creeping buttercup
Ranunculus repens L.

tall buttercup
Ranunculus acris L.

Introduction
These two *Ranunculus* species share similar biological and ecological attributes. We treat the description, distribution, and abundance separately but combine the discussion of ecological impacts, biology and invasive potential, and management.

Invasiveness Rank: **54** 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.

creeping buttercup

Synonyms: *Ranunculus repens* var. *degeneratus* Schur, *R. repens* var. *erectus* DC., *R. repens* var. *glabratus* DC., *R. repens* var. *linearilobus* DC., *R. repens* var. *pleniflorus* Fern., *R. repens* var. *typicus* G. Beck, *R. repens* var. *villosus* Lamotte.
Common name: none
Family: Ranunculaceae

Description
Creeping buttercup is a decumbent, perennial herb that grows up to 91 cm long with slender, fibrous roots. Stems root freely at the nodes and are often slightly hollow with long, spreading hairs. Basal leaves are 1 ¼ to 9 cm long, up to 10 cm wide, egg-shaped to triangular, toothed, and trifoliolate. They often have light-colored spots. Stem leaves are alternate. Lower stem leaves have long stalks. Upper stem leaves are simple to five-parted bracts. Flower stalks are long and erect. Flowers are few, showy, and yellow. They normally have five petals each but can have between six and nine. Petals are 6 to 10 mm long. Spherical seed heads usually contain 12 flattened, rounded seeds with short, backward-turned beaks (Welsh 1974, Douglas and Meindinger 1999, Whitson et al. 2000). Plants overwinter as rosettes with small, green leaves (Harper 1957).
Similar species: Creeping buttercup can be distinguished from other buttercup species by its horizontal growth habit, creeping stems that root at the nodes, spherical seed heads, and long petals (Hultén 1968, Douglas and Meidiger 1999).

tall buttercup

Synonyms: *Ranunculus acris* var. *latisectus* Beck
Common names: meadow buttercup
Family: Ranunculaceae

Description
Tall buttercup is a biennial or short-lived perennial herb that grows up to 91 cm tall from clusters of fibrous roots. Stems are erect, smooth, hollow, leafy below, and branched above. Basal leaves are long-stalked, persistent, and divided deeply into 3 to 7 coarsely lobed segments. Stem and basal leaves are covered in soft hairs on both sides. Flowers are long-stalked with 5 shiny, golden-yellow petals and 5 sepals each. Seeds are disc-shaped and reddish brown with short hooks (Welsh 1974, Douglas and Meindinger 1999, Royer and Dickinson 1999).
Similar species: Tall buttercup can be distinguished from other buttercup species by its upright growth habit and deeply lobed and toothed leaves.

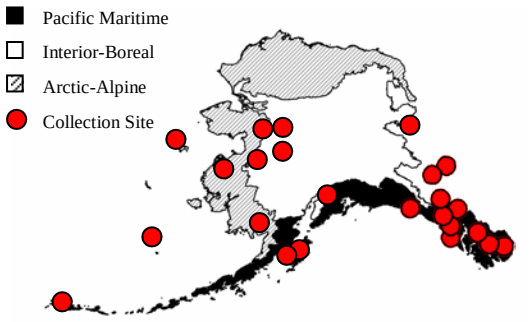
Leaf of *Ranunculus acris* L. Photo by J. Cardina.

Ranunculus repens L. Photo by R. Old.

Distribution and Abundance

Creeping buttercup grows in disturbed areas, gardens, croplands, grasslands, woodlands, and semi-aquatic communities, such as swamps, pond margins, rivers, and ditches (Harper 1957, Lovett-Doust et al. 1990).

Native and current distribution: Creeping buttercup is native to Europe, where its range extends northward to 72°N in Norway. It has naturalized in many temperate regions around the world, including North America, South America, Asia, Africa, Australia, and New Zealand (Hultén 1968, Harper 1975, NAPPO 2003). In Alaska, this species has been documented from all three ecogeographic regions (Hultén 1968, AKEPIC 2010).



Distribution of creeping buttercup in Alaska.

Legal Listings

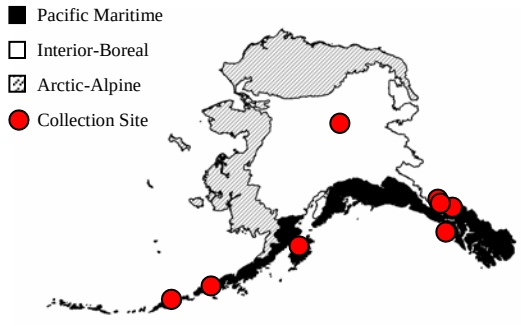
- ☐ Has not been declared noxious
- ☐ Listed noxious in Alaska
- ☒ Listed noxious by other states (prohibited in Massachusetts)
- ☐ Federal noxious weed
- ☒ Listed noxious in Canada or other countries (QC)

Flowers of *Ranunculus acris* L. Photo by J. Cardina.

