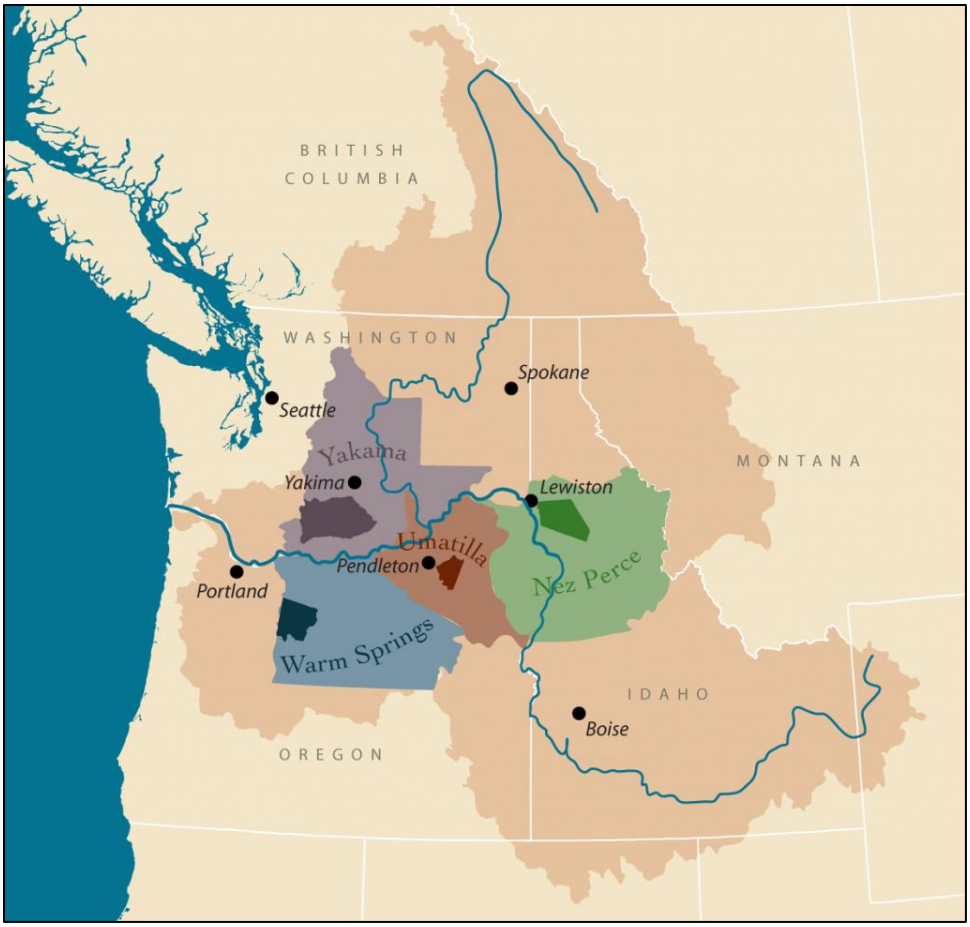
Nevertheless, certain aspects of watershed function have been restored through a combination of federal, state, tribal, local, and private efforts. Improved scientific understanding of species needs, watershed management, and conservation practice has delivered benefits (NPCC, 2005). Habitat quality is variable depending on the degree to which native habitats have been impacted—for the good or bad—by human activities. All told, the absence of dams, sparse population, high quality habitat in the headwaters, and greater participation in conservation programs by private landowners, has enabled large areas of the basin to retain excellent future restoration potential.

D. Population, Ownership, Land Use, and Culture

The John Day Basin has been used by Native Americans for gathering and harvesting fish and game for thousands of years. *Figure 7* displays the aboriginal use area for basin tribes. In the mid-19th-century, homesteads and ranches were established along the fertile bottomlands of river corridors where water was available for agriculture (CTWSRO, 2015). Fur trading and gold mining stimulated early European settlement (BLM, 2006). Other early land uses included wheat farming in the Lower River Subbasin, ranching and haying throughout, and logging in the upper elevation forests. Small communities were established along the river to provide goods and services for mines, homesteads, and ranches (NPCC, 2005).

Today, the basin is overwhelmingly rural with a small population (Travel Oregon, 2018). The basin boundary overlaps ten rural Counties, with Grant County being the most populated. The total population of the basin is very small, less than 11,000 (ODEQ, 2010). This population is spread between scattered ranches and home sites, small towns of 100 to 500 people built around a school or post office, and larger towns of over 500 people that generally serve as county seats, are home to government offices, and/or sustain service-oriented businesses. Many of these towns were historically sawmill towns (NPCC, 2005). There are seventeen incorporated cities, all with population under 2000, with John Day, Prairie City, and Condon the largest (ODEQ, 2010). The declining timber industry, closure of saw mills, and the lack of new industrial opportunities have led to a declining and aging population (ODEQ, 2010; BLM, 2006).

Figure 7: Tribal Aboriginal Use Areas

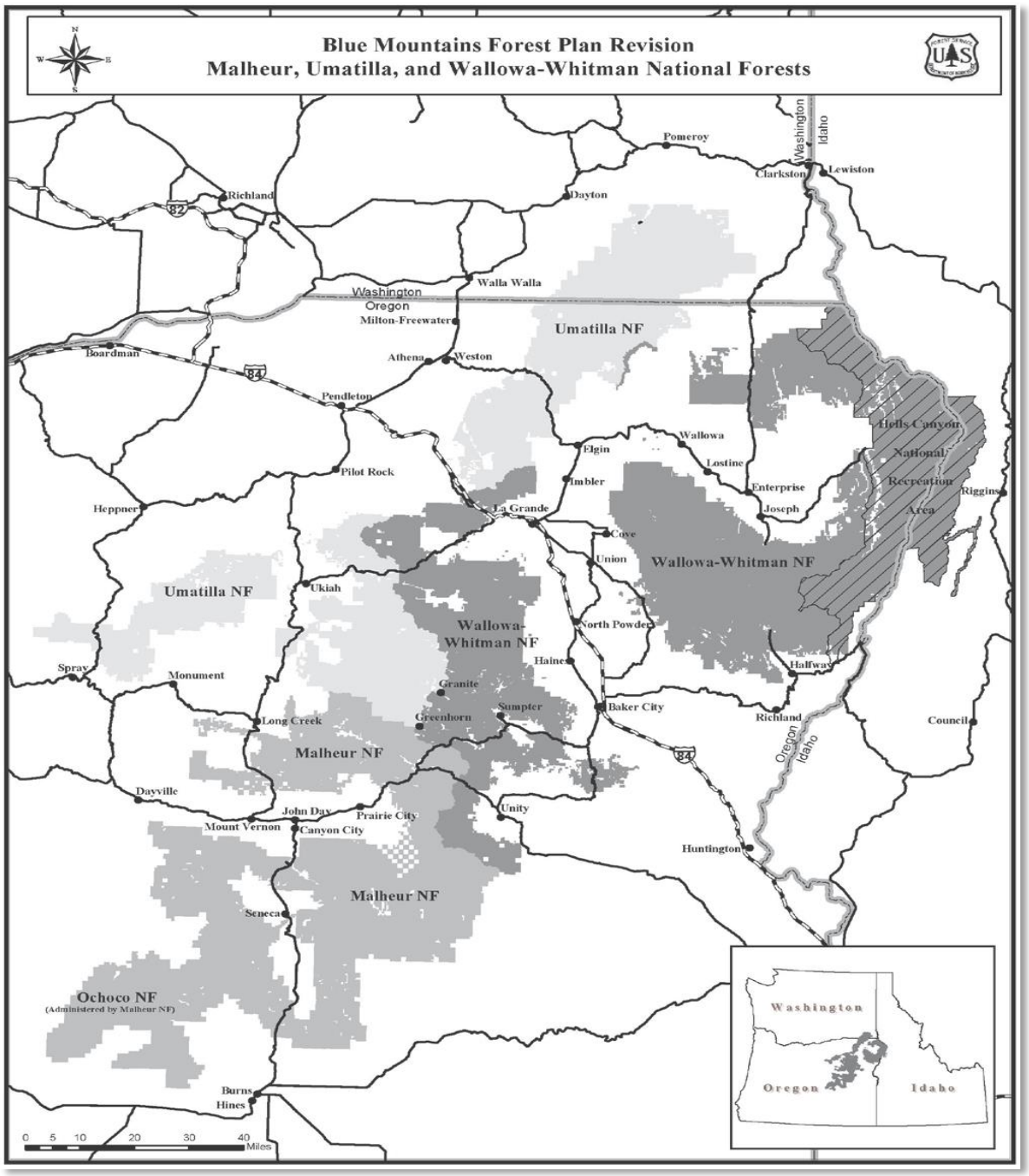


Land ownership in the basin is roughly 61% private, 38% federal (approximately 30% Forest Service and 8% BLM), and 1% state (CTWSRO, 2015). Private ownership is substantial in the basin. Private lands make up 91% of the Lower River Subbasin, 78% of the middle river, 42% of the Middle Fork, 38% of the North Fork, 48% of the Upper River Subbasin, and 16% in the South Fork drainage. Ownership has been relatively static for the last decade. The basin is 45% forested, 54% rangeland and agriculture, <1% urban. Mixed uses commonly take place on BLM lands. There is also a trend toward fragmentation of large private land holdings. Historic and present mining, transportation, and recreation uses are dispersed across the region (ODEQ, 2010).

The Forest Service manages much of the higher elevations, with the basin overlapping four National Forests--the Umatilla, Wallowa-Whitman, Malheur and Ochoco, totaling 5.5 million areas. *Figure 8* shows these Blue Mountain forests (USFS, 2014). The complex geologic history of this region including floods, volcanic eruptions, landslides, and erosion has shaped the landscape within the national forests into a unique combination of landforms and vegetative patterns. The area is known for extreme variations in elevations (USFS, 2014). The combination of geology and topography produces a distinctive mix of dense, heavily-forested slopes interspersed with open, rugged herblands. Deep volcanic ash soils contribute to productive forest stands and herblands that provide forage (USFS 2014). Local ranchers graze cattle on these herblands during late spring, summer, and early fall. Native Americans continue to practice traditional hunting, gathering, and religious activities in the forests. Sparse, scattered stands of ponderosa pine and junipers dot areas

of shallow, rocky soils. The national forests provide the backdrop and scenic byways for communities and visitors that value the striking views and scenery they offer (USFS, 2014).

Figure 8: National Forests in the John Day River Basin (USFS, 2014)



Private forestlands are concentrated in pine and lower elevation mixed-conifer stands. They consist of a mix of large forest industry holdings, smaller private woodlots managed for timber and forage production, and recreational properties managed for hunting uses (ODEQ, 2010). Mid-elevation grasslands and shrub-steppe plant communities are primarily in private ownership, with cattle

grazing being the predominant land use, though dry land wheat farming does occur. Recreation is also an increasingly common on these types of private lands (ODEQ, 2010).

In the larger river corridors and associated floodplains and terraces, irrigated agriculture (grass, alfalfa, grain hay) is widespread. Riparian areas are typically managed as part of agricultural operations, and many have been altered by water diversions, channelization, and vegetation changes (ODEQ, 2010). An increasing number of riparian areas are being managed with an emphasis on protecting fish and wildlife values and water quality (ODEQ, 2010). Much of the near-stream land along the lower mainstem, and portions of the South Fork and the North Fork are managed by BLM for grazing and recreation (ODEQ, 2010).

Large portions of the basin are dedicated preservation and recreation areas. The Wilderness Areas include the Forest Service managed North Fork John Day Wilderness, Strawberry Wilderness, Black Canyon Wilderness, and Bridge Creek Wilderness, and the BLM managed Spring Basin(ODEQ, 2010). The National Park Service manages the John Day Fossil Beds National Monument. The CTWSRO owns or manages over 38,000 acres for fish and wildlife conservation. The Nature Conservancy owns the Dunstan Homestead Preserve on the Middle Fork. State-owned land includes wildlife management areas (Bridge Creek Phillip W. Schneider, and Moon Creek Wildlife Areas) and state parks (Bates, Cottonwood Canyon, Clyde-Holliday, and Ukiah-Dale Forest) (ODEQ, 2010).

Four segments of the John Day River system are designated as State Scenic Waterways, which restricts development and other activities within the scenic corridor (ODEQ, 2010). They include:

- John Day River mainstem from Tumwater Falls upstream to Parrish Creek,
- North Fork John Day River from near Monument upstream to the North Fork John Day Wilderness boundary,
- Middle Fork John Day River from its confluence with the North Fork John Day River upstream to the Crawford Creek Bridge, and
- South Fork John Day River from the north boundary of the Phillip W. Schneider Wildlife Management Area to County Road 63.

Three segments of the John Day River system totaling 249 miles were designated as Federal Wild and Scenic Rivers (ODEQ, 2010). The segments include:

- Lower John Day River mainstem from Tumwater Falls upstream to Service Creek,
- North Fork John Day River from Camas Creek upstream to the headwaters, and
- South Fork John Day River from Smokey Creek upstream to the Malheur National Forest Boundary.

The John Day Basin also has human factors unique to the region that require close consideration as this action plan is pursued. These factors include the involvement of two Native American Tribes (Warm Springs and Umatilla), a strong reliance on natural resources for the economic base, a high percentage of economically distressed communities, and the high percentage and ecological significance of privately owned land within the subbasin. The ultimate success of this plan will depend on understanding and respecting the need to balance ecological and socioeconomic factors (CTWSRO, 2015).

