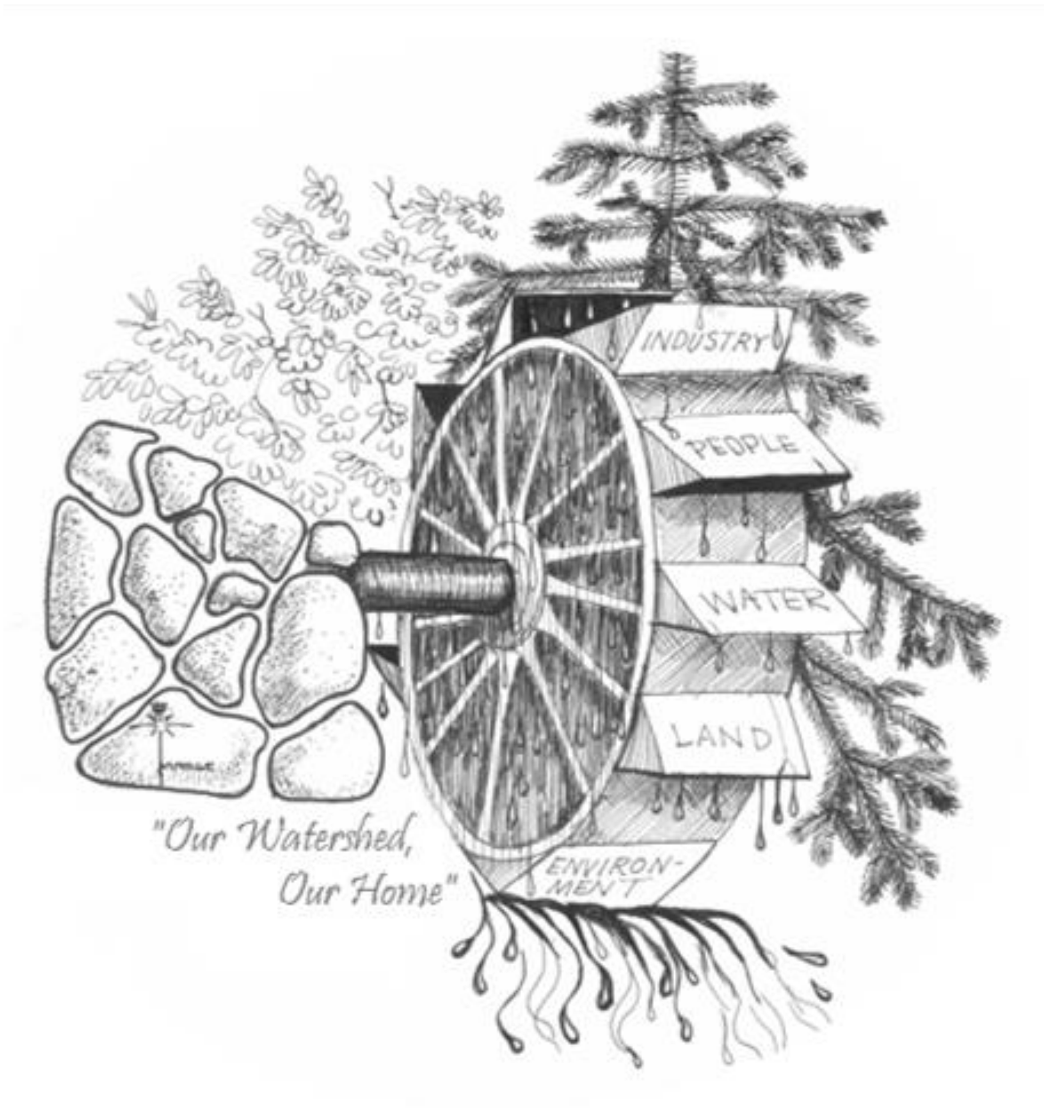
Powder Basin Watershed Council

2023-2027 Strategic Plan



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Introduction

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

Mission: The mission of the Powder Basin Watershed Council is to facilitate community supported maintenance and restoration of the streams, rivers and lakes within our watershed.

Purpose

The purpose of the 2023-2027 Strategic Plan is to provide a 5-year guide for the Powder Basin Watershed Council (PBWC) to achieve its vision and mission. Strategic Plan goals and strategies describe a broad scope of current and future council work to guide vision and mission achievement. General overviews of the Powder Basin, Powder River Subbasin, Burnt River Subbasin, and Brownlee Subbasin present updated basin conditions and geographic context for this plan. Finally, the 2023-2027 Strategic Plan provides a foundation for the PBWC's future Action Plan development. The Action Plan will build on the broad guide of the Strategic Plan by identifying key limiting factors for each subbasin, narrowing geographic focus areas for each subbasin, and prioritizing recommended actions for each subbasin.

Strategic Planning

The 2023-2027 Strategic Plan was developed by modifying and expanding the previous 2018-2022 Strategic Plan during the Powder Basin Watershed Council's (PBWC) Strategic Plan Refresh process. The Strategic Plan Refresh process consisted of three public meetings where stakeholders discussed Powder Basin community concerns, how well 2018-2022 goals and strategies encompassed council work, opportunities to expand council work in updated goals and strategies, and changes to basin and subbasin conditions. A diverse group of Powder Basin stakeholders collaborated to ensure the updated Strategic Plan is representative of various interests, community concerns, current and future council work, and current environmental needs. Strategic Plan Refresh participants included:

