

Managing Salt Cedar and Russian Olive on Montana Waterways: Workshop Summary

To: Workshop Participants

From: Janet Ellis and Amy Seaman, MT Audubon staff

Date: November 3, 2017

A. Decisions and Follow-up Activities Agreed to by Workshop Participants:

1. A small Task Force was formed (Rachel Frost, Chris Mehus, Gayla Wortman, and Janet Ellis) to develop and present a proposal to the Montana Invasive Species Council (MISC) at their November 30 meeting in Helena. The Task Force will request that a subcommittee on salt cedar and Russian olive (on water ways/riparian areas) be formed under their auspices. Janet Ellis will take initial responsibility for getting this Task Force organized.
2. A 3 to 4-page meeting summary will be sent to Workshop participants and others interested but unable to attend by 11/3/17. This document is that summary.
3. A one-page -- *Priorities for Action* -- summary of Workshop results and plans will be developed from the 4-page summary and sent to participants for their distribution. A list of agencies, institutions and organizations participating in the Workshop will be included in the one-pager (see below). Reviewing the one-page summary: Rachel Frost, Kenny Keever, Sharlene Sing, and Chris Mehus.
4. A final participant list with contact information will be sent to those attending. The listing will include attendees, as well as those invited, and will be color-coded as such.
5. Janet will write an article about the Workshop purpose and accomplishments and send it to participants who can use it for newsletter articles or other publications. Please inform Janet about where the article was sent and published so she can begin building a communications list for this subject area. Assisting with the article are Sharlene Sing and Stephanie Hester.
6. The initial work on the vision and mission statements will be synthesized and given to the MISC subcommittee described in #1 above (if approved by MISC). Subcommittee members (to be determined) will re-work it, as appropriate.
7. A list of publications referenced at the Workshop will be sent to participants; it can be found HERE: <http://mtaudubon.org/birds-science/bird-conservation/montana-audubon-river-initiative/conservation-workshop/>.
8. It was suggested that in 1 year to 18 months a 2nd meeting of this group, along with interested others, be held. (No commitment at this time was made.)

B. Government Agencies, Institutions and Conservation Organizations Represented at the Workshop:

Army Corps of Engineers; Bureau of Land Management; Cascade Conservation District; Liberty County Weed District; Missouri River Conservation District Council; Montana Audubon; Montana Dept. of Agriculture; Montana Dept. of Environmental Quality; Montana Dept. of Natural Resources and Conservation; Montana Fish, Wildlife & Parks; Montana Natural Heritage Program; Monture Creek Land Management, Inc.; Musselshell Watershed Coalition; The Nature Conservancy; U.S. Fish and Wildlife Service; University of Montana's Bird Ecology Lab; the US Forest Service; US Department of Agriculture (USDA) - Agriculture Research Station; USDA/APHIS (Animal & Plant Health Inspection Service); Wheatland County Weed District; and Yellowstone River Conservation District Council.

Day 1: October 25, 2017 (1:00 to 5:00 pm)

Objectives:

- *Network and build relationships between individuals and organizations.*
- *Create a foundation of shared knowledge about salt cedar and Russian olive in riparian areas along Montana waterways.*
- *Expose participants to current innovative projects and practices managing these 2 invasive woody plants.*

C. Summaries of Speaker Presentations: Creating a Shared Understanding

Understanding Montana Rivers and Invasions by Russian Olive and Tamarisk to Help Guide Management: Peter Lesica, consultant, botanist, author and affiliate faculty at the University of Montana.

The natural history of native cottonwood trees and the non-native Russian olive and salt cedar (Tamarisk) contribute to the threat both invaders pose to Montana waterways. As early succession species, cottonwood and salt cedar establish themselves where sediment deposits are created in open areas: areas like point-bars, sloughs and entrenched locations with overland flow. Once open soil locations are established, cottonwood and salt cedar behave as rapidly colonizing “weedy” species. Both have low shade-tolerance during establishment and produce seeds readily dispersed by wind and water. In Montana salt cedar rarely exceed four meters tall and produces seeds throughout the growing season. In contrast, Russian olive is a late succession species primarily establishing in overland flow locations away from the riverbank. This habit allows establishment in both upland and riparian areas where typical late succession species would be sagebrush or green ash. Russian olive grows more quickly than both sagebrush and green ash, does not require open soils, and tolerates shade, easily sprouting below cottonwoods. Beavers prefer cottonwood to both Russian olive and salt cedar, increasing the threat of invasion within riparian areas. We don’t know how these non-natives invasives affect willow species. However, it is clear that cottonwood regeneration is more problematic on regulated (dammed) rather than unregulated (undammed) rivers. Additionally, having a full complement of native woody species generally helps an area be more resistant to invasion.

Impacts of Russian Olive: Erin Espeland, Research Ecologist, USDA - ARS

The impact of non-native Russian olive occurs at three scales: individual trees, populations, and landscapes. The impact is partially determined by population type (windrow, savannah, or problem) and proximity to water. Individual Russian olive trees provide physical landscape structure, fixed nitrogen, and abundant food. Fruit predators include rodents, coyotes, starlings, pheasant and raccoon, while seed predators include fly larva and other seed pests. Most fruit predators also disperse viable seeds, however rodents often leave the seed attached to the tree. Because Russian olive trees can produce tens of thousands of seeds, all population types are a seed source to the landscape. Isolated savannah populations have a similar impact as individual trees, but are a larger seed source. Windrow populations are effective structural windbreaks that tend to be “well behaved” in upland areas, but are very abundant seed sources. Problem populations are most damaging in riparian areas and often form a closed canopy to the exclusion of other woody species, understory vegetation, and cavity nesting birds. Russian olive does contribute biotic resistance to salt cedar invasions in savannah and problem populations, and can be successfully removed and replaced (with cottonwoods) using proper techniques (e.g., Fort Keogh).

