

Appendix D: List of Additional Resources

Stream and Riparian Assessments

Reference	Description
<p>U.S. Department of the Interior. 2015. Riparian area management: Proper functioning condition assessment for lotic areas. Technical Reference 1737-15. Bureau of Land Management, National Operations Center, Denver, CO.</p> <p>https://www.blm.gov/documents/national-office/blm-library/technical-reference/riparian-area-management</p>	<p>An assessment method and a defined, on-the-ground condition of a riparian area based on hydrology, vegetation, and erosion/deposition. Commonly used by Federal land management agencies.</p> <p>Note: PFC is not intended to be used on ephemeral systems.</p>
<p>U.S. Department of the Interior. 2011. Riparian area management: Multiple indicator monitoring (MIM) of stream channels and streamside vegetation. Technical Reference 1737-23. Bureau of Land Management, National Operations Center, Denver, CO.</p> <p>https://www.blm.gov/documents/national-office/blm-library/technical-reference/multiple-indicator-monitoring-mim-stream</p>	<p>Multiple Indicator Monitoring (MIM) of Stream Channels and Streamside Vegetation was developed to aid adaptive management. Indicators and procedures in this protocol were selected to monitor impacts of livestock. Commonly used by Federal land management agencies.</p>

Beavers

Reference	Description
<p>Pollock, M. M., Lewallen, G., Woodruff, K., Jordan, C. E., and Castro, J. M. 2018. The Beaver Restoration Guidebook: Working with Beaver to Restore Streams, Wetlands, and Floodplains. Version 2.0. United States Fish and Wildlife Service, Portland, OR.</p> <p>https://www.fws.gov/oregonfwo/Documents/BRGv.2.0_6.30.17_forpublicationcomp.pdf</p>	<p>A practical synthesis of the best available science for using beaver to improve ecosystem functions. Provides guidance on beaver translocation, beaver habitat needs, and beaver restoration practices.</p>
<p>http://www.martinezbeavers.org/</p>	<p>An informational website with beaver educational materials and tools for living with beaver in urban areas.</p>
<p>https://www.beaverinstitute.org/</p>	<p>A source for technical assistance to public land management staff and private landowners experiencing beaver conflicts. The Beaver Institute provides trainings and information to support cost-effective methods to resolve conflicts with beavers.</p>

Stream Health and Restoration

Reference	Description
<p>Macfarlane, W.W., J.M. Wheaton, N. Bouwes, M. Jensen, J.T. Gilbert, N. Hough-Snee, and J. Shivick. 2015. Modeling the capacity of riverscapes to support beaver dams. <i>Geomorphology</i>. DOI: 10.1016/j.geomorph.2015.11.019.</p> <p>https://www.umt.edu/spatial-analysis-lab/projects/current-work/montana-brat/default.php</p>	<p>Beaver Restoration Assessment Tool (BRAT) is a decision support and planning tool intended to help researchers, restoration practitioners, and resource managers assess the potential for beaver as a stream conservation and restoration agent over large regions and watersheds.</p> <p>Note: Website contains interactive map tool but is more applicable as a downloaded ArcMap layer file.</p>
<p>Shahverdian, S., Wheaton, J.M., Bennett, S.N., Bouwes, N. and Maestas, J.D., 2019. <i>Low-Tech Process-Based Restoration of Riverscapes: Design Manual</i>. Utah State University Wheaton Restoration Consortium, Logan, Utah.</p> <p>https://lowtechpbr.restoration.usu.edu/</p>	<p>A manual that provides guidelines for low-tech process-based restoration. The goals of this manual are to: i) define the principles that guide low-tech process-based restoration; ii) detail how low-tech restoration principles underlie and inform all steps of the restoration process from planning to design and implementation, to expectation management and long-term management and monitoring; and iii) describe the form, function, and design of two low-tech restoration structures.</p>
<p>2018. Maestas, J. D., Conner, S., Zeedyk, B., Neely, B., Rondeau, R., N. Seward, Chapman, T., With, L., and Murph, R.: Hand-built structures for restoring degraded meadows in sagebrush rangelands: Examples and lessons learned from the Upper Gunnison River Basin, Colorado, USDA, Natural Resources Conservation Service, Denver, CO</p> <p>https://www.missouriheadwaterstool.org/</p>	<p>A technical note that explains how to use relatively simple, cost-effective structures to improve riparian areas and wet meadows. This document is geared toward resource managers looking for relatively simple solutions for addressing shallow headcuts or small gullies impacting meadows and drainages using “Zeedyk structures.”</p>
<p>https://quiviracoalition.org/</p>	<p>A web-based support tool for collaboration and conservation at watershed scale. It includes an analysis of mesic resources, priority grassland bird habitat and rangeland productivity to help individuals and conservation partners better understand watershed health and landscape connectivity.</p>
<p>NRCS. 2017. <i>Mesic Habitat Conservation Planning Guide</i>.</p> <p>https://www.sagegrouseinitiative.com/wp-content/uploads/2017/04/Mesic_Habitat_Conservation_Planning_Guide1.pdf</p>	<p>Quivira is a nonprofit organization dedicated to building economic and ecological resilience on western working landscapes. The Quivira Coalition produces educational webinars and free technical guides, and hosts in-person trainings about holistic management and regenerative agriculture.</p> <p>This guide is an overview of conservation practices with help to enhance and restore mesic resources. It provides information about relevant decision support tools, conservation options from the NRCS, and how to monitor project success.</p>

