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Himalayan Balsam

Impatiens glandulifera (Aka Poor Man's Orchid, Policeman's Helmet, Indian balsam, Ornamental jewelweed)

Alberta Regulation: Weed Control Act & Fisheries Act

Barbara_TokarskaGuzik_UofSilesia_Poland

JR_Crellin

Overview:

Himalayan balsam is a summer annual of riparian areas which reproduces by seed only. Native to the western Himalayas, it was introduced to Kew Gardens in the early 1800s. By the 1900s it was already common in south-west Germany and spreading via the Rhine River[3], and throughout Scandinavian countries by the mid-1900s. Today it is widely known as an invasive alien in temperate areas of Europe, Asia, North America and New Zealand.[3] In Alberta there are patches along water courses within the cites of Edmonton & Red Deer, and Parkland County.[1]

Seeds germinate in the spring to produce dense, even-aged stands which shade-out competing vegetation. It then exhibits an impressive growth rate for an annual with some plants growing to 3m tall. Himalayan balsam has a shallow, fibrous root system but adventitious roots from the lower stems provide some buttressing. However in winter, erosion can occur as a result of balsam's shallow rooting having replaced the deeper rooted native vegetation.

Plants flower from July until frost. Flowers are self-compatible but the anthers release their pollen before the stigma is receptive, therefore plant requires pollinators.[7] Himalayan balsam attracts pollinators away from native species with its high nectar content and extended flowering.[6] It is a late season nectar source for butterflies, bees and bumble bees.

Mature seed capsules explode when disturbed and eject the seeds, hence another common name of Touch-Me-Not plant. Medium sized plants produce on average 700-800 seeds which can be flung as much as 5 m from the parent plant. Seeds do not float but can be carried along in water currents and can germinate under water and when fully soaked – seed viability is about 2 years.

Habitat:

Himalayan balsam requires moist soils and some soil disturbance to establish (uprooted trees, flooding). It thrives best in nutrient rich soils of disturbed riparian habitats and wet woodlands. It is tolerant of partial shade and soil pH values of 3.5 to 7.7.[8] It is frost sensitive and intolerant of drought. In its native range it grows at elevations 1800-4000m[3] – its limiting factor at high elevations is the short growing season.

Identification:

Stems: Are smooth, hairless, and usually hollow, tinged red-purple and are easily broken. Stems grow 1 to 3m tall and there may be some branching.

Leaves: Are lance shaped or elliptic with pointed tips and rounded bases, and 6-15cm long. The leaves are stalked and have sharply serrated edges[5]. They occur opposite or in whorls of 3. Leaf size decreases with height on the stem.

Flowers: Are large – 2.5 to 4 cm long –in shades of pink through purple, occasionally white. Flowers occur 5-10 together in racemes on long stems borne in the upper leaf axils.[5] Flowers have 5 petals and are bilaterally symmetrical. The upper petal forms a hood over the reproductive structures (resembling a British policeman's helmet) and the lower petals form a platform for landing

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insects.[7]

Seed capsules are 1.5-3.5 cm long and up to 1.5 cm wide and contain up to 16 seeds which are 4-7 mm long and 2-4 mm wide. Seeds require cold stratification before germination.

Prevention:

Initial spread is mainly from ornamental plantings – do not purchase or grow Himalayan balsam. Seed can be spread by movement of riparian soil and in the sediment from the bottoms of water courses of infested areas. Remedy soil disturbance in suitable habitats. Any control work on infested stands must be done before flowering.

Control:

Grazing: Sheep and cattle have been known to graze the plant in Britain without ill effects. Invasive plants should never be considered as forage.

Cultivation: Likely very effective but cultivation is not practical in riparian habitats.

Mechanical: Mowing can be very effective but may need to be repeated as cut plants can grow new flowering branches, and would be difficult in riparian areas. Himalayan balsam plants are easily hand pulled due to the shallow root system. Plant debris should be incinerated or bagged and sent to the landfill.

Chemical: Currently no selective herbicides are registered for use on Himalayan Balsam. The use of herbicides in aquatic environments requires Alberta-specific applicator certification and permits. Always check product labels to ensure the herbicide is registered for use on the target plant in Canada by the Pest Management Regulatory Agency. Always read and follow label directions. Consult your local Agricultural Fieldman or Certified Pesticide Dispenser for more information..

Biological: CABI began researching natural enemies in 2006 and host specificity testing began 2008.[6]

Barbara_TokarskaGuzik_UofSilesia_Poland

MichaelShepard_USDA_ForestService

JanSamanek_StatePhytosanitaryAdmin_Czechia

JanSamanek_StatePhytosanitaryAdmin_Czechia

Leslie_J_Mehrhoff_UofConnecticut

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