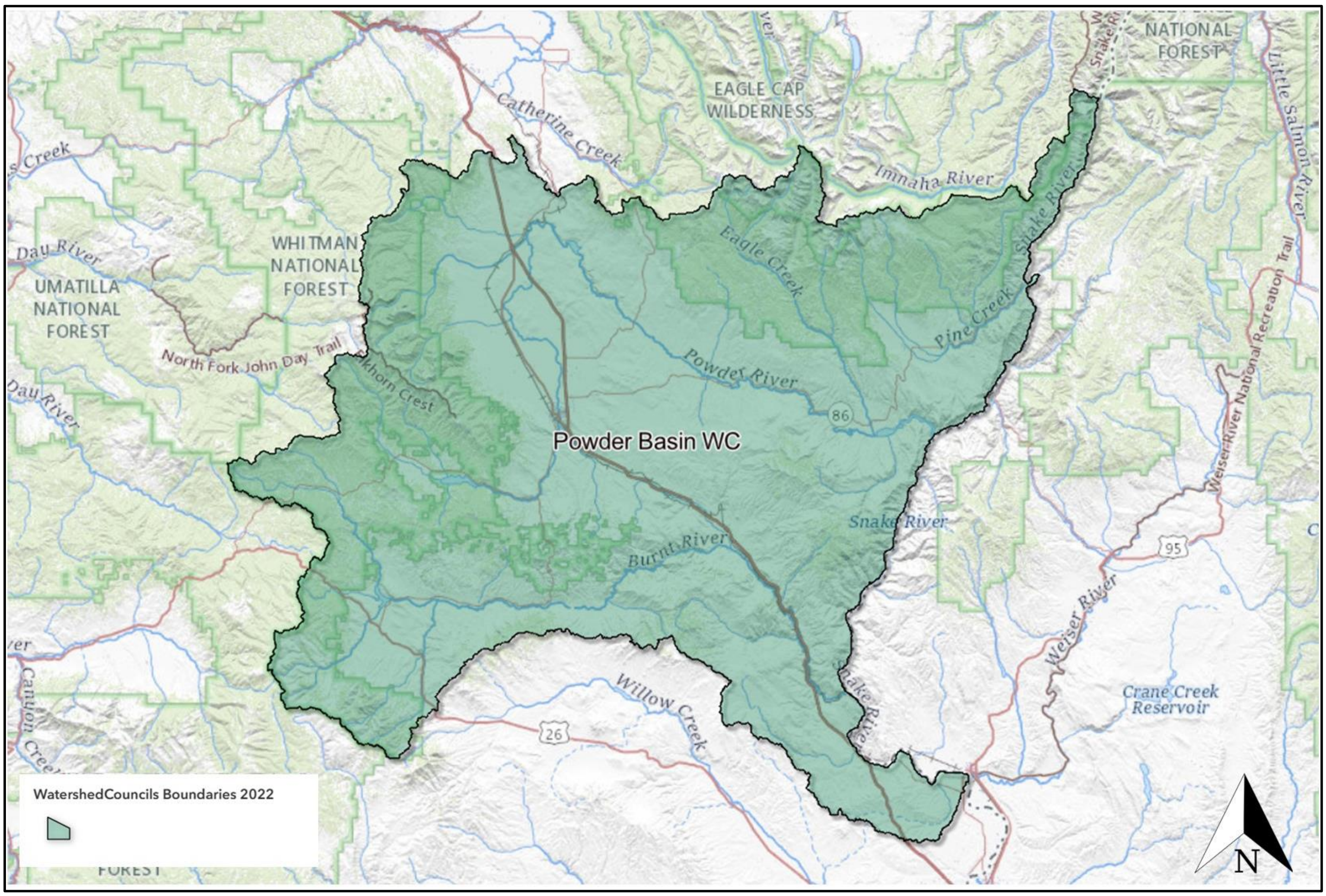
- Powder Basin Watershed residents
- Baker County Commission
- U.S. Forest Service, Wallowa Whitman National Forest, Whitman Ranger District
- U.S. Bureau of Land Management, Vale District, Baker Resource Area
- Confederated Tribes of the Umatilla
- Oregon Department of Fish and Wildlife
- Greater Hells Canyon Council
- Idaho Power Company
- Oregon State University Extension Service
- Burnt River Irrigation District
- State of Oregon Department of Environmental Quality

- Baker Resources Coalition
- PBWC Board of Directors
- PBWC Staff

The Strategic Plan will be implemented through the development of an Action Plan which describes prioritized work areas for each subbasin and recommended actions. Annual work plans to implement actions will be prepared in compliance with guidelines in the Strategic Plan and Action Plan before approval by the Powder Basin Watershed Council Board of Directors. Implemented council actions will be evaluated at the end of the 5-year period (2023-2027) for this Strategic Plan for compliance with the vision, mission, and specified strategies.

All proposed projects will be evaluated for 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 PBWC staff to complete the project, and the outreach benefits of the project.

Powder Basin Description and 2023 Updates



Basin Description

In Northeastern Oregon, the Powder Basin includes Baker County and parts of Union, Wallowa, and Malheur Counties. The Powder Basin encompasses approximately two million acres consisting of three subbasins: the Powder River, the Burnt River, and the Brownlee. Within these 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 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. High elevations are dominated by subalpine and mesic forests consisting primarily of public lands managed by the United States Forest Service (USFS). Mid-elevations consist of a mixture of grasslands, sagebrush shrublands, wet meadows, and agricultural lands which are managed privately or by the Bureau of Land Management (BLM). Drier forests and desert grasslands occurring at lower elevations also include private lands and BLM managed public lands. Land use within the Powder Basin includes ranching, farming, timber production, mining, hydropower projects, wind power production, recreation, commercial and residential development, and water supplies via reservoirs for towns and agriculture. For detailed information regarding specific subbasins please view the additional resources provided on pages 14.

Historically, the Powder Basin was home to several anadromous fish species including coho salmon, sockeye salmon, spring and fall Chinook salmon, summer steelhead trout, and pacific lamprey. With the construction of the Thief Valley Dam on the Powder River in 1932, anadromous fish species were blocked from the Powder River Subbasin. The construction of the Hells Canyon Dam Complex on the Snake River in the 1950's and 60's further blocked anadromous fish species from the entire Powder Basin. Because of blocked fish passage, Upper Snake Species Management Units of spring Chinook, fall Chinook, and summer steelhead are considered functionally extinct. Presently, bull trout and Redband trout are two significant species within the Powder Basin. Isolated populations of federally threatened bull trout (ESA listed) reside in headwater streams of the Elkhorn and Wallowa Mountains but cannot access historic migration routes and remain in the diminutive resident form. Redband trout, considered a sensitive species for Region 6 of the Forest Service, are widely distributed throughout each subbasin. For more information regarding fish distribution, Species Management Units, and listing status, please reference the watershed assessments and other additional resources on pages 14-16.

