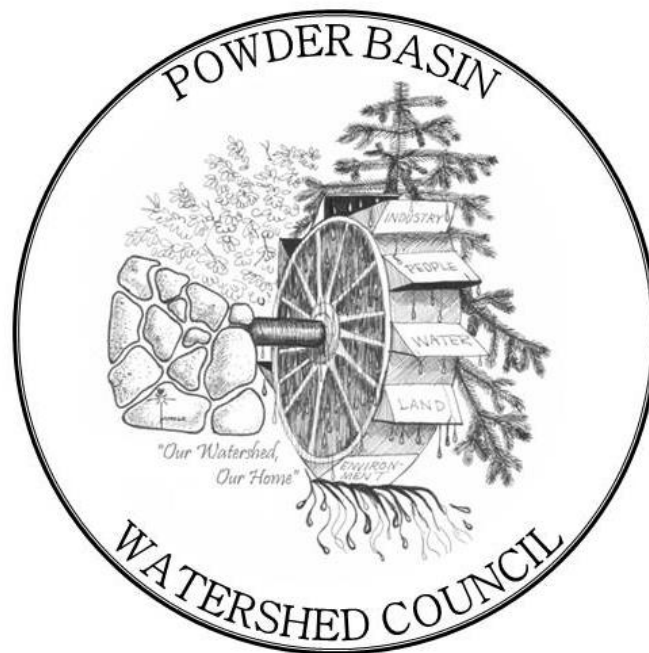


Powder Basin Watershed Council Strategic Plan: 2018-2022

Approved March 7, 2018



The VISION of the Powder Basin Watershed Council is that the Powder Basin watersheds are healthy and meet the needs of the people and the environment.

The MISSION of the Powder Basin Watershed Council is to facilitate community-supported maintenance and restoration of the streams, rivers and lakes within our watersheds.

Introduction

The purpose of the Powder Basin Watershed Council's 2018-2022 Strategic Plan is to articulate the goals of the organization based on the core values expressed in the Vision and Missions statements, future trends, current conditions and potential intermediate steps. This strategic plan was developed by modifying and expanding the previous strategic plan, which was completed in 2011 through input from community and agency partners. The strategic planning committee consisted of representatives from the community, Baker City, Baker County, Oregon Division of Water Resources, US Forest Service, US Bureau of Land Management, Oregon Department of Fish and Wildlife, and staff from the Powder Basin Watershed Council (PBWC). The plan will serve as a guide for future actions in two different ways. First, it will be used to ensure that projects pursued by the organization fit with the goals outlined here, and second, that projects proposed by partners and community members also adhere to the plan.

The Strategic Plan will be implemented incrementally through the development of annual work plans, which are reviewed annually and approved by the Board of Directors. The annual work plans, in turn, will be evaluated for their adherence to the guidelines presented here. At the end of the five-year period for which the Strategic Plan covers, accomplishments will be assessed based on how well they address the goals and strategies outlined here. The Strategic Plan will also be evaluated at this time for how well it retained relevancy over the time period it was in effect.

Projects proposed by partners and community members will be evaluated based on their relevancy to the goals and strategies of the Powder Basin Watershed Council, the compatibility with the current annual work plan, the ecological and social benefits of the project, the amount of work required by Council staff to complete the project and the outreach benefits of the project. The Board of Directors will be given 45 days to evaluate any project that exceeds \$20,000, similar to grant submissions by PBWC staff.

Basin Description

The Powder Basin is located in northeastern Oregon and includes all of Baker County and parts of Union, Wallowa and Malheur Counties. The Basin is approximately two million acres and consists of three subbasins: the Powder River, the Burnt River and the Brownlee.

Within the three subbasins, there are approximately 3,500 miles of streams and rivers, along with five reservoirs with more than 5,000 acre-ft. of storage (excluding the Hells Canyon complex of reservoirs), which help to irrigate over 166,500 acres of crop and pastureland. Elevations range from over 9,000 ft. in the Elkhorn and Wallowa Mountains to 1,700 ft. along the Snake River. The higher elevations are dominated by subalpine and mesic forests. They are mostly public lands and are managed primarily by the US Forest Service (USFS). Mid-elevations consist of a mixture of sagebrush shrublands, wet meadows and agricultural lands and are managed privately or by the Bureau of Land Management (BLM). Drier forests and desert grasslands occur at lower elevations and are also a mixture of private lands and public lands managed by the BLM. Land use within the Powder Basin includes ranching, farming, timber production, mining, hydropower and wind power production, recreation, commercial development, and water supplies via reservoirs for towns and agriculture.

Impairments which compromise the ability of the watersheds within each subbasin to achieve potential functioning condition and provide the services that are expected by the community have been documented in a number of reports (see references) and are summarized below:

Powder River Subbasin: Impairments within the Powder River subbasin include: streams that are de-watered during certain times of the year, streams that are at risk for damage from flood events, streams that have been straightened or artificially constricted, and streams that have downcut or are at risk of bed erosion. Flooding regimes in some areas have been altered due to lack of connectivity to floodplains and from the regulation of high flows from reservoirs. Changes in vegetation within the subbasin that may affect the flow of water include the increased threat of wildfire caused by the accumulation of fuels within headwater forests and the loss of riparian vegetation in valleys.

