

Montana Watershed Coordination Council – Spring Training Creative & Effective Watershed Planning

University of Montana, University Center, 3rd Floor Conference Rooms

A. Overview of resources, human and scholarly, in resilient riparian mgt.

Let the Water do the Work: Induced Meandering, an Evolving Method for Restoring Incised Channels, Bill Zeedyk, Van Clothier (Eds.). The Quivira Coalition, Santa Fe, NM, USA (2009), 239p

Pollock, M.M., G. Lewallen, K. Woodruff, C.E. Jordan and J.M. Castro (Editors) 2015. The Beaver Restoration Guidebook: Working with Beaver to Restore Streams, Wetlands, and Floodplains. Version 1.0. United States Fish and Wildlife Service, Portland, Oregon. 189 pp. Online at: <http://www.fws.gov/oregonfwo/ToolsForLandowners/RiverScience/Beaver.asp>

Buckley, M., T. Souhlas, E. Niemi, E. Warren, and S. Reich. 2011. Economic Value of Beaver, Escalante Basin ECONorthwest, Portland, OR. 64 p.

Ott and Johnson - Beaver Influence on Fisheries Habitat: Livestock Interactions

Gary D. Ott and D.W. Johnson

<http://www.okanogan1.com/ecology/beaver/Beaver-habitat2005.pdf>

Cows and Fish - cowsandfish.org

B. Examples of best practices and how practices can be mentioned in a WRP or put into action through projects.

1. Beaver Dam Analogs, Beaver Mimic Dams, or Post and Brush Weirs: These are all basically the same technique, involving installing one or multiple lines of wooden posts (purchased or created on-site) and interweaving brush, such as willow or conifer branches. Inexpensive way to improve habitat and reconnect the stream channel and floodplain. Stream permitting applies.
2. Wooden post lines or post-assisted log jams (see Pollock et al, 2015).
3. Temporary livestock and wildlife browse exclosures where browse-suppressed shrubs or aspen shoots exist in riparian area
4. Cutting of small conifers encroaching on lower floodplain (also useful for materials for beaver mimicry structures), and forest management (thinning, light burning) on side slopes adjacent to riparian area
5. Non-lethal beaver management on private land; e.g. Beaver Deceiver or other flow device/pond leveler at headgate or culvert; fencing of trees at risk of cutting; wing fencing to discourage entry to ditches; live-trapping and relocation (work with FWP). See beavers and floodplain reconnection as water mgt tools



6. Beaver relocation to isolated areas of intact beaver habitat; currently limited, but ties in well with non-lethal beaver management on private land
7. Target restoration based on where late-season water needed or streams incised, or to expand high-quality habitat or in areas where stream flows most likely to persist (snow pack in headwaters protected by aspect/shading)

C. Stakeholder engagement requirements or implications of including riparian restoration and management in your WRP

FWP must be involved with any beaver relocation project, and the framework is not yet completely established; focus on habitat restoration and natural population expansion

Riparian restoration often can be achieved without heavy machinery, expensive design, or riparian planting and the cost of nursery stock, but beaver mimicry and other passive restoration are an additional tool, and cannot always take the place of higher cost restoration; a good restoration plan will maximize resources by evaluating where passive restoration is appropriate and higher-cost, traditional approaches are needed.

Low-cost riparian restoration techniques offer great opportunities for environmental education and outreach activities, and give landowners the power to manage natural water storage on their own land, often without the need additional water rights (but check with DRNC) and often using materials procured on-site and good old-fashioned elbow grease. But remember: stream permitting, and sometimes wetland permitting, can apply, so check with your Conservation District.

D. Project Examples

See Photo Page

E. Contact information for other resource specialists working with resilient riparian management and beaver mimicry.

(in addition to Jeff Burrell, WCS jburrell@wcs.org
and Amy Chadwick, Great West Engineering, achadwick@greatwesteng.com)
Nathan Korb, TNC, nkorb@tnc.org
Pedro Marques, Big Hole Watershed Committee, mparques@bhwc.org
Will McDowell, Clark Fork Coalition, will@clarkfork.org
Scott Gillilan, Gillilan Associates, scott@gairesources.com
Mark VanderMeer, Watershed Consulting, mark@watershedconsulting.com
Michael Downey, DNRC, mdowney2@mt.gov
Kyle Tackett, NRCS, Kyle.Tackett@mt.usda.gov
Quentin Kujala, FWP, 444-5672



F. Questions to consider in WRP development *these are the questions you may actually want to work through in the workshop.

A few ideas:

1. Riparian areas contribute to watershed health and value in many ways such as
 - a. being a 'sponge' storing water during high flows and releasing water back during low flows
 - b. being a 'filter' trapping sediments and pollutants
 - c. providing fish and wildlife habitat
 - d. providing scenic amenities
 - e. buffering drought impacts

How would you rank these as priorities in your watershed?

2. What sources of information are used to assess riparian conditions in your watershed?
Are riparian conditions assessed at a watershed scale?
3. How are riparian management/restoration decisions prioritized in your watershed?
4. Do you have incised channels or abandoned floodplains?
5. Are late summer flows limited in any areas of your watershed?
6. How would you describe riparian management practices? Are there best practices being implemented that could be shared with others, through demonstration projects or tours?
Can beaver mimicry or other passive restoration practices add different restoration benefits?
7. What areas of the watershed were traditionally beaver habitat? Can beavers be used as a tool in current operations to store water? Where are the opportunities for non-lethal beaver management?
8. Consider future as well as current conditions: How will your streams and riparian areas fare under increased drought conditions in the future?

