



COLORADO STATE PARKS
BEST MANAGEMENT PRACTICES
WEED PROFILE



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Parks Affected: Many

Russian olive
(*Elaeagnus angustifolia*)



Family: Elaeagnaceae (Oleaster)
USDA code: ELAANG
Legal status: Colorado Noxious list A
Common names: Oleaster, narrow-leaved oleaster



Identification

Growth form: Deciduous introduced, shrub or small tree that grows up to 30 feet tall. The crown is usually dense and rounded.

Branches: Twigs are flexible and coated with a gray, scaly pubescence and often have a short thorn at the end.

Leaves: Leaves are about 2-4 inches long and are covered with scalelike stellate pubescence

Bark: Bark is thin and peels off in long strips

Roots: Russian olives have deep taproots and well-developed lateral root systems

Similar species: Buffaloberry (*Shepherdia argentea* and *S. canadensis*). Buffaloberry is a native species.

Impacts

Russian olive can outcompete native vegetation, interfere with



Russian olive branch with fruit

natural plant succession and nutrient cycling, and tax water reserves. It rapidly colonizes lowland field and often dries up irrigation ditches. Russian olive is capable of fixing nitrogen in its roots and can therefore grow on bare mineral substrates and dominate riparian vegetation. Although the trees provide an edible source of edible fruits for birds, ecologists have found that bird species richness is higher in riparian areas dominated by native species. The fruits eaten by birds disseminate seeds of this species to areas not yet invaded by Russian olive.

Russian-olive can displace some native woody species. In some areas, it is projected to displace native plains cottonwood (*Populus deltoides* var. *occidentalis*) as a climax species. The plant community will no longer provide essential habitat components for cavity-nesting birds.

Habitat and distribution

Russian-olive is a native of southern Europe and western Asia and was introduced as an ornamental and a specimen for windrow plantings. It was introduced into the United States in the early 1900's. By the mid-1900's it had escaped cultivation and is now extensively naturalized in 17 western states bordered on the east by the Dakotas, Nebraska, Kansas, Oklahoma, and Texas and extending west to the Pacific Coast.

It is tolerant of elevated soil salinity and can thrive in a wide range of soil textures from sand to heavy clay, and can withstand flooding and silting. There are dense, healthy stands in riverbottoms where the water table is seldom more than 2 feet below the surface, but can also survive considerable drought.

It is also shade tolerant and can withstand competition from other shrubs and trees.

Biology/Ecology

Sexual reproduction: At three years of age, the trees begin to flower and fruit. Highly aromatic, creamy yellow flowers appear in June and July and are later replaced by clusters of abundant silvery fruits. Seeds are eaten by birds and small mammals and dispersed in their droppings. The seeds can remain viable for up to 3 years and can germinating over a broad range of soil types. Spring moisture and slightly alkaline soil tend to favor seedling growth.

Vegetative reproduction: Russian olives are able to sprout from the root crown and send up root suckers.

Russian-olive is considered as a pioneer species of disturbed floodplains and streambanks. Since it is relatively shade tolerant, it can persist throughout seral stages and become the climax dominant

Control

Control of this species is extremely difficult and eradication is close to impossible. However, control has shown to be most effective when Russian olives are young.

Chemical: Cutting or mowing hedges with a brush mower, immediately followed by brushing stumps with triclopyr (Garlon 4) has been shown to be an effective method for control of this invader. The girdling method has also been shown to be an effective method for Russian olive control. This involves making shallow, overlapping cuts into the bark around the trunk base using a hatchet or chainsaw, and then lightly spraying

the entire cut surface with herbicide. A small finger-trigger spray bottle is usually adequate for these applications, as backpack sprayers tend to get caught up in branches and makes mobility in a tight riparian area exceedingly difficult. Some applications have experienced more success in the fall when the trees are translocating reserves to their roots.

Mechanical: Fire in combination with herbicide spraying of stumps can prevent Russian-olive from sprouting from the root crown.

Selecting a method for control will depend on variety of factors. Budget, size of infestation to be controlled, other desirable species that may be present within the area, and herbicide and prescribed fire rules and regulations can dictate the method of control to be used.

Control Strategies

As a rule, removing or controlling isolated patches of invasive plants first before attacking the large contiguous areas of weeds is the best long-term strategy for noxious weed control. Once an aggressive program is in operation for these isolated patches, managers' focus can be shifted to the large patches. Efforts for dense thickets of tamarisk and Russian olive in flood prone areas should first focus on the trees that are situated high on stream terraces that are likely to survive future floods and reseed the stream floor. Flood events will hopefully have enough energy and erosive power associated with them to uproot the smaller, younger tamarisk and Russian olive. The scale of flooding necessary to uproot the young trees in the streambed varies from watershed to watershed.