Advancing Efforts to Restore Beavers for the Benefit of Montana Watersheds

2020 Strategy Meeting Report and Action Plan

In February, 2020, a diverse group of 50 professionals gathered in Butte, MT, to identify priority strategies for restoring beaver and beaver habitat in Montana and to commit to specific actions to advance beaver restoration for the benefit of Montana's watersheds. The meeting was made possible by the generous support of the Turner Foundation and hosted by National Wildlife Federation and the Clark Fork Coalition. Jennifer Boyer facilitated the work session, and conducted a pre-meeting survey to identify priority focus areas.

This summary report outlines the priority goals, strategies, and action steps developed at this meeting, including lead groups or individuals for implementation and benchmarks for progress. We anticipate reconvening early in 2021 to evaluate progress and next steps.

Strategy meeting participants are listed at the end of this report. The strategies and action steps presented here do not represent the positions of the participants' employers or affiliated organizations, but rather capture the key ideas developed by participating individuals in focused work groups.

Background and Overview

The role of beavers and their dams in maintaining healthy watersheds has been a lively topic recently in the western United States and Canada. Interest in beavers among the ecological restoration community has increased dramatically in the last 10 years, with workshops, books and even films coming out to examine and promote the positive impact that beavers can have on fish and wildlife habitat, water supply, and watershed resilience to fire and drought.

Signs of this growing interest in Montana included a workshop in 2014 in Butte co-sponsored by the Miistakis Institute (Alberta-based nonprofit) and the Clark Fork Coalition, a workshop in 2017 in Missoula hosted by the National Wildlife Federation and the Clark Fork Coalition, and a public workshop in Helena in 2019 hosted by Montana Fish, Wildlife & Parks. These workshops were generally very well attended by a broad array of state and federal agency biologists and land managers, nonprofit conservation organizations including local watershed organizations, university researchers, and members of the Montana Trappers Association. In these workshops, participants learned about science of beavers' impact on aquatic ecosystems and heard stories from Montanans who had been working to restore and expand beavers on the Montana landscape for decades (for example, Dan Tyers and Greg Munther with the U.S. Forest Service, Jeff Burrell with Wildlife Conservation Society, and others).

Following these efforts and growing public interest in beavers, the National Wildlife Federation and Clark Fork Coalition decided to host a strategy meeting early in 2020 focused on developing concrete actions to move beaver restoration forward as a tool for watershed conservation and stream restoration statewide. The goal was to bring together a diverse group of people interested in beaver restoration, and hammer out specific action items.

In preparation for this meeting, participants completed an online survey to identify key topics of interest, shared goals, needs and challenges. The results of the survey became the four priority topic areas for discussion groups. A broad array of stakeholders, including state, federal, and tribal biologists and managers, nonprofit organizations, educators and researchers, advocates, and trappers participated in the event, and created the goals, strategies, and action steps outlined herein. This report is the first result of that meeting, to be followed by implementation shared among participants and others.

Organizations identified as key for implementing these actions are listed as "partners" in the sections below.

Priority Goals, Strategies, and Action Steps

<u>Goal 1</u>: Integrate beaver into the design and approach of stream and wetland restoration, so that beaver restoration scales up and expands beyond isolated beaver habitat projects.

This topic was ranked first priority in the pre-meeting survey of participants. There is strong interest among restoration professionals and some agencies in using beaver and/or beaver dam analogs (BDAs) and similar process-based restoration techniques for certain types of degraded streams. Participants want to develop a common framework in Montana for when and how to integrate beaver into ecological restoration planning.

Strategy 1.1: Identify and prioritize suitable areas for beaver restoration in Montana

Actions:

- Analyze historic beaver presence in Montana using Beaver Restoration Assessment Tool (BRAT) with ongoing ground-truthing and refining.
- Coordinate development of methods, which may include citizen science, for surveying beaver habitat and occupancy, to refine habitat models and occupancy models.
- Develop a decision flow chart for watershed-scale conceptual restoration planning using beaver, including social and biological suitability metrics.
- Prioritize beaver restoration on public land headwaters in Montana, and other sites where conflicts with humans are reduced.

Partners: Wildlife Conservation Society (WCS), MT Fish, Wildlife & Parks (FWP), MT Natural Heritage Program, The Nature Conservancy (TNC), Blackfeet Nation, Clark Fork Coalition, Swan Valley Connections, MT Conservation Corps, U.S. Forest Service, and University of Montana

Strategy 1.2: Address fisheries and other resource managers' concerns by engaging in continual learning and sharing results widely

Actions:

- Research and communicate about problems associated with expanded beaver distribution and with beaver dam analogs, including fish community composition/competition, water temperature effects, fish passage concerns, impacts on water storage and flows, and impacts on riparian ecology/
- Compile and share information for specific watersheds and for specific fisheries in professional meetings and publications.