E. Local Economies

The economy of the basin was built around its natural resources. Mining remained a significant activity well into the early 20th century (NPCC, 2005). As mining declined, ranching became the lifeblood of commerce for the next 50 years. Dry-land wheat farming eventually supplanted ranching in the southern Columbia Plateau. The timber industry began in the 1930s, with large-scale logging continuing on public and private lands up to the 1980s. The modern economy developed around these three resource-dependent pursuits. In 2012, Grant, Wheeler, Gilliam, and Sherman Counties had 1.9 million acres in agriculture that generated a market value of products sold of $138 million. Market value in these counties has increased since 2007 by an average 43% (Business Oregon, 2015). Logging continues today at a much reduced extent, and mining is minimal (BLM, 2006).

While the region still relies on the production of food and forest products, the economy has diversified and now depends heavily on the government, energy (predominately wind), and service sectors. Counties within the I-84 corridor particularly benefit from more diverse economic opportunities (BLM, 2006). While dwarfed by state increases in employment, total employment in Grant and Wheeler counties increased by 19% between 1970 and 2003, largely due to increases in service (52%) and government (33%) employment. These increases have largely offset decreases in forest product manufacturing and farm related employment (BLM, 2006).

The government not only provides employment, but the significant amount of public lands in the basin provide a boost to the economy by generating products of value to households at no or relatively low cost. These products include livestock, wood products, fuel wood, Christmas trees, wood posts, and sand and gravel (BLM, 2006; USFS, 2014).

More recently, the basin has worked to become more of a recreation and tourist destination. Many small businesses cater to tourists, and a substantial number of traditional ranches in the subbasin have become fee hunting preserves (NPCC, 2005). Hunting, fishing, boating, camping, wildlife observation, photography, hiking, swimming, fossil hunting, and scenic viewing on public and eased private lands are among the most common recreational activities (NPCC, 2005). Salmon alone are worth $1 billion to Oregon's sport fishing and tourism industry (Fears, 2015). Grant County is internationally known for an extensive depository of fossils from the Cenozoic Era (BLM, 2006). The John Day Fossil Beds National Monument has a significant impact on the economy of the region, drawing 156,000 per year and bringing $6.5 million into the local economy of nearby towns (Darling, 2014).

Restoration activities also increasingly contribute positively to the local economy. They create short-term jobs, retain expenditures locally, and serve as a long-term investment in natural resources (Hibbard, M and S. Lurie, 2012; Nielsen-Pincus, M and C. Moseley, 2010; University of Oregon, 2013; Ecotrust, 2014). Over 90 cents of every dollar spend on ecological restoration projects stays in the state, and over 80 cents stays in the county where the project is located (Hibbard, M and S. Lurie, 2006). Further, every dollar spent on restoration work indirectly generates an average of $2.10-$2.40 in spending within the county (Nielsen-Pincus and Moseley, 2010). From 2001 to 2010 restoration projects in Grant, Wheeler, and Gilliam counties created an estimated 239 jobs and $36 million in economic output (CTWSRO, 2015).

Expansion of the economy is limited by the small population, isolation from major cities, and limited transportation infrastructure (NPCC, 2005). Seven of the ten basin counties are designated

as economically distressed—Wasco, Morrow, and Sherman counties are not. (Upper John Day River AQWMAP, 2011). Local economies are heavily influenced by federal management decisions due to the considerable amount of federal lands in the basin (North and Middle Fork John Day AQWMAP, 2011). Many communities have been hard hit by sawmill closures and the decline in forestry jobs over the last forty years. Few new industrial opportunities have come along to replace these lost jobs (NPCC, 2005). The economic conditions contribute to a larger demographic shift. Young families have left the area due to lack of economic opportunity, while retirees and other new emigrants in search of rural living move into the area. This has resulted in an increase in average age, declines in school enrollment, and challenges providing public services (NPCC, 2005). Further, land values are increasing faster than commodity prices, limiting the opportunity for the expansion and/or generational transfer of agricultural operations. Consolidation and new technology that created greater efficiency have reduced overall agricultural employment. An increasing portion of the private land is owned by absentee landowners interested in recreation, land speculation, and retirement (NPCC, 2005).

Despite these economic challenges, the basin remains home to tightknit communities with a strong connections to place. Local communities and residents are pursuing new economic opportunities at the same time they continue to actively pursue more watershed-protective agricultural practice and restorative forest harvests. New opportunities include tourism, recreation, value-added agricultural products (including specialty beef), value-added forest products (such as juniper products and crafts), and telecommunications.

7. Restoration Need

The John Day is one of the most extraordinary regions of the Pacific Northwest. The basin is rich in natural resources, wild fisheries, small communities, native cultures, and unmatched viewsheds.

Native aquatic ecosystems are at the heart of the John Day. The Basin supports the last remaining wild runs of spring Chinook salmon and summer steelhead that are relatively free of hatchery influence within the Columbia River Basin and the mainstem John Day is the third longest free-flowing river in the continental United States. It sustains an agricultural, tourism, and restoration economy that generates nearly $200 million per year and is home to two Federally-recognized tribes.

Historical descriptions indicate that the John Day River was once a relatively stable river with good summer stream flows and water quality, heavy riparian cover, and rich aquatic and terrestrial wildlife assemblages (NPCC, 2005; Carmichael and Taylor, 2010). Streambanks were covered with dense growths of aspen, poplar, and willow; cottonwood galleries were thick and wide; and beaver were very abundant. Large spring and fall Chinook salmon migrations and numerous beaver sightings indicated that the system contained a high degree of in-stream habitat diversity. Terrestrial habitat was noted to have been dominated by native bunchgrasses and sagebrush (NPCC, 2005).

Basinwide adult steelhead abundance estimates suggest a pre-European settlement population of 70,000 fish. The most recent 10-year population estimates suggest an average adult spawner escapement of 8,675 steelhead (Bare et al., 2017). Historic adult spring Chinook abundance

estimates suggest a historic population of 40,000 fish, while the most recent 10-year adult estimates suggest a spawning escapement of 4,082 spring Chinook (Bare et al., 2017). While the knowledge of historic populations is incomplete, the current abundance of bull trout in the basin is very low (CTWSRO, 2015; USFWS 2015). Within the Middle Fork subbasin, six of nine bull trout populations are classified as extinct, and in the upper mainstem two of the four populations are extinct. Estimates of abundance throughout the basin suggest that no single population exceeds 100 reproductive adults, and all of the populations combined do not exceed 1000 reproducing adults.

Past and present land and water use practices that degrade vital instream, riparian, and floodplain habitats, and associated watershed processes and functions have led to these declines in fish populations (Carmichael and Taylor, 2010; CTWSRO, 2015; USFWS, 2015; MFIMW, 2017). The most notable human-induced pressures are compiled in *Table 5*. Additionally, increased stream temperatures and flow regime alterations associated with climate change are projected to significantly reduce habitat availability, basinwide, for ESA-listed summer steelhead and bull trout, and spring Chinook (Carmichael and Taylor, 2010; Isaak et al., 2012; Ruesch et al. 2012; Halofsky and Peterson, eds., 2017). Conservation and restoration actions that increase habitat connectivity (lateral, longitudinal, vertical; thermal and hydrologic) may reduce species' physiological stress and minimize the impacts of climate change on John Day River salmonids (Ruesch et al. 2012; Beechie et al., 2013; Halofsky and Peterson, eds., 2017).

Table 5: Physical Land and Water Use Stressors that Degraded Watershed Conditions

Placement of physical obstructions instream	Removal of riverine and wetland water storage
Modification of channel morphology	Introduction of noxious weeds
Reduced surface/aquifer flows to streams	Overgrowth of undesirable native species (juniper)
Introduction of non-native aquatic species	Road construction and lack of maintenance
Removal of riparian vegetation	Logging
Livestock grazing	Mining
Lowlands converted to crop production	Fire suppression
Irrigation water withdrawal	Uncontrolled recreational activities
Stream channelization	

Recovery plans, conservation plans, and watershed assessments conducted throughout the basin were used to define limiting factors for our focal species (Carmichael and Taylor, 2010; ODFW, 2011; CTWSRO, 2015; USFWS, 2015; ODFW, 2016). These changes have resulted in a cascade of negative ecosystem consequences from ridgetop to ridgetop within the John Day basin.

The hydrologic cycle of the entire John Day Basin has been altered, as evidenced by increased runoff, higher peak flows, reduced in-channel storage, groundwater recharge, and soil moisture capture, and lower late-season flows. Land use changes combined with consequent hydrologic alterations has resulted in marked stream channel instability such as channel widening, down-cutting, vertical cut banks, and excessive gullies (NPCC, 2005; Carmichael and Taylor, 2010). Riparian areas have been removed and stream corridors have been simplified, fragmented, and disconnected from the floodplain. The health of upland habitats that drain to riverine areas have

also suffered (NPCC, 2005; Carmichael and Taylor, 2010). Overgrazing in some areas has caused them to become increasingly fragmented, simplified in structure, and infringed on or dominated by non-native plants. Further, a history of fire suppression has created overly-dense forest stands that are susceptible to insects, disease, juniper encroachment, and catastrophic stand replacement fires that cause reduce instream flow and pollute headwater streams (NPCC, 2005; Carmichael and Taylor, 2010). Combined, these human practices and resultant conditions have reduced habitat for key life history stages, blocked migration, reduced flows, increased water temperatures, induced fish kills, and otherwise prevented basin fisheries from reaching closer to historic levels.

Salmonid populations in the John Day Basin have clearly defined ecological limiting factors in existing plans that must be overcome in order to improve species health. These seven (7) freshwater habitat limiting factors are provided in *Table 6* (NMFS, 2009; Carmichael and Taylor, 2010; CTWSRO, 2015USFWS 2015).

Table 6: Freshwater Habitat Limiting Factors for John Day Basin Salmonids (NMFS 2009; Carmichael and Taylor, 2010; CTWSRO, 2015; USFWS, 2015)

Factor	Description	Life Stages Affected
1. Degraded floodplain connectivity and function	Loss, impairment or degradation of floodplain connectivity; access to previously available habitats (seasonal wetlands, off channel habitat, side channels); and a connected and functional hyporheic zone. Includes reduced overwinter habitat and channel habitat.	Egg-to-smolt survival, smolt migration, adult migration, pre-spawning.
2. Degraded channel structure and complexity	Loss, impairment or degradation of channels; a suitable distribution of riffles and functional pools; functional amounts and sizes of large woody debris or other channel structure. Includes reduced summer rearing habitat, degraded spawning habitat, reduced diversity and structure, inadequate quantity or depth of pools, loss of side and braided channels.	Egg-to-smolt survival, smolt migration, adult migration, pre-spawning.
3. Degraded riparian areas and large woody debris recruitment	Loss, degradation or impairment of riparian conditions important for production of food organisms and organic material, shading, bank stabilizing by roots, nutrient and chemical mediation, control of surface erosion, and production of large-sized woody material.	Egg-to-smolt survival, smolt migration, adult migration, pre-spawning.
4. Altered flow and other hydrologic processes	Changes in the hydrograph that alter the natural pattern of flows over the seasons, causing inadequate flow, scouring flow, or other flow conditions that inhibit the development and survival of salmonids.	Egg-to-smolt survival, smolt migration, adult migration, pre-spawning.
5. Degraded water quality	Degraded or impaired water quality due to abnormal temperature, or levels of suspended fine sediment, dissolved oxygen, nutrients from agricultural runoff, heavy metals, pesticides, herbicides and other contaminants,	Egg-to-smolt survival, smolt migration, adult migration, prespawning.
6. Altered sediment routing	Altered sediment routing leading to an overabundance of fine-grained sediments, excess of course-grained sediments, inadequate course-grained sediments and/or contaminated sediment. Includes excessive fine sediment that reduces spawning gravel or increases embeddedness.	Egg-to-parr survival.

Table 6: Freshwater Habitat Limiting Factors for John Day Basin Salmonids (NMFS 2009; Carmichael and Taylor, 2010; CTWSRO, 2015; USFWS, 2015)

Factor	Description	Life Stages Affected
7. Impaired fish passage	The total or partial human-caused blockage to previously accessible habitat that eliminates or decreases migration ability or alters the range of conditions under which migration is possible. This may include seasonal or periodic total migration blockage. Includes dams, culverts, seasonal push-up dams, unscreened diversions, and entrainment in irrigation diversions.	Smolt migration, adult migration, and juvenile upstream migration due to thermal blockage or water availability.

Limiting factors for Pacific lamprey in the Columbia system include many of the same factors listed for salmonids above, including main stem and tributary passage, floodplain degradation, lack of complex habitat, degraded water quality, water diversions for irrigation, and small population effects (USFWS, 2012; USFWS, 2011; Columbia Tribes, 2011).

Native terrestrial wildlife are also an important part of the region's ecosystem, including mule deer sage grouse, elk, and migratory birds. Mule deer is an especially good indicator of upland health. Historically, the region has sufficient winter and summer forage (shrubs) and habitat (aspen) to support a healthy population of mule deer. Degradation of native plant communities that provide food and cover, as well as other limiting factors listed in *Table 7* below have resulted in a decline in populations (ODFW, 2011.).

