

## perennial sowthistle

### *Sonchus arvensis* ssp. *uliginosus* (Bieb.) Nyman

Synonyms: *Sonchus arvensis* var. *glabrescens* Guenth., Grab.& Wimmer, *S. uliginosus* Bieb.

Other common name: field sowthistle, marsh sowthistle, moist sowthistle, perennial sowthistle, sowthistle

Family: Asteraceae

**Invasiveness Rank:** 73 The invasiveness rank is calculated based on a species' ecological impacts, biological attributes, distribution, and response to control measures. The ranks are scaled from 0 to 100, with 0 representing a plant that poses no threat to native ecosystems and 100 representing a plant that poses a major threat to native ecosystems.

#### Description

Perennial sowthistle is a succulent, rhizomatous, perennial plant that grows up to 122 cm tall with extensive root systems that grow down to 3 m deep. All parts of the plant contain a white, milky juice. Leaves are alternate, lanceolate, and 6 ½ to 40 ½ cm long with clasping bases and soft-prickly margins that vary from deeply toothed to nearly entire. Flower heads are bright yellow and 2 ½ to 5 cm wide. Involucral bracts and flower stalks are covered with yellow gland-tipped hairs. Seeds are dark brown, prominently ridged, and wrinkled with tufts of soft, white bristles (Royer and Dickinson 1999, Whitson et al. 2000).



Glabrous involucral bracts of *Sonchus arvensis* ssp. *uliginosus* (Bieb.) Nyman. Photo by R. Old.

**Similar Species:** *Sonchus arvensis* ssp. *uliginosus* is similar to *S. arvensis* but lacks glandular hairs on the involucral bracts and flower stalks. Its involucral bracts are green with white margins. Perennial sowthistle is

common on disturbed soils (Royer and Dickinson 1999, Whitson et al. 2000).



Foliage of *Sonchus arvensis* ssp. *uliginosus* (Bieb.) Nyman. Photo by Ohio State Weed Lab Archive.

#### Ecological Impact

**Impact on community composition, structure, and interactions:** At high densities, perennial sowthistle drastically reduces water resources and possibly decreases the number of plant species in communities (Butterfield et al. 1996). It is a known host for a number of plant pests. Perennial sowthistle is acceptable feed for rabbits and other foraging animals (Noxious Weed Control Board 2003).

**Impact on ecosystem processes:** Perennial sowthistle may modify or retard the successional establishment of native species (Butterfield et al. 1996).

#### Biology and Invasive Potential

**Reproductive potential:** Perennial sowthistle reproduces sexually by seeds and vegetatively from rhizomes. Each plant can produce 4,000 to 13,000 seeds. Seeds can remain dormant in the soil for up to six years; usually, however, less than 40% of the seeds are viable (Royer and Dickinson 1999). Perennial sowthistle can produce new plants from rhizome buds at depths of down to 61 cm. Spreading rootstocks are the primary means of invasion into new areas (Rutledge and McLendon 1996, Royer and Dickinson 1999).

*Potential for long-distance dispersal:* Each seed has a pappus and can be spread by wind (Rutledge and McLendon 1996, Royer and Dickinson 1999). Seeds can become attached to animals (Butterfield et al. 1996).

*Potential to be spread by human activity:* Seeds can be moved on vehicles and farm equipment. They have been documented as contaminants in commercial seeds and hay (Butterfield et al. 1996, Noxious Weed Control Board 2003).

*Germination requirements:* Seeds germinate at depths of 6 to 31 ½ mm in the soil. The optimal temperature for germination is between 25°C and 30°C. Vegetation cover and litter promote germination (Butterfield et al. 1996, Rutledge and McLendon 1996, Royer and Dickinson 1999).

*Growth requirements:* Although perennial sowthistle is adapted to a variety of soils, it grows best on rich, non-compacted, moist, fine-textured soils with pH between 5.2 and 7.2. Perennial sowthistle can survive temperatures as low as -16°C (Butterfield et al. 1996, Rutledge and McLendon 1996).

*Congeneric weeds:* Spiny sowthistle (*Sonchus asper*) and common sowthistle (*S. oleraceus*) are non-native weeds known to occur in Alaska. All *Sonchus* species are considered noxious weeds in Ontario. Common sowthistle is considered a noxious weed in Alberta, British Columbia, Manitoba, Quebec, and Saskatchewan (Whitson et al. 2000, Invaders 2010).