The Powder Basin also provides important sagebrush steppe habitat for Greater sage-grouse, an Oregon Conservation Strategy Species (ODFW). Greater sage-grouse populations have declined throughout their range for various reasons, a primary factor being reduced and fragmented habitat. Presently, within the Powder Basin, an important conservation measure for this species includes the Candidate Conservation Agreement with Assurances (CCAA) program. CCAA's are voluntary agreements between interested landowners and the Fish and Wildlife Service. Landowners agree to manage their property for conservation of an at-risk-species in exchange for assurances against additional regulatory requirements should the species become listed under the Endangered Species Act. For more information regarding Greater sage-grouse and the CCAA program, please reference the additional resources on page 16.

For more information on other important fish, wildlife, and plant species for the Powder Basin, please reference the watershed assessments and plans on page 14, the Sensitive Species

List (ODFW) linked on page 15, and The Oregon Conservation Strategy (ODFW) website linked on page 15.

2023 Basin Updates

Powder River Basin TMDL:

The State of Oregon Department of Environmental Quality (DEQ) is developing a Total Maximum Daily Load (TMDL) for the Powder River Basin to address impairments to water quality caused by high amounts of bacteria (E. coli). Sources of E. coli bacteria in surface waters include fecal contamination from humans, domestic animals, and wildlife. The Powder River Basin TMDL, currently in draft, will identify sources of pollution and specific areas where E. coli reductions are necessary to attain state water quality standards. The TMDL will address bacteria impairments in the Powder River, Burnt River, and Brownlee Subbasins.

For more information, please reference DEQ's Rulemaking Page for the Powder River Basin TMDL at https://www.oregon.gov/deq/rulemaking/Pages/PowderTMDL.aspx.

Climate Change:

Climate change is a concern throughout the Powder Basin due to the influence a drier and warmer climate can have on people and the environment. In recent years throughout the state of Oregon, precipitation has decreased, snowpack has decreased, and temperatures have increased. These factors have exacerbated extreme heat events, catastrophic wildfires, and a multi-year drought of varying severity statewide. Current climate predictions for the state of Oregon anticipate a continuation of these factors and events. Therefore, increasing climate resiliency throughout the Powder Basin is a top priority. Improving climate resiliency basin wide will be accomplished by using current climate conditions to inform council strategies and actions. Summarized 2022 and 2023 climate predictions for the state of Oregon are as follows:

- Increasing frequency of extreme heat events.
- Increasing frequency and severity of drought and continued multi-year drought.
- Increasing winter precipitation and decreasing summer precipitation. Winter precipitation will include more rain than snow.
- Declining snowpack.
- Increasing frequency and severity of wildfire.

For more information regarding drought and climate change in Oregon, please reference the following resources.

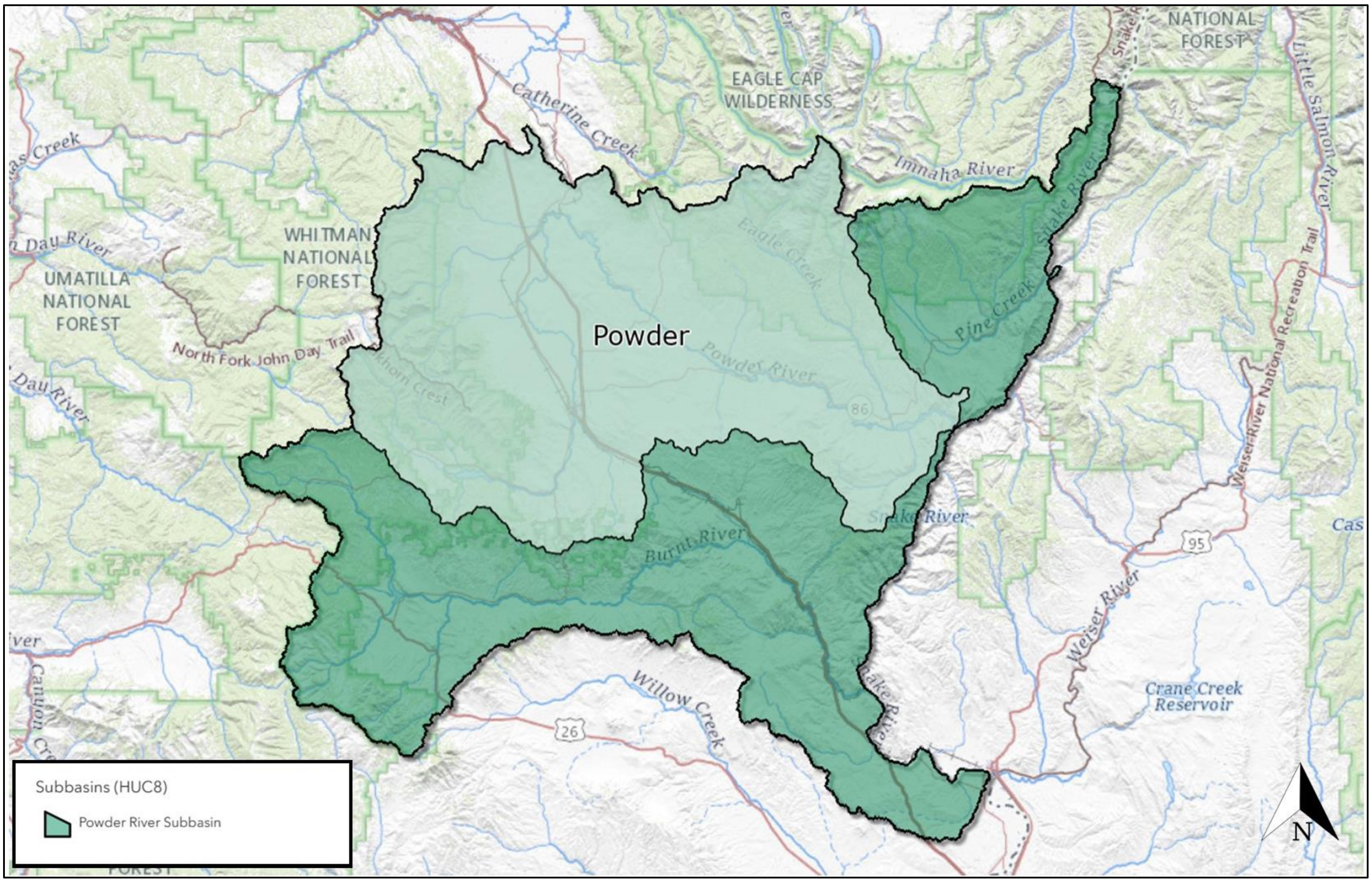
Additional Resources	
Drought	National Integrated Drought Information System: Drought.gov, or https://www.drought.gov/states/oregon

