Himalayan blackberry
Rubus discolor Weihe & Nees

Synonyms: *Rubus armeniacus* Focke, *R. fruticosus* L., *R. procerus* auct. non P.J. Muell. ex Genev, *Rubus procerus* P.J. Muell.
Other common names: Himalaya berry
Family: Rosaceae

Invasiveness Rank: **77** 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
Himalayan blackberry is a perennial bramble with stems that grow up to 9 meters long. Stems live two or three years, frequently root at the tips, are very strongly angled rather than round, and have large, curved spines. Leaves are palmately compound and usually have five leaflets. Leaflets are large, broad, oblong, 6 ¼ to 13 cm long, and sharply toothed with bright green, smooth upper surfaces and grayish, hairy lower surfaces. Inflorescences are branched and consist of five to twenty flowers. Flowers are white to rose in color and up to 2 ½ cm in diameter. Fruits are succulent, and they turn from red to shiny black as they mature (Hitchcock and Cronquist 1961, Hoshovsky 2000).

Fruiting stem of *Rubus discolor* Weihe & Nees. Photo by J. Randall.

Similar species: There are several species of native blackberries and raspberries that could be confused with Himalayan blackberry. Himalayan blackberry can be distinguished from similar, native *Rubus* species by the presence of five leaflets per leaf, strongly angled and furrowed stems, and curved prickles with wide bases (Hitchcock and Cronquist 1961, Hultén 1968, Viereck and Little 1972).

Leaf with five leaflets, *Rubus discolor* Weihe & Nees. Photo by R. Old.

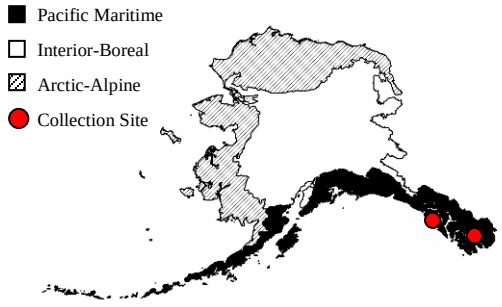
Ecological Impact
Impact on community composition, structure, and interactions: Himalayan blackberry forms large, impenetrable thickets of prickly stems within a few years. It can grow at densities as high as 525 stems per square meter. A large layer of organic litter develops in mature thickets. Thickets block light from native plants, reducing local species diversity. They are also likely to limit the movement of mammals (Tirmenstein 1989, Hoshovsky 2000). Himalayan blackberry has been reported to hybridize with a number of other *Rubus* species. This bramble provides food and cover for many wildlife species. Fruits are eaten by birds and mammals, such as coyotes, red fox, squirrels, and black bears. Deer, elk, beaver, porcupines, and rabbits consume the

buds, stems, and leaves (Tirmenstein 1989).
Impact on ecosystem processes: Himalayan blackberry is a pioneer plant that colonizes intertidal zones in California, preventing the establishment of native plants (Tirmenstein 1989, Hoshovsky 2000). Dense thickets are fire hazards (Hoshovsky 1989, Hoshovsky 2000).

Biology and Invasive Potential
Reproductive potential: Himalayan blackberry reproduces by sexually by seeds and vegetatively from root fragments and stem fragments. It can also reproduce by rooting at the stem tips or producing shoots from lateral roots (Richardson 1975, Hoshovsky 2000). Thickets can produce from 7,000 to 13,000 seeds per square meter. Seeds remain viable for several years in the soil (Hoshovsky 2000).
Role of disturbance in establishment: Himalayan blackberry readily colonizes disturbed and neglected areas. Seedlings require open habitats or eroded soils for germination and establishment (Hoshovsky 2000). Seeds can germinate profusely from long-lived seed banks after disturbances (Tirmenstein 1989).
Potential for long-distance dispersal: Seeds are readily dispersed by mammals and birds after the fruits are ingested. The passage through a digestive tract appears to scarify seeds, enhancing their germination (Brunner et al. 1975). Himalayan blackberry can be spread considerable distances by streams and rivers (Hoshovsky 2000).
Potential to be spread by human activity: Himalayan blackberry is widely cultivated; it has escaped cultivation and become naturalized throughout the western U.S. (Hitchcock and Cronquist 1961).
Germination requirements: Germination is often slow because of the hard seed coat and innate dormancy. Seeds germinate best when subjected to a long warm period (ninety days at 20°C to 30°C) followed by a long cold period (ninety days at 2°C to 5°C) (Hoshovsky 2000).
Growth requirements: Himalayan blackberry can grow in infertile soils. It tolerates a wide range of soil pH and textures, but requires moist conditions. It grows best in areas with an average rainfall of more than 76 cm per year (Hoshovsky 2000). This species tolerates flooding. Seedlings require full sunlight (Hoshovsky 2000).
Congeneric weeds: Sawtooth blackberry (*Rubus argutus*), yellow Himalayan raspberry (*R. ellipticus*), snowpeaks raspberry (*R niveus*), and palmleaf dewberry (*R. sieboldii*) are considered noxious weeds in Hawaii (Plants of Hawaii 2003, Invaders 2010). Eelkek (*R. moluccanus*) is on the U.S. federal noxious weed list and is considered a noxious weed in Florida and North Carolina (Invaders 2010).

Legal Listings
☐ Has not been declared noxious
☐ Listed noxious in Alaska
☒ Listed noxious by other states (OR)
☐ Federal noxious weed
☐ Listed noxious in Canada or other countries

Distribution and abundance
Native and current distribution: Himalayan blackberry is native to western Europe and northern Africa. It has naturalized in southwestern Asia, Australia, Polynesia, North America, South America, South Africa, and New Zealand (USDA, ARS 2005). It was most likely introduced to North America in 1885 as a cultivated crop (Tirmenstein 1989, Hoshovsky 2000). It has become widely naturalized in the eastern U.S. from Delaware to Virginia and in the Pacific Northwest from northern California through southern British Columbia eastward to Idaho (USDA 2002). Himalayan blackberry is common in wastelands, pastures, and second growth forests. Additionally, it grows along roadsides, creek gullies, river flats, and fence lines. It is common in riparian areas (Ertter 1993, Hoshovsky 2000). Himalayan blackberry has been documented from the Pacific Maritime ecogeographic region of Alaska (AKEPIC 2010).



Distribution of Himalayan blackberry in Alaska

Management
Himalayan blackberry is difficult to control because of its extensive vegetative reproduction. Control measures may be limited when this species grows in sensitive wetland habitats. Mechanical removal and burning may be the most effective ways of removing mature plants. Treatments with herbicides can promote vegetative growth from lateral roots. This species is shade-intolerant, so its reestablishment may be prevented by planting fast-growing shrubs or trees. Because plants can resprout from root fragments and stem fragments, many years of follow-up efforts are necessary for successful control. The introduction of herbivorous insects and fungi to control Himalayan blackberry is not supported by the USDA because of the risk posed to commercially important *Rubus* species (Hoshovsky 1989, Hoshovsky 2000).

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