



Montana Invasive Species Council Science Advisory Panel

Topic: Woody Invasives Species Management

Purpose: The Science Advisory Panel will address management topics for the focal species, Russian olive, saltcedar, and common buckthorn. Specifically, the goal was to seek expertise on treatment technique applicability, efficacy, and cost, as well as monitoring protocols in relation to both density and species. Panelist experts were to provide information on the state of the science and emerging technologies in relation to each of their topics.

Expected Panel Outcomes:

- Gain a better understanding of current and emerging management techniques for each of the focal species.
- Identify gaps and challenges that will impact Montana's managers.
- Collaborate on and discuss successes and challenges experienced in woody invasive species management and treatments within and outside the state's borders.
- Compile information from technical experts for use in the statewide management plan.

Panelists:

Casey Cisneros, Land Stewardship Manager, Larimer County (CO) Land Stewardship Program/Department of Natural Resources

Casey Cisneros is the Larimer County Land Stewardship Manager. He completed a master's degree in Natural Resources Stewardship with a focus on ecological restoration at Colorado State University and has 20 years of weed management experience. He has planned and implemented restoration projects and weed management in natural areas, rangelands, pastures, and rights-of-way. He has helped remove more than ten thousand invasive exotic woody species such as black locust, common buckthorn, crack willow, Russian olive, Siberian elm, tamarisk and tree of heaven. He lives with his family in Fort Collins, Colorado where he enjoys camping, cooking, fly fishing, reading and song writing.

John Leary, Restoration Coordinator, RiversEdge West

John Leary is a Restoration Coordinator at RiversEdge West where he coordinates the White River Partnership and previously the Desert Rivers Collaborative. These are two collaborative partnerships made up of federal, state, tribal, local government, academic, and non-profit entities working together to restore healthy river ecosystems through tamarisk and Russian olive removal and re-establishing diverse native plant communities. Prior to working at RiversEdge West, he worked a variety of seasonal jobs throughout the West, including managing restoration crews on the Verde and Gila rivers in Arizona.

Dr. Clayton Marlow, Professor/Regional Coordinator, Montana State University Department of Animal and Range Sciences, Western Sustainability Agriculture Research & Education (SARE)

Clayton Marlow is a Professor of Range Sciences at Montana State University. His research focuses on investigating the role of herbivory and wildfire patterns on riparian function and process, which necessitates secondary research on grazing behavior of wild and domestic ungulates and the interaction between herbivory and soil/vegetation recovery following wildfire. Since 2020, he has also served as the Regional Coordinator for the Western Sustainable Agriculture Research Education Program. Previous roles include serving as an Associate Dean in the College of Ag at MSU and as a staff forester for the Tennessee Valley Authority.

Dr. Mike Schuster, Researcher, University of Minnesota Department of Forest Resources/Minnesota Invasive Terrestrial Plants & Pests Center

Mike Schuster is a researcher with the Department of Forest Resources at the University of Minnesota and the Minnesota Invasive Terrestrial Plants and Pests Center. His work focuses on invasive plant species ecology and management. Since 2016, Mike has led the Cover It Up project, working to improve the long-term resilience of forest understories to invasion by buckthorn and other non-native species.

Dr. Sharlene Sing, Research Entomologist, U.S. Forest Service Rocky Mountain Research Station

Sharlene Sing is a Research Entomologist with the USDA Forest Service's Rocky Mountain Research Station, and works at an RMRS research facility located on the campus of Montana State University – Bozeman. Her research focus is biological control of weeds, primarily toadflax, Russian olive, and saltcedar. Sharlene also serves as the Chair of the Technical Advisory Group (TAG) for Biological Control Agents of Weeds. The TAG evaluates petitions and test plant lists, making recommendations to USDA APHIS Plant Protection and Quarantine on the safety of candidate weed biocontrol agents proposed for release in the U.S.

Dr. Natalie West, Research Ecologist, USDA Agricultural Research Service Northern Plains Agricultural Research Station

Dr. Natalie West is a research ecologist with the USDA Agricultural Research Service in Sidney, MT. She studies weed population biology and integrating low input weed management strategies, with an emphasis on biological control.

Questions for Panelists: Questions were compiled from input provided by members of the Woody Invasives Working Group and its Core Planning Group.

- What is the best practice for treating saltcedar at different age ranges (e.g., juvenile vs. mature)?
- How do we best raise awareness for and ability of landowners to identify common buckthorn?
- What are the costs, effectiveness, and negative impacts of various management tools?
- What should be considered for treatments across low, medium, and high density populations of invasive woody species?
- How could one use biocontrol and other control methods within the same area as part of an integrated management practice?
- Is there a best treatment time to cut, apply herbicide, or masticate the woody species?

- If mastication is used, could the wood mulch stay onsite, or would it need to be burned or disposed of in some other means?
- What impacts to water quality and/or quantity are caused by the invasion of these species?
- What would an integrated weed management toolbox or plan look like if a county district and/or landowner were to implement one?
- Some in previous meetings mentioned revegetation as being an integral part of removing the woody invasives along stream corridors. How, why, and what methods could be offered as guidance for someone (whether agency or landowner) to follow?
- What impacts do these species have on Montana riparian areas?
- Based on the research previously discussed and due to the hybrid varieties of saltcedar present across the state, are we using the correct biocontrol species for saltcedar in Montana?
- How can grazing be used as a management tool for prevention, containment, and/or eradication of these woody invasive species?
- What is the status of biocontrol methods for common buckthorn and Russian olive?
- How can/should monitoring be implemented on a landscape level?
- When is revegetation appropriate and what should be considered when planning revegetation/restoration efforts?