Partners: University of Montana, MT FWP, U.S. Forest Service, U.S. Bureau of Land Management (BLM), WCS

<u>Goal 2</u>: Expand beaver on public lands headwaters to restore self-sustaining ecological processes on riparian lands that will build resilience to drought and wildfires.

This topic was ranked second in priority by the participants in the pre-meeting survey. Land management agencies, including U.S. Forest Service, Bureau of Land Management, and even state agencies are starting to perceive the benefits of more beaver on the landscape, as a complement to their wider resource management goals, including climate resilience. Public lands are less vulnerable to private infrastructure-beaver conflicts, and can serve as demonstration sites to build public understanding.

Strategy 2.1: Identify, articulate, and pursue shared interests in beaver restoration among land management agencies in Montana.

Actions:

- Develop a briefing memo for federal/tribal/state agencies on shared goals and objectives for beaver management and restoration.
- Draft a Memorandum of Understanding (MOU) among officials from key agencies, including Montana FWP, U.S. Forest Service Northern Region, Montana BLM, and Blackfeet Nation. The MT Department of Natural Resources & Conservation, MT Department of Environmental Quality, U.S. Fish & Wildlife Service, National Park Service, and Bureau of Reclamation may be incorporated in a second phase MOU.
- Obtain signatures and finalize MOU by November, 2020

Partners: BLM-Riparian, USFS Northern Region Water and Fisheries, Blackfeet Nation, MT FWP

Left: Joe Griffin led a field trip the day before the strategy meeting with participants from Blackfeet Community College to view habitat complexity resulting from beaver activity in Silver Bow Creek, part of the Butte Superfund complex.

<u>Goal 3</u>: Provide coordinated education and outreach on the benefits of beavers and options for addressing nuisance concerns.

This goal focuses on developing a set of educational materials around the concept "living with beaver" to promote watershed health and increase tolerance for beavers on the landscape. This topic tied for second priority in the pre-meeting survey, and was identified as a key element in other topics. Participants agreed that education on the benefits of beaver and addressing beaver conflict issues are critical to success in expanding beaver on the Montana landscape.

Strategy 3.1: Combine existing "living with beaver" materials into a single, easily shared set of educational resources

Actions:

- Develop a packet of materials covering the MT BRAT model, potential benefits of beaver, interpreting habitat potential, non-lethal conflict resolution, role of trappers in management, and beaver mimicry compared with beaver activity
- Conduct workshops and trainings to share information
- Share with prioritized audiences:
    - Tier 1 audiences (highest priority, with broad influence over others):
        - Schools, students, and teachers
        - MT Fish, Wildlife & Parks and Department of Natural Resources & Conservation
        - Land trusts, watershed groups, and conservation districts
        - Cities and counties
        - MT Department of Transportation and railroads
    - Tier 2 audiences (secondary priority):
        - Ranchers and farmers
        - Amenity landowners
        - Grazing coalitions, Farm Bureau, and Stockgrowers
        - Trappers, hunters, and anglers
        - U.S. Forest Service and Bureau of Land Management
        - Fisheries representatives

- Develop curriculum related to beavers through the FWP community education program (FWP Region 2 Non-game biologist)
- Develop educational materials around the BRAT beaver habitat model; publish a poster on benefits of beaver (Montana Natural Heritage Program)
- Develop a packet of materials on beaver conflict resolution, and provide workshops and trainings to interested organizations (Clark Fork Coalition and National Wildlife Federation)
- Develop fliers on benefits of beaver and beaver dam analogs (Blackfeet Nation, with Amy Chadwick)

Strategy 3.2: Identify or establish point people and organizations to store, distribute, and update education materials, and commit to ongoing outreach, both internal and external

Outreach Actions, by Audience:

- Stockgrowers, MT Association of Land Trusts, Farm Bureau, MT Department of Natural Resources, MT Wildlife Federation, (N. Gevock)
- MT Fish, Wildlife & Parks bureaus (T. Ritter, Region 2 FWP)
- Watershed groups and MT Forest Collaboratives (MT Watershed Coordination Council)
- U.S. BLM offices (A. Shallcross)
- U.S. Forest Service Northern Region and National Forests (T. Sylte and T. Fletcher)
- Western MT conservation districts, MT Dept. of Transportation, counties (Clark Fork Coalition)
- Tribal coalitions (Blackfeet Nation)
- Montana Trappers Association (J. Wilson)
- MT Beaver Working Group (National Wildlife Federation)

Left (top): Public events offer opportunities to share understanding about beavers and their benefits.