Table 7: Limiting Factors for Mule Deer (ODFW, 2011)

Factor	Description
1. Inadequate forage habitat for mule deer	Removal or degradation of native plant communities (shrub and aspen) by invasives (cheatgrass), Juniper and other conifer encroachment, and disturbance by ATVs.
2. Predation	Predation by cougars is a problem.
3. Changing weather patterns	Shifts between heavy rain and drought and severe winters.
4. Poaching	Taking of deer outside of appropriate season.

As noted throughout this document, projects undertaken on public and private land have successfully overcome limiting factors and restored certain aspects of ecosystem function. Meanwhile the absence of dams, sparse population, high quality habitat in the headwaters, and growing participation in conservation programs by private landowners offer great potential to more fully address these conservation needs at the ecological system-scale and reach the outcomes sought by this action plan. The species and habitats targeted by this action plan are described in *Section 8*, while preliminary and final goals, objectives, and actions chosen to restore the ecosystem are detailed in *Section 10 and 12*.

8. Focal Fish and Wildlife Species, Habitats, and Conservation Targets

The Partnership has focused this action plan on improving the health of the native "focal" species in *Table 8* as applicable across the three subbasins by pursuing efforts to create the instream, riparian, and upland habitat conditions described in *Table 9*. The Oregon's Sensitive Species List (ODFW, 2016a) and Oregon's Conservation Strategy (ODFW, 2016b) identify ~40 additional wildlife species of conservation concern within the John Day River basin. The primary and/or co-benefit focal species for a given geographic area may be refined to better reflect the key indicator species' and contributing watershed limiting factors (e.g., species and indicators for upland habitat restoration) as identified through the Partnership's Atlas prioritization framework, Initiative work plan implementation, emerging management and monitoring data, and adaptive management process (see *Sections 11, 12, 15, and 16*).

Table 8: John Day Basin Fish and Wildlife Species' Listing Status (NMFS, 2009; Carmichael and Taylor, 2010; ODFW 2011; USFWS, 2015; ODFW, 2016)

Name	Species and Genus	Listing Status
Summer steelhead	*Oncorhynchus mykiss*	Federally threatened; Oregon sensitive-critical species
Spring Chinook salmon	*Oncorhynchus tschawytscha*	Oregon sensitive species
Bull trout	*Salvelinus confluentus*	Federally threatened; Oregon sensitive-critical species
Westslope cutthroat trout	*Oncorhynchus clarki lewisi*	Oregon sensitive species; Oregon sensitive-critical species
Interior redband trout	*Oncorhynchus mykiss gairdneri*	Not listed
Pacific lamprey	*Entosphenus tridentatus*	Federal species of concern; Oregon sensitive species
Western brook lamprey	*Lampetra richardsoni*	Oregon sensitive species
Mule deer	*Odocoileus hemionus*	Not listed; state initiative species

Table 9: Habitat Conditions for Focal Species (Carmichael and Taylor, 2010; CTWSRO, 2015; ODFW, 2016)

1. Cold, clean water free of high levels of suspended solids and other pollutants.
2. Stream hydrographs that provide a natural pattern of flows over the seasons.
3. Sediment routing that provides sufficient spawning gravel.
4. Complex stream channels with a suitable distribution of riffles and functional pools and the right amount and size of large woody debris.
5. Sufficient healthy native riparian vegetation.
6. Floodplains that are connected, provide access to off-channel habitat, and provide a functional hyporheic zone.
7. Stream channels free of human-caused passage barriers that prevent migration or access to

thermal refugia.

8. Uplands with natural functions and processes, site appropriate native plant communities like sage-steppe, aspen, and dry forest species, and human activities that enable healthy lowlands.

Description of the Partnership's restoration approach is provided in *Section 9*. Identification of the specific actions to restore these focal species and habitats are discussed in *Sections 10-12*.

9. Restoration Approach

The Partnership will use an integrated watershed approach to pursue long-term restoration of the John Day Basin. With the assistance of the Technical Workgroup, the Partnership has established ten (10) principles that will apply to the development and application of this action plan.

1. Integrate existing local plans and perspectives. Information from existing plans, strategies, and assessments will be used as the foundation upon which the action plan will be built. The plan will be created from the "bottom-up" starting with local plans and perspectives that will be refined based on new quantitative research and analysis undertaken by the Partnership.
2. Landscape-scale basis. Watershed restoration will include actions at the 'landscape-scale' that enhance, protect, and/or manage the health and resilience of native aquatic and terrestrial habitats, foster productive working lands, and support diversified economic opportunities. Planning will start broad at the large landscape-scale, and then will be systemically narrowed to priority actions and geographies based local subbasin perspective and modeling. Landscape scale refers to collaborative planning, financing, and management of projects with significant ecological, economic, and social conservation value to achieve specific objectives across interconnected landscapes (Forest Service, 2009; Palmer, 2006 and 2008). The Partnership believes that the health of local ecosystems and communities are strongly interrelated, so planning activities must the need and impact of actions on natural resources and people. This regional view will be especially important to achieving and sustaining goals as the John Day system likely becomes more spatially and temporally dynamic in the future (Hobbs, 2014; Holling, 1973; Reeves, 1995).
3. Ridge-to-ridge scope. Actions will be undertaken across private and public lands from "ridge-to-ridge," including the streams, riparian areas, and uplands. Activities on the land and water clearly impact each other in the John Day (e.g., Juniper is an example), so employing this scope is essential.
4. Multi-spatial scale planning and restoration. The scale of restoration planning and implementation must match the scale of the problem. For example, rebuilding anadromous fish populations requires restoration of habitats spanning entire watersheds because the life cycles of these fishes cover this expanse. This is a difficult principle to follow at times because most restoration actions are at the reach to site scale (Beechie, 2010). Thus, our restoration planning will be pursued across spatial scales. Outcomes were set at the basin scale; goals, objectives, and actions will be set at the subbasin scale; actions and geographies prioritized at the watershed scale; and projects selected for funding at the site scale.
5. Impact across temporal scales. The action plan will advocate quick fix projects that deliver immediate results upon project completion and projects that take many years to restore

natural processes to create a mosaic of projects that will under taken per this plan within the next 25 years.

6. Restoration of natural processes. Restoration efforts will focus on the root cause of watershed problems, rather than the symptoms. To accomplish this, this will necessitate addressing limiting factors that are barriers to the return of critical natural processes (e.g., habitat connectivity, sediment and hydrologic regimes, riparian functions) that allow watersheds to continue to function in response to future changes (Beechie, 2010; Palmer, 2008; Reeves, 1995). Stated another way, the ultimate goal for an individual project may not be a return to historical conditions—it may be returning sufficient long-term processes to support the focal species.
7. Prioritization. Prioritized restoration has ecologically out-performed opportunistic restoration (Lawrence, 2014). Recognizing that the placement of projects highly impacts their success ("the right project at the right place") and that restoration funding needs continue to far outpace supply, we will compile and analyze existing data using a version of the Bonneville Power Administration's Atlas program modified by the Technical Working Group to sense impacts on upland health (riparian areas, cropland, range, forest). Atlas is a dynamic tool for identifying and prioritizing habitat restoration projects. Its premise is that restoration funds should be prioritized based on biological benefit, and that restoration programs should be able to demonstrate that the right work is implemented in the right place. Socioeconomic factors, like landowner willingness and cost (bang for the buck), are also factored into the analysis. The Partnership will use the modified Atlas to first prioritize where to pursue work and second to choose what restoration/protection actions to pursue in prioritized geographies to maximize progress toward the outcomes desired by the Partnership.
8. Best possible site conditions. Project sites will be assessed to determine the best possible, site-capable conditions for the individual site. There is no advanced expectation that projects must achieve "heritage" conditions on a given site.
9. Project scoring and ranking. The Partnership will use a transparent "decision support system" to score and rank capital and non-capital projects for funding (Beechie, 2008; Cipollini, 2005; Snake River Salmon Recovery Committee, 2004; Lewis, 1996). A decision support system uses a simple score sheet in which important values for each project (e.g., location in a high priority watershed, number of focal species benefited, amount of matching funds delivered, positive socioeconomic impacts on community) are assigned weighted scores and the total score is used to rank projects (Beechie, 2008). *Section 14* further describes the project scoring and ranking approach.
10. Monitoring and adaptive management. Individual techniques and projects will be monitored at the appropriate spatial and temporal scale to assess effectiveness and guide adaptation. Obtaining sufficient funds to design and implement sound monitoring protocols for practices funded under this plan will be a priority. Short-term monitoring will be useful to adjust practice, and monitoring of 10 years or more is often required to detect a response in the watershed that informs revision of the broader action plan (Roni, 2002). See *Section 15* and *Section 16* for details.

The three Subbasin Working Groups met in the fall-winter of 2016-2017 to develop a set of interrelated ecological and socioeconomic goals, objectives, and actions to achieve the Partnership's basinwide long-term outcomes called out in *Section 2*. During the workgroup exercise, the following definitions applied:

- Goal: Broad, general statement that describes the desired impact of a project. A goal may have many subordinate objectives.
- Objective: Concise and time-specific statement of measurable planned results that represent progress toward fulfillment of goals.
- Action: The precise type of conservation activity, practice, or strategy that will be employed to help meet a given objective.

Each group met over several meetings, starting with an open and broad process to collect ideas, which were then qualified or narrowed to some degree based on whether (1) the Partnership can impact achievement of the objective-action, (2) they are a priority in an existing plan, and (3) landowners have been willing to pursue them in the past. Note that since this stage encouraged open brainstorming, the distinction between the objective and the action or actions to help achieve the objective can be murky. *Section 12* further clarifies what is an objective and what is an action.

The full results are provided in *Appendix D*. *Tables 10-12* below provide a summary of the "highest" ranked results for each subbasin. Note that determining highest ranked was a challenge as nearly all listed results could be important for an individual site. When reviewing the output from the subbasin working groups and tables below the commonality across subbasins and the interconnections from the stream to riparian to uplands and human communities are very evident. Differences are similarly explainable based on the mix of geographic position in the basin, private/public land, dominant crop/vegetation, experience with different actions, and other factors.

These preliminary aquatic habitat and upland habitat results were then refined based on the Atlas prioritization process described in *Section 11* to create the more discrete SMART goals, objectives, and actions called out in *Section 12*. The healthy economies and communities' results continue to inform the Partnership's Outreach Committee activities, Communication Plan development (Section 18), and sustainability discussions.

Table 10: Highest Ranked Objectives and Actions by Goal for the Lower John Day Subbasin

Goal 1: Healthy streams and riparian areas that benefit ecology and community.	
Objectives	Actions
1. Increase stream flows during critical times.	1. Create plan that balances in- and out-of-stream needs. 2. Manage Juniper and weeds. 3. Pursue irrigation efficiency.
2. Reduce stream temperature at critical times.	1. Install buffers for shade. 2. Increase flow via actions under Objective #1. 3. Protect important cold water habitat. 4. Manage grazing and plant recovery periods.

Table 10: Highest Ranked Objectives and Actions by Goal for the Lower John Day Subbasin

3. Enhance fish passage/reduce entrapment.	1. Fix culverts. 2. Repair, replace, and move diversions that stop passage. 3. Install fish screens. 4. Fix head cuts.
4. Increase site-capable vegetation (or vegetation that meets the ecological site description)	1. Pursue native riparian plantings. 2. Manage weeds, non-natives, and Juniper. 3. Manage grazing periods and plant recovery.
5. Restore connection to floodplain.	1. Riparian plantings for wood recharge. 2. Management changes in floodplain. 3. Protect aquatic/riparian areas. 4. Install beaver dams.
Goal 2: Healthy uplands (Crop, Range and Forest Lands) that benefit ecology and community.	
Objectives	Actions
1. Increase site-capable vegetation (or vegetation that meets the ecological site description).	1. Pursue native riparian plantings. 2. Manage weeds, non-natives, and Juniper. 3. Remove merchantable weed/Juniper..
2. Improve soil retention.	1. Pursue annual grass control. 2. Manage Juniper. 3. Undertake critical area planting.
3. Improve soil health.	1. Pursue conservation tillage. 2. Install cover crops and residue management. 3. Avoid monoculture.
4. Reduce runoff into streams.	1. Install livestock fencing/off-stream water. 2. Manage grazing and plant recovery periods. 3. Install new buffers.
Goal 3: Healthy economy and community that support sustainable resource management and those that live, work, or visit the region.	
Objectives	Actions
1. More dependable flow for out-of-stream use.	1. Upland storage. 2. Juniper removal. 3. Irrigation efficiency. 4. Planning and study.
2. Increase communication about restoration progress and value	1. Outreach via existing events and avenues. 2. Use new storytellers. 3. Utilize social media.
3. Quantify the benefits and value of restoration.	1. Compile existing data and case studies. 2. Pursue new independent study focused on John Day.
4. More outreach about new production technologies and practices to improve profitability and sustainability.	1. Cast studies. 2. Workshops. 3. Peer-to-peer learning opportunities.

