hairy vetch
Vicia villosa Roth

Synonyms: *Ervum villosum* (Roth) Trautvetter (1875) not Pomel (1874), *Vicia varia* Host, *V. villosa* var. *alba* Y. Q. Zhu.
Other common names: winter vetch, woolly vetch
Family: Fabaceae

Invasiveness Rank: **53** 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
Hairy vetch is an annual or biennial plant with weak, climbing stems that grow up to 183 cm long. Plants are covered in long-spreading hairs. Leaves consist of four to 12 pairs of leaflets and have well-developed tendrils at the ends. Leaflets are linear to narrowly lanceolate and 19 to 25 ½ mm long. Racemes are one-sided and consist of 20 to 60 flowers. Flowers are purple-red and 19 to 25 ½ mm long. Pods contain several seeds (Welsh 1974, Whitson et al. 2000, eFloras 2008).

Raceme of *Vicia villosa* Roth. Photo by C. Witham.

Similar species: Hairy vetch can be distinguished from other climbing legumes in Alaska, such as bird vetch (*Vicia cracca*), by the presence of long-spreading hairs and obliquely attached calyxes.

Ecological Impact
Impact on community composition, structure, and interactions: Hairy vetch often overgrows surrounding herbaceous vegetation due to its climbing growth habit (Hultén 1968, Whitson et al. 2000). It has been reported to be both slightly toxic and highly palatable to grazing animals (USDA 2002). Flowers are visited by native bees, and their presence may alter the pollination ecology of the surrounding area (Aarssen et al. 1986).
Impact on ecosystem processes: Hairy vetch alters soil conditions by fixing atmospheric nitrogen (USDA 2002).

Biology and Invasive Potential
Reproductive potential: Hairy vetch reproduces entirely by seeds. Total seed production for large plants likely exceeds 1,000 seeds per square meter (USDA 2002).
Role of disturbance in establishment: Hairy vetch persists in cultivated fields. It has only been documented in disturbed sites in Alaska.
Potential for long-distance dispersal: Seeds are large and not easily dispersed.
Potential to be spread by human activity: Hairy vetch is a forage plant that sometimes escapes from cultivation (Welsh 1974). It is also a common contaminant in crop seed (USDA, ARS 2004).
Germination requirements: Seeds germinate underground. They have hard seed coats. Cold stratification is not required for germination, but scarification significantly increases germination rates (Aarssen et al. 1986).
Growth requirements: Hairy vetch is adapted to all soil textures with pH levels between 6 and 7.5. It tolerates drought but does not tolerate shade. Hairy vetch can withstand temperatures down to -34.4°C. It requires 100 frost-free days to grow and reproduce successfully (USDA 2002).
Congeneric weeds: *Vicia benghalensis*, *V. cracca*, *V. disperma*, *V. hirsuta*, *V. lathyroides*, *V. pannonica*, *V. sativa* ssp. *nigra*, and *V. tetrasperma* are known to occur

as non-native weeds in North America (Hultén 1968, Whitson et al. 2000, USDA 2002).

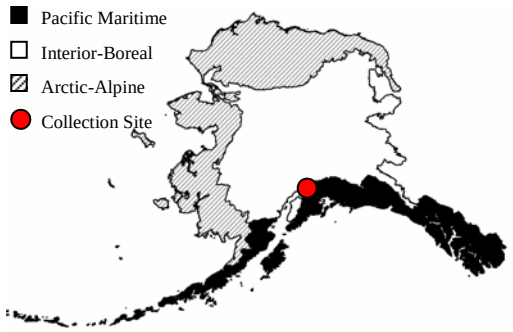
Legal Listings

☒Has not been declared noxious
☐Listed noxious in Alaska
☐Listed noxious by other states
☐Federal noxious weed
☐Listed noxious in Canada or other countries

Distribution and Abundance

Hairy vetch escapes cultivation and establishes in roadsides, fallow fields, and disturbed areas (Whitson et al. 2000).

Native and current distribution: Hairy vetch is native to northern Africa, temperate Asia, and Europe (USDA, ARS 2004). It was introduced to North America as a rotation crop, and it now grows in all states of the U.S. (USDA 2002). Hairy vetch has been reported from the Interior-Boreal ecogeographic region of Alaska (Hultén 1968, Welsh 1974).



Distribution of hairy vetch in Alaska

Management

Control options have not been investigated because of the plant's value as an agricultural crop.

References:

Aarssen, L.W., I.V. Hall, K.I.N. Jensen. 1986. The biology of Canadian weeds. 76. *Vicia angustifolia* L., *V. cracca* L., *V. sativa* L., *V. tetrasperma* (L.) Schreb. and *V. villosa* Roth. Canadian Journal of Plant Science. 66(3):711-737.

AKEPIC database. Alaska Exotic Plant Information Clearinghouse Database. 2010. Available: http://akweeds.uaa.alaska.edu/

eFloras. 2008. Published on the Internet http://www.efloras.org [accessed 19 October 2010]. Missouri Botanical Garden, St. Louis, MO & Harvard University Herbaria, Cambridge, MA.

Hultén, E. 1968. Flora of Alaska and Neighboring Territories. Stanford University Press, Stanford, CA. 1008 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/

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.

USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network - (GRIN) [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland. URL: http://www.ars-grin.gov/var/apache/cgi-bin/npgs/html/taxon.pl?300618 (July 6, 2004).

Welsh, S.L. 1974. Anderson's flora of Alaska and adjacent parts of Canada. Brigham University Press. 724 pp.

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.