



Our Mission

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

Powder Basin Watershed Council

<https://www.powderbasinwatershedcouncil.org/>

Progress Report: July 1, 2019 – December 30, 2020

INTRODUCTION

This report is intended to serve as both a 2020 annual report of activities, and a progress report as required by the Oregon Watershed Enhancement Board (OWEB) for the Powder Basin Watershed Council's (Council) Capacity Grant (grant number 220-057). This report includes activities from July 1, 2019 through December 30, 2020.

In addition to the challenges brought by the COVID-19 Pandemic, the Council and staff saw significant changes in 2020. The Council is currently represented by Board of Director members Dorothy Mason (President), Karen Reiner (Treasurer), Alan Egger (Director at large) and Levi Old (Director at large). Board members Ben Titus and Mark Jackson stepped down in 2020.

2020 saw a complete staff turnover. Anna Morgan-Hayes stepped down as Monitoring Coordinator in May, and Christo Morris stepped down as Executive Director in August. These staff departures were for professional growth opportunities. Amanda Bintliff was hired as Monitoring and Research Coordinator, and began her appointment on July 2nd. Tim Bailey was hired as the Executive Director and started his full-time appointment on November 2nd.

Amanda is a recent graduate from Oregon State University with her Bachelor of Science in Fisheries and Wildlife Sciences. Her background includes several years of natural resources and conservation work in surveying, and professional water quality-based laboratory work.

Tim recently retired from working 34 years with the Oregon Department of Fish and Wildlife (ODFW). Tim served as District Fish Biologist in the Umatilla and La Grande Districts, Northeast Oregon Fish Habitat Program Leader, and Fish Habitat Biologist. His work in the ODFW La Grande Fish District overlapped with the Council's geography and he served as a council member and a collaborator on a number of projects.

MONITORING & ASSESSMENTS

Long-term Water Quality Monitoring (OWEB Grant 218-5055-15953)

2019 marked the mid-way point for the Council's Long-Term Monitoring Project. The project secured OWEB funding in 2018 and has been a great success! The 2019 field season wrapped up with the help of 9 hard-working volunteers, 12 High School students, and countless hours donated by technical advisers. During 2019, the Council managed to complete monitoring at 48 sites for continuous temperature and 33 sites for pH, Dissolved Oxygen, Turbidity, Conductivity, and Water Temperature grab samples. Monitoring these parameters allows staff to understand basic water quality conditions and identify long-term trends in water quality.

Monitoring results for 2019 show similar trends as previous years with approximately 25% of streams meeting the Oregon standards for stream temperatures. Of the thirty-three sites, only one site failed to meet pH standards (must not fall below or exceed 6.5-9.0SU) and one site failed to meet the Dissolved Oxygen standards (must not fall below 6.5 mg/L for cool water, aquatic life or 8.0 mg for cold-water, aquatic life). Conductivity levels varied throughout the basin. This mimicked past trends where higher and more varying levels of conductivity occurred in streams moving from upper to lower watershed. Lastly, the turbidity levels in the Powder Basin tend to remain low, except for in early season snowmelt periods.

In the 2020 field season the council engaged 6 volunteers and 3 Burnt River High School students. Outreach and the recruitment of new volunteers was particularly challenging during the 2020 field season due to the COVID-19 pandemic. Nevertheless, the Council managed to complete water quality monitoring at 21 sites for continuous water temperature, and 35 sites for pH, Dissolved Oxygen, Turbidity, Conductivity, and Water Temperature grab samples. The data collected this year is currently

being analyzed for reporting and will be added to the Council's long-term water quality monitoring database. As much as eight continuous years of data has been collected for certain sites. This information will serve as a resource for the entire community to better understand the current conditions of water quality in the Powder Basin Watershed.

Macroinvertebrate Analysis

The 2018 Macroinvertebrate Survey involved collecting aquatic insect samples at 22 sites broadly throughout the Powder Basin Watershed. The taxonomic identification was completed by Cole Ecological, Inc. in 2019. Shortly after, the Oregon Department of Environmental Quality (ODEQ) completed PREDATOR modeling and the data were returned to the Council. These data were analyzed and compared to water quality and historical land use information to determine the quality of the macroinvertebrate assemblages at each of the 22 sites. The outcome of this effort was a Macroinvertebrate Survey Report that detailed the results from this project and highlighted key areas of stream disturbances. The final report was completed in early 2020 and will be made available on the Council website.

North Fork Burnt River (NFBR) Stream Gage (OWEB Grant 220-5047-17446)

In 2019, Oregon Water Resources Department (OWRD) announced they were planning to discontinue operation of this stream gage due to budget constraints. In March 2019, the Wallowa Whitman National Forest (WWNF) solicited comments on the proposed Patrick Vegetation Management Project in the watershed. The project is proposed on 48,753 acres of WWNF-managed land upstream of the NFBR stream gage. In this watershed, all the streams are 303d listed for temperature and/or habitat conditions. The long period of record (27 years) makes the gage especially valuable for detecting changes in stream flow related to this project. Past management actions have been limited to ongoing livestock grazing, limited timber harvest and prescribed burns. The Council requested funds from OWEB in 2019 on behalf of a group of partners to partially fund the continued operation of the NFBR stream gage from 2020-2022.

Several entities stepped up to make financial contributions to this effort including Greater Hells Canyon Council, Oregon Wild, OWRD, and local concerned citizens. Entities that have submitted letters of support include Burnt River Irrigation District, Idaho Power, and the WWNF. In April of 2020, the Council was awarded OWEB grant funds to continue the gages operation. The information provided will document any management related changes that occur (positive or negative) to stream flows in the NFBR and help guide project development.

RESTORATION

Powder River Fish Habitat Enhancement Project (OWEB Grant 220-5023-17032)

The concept for the Powder River Fish Habitat Enhancement Project was hatched early in 2019 when a passionate Baker City resident approached the Council in hopes to better the Powder River fishery. The idea quickly gained momentum and the Council garnered support from numerous agencies including ODFW, US Forest Service (USFS), Trout Unlimited and Baker City staff. To improve the Powder River fishery, the Council must first understand the current conditions. To accomplish this task the Council decided to pursue an aquatic habitat inventory. Funding for the inventory and analysis was secured through a grant from the OWEB in the fall 2019. Additionally, outreach for this project started off in 2019 with an overwhelmingly positive response. Nearly 50% of the 197 properties granted permission before receiving funding.

From late 2019 to early 2020, The Council contracted with the ODFW Aquatic Inventory Team to conduct the fish habitat survey, and set out to contact 197 landowners who own properties bordering the Powder River. This project stretched from Hughes Lane in Baker City upstream to the Mason Dam. The

outreach effort resulted in the Council receiving permission from 105 landowners to conduct the fish habitat survey! The survey began on September 21st, 2020 and ended on September 24th, 2020 and was only conducted in locations where permission from landowners on both sides of the river was granted. Surveyors collected measurements on pool depth, bed composition, bank stability and streamside vegetation. They also documented barriers to fish movement and any unscreened irrigation diversions.

Approximately half of the survey (8.0 miles) was successfully inventoried in 2020. The remainder of our efforts to contact landowners and complete the habitat survey will take place during the 2021 field season. The Council is excited to serve the interests of its local community, understand the health of our local waterway, and improve fishing in the Powder River.

Idaho Power Company Water Efficiency Program

The Council assisted the Idaho Power Company (IPC) implement its 2019 Water Efficiency Program (WEP) in the Pine Creek Basin by participating on the project review team and by serving as the fiscal sponsor for the program. Two projects were completed in 2020 including a conversion of 4 acres of flood irrigated pasture to sprinkle irrigation, and converting 145 acres from hand-line to wheel-line sprinkle, and flood to sprinkle irrigation. This included a new pump station.

TECHNICAL ASSISTANCE

Upper Pine Creek Flood Restoration Project (OWEB Grant 217-5049-12418)

Development of restoration designs for Upper Pine Creek Flood Restoration project has progressed during 2019 and 2020. After the completion of field surveys and hydrologic modeling was completed in the summer 2019, and the preliminary restoration designs were presented by RSI addressing issues of flood damage, reduced fisheries habitat, and increased sediment build-up. Through a partnership with IPC, the Council's efforts have focused primarily on addressing issues related to fish passage and potential flood damage due to irrigation diversions. Field surveys and modeling was completed in 2017 and preliminary designs were presented to landowners and state regulators the same year.

Complete restoration designs were finished for one property in early 2020. Subsequently, funding for implementation in 2021 was sought from OWEB and a private foundation. We have been notified that we were unsuccessful in receiving OWEB funds for this project, and that the cost share funding sought from the private foundation was unsuccessful. In 2021 we will pursue refining of the project to be more competitive for grant funding.

Tartar Slough Diversion Restoration Design

In late 2019, the Council entered into an agreement with the IPC to develop construction-ready designs for a project to improve the Tartar Slough Irrigation Diversion on Pine Creek as part of IPC's Tributary Habitat Enhancement Program. A contract was implemented with Resource Specialists Inc. (RSI) to conduct the design work. Council staff facilitated the design process by coordinating design meetings with pertinent stakeholders including ditch users, IPC, ODFW, USFWS, and OWRD, and secured landowner agreements necessary for future implementation. At the close of 2020, design development advanced to the 90% phase, with final design and plan sets to be completed in early 2021.

Powder Basin Groundwater Records Review (OWEB Grant 220-5043-17407)

The Council developed a project in collaboration with the OWRD and the Oregon Department of Geology and Mineral Industries (DOGAMI) to utilize the existing data on groundwater resources to determine whether groundwater is declining within the Powder Basin. There is growing concern that areas within the Powder Basin may be at risk for declining groundwater levels. Changes to groundwater

levels often have long-lasting direct effects to stream flow, fish habitat, water quality, and agricultural operations.

Based on conversations with the public and OWRD staff, it was determined that the most logical first step in assessing the current status of groundwater in the Powder Basin was to review existing data that is stored by OWRD. The goal of this project is to summarize existing data, identify trends in groundwater levels over time, extract geologic data that is relevant to groundwater storage, identify restoration needs to mitigate declines in groundwater and determine data gaps. This effort will include summarizing all existing groundwater records within the entire Powder Basin and compiling all geologic information from well logs in the Baker Valley.

In September 2020, Council began compiling groundwater level data and extracting lithologic data from well logs. Data collection and analysis is expected to continue through 2022. We hope that by taking a preventative approach to groundwater decline we will be able to retain as many options as possible for addressing groundwater reduction problems, avoid economic disruption to the community, and reduce impacts to the environment.

STAKEHOLDER ENGAGEMENT

Sage Grouse Conservation

Within the Baker Priority Area for Sage Grouse Conservation, private landowner participation is considered critical for success. The Candidate Conservation Agreement with Assurances (CCAA) program was established to encourage the voluntary participation of landowners in a program to improve habitat in exchange for landowner assurances related to a listing of the bird under the Endangered Species Act.

In 2020, the Council assumed the Enhancement of Survival Permit (EOS) (Number TE-56630B-0) and CCAA for Greater Sage Grouse from the Baker County Soil and Water Conservation District. Assumption of the EOS and CCAA includes working with landowners who have already expressed interest, cultivating interest among landowners who are unfamiliar with the program (through educational activities such as presentations, tours and printed materials), developing Site Specific Plans for properties where enrollment in the program is sought and submitting the SSP's to the US Fish and Wildlife Service (USFWS) for approval. The execution of this program is part of an integrated plan to address declining sage grouse populations in eastern and southern Baker County and includes participation from private landowners, Tri-County Cooperative Weed Management Area, Baker County, Oregon State University Extension Service, ODFW, Natural Resources Conservation Service (NRCS), USFWS and Bureau of Land Management (BLM).

In 2020, the Council received a grant from OWEB to fund a position (the CCAA Coordinator) to lead this effort and other Sage-grouse conservation activities. At years end, the Council is in the recruitment/selection process for this position.

The Council is an active voting member of the Baker Sage-grouse Local Implementation Team (LIT), attending quarterly meetings and participating in the development and review of Sage-grouse conservation activities. Through collaborative efforts, the LIT's goal is to enhance Sage-grouse habitat and promote population growth. The LIT successfully obtained a Focused Investment Partnership (FIP) grant from the OWEB totaling \$6 million over six years to a coalition of local partners (USFWS, ODFW, Tri-Counties Cooperative Weed Management Area, NRCS, BLM, and the Council).

Pine Creek Off-Channel Watering Landowner Recruitment (OWEB Grant 217-5023-12809)

After a comprehensive outreach effort to encourage landowners to implement off-channel livestock watering, the Council recruited 4 local landowners and livestock owners in the Pine Creek area. We

directed our outreach efforts to landowners who currently utilize streams to provide water for livestock to participate in programs that provide resources for implementing alternative livestock watering methods. In 2017, landowners were recruited through public outreach efforts (brochures, educational displays, letters, etc.) with the goal of informing the public of the benefits of using off-channel livestock watering methods. Benefits can include increased riparian vegetation, reduced flood risk, reduced sediment loading, and reduced stream temperatures.

Interested landowners met with Council staff for one-on-one meetings to assess their current livestock watering methods, discuss water availability and any other resource issues on their properties. Field surveys and assessment of landowners watering systems were completed in the summer of 2017. The preliminary restoration designs were presented by RSI and addressed issues related to flooding, fish habitat, and sediment build-up. Through a partnership with IPC, the Council was able to provide landowners with conceptual designs for off-channel alternatives. The Council also connected interested landowners with potential funding resources to pay for implementing off-channel watering alternatives.

Outreach efforts to recruit interested landowners to implement Off-Channel watering methods continued into 2018-2020, where the Council directed the mailing and the publication of our newsletter (The Thalweg) each season. Editions of The Thalweg can be found on the Council's website at <https://www.powderbasinwatershedcouncil.org/publications---resources>. The summer 2020 Thalweg edition included a cover story on "Pine Valley Off-Channel Watering". The article described the experience of a local Pine Valley landowner who saw the outreach materials and moved forward to participate with project. The landowner noted in the article that he "surely would recommend participation to anyone who gets the chance!"

Baker Resource Coalition (BRC)/ Baker Technical Institute (BTI) Internship Program

The Council established a partnership with the BRC and BTI to provide natural resource based work experience opportunities and to develop an educational framework for administering the program. The Council has assisted in the development of an internship program that focuses on bringing an integrated, hands-on, experiential learning experience, advancing job skills, and aiding in career exploration.

Through a Cooperative Agreement between the Council and Wallowa Resources, funds from a Ford Family Foundation (FFF) grant to Wallowa Resources were transferred to the Council. The Council will manage these funds on behalf of the BRC, and help the BRC accomplish its Mission. This activity also supports the Council's Mission and Strategic Plan. The Council manages the funds and serves as the employer of record for the student interns, issuing paychecks with the appropriate withholdings.

The 2019 summer internship program, the first for the BRC, ran from June through July. Three Baker High School students participated. Activities included stream restoration, forest stand inventory/analysis, GPS-based mapping, and assisting Council staff with the Baker Summer Academy field trips where 1st through 6th grade students were instructed on the connection between streamflow, water quality, and the macro-invertebrate community living in the stream. Where work occurred on private forest lands, the hosting landowner shared their knowledge regarding the work for which the interns were employed. The 2019 internship program was so successful that the program was continued in 2020.

The 2020 summer internship program ran from June through August. Four interns were involved with several activities including stream flow/bank restoration, summer Academy video, wildlife fencing, mapping, WWNF East-Face monitoring, Hoffer Lakes interpretive brochure, BRD website update, water quality sampling, BRC strategic planning, and hardwood management.

In July 2020, Council staff met with 3 BTI Interns for an exciting day in the field, helping the council to collect water samples for our Long-term water quality monitoring efforts. Students were guided through our stream survey methods, including the water quality monitoring procedures. The group then

ended the field day with a productive discussion on the importance of responsible watershed management and habitat conservation.

In August, the internship wrapped up with the 2020 Intern final lunch event at the Anthony Lakes Mountain Resort. Parents and collaborators came together to celebrate the student's accomplishments!

OUTREACH & EDUCATION

Due to COVID-19 restrictions, outreach and education activities normally implemented on an annual basis were cancelled in 2020. Activities described below were all for the 2019 calendar year.

Community & Events

The Council participated in several community events in 2019 including Miners Jubilee, Anthony Lakes Family Fishing Day, Wallowa Resources Watershed Festival, Crossroads Carnegie Art Center Anniversary Street Fair, and First Friday Art Walks. The Council participates to connect with our wider community, provide education about watershed-related topics, strengthen partnerships with community groups, and sometimes to fundraise.

River Cleanups

As is tradition, in 2019 the Council hosted spring and fall litter removal work parties along the Powder River in downtown Baker City. Both events increased in volunteer contributions. The volunteers removed garbage from 2.1 miles of the Powder River. Additionally, SOLVE Oregon provided a small grant to purchase two native trees and tools for planting them along the pathway. Lots of interesting items were found in the river including bikes, cones, scrap metal, and suitcases... The 2019 fall cleanup participation was rewarded with raffle gifts from Barley Browns Brew Pub and Betty's Books.

Outdoor School at Anthony Lakes

Council staff helped lead a watershed-themed station for 4 days at the annual Outdoor School for Eastern Oregon 6th graders. 2019 was a particularly interesting year due to the change in venue to the beautiful Anthony Lakes. The watershed station was located at nearly 8,000 ft. next to Hoffer Lake. In total, roughly 140 students and 15 parents participated from Baker City, Haines, and Keating. The students learned about the water cycle, infiltration rate, surface runoff, and completed a watershed assessment. While the weather was challenging, facilitators made a campfire to keep warm and the experience is not to be forgotten!

Hiking & Paddling Tours

The 2019 hiking and paddling tours were a great success! The Council led an 8-mile hike along the Elkhorn Crest Trail from Marble Pass to the Twin Lakes trail head. With 17 people in attendance, participants traversed the rocky pass to view scenic vistas, the Elkhorn Peaks, native flowers, birds, and mountain goats. With the help of Go Wild shuttle service and an enthusiastic group of hikers, this trip did not disappoint! Earlier in the summer, the Council paddled the waters of Phillips Reservoir through old mine tailings to the main channel of the Powder River. After sharing paddling stories and lunch, kayakers made their way back to the launch point, enjoying a fantastic view of the Elkhorn Mountains, waterfowl, and fishing raptors.

Summer Academy Macroinvertebrate Field Trips, Nature Night, & Open House

One highlight of the Outreach & Education program are the Summer Academy Field Trips for Baker students. The Baker 5J program's goal is to eliminate the summer slide with a plethora of learning opportunities provided by key community partners. With the help of funding provided by The Autzen

Foundation and Collins Foundation, Council staff created all new programming for Summer Academy field trippers. Approximately 158 students, grades 1st through 6th traveled to the base of Mason Dam where they explored the local macroinvertebrate community in the Powder River. Here students learned to collect and identify macros and determine the water quality of the Powder River using a diversity index.

Students took a 1.5 mile hike in the Powder River Recreation Area, stopping to discuss points of interest such as: the Powder River, beaver, rainbow trout, ponderosa pine trees, local geology, and ecology. The students completed a watercolor painting postcard of the Powder River to remember their experiences. In support of these field trips, staff also participated in a Nature Night and an Open House event alongside partners. Staff met with parents and provided details about field trips.

Stream Survey with Burnt River High School Students

In fall 2019, Council staff and volunteers met with 6 Burnt River foreign exchange students for an exciting day in the field. Students were guided through stream survey methods, including stream, riparian, substrate, and vegetation monitoring. The group shared lunch in the field and wrapped up their day by suiting up in waders and collecting macroinvertebrates. After a discussion about water quality and nearby land-use students were sent back to school with macroinvertebrate samples for a deeper dive.

Speaker Series

In 2019, the Speaker Series presented three guest speakers: Tim Bailey, Fish Biologist (ODFW) who discussed fishing in the Powder Basin; Terry Drever Gee, Environmental Consultant from the Bonanza Mine in Cornucopia who discussed reclamation after mining for gold; and Dallas Hall Defrees, Sage grouse LIT Coordinator who discussed the programmatic details of the sage grouse recovery through partnership strategy. Each of these events were well-attended by both familiar and new faces.

COUNCIL ADMINISTRATION

COVID-19 restrictions in 2020 made training, interaction and public involvement more difficult. Since April, monthly Council Board Meetings have been held by conference call (April through August) and virtually via Zoom Meeting (September through December) in order to meet COVID-19 restrictions. The Board met monthly throughout 2020 and continued to carry-out Council business including hiring of two new staff, and researching/discussing issues such as fiscal sponsorship, Board recruitment.

In 2019 Council continued to improve its effectiveness through a variety of trainings, conferences, and formal partnerships. Trainings have included Board-staff relations, Board recruitment, and fundraising. Staff from the Council attended the OCEAN Connect Conference in Bend and the Eastern Oregon Non-Profit Conference in Ontario.

FINANCIAL STATUS

Balance Sheet Summary as of December 31, 2020

ASSETS	
Current Assets	
Checking/Savings	59,710.50
Accounts Receivable	2,877.96
Other Current Assets	<u>-19,207.19</u>
Total Current Assets	43,381.27
Fixed Assets	<u>8,612.83</u>
TOTAL ASSETS	<u>51,994.10</u>
LIABILITIES & EQUITY	
Liabilities	
Current Liabilities	
Other Current Liabilities	<u>-17,118.35</u>
Total Current Liabilities	<u>-17,118.35</u>
Total Liabilities	-17,118.35
Equity	<u>69,112.45</u>
TOTAL LIABILITIES & EQUITY	<u>51,994.10</u>