Climate Change	NOAA National Centers for Environmental Information: 2022 State Climate Summaries for Oregon, https://statesummaries.ncics.org/chapter/or/
Climate Change	Oregon Climate Change Research Institute: Sixth Oregon Climate Assessment (2023), https://ir.library.oregonstate.edu/concern/technical_reports/gt54kw197
Climate Change	Oregon Department of Energy (ODOE): Sixth Oregon Climate Assessment – ODOE Summary, https://energyinfo.oregon.gov/blog/2023/1/11/occris-sixth-climate-assessment-outlines-climate-change-effects-on-oregon

Subbasin Impairments and Recommendations

Impairments and recommendations addressing the degradation of watersheds within each subbasin and their ability to provide services expected by the community are documented in several reports and summarized below (see additional resources on page 14 and references on pages 22-25). This information was updated for the 2023-2027 Strategic Plan using feedback from Strategic Plan Refresh participants detailed on pages 2-3. Additional resources regarding impairments, recommendations, and current subbasin conditions are available on pages 14-16.

Powder River Subbasin



Impairments:

- Limited fishing success and opportunities on the Powder River near Baker City.
- Seasonally dewatered streams.
- Streams lacking riparian vegetation, complexity, and large woody materials to increase resiliency to flood events.
- Straightened or artificially constricted streams.

- Down cut streams at risk of bed erosion.
- Altered flood regimes due to lack of floodplain connectivity and regulation of high flows from reservoirs.
- Decreased quantity and quality of upland habitat for sage grouse and other species.
- Lack of data and knowledge regarding quantity and quality of groundwater.
- Increased development in Baker County without a plan for impacts to the quantity and quality of both surface and groundwater.
- Increased risk of severity and frequency of wildfire due to climate change and land management practices.
- Harmful algal blooms.

<u>Water Quality Impairments:</u>

The State of Oregon Department of Environmental Quality (DEQ) regularly publishes a list of impaired waters (303(d) list), or water bodies not meeting water quality standards, in the Integrated Report. According to the 2022 Integrated Report, surface waters in the Powder River Subbasin are impaired due to the following parameters:

Impaired Parameter	**Year First Listed**	**Total Number of Impaired Reaches**	**Number of Reaches Added in 2022**	**Number of Reaches Delisted in 2022**
Bacteria: Fecal coliform	1998	1	0	0
Bacteria: E. coli	2018	3	0	1
Dissolved oxygen (year-round and spawn)	2018	5	4	0
Biocriteria	2022	2	2	0
Turbidity	1998	1	0	0
pH	2022	2	2	0
Temperature (year-round)	1998	29	20	0
Iron	2022	2	2	0
Arsenic	2022	4	4	0
Methylmercury	2012	5	0	0
Flow modification	2002	2	0	0
Sedimentation	2010	1	0	0

<u>DEQ Water Quality Index (WQI)</u>

Water quality index scores provide a general overview of water quality status and trend by incorporating data from multiple water quality parameters into one score ranging from 10 (worst) to 100 (best). Trends incorporate multiple years of WQI score data to provide an overview of whether water quality is improving, declining, or maintaining.

Sampling Location	2016 Rating	2016 Trend	2022 Rating	2022 Trend
Powder River in Baker City	Good (86.72)	No trend	Good (87.80)	No trend
Powder River near Richland	Very poor (40.91)	Declining trend	Very poor (32.33)	No trend

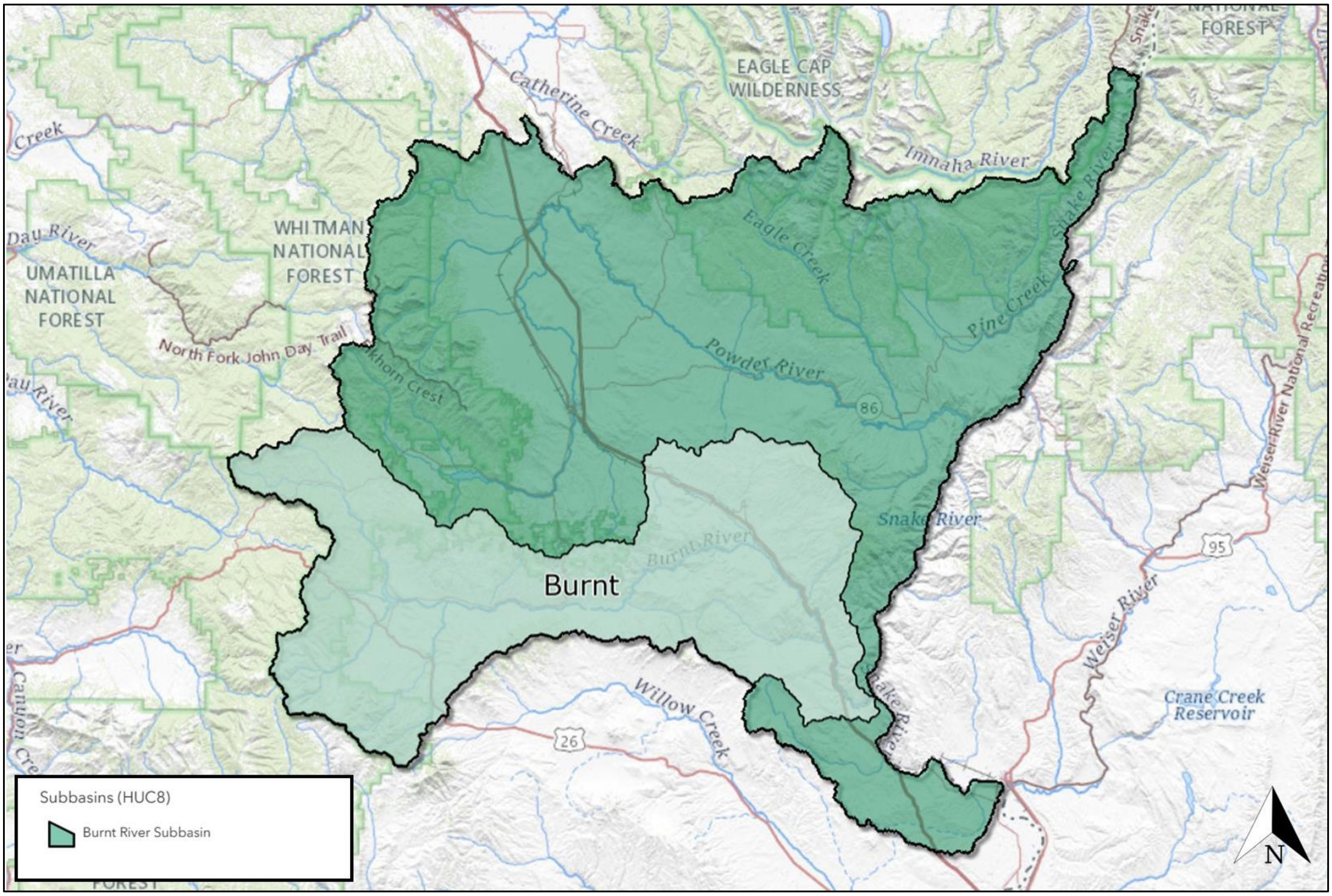
<u>TMDL identified reaches where excess bacteria loads were measured:</u>

