

UI Extension Fort Hall develops and provides Russian olive management program

AT A GLANCE

Russian olives are one of the most significant invasive trees in the West. These trees spread prolifically, degrade the environment and are very difficult to manage.

The Situation

Russian olives have become a significant invasive tree in the west, including in Idaho and the Fort Hall Reservation. It spreads prolifically, degrades the environment and is very difficult to manage. For these reasons, the trees are being considered for listing on the Idaho State Noxious Weeds List.

Russian olives are native to Eurasia and were introduced to the western states in the 1900's. They are deciduous, fast-growing trees that reach heights of 10 to 30 feet and 20 inches or more in diameter. Branches produce 1 to 2-inch, sharp thorns. Leaves are grayish-green, narrow, 2 to 3 inches long and alternate on stems. Leaves are covered with tiny scales that give the foliage a distinctive, silvery appearance. Flowers are yellow and grow in clusters that later develop into small, olive-shaped fruit. Fruits, known as drupes, are initially silver and turn tan to brown at maturity. Mature trees (typically five years and older) reproduce by seeds that are viable for one to three years. Seeds are spread efficiently by animals and birds, and by floating in the water.

Russian olives reproduce aggressively through stump sprouts, stem cuttings, epicormic (dormant buds on trunks and limbs) and adventitious buds (new growth



Russian olive invasion near the Fort Hall Reservation. Note the abundance of tree seedlings.

points that develop on shoots and roots), and root fragments. Roots can grow 40 ft. deep and contain a microbe that is associated with nitrogen fixation. This process enables trees to self-fertilize and establish on bare soil. It also increases nitrogen levels in the environment.

Russian olives adapt to a variety of elevations, soil textures and types, and extreme temperatures. They prefer moist areas but grow well in arid conditions with as little as 8 inches of precipitation. The trees can survive extended droughts, flooding and silting.

Russian olives establish well in windbreaks and have ornamental value. They provide food and shelter for some birds and small animals. However, Russian olives are very invasive in irrigated pastures, meadows,

riparian areas and other waterways. They decrease water supplies, displace and decrease native plant and animal species, form impenetrable masses, create inferior wildlife habitat and provide minimal forage value. A decline in cutthroat trout has been observed in riparian areas infested with this tree. The tree also interferes with agricultural practices by choking irrigation ditches and damaging equipment.

Russian olives have very efficient reproductive mechanisms. Additionally, its' phytochemical and mechanical properties protect it from predation and parasitism. Because of these characteristics, management and control of these trees is challenging and difficult. Significant resources are required to manage infestations.

Educational programming increases the probability that existing infestations will be identified and managed with the most current, practical tools available. As individuals, agencies and natural resource managers work together to identify and solve this problem, new infestations can be prevented, and existing infestations can be controlled. These measures will prevent further spread, result in increased native species diversity and improve environmental conditions.

Our Response

To address this problem, Fort Hall's Extension educator developed two objectives: 1) Educate and teach the public, land managers and owners, and producers how to identify and manage Russian olives; 2) Initiate control projects to restore native habitat.

The educator collaborated with the Shoshone-Bannock Tribal Agricultural Resources (ARM) program; Enoch Houtz, Tribal ARM compliance officer; Idaho weed superintendents; land managers and owners; and producers. The educator developed educational materials, gave several presentations, released news articles; and worked with landowners, producers and homeowners to control small and large infestations. The educator also collaborated on and helped initiate and implement multiple control projects in Fort Hall.

FOR MORE INFORMATION

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Program Outcomes

This program reached and educated over 250 individuals who can now identify and manage Russian olives. Collaboration with tribal ARM personnel, producers, and land managers and owners resulted in over 100 acres of Russian olive trees that have been removed and treated on the Fort Hall Reservation.

Public awareness and knowledge of this problem has improved. An increase in calls from concerned landowners and producers has increased. Additional projects were initiated to manage and/or remove Russian olive infestations. Information and assistance were provided for land rehabilitation efforts. This significant environmental problem has shifted from a lack of awareness and education to increased awareness, knowledge and active efforts to implement management measures.

The Future

A comprehensive management guide is being developed to increase the knowledge of Russian olives and management options for Idaho citizens. Future programming involves expanding Russian olive education to new target audiences to educate more individuals about the negative effects these trees have on our environment. Efforts will be increased to identify and control new infestations. Where feasible, existing infestations will be eliminated. Treated areas will be rehabilitated with beneficial native plants. We anticipate an improvement in the overall health of our natural resources and diversity of native plant and wildlife.

Cooperators and Co-Sponsors

Enoch Houtz, chemical compliance technician, ARM program; Shoshone-Bannock ARM program; Shoshone-Bannock Land Use Policy Commission; Curtis Munk, retired Power County Weed Superintendent; Federally Recognized Tribes Extension Program (FRTEP).