

# annual bluegrass

*Poa annua* L.

Synonyms: *Poa annua* var. *aquatica* Aschers., *Poa annua* var. *reptans* Hausskn., *P. crassinervis* Honda.

Other common name: walkgrass

Family: Poaceae

**Invasiveness Rank:** 46 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

Annual bluegrass is an annual to short-lived perennial, tufted grass that often roots at the lower nodes. It can form large mats. Stems are bright green, decumbent to more or less erect, and 3 to 30 ½ cm long. Leaf blades are soft-haired, 1 ½ to 3 mm wide, light green, and prow-tipped. Sheaths are flattened, loose, and hairless. Inflorescences are 19 mm to 10 cm long and oval to pyramid-shaped (Hutchinson and Seymour 1982, Royer and Dickinson 1999). This species is very variable; numerous intraspecific taxa have been described (Hutchinson and Seymour 1982).



*Poa annua* L.

**Similar species:** Annual bluegrass is the only primarily annual bluegrass in Alaska. It can also be distinguished from other bluegrasses by the presence of a small, claw-

like first glume that is ½ the size of the second glume.

## Ecological Impact

**Impact on community composition, structure, and interactions:** Annual bluegrass often forms dense mats that can reduce nutrient availability in upper soil layers. It does not generally compete well with established plants. This species hybridizes with *Poa glauca* and *P. pratensis* in Britain and may form hybrids in Alaska as well. The seeds are eaten by numerous bird species. Annual bluegrass is probably eaten by deer since deer scat often contains the seeds. A wide range of invertebrates feed on annual bluegrass (Hutchinson and Seymour 1982).

**Impact on ecosystem processes:** As a pioneer species, annual bluegrass often dominates disturbed sites and may limit colonization by native species. Results from field experiments suggest that the presence of annual bluegrass litter reduces the germination and survival of native seeds (Bergelson 1990).

## Biology and Invasive Potential

**Reproductive potential:** Annual bluegrass reproduces primarily by seeds. It grows and reproduces rapidly. Seed production for a season can exceed 20,000 seeds per plant under ideal conditions (Hutchinson and Seymour 1982, Rutledge and McLendon 1996). The amount of time for which seeds of decumbent varieties remain viable varies from one year to six years (Chippendale and Milton 1934, Roberts and Feast 1973, Hutchinson and Seymour 1982).

**Role of disturbance in establishment:** Annual bluegrass persists on sites that are repeatedly disturbed by trampling or human activities (Hutchinson and Seymour 1982). Cutting annual bluegrass increases the vigor of the seedlings and the competitive ability of the plants. Annual bluegrass readily establishes along introduced mineral substrates in south-central and southeast Alaska (M.L. Carlson & I. Lapina – pers. obs.).

**Potential for long-distance dispersal:** Annual bluegrass has a low to medium potential for dispersal based on the weight and shape of the seeds. Seeds are probably dispersed by rain, wind, and birds. They remain viable

after passing through the digestive tracts of some animals, including cows, horses, and deer (Hutchinson and Seymour 1982, Rutledge and McLendon 1996).

*Potential to be spread by human activity:* Seeds can be transported in mud attached to boots or vehicles. They are commonly transported as contaminants in lawn grass seed (Hutchinson and Seymour 1982, Rutledge and McLendon 1996, Whitson et al. 2000).

*Germination requirement:* Annual bluegrass begins to germinate in late summer or fall when soil temperatures fall below 21°C and significant moisture is available. It continues to germinate throughout winter if temperatures are not too cold (cf. Hutchinson and Seymour 1982).

*Growth requirements:* Annual bluegrass is adapted to all soil textures with pH between 4.8 and 8.0. It has a relatively low nutrient requirement and grows well in moist areas in full sunlight. It can withstand temperatures down to -44°C. This species requires 60 frost-free days for growth and reproduction. Annual bluegrass is not tolerant of drought or fire (USDA 2002).

*Congeneric weeds:* Canada bluegrass (*Poa compressa*), 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 non-native weeds in Alaska (Hultén 1968, Royer and Dickinson 1999, Whitson et al. 2000, AKEPIC 2010).

### Legal Listings

- Has not been declared noxious
- Listed noxious in Alaska
- Listed noxious by other states (CT, KY, MA, NY, TX, VA)
- Federal noxious weed
- Listed noxious in Canada or other countries

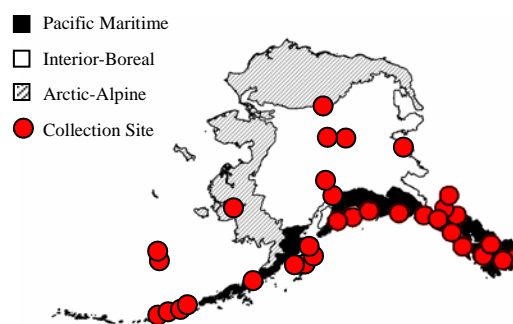
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### Distribution and Abundance

Annual bluegrass thrives in lawns, gardens, cultivated crops, pastures, roadsides, areas of habitation, and other open areas (Hutchinson and Seymour 1982).

*Native and current distribution:* Annual bluegrass is native to Europe, but it is now distributed worldwide. It has been introduced into North Africa, North America, South America, New Zealand, and Australia. This species has been found above the Arctic circle (Hultén 1968, Hutchinson and Seymour 1982). In Alaska, it has been collected from the Pacific Maritime, Interior-Boreal, and Arctic-Alpine ecogeographic regions (Hultén 1968, University of Alaska Museum 2003, AKEPIC 2010).



Distribution of annual bluegrass in Alaska

### Management

Controlling annual bluegrass manually is expensive and inefficient. Hoeing or hand-weeding must be done frequently because new flushes of seedlings emerge after the older seedlings have been removed. A number of effective herbicides are available, but they are not specific to annual bluegrass (Rutledge and McLendon 1996).

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