

WHAT MAKES A PLANT INVASIVE?

The majority of non-native plants that have been introduced to Alaska, such as non-invasive ornamental plants and staple crops, are beneficial to society. However, occasionally a non-native plant is able to grow aggressively in a new environment, spreading outside of areas of cultivation, displacing native vegetation, degrading wildlife habitat, and negatively effecting human health, the economy, or the environment. What makes a plant a successful invader in a new territory? Some invasive plant establishment and survival strategies include:

- Rapid growth and early maturity (short juvenile period)
- Prolific seed production and germination under a wide range of conditions
- High levels of vegetative reproduction (via rhizomes, stolons, adventitious buds, etc.)
- Formation of a dense canopy to monopolize sunlight
- Deep tap roots for monopolizing moisture and nutrients
- Allelopathy (production of chemicals which inhibit surrounding vegetation)
- Formation of mats or monocultures to crowd out surrounding vegetation
- The ability to thrive in disturbed areas

Prolific seed production: Spreading by seeds, rhizomes, and above-ground stems (stolons), orange hawkweed rapidly colonizes meadows, replacing native grasses and forbs. Orange hawkweed was originally introduced to the United States as a garden ornamental, and is often a component of wildflower seed mixes.



UAF Cooperative Extension Service photo by Michael Rasy.



USDA Forest Service photo by Michael Shephard.

A noxious weed in many states, new populations of spotted knapweed (*Centaurea biebersteinii*), have been detected in four locations across Alaska. Heavy infestations of spotted knapweed can reduce wildlife forage and degrade stream habitats by increasing surface runoff and sedimentation.



Alaska Soil and Water Conservation District photo by Michael West.

Where there's a will there's a way: An aggressive weed, garlic mustard (*Alliaria petiolata*), takes root on a chunk of cement in Juneau, Alaska.



UAF Cooperative Extension Service photo by Michael Rasy.

Roadsides serve as disturbance corridors for the spread of perennial sowthistle (*Sonchus arvensis*).



USDA Forest Service photo by Michael Shephard.

Stands of western salsify (*Tragopogon dubius*) are rapidly expanding along the shores of Turnagain Arm, despite the efforts of annual weed-pull volunteers.

Additional information about invasive plants in Alaska can be obtained from your local UAF Alaska Cooperative Extension office (Anchorage, Delta Junction, Fairbanks, Juneau, Palmer, Sitka, and Soldotna), Alaska State Forestry office, or from the following websites:

<http://www.uaf.edu/ces>
<http://www.cnipm.org/index.html>
<http://www.fs.fed.us/r10/spf/fhp>

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Cover. Clockwise from top: Bull thistle (*Cirsium vulgare*), Kok, Loke T., Virginia Polytechnic Institute and State University, image 058002. invasive.org, May 12, 2004; Common toadflax (*Linaria vulgaris*), UAF Cooperative Extension Service, Corlene Rose; Bird vetch (*Vicia cracca*), UAF Cooperative Extension Service, Michael Rasy; Canada thistle (*Cirsium arvense*), UAF Cooperative Extension Service, Michael Rasy; Orange hawkweed (*Hieracium aurantiacum*), USDA Forest Service, Michael Shephard; and White sweetclover (*Medilotus alba*), UAF Cooperative Extension Service, Jamie Snyder.

Visit the Cooperative Extension Web site at www.uaf.edu/ces

7/04/JS/2000

Reprinted May 2005

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Reducing the Spread of Non-Native Invasive Plants in Alaska

Voluntary Codes of Conduct for the Gardening Public



United States
Department of
Agriculture

Forest Service
Alaska Region

State & Private
Forestry



WHAT YOU CAN DO TO REDUCE THE SPREAD OF NON-NATIVE INVASIVE PLANTS IN ALASKA

Invasive plants, now abundant across much of North America, have been responsible for enormous economic losses and environmental damage over the past two centuries. Factors such as geographic isolation and harsh winters have “protected” Alaska from large-scale invasive plant infestations in the past. Over the last decade, however, some of the most harmful noxious weeds plaguing the Lower 48 have become established on Alaskan soil, and have begun to spread. Some of the many different ways that invasive plants, plant parts, and seeds find their way to Alaska include:

- In the rootballs of ornamental trees and shrubs brought in from other states or provinces
- Through the propagation of horticultural plants known to be invasive in Alaska, or in areas with similar climates
- By traveling in animal feed, tires, recreational equipment, and contaminated landscaping or construction materials, or as a component of wildflower seed mixes

In Alaska we have the chance to prevent invasive plant infestations before they become so widespread that control is costly and eradication impossible. The easiest way to do this is to reduce or eliminate the vectors by which invasives are being introduced. The following “Voluntary Codes of Conduct for the Gardening Public in Alaska” are an important part of our effort to reduce the spread of invasive plants in Alaska.

