



Invasive Plants

RESOURCE BRIEF

Importance

Approximately 50,000 non-native species have been introduced to the US for food, landscape restoration, biological pest control, pets, and sport. Many introduced invasive plant species have become established throughout the western US and have disrupted food chains and nutrient cycles by out-competing native plants. Economic damages from invasive species and costs associated with their control total nearly \$120 billion annually in the US. Wetland, riparian, and disturbed areas have an increased risk of invasion by non-native plants which can significantly reduce the biodiversity and the health of ecosystems by replacing riparian vegetation communities



Spraying herbicide on invasive plants

vegetation. Monocultures of cheatgrass (*Bromus tectorum*) have formed in past cattle “hangout areas” and threaten surrounding sagebrush steppe. Control methods to reduce distribution and impact of noxious weeds are conducted and about eight species are the subject of ongoing control efforts. The current integrated pest management approach includes mechanical removal, revegetation, and chemical and biological controls.

Discussion

Intensive management of invasive plants in Bighorn Canyon NRA began in the late 1990s. Between 2000 and 2002, 52 acres were treated by herbicide, mechanical, and manual removal in southern Bighorn Canyon NRA. In 2007, treated area increased to 319 acres due to improvements in control methods. An additional 75 acres of Russian olive (*Elaeagnus angustifolia*) were removed in 2007 in the Yellowtail Wildlife Habitat Management Area (YWHMA), one-third of which has been altered by invasive plants. In 2001, the leaf beetle (*Diorhabda elongate*) was successfully introduced as a biological control for tamarisk (salt cedar, *Tamarix chinensis*), which is especially invasive in the YWHMA. The leaf beetle has spread widely and is beginning to cause tamarisk mortality. Boer goats have been used in the YWHMA since 2006 to control whitetop (*Cardaria draba*), knapweeds, and mustards.

Status and Trend in Bighorn Canyon

Of the 105 non-native plant species documented in Bighorn Canyon National Recreation Area (NRA), 13 are considered noxious. Historical and ongoing disturbance related to cattle trailing and grazing, roadsides, visitor use, fire, and the reservoir has contributed to extensive areas of invasive plant infestation in Bighorn Canyon NRA. Though some non-native plants introduced by settlement activities are important to cultural landscapes (e.g., orchards at historic ranches), noxious weeds established in historically disturbed areas can spread to areas of native



Boer Goats