

RUSSIAN OLIVE MANAGEMENT:

An IPM Guide for Montana

The following was developed by Montana's managers in conjunction with the efforts of the Woody Invasives Working Group. These best practices should be utilized to achieve your management goals of suppression, containment, or eradication. Decontamination of equipment should be incorporated to ensure Russian olive seeds are not moved between project sites.



Best Management Practices*	WINTER			SPRING			SUMMER			FALL		
	December	January	February	March	April	May	June	July	August	September	October	November
Seasonal Identification Characteristics	Grey/brown papery bark (mature trees) and reddish-brown smooth bark (younger trees) with thorns.											
	May hold on to dead leaves and seeds through the winter.						Silvery green foliage with olive-like seeds (may be confused with native buffaloberry). Keeps leaves after first frost.					
Manual	Hand pulling is most effective for young seedlings and easiest in spring with moist soils. Works well when utilizing volunteer help. Mechanical mastication alone is ineffective for control, but useful for clearing high-use areas. Lopping, cutting, or mastication alone will result in extensive regrowth from the stump/root.											
Herbicide**	Applications in mild winter conditions are effective.						Foliar applications (plants < 6' tall) must occur in the active growing season.			Basal bark/cut stump/injection treatments can be more effective in fall as herbicide movement to the roots is increased in this period.		
Cultural	Use of prescribed fire is best suited for seedlings in open areas. Consider the use of prescribed fire in the year following herbicide treatment to kill seeds and seedlings.											
				Goats may graze young plants. Good for limited access areas.						Follow-up utilizing high-intensity/short-duration methods.		

*An approved biological control agent is not currently available for Russian olive management in the United States.

**See next page for herbicide recommendations and considerations.

FOLLOW-UP MANAGEMENT ACTIONS ARE CRITICAL FOR SUCCESS!

Continue monitoring the project site for at least 5 years.

- Monitoring may occur year-round; utilize mapping and/or flagging.
- Pull or treat weeds that emerge from the seed bank to allow native species to thrive.
- Document any re-treatment efforts.

Consider the following post-treatment site clean-up:

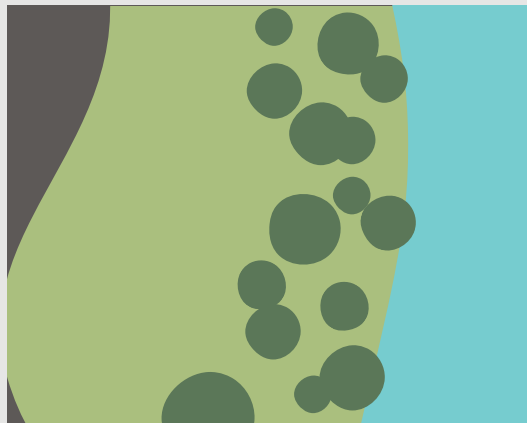
- In areas of low density with plants that don't bear seeds, lop branches and scatter them at the site.
- In areas of high density, make tall, straight-sided slash piles and burn after 1 year of drying. Densely packed piles will burn better.
- If mulching, do so immediately due to the wood's tendency to harden and the stringiness of older bark.

EMPLOYING INTEGRATED PEST MANAGEMENT (IPM):

Utilizing IPM maximizes effectiveness by employing multiple management strategies at a given site. A project site is likely to dictate which management strategies are most appropriate. The possibilities are vast; below is an example:

RIPARIAN AREA NEAR FISHING ACCESS SITE:

- Publicly accessible land
- Young Russian olive
- Mature Russian olive interspersed with few cottonwoods
- Tributary



- In growing season, apply foliar treatment to young Russian olives.
- In fall, utilize cut-stump treatments with sawyers due to large stem diameters on mature Russian olive. Masticate foliar treatment area. Utilize equipment to make tall, dense slash piles for burning.
- Issue prescribed burn for following winter to burn piles and kill seeds and seedlings.
- Due to heavy public use, select native shrubs and trees for revegetation.
- Monitor annually.
- Re-treat as necessary using herbicide on resprouts and/or hand pulling newly germinated seedlings.

HERBICIDE RECOMMENDATIONS:

Application Type	Herbicide
Basal Bark	Triclopyr
Cut-Stump	Imazapyr Triclopyr Glyphosate
Foliar	Triclopyr Aminopyralid
Injection/Hatchet/Girdling	Glyphosate Imazapyr

- All proper licenses and permits must be obtained.
- Read labels carefully - the label is the law! For specific guidance on application rates, use/need of surfactants, etc., consult the manufacturer's label and/or a local technical professional (e.g., Extension agent, county weed coordinator, MDA staff).
- Aquatic formulations of herbicide and surfactants must be used near water.

REVEGETATION RECOMMENDATIONS:

Revegetation at treatment sites has been shown to increase diversity and native plant cover. Based on budgetary or labor restrictions, efforts toward retreatment and continued monitoring may be prioritized over revegetation and restoration objectives. Avoid revegetation efforts in areas where water and ice scour are known to occur frequently.

In cases where revegetation efforts are possible or necessary, consider the following:

- Address other undesirable or invasive vegetation that may be released by the removal of Russian olive before planting.
- Select native tree and shrub species that match ecological site characteristics. Visit bit.ly/NRCSGuidelines for more information.

HAVE QUESTIONS?

For additional information, consult the Statewide Management Plan or contact:

- Your Local Extension Office
- Your Local Weed District
- MT Dept of Agriculture:
(406) 444-3144 or agrweeds@mt.gov