### Legal Listings

- Has not been declared noxious
- Listed noxious in Alaska
- Listed noxious by other states (AZ, CO, CT, HI, IA, ID, IL, IN, MA, ME, MI, MN, ND, SD, VA, VT, WA, WY)
- Federal noxious weed
- Listed noxious in Canada or other countries (AB, BC, MB, QC, SK)

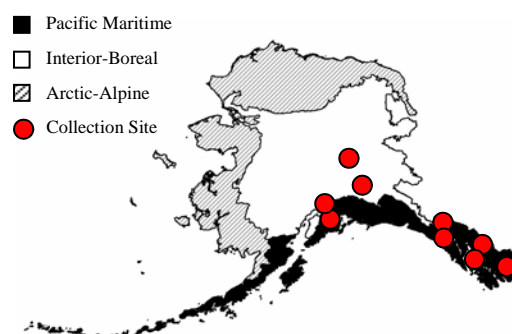
### References:

- AKEPIC database. Alaska Exotic Plant Information Clearinghouse Database. 2010. Available: <http://akweeds.uaa.alaska.edu/>
- Alaska Administrative Code. Title 11, Chapter 34. 1987. Alaska Department of Natural Resources. Division of Agriculture.
- Butterfield, C., J. Stubbendieck, and J. Stumpf. 1996. Species abstracts of highly disruptive exotic plants. Jamestown, ND: Northern Prairie Wildlife Research Center Home Page. <http://www.npwrc.usgs.gov/resource/plants/exoticab/index.htm> (Version 16JUL97).
- eFloras. 2008. Published on the Internet <http://www.efloras.org> [accessed 18 October 2010]. Missouri Botanical Garden, St. Louis, MO & Harvard University Herbaria, Cambridge, MA.
- Gubanov, I.A., K.B. Kiseleva, B.C. Novikov, B.N. Tihomirov. 1995. Flora of vascular plants of Center European Russia. Moscow. Argus. 558 pp.
- Invaders Database System. 2010. University of Montana. Missoula, MT. <http://invader.dbs.umt.edu/>
- ITIS. 2010. Integrated Taxonomic Information System. <http://www.itis.gov/>
- Noxious Weed Control Board. Washington State. 2003. Perennial sowthistle (*Sonchus arvensis* L. ssp.

### Distribution and Abundance

Perennial sowthistle commonly grows in gardens, cultivated areas, roadsides, and fertile waste areas (Rutledge and McLendon 1996, Whitson et al. 2000). It can also grow in disturbed sites in prairies, woods, meadows, lawns, stream banks, and lake shores (Gubanov et al. 1995, Butterfield et al. 1996, Noxious Weed Control Board 2003).

*Native and current distribution:* Perennial sowthistle is native to Europe, western Asia, and Iceland. It has spread widely throughout the northern United States and southern Canada and has also established in South America, Australia, and New Zealand (USDA 2002, Noxious Weed Control Board 2003). *Sonchus arvensis* has been documented from the Pacific Maritime and Interior-Boreal ecogeographic regions of Alaska (AKEPIC 2010).



Distribution of perennial sowthistle (*Sonchus arvensis*) in Alaska

### Management

Biological, chemical, and mechanical control methods have been used on perennial sowthistle. Mechanical treatments must be repeated several times per growing season for multiple, consecutive years to reduce seed production and root reserves. Perennial sowthistle is relatively resistant to many common broadleaf herbicides (Butterfield et al. 1996, Rutledge and McLendon 1996).

- arvensis*). Available:  
<http://www.nwcb.wa.gov/INDEX.htm> [Oct 7, 2004].
- Royer, F. R. Dickinson. 1999. Weeds of the Northern U.S. and Canada. The University of Alberta press. 434 pp.
- Rutledge, C.R., and T. McLendon. 1996. An Assessment of Exotic Plant Species of Rocky Mountain National Park. Department of Rangeland Ecosystem Science, Colorado State University. Jamestown ND: Northern Prairie Wildlife Research Center Online.  
[http://www.npwrc.usgs.gov/resource/plants/exp\\_lant/index.htm](http://www.npwrc.usgs.gov/resource/plants/exp_lant/index.htm) (Version 15DEC98).
- USDA (United States Department of Agriculture), NRCS (Natural Resource Conservation Service). 2002. The PLANTS Database, Version 3.5 (<http://plants.usda.gov>). National Plant Data Center, Baton Rouge, LA 70874-4490 USA.
- Whitson, T. D., L. C. Burrill, S. A. Dewey, D. W. Cudney, B. E. Nelson, R. D. Lee, R. Parker. 2000. Weeds of the West. The Western Society of Weed Science in cooperation with the Western United States Land Grant Universities, Cooperative Extension Services. University of Wyoming. Laramie, Wyoming. 630 pp.