Table 11: Highest Ranked Objectives and Actions by Goal for the Upper John Day River and South Fork John Day Subbasin

Goal 1: Healthy streams and riparian areas that benefit ecology and community.	
Objectives	Actions
1. Increase stream flows during critical times.	1. Create plan that balances in- and out-of-stream needs. 2. Pursue irrigation efficiency. 3. Secure more water in-stream via transactions. 4. Reconnect floodplain.
2. Greater land protection	1. Pursue working lands easements.
3. Reduce stream temperature (water quality) at critical times.	1. Increase low via actions under Objective #1 2. Protect important cold water habitat. 3. Store water in-stream. 4. Manage grazing and plant recovery periods.
4. Stream channels with desired attributes (complexity).	1. Protect important cold water habitat. 2. Channel redesign with proper width-depth. 3. Reconnect floodplain. 4. Proper sediment regimes.
5. Enhance fish passage/reduce entrapment.	1. Remove/replace barriers. 2. Fix culverts. 3. Repair, replace, and move diversions that stop passage. 4. Install fish screens.
6. Increase site-capable vegetation (or vegetation that meets the ecological site description).	1. Install livestock fencing/off-stream water. 2. Pursue native riparian plantings. 3. Treat weeds, non-natives, and Juniper. 4. Enact grazing and vegetative management plans.
7. Improved fuel management	1. Pursue non-commercial thinning. 2. Install fuel breaks. 3. Prescribed fire. 4. Planned grazing of fine fuels.
Goal 2: Healthy uplands (Crop, Range and Forest Lands) that benefit ecology and community.	
Objectives	Actions
1. Increase site-capable vegetation (or vegetation that meets the ecological site description).	1. Pursue native riparian plantings. 2. Manage weeds, non-natives, and Juniper. 3. Manage to achieve natural stocking of trees.
2. Reduce runoff from uplands.	1. Restore wetland meadows to store water in ground. 2. Livestock fencing/off-stream water. 3. Fix incised/eroding channels. 4. Manage Juniper and weeds.
3. Improve soil loss.	1. Erosion and sediment control on access roads. 2. Pursue annual grass control. 3. Manage Juniper and weeds. 4. Plant native vegetation in critical areas.
Goal 3: Healthy economy and community that support sustainable resource management and those that live,	

Table 11: Highest Ranked Objectives and Actions by Goal for the Upper John Day River and South Fork John Day Subbasin

work, or visit the region.	
Objectives	Actions
1. Maintain strong partnerships across the basin.	1. Continue to strengthen the Partnership. 2. Communicate the work of the Partnership and other collaborations to the public.
2. Increase communication about collaborative restoration progress and value	1. Develop plain language case studies. 2. Creatively engage existing, absentee, and new landowners, trade groups, and local thought-leaders.
3. Protect and respect tribal and rural community heritage.	1. Engage local leaders early in project development. 2. Target actions to important tribal trust species and first foods. 3. Pursue proactive, more efficient culture resource planning.
4. Quantify the benefits and value of restoration.	1. Compile existing data and case studies. 2. Pursue new independent study focused on John Day.

Table 12: Highest Ranked Objectives and Actions by Goal for the North Fork and Middle Fork John Day Subbasin

Goal 1: Healthy streams and riparian areas that benefit ecology and community.	
Objectives	Actions
1. Improve natural flow regime to increase flows during critical periods for salmonids, hydrological connectivity and watershed resiliency.	1. Forest stand improvement to decrease interception of snowfall and increase infiltration. 2. Improve water storage including wetlands, wet meadow, and/or beaver restoration. 3. Improve irrigation efficiencies.
2. Restore and/or protect physical, geomorphic, and ecological processes.	1. Restore channel morphology. 2. Install instream structures, including beaver restoration.
3. Increased fish passage.	1. Identify and remove or replace physical barriers (culverts and barriers). 2. Improve instream flow and wter quality to reduce temperature barriers to fish passage.
4. Reduced water temperature, sediment, and nutrient pollution to improve overall water quality.	1. Protect, install, maintain vegetated banks, filter strips, and riparian plantings. 2. Increase groundwater storage, floodplain connectivity, etc. 3. Improve road condition and maintenance to reduce sediment input to stream, including road decommission and relocation.
5. Improve riparian corridor management and protection.	1. Develop and implement improved grazing management plans, including appropriate fence set-back. 2. Protect all riparian areas. 3. Adopt easements and install buffers.

Table 12: Highest Ranked Objectives and Actions by Goal for the North Fork and Middle Fork John Day Subbasin

6. Improve riparian hydrologic connectivity and function.	1. Identify areas where wetland and off-channel habitat establishment would be appropriate. 2. Reconnect floodplains to channels. 3. Provide more programs that allow for adaptive management of riparian corridors.
Goal 2: Healthy uplands (Crop, Range and Forest Lands) that benefit ecology and community.	
Objectives	Actions
1. Improve soil health to increase soil infiltration and reduce overland flow and runoff from uplands.	1. Implement rangeland and grazing management BMPs. 2. Implement healthy forest BMPs. 3. Noxious weed management and treatment.
2. Improve upland hydrologic processes, function, and water use efficiency.	1. Manage Juniper. 2. Forest management/stand health. 3. Increase wet meadow restoration and protection.
3. Protect, enhance, and maintain native plant communities through sustainable upland management.	1. Improve grazing management on native bunchgrass. 2. Perform native seeding, planting, thinning, and caging and control weeds, invasives, and Juniper to protect and enhance native plant communities. 3. Manage fuels, including prescribed burning and thinning.
Goal 3: Healthy economy and community that support sustainable resource management and those that live, work, or visit the region.	
Objectives	Actions
1. Provide more money for capacity, process improvement, projects, monitoring, and research.	1. Build strong technical and financial partnerships. 2. Increase funding for restoration and monitoring projects. 3. Utilize existing natural resources staff for technical assistance.
2. Provide better community education and outreach to increase two-way communication between restoration community and landowners/public.	1. Increase outreach from Partnership to public and landowners. 2. Increase landowner input to restoration community. 3. Target recreational users of public lands regarding negative effects of current road systems, trails, lack of fencing, etc.

While this information focused the Partnership through the development of guidance documents and related activities, the tables did not contain enough specificity or direct links to a well-defined prioritization process. With the Partnership's acceptance of BPA's Atlas Prioritization Framework and subsequent redefinition of goals, objectives, and actions, the Partnership's original goals and objectives (above) will continue to be used to explain the Partnership's efforts to lay audiences.

The Partnership's goals and objectives were restated through the development of a prioritization process using the BPA's Atlas framework beginning in 2017 (Section 11) in response to more detailed analysis of the Partnership's three priority Aquatic Habitat Initiative subbasins. Given the Atlas framework's degree of analysis, spatial specificity, and adaptability it will become the Partnership's primary tool for guiding future aquatic and upland habitat restoration efforts in the John Day River Basin and as such goals, objectives and related actions and evaluation metrics will be defined under the document. These may be modified over time as the Atlas framework and resulting prioritization schedule is considered a living document and therefore responsive to new information and completed restoration actions.

11. Prioritization Process and Results

Prioritized restoration continues to ecologically out-perform opportunistic restoration (Lawrence, 2014). The Partnership chose BPA's Atlas tool as their prioritization framework for determining where and what actions to pursue to most cost-effectively provide the maximum biological benefit for focal fish and terrestrial species and associated habitat. The Atlas tool built upon and refined the preliminary subbasin objective and action-setting discussed in *Section 10* to create the prioritization maps in Appendix G and final SMART goals, objectives, and actions in *Section 12*.

Atlas is a collaborative, evidence-based, dynamic tool for identifying and prioritizing habitat restoration projects. Its premise is that restoration funds should be prioritized based on biological benefit, and that restoration programs should be able to demonstrate that the right work is implemented in the right place (BPA, 2015; BPA 2018). Atlas is a comprehensive and rigorous process that is traditionally a fish-focused tool. For the Partnership, it was carefully modified to prioritize the placement and impact of actions across the landscape from ridge-to-ridge, including uplands (croplands, range, forest, etc.). The Atlas strategic action framework will be actively managed by local partners to

Atlas can help to answer the following types of questions (BPA, 2015):

- What types of restoration actions are needed and where should they be implemented on the landscape to address high priority limiting factors?
- What is the group of stakeholders that will deliver the strategy?
- Did the restoration make a difference based on evaluation?
- Are there changes necessary to better meet goals and outcomes?

The Partnership's Atlas tool was developed via a collaborative process between BPA, the Partnership's Technical Working Group, and other local experts over 7 meetings from the summer 2017 to the late winter of 2018. The basin was broken up into 15 sub-watersheds by combining the 43 ten-digit hydrologic units that share similar ecological characteristics. These areas became the geographic boundaries for the Atlas analysis. Further, Fish and Upland Subgroups were formed to identify how best to adapt Atlas for the desired ridge-to-ridge application. The following ten (10) step-wise process was utilized to build the John Day Atlas:

1. Convening. Convened BPA, the Technical Working Group, and additional local experts with knowledge of the best available data and on-the-ground information on the focal species and habitat.
2. Data Compilation. Fish and Upland Subgroups with specific expertise in these areas were assembled to offer empirical data and local knowledge on the presence or absence of species and habitat. Cramer Fish Sciences was contracted to assemble and distribute all John Day Basin GIS data to the partnership (stored on ArcGis Online; Cramer Fish Sciences, 2017; *Appendix E*).
3. Limiting Factors Assessment. The subgroups reviewed data for each species/habitat to identify what factors are limiting growth and survival. Five activities were performed by the technical working group.

a. Determine fish periodicity within each Subwatershed = the time, in months and weeks, that each fish species (spring Chinook, summer steelhead, bull trout, Pacific lamprey) and life stage (adult immigration, holding, spawning, incubation/emergence, summer rearing, winter rearing, juvenile emigration) spend in each Subwatershed. The areas with the greatest number of species and life stages are considered core production areas (strong holds) from which to expand and increase the distribution of the population.

b. Determine limiting life stage within each Subwatershed = how each fish species and life stage currently utilizes the Subwatershed and the priority rating of the life stage(s) that is (are) currently limiting the productivity, abundance, and distribution of the population

c. Determine limiting habitat factors within each Subwatershed = identification and ranking of the factors that currently limit the productivity, abundance, and distribution of the species and life stages rated above.

d. Determine limiting habitat factors within each Subwatershed = identification and ranking of the factors that currently limit the productivity, abundance, and distribution of the species and life stages rated above.

Upland Limiting Factors (John Day Basin Partnership Atlas Prioritization, 2017)

Limiting Factor	Description
1. Forage	Loss of forage, trees, and shrubs primarily due to changes in fire regime and land use
2. Water Sources	Limited upland water sources due to changes in plant community and land use
3. Deciduous forests/shrubs	Loss of deciduous forest/shrub habitat
4. Increased Sediment Quantity	Increase of overland transport of sediment
5. Toxic Contaminants	Direct exposure to toxic substance in the water column originating from upland sources.
6. Nutrients	Eutrophication of surface waters from upland sources.
7. Increased Water Quantity	Habitat disturbance associated with abnormally (compared to background) high water flow and increased "flashiness", including loss of channel substrate.
8. Decreased Water Quantity	Habitat disturbances associated with abnormally (compared to background) low water flow, including but not limited to, increased temperature, loss of sediment, nutrients and barriers to passage.
9. Altered Flow Timing	Habitat changes associated with alterations to the background (natural) timing of water quantity instream.
10. Departure from Historic Conditions	Changes in historic upland structure, land use, and fire regime leading to modifications in plant community, sediment entrainment capacity, water infiltration capacity, and reductions in forage for wildlife species.
11. Soil Health	Degradation to historic soil conditions, soil loss.
12. Upland Hydraulic Function	Water infiltration capacity, increased transpiration, etc.
13. Habitat Complexity	Degradation to habitat mosaic (patchiness)

e. Determine restoration actions within each Subwatershed = identification and ranking of the restoration actions to best address the limiting factors and benefit the life stages rated above.

4. Geographic Prioritization. Based on this assessment, sub-watersheds were prioritized for action based on restoration potential. Six variables were assessed for each sub-watershed

(3 aquatic and 3 upland), using best available data, and then cumulative scores were calculated for aquatic and upland restoration potential.

a. Determine geomorphic potential within each Subwatershed (aquatic) = ability to physically affect change (implement the restoration actions prioritized within a Subwatershed) within a given location based on a variety of physical factors, including stream size, gradient, and lateral confinement.

b. Determine geomorphic potential within each Subwatershed (upland) = Ability to physically affect change (implement the restoration actions prioritized) with a given subwatershed based on a variety of physical factors, including soil productivity, precipitation, elevation, aspect, and slope.