- Powder River at Baker City
- Powder River near Richland
- Eagle Creek near Richland
- North Powder River at Hwy 30
- North Powder River at Miller Rd

<u>Recommendations:</u>

- Improve fish habitat and fishing opportunities on the Powder River near Baker City.
- Restoration of flow in dewatered streams.
- Replacement of agricultural diversions and culverts impeding fish passage.
- Reestablishment and maintenance of riparian vegetation to reduce water temperatures and decrease sedimentation.
- Improve road crossings or move roads from riparian areas to reduce sedimentation.
- Continued work on groundwater data collection, organization, and analysis.
- Work to improve and reconnect bull trout habitat.

Burnt River Subbasin



Impairments:

- Low summer flow in streams.
- Channel modification.
- Increased risk of catastrophic wildfire which can cause sedimentation, increases in peak flows, and reduced base flows.
- Loss of riparian vegetation has resulted in sedimentation from bank erosion, increased the risk of gully erosion, and decreased resiliency to flood damage.
- Barriers to fish passage from agricultural irrigation diversions isolate populations and prevent migration.
- Harmful algal blooms.

Water Quality Impairments:

The State of Oregon Department of Environmental Quality (DEQ) regularly publishes a list of impaired waters (303(d) list), or water bodies not meeting water quality standards, in the

Integrated Report. According to the 2022 Integrated Report, surface waters in the Burnt River Subbasin are impaired due to the following parameters:

Impaired Parameter	Year First Listed	Total Number of Impaired Reaches	Number of Reaches Added in 2022	Number of Reaches Delisted in 2022
Bacteria: E. coli	2018	3	0	0
Dissolved oxygen (year-round and spawn)	2018	6	2	0
Biocriteria	2010	4	3	0
pH	2022	1	1	1
Phosphorous	2012	1	0	0
Temperature (year-round)	1998	19	9	0
Iron	2022	2	2	0
Arsenic	2022	1	1	0
Habitat modification	2002	10	0	0
Flow modification	2002	5	0	0
Sedimentation	1998	10	0	0

DEQ Water Quality Index (WQI)

Water quality index scores provide a general overview of water quality status and trend by incorporating data from multiple water quality parameters into one score ranging from 10 (worst) to 100 (best). Trends incorporate multiple years of WQI score data to provide an overview of whether water quality is improving, declining, or maintaining.

Sampling Location	2016 Rating	2016 Trend	2022 Rating	2022 Trend
Burnt River near Huntington	Poor (70.56)	No trend	Poor (70.19)	No trend

TMDL identified reaches where excess bacteria loads were measured:

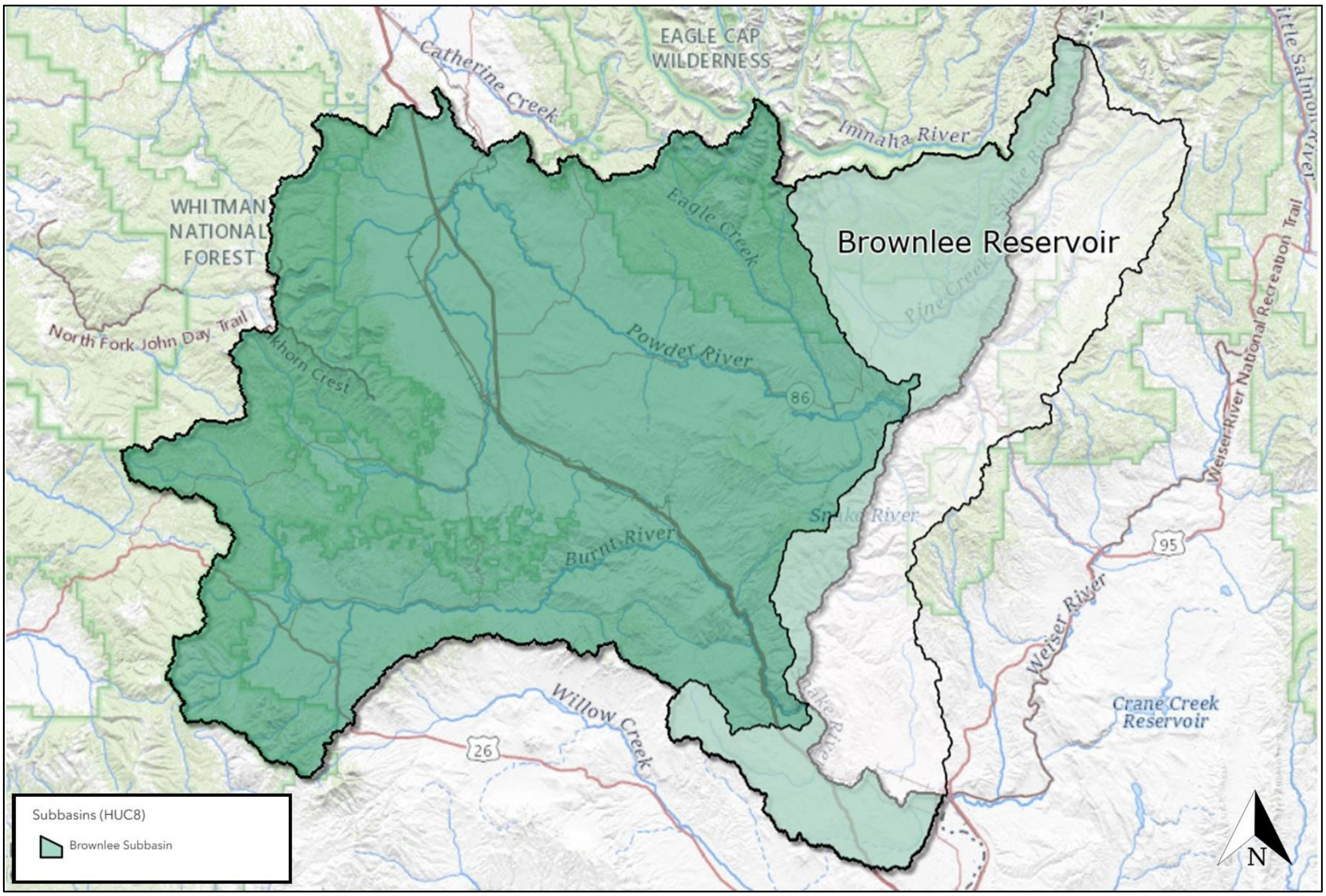
- Burnt River at Clarks Creek Rd
- Burnt River at Huntington
- South Fork Burnt River above Unity Reservoir

Recommendations:

- 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.
- Reforestation of logged areas and burned areas on private and public lands.
- Reduction of sediment from roads.
- Better forest and land management practices to increase landscape resiliency to catastrophic wildfire.
- Rehabilitation of headcuts to prevent upstream gully migration.
- Improve and reconnect habitat for beavers to reduce peak flows and increase late-season flows.

Brownlee Subbasin



Note: The Brownlee Subbasin encompasses territory in both Oregon and Idaho. The Powder Basin Watershed Council operates within the Oregon portions of the subbasin denoted in light green on the map.

Impairments:

- Flow modifications.
- Beaver removal increasing peak flows and reducing base flows.
- De-watered sections of streams and creeks.
- Channel straightening.
- Gully formation.
- Increased risk of catastrophic wildfire which can cause sedimentation, increases in peak flows, and reduced base flows.
- Degradation of riparian areas due to loss of riparian vegetation from elk/livestock herbivory and private land management practices reducing riparian zones leading to increasing water temperatures and decreasing flood resiliency.
- Loss of floodplains due to infrastructure development.
- Sedimentation from roads, recreation, landslides, and historic/current mining activity.
- Fish passage barriers from agricultural irrigation diversions and entrapment of fish in irrigation ditches.
- Harmful algal blooms.

Water Quality Impairments:

The State of Oregon Department of Environmental Quality (DEQ) regularly publishes a list of impaired waters (303(d) list), or water bodies not meeting water quality standards, in the Integrated Report. According to the 2022 Integrated Report, surface waters in the Brownlee Subbasin are impaired due to the following parameters:

Impaired Parameter	**Year First Listed**	**Total Number of Impaired Reaches**	**Number of Reaches Added in 2022**	**Number of Reaches Delisted in 2022**
Bacteria: E. coli	2018	1	0	0
Dissolved oxygen (year-round)	2012	4	2	1
Temperature (year-round)	1998	15	6	0
Total dissolved gas	2012	2	0	0
Arsenic	2022	1	1	0
Methylmercury	1998	4	0	0
Toxic Substance: DDD 4, 4’	2012	3	0	0
Toxic Substance: DDE 4, 4’	2012	3	0	0
Toxic Substance: DDT 4, 4’	2012	3	0	0
Dieldrin	2012	3	0	0
Chlorophyll-a	2012	2	0	1
Flow modification	2002	1	0	0

Sedimentation	2012	4	0	1
Harmful Algal Blooms	2022	1	1	0

<u>TMDL identified reaches where excess bacteria loads were measured:</u>

- Moore's Hollow

<u>Recommendations:</u>

- Restoration of flow for de-watered streams.
- Remediation of agricultural diversions which impede fish passage.
- Installation of fish screens.
- Increasing water-use efficiency.
- Work to improve and reconnect bull trout habitat.

Additional Resources

Powder River Subbasin	Powder River – Powder Valley Watershed Assessment (2004), available at PBWC office. Upper Powder River Watershed Assessment (2001), available at PBWC office. Powder River Subbasin Plan (2004), PDF available from PBWC by request.
Burnt River Subbasin	Burnt River Subbasin Plan (2004), PDF available from PBWC by request. North Fork Burnt River Beaver Restoration Assessment Tool (2019), available at PBWC office.
Brownlee Subbasin	Brownlee Subbasin Watershed Assessment (2012), available at PBWC office.
Impaired water quality parameters	State of Oregon Department of Environmental Quality: 2022 Integrated Report Website: https://geo.maps.arcgis.com/apps/instant/sidebar/index.html?appid=7d13b19e01a44f1dbfd12903576e6d29
Water Quality Index Scores	State of Oregon Department of Environmental Quality: 2022 Oregon Water Quality Index

