SMITH RIVER BASINWIDE ASSESSMENT
& WATERSHED RESTORATION PLAN

EXECUTIVE SUMMARY *DECEMBER 2024*

Prepared For
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Introduction

This document provides a summary of the Smith River Basinwide Assessment and Watershed Restoration Plan (WRP) developed by Geum Environmental Consulting and Slough Creek Consulting (formerly Applied Geomorphology, Inc.) for Montana Fish, Wildlife and Parks (FWP). The purpose of the assessment was to evaluate the overall health of the Smith River basin, identify degradational issues, and recommend restoration actions to address issues. Funding for the work came from the Smith River Corridor Enhancement Account (SRCEA).

The assessment is intended to provide a practical resource for all stakeholders in the basin. It will help FWP prioritize the use of SRCEA funds as well as satisfy requirements of a Montana Department of Environmental Quality (DEQ) and Environmental Protection Agency (EPA) approved 319 Watershed Restoration Plan (WRP). Meeting these requirements improves the plan's completeness while opening up potential funding sources for future project work. This document can be useful for agencies, non-profit organizations, and others in understanding the current state of the basin, identifying and developing restoration actions and forming partnerships and collaborations to address basinwide issues.

Key takeaways from the assessment include:

- The primary issues in the basin are reduced water quantity, impaired water quality, and degraded riparian and aquatic habitat.
- Issues are common and widespread.
- Addressing issues will require a long-term, collaborative approach.
- With no active watershed group in the basin, there is a need for education, outreach and leadership to address issues.
- Conservation of existing high quality habitats in the basin is a high priority.
- Section 9 of the assessment can be considered a User's Guide to restoration plan implementation, providing information on potential restoration project partners and funding sources.

The Smith River basin supports a strong agricultural economy and a similarly robust recreational resource. Both of these primary land uses have left their signature on the landscape, creating pressures that in some cases have demonstrably impacted the health of its water resources. To date, there has been substantial assessment, management and restoration work planned and performed on public lands located at higher elevations on the watershed margins. However, little has been done lower in the basin where streams become larger and private land is extensive. The assessment focuses on the lower elevation stream corridors that are largely on privately owned working lands. Additionally, special focus is given to the recreational float corridor of the Smith River Canyon which hosts a mix of private and public land ownership.

The Smith River basin has been subject to similar impacts as many watersheds in Montana, starting with mining speculation in the 1860s, followed by homesteading in the 1880s, a rise of agriculture and ranching through the early 1900s, and the timber harvest and land development that accompany these

land uses. The historic impacts to the water resources of the Smith River basin are widespread but tend to be largely diffuse such that there is little in the way of any "smoking gun" that can be directly addressed to provide large scale system-wide benefit. The widespread and dispersed impacts provide an excellent opportunity to engage landowners and public land managers in the application of a broad array of established practices to improve overall watershed health.

To that end, this assessment was performed to identify feasible strategies to improve the ecological health of the Smith River watershed through "win-win" projects that benefit the watershed and meet landowner needs. The document is intended to provide a foundation that can be continually updated as more scientific data becomes available, new projects are developed, and other projects are completed.

Substantial work has been performed in the Smith River basin related to planning, data collection, and assessment. The main guiding documents directing management and resource improvements include FWP's Statewide Fisheries Management Plan (2024), the Helena-Lewis and Clark National Forest Plan (2021), the NRCS Meagher County (2022) and Cascade County (2029) Long-Range Plans and FWP's Smith River State Park and River Corridor Recreation Management Plan (2022). Very few past assessments focused on overall watershed health have occurred – a 1973 investigation by Montana Fish and Game; a 1985 assessment by the USDA; and a 2006 stream corridor assessment completed by the Meagher County and Cascade County Conservation Districts. DEQ and USGS have conducted several studies in the basin related to water quantity and water quality.

Primary Issues

The following methods were used to evaluate existing conditions in the basin and identify impairments and causes of impairments:

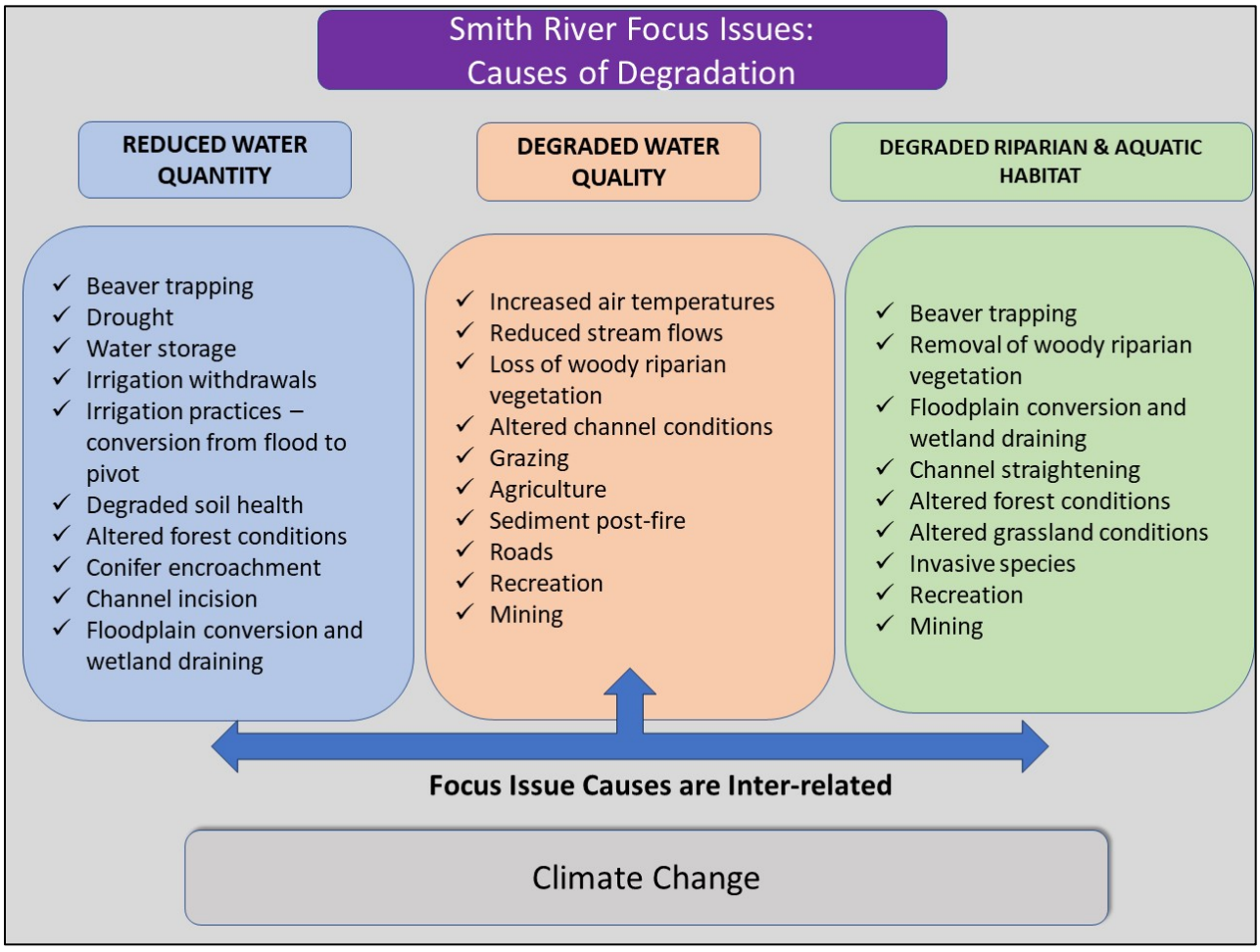
1. Compile existing information and data.
2. Conduct remote assessments of overall watershed conditions.
3. Complete data analyses using existing data.
4. Conduct driving and float tours.
5. Conduct outreach and hold meetings with stakeholders.
6. Conduct landowner outreach and visit properties.

The main degradational issues identified in the Smith River basin include:

- **Reduced Water Quantity** - reduced stream flows from irrigation withdrawals and floodplain conversion affect aquatic life, recreation, agricultural production and exacerbate water quality issues.
- **Degraded Water Quality** – increased water temperatures, fine sediment, nutrients, and E. coli from loss of woody riparian vegetation, agriculture and livestock grazing affect aquatic life and cause nuisance level algae.
- **Altered Riparian and Aquatic Habitat** – alterations to riparian and stream habitat leading to loss of floodplain connectivity, lower water tables, over-widened channels, simplified habitat affect aquatic life and water quality.
- **Altered Upland Vegetation** – loss of sagebrush habitat, degraded forest stand conditions, and conifer encroachment affect grassland and rangeland health and alter basin hydrology.

- **Recreation** – heavy recreation use in the Smith River recreational float corridor causing soil erosion, compaction, and loss of vegetation affect water quality and aquatic life.

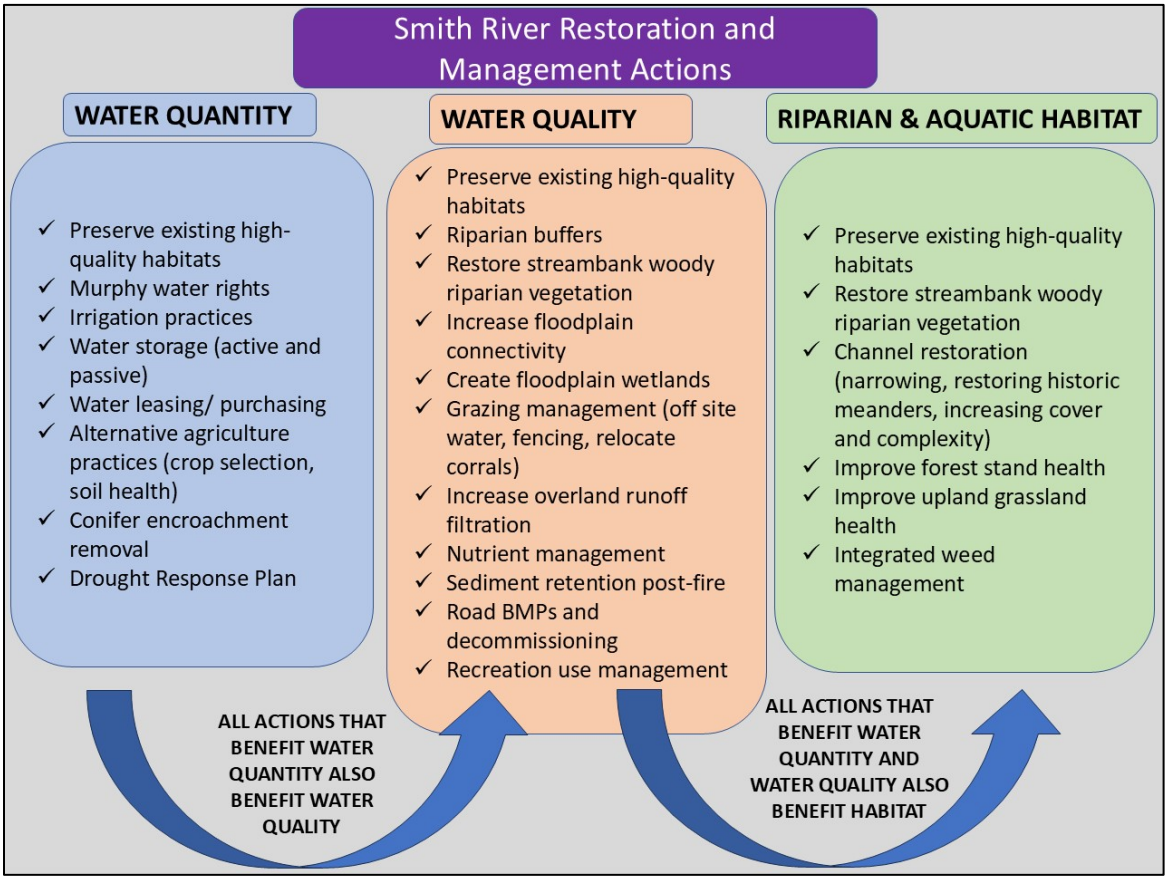
Climate Change is included as an over-arching driver of some of the issues in the basin rather than an issue restoration and management actions can address directly at a local scale. ***Upland Vegetation*** and ***Recreation*** issues were integrated into other categories for purposes of describing restoration and management actions. For example, alterations to upland vegetation affect water quantity at the watershed scale, directly influence riparian and aquatic habitat, and may affect water quality. Similarly, recreation impacts affect water quality and riparian and aquatic habitat. Therefore, the focus issues for the WRP are ***Water Quantity, Water Quality*** and ***Riparian and Aquatic Habitat***



Restoration Actions

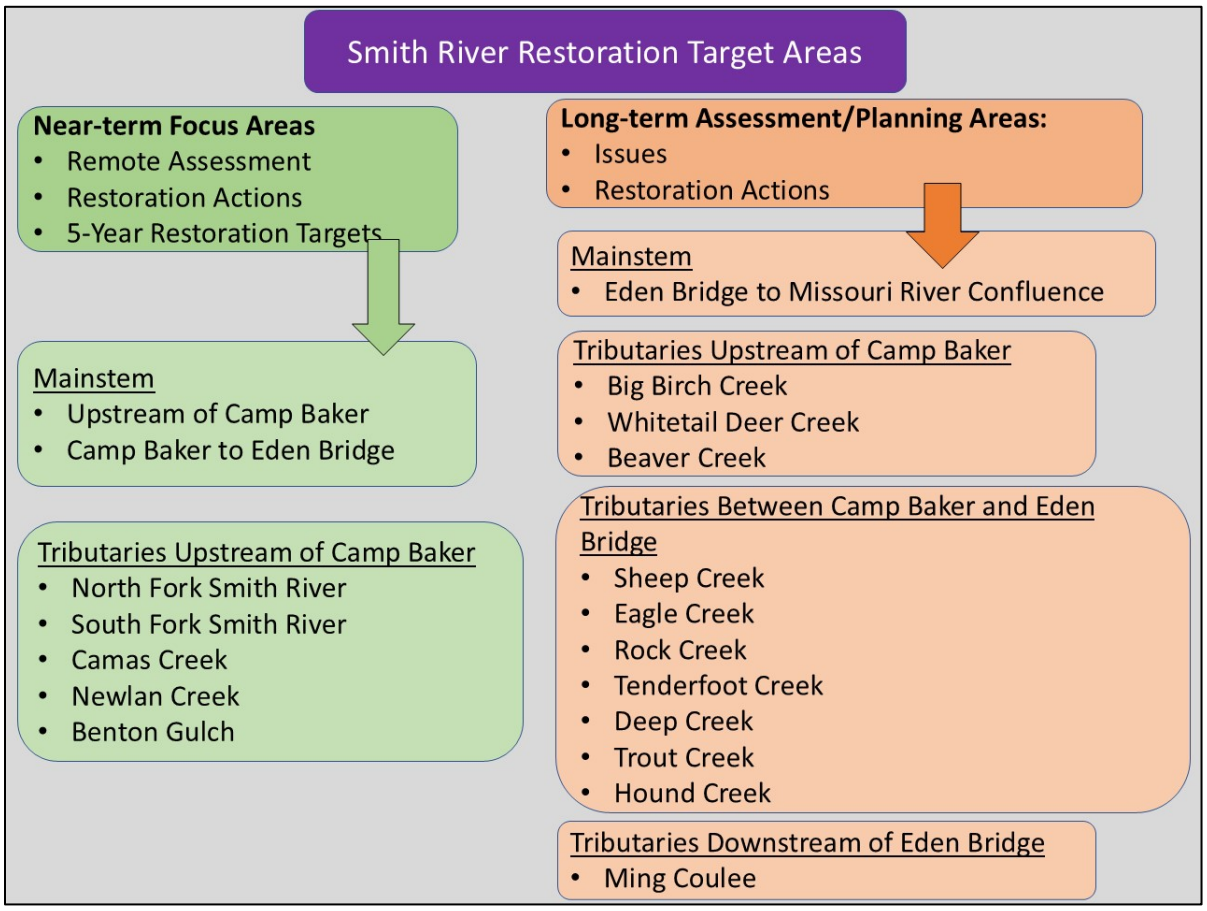
The assessment includes restoration actions that are applicable and appropriate for addressing the three primary issues identified in the Smith River basin – Water Quantity, Water Quality, and Riparian and Stream Habitat:

- **Water Quantity:** These restoration actions have the potential to improve water quantity, specifically late season flows. Restoration actions include finding more water storage opportunities, including physical storage reservoirs; passive storage utilizing floodplains; process based restoration; improving irrigation practices to help conserve water; and removing conifer encroachment in the uplands.
- **Water Quality:** These restoration actions have the potential to improve water quality and include actions to help mitigate rising stream temperatures or reduce sediment or nutrient inputs to streams. Restoration actions include grazing and nutrient management; creating floodplain wetlands to filter overland flow runoff that may have high amounts of fine sediment or nutrients; and addressing other non-point sources such as sediment from post fire runoff and roads.
- **Riparian and Stream Habitat:** These restoration actions directly improve riparian and stream habitat. Restoration actions include restoring woody vegetation to streambanks; narrowing and increasing cover in channels; improving upland forest and grassland health; and integrated weed management.



Restoration Target Areas

A large part of the assessment and WRP was determining where degradational issues occur in the basin. To focus actions, target areas were selected. ***Target areas*** are streams or stream segments where substantial cumulative benefits to the system could be achieved through application of established, cost-effective restoration techniques. Some target areas were selected as ***near-term focus areas*** which are target areas where available data or field observations identified significant impairment and are a high priority to start addressing issues and implementing restoration actions. Remote assessments of near-term focus areas were conducted to quantify impacts.



Implementation Plan and Next Steps

As next steps, the WRP includes guidance on implementing restoration in near-term focus areas over the next 5 years. The implementation plan includes:

- Completing pilot projects identified during the assessment process to provide examples of project work and start addressing issues identified in the basin.
- A strategy for developing leadership and partnerships in the basin to continue addressing basinwide issues.
- A strategy for education and outreach to increase stakeholder awareness of issues in the basin.
- Potential funding and technical support for restoration work in the basin.
- Guidance on how to consistently monitor restoration actions and adapt the WRP over time.
- A schedule for implementing the WRP.

For questions or comments please contact:

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