Within the subbasin the following water quality parameters have been detected as deviating from allowable limits, as determined by the Oregon Department of Environmental Quality (DEQ): water temperature, dissolved oxygen, acidity, sediment content (especially fine sediments), harmful bacteria, arsenic and mercury. The Water Quality Index, (WQI) as determined by DEQ, for their sampling site on the Powder River in Baker City rated as “good” in 2016 with no particular trend. However, downstream near the city of Richland the WQI in 2016 was rated as “very poor” with a declining trend.

Infrastructure development has inadvertently impacted watersheds by causing barriers to fish passage and constricting flow through undersized culverts and bridges. Coho, sockeye and Chinook salmon and steelhead trout were blocked from most of the subbasin with the construction of Thief Valley Dam in 1932. The construction of dams on the Snake River in the 1950's and 60's blocked anadromous fish from the remainder of the subbasin. Isolated populations of bull trout, which are designated as federally threatened, reside in headwater streams of the Elkhorn Mountains, but are unable to access historic migration routes and remain in the diminutive resident form. Redband trout, which are considered a species of concern, are thought to be widely distributed within the subbasin, but comprehensive data on their distribution are currently unavailable.

Recommendations for improvements include the restoration of flow in de-watered streams, replacement of agricultural diversions and culverts that impede fish passage, re-establishment and maintenance of riparian vegetation to reduce water temperatures and decrease sedimentation, and improve road crossings or move roads from riparian areas to reduce sedimentation.

Burnt River Subbasin: The Burnt River subbasin has some of the same impairments as the Powder River subbasin, including low summer flow in streams, channel constriction, risk of upland erosion and excessive fuel accumulations in forests which can result in catastrophic fires, which in turn can cause increases in peak flows and reduced base flows. The loss of riparian vegetation has resulted in sedimentation from bank erosion and risk of gully erosion and further flood damage. Barriers to fish passage from agricultural irrigation diversions isolate populations and prevent migration.

In terms of water quality, many of the same parameters that deviate from standards are the same as the Powder River Basin, including temperature, dissolved oxygen, bacteria, and arsenic. Phosphorus and chlorophyll concentrations exceed state standards for the main stem of the Burnt River low in the watershed. The WQI for samples taken near the city of Huntington in 2016 are rated as "poor" with no particular trend. Anadromous fish were blocked from the subbasin during the 1950's and 60's due to the construction of dams on the Snake River. Populations of redband trout persist within the subbasin and are widely distributed and locally abundant, though comprehensive data on their distribution is currently unavailable.

Recommendations for the subbasin include restoration of flow in de-watered streams,

establishment of floodplain connectivity, wetland development, bank stabilization, re-establishment and maintenance of riparian vegetation to filter pollutants through revegetation and fencing, reduction of disturbances in riparian areas through improved forestry and grazing practices, reclamation of historic mining sites and reforestation of logged areas, reduction of sediment from roads, reduction of forest fuels, rehabilitation of headcuts to prevent upstream gully migration and reintroduction of beaver to reduce peak flows and increase late-season flows.

Brownlee Subbasin: Impairments within the Brownlee subbasin include a variety of factors leading to flow modification, riparian degradation and impacts to native fish recovery. Flow modifications include: beaver removal (which results in higher peak flows and lower base flows), de-watered sections of streams and creeks, channel straightening, flow constrictions from undersized bridges and culverts, gully formation and excessive fuel accumulations in forests which can lead to catastrophic fires which result in excessive runoff and reduced summer base flows. Degradation of riparian areas result from the loss of riparian vegetation from elk and livestock herbivory which can lead to higher water temperatures and susceptibility to flood damage. Additionally, the loss of floodplains due to infrastructure development, and sedimentation from roads, recreation, landslides and historic mining activity also compromise riparian function. Impacts that directly affect fish include manmade barriers to fish passage, primarily from agricultural irrigation diversions and entrapment of fish in irrigation ditches.

In terms of water quality, temperature, dissolved oxygen and mercury levels are the parameters which deviate from state standards. Anadromous fish were blocked from the subbasin during the 1950's and 60's by the construction of dams on the Snake River. The subbasin does support populations of bull trout, but they are restricted to headwater streams and do not assume the migratory form. In addition redband trout are also present within the subbasin, but comprehensive data on their distribution is currently unavailable.

Recommendations for the subbasin include the restoration of flow for de-watered streams, replacement of agricultural diversions which impede fish passage with fish passable diversions, the installation of fish screens, and increasing water-use efficiency.

Goals and Strategies

The goals and strategies of the Council are organized around the following topics:

1. Riparian Management and Water Conservation
2. Upland Management
3. Partnership and Coordination
4. Education and Outreach
5. Organizational Development

1. Riparian Management and Water Conservation: The goal of Riparian Management and Water Conservation is to improve watershed function of the three subbasins within the Powder Basin as it relates to water quality, water quantity, timing of flow, resistance to flood damage, ability to support aquatic life or other parameters.