Left (bottom): Youth crews organized by the Clark Fork Coalition gathered information to refine beaver habitat models and learned about beavers during their field work.

Right: Interpretive signs can extend the outreach benefits of on-the-ground projects.

<u>Goal 4</u>: Remove legal and policy obstacles to beaver habitat restoration and relocation of beavers to suitable, prioritized habitat.

This topic ranked third in the pre-meeting survey of participants. At our meeting, discussion group members identified removal of some policy obstacles and education on how to avoid other policy obstacles as ways to advance beaver restoration. They addressed two types of policies: permitting for beaver habitat restoration, and permitting for relocation of beavers themselves.

Strategy 4.1: Simplify and streamline the process for obtaining permits for beaver habitat and riparian restoration projects including beaver dam analogs (BDAs).

Actions:

- Share experiences among different practitioners in procuring permits for BDAs.
- Encourage use of existing regulatory tools to more efficiently permit BDA and similar structures (e.g. Clean Water Act Section 404 binding agreement; National Environmental Policy Act categorical exclusion).
- Build common understanding and open lines of communication by conducting tours with the U.S. Army Corps of Engineers (USACE) and other regulatory agencies to established BDA sites, and perhaps by establishing a liaison position at USACE.
- Engage the MT Department of Natural Resources & Conservation and the Federal Emergency Management Agency in dialogues about establishing a floodplain administrator for floodplain restoration who could process BDA-type proposals.
- Standardize monitoring and data collection/sharing on BDA projects.

Partners: Montana Wetlands Council, MT Beaver Working Group/National Wildlife Federation, MT Department of Natural Resources & Conservation-Floodplain office, Big Hole Watershed Committee, The Nature Conservancy

Strategy 4.2: Clarify and streamline processes for evaluating beaver relocation proposals

Actions:

- Share information about other western states' approaches to relocation, starting with Bob Inman's presentation at August 2019 FWP beaver workshop.
- MT Fish, Wildlife & Parks publish an updated, vetted guidance document for relocation procedures.
- Integrate review with habitat evaluation and prioritization outlined in Goal 1, above

Partners: Montana FWP Furbearer group, other FWP staff, MT Beaver Working Group

Summary of Key Strategies and Markers of Progress

Strategies	Milestones	Timeline
1.1 Identify suitable beaver habitat in MT	BRAT model tested in field and refined BRAT outreach/training	Ongoing; focused work in summer 2020 Through 2020 and into early 2021
1.2 Address fisheries concerns through research/learning	UM research on fish passage completed/shared with MT FWP/MT Beaver Working Group Montana Tech research on hydrology shared with MT Beaver Working Group/posted for reference Additional research priorities identified	Ongoing, interim report May 2021 Summer 2020 Ongoing; focus for Winter 2021 meeting
2.1 Articulate and pursue joint interests among agencies	MOU drafted, signed by MT FWP, USFS, BLM, Blackfeet Nation	By end of 2020
3.1/3.2 Collect education materials into single resource	Sharable education packet created and ready to distribute	Dec. 2020
3.2 Distribute materials to target audiences	Identify target audiences Share materials through identified relationships and in outreach opportunities	By fall 2020 Ongoing effort; begin in winter 2020-21
4.1 Streamline permitting	Corps 404 process clarified Additional regulatory changes with DNRC/FEMA	Meetings with Corps in 2020/2021 Ongoing
4.2 Clarify/streamline relocation protocols	FWP prepare/publish guidance document	By end of 2020

Next Steps

The action steps outlined here represent both short- and long-term efforts to advance beaver restoration for the benefit of Montana's watersheds. The partners named here, and others with shared interests, will be responsible for implementation of particular actions, which in most cases will require collaboration across agencies and groups to achieve success.

We will report on progress on each of these goals in communications with the Montana Beaver Working Group, and plan to reconvene this group and others interested in beaver restoration to assess progress in 2021.

We wish to express our appreciation to the participants in this strategy meeting for devoting time and energy to inform and engage with one another. We hope to reinforce and build upon your commitment to improving Montana's riparian habitat and watershed health. We also thank the Turner Foundation, without whose financial support and direct encouragement this gathering would not have occurred. Special thanks to program officer Troy Ettel for engaging throughout this process and providing helpful insights.