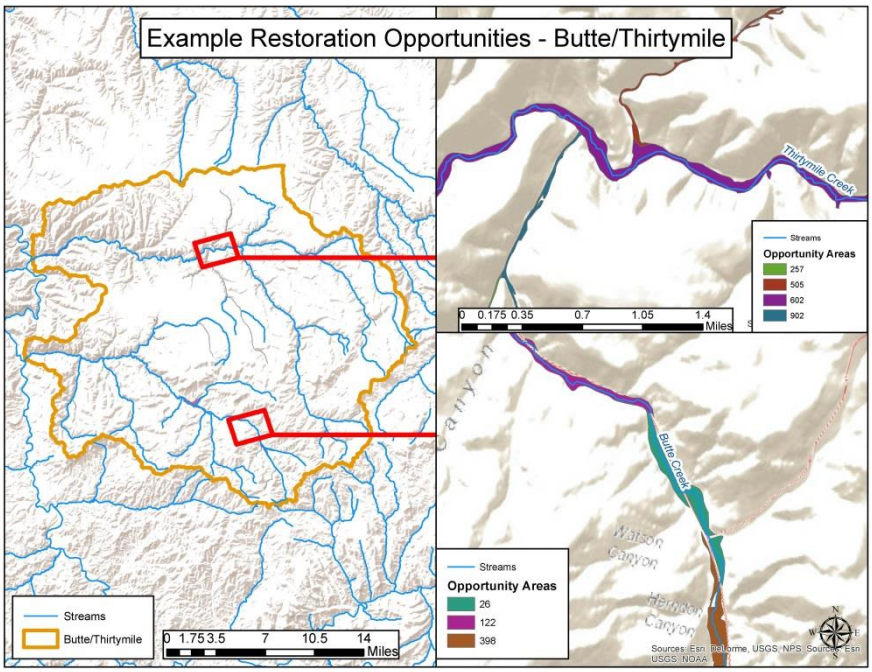
c. Determine current habitat condition within each Subwatershed (aquatic) = areas with poor condition may require a large investment for little change, areas with excellent condition may need protection instead of restoration actions, and areas in the fair to good range may benefit the most from restoration actions.

d. Determine current habitat condition within each Subwatershed (upland) = Areas with "Fair" and "Good" habitat ratings, based on the soil productivity, vegetation composition, precipitation, and air temperature, provide the most opportunity for improvement. Areas with "Poor" habitat ratings require significant investment for minimal improvement, and areas with "Excellent" ratings provide little opportunity for enhancement beyond the current condition.

e. Determine future habitat condition within each Subwatershed (aquatic) = areas that are predicted to have limited or no flow and high water temperatures may not be the most viable, long term restoration investment.

f. Determine future habitat condition within each Subwatershed (upland) = This variable will be rated based on projected air temperature and precipitation information.

g. Calculate cumulative score each Subwatershed = based on the priority ratings for periodicity, limiting life stage, geomorphic potential, current habitat condition, and future habitat condition mentioned above.



5. Action Mapping. Specific restoration actions were identified and mapped in these prioritized areas based on the characteristics and condition of the landscape, land use and ownership, and

restoration potential. The mapping activity focused on creating GIS polygon boundaries called restoration opportunity areas. The restoration actions within the opportunity areas are evaluated and scored based on the critical limiting factors addressed, natural process restoration potential (e.g., Beechie et al., 2010), and climate change resiliency potential (e.g., Beechie et al., 2013). For the aquatic actions the polygons were restricted to the floodplain and uplands actions out of the floodplain. The action mapping has been completed on three of the fifteen Atlas watersheds (OWEB FIP Initiative Areas) for aquatic restoration actions (see tables below and *Section 12*). The uplands action mapping has not begun at this point. However, the uplands actions will be automated by a GIS analysis associated with each upland restoration action. Please see Basin-wide Atlas completion schedule below. The end products will be reviewed by each subbasin group and the technical working group. See *Appendix G* for the current summary of Atlas actions.

6. Feasibility. The Partnership's three Subbasin Working Groups considered the information collected in the objective and action-setting described in *Section 10* and other up-to-date local perspectives to add feasibility factors, including landowner willingness, partner/local expertise to implement, whether the action is a priority in an existing plan, and other social issues (e.g., risk/uncertainty, compliance and permitting, design and construction costs). This step is pending completion of the basinwide action mapping (see schedule below).
7. Project List. Based on evaluation of biological and social data, a list of potential projects (geography+action) is created that provide the greatest biological benefit. Local partners volunteer to be "opportunity leads" to coordinate and implement the high priority projects. The basinwide project list is still a work in progress (see schedule below). However, partners have already identified feasible restoration opportunities in the Aquatic Habitat Initiative Areas action mapping and a preliminary project list is in development.
8. Evaluation Results. Project monitoring per *Section 15* will provide feedback on the effectiveness of the prioritization process and resulting projects in delivering cost-effective progress toward Partnership goals and outcomes.
9. Adaptive Management. Since the Atlas is dynamic it can be updated as knowledge evolves about species distribution and productivity in a particular area or when sufficient habitat has been restored to provide biological benefit to a critical life stage. The goal is to ensure the most beneficial projects are always on the list and queued for implementation. Restoration decisions can be continuously informed by science and the needs of the focal species to ensure the best investment of available funds.
10. Final Project Selection. The final step is to decide which projects to pursue from the list based on number and value of project opportunities, need for specific actions based on SMART goals in *Section 12*, and available funding.

To date, Atlas has been completed in seven Columbia Basin watersheds in Idaho and Oregon, including the Catherine Creek watershed and the Upper Grande Ronde watersheds of northeast Oregon (Roni et al., 2018). These efforts in the Upper Grande Ronde-Catherine Creek will inform the Partnership's implementation of the tool.

In sum, the objectives of Atlas include (BPA, 2015; BPA, 2018; Roni et al., 2018):

- Increase collaboration between local restoration and research/monitoring practitioners.

- Use of best available science (from existing plans, assessments, monitoring data) to inform restoration at the local level.
- Alignment of restoration priorities within a watershed.
- Implement strategic habitat improvement actions to address high priority limiting factors.
- Accountability and increase return on financial investments.
- Potential to leverage additional investments.
- Provide a systematic and transparent approach for future monitoring and adaptive management.

Basin-wide Atlas development is in progress and scheduled for completion in late 2018/early 2019. The proposed schedule for completion is:

John Day Basin-Wide Atlas Development Schedule	Jul. 2018	Aug.	Sept.	Oct.	Nov.	Dec.	Jan 2019	Feb.	Mar.
Finalize Aquatic Habitat Initiative Areas Project Identification (3 watersheds)									
Aquatic Action Mapping (12 watersheds)									
Upland Action Mapping (15 watersheds)									
Finalize Feasibility Rankings (all watersheds)									
Finalize Project Lists (all watersheds)									
Revise Aquatic Habitat Initiative Work Plan, if needed									
Develop Upland Habitat Initiative Work Plan & Monitoring Framework									

Atlas Results To-Date

Under the Atlas Framework the Partnership has thus far completed opportunity, restoration, and periodicity rankings for the three highest priority areas (Butte-Thirty Mile Creeks, Upper Middle Fork of the John Day River, and Upper North Fork of the John Day River). One area was chosen as a focus area for each of the Partnership's subbasin work groups (see Section 10). The resulting list of restoration opportunities, actions, and aquatic species periodicity were reconciled with expected evaluation of success (Section 15) and the Partnership's Adaptive Management process (Section 16) to produce listed goals and objectives (Table 10) and restoration actions tied to evaluation metrics (Tables 11.1 to 11.3) for the 2018 FIP application process.

Given the FIP's relatively short three biennium period and potential for realizing or ascertaining decreasing trends for in-stream water temperature and increasing trends for summer instream flow evaluation metrics specific to these objectives have not been identified. Rather they will be evaluated as part of individual restoration or monitoring efforts. Considering the potential number of potential restoration actions, high, medium, and low restoration priorities, and large number of evaluation metrics action evaluation metrics in Tables 11.1 – 11.3 were simplified to fit within existing or proposed monitoring protocols to most efficiently inform the Partnership's Adaptive Management protocols.

Table 10. Goals and Objectives identified for the John Day Partnership's 2018 Aquatic Habitat Initiative.		
Priority Basin	**Goal**	**Objective**
Butte-Thirty Mile Creeks	Increasing trend in summer steelhead total freshwater productivity by 2025.	– Increasing trend in linear stream miles of juvenile steelhead summer rearing habitat by 2025.
		– Decreasing trend in summer instream water temperature by 2025.
		– Increasing trend in summer instream flow by 2025.
Upper Middle Fork of the John Day River	Increasing trend in summer steelhead and spring Chinook total freshwater productivity by 2025.	– Increasing trend in linear stream miles of juvenile summer steelhead and spring Chinook summer rearing habitat by 2025.
		– Decreasing trend in summer instream water temperature by 2025.
		– Increasing trend in summer instream flow by 2025.
Upper North Fork of the John Day River	Increasing trend in summer steelhead and spring Chinook total freshwater productivity by 2025.	– Increasing trend in linear stream miles of juvenile summer steelhead and spring Chinook summer rearing habitat by 2025.
		– Decreasing trend in summer instream water temperature by 2025.
		– Increasing trend in summer instream flow by 2025.

Restoration actions (Table 11.1 – 11.3) for the three highest priority areas listed as high and medium priority were extracted from the Atlas Prioritization tool's for display here. Low priority actions weren't included as they can be incorporated into high or medium priority actions (i.e. restore banklines with LWD (low ranking) and large wood placement (high ranking) in the N. Fk. John Day River Basin) or the actions are independent of high or medium priorities and require 10 - 20 years, to improve population productivity, abundance, and distribution (i.e. channel modification in Butte-Thirtymile Creeks).

Table 11.1. Restoration actions and related evaluation metrics for the Butte-Thirtymile Creeks priority area.	
Restoration Action	**Action Evaluation Metrics**
Protect land & water (easement, acquisition)	increased juvenile habitat extent & quality
Restore floodplain topography & vegetation	
Beaver restoration management	
Riparian fencing	increased juvenile growth, survival, and production
Riparian buffer strip, planting	increased juvenile habitat extent & quality
Install off-stream water source	
Thinning or removal of understory (juniper in riparian)	
Barrier or culvert replacement/ removal	
Road decommissioning or abandonment	

Table 11.2. Restoration actions and related evaluation metrics for the North Fork John Day Headwaters priority area.	
Restoration Action	**Action Evaluation Metrics**
Protect land & water (Easement, Acquisition)	increased juvenile habitat extent & quality
Channel Reconstruction	
Restore floodplain connection & vegetation	
Side/off-channel habitat restoration (including beaver restoration management)	

Riparian restoration & management	increased juvenile growth, survival, and production
Riparian buffer strip, planting	increased juvenile habitat extent & quality
Dam removal; barrier or culvert replacement/ removal; diversion screening	
LWD placement	
Acquire instream flow (lease, purchase)	
Improve thermal refugia (e.g., spring reconnection, other)	
Improve water management; irrigation system efficiency	
Reduce point source impacts	
Road decommissioning or abandonment; road grading/drainage improvements	

Table 11.3. Restoration actions and related evaluation metrics for the Upper Middle Fork John Day priority area.

Restoration Action	Action Evaluation Metrics
Protect land & water (easement, acquisition)	increased juvenile habitat extent & quality
Restore channel form; reconnect meanders	
Remove, setback, breach levees	
Restore floodplain topography & vegetation	
Restore secondary (non-perennial) channel habitats	
Beaver restoration management	
Riparian fencing	increased juvenile growth, survival, and production
Riparian buffer strip, planting	increased juvenile habitat extent & quality
Thinning or removal of understory (juniper in riparian)	
Dam removal; barrier or culvert replacement/ removal; diversion screening	
LWD placement	
Acquire instream flow (lease, purchase)	
Improve thermal refugia (e.g., spring reconnection, other)	
Improve water management; irrigation system efficiency	
Reduce point source impacts	
Road decommissioning or abandonment; road grading/drainage improvements	

Examples of how goals, objectives, and actions translate to evaluation metrics and an effective monitoring schedule are;

- Riparian Buffer Strip and Planting actions for Butte-Thirtymile Creeks priority area – Monitoring will occur to identify increases in juvenile salmonid habitat and quality through the use of site census on five year intervals using a SolMetric SunEye.

- The Dam Removal; Barrier or Culvert Replacement/Removal; Diversion Screening actions for the North Fork John Day Headwaters and Upper Middle Fork John Day Priority areas -

Monitoring will compare the spatial distributions of steelhead redds before and after an action is implemented.

The analysis, maps, project lists, and other results that form the output from the Partnership's Atlas are provided in *Appendix G*.

12. Aquatic and Upland SMART Goals, Objectives, and Actions

As described in previous sections of this plan, the Partnership leveraged existing recovery plans, assessments, monitoring data, and BPA's Atlas process to define SMART goals and objectives to achieve the basinwide socio-ecological outcomes described in Section 2. Per OWEB's Strategic Action Plan Guidance (OWEB, 2015), "SMART goals and objectives are Specific, Measurable, Achievable, Results-oriented, and Time-based". The Partnership has two (2) core initiatives that it is developing SMART goals objectives, and actions for:

- Aquatic Habitat for Native Fish; and
- Upland Habitat for Site-Capable Vegetation and Native Wildlife.

The Initiatives' goal-objectives-actions represent "working benchmarks" and will be revised to reflect new ecological and restoration effectiveness data generated through the Atlas Prioritization Tool, Partnership's Structured Restoration-Monitoring Implementation Framework, and complementary tools and datasets (e.g., John Day summer steelhead life cycle model, Middle Fork Intensively Monitored Watershed, Columbia River Habitat Monitoring Program, NRCS Regional Conservation Partnership Program (RCPP) projects' data, The Freshwater Trust's Heat Source modeling effort, basinwide beaver restoration assessment tool (BRAT), etc.).