Distribution and Abundance

Tall buttercup grows in grasslands, woodlands, and occasionally sand dune communities.

Native and current distribution: Tall buttercup is native to and widely distributed throughout Europe, where its range extends northward to 71°N in Norway. It has been introduced into North America, South Africa, Asia, and New Zealand (Hultén 1968, Harper 1957). In Alaska, this species has been documented from the Pacific Maritime and Interior-Boreal ecogeographic regions (AKEPIC 2010).



Distribution of tall buttercup in Alaska.

Legal Listings

- ☐ Has not been declared noxious
- ☐ Listed noxious in Alaska
- ☒ Listed noxious by other states (MN, MT)
- ☐ Federal noxious weed
- ☒ Listed noxious in Canada or other countries (QC)

Ecological Impact

Impact on community composition, structure, and interactions: The poisonous compound protoanemonin is released in the sap of creeping buttercup and tall buttercup. Protoanemonin can kill grazing animals if ingested. Geese and other birds readily eat the leaves and seeds of buttercup (Lovett-Doust et al. 1990). The flowers are visited by honey bees, butterflies, moths, and beetles for pollen or nectar. Creeping buttercup and tall buttercup are known hosts for many microorganisms, viruses, insects, and nematodes (Harper 1957, Lovett-Doust et al. 1990, Royer and Dickinson 1999). Hybridization has been documented between *Ranunculus acris* and *R. uncinatus* (Welsh 1974).

Impact on ecosystem processes: These *Ranunculus* species readily occupy open areas and may hinder colonization by native species.

Biology and Invasive Potential

Reproductive potential: Creeping buttercup and tall buttercup can reproduce sexually by seeds and vegetatively from stolons and rhizomes (Harper 1957).

Role of disturbance in establishment: Seedlings establish readily on open ground and rapidly colonize bare areas in the year following germination (Harper 1957).

Potential for long-distance dispersal: Although most seeds drop near the parent plant, some seeds are transported farther away when blown by wind or dispersed in the dung of birds, farm animals, or small rodents (Harper 1957, Lovett-Doust et al. 1990).

Potential to be spread by human activity: Seeds can attach to clothing and tires. Creeping buttercup may have been introduced into North America as an ornamental plant (Lovett-Doust et al. 1990).

Germination requirements: Seeds usually germinate in late spring. Successful germination and early establishment appear to require open soil.

Growth requirements: Buttercups are adapted to a wide range of soil types. Because they can withstand waterlogged soils, buttercups grow mainly in heavy, wet clay, but they can also thrive in sand or gravel if adequate moisture is present. Buttercups do not establish on well-drained soils. They are able to tolerate some salinity and can be found on beaches and in salt marshes. They can tolerate frost, but not prolonged dry periods (Harper 1957, Lovett-Doust et al. 1990).

Congeneric weeds: Littleleaf buttercup (*Ranunculus abortivus*), corn buttercup (*R. arvensis*), St. Anthony's turnip (*R. bulbosus*), and hairy buttercup (*R. sardous*) are invasive in some parts of the United States (USDA 2002).

Management

Herbicides are generally recommended for the control of buttercups. Plants can be weakened by cultivation, but they may regenerate from parts of the caudex and stolon, causing increases in the population. Plowing provides ideal conditions for the germination of seeds and is therefore not recommended as an eradication technique (Harper 1957, Lovett-Doust et al. 1990).

References:

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

Douglas, G.W. and D. Meidiger. *Ranunculaceae*. In: Douglas, G.W., D. Meidinger, and J. Pojar, editors. Volume 4. Decotyledons (*Orobanchaceae* through *Rubiaceae*). Illustrated flora of British Columbia. British Columbia: Ministry of Environment, Lands and Parks, Ministry of Forest; 1999. 208-244 p.

eFloras. 2008. Published on the Internet http://www.efloras.org [accessed 4 November 2010]. Missouri Botanical Garden, St. Louis, MO & Harvard University Herbaria, Cambridge, MA.

Harper, J.L. 1957. *Ranunculus acris* L. The Journal of Ecology 45(1): 289-342 p.

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/

Lovett-Doust, J., L. Lovett-Doust, and A.T. Groth. 1990. The biology of Canadian weeds. 95.

Ranunculus repens. Canadian Journal of Plant Science 70: 1132-1141 p.

NAPPO – North American Plant Protection Organization. 2003. Pest fact sheet: *Ranunculus repens* L. Available: http://nappo.org/PRAsheets/PestFactsheets.htm via the INTERNET. Accessed 2005 Feb 26.

Royer, F. and R. Dickinson. 1999. Weeds of the Northern U.S. and Canada. The University of Alberta press. 434 pp.

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.

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.