	Website: https://geo.maps.arcgis.com/apps/instant/media/index.html?appid=b2007ef5c38a4afd8e0be6d3611c89aa
TMDL Identified E. coli Reduction Needs	State of Oregon Department of Environmental Quality: Powder River Basin TMDL Rulemaking Page Website: https://www.oregon.gov/deq/rulemaking/Pages/PowderTMDL.aspx
Water Quality Status and Trends	State of Oregon Department of Environmental Quality: Water Quality Status and Trends Analysis Websites: https://www.oregon.gov/deq/wq/programs/Pages/wqstatustrends.aspx, https://www.deq.state.or.us/SC/WQWebReporting/wqst_map/powderburnt/powderburnt_map.html
Fish Distribution Map – Provides more information regarding historic and current fish distribution in Powder Basin.	Oregon Department of Fish and Wildlife – Oregon Fish Habitat Distribution and Barrier Data Viewer Website: https://nrimp.dfw.state.or.us/nrimp/default.aspx?pn=fishdistmaps
Sensitive Species List – Provides more information regarding the listing status of fish and wildlife throughout Oregon.	Oregon Department of Fish and Wildlife Sensitive Species List PDF link: https://www.dfw.state.or.us/wildlife/diversity/species/docs/Sensitive_Species_List.pdf
Oregon Conservation Strategy species – Provides more information on fish, wildlife, and plant species throughout Oregon. Information includes federal/state listings, specific Species Management Units, specific ecoregions, limiting factors, and recommendations.	Oregon Department of Fish and Wildlife – The Oregon Conservation Strategy – Strategy Species Website: https://oregonconservationstrategy.org/ocs-strategy-species/
Oregon Native Fish Status Report – More information about Species Management Units and listing status.	Oregon Department of Fish and Wildlife – Oregon Native Fish Status Report Website: ODFW Oregon Native Fish Status Report. https://www.dfw.state.or.us/fish/ONFSR/report.asp#sockeye.

Programmatic Sage-grouse Candidate Conservation Agreement with Assurances	Powder Basin Watershed Council Website: https://www.powderbasinwatershedcouncil.org/sage-grouse-ccaa Brochure: https://www.powderbasinwatershedcouncil.org/_files/ugd/f3c45d_72f703a038ea414da51af9e72971a08e.pdf
Greater Sage Grouse	US Fish and Wildlife Service Website: https://www.fws.gov/species/greater-sage-grouse-centrocercus-urophasianus
Endangered Species Act	US Fish and Wildlife Service Website: https://www.fws.gov/law/endangered-species-act

Scope of Work

This plan details a broad scope of work for the Powder Basin Watershed Council which is outlined by vision and mission driven goals and strategies. Goals and strategies are organized by the 6 work categories listed below.

1. Riparian Management and Water Conservation
2. Upland Management
3. Partnership and Coordination
4. Education, Outreach, and Communication
5. Organizational Development
6. Monitoring and Assessments

Goals and Strategies

1. Riparian Management and Water Conservation: Support projects to enhance watershed function and improve habitat for species of concern throughout the Powder, Burnt, and Brownlee subbasins. Projects may address improving water quality, water quantity, timing of flows, water use efficiency, functioning condition of priority streams, and watershed resilience to climate change.

Strategy A: Implement restoration projects designed to address the degradation of priority streams within each subbasin. Address key limiting factors of sinuosity, bank stability, fish habitat complexity, vertical erosion, channel widening, floodplain connectivity, invasive species, barriers to fish migration, water quality, water quantity, riparian vegetation, and other relevant factors.

Strategy B: Pursue projects to improve water quantity and timing of flows to increase water storage capacity and residence time of water on the landscape. Projects may address process-based restoration, floodplain connectivity, upland storage, natural/artificial dams, reservoirs, reforestation/protection of established forests, and other relevant factors.

Strategy C: Pursue projects to increase water-use efficiency through irrigation improvements and use of drought-tolerant plants. Irrigation improvement projects should consider unique hydrology of some systems which rely on flood irrigation to sustain late season flows and for groundwater recharge.

Strategy D: Promote projects to increase resiliency of watersheds within the Powder, Burnt, and Brownlee subbasins to negative impacts of climate change. Projects may address increased water storage capacity, improving late season flows, restoration to improve drought-tolerance, restoration to improve flood damage resilience, and other relevant factors.

Strategy E: Promote water quality improvement by pursuing projects and partnerships to address the upcoming Powder Basin TMDL for bacteria. Partner with the State of Oregon Department of Environmental Quality, private landowners, irrigation districts, and other relevant parties to prioritize watershed council work around TMDL focus areas.

2. Upland Management: Promote projects and partnerships to enhance the health of forests, rangelands, grasslands, and upland wet-meadow complexes throughout the Powder, Burnt, and Brownlee subbasins to improve habitat for species of concern and increase watershed function. Actions may address wildfire education and management, improving soil health and productivity, reducing erosion and compaction, managing invasive species, and continued support of work implemented by the Sage-grouse Conservation Candidate Agreement with Assurances (CCAA) Coordinator.

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

Strategy B: Promote forestry and grazing practices that maintain vegetation, soil, and water resources on uplands to prevent erosion and reduce runoff. Projects may address diminishing soil disturbance through grazing management, forest management, off-channel watering developments, installing fencing to protect sensitive habitats and species, promoting minimum impact recreational practices, and other relevant factors.

Strategy C: Support efforts to reduce invasive species in forests, rangelands, grasslands, and upland wet-meadow complexes throughout the Powder Basin. Work with partners to reduce invasive species, promote weed management education, and pursue opportunities to diversify native species and increase biodiversity to improve ecological resiliency to disturbance and climate change.

Strategy D: Continue supporting efforts of the Sage-grouse CCAA Coordinator in their work to meet programmatic CCAA goals, monitor uplands, engage with diverse stakeholders, and to maintain/improve Sage-grouse habitat throughout Baker and Union counties.

3. Partnership and Coordination: The goal of Partnership and Coordination is to promote trust, understanding, partnership, and collaboration among stakeholders of the Powder Basin to achieve the mission of the Powder Basin Watershed Council. The Powder Basin Watershed Council is a volunteer organization comprised of diverse membership. Enhancing healthy watersheds and thriving communities requires coordination between private landowners, public lands managed by various agencies, broad support of the community, current and future PBWC partners, and governments (local, state, and federal).