A. Aquatic Habitat for Native Fish

As of June 2018, Atlas prioritization for native fish has been completed for the Partnership's three Aquatic Habitat Initiative areas (representing Phase 1 of SAP implementation): (1) Butte-Thirtymile Creeks; (2) North Fork John Day Headwaters; and (3) Upper Middle Fork John Day. While all John Day Basin native fish species are of conservation and cultural importance to the Partnership's members and basin stakeholders, Middle Columbia River summer Steelhead are the primary Initiative indicator species with spring Chinook and redband trout as secondary indicator (co-benefit) species of the Partnership's conservation and monitoring actions (OWEB 2014). Specific summer steelhead goals (i.e., population viability criteria; ESA-delisting and broad-sense recovery goals), objectives, and actions are outlined in Oregon's Middle Columbia Steelhead Conservation and Recovery Plan (NMFS, 2009; Carmichael and Taylor, 2010; ODFW, 2012). The following outcomes, goals, objectives, and actions are consistent with the high priorities specified in the Mid-C steelhead recovery plan, and reflect monitoring evidence (Bare et al. 2017; McHugh et al. 2017; MFIMW 2017) and technical input during the Atlas process on the current status of restoration gaps. Atlas aquatic habitat prioritization is in development for the remainder of the John Day basin (i.e., the watersheds outside the Initiative Areas) and is scheduled for completion in December 2018.

OUTCOME 1: **Long-term trend of increasing fish populations per local, state, federal, and tribal plans by 2040.**

SMART GOAL 1.1: **Increasing trend in total freshwater productivity of summer steelhead (indicator species) and spring Chinook (co-benefit species; where applicable) in the Initiative areas (Butte-Thirtymile Creeks, North Fork John Day Headwaters, and Upper Middle Fork John Day) by 2025.**

Monitoring evidence strongly indicates that high stream temperatures and low instream flow conditions are the primary factors limiting rearing habitat availability and freshwater productivity of John Day River summer steelhead and spring Chinook populations (Bare et al. 2017; MFIMW

Working Group 2017). Consequently, the highest priority for summer steelhead and spring Chinook viability within the John Day River Basin (HUC 170702) is measurably improving juvenile summer rearing habitat – i.e., instream temperature and flow – through conservation actions and long-term monitoring actions which promote adaptive management and salmonid resilience to climate change (Carmichael and Taylor 2010; Beechie et al. 2013; NMFS 2016; McHugh et al. 2017). Per the recovery plan and supported by recent research and monitoring results, the conservation actions that are most likely to improve instream temperature, natural flow regimes, and extent of juvenile rearing habitat for Mid-C steelhead and Initiative co-benefit species include, but are not limited to:

- Restoring floodplain connectivity and channel hydrology via beaver dam analog installation (Carmichael and Taylor 2010; Bowes et al. 2016; MFIMW Working Group 2017);
- Protecting and increasing riparian vegetation development and shading (Carmichael and Taylor 2010; Justice et al. 2017; see Figure 5 in MacFarlane et al. (2017) for riparian departure indices for the John Day Basin; McHugh et al. 2017; MFIMW Working Group 2017); and
- Targeting cold-water input sources for protection and habitat improvements, and coupling instream (e.g., large wood addition) and riparian conservation actions to maximize the ecological effectiveness (MFIMW Working Group 2017) of conservation actions.

SMART objectives, actions, and metrics specific to aquatic habitat for native fish will increase trends in total freshwater productivity and benefit summer steelhead trout and spring Chinook salmon through a comprehensive and coordinated approach to restoration by increasing the linear extent of juvenile rearing habitat (Objective 1A1, Table 19). Through the protection of existing quality habitats and implemented actions, improvement or reestablishment of physical and biological process upon which heathy ecosystems are based, and improving instream flows during sensitive periods, the Partnership's cumulative efforts, as identified by monitoring and data analysis, will reflect expectations for Objective 1B1 as identified in Table 19. Over time the longer term effects of the Partnership's actions are expected to reduce summer water temperatures within the three highest priority basins Table 20.

Table19. Objective 1A1: Coordinate with willing landowners to establish an increasing trend in the linear extent (e.g., linear stream miles) of juvenile summer steelhead and spring Chinook (where applicable) rearing habitat in the Initiative areas (Butte-Thirtymile Creeks, North Fork John Day Headwaters, and Upper Middle Fork John Day) by 2025.

ACTIONS[1] ***N.B. The metrics presented here will be updated through future iterations of the Atlas prioritization & FIP Initiative implementation processes.***	**Butte-Thirtymile Creeks Action Metrics[2]**	**North Fork John Day Headwaters Action Metrics[2]**	**Upper Middle Fork John Day Action Metrics[2]**	**Action Evaluation Metrics**	**BACI Effectiveness Monitoring[3]**
Action 1A1: Protect land and water (i.e., ecological processes and high quality habitats) by 2025.	H: (1) water, (2) land, (3) land	H: (1) water, (2) land, (3) land	H: (1) water, (2) land, (3) land	increased juvenile habitat extent & quality	sub/population productivity monitoring
Action 1A2: Reconnect floodplain topography, vegetation, and function (lateral connectivity) by 2025.	M –see 4th cell	H: (1) 2 miles, (2) 7 miles, (3) 6	H: (1) 2 miles, (2) 7 miles, (3) 6	increased juvenile habitat	sub/population productivity monitoring

		miles	miles	extent & quality	
Action 1A3: Increase riparian plant communities through fencing, planting, installing off-channel water, and/or invasive species control by 2025.	H: (1) 2 miles, 10 dev; (2) 5 miles, 15 dev; (3) 5 miles, 5 dev	H: (1) 5 miles, (2) 5 miles, (3) 5 miles	H: (1) 2 miles, (2) 5 miles, (3) 5 miles	increased juvenile habitat extent & quality; increased juvenile growth, survival & production	SolMetric SunEye census surveys at 5 year intervals; sub/population productivity monitoring
Action 1A4: Improve channel connectivity and complexity through beaver restoration management and large wood placement (vertical connectivity) by 2025.	H: (1) 2 miles, (2) 7 miles, (3) 6 miles	M-H: (1) 2 miles, 18 structures; (2) 5 miles, 9 structures; (3) 5 miles, 9 structures	H: (1) 2 miles; 18 structures; (2) 7 miles; 9 structures; (3) 6 miles; 9 structures	increased juvenile habitat extent & quality	sub/population productivity monitoring
Action 1A5: Increase physical connectivity to high quality habitats by removing/replacing fish passage barriers (longitudinal connectivity) by 2025	H: (1) 1 barrier, (2) 2 barriers, (3) 1 barrier	M-H: (1) 1 barrier, (2) 2 barriers, (3) 2 barriers	H: (1) 1 barrier, (2) 2 barriers, (3) 2 barriers	increased juvenile habitat extent & quality	Compare spatial distribution of steelhead redds pre/post action
Action 1A6: Increase water quantity and quality by leasing or purchasing instream flow by 2025	H: see 1st cell	H: see 1st cell	H: see 1st cell	increased juvenile habitat extent & quality	sub/population productivity monitoring

1- The actions in this table are identified as high priorities actions in the Mid-C steelhead recovery plan and Atlas prioritization process for the three Initiative areas. As identified in the recovery plan and Atlas process, additional actions may be applicable for a given priority area and/or specific project site to improve habitat quantity and quality for summer steelhead and spring Chinook. Refer to Section 11 of this Plan, Appendix G (Atlas Results), and the Implementation FIP Work Plan (OWEB grant application for the complete list of high and medium priority actions, and associated Mid-C steelhead recovery plan actions and monitoring approach.

2- Action Priority H- High, M- Medium; Biennium (1), (2), (3); Water/Land refers to conservation easements; Miles = linear stream miles; Dev = water developments; Structures = large wood structures

3- BACI = Before-After-Control-Impact monitoring design; See the June 2018 JDBP OWEB Implementation Grant for a detailed summary of the Structured Restoration-Monitoring Implementation Framework hypotheses and methods and *Section 11-Prioritization*, *Section15-Evaluating Success and Section 16-Adaptive Management* for an overview of the iterative, evaluation and adaptation process.

Table 20. Long-term Quantitative Maximum Summer Water Temperature Metrics to Improve Summer Steelhead and Spring Chinook Freshwater Productivity and Population Viability in the John Day River Basin

Butte-Thirtymile Creeks	North Fork John Day Headwaters	Upper Middle Fork John Day	South Fork and Upper Mainstem John Day
Reduce maximum daily summer stream temperature (°C) at long-term temperature logger locations by 7% by 2040.	Reduce maximum daily summer stream temperature (°C) at the mouth of Desolation Creek 5% by 2040.		Reduce maximum daily summer stream temperature (°C) 7% by 2040 at the Dog Creek USGS Gauge (UMJD) and OWRD Gauge at rkm 10 on SFJD.

B. Upland Habitat for Site-Capable Vegetative Communities and Native Wildlife (*in development*)

The Partnership's three Subbasin Work Groups and Technical Work Group identified upland habitat restoration as a priority restoration need throughout the John Day Basin. Preliminary high priority upland goals, objectives, and actions identified by the subbasin workgroups are summarized in

Appendix D. The Technical Work Group is currently developing the basin-wide upland habitat SMART goals, objectives, and actions through the Atlas prioritization process. Atlas prioritization for upland habitat, including scoping and mapping of restoration actions, is scheduled for completion by December 2018 (see Atlas development schedule in Section 10). Once the Atlas process is completed, an Uplands Habitat Initiative Work Plan and Monitoring Framework can be developed and integrated with the Aquatic Habitat Initiative Work Plan and Monitoring Framework.

C. Stakeholder Outreach

Stakeholder outreach for healthy economies, communities, and sustainable natural resources is also a high priority for evaluating success and achieving the Partnership's socio-economic goals. This priority is described further in *Section 13 – Fundraising, Costs, and Value; Section 15 – Evaluating Success; and Section; and Section 18 – Communication Plan*.

13. Fundraising, Costs, and Value

The biggest threat to the successful restoration of the John Day basin is not a lack of viable solutions or willingness to act; it is a lack of funding. Currently around $2 million per year comes to the basin for watershed restoration work. The Bonneville Power Administration, Natural Resource Conservation Service, Forest Service, Oregon Dept of Fish & Wildlife, and Oregon Watershed Enhancement Board have been vital supporters. With these funds, excellent progress has been made over the last 20 years increasing in-stream water quality, restoring critical fish and wildlife habitat, and improving the health and sustainability of farms, ranches, and forests. However, substantially more funding, especially private funds to leverage existing public sources, will be needed to fully achieve the vision and desired outcome of this action plan. The Partnership estimates that existing annual funding must roughly double to $4 million to the meet current demand.

Additionally, the return on investment of these restoration funds is without question significant based on studies in other basins, yet is largely unquantified in the John Day. Knowing the value of the work conducted is vital to achieving the economic and community goals of this plan, specifically the desire to build local understanding of restoration progress and its value to the community. Restoration helps avert costs to address polluted drinking water, flooding, crumbling stream corridors, fire, and failing agricultural operations. On revenue side, actions can increase economic output from agriculture, property value, recreation and tourism, restoration-based businesses, and delivery of non-market ecosystem goods and services. All told, recent studies show that investments in watershed conservation pay out $2-$27 for every $1 invested depending on the activity.

An estimate of funding needs, basic fundraising strategy, and a projected return on investment for full implementation of this action plan is provided below.

A. Funding Needs

The Technical Working Group reviewed current literature, considered existing methods and tools, and enlisted the assistance of to develop the estimated costs to achieve the SMART goals, objectives, actions presented in *Section 12*. Regional conservation professionals and economists were consulted to develop estimated capital project costs. Non-capital costs (staff capacity, outreach, monitoring, etc.) required to deliver high quality projects are also included. Note that these costs are *estimates* that Partnership expects to refine as specific actions and projects are pursued under this action plan. Detailed cost analysis is provided under *Appendix H*.

B. Fundraising Strategy

Once the action plan is in place, a primary function of the Partnership will be fundraising, prioritizing projects for funding, and distributing those funds to execute the plan. Large landscape restoration academia and funders are increasingly calling for restoration practitioners to undertake a more holistic and integrated approach to ensure work is carried out as efficiently and cost-effectively as possible (Palmer, 2006; OWEB, 2015). Thus, the Partnership will leverage cumulative partner competencies and pursue joint fundraising around a single plan. Raised funds will be used for:

- Capacity: Partners work in support of the Partnership,
- Consultants: Hire outside consultants to offer facilitation or technical assistance,
- Project Implementation: Project installation and maintenance,
- Project Follow-up: Data collection and analysis, adaptation, and outreach.

Effort will be made to ensure that as much funding as possible is dedicated to capital project implementation. All Partnership-focused fundraising will be carefully coordinated to ensure it is net additive, that is, it does not pull existing funding from partner organizations.

The fundraising strategy the Partnership will pursue involves the following seven steps:

1. Research viable government, foundation, and individual donor funding opportunities to develop and maintain a current and diversified list of potential funding sources.
2. Any partner may notify the Steering Committee of a potential grant opportunity.
3. The Steering Committee will approve the proposal and form an ad hoc Proposal Committee if it is determined that the opportunity is consistent with the Partnership's guiding principles and strategic action plan. Proposal Committees are discussed in Subsection 5c. Note that proposals submitted by Subbasin Working Groups not under the name of the Partnership and proposals submitted by individual partners do not require Steering Committee approval.
4. Once approved, the Proposal Committee will designate a fiscal agent and main contact (they may be the same person).
5. The Proposal Committee will next draft a proposal package using the templates provided in the Partnerships *Operations Manual*.
6. The full Partnership will be given an opportunity to review and comment upon the draft submittal. A minimum of five (5) business days shall be provided for Partnership review.
7. The fiscal agent and/or main contact will collect any necessary signatures, letters of support, and finalize the proposal package.
8. As appropriate and possible, effort will be made to obtain formal support from local elected officials for all proposals.
9. The proposal will be submitted by the fiscal agent and/or main contact.

