

INVASIVE PLANT

Water hyacinth

Pontederia crassipes

MARCH 2024



ABOUT

Water hyacinth (*Pontederia crassipes*) was introduced to North America as an ornamental plant in 1884. It has since been found in Ontario and the Southern USA. Water hyacinth is commonly seen in horticulture and used in water gardens and ponds.

New introductions of this species to natural water systems in BC are likely due to improper disposal or the introduction into new ponds due to flooding events. Water hyacinth can be anywhere from 5 cm to 1 m in length and can form dense mats that are 2 m thick on the water's surface.

DISTRIBUTION

Water hyacinth is native to South America and is now widespread across the world in tropical and subtropical regions. Not yet present in any open waterbodies in BC.

LEGAL STATUS

P. crassipes is a Provincial Early Detection and Rapid Response species listed