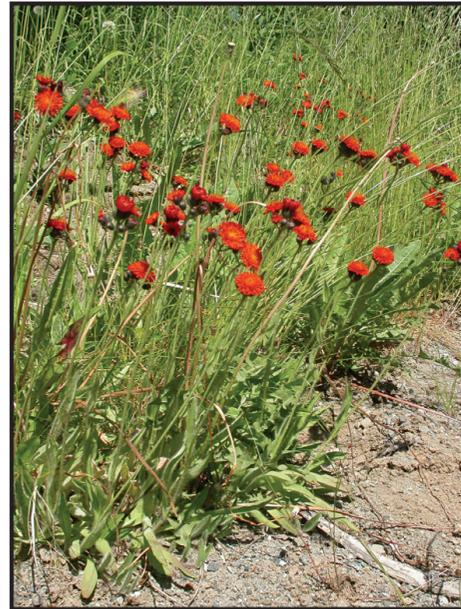
DEVELOPING VOLUNTARY CODES FOR ALASKANS

At a 2001 workshop in Missouri, a wide range of national and international collaborators gathered to develop the original Codes of Conduct to reduce the spread of invasive plants. These codes were based on the concepts of voluntary self-regulation, public outreach, and education. In 2003 the UAF Cooperative Extension Service distributed these materials in Alaska, and solicited input from a range of concerned citizens. Responses and suggestions were incorporated into the codes the following year, in order to create a set of “Voluntary Codes of Conduct to Reduce the Spread of Invasive Plants” for Alaskans.



Pulling together: Weed pull volunteers brave the elements on a windy day.

UAF Cooperative Extension Service photo by Corlene Rose.



*Orange hawkweed (*Hieracium aurantiacum*) is spreading along a roadside near the entrance to several popular trails in Chugach State Park.*

UAF Cooperative Extension Service photo by Jamie Snyder.



Spreading the word: Community events provide opportunities to share information on invasive plants.

UAF Cooperative Extension Service photo by Michael Rasy.

VOLUNTARY CODES OF CONDUCT FOR THE GARDENING PUBLIC IN ALASKA

- 1** Ask for only non-invasive species when you acquire plants, and look for “certified weed free” products where available (mulches, compost, bird seed, hay, straw, etc.). When purchasing a wildflower seed mix, choose a mix that contains locally appropriate non-invasive species.
- 2** Plant only environmentally safe species in your gardens. Work towards and promote new landscape design that is friendly to regional Alaskan ecosystems.
- 3** Seek information on which species are invasive in your area. Sources could include botanical gardens, horticulturists, conservationists, government agencies, and your local Cooperative Extension office. Remove invasive species from your land and replace them with non-invasive species suited to your site and needs.
- 4** Do not collect or trade plants or seeds with other gardeners if you know they are species with invasive characteristics.
- 5** Request that botanical gardens, greenhouses and nurseries promote, display and sell only non-invasive species.
- 6** Help educate your community and other gardeners in your area through personal contact, and in such settings as classrooms, garden clubs, and other civic groups.
- 7** Ask garden writers and other media to emphasize the problem of invasive species and provide information. Request that garden writers promote only non-invasive species.
- 8** Invite speakers knowledgeable on the invasive species issue to speak to garden clubs, master gardeners, schools and other community groups.
- 9** Seek the best information on control of invasive plant species and organize neighborhood work groups to remove invasive plant species under the guidance of knowledgeable professionals.
- 10** Volunteer at botanical gardens, in natural areas, and at weed pulling events to assist ongoing efforts to diminish the threat of invasive plants. Make sure your disposal methods do not contribute to the spread of the invasive plant that you are trying to control. Composting is not recommended for the disposal of invasive plants.
- 11** Participate in early warning systems by reporting invasive species you observe to the Cooperative Extension Service or appropriate local agency.
- 12** Assist garden clubs to create policies regarding the use of invasive species not only in horticulture, but also in activities such as fairs, markets and flower shows. Urge florists and others to eliminate the use of invasive plant material.
- 13** Movement of people and equipment within natural areas, and site-disturbing projects such as road-building, construction, and timber harvest can be vectors for invasive plants. Seek information from your local Cooperative Extension Service or appropriate local agency and employ the recommended precautions whenever possible to reduce introduction and establishment of invasive plants.