The Partnership may develop a more detailed fundraising strategy in the future.

C. Value of Plan Implementation

The Technical Working Group reviewed current literature, considered existing methods and tools, and enlisted the assistance of experts with the Natural Resource Conservation Service, and Oregon State University to develop the project return on investment of full implementation of this action plan. Regional conservation professionals, scientists, and a NRCS economist.] were used to create these numbers. Note that this estimated return is an *estimate* that the Partnership expects to refine as specific actions and projects are pursued under this action plan. The detailed cost analysis is provided under *Appendix H*.

14. Project Review, Scoring, and Ranking

One of the most important tasks of any Partnership is the distribution of jointly raised funds. There must be a transparent, consistent, and fair process to preclude competition amongst partners and retain belief in the shared value of the Partnership. The Partnership will use what's called a "decision support system" to score and prioritize capital and non-capital projects for funding (Beechie, 2008).

A. Capital Projects.

Capital projects will involve design and installation of on-the-ground conservation practice. The following seven step project evaluation, scoring, and ranking process will be utilized for capital projects:

1. RFP. The fiscal agent and the Funding Advisory Committee will lead development of an RFP to distribute funding raised by the Partnership. The RFP for capital projects will request information that includes the project name, partners, location, historical or heritage information that provides project context, specific problem and associated restoration goals/objectives, restoration actions and design to be used, proposed outcomes and metrics, monitoring approach, landowner involvement, stakeholder support, schedule, budget and match, risks, and all required attachments (e.g., maps, photos). An example RFP for capital projects may be developed and attached to this manual at a later date.
2. Project Initial Screening. The proposal recipient listed in the RFP will forward the proposal to the Funding Evaluation Committee formed for this specific opportunity who will then review the proposals and confirm that the project meets the three pre-conditions below.
    a. It is consistent with an established goal, objective, or action identified for the subbasin in which it is located and the specific funding opportunity,
    b. Does the project address the root cause of the problem or is treating a symptom or symptoms sufficiently effectively in advancing progress toward Partnership goals, and
    c. The owner and/or manager of the land where the project will take place have provided appropriate written documentation that they support the project.

    Projects that do not meet these pre-conditions will not be further considered.
3. Initial Review. Projects that meet the minimum criteria will be reviewed for responsiveness to the RFP and technical soundness. The project will be specifically checked to ensure appropriate action sequencing is undertaken. Written feedback will be developed by the Funding Evaluation Committee for each proposal. Note that partners may not participate in the evaluation of their own project.
4. Applicant Response to Evaluation and Re-Submittal. Initial proposals deemed inadequate may respond to feedback from the Funding Evaluation Committee and resubmit a revised proposal. A site visit or discussion with the Funding Evaluation Committee can be requested by the applicant at this time. Note that a project must pass initial screening and be deemed complete and technically sound before it will be scored. The premise is to ensure project intent, landowner involvement, and technical merits are sound before a project undergoes scoring.

5. Project Scoring and Ranking. Funding Evaluation Committee members will score and rank qualifying project proposals using the *Partnership Capital Project Scoring Form* provided as *Attachment H*. Projects will be scored using the criteria and weighting described in *Table 16*. Applicants cannot score their own projects. The Funding Evaluation Committee will use scores to rank the projects in numerical order from 1 (top choice) to however many projects were evaluated. Note that some criteria in *Table 15* and the attached form may not apply to certain projects. The Partnership may revise the criteria and corresponding form (or develop completely new criteria and forms) as necessary for each funding opportunity (e.g., to align scoring criteria with funding entity review and/or deliverables requirements). Partners will approve any revised criteria or forms by a majority vote.

Table 16: Weighted Average Capital Project Scoring Approach

Criteria	Criteria Type	Description	Weight
Location in a high priority watershed identified in the strategic plan.	Yes or No	The project will take place within one or more of the prioritized 5th level HUCs.	20 pts
Number of listed and/or focal species enhanced and/or amount of landscape enhanced, created, or managed for such species.	Number	Total number of species with life history use enhanced and/or measurable habitat quantity/quality.	20 pts
Matching funds.	Number	Amount of additional funding the project bring into the basin for the project; a measure of project readiness, partner diversity, and support.	15 pts
Socioeconomic impact.	Number and judgment	Numbers: Dollars paid to in-basin contractors, jobs currently supported by the lands being treated, acres permanently protected, acres of tribal trust lands impacted, and/or basin citizens reached. Judgment: Estimate of short and long-term economic, social, cultural, aesthetic, and non-market impacts of the project..	15 pts
Certainty of success.	Yes or No	The project employs a proven technique instead of an untried technique without established design and performance standards.	10 pts
Plans and dedicated funding in place for project maintenance, monitoring, and adaptation.	Yes or No	Documentation is present that plans and funding are in place for long-term project oversight.	10 pts
Qualifies as "exceptional" project.	Judgment	Project offers exceptional risk mitigation and/or resilience improvement or protection for high quality habitat based on the judgment of the reviewer.	10 pts

6. Final Project Selection. The Steering Committee will work down the list until available funding is exhausted. If there is a tie at the end of allocated funding the final decision will be made by a majority vote of the Steering Committee. *Note* that applicants whose project was not funded will have the option to have their project scored in the next funding opportunity without repeating steps 1-4 (unless the project changes or the funding opportunity requires it).

7. Funds Distribution. Partners whose projects were selected will work directly with the fiscal agent to establish a formal contract with the Partnership that lays out the terms of funding.

B. Non-Capital Projects.

The process used to solicit and evaluate non-capital projects that support partner capacity, data collection or analysis, research, monitoring, or public outreach will generally follow the same approach used for capital projects. Different procedures include: (1) instead of landowner willingness, project pre-screening will confirm the applicant is a formal partner and (2) all non-capital projects will be scored based on the separate set of criteria described in *Table 17.*

Note that based on the variety of non-capital project types, some criteria in *Table 17* and the attached form may not apply to certain projects. The Steering Committee may revise the criteria and corresponding form (or develop completely new criteria and forms) as necessary for each funding opportunity. Partners will approve any revised criteria or forms for an individual funding opportunity by a majority vote.

Table 17: Weighted Average Non-Capital Project Scoring Approach

Criteria	Criteria Type	Description	Weight
Proposal completeness	Yes/No	Proposals not containing the mandatory information identified in the RFP will be rejected.	n/a
Proposal suitability	Judgment	Quality and clarity of the approach that will be used to meet the project duties, deliverables, and timeline.	50 pts
Demonstrated experience and success	Judgment	Staff expertise, qualifications, and past performance as they apply to the scope of work requested.	50 pts
Commitment to partnership	Number Judgment	Attendance for the entirety of Partnership meetings, including working group meetings, and/or commitment of cash or in-kind matching funds.	25 pts
Cost and value	Number Judgment	Salary, expenses, and value compared to other proposals and standard market rates.	25 pts

15. Evaluating Success

The Partnership will use the help of regional experts, the Strategic Action Plan and the science-driven ATLAS tool to select projects and guide our path towards conservation success. The Partnership's members will implement projects to achieve our Basinwide Goals and Outcomes (Section 2), and our SMART Goals, Objectives, and Actions (Section 12). These outreach, capacity-building, and conservation efforts will be assessed at the project and watershed scale.

To evaluate success, the Partnership will use the adaptive management approach outlined in Section 16. This approach, and the recently created John Day ATLAS tool, lean on decades of learnings from restoration, monitoring and research in the John Day Basin and beyond. The Partnership will use existing data, professional judgment, and monitoring to establish baseline conditions to judge progress towards basin-wide and sub-basin conservation targets. Appropriate milestones will be set to allow for an assessment of progress at our annual Partnership meeting. Yearly changes in Partnership operation and plan implementation will be undertaken based on compliance with milestones and any ancillary considerations, with a reevaluation of the Strategic Action Plan every five years. ~~Baselines and milestones are provided in *Table 18*.~~

Capital and non-capital projects funded by the Partnership will be required to set project metrics, pursue monitoring at the project-level, and adapt as needed during the term of funding. Monitoring will not need to be overly complicated, but it must provide enough sound information that allows for determining if goals are being met (CTWSRO, 2015). The Partnership will systematically assess a sample of projects determined at the time of funding award to gauge effectiveness. In most cases, monitoring will be performed over the longest time frame possible to ensure enough data is collected to capture variability and form actionable conclusions.

Both the evaluation of success and the effective communication of the findings will continue to be a core piece of Partnership operation. For example, the recent report provided by the project leaders of the Middle Fork Intensively Monitored Watershed (MFIMW) shared their findings from a ten year look at the Middle Fork system. To share this information with regional partners, the document's authors provided a presentation and Q & A session with the Partnership and a lessons-learned summary report. This report is an example of partners working together to evaluate conservation success on both a project and watershed scale. The partners have a keen interest in learning from the past to inform the future. Communication is key to this process and the Partnership's ability to convene and provide a forum to share project learnings and planning, makes the process of evaluating success and adapting for the future, an integral part of the Partnership's process.

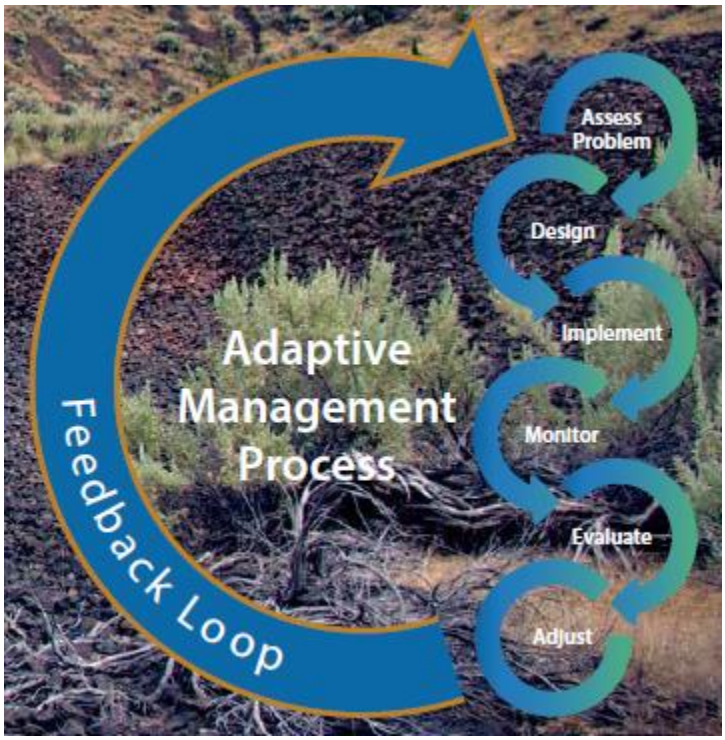
Table 18: Baselines and Milestones

SMART Goal	**Baseline Monitoring**	**Effectiveness Monitoring**
Action 1A1 – Protect land and water	Documentation of actions in AGOL platform database.	Update AGOL database annually to track addition or loss of land and water protection actions.
Action 1A2 – Reconnect floodplain topography, vegetation, and function	Existing channel topography data in champmonitoring.org.	Replicate topography surveys and extend onto the floodplain. Use shallow groundwater wells to monitor lateral hydraulic connectivity.
Action 1A3 – Increase riparian plant communities through fencing, planting, installing off-channel water, and/or invasive species control	Existing habitat survey data in champmonitoring.org, and other project specific monitoring.	SolMetric SunEye census of riparian shading in project areas at 5-year intervals.
Action 1A4 – Improve channel connectivity and complexity through beaver restoration management and large wood placement	Existing channel topography data in champmonitoring.org, and AQI survey database provide baseline.	Replicate topography and AQI surveys in treated areas at 5 year intervals.
Action 1A5 – Increase physical connectivity to high quality habitats by removing/replacing fish barriers	Steelhead and Chinook redd distribution GIS layer provides baseline adult distribution. Juvenile Chinook and Steelhead distribution also available.	Use repeat surveys post-project at yearly intervals to check for adult or juvenile range expansion following barrier removals.
Action 1A6 – Increase water quantity and quality by leasing or purchasing instream flow	USGS discharge gauges in MFJD and NFJD, level loggers in Thirtymile Creek. Temperature data stored in NorWest and MFIMW database.	Continue to support yearly USGS and local discharge monitoring. Continue yearly temperature logger operation at long-term monitoring sites.