Strategy A: Continue long-term monitoring of water quality in each of the three subbasins, including measurements of temperature, pH, conductivity, flow, turbidity and others.

Strategy B: Implement restoration projects designed to restore the functioning of priority streams within each subbasin. Limiting factors to be addressed may include sinuosity, bank stability, fish habitat complexity, vertical erosion, channel widening, floodplain access, invasive species, barriers to fish migration, water quality, the amount and type of riparian vegetation or other factors.

Strategy C: Improve water retention and temporary storage in order to reduce peak flows and increase base flows, without the construction of additional artificial reservoirs.

Strategy D: Address issues of water-use efficiency through improved irrigation practices and use of drought-tolerant plants.

Strategy E: Pursue projects that promote the resilience of the watersheds in the face of climate change in order to maintain the health of the watershed and allow it to continue providing the services expected by the community, such as water storage, resilience to drought and resilience to flood damage.

2. Upland Management: The goal of Upland Management is to acknowledge the role that uplands play in the flow of water through our watersheds and contribute to the integration of management between uplands and riparian areas.

Strategy A: Work with stakeholders to help restore watersheds by reducing fire intensities and increasing public understanding and acceptance of the role that fire plays in renewing forests and improving soil productivity and health.

Strategy B: Promote forestry and grazing practices that maintain vegetation, soil and water resources on uplands to prevent erosion and reduce runoff.

Strategy C: Support efforts to reduce invasive species within the watersheds.

3. Partnership and Coordination: The goal of Partnership and Coordination is to promote understanding and collaboration among stakeholders of the Powder Basin to implement the mission of the Powder Basin Watershed Council. The Powder Basin Watershed Council is a volunteer organization comprised of diverse membership. Maintaining healthy watersheds and thriving communities requires coordination between private landowners and public lands managed by various agencies as well as the broad support of the community.

Strategy A: Keep private landowners informed and facilitate their involvement in associated stream flow/restoration projects from design to implementation phases.

Strategy B: Recruit active and potential partners to participate in Council planning activities, such as Strategic Planning, contractor solicitation and project proposals.

Strategy C: Partner with public land management agencies to develop projects that benefit the whole watershed. Assist agencies in characterizing to the public the role that public lands and their management play in the functioning of the watersheds. Coordinate activities and planning with management occurring on public lands to maximize benefits to watershed health.

Strategy D: Form partnerships that promote the prevention of watershed degradation through conservation easements, land-use planning or other means.

Strategy E: Partner with entities that contribute to project development, funding and completion to increase the geographic and topical scope of the Council including local non-profits- especially those that support local agriculture.

4. Education and Outreach: The goal of Education and Outreach is to promote understanding of the importance of sustaining the quality and capacity of the Basin's watersheds to provide for multiple uses and interests.

Strategy A: Increase awareness of the importance of watershed management among youth by incorporating 'watershed curriculum' into schools throughout the basin.

Strategy B: Provide educational opportunities to the public by offering relevant presentations, tours and workshops and opportunities to participate in watershed restoration efforts on public and private lands.

Strategy C: Promote greater public awareness of the Powder Basin Watershed Council and its mission and activities, by hosting and attending community events in each subbasin.

Strategy D: Support opportunities for water-based recreation that help foster a sense of appreciation for the lakes, rivers and streams within the Powder Basin.

5. Organizational Development: To effectively pursue the mission of the Powder Basin Watershed Council and accomplish the strategies outlined in this document requires sufficient staff and financial resources to develop, implement and manage the array of actions noted above.

Strategy A: Improve the financial health of the Powder Basin Watershed Council and increase support from basin residents through local fundraising and volunteer recruitment to support the programmatic efforts of the Council.

Strategy B: Support and sustain Council staff through appropriate training and competitive salaries. Support the Board of Directors through training and recruitment of new members as needed.

Strategy C: Develop a basin-wide restoration plan that establishes priorities for all areas within each of the three subbasins. Priorities will be determined based on a synthesis of existing watershed assessments and reports, current and recent research and consultation with local experts. Projects will be selected from these priorities based on a combination of which projects result in the greatest ecological and social benefits, which projects require the most work to accomplish, which projects will bring in assistance from partners and which projects will result in beneficial outreach.

Strategy D: Engage resources outside the watershed to improve Council effectiveness (Network of Oregon Watershed Councils, other Watershed Councils, Nonprofit Association of Oregon, Universities...etc.)

Glossary

Limiting factor: a resource that controls the abundance or distribution of an organism.

Priority streams: streams which have been identified through data collection or expert opinion to hold enough hydrologic or biologic value to warrant the dedication of resources for maintenance or restoration.

Riparian: the area directly influenced by open bodies of water; the interface between upland and aquatic environments.

Stakeholder: an individual or an interest that is affected by the health of the watershed.

Upland: land above the level that is frequently flooded by streams. Contains vegetation types that are more drought tolerant.

Watershed: an area of land drained by a common waterway, including both the upland and riparian zones.

Watershed function/health: the behavior or performance of a watershed with respect to one or more measurable parameters, such as flow rate, temperature, sediment content...etc.

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