Salt cedar is an ornamental tree that, similarly to Russian olive, is physically tough. It tolerates large amounts of dissolved solids, some shade, a variety of temperatures, and has seeds that remain viable at least six months after dispersal via wind, water or wildlife. Salt cedar (Tamarisk) can disperse up or downstream, aided by the variable Montana wind. Although gallon per day figures are lacking in Montana, salt cedar is a thirsty tree capable of putting pressure on water availability. Salt cedar can alter waterway channel dynamics, increase fuel loads along waterways, and alter soil salinity, while not providing forage or cover for wildlife. Although hand-pulling and chemical treatments can be effective at controlling salt cedar, its ability to disperse large distances creates logistical and financial challenges in treating newly emergent or isolated infestations. Patterns of landownership across the landscape complicate treatment as well, but there is an unknown cost to the “no action” alternative.

D. Table/Station Conversations:

1. *Research on Russian Olive Control and Restoration* (Erin Espeland)
2. *Russian Olive Control along the Marias River* (Jim Ghekiere)
3. *Russian Olive and Salt Cedar Removal on the Missouri River* (Kenny Keever)
4. *Russian Olive Mapping and Other Heritage Program Resources* (Bryce Maxell)
5. *Biological Controls for Salt Cedar and Russian Olive* (Sharlene Sing)
6. *Removing Salt Cedar on the Missouri River* (Rachael Frost)
7. *Russian Olive Removal at Bowdoin National Wildlife Refuge* (Jessica Larson)
8. *Russian Olive Control on the Yellowstone River* (Chris Mehus)
9. *Birds, Russian Olive, and Cottonwoods on the Missouri River* (Anna Noson)

Day 2: October 26, 2017 (8:00 to Noon)

Objectives:

- *Identify opportunities and explore activities for working more cooperatively statewide. (What can this group do together to have more impact?)*
- *Identify follow-up activities and responsibilities.*

E. Planning Priorities:

On day-two small groups worked on selected priority areas for potential cooperative action. Here are the integrated priority actions and activities suggested for the next year to 18 months.

1. Develop a Statewide Network, structured as a subcommittee of the Montana Invasive Species Council (MISC), that pools resources and knowledge to:

- Develop longer-term, collaborative capacity to work effective on salt cedar and Russian olive issues and impacts.
 - Develop a compelling landscape vision and subcommittee mission statement.
 - Expand participation and engagement of diverse agencies and groups.
 - Develop a central hub.
 - Identify and attract funding and pool resources.
- Assess and coordinate existing efforts.
 - ID regional leads.
 - Host a listserv to coordinate efforts.
- Share research data and best practices.
 - Develop a website or web presence on MISC site.
- Establish baseline information for both Russian olive and salt cedar.

- EDDMapS West (application) and MT Natural Heritage Program data share for mapping.
- Statewide look at state and federal projects and determining BMPs.
- Survey county coordinators.
- Assess protocols for consistency.
- Develop Russian olive management plan and update salt cedar management plan. Include consistent protocols and implementation activities.

2. Mapping and Monitoring to:

- Develop a complete and accurate baseline of infestations and habitat quality for wildlife (particularly birds).
 - Support Natural Heritage Program to continue mapping process.
 - Investigate mapping options for salt cedar.
 - Get US Geological Survey plant points throughout Montana.
- Catalogue project successes and habitat quality changes.
- Identify existing projects and tell good stories about their efforts and lessons learned.
 - Create a web-based “story map.”
 - Do presentations about successful efforts, i.e. Fort Peck success using monitoring data already completed; give this information to other groups in Missouri River.
- Encourage cross-jurisdictional collaboration to share and leverage resources.
 - Build upon existing bird monitoring on rivers by bringing partners together to expand to new areas and provide wildlife habitat quality measure.
 - Reach out and coordinate with county and conservation groups that do regular floats and include some mapping of Russian olive and salt cedar.
 - Connect with Big Sky Watershed program as potential resource.

3. Public Education and Communications: Framing the Issues and Delivery Activities:

- Develop management guide or guides, i.e. history, science and management, etc. Identify and coordinate these materials so they are state-wide in application
- Find places to host information website. (Perhaps MISC)
- Utilize existing resources that communicate with the public, i.e., Heritage Program, MSU Extension, MT Dept. Ag, MISC, etc.

F. Meeting Evaluation Data

- *How would you rate the overall quality of this workshop? Average rating: 4.2* (on a scale of 1 to 5, with 1 as “poor” and 5 as “excellent.”).
- *What was most valuable or helpful about this Workshop for you? Top 3 choices were:*
 - Networking (14 or 66%), Understanding the breath of stakeholders working on the issue (7 or 32%) and developing steps to move forward on network/team building (5 or 23%).