APPENDIX A

Descriptions by Species

A1. TANSY RAGWORT

A. Description

Tansy ragwort (Senecio jacobaea) is a member of the sunflower family. A biennial plant, it is a poisonous non-indigenous weed responsible for the deaths of livestock, mainly cattle and horses, in the Pacific Northwest. Disturbances in natural plant communities, such as logging, road construction, and overgrazing provide potential tansy ragwort habitat. Ragwort infestations can range from isolated plants to linear colonies along roadsides or dense infestations in pastures and clearcuts. Biological control of tansy is a major regional success stories, saving over $5 million per year in Oregon alone. Integrated vegetation management, methods can provide effective control of tansy ragwort where sound range management principles are implemented.

B. Native Area/Arrival In The U.S.

Tansy ragwort is native to Europe and Asia. It occurs in temperate areas from Great Britain east to Siberia. Ragwort has been widely introduced throughout the world where climates are similar to those in Europe, and it was first found in Oregon in the Portland area in 1922.

C. Current Status

Ragwort now infests more than three million acres in western Oregon, where it is under satisfactory control by biological control agents – the cinnabar moth, the tansy ragwort flea beetle and the ragwort seedfly. It is also a major pest in millions of acres in British Columbia, Washington and northern California. It has been found in a majority of eastern Oregon and Washington counties, and is also known from Idaho and Montana. New finds occurring in these areas and eastern Oregon indicate tansy ragwort can survive and increase in the intermountain zone, which had once been thought unsusceptible.

D. References For More Information

Bain, J.F. "The Biology of Canadian Weeds, 96. Senecio jacobaea L." *Canadian Journal of Plant Science*. Vol. 71:127-40. 1991.

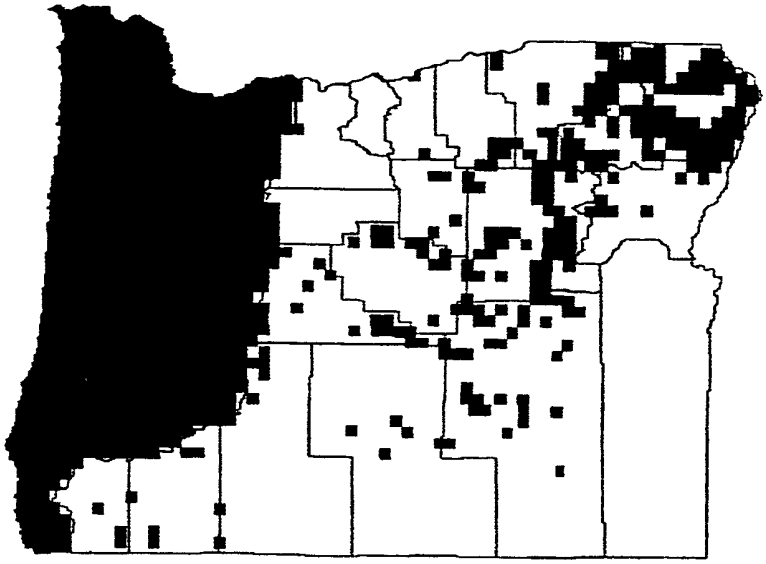
Burrill, L.C., R.H. Callihan, R. Parker, E. Coombs and H. Radtke. Tansy ragwort, Senecio jacobaea L. Pacific Northwest Extension Publication. PNW 175. Oregon State University. 1994.

Coombs, Eric M., Peter B. McEvoy, and Charles E. Turner. Tansy Ragwort. Pp 389-400. In: Sheley, Roger L. and Janet K. Petroff (eds.). Biology and Management of Noxious Rangeland Weeds. Oregon State University Press. Corvallis, Oregon. 1999.

Figure A.1
Tansy Ragwort

Source: Photo by Eric Coombs. Oregon Department of Agriculture.

Figure A.2
Oregon Tansy Ragwort



A2. YELLOW STARTHISTLE

A. Description

Yellow starthistle (Centaurea solstitialis) is a member of the knapweed complex of weeds in the sunflower family. Infestations range from scattered individuals to dense stands, sometimes with densities of hundreds of plants per square yard. An annual plant, starthistle competes with native grasses by quickly growing a long taproot after germinating under quite cool conditions, allowing it to capture moisture and nutrients before other plant species. It favors sites originally dominated by perennial grasses, primarily bluebunch wheatgrass, Idaho fescue, and Sandberg's bluegrass. This species displaces native plant communities and reduces plant diversity. Many members of the knapweed family of plants accelerate soil erosion and surface runoff. Infestations are manageable with high levels of input where farm equipment can be used, but in steep and rocky areas control is impractical with current technology. It is considered poor forage for all classes of livestock, and causes "chewings disease," a fatal neurological disorder in horses. Livestock can be injured if they are forced to feed on the spiny portions of the plant. However, in the pre-spring stage, it can be grazed by cattle and sheep where quality forage is unavailable. This weed can provide nectar for honeybees.

