

Canada bluegrass

Poa compressa L.

Synonyms: None

Other common names: flat-stem blue grass

Family: Poaceae

Invasiveness Rank: 39 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

Canada bluegrass is a rhizomatous, perennial grass that grows from 15 to 61 cm tall. The entire plant is blue-green. Culms are bent (geniculate), smooth, and strongly flattened. Leaf blades are 1 to 4 mm wide and flat or folded. Ligules are ½ to 2 mm long. Sheaths remain open near their bases. Panicles are compact and 63 ½ mm long with short, ascending to spreading branches. Spikelets are flattened and green to purple (Hultén 1968, Welsh 1974).



Poa compressa L. Photo by R. Old.

Similar species: Canada bluegrass can be distinguished from all other bluegrasses in Alaska by its flat, two-edged stem.

Ecological Impact

Impact on community composition, structure, and interactions: In Alaska, Canada bluegrass is restricted to anthropogenically altered habitats. It does not appear to change species composition or structure in native communities (I. Lapina – pers. obs.).

Impact on ecosystem processes: Canada bluegrass seems to have little impact on native plant communities or successional processes (Rutledge and McLendon 1996, I. Lapina – pers. obs.).

Biology and Invasive Potential

Reproductive potential: Canada bluegrass reproduces by seeds and rhizomes (Rutledge and McLendon 1996).

Role of disturbance in establishment: Canada bluegrass establishes better in disturbed sites with bare soil than in areas with established vegetation (Turkington 1994).

Potential for long-distance dispersal: Cattle and deer can carry seeds of Canada bluegrass large distances (Dore and McNeill 1980).

Potential to be spread by human activity: Canada bluegrass is planted as a pasture grass and for erosion control (Hitchcock and Cronquist 1973, Rutledge and McLendon 1996). It is a common contaminant in commercial seed (USDA, ARS 2005).

Germination requirements: Seeds germinate well at temperatures between 20°C and 30°C. Pre-chilling at 10°C or alternating temperatures increases germination rates (Sprague 1940, Rutledge and McLendon 1996).

Growth requirements: Canada bluegrass is adapted to a wide range of soil types and textures with pH levels between 5 and 7. It grows on nutrient-poor soils and tolerates shade. This species requires 30 ½ to 114 cm of precipitation annually. Canada bluegrass can withstand winter temperatures as low as -39°C. It requires 90 frost-free days for successful growth and reproduction (USDA 2002).

Congeneric weeds: Annual bluegrass (*Poa annua*), fowl bluegrass (*P. palustris*), Kentucky bluegrass (*P. pratensis* ssp. *pratensis*), spreading bluegrass (*P. pratensis* ssp. *irrigata*), and rough bluegrass (*P. trivialis*) are known to occur as non-native weeds in Alaska (Hultén 1968, Royer and Dickinson 1999, Whitson et al. 2000, USDA 2002).

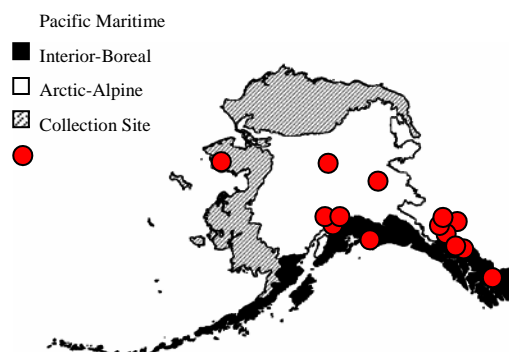
Legal Listings

- Has not been declared noxious
- Listed noxious in Alaska
- Listed noxious by other states (CT)
- Federal noxious weed
- Listed noxious in Canada or other countries

Distribution and abundance

Canada bluegrass is a weed of waste places, roadsides, and yards (Hultén 1968, Gubanov et al. 2003). It can also be found in open woods, meadows, and beaches (Hitchcock and Cronquist 1973, Welsh 1974). This species is a poor competitor with Kentucky bluegrass and rough bluegrass. It is most successful on dry, sterile, and acidic soils that do not support the growth of Kentucky bluegrass or rough bluegrass (Rutledge and McLendon 1996, Gubanov et al. 2003).

Native and current distribution: Canada bluegrass is native to Europe, West Asia, and North Africa (USDA, ARS 2005). It has been introduced to North America, South America, New Zealand, and East Asia. It has been documented from all three ecogeographic regions of Alaska (Hultén 1968, AKEPIC 2010).



Distribution of Canada bluegrass in Alaska

Management

A combination of mechanical and chemical methods can successfully control infestations of Canada bluegrass. Eradication efforts will likely damage coexisting species because Canada bluegrass is able to grow in close proximity to other plants (Butterfield et al. 1996, Rutledge and McLendon 1996, Sather 1996, Wisconsin DNR 2004).

References:

- Butterfield, C., J. Stubbendieck, J. Stumpf. 1996. Species abstract 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).
- Dore, W.G. and J. McNeill. 1980. Grasses of Ontario. Monograph 26. Ottawa, Ontario: Biosystematics Research Institute, Research Branch Agriculture Canada.
- Gubanov, I.A., K.V. Kiseleva, V.S. Novikov, V.N. Tihomirov. An illustrated identification book of the plants of Middle Russia, Vol. 1: Vascular cryptogams, gymnosperms, angiosperms (monocots). Moscow: Institute of Technological Researches; 2003. 526 p. In Russian.
- Hitchcock, C. L., A. Cronquist. 1973. Flora of the Pacific Northwest. University of Washington Press, Seattle and London. 730 p.
- Hultén, E. 1968. Flora of Alaska and Neighboring Territories. Stanford University Press, Stanford, CA. 1008 p.
- Lapina, I. Botanist, Alaska Natural Heritage Program, University of Alaska Anchorage, 707 A Street, Anchorage, Alaska. Tel: (907) 257-2710 – Pers. obs.
- Royer, F., and 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. 97 pp. Northern Prairie Wildlife Research Center Home Page. <http://www.npwrc.usgs.gov/resource/plants/explant/index.htm> (Version 15DEC98).
- Sather, N. 1996. Element Stewardship Abstract for *Poa pratensis*, *Poa compressa* Kentucky Bluegrass, Canada Bluegrass. The Nature Conservancy. Arlington, VA.
- Sprague, V.G. 1940. Germination of freshly harvested seeds of several *Poa* species and of *Dactylis glomerata*. Journal of the American Society of Agronomy; 32: 715-721.
- 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> [October 5, 2005].

- Turkington, R. 1994. Effect of propagule source on competitive ability of pasture grasses: spatial dynamics of six grasses in simulated swards. *Canadian Journal of Botany*; 72: 111-121.
- 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.
- Wisconsin Department of Natural Resources. 2003. Non-native plants. Kentucky bluegrass (*Poa pratensis*), Canada bluegrass (*Poa compressa*). <http://www.dnr.state.wi.us> [July 9, 2004].