16. Adaptive Management

Adaptive management is widely recognized as absolutely essential to the long-term success of any natural resource and community revitalization effort. Adaptive management can be defined as the iterative, systematic acquisition and assessment of information to inform management decisions over time. The large and complex ecosystems addressed in this plan are dynamic in both space and time, so corresponding adaptation of strategies will be essential (Reeves, 1995). Further, adaptive management will be especially critical looking into the future as managers respond to the uncertain impacts of climate change on our cold water focal species and systems (Green et al, 2015, Lawler et al, 2009; Seavy et al, 2009.). An illustration of a standard adaptive management process is provided as *Figure 8.*

Figure 8: Adaptive Management Process (CTWSRO, 2015)



To facilitate adaptive management, the Partnership will proceed under the operational premise that restoration actions represent our best current working hypotheses about how we can influence the parameters of interest (e.g., cool water rearing habitat, upland mule deer habitat). We are using Bonneville Power's 'Atlas' as a tool to form and prioritize our initial restoration hypotheses. The Atlas process is a multi-criteria decision analysis used to prioritize projects with existing data. The Partnership will collect a standardized set of metrics for each restoration hypothesis (refer to the example of the data capture template in the 2018 OWEB Implementation FIP application), which will allow quantitative evaluation of the progress through a results chain approach. A results chain evaluates completion of objectives on short time scales (several years in

this case), en route to achievement of long-term conservation targets (referred to as "Goals" in the FIP application) (CMP, 2013; Margoluis et al., 2013).

To ensure sufficient time and resources for conducting results chain analyses, ODFW has proposed a structured implementation and monitoring schedule to add a temporal component and "check-in's" to the Partnership's work. Under a structured implementation plan, implementation in, for instance, the Middle Fork action area would be very intense during 2019-2021. During and following implementation, monitoring would continue with high intensity until 2024 (ODFW will monitor fish-in and fish-out, as well as juvenile and habitat metrics). The following year (2025) would see reduced monitoring effort to dedicate staff time for analysis and results chain evaluation. During the "learning" years, the Partnership can test the short term objectives in each results chain, such as stream temperature, physical habitat, and juvenile fish survival. These periodic "learning" years are essential in this plan to ensure the time necessary for thorough feedback and course corrections to management actions on the way to our long-range goal of harvestable salmonid populations by 2040.

The Partnership itself represents a form of "adaptive governance" that supports the integration of diverse stakeholders for collaborative environmental management that incorporates adaptive management within the management system (Figure 8; Chaffin et al., 2014). Progress towards biological objectives (shorter term targets measured to track progress toward the goal or conservation target), partner input, and/or outside peer review will be used to assess whether this action plan is truly driving progress toward our goals. The Steering Committee will lead the process for the action plan, while partners implementing individual projects will be responsible for project adjustments. This evaluation will help the Partnership and project leads determine if adjustments are necessary to assure better performance.

The action plan will be refined periodically based on performance and new scientific data, technologies, policies, laws, and other realities. This action plan will be reviewed annually and considered for a full update every five (5) years.

17. Sustainability

Lasting recovery of the closely linked native fisheries, habitat, and local economies in the John Day Basin will take generations. The life span of this action plan as designed in 2018 is intended to be about 25 years with sufficient updates. The outcomes this action plan are intended to be achieved within the roughly next 10 to 25 years. Sustaining Partnership unity and restoration momentum over these time periods will be challenges that must be planned for and handled proactively from the beginning. Here are seven (7) steps that should be taken to maintain a strong Partnership and consistent progress over time:

1. Develop a strong, self-directed Partnership with a solid governance structure, identity, and base of local ownership that does not rely upon specific individuals or an outside parties to maintain momentum,
2. Maintain wide open communication within the Partnership to avoid misunderstandings and conflicts that fracture relationships and stymie progress,
3. Create ambitious, yet realistic outcomes, goals, objectives, and actions,

4. Foster relationships with funding bodies that understand the importance of local leaders and organizational capacity in complex restoration efforts,
5. Maintain diverse funding sources that include public and private sources,
6. Obtain at least one significant (6-figure) long-term (5-10 years) source of funding for Partnership capacity and project implementation.
7. Commit to long-term monitoring and adaptive management to ensure the Partnership and its action plan are truly delivering on promised outcomes through the approximately 25-year life of the plan.

18. Communication Plan

1. Introduction

The communication plan is an iterative process providing a framework of communication within the Partnership, both internally and externally, outlined and guided by the Partnership structure and defined roles and responsibilities, and governance documents in support of overall basinwide goals and outcomes. In order to achieve the Partnerships long-term goals and outcomes, the Partnership recognizes the complexity of stakeholder interests within the John Day Basin and the importance that continued local landowner and public support and involvement are critical to continued effectiveness. The communication plan is intended to identify, assess, and address the wide range of interests in development and implementation of the SAP and provide a consistent Partnership message fostering conservation and community values; local outreach, communication and control; landowner participation and input; and support Partnership sustainability and resiliency.

2. Goals

The communication plan provides governing framework and guidance in meeting two primary basinwide goals (SAP; Section 2):

5. Generate increased partner cooperation, project prioritization, and joint fundraising among diverse interests in the John Day River Basin.
6. Conduct public outreach on watershed restoration that is taking place and its value to the community.

3. Communication Plan and Audience

The communication plan was developed and included within the governing documents of the Partnership and outlines internal and external communications and target audience (Appendix C; Partnership Operations Manual).

A. External Communications

Potential external target audiences for the Partnership include potential funders, local elected officials, and others to build knowledge and subsequent support for the efforts of the Partnership. To maximize the consistency and impact, any outreach and public relations effort will use standardized Partnership outreach materials, such as the fact sheet provided as *Appendix A* or subsequently developed materials, and all communications will be coordinated through quarterly discussion at Partnership meetings.

At this time there are no plans for the Partnership to engage directly with landowners. Formal partners that already fill the Landowner Recruitment role identified in *Section 5* (SAP; Governance) will continue to do so as one of their roles for the Partnership.

All Partnership meetings will always open to members of the public. Further effort will be made to educate the public on the work of the Partnership and the progress and value of watershed restoration in the region

B. Internal Communications

The partnership will maintain internal communications through quarterly full partnership meetings, quarterly Steering Committee phone calls, periodic Working Group meetings, recording of meeting notes, and a Partnership Dropbox and BaseCamp folder.

4. Communication Implementation Strategy

The Partnership recognizes that continued public and landowner support and involvement are critical to continued effectiveness and ultimate success, and approved and formed an Outreach Working Group in June, 2017 to develop an outreach strategy for public engagement. The Outreach Working Group is made up of a broad representation and backgrounds from the Partnership including representatives from the Steering Committee and individual Subbasin Working Groups (Figure 4).

The primary purpose of the Outreach Working Group is to support the Partnership with design, development, and facilitation of a public relations and communication campaign including 1) identifying target audiences, what to tell them, and how to reach them, 2) create a simple, do-able short term outreach plan, and 3) begin to plan long-term continued outreach for both the SAP itself and activities by Partners to meet broader community outreach goals and objectives developed by subbasin working groups and summarized in Section 10 Goal 3.

The Outreach Working Group has identified and segmented our target audiences, drafted talking points, and compiled a list of external and internal communications methods and materials through which to thread the Partnership's messages. Proposed content centers on user-friendly terminology, emphasizing responsiveness to local needs, potential expansion of available funding and on-the-ground impact, through shared community values. The following is a list of external and internal documents completed for Partnership outreach:

A. External Communication Documents
    a. Partnership talking points
    b. PowerPoint presentation for Partner Boards, funders, landowners, and similar audiences
    c. Partnership brochure developed and modifiable for Partner boards, funders, and similar audiences; and landowners, customizable by individual subbasin working groups
    d. Press release template for local media, tied to website launch & public meeting
    e. Article and pitch for statewide media

B. Internal Communication Documents
    a. Simple graphic chart and timeline organized by audience, when to reach out, and how
    b. Sharable, updatable, google spreadsheet of outreach audiences organized by
        i. Subbasin Working Groups
        ii. When to reach out (before, during, or after final SAP)
        iii. Who should reach out
        iv. The key message and ask

5. Evaluation

The Committee will catalog and track the communications campaign via an online, sharable spreadsheet. The spreadsheet will list target audiences, audience type, mode of outreach, when and where, message shared, any "ask" made of audience and outcome or need for follow-up communications.

The Partnership recognizes that two-way flow in information is critical to partner adoption and support of our SAP. The communication campaign will continuously seek audience feedback, following through and demonstrating that partner concerns and suggestions will be incorporated into our work as it evolves.

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Appendix A

John Day Basin Partnership Fact Sheet

[AVAILBLE SEPARATELY]

Appendix B

John Day Partnership Memorandum of Understanding

[AVAILBLE SEPARATELY]

Appendix C

John Day Basin Partnership Operations Manual

[AVAILBLE SEPARATELY]

Appendix D

Subbasin Goal-Objective-Action Setting Results Developed by the Lower John Day, South Fork and Upper John Day, and North Fork and Middle Fork John Day Subbasin Working Groups

Appendix G

Prioritization Results

[PRIORITIZATION RESULTS AVAILABLE DECEMBER 2018]

Appendix H

Plan Implementation Costs and Value

[AVAILABLE DECEMBER 2018]

Appendix I

Partnership Project Proposal Form

[AVAILABLE DECEMBER 2018]

Appendix J

Partnership Capital Project Scoring Form - DRAFT

John Day Basin Partnership

Capital Project Scoring Form – DRAFT

Project Name:		
Project Applicant:		
Scored By:	**Date:**	

Criteria	Score		Points
1. Located in a high priority watershed identified in the strategic action plan.	Yes.	(20 points)	
	No.	(o points)	
Comments:			
2. Number of focal species enhanced and/or amount of landscape protected, enhanced, created, or managed.	>1 species or > x stream miles/acres.	(20 points)	
	1 species or > x stream miles/acres.	(10 points)	
	No focal species or < x stream miles/acres.	(0 points)	
Comments:			
3. Matching funds.	100% match.	(20 points)	
	25%- <100% match.	(10 points)	
	No match.	(0 points)	
Comments:			

John Day Basin Partnership

Capital Project Scoring Form – DRAFT

Project Name:		
Project Applicant:		
Scored By:	**Date:**	

Criteria	Score		Points
4. Socioeconomic impact.	>$x paid to in-basin contractors, >x jobs supported by lands treated, >x acres contractually protected, >x acres tribal trust lands impacted, and/or >x basin citizens reached	(10 points)	
	No hard numbers. Best professional judgment estimate of short and long-term economic, social, cultural, aesthetic, and non-market impacts (explain below).	(5points)	
	No numbers or qualitative impact.	(o points)	
Comments:			
5. Certainty of success--employs a proven technique with established design and performance standards approved for use by ODFW, BPA, NRCS, or NMFS, or similar.	Yes.	(10 points)	
	Unproven practice with relatively design and performance standards.	(5 points)	
	Untested practice without standards.	(0 points)	
Comments:			

John Day Basin Partnership

Capital Project Scoring Form – DRAFT

Project Name:		
Project Applicant:		
Scored By:	**Date:**	

Criteria	Score		Points
6. Plans and dedicated funding in place for project maintenance, monitoring, and adaptation.	Yes.	(10 points)	
	No.	(0 points)	
Comments:			
7. An action that protects high quality intact habitat (e.g., cold water refugia) from future degradation, including physical actions upstream , upland , or elsewhere in the watershed, and contractual actions like easements and flow agreements.	Yes.	(10 points)	
	No.	(0 points)	
Comments:			

TOTAL SCORE:

[1.Should we include cost-effectiveness, project response time, or other parameters?]

John Day Basin Partnership

Capital Project Scoring Form

Project Name:	
Project Applicant:	
Scored By:	**Date:**

Additional Comments:

Appendix K

Partnership Non-Capital Project Scoring Form - DRAFT

John Day Basin Partnership

Non-Capital Project Scoring Form - DRAFT

Project Name:			
Project Applicant:			
Scored By:		**Date:**	
Criteria	**Score**		**Points**
1. Consistent with organizational mission and expertise and/or advances documented need.	Strong proven organizational commitment and expertise in project area and directly advances need.	(40 points)	
	Part of organizational mission, sufficient expertise in project area, and generally consistent with documented need.	(20 points)	
	Lack of organizational commitment, expertise, and/or need for effort.	(0 points)	
Comments:			
2. Located in a high priority watershed identified in the strategic action plan.	Takes place entirely in priority watershed(s).	(30 points)	
	Partially in a priority watershed(s).	(20 points)	
	Does not take place in priority watershed(s).	(0 points)	
Comments:			

John Day Basin Partnership

Non-Capital Project Scoring Form - DRAFT

Project Name:			
Project Applicant:			
Scored By:		**Date:**	
Criteria	**Score**		**Points**
3. Matching funds.	>50% match.	(10 points)	
	25%- <50% match.	(5 points)	
	No match.	(0 points)	
Comments:			
4. Socioeconomic impact.	Significant number of citizens reached and/or impact on long-term economic, social, and cultural health of the basin.	(10 points)	
	Modest citizen reach and socioeconomic impact.	(5 points)	
	No numbers or qualitative impact.	(o points)	
Comments:			

John Day Basin Partnership

Non-Capital Project Scoring Form - DRAFT

Project Name:			
Project Applicant:			
Scored By:		**Date:**	
Criteria	**Score**		**Points**
5. Positive impact on the health or understanding of focal species and habitat needs.	Significant work that will advance the understanding and health of the basin.	(10 points)	
	Work that will advance understanding.	(5 points)	
	No qualitative impact.	(0 points)	
Comments:			

TOTAL SCORE:

John Day Basin Partnership

Non-Capital Project Scoring Form

Project Name:	
Project Applicant:	
Scored By:	**Date:**
Additional Comments:	