Grazing Management

Reference	Description
https://jornada.nmsu.edu/	An online hub for monitoring manuals, journal articles, presentations, and rangeland research. The Jornada Experimental Research Range is a collaboration between New Mexico State University, USDA and BLM. They have been conducting range science work since the early 1900s.
https://grasscast.unl.edu/	An innovative Grassland Productivity Forecast for producers in the Great Plains. Grass-Cast uses almost 40 years of historical data on weather and vegetation growth—combined with seasonal precipitation forecasts—to predict if rangelands are likely to produce above-normal, near-normal, or below-normal amounts of vegetation.
https://rangelands.app/	The Rangeland Analysis Platform combines satellite imagery with thousands of on-the-ground vegetation measurements collected by BLM, NPS, and NRCS and allows the RAP to easily map vegetation across the western United States. RAP provides biomass and vegetation cover data and identifies changes over time such as transition to woody cover or cheatgrass.
Smart, A., Bauman, P. J., & Lefer, J. 2017. Healthy Grasslands. 2nd Edition of South Dakota Grassland Coalition Publication “Greener Pastures.” Brookings, South Dakota. https://sdgrass.org/wp-content/uploads/2017/10/healthy_grasslands.pdf	This document produced by the South Dakota Grassland Coalition provides technical resources and information about grassland ecology, grazing management, drought planning, monitoring and many other topics relevant in rangeland and pasture management.

Other Resources

Reference	Description
https://streamstats.usgs.gov/ss/	Stream Stats provides access to spatial analytical tools that are useful for water-resources planning and management, and for restoration design purposes. The map-based user interface can be used to delineate drainage areas, get basin characteristics and estimates of flow statistics, and more.
South Dakota Department of Game, Fish and Parks. 2014. South Dakota Wildlife Action Plan. Wildlife Division Report 2014-03. South Dakota Department of Game, Fish and Parks, Pierre. https://apps.sd.gov/gf43wap/Default.aspx	The South Dakota Wildlife Action Plan assesses the health of fish and wildlife and their associated habitats. The website also provides information on species of concern habitat extent, including interactive maps on aquatic and terrestrial species.
https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm	Web Soil Survey provides soil data and information produced by the National Cooperative Soil Survey. Soil surveys can be used for general farm, local, and wider area planning. Information provided includes site suitability, rangeland productivity, and erosion potential.
https://www.ag.ndsu.edu/publications/environment-natural-resources/riparian-complex-ecological-sites-of-north-dakota-a-pictorial-guide-of-riparian-complex-ecological-sites-common-in-north-dakota	This publication is a pictorial guide of the valley, streams, and plant communities common in riparian complex ecological sites in North Dakota. This guide is intended to aid in the interpretation of riparian ecological site descriptions and assist in identification of riparian complex ecological sites when developing management plans for riparian ecosystems.
https://edit.jornada.nmsu.edu/	An interactive tool for cataloging information about how ecosystems respond to different land uses, management practices, and natural phenomena. EDIT serves as the primary repository of Ecological Site information produced by the USDA NRCS.

Local Resources

Reference	Description
Natural Resource Conservation Service (NRCS) 200 Fourth Street SW, Room 203 Huron, SD 57350 Phone: 605-352-1200 https://www.nrcs.usda.gov/wps/portal/nrcs/site/sd/home/	USDA-NRCS collaborates with farmers, ranchers, communities, and other individuals and groups to protect natural resources on private lands. They provide technical and cost-share assistance for implementing conservation practices.
SDSU Extension https://extension.sdstate.edu/	SDSU Extension provides education and learning opportunities. It emphasizes knowledge gained through research to support local communities and natural resource industries.
South Dakota Grassland Coalition https://sdgrass.org/	South Dakota Grassland Coalition works to promote good stewardship of grasslands through sustainable and profitable management. The Coalition presents workshops, field tours, and technical assistance.
South Dakota Soil Health Coalition https://www.sdsoilhealthcoalition.org/	South Dakota Soil Health Coalition provides education and technical resources to help producers increase sustainable ag production through diversification and improved soil health.
Northern Great Plains Joint Venture https://ngpiv.org/	The mission of the Northern Great Plains Joint Venture is to support and implement protection, enhancement, and restoration of prairie grassland, shrub-steppe, wetland, and riparian ecosystems. The website provides conservation planning tools and resources.
The Association of Conservation Districts Phone: 605-895-4099 116 N Euclid Avenue Pierre, SD 57501 https://www.sdconservation.org/	Almost every county has its own Conservation District. They work directly with landowners to conserve and promote healthy soils, water, forests, and wildlife. They coordinate assistance from all available sources—public and private, local, state, and federal—to develop locally driven solutions to natural resources concerns.

Climate Change and Resilience

Reference	Description
<p>Resilient and Connected Landscapes Network</p> <p>https://www.conservationgateway.org/ConservationPractices/ClimateChange/Pages/Climate-Resilience.aspx</p>	<p>This site provides downloadable datasets and maps as well as web-based interactive features. This project identifies a conservation network of representative climate-resilient sites designed to sustain biodiversity and ecological functions into the future under a changing climate. The network was identified and mapped over a 10-year period by Nature Conservancy scientists using public data available at the state and national scale. The data can be a starting point for conversations with local communities, indigenous tribes, land trusts, agencies, corporations, and funders on how to coordinate conservation efforts to increase our collective impact and sustain nature.</p>
<p>Northern Great Plains Climate Hub</p> <p>https://www.climatehubs.usda.gov/hubs/northern-plains</p>	<p>The Northern Plains Hub serves Montana, Wyoming, Colorado, Nebraska, South Dakota, and North Dakota. The Hub delivers science-based knowledge, practical information, management and conservation strategies, and decision tools to farmers, ranchers, and forest landowners with the goal of helping them adapt to weather variability and changing climatic conditions.</p>