B. Native Area/Arrival In The U.S.

Yellow starthistle is native to Mediterranean regions of Europe, Asia and North Africa. Seeds of this species are believed to have arrived in North America in alfalfa seeds. Several herbarium specimens of this species were collected in California in the middle and late 1800's. Birds feed on yellow starthistle seeds and have been implicated in both long and short-distance dispersal. It has the ability to invade rangelands throughout the western United States.

C. Current Status

This noxious weed currently infests millions of acres of rangeland in the western U.S., and California alone now estimates infestations at more than 10 million acres. There are about 135,000 acres in Oregon, and infested acreage is increasing. While several biological control agents have been introduced and established against yellow starthistle, none have been demonstrated to reduce impacts of this weed.

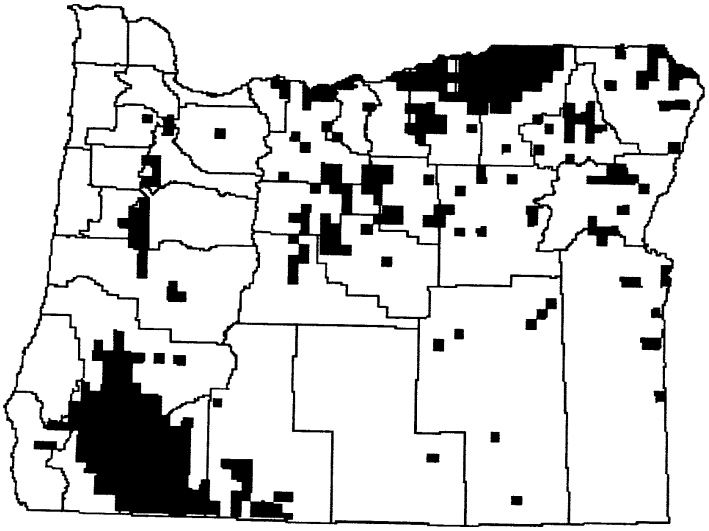
D. References For More Information

Sheley, Roger L., Larry L. Johnson, and James S. Jacobs. Yellow Starthistle. Pp 408-416. In: Sheley, Roger L. and Janet K. Petroff (eds.). Biology and Management of Noxious Rangeland Weeds. Oregon State University Press. Corvallis, Oregon. 1999.

Figure A.3
Yellow Starthistle

Source: Photo by Cindy Talbott Roché. Asotin, WA.

Figure A.4
Oregon Yellow Starthistle 1999



A3. DISTAFF THISTLE

A. Description

Distaff thistle (Carthamus lanatus) is one of several closely related species with stiff spines on both the flower heads and the leaves. Common safflower is a member of the same group, which is in the sunflower family. An annual plant, distaff thistle grows to 4-5 feet in height and can form dense stands that cattle, horses and wildlife will not enter. It has hard stems and does not quickly weather or compost as readily as other common thistle species, like Canada thistle and bull thistle, thus reducing effective forage production area. Distaff thistle is a Class A noxious weed in Oregon, which means that plants must be controlled.

B. Native Area/Arrival In The U.S.

The Carthamus complex of thistles is native to the Mediterranean regions of Europe, Asia and North Africa. It was most likely introduced to the western U.S. as a contaminant of wheat seed imported from Italy, and it has been transported to other parts of the world in this way.

In Australia, distaff thistle is one of the most widespread and troublesome weeds in cereal-growing areas, which indicates that it could invade winter wheat fields in the Pacific Northwest.

C. Current Status

In the Pacific Northwest, distaff thistle is known to occur only in scattered locations in Douglas and Josephine Counties in southwest Oregon. It likely arrived there on livestock from California. It is a serious problem in parts of northern California. It is a major weed problem in cereal production throughout Australia, and in New South Wales it is regarded as the worst pasture weed there.

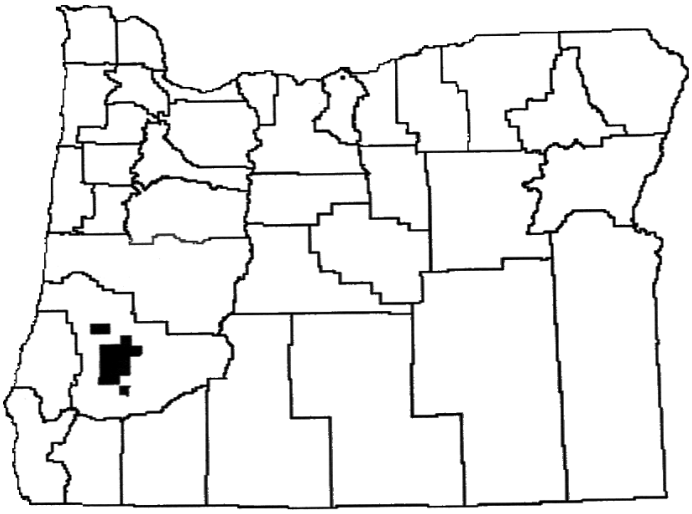
D. References For More Information

Burrill, L. C. Distaff Thistle (Carthamus lanatus). Pacific Northwest Extension Publication. PNW 420. June 1992.

