

Biological Pollution

Each invasive species has been moved from its native habitat by humans, directly or indirectly, to an area outside of its native range. European settlers brought hundreds of plant species to North America from their homelands for culinary, medicinal, ornamental, and other purposes. Other plants arrive as hitchhikers among shipments of other plants, seeds, or packing material. Free from their natural predators and competitors, invasive plants tend to experience rapid and unrestricted growth in their new environments. As a result, they are considered to be biological pollutants. Fortunately, Alaska is not yet overrun by invasive plants. We have a unique opportunity to prevent problems that have occurred elsewhere, but the threat grows with every year.



How you can help

To prevent the introduction and spread of invasive plants into natural areas, please follow these recommendations:

- Wash your car and hiking gear before taking trips to prevent seeds from hitchhiking.
- Notify land managers of invasive plants found in natural or remote areas.
- Avoid disturbance of natural areas, such as clearing native vegetation or planting non-native plants.
- When landscaping, use plants that are native to your local region or those that are not known to be invasive.
- Control any invasive plants in your own yard, garden, or neighborhood.
- Volunteer your time to assist with invasive plant control projects.



Further Information

For further information about invasive plants in Alaska's National Parks, to report a species observation or to volunteer with the Exotic Plant Management Team, please contact:

Jeff Heys, Program Coordinator
Exotic Plant Management Team
Alaska Regional Office
240 W. 5th Avenue
Anchorage Alaska 99501
(907) 644-3451
jeff_heys@nps.gov

or:

Penny Bauder, Biologist
Exotic Plant Management Team
Alaska Regional Office
240 W. 5th Avenue
Anchorage Alaska 99501
(907) 644-3445
penny_bauder@nps.gov

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National Park Service
U.S. Department of the Interior

Alaska Region
Exotic Plant Management Team



A large Japanese knotweed infestation on a beachfront near Juneau

Invasive Plants in Alaska



Canada thistle, a prickly threat that is rapidly spreading in Alaska

What is an Invasive Plant?

A plant is defined as invasive if it is not native to the ecosystem under consideration and if it causes or is likely to cause economic or environmental harm or harm to human health. Human actions are the primary means of invasive plant introduction. Invasive plants cost the United States an estimated \$35 billion each year and are one of the greatest threats to the natural ecosystems of our National Parks. These unwelcome plants can:

- Out-compete native plants
- Displace wildlife
- Harm fish habitat
- Affect soil and water quality
- Alter disturbance regimes like wildfire

The terms exotic, introduced, alien and non-native are frequently used interchangeably with the term invasive. Six invasive plants in Alaska's National Parks include:



Yellow toadflax's bicolor flower is easy to identify, while the plant is difficult to control.

Yellow toadflax (*Linaria vulgaris*) is an aggressive species that spreads along roadsides, waste areas, pastures and forest edges. Often introduced through buried seed in topsoil or deliberate plantings, it is capable of forming dense colonies and suppressing native grasses. Small patches of yellow toadflax occur in Denali National Park and Preserve, Wrangell-St. Elias National Park and Preserve, Kenai Fjords National Park, and Klondike Gold Rush National Historical Park.

Bird vetch (*Vicia cracca*) aggressively climbs fencing, trees, bushes and other vegetation, monopolizing sunlight, space and moisture. This characteristic has given it the nickname, "Alaskan kudzu." It spreads along roadsides and trails and can invade natural areas and alter soil nutrient levels. This plant has formed large infestations in Anchorage and Fairbanks, and small patches have been found in Denali National Park and Preserve and Yukon-Charley Rivers National Preserve.



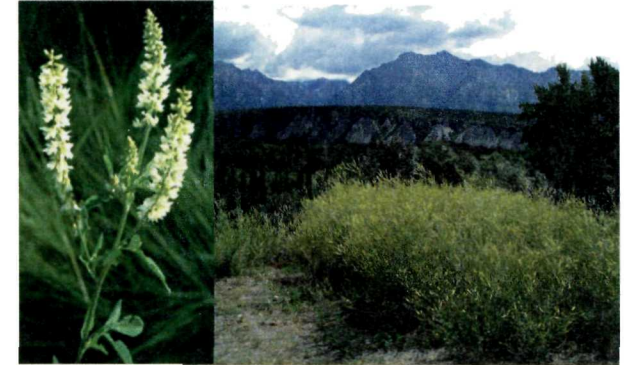
Bird vetch climbs over native vegetation along a roadside in southcentral Alaska.

Narrowleaf hawkbeard (*Crepis tectorum*) is a weed of agricultural fields, pastures, roadsides and waste areas. It can out-compete native Alaskan plants and is spreading rapidly around the state. Narrowleaf hawkbeard smothers disturbed areas in Denali National Park and Preserve and has been recently found in Wrangell-St. Elias National Park and Preserve, Lake Clark National Park and Preserve, and Klondike Gold Rush National Historic Park.



Hawkbeard resembles dandelion but has smaller flowerheads and narrower leaves.

White sweetclover (*Melilotus alba*) degrades natural grassland communities by forming large monocultural stands that shade out native species. It can invade natural areas and replace native vegetation on riverbanks. White sweetclover has established huge infestations on the Nenana, Matanuska and Stikine rivers. Meanwhile, it is lurking just outside Denali National Park and Preserve, Wrangell-St. Elias National Park and Preserve, and Klondike Gold Rush National Historical Park.



White sweetclover forms thick infestations and has colonized wild Alaskan rivers.

Oxeye daisy (*Leucanthemum vulgare*) seems like an innocuous wildflower and is often included in seed mixes, but it is actually a weed that can invade natural habitats. It easily escapes cultivation, out-competing and displacing native species. The entire plant has a disagreeable odor



Oxeye daisy, pretty flowers with a bad reputation

and contains chemicals that are highly toxic to most insect herbivores. Oxeye daisy is still sold in some nurseries and is often planted as an ornamental. This plant is increasingly common in remote areas, including 7 of Alaska's National Parks. Not all attractive flowers make good neighbors.

Japanese knotweed (*Polygonum cuspidatum*) forms single-species stands that reduce biodiversity by outshading native vegetation. It also clogs waterways and spreads easily upstream and downstream, lowering the quality of wildlife and fish habitat and reducing the food supply for juvenile salmon. Japanese knotweed occurs in Sitka National Historical Park.



Enormous Japanese knotweed