Strategy A: Keep interested landowners and basin residents informed of and facilitate their involvement in current PBWC programs, projects, and events. Ensure program and project processes are transparent and include interested landowners and basin residents in all relevant steps.

Strategy B: Recruit active and potential partners to participate in PBWC planning activities. Activities may include Strategic Planning, Action Planning, contractor solicitation, project proposals, and project implementation.

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

Strategy D: Form partnerships to reduce watershed degradation through conservation easements, land-use planning, education, or other means.

Strategy E: Partner with entities contributing to project development, funding, and completion to increase the geographic and topical scope of the PBWC. Partners may include local non-profits, those supporting local agriculture, conservation, and rehabilitation.

Strategy F: Build partnerships with local, state, and federal governments to help inform and advise policy decisions by sharing data and experience collected by the PBWC and the community. Work with governments to find ways to better serve our communities, and to coordinate opportunities to aid vision and mission achievement.

4. Education, Outreach, and Communication: Promote Powder Basin Watershed Council (PBWC) work, mission, programs, and projects to help educate youth, the public, private landowners, public agencies, and other interested parties about the importance of sustaining and increasing watershed health throughout the Powder Basin to provide for multiple uses and interests.

Strategy A: Educate youth about the importance of managing watersheds to enhance upland, riparian, river, and socioeconomic health by developing partnerships with local school districts and educators, pursuing educational opportunities for local youth, and continuing current educational programs.

Strategy B: Provide educational opportunities to the public by offering relevant presentations, tours, 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 by hosting and attending community events in each subbasin. Inform the public of current PBWC programs, projects, and activities.

Strategy D: Support opportunities for water-based recreation that help foster a sense of appreciation for lakes, rivers, and streams within the Powder Basin. Continue pursuing projects such as Fish the Powder which educate communities about watershed management needs to enhance recreational opportunities.

Strategy E: Increase availability and accessibility of PBWC data, maps, and materials to educational partners, the public, landowners, agencies, and any other interested parties.

Strategy F: Continue outreach and communication with PBWC partners, supporters, and the public through newspaper articles, social media posts, workshops, guest speakers, planning activities, flyers, and any other relevant means of communication.

5. Organizational Development: To effectively pursue the vision and mission of the Powder Basin Watershed Council (PBWC) requires sufficient staff and financial resources to develop, implement, and manage the strategies listed in this document and future council actions.

Strategy A: Improve the financial health of the PBWC and increase support from basin residents through local fundraising and volunteer recruitment to support the programmatic efforts. Pursue a diversity of funding sources to improve PBWC resilience.

Strategy B: Support and sustain PBWC 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 Watershed Restoration Action Plan to establish priority work areas within each of the three subbasins. Prioritization will be accomplished through a synthesis of existing watershed assessments and reports, current and recent research, consultation with local experts, and the location of streams in high visibility and high recreational use areas. Projects will be selected from these priorities based on 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 PBWC effectiveness. Resources may include the Network of Oregon Watershed Councils, other Watershed Councils, Nonprofit Association of Oregon, Universities, and other relevant parties.

6. Monitoring and Assessments: Achieving the vision and mission of the Powder Basin Watershed Council (PBWC) requires knowledge and data regarding current basin conditions, data collection to establish potential condition trends, data collection to determine the effectiveness of PBWC actions, and adaptive measures for addressing ineffective actions.

Strategy A: Continue long-term water quality monitoring in the Powder, Burnt, and Brownlee subbasins. Water quality monitoring will include measurements of temperature, pH, conductivity, flow, turbidity, macroinvertebrate sampling, and other relevant parameters.

Strategy B: Work with partners to determine needs for data collection and organization throughout the Powder Basin. Support partners through assessment work to collect, organize, and share relevant data to establish baseline conditions and trends for watersheds throughout the basin.

Strategy C: Develop an effectiveness monitoring program and/or incorporate effectiveness monitoring into PBWC projects to evaluate the success of actions. Effectiveness monitoring may include the collection of baseline data prior to project development and will be used for riparian management and water conservation actions, upland management actions, and education, outreach, and communication actions. Collected data will help inform future PBWC actions and will aid in Strategic Plan and Action Plan updates.

Strategy D: When appropriate, incorporate adaptive management principles into planning processes, project development, design, and evaluation. Adaptive management encourages comparing monitoring data to predicted outcomes to increase effectiveness of future actions. Stakeholder participation in planning and project development is useful in identifying problems, diversifying solutions, and reducing uncertainty of actions.

Glossary

Candidate Conservation Agreement with Assurances: CCAA's are voluntary agreements between interested landowners and the Fish and Wildlife Service. Landowners agree to manage their property for conservation of an at-risk-species in exchange for assurances against additional regulatory requirements should the species become listed under the Endangered Species Act.

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. Priority streams will be defined in the future action plan.

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.

Total Maximum Daily Load (TMDL): Maximum allowable quantity of pollutant in water to still meet and maintain water quality standards for specified pollutant. A TMDL is currently being created for the Powder Basin regarding bacteria.

Upland: land above the level that is frequently flooded by streams. Contains vegetation types that are more drought tolerant. Within this document, uplands include forests, rangelands, grasslands, and upland wet-meadow complexes.

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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Powder Basin Watershed Council

2023-2027 Strategic Plan Finalization

This signature page represents the successful culmination of the Strategic Plan Refresh process undertaken by the Powder Basin Watershed Council (PBWC) in 2023. The PBWC Board of Directors and Executive Director sign this document to hereby finalize the updated Strategic Plan for the five-year period of 2023-2027.

Signature:	Date:
Tim Bailey, Executive Director	11/10/2023
Dorothy Mason, President	11-10-23
Ben Titus, Treasurer	11-10-23
Karen Riener, Secretary	11/10/2023
Margaret Durner, Director at Large	11/9/23
Curtis Martin, Director at Large	11/10/2023
Shawn Klaus, Director at Large	11-3-2023