Figure A.5
Distaff Thistle

Source: Photo by Larry C. Burrill. Extension weed Specialist. Oregon State University.

Figure A.6
Oregon Distaff Thistle 1999



A4. SCOTCH BROOM

A. Description

Scotch broom, a shrubby legume (pea family) is an attractive plant with bright yellow flowers showing in March, April and early May. Growing to 10 feet or more in height, it is a common plant in disturbed areas throughout western Oregon and Washington, and is sometimes used in ornamental plantings. It grows to maturity within three years, and individual plants will live 15-20 years. Stands of broom will persist indefinitely in some areas. A nitrogen fixer, broom successfully invades nitrogen-poor soils, with beach sands along the coast being an example. The main concern of foresters is broom's interference with regeneration of Douglas-fir plantations. Road maintenance personnel are concerned with the influence of broom and other brushy species on sight safety distance and erosion near roadsides. Natural area managers are concerned with broom's interactions with both physical and biotic characteristics of the landscape; in the Oregon Dunes, for example, the protection of the snowy planer habitat calls for removal of broom vegetation.

B. Native Area/Arrival In The U.S.

Broom was imported into western North America from Europe in the 1880's. Formerly regarded as a species best adapted to coastal climates, broom is now established in several areas within the continental climate of the Great Basin of the western United States, and it has grown to maturity in five eastern Oregon Counties. Nurseries in California, Oregon and Washington have produced Scotch broom and derived cuttings for several decades.

C. Current Status

Scotch broom is regarded as a pest in each of the 16 counties west of the crest of the Cascade Mountains. Even though it is widespread, it is still increasing its range. Because of the invasive nature of broom, ODA has proposed an administrative rule change which would prohibit sales of Scotch broom plants and seeds in Oregon. Several biological control agents established on broom in western Oregon have no obvious effect in limiting its density.

D. References For More Information

Hosking, J.M.B. Smith and A.W. Sheppard. "The Biology of Australian Weeds." 28. Cytisus scoparius (L.) LINK SUBSP. SCOPARIUS. *Plant Protection Quarterly*. Vol. 11(3):102-108. 1996.

Isaacson, Dennis L. "Impacts of Broom (Cytisus scoparius), in Western North America." In press in: *Plant Protection Quarterly*. 2000.

The Nature Conservancy. Element Stewardship Abstract: Scotch, French and Spanish brooms. TNC 1815 N. Lynn St., Arlington, VA. 1995.

Parker B., G. Miller, and L.C. Burill. Scotch Broom" (Cystis scoparius). Pacific Northwest Extension Publication. PNW 103. Revised July 1994.

Figure A.7
Scotch Broom

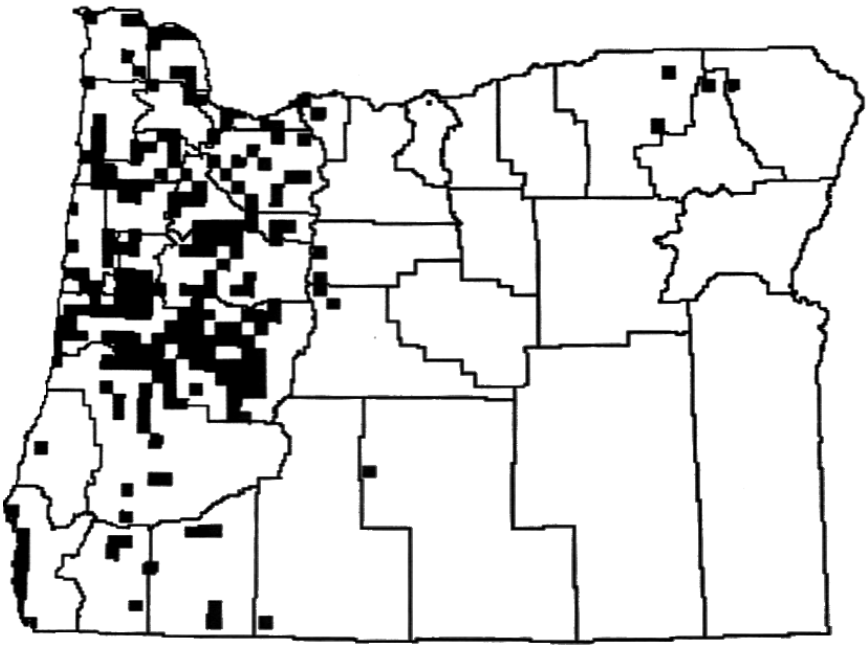



Figure A.8
Oregon Scotch Broom 1999