Aira praecox

EARLY HAIRGRASS

Photo Credit: © JAMIE FENNEMAN/E-FLORA BC

ENGLISH NAMES Early hairgrass, yellow hairgrass, spike hairgrass

SCIENTIFIC NAME *Aira praecox*

FAMILY Poaceae or Graminae (Grass)

Early hairgrass is a low-growing, tufted winter annual grass. It has delicate, hollow stems and narrow, thread-like leaves.

RANGE/KNOWN DISTRIBUTION

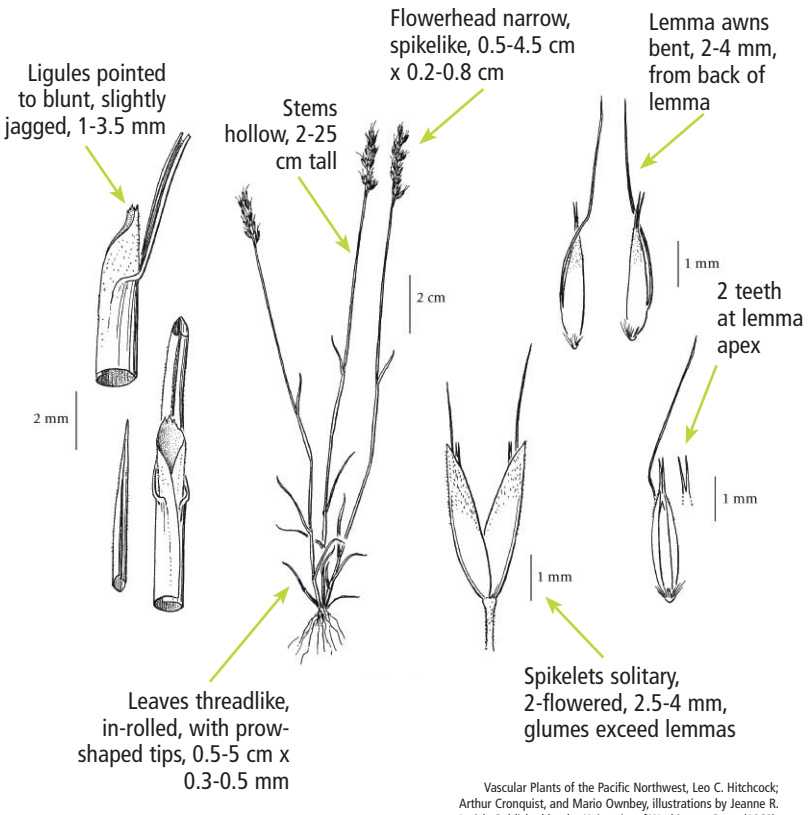
Early hairgrass is native to southern Europe. It has been introduced and naturalized throughout Europe, western Asia, Macaronesia, Australia and New Zealand, western and eastern North America, southern South America, and the sub-Antarctic Islands. It occurs commonly in the southwest of British Columbia, including southern Vancouver Island and the Gulf Islands, and occasionally north to the Queen Charlotte Islands and Central BC.

IMPACTS ON GARRY OAK AND ASSOCIATED ECOSYSTEMS

Non-native grasses are present in most Garry oak ecosystems and may cover a combined total of 50-80 percent of the landscape. Non-native winter grasses such as early hairgrass develop early in the season, aggressively out-competing native species for light. Competition for water continues throughout the year, becoming critical during the dry summer months. As the grasses die off, they form a dense litter layer that blocks light and thus suppresses the regeneration and establishment of native species. The litter also provides fuel and creates conditions for detrimental high-intensity fires. As it decomposes, nitrogen is added to the soil, favouring the growth of the non-native species. These grasses can also be a medium for the introduction of harmful fungi, viruses and nematodes. Combined, these effects can significantly change the plant composition, reducing available habitats and food sources for some rare plant and animal species.

FIELD DESCRIPTION

Early hairgrass is a low grass growing from fibrous roots. Its stems, leaf sheaths and blades are smooth or rough hairy. Stems are erect and solitary or tufted. The narrow, threadlike leaves are in-rolled and



Vascular Plants of the Pacific Northwest, Leo C. Hitchcock; Arthur Cronquist, and Mario Ownbey, illustrations by Jeanne R. Janish. Published by the University of Washington Press (1969).

have prow-shaped tips. Spikelike flowerheads are green and tinged with purple. Flowerheads are hidden inside silvery sheaths prior to flowering. The glumes are keeled and spikelets are laterally compressed. Spikelet stalks are shorter than the spikelets. Expert consultation may be required as grass identification can be difficult.

LIFE HISTORY

Early hairgrass is an annual winter grass. It relies almost exclusively on seeds for regeneration, which do not form a persistent seedbank. The majority of seeds will germinate within the first year, but can carry on in the seedbank for two years. Germination typically begins in October, but is highly dependent on soil-water availability and can begin as early as June if there is the soil-moisture content is sufficient. It matures early on in the season and flowers from April until June.

HABITAT

Early hairgrass is shade intolerant and grows on open or bare ground. It grows in rocky to sandy soils that are nutrient poor and dry or vernally moist. Preferred sites are well-drained or on very shallow soils. Typical habitats for early hairgrass are rock outcrops and bluffs, meadows, gravelly or sandy slopes, open forests and disturbed areas such as roadsides. In British Columbia it is found at elevations up to 2,100 metres.

MANAGEMENT

Management of non-native grasses should focus on the removal of the grasses as well as the accumulated litter layer, while minimizing soil disturbance. Carefully identify native and non-native species before starting any treatment. If the infestation is already large, priority should be given to areas having highest conservation values, such as those with rare species.

Develop a long-term, realistic program for invasive species removal before undertaking any work. Before taking action, obtain expert advice. Please refer to the introductory section of this manual.

PHYSICAL CONTROL: Manual removal by hand pulling can be effective in spring or early summer before the seed sets. However, this is very labour intensive and is feasible only when patches are small. Disturbance to the soil should be minimal.

BIOLOGICAL CONTROL: No known biological agents are available.

CHEMICAL CONTROL: Populations too large for manual removal can be managed by cautious application of herbicides. *Herbicides should only be used with extreme caution, and under expert advice, in sensitive Garry oak ecosystems.*

OTHER TECHNIQUES: Little is known about the effects of prescribed burning or cutting on populations of early hairgrass. However other annual winter grasses have been found to increase following such treatments. Prescribed burning should only be undertaken with expert advice as the effect can be highly variable depending on timing, species composition and fire intensity, among other factors. A combination of mowing and raking (to remove the litter) can have

similar effects as burning and minimizes the risks associated with burning. Populations of early hairgrass have been significantly reduced in sand dune restoration plots where non-native shrubs, litter and duff were removed.

PREVENTATIVE MEASURES: Soil disturbance and the use of fertilizers should be avoided in natural areas. Equipment, clothing and animals should be checked and cleared for seeds when leaving an infested area. Encourage plant nurseries, gardeners and farmers to stock and use native or non-invasive species, and to avoid using non-native grasses such as early hairgrass.

PERSISTENCE: Early hairgrass seeds do not persist in the seedbank for more than two years.

SELECT REFERENCES

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A comprehensive annotated bibliography of literature specific to early hairgrass is available at www.goert.ca.

For more information contact the Garry Oak Ecosystems Recovery Team, or see the website at www.goert.ca