Please stay connected and share updates on your progress toward meeting the goals outlined here. We look forward to working with you. If you are not already on the mailing list for the Montana Beaver Working Group and wish to be added, please contact Sarah Bates.

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Strategy Meeting Participants

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Sarah Bates, National Wildlife Federation (host)
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Jennifer Boyer, Future West (facilitator)
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Amy Chadwick, Great West Engineering
Elissa Chott, Clark Fork Coalition
Ted Dodge, Watershed Restoration Coalition
Michael Downey, MT Department of Natural Resources & Conservation
Lisa Eby, University of Montana
Termaine Edmo, Blackfeet Environmental Office
Nick Gevock, Montana Wildlife Federation
Eliza Gillilan, Big Sky Watershed Corps/Wildlife Conservation Society (scribe)
Joe Griffin, retired/former Montana Department of Environmental Quality
Sierra Harris, The Nature Conservancy
Taylor Heggen, University of Montana (scribe)
Paul Hooper, U.S. Forest Service
Blake Hossack, University of Montana
Kris Inman, Wildlife Conservation Society
Kelvin Johnson, Montana Fish, Wildlife & Parks
Nathan Korb, The Nature Conservancy
Ethan Kunard, Montana Watershed Coordination Council
Pedro Marques, Big Hole Watershed Committee
Bryce Maxell, Montana Natural Heritage Program
Will McDowell, Clark Fork Coalition (host)
Ernest McKenzie, U.S. Bureau of Land Management
Amy McNamara, Natural Resources Defense Council
Greg Munther, citizen and former Forest Service biologist/district ranger
Robert Pal, Montana Tech
Paul Parson, Trout Unlimited
Denise Pengeroth, U.S. Forest Service
Olivia Regnier, Big Sky Watershed Corps/The Nature Conservancy (scribe)
Rob Rich, Swan Valley Connections
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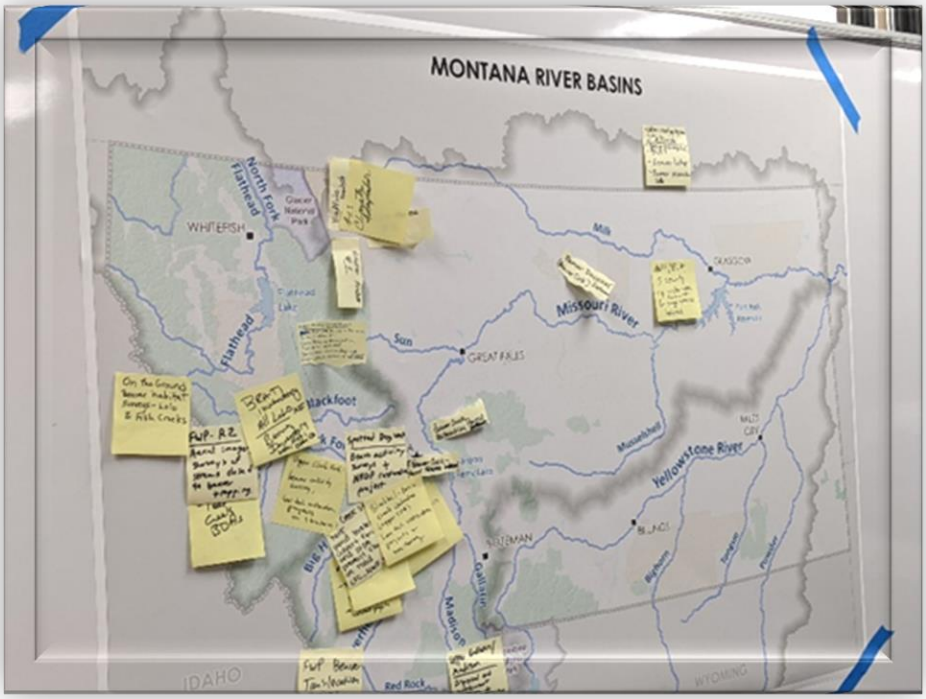

Left: Participants noted areas with beaver restoration activities, ranging from beaver dam analogs and similar mimicry techniques to research, conflict mitigation, and relocation.

Below: This "word cloud" illustrates the most commonly used words in participants' responses to the initial question of our pre-meeting survey.

Q1 Based on your experience, what are the key goals for restoring beavers on the landscape as a means of improving riparian and watershed health? Please offer 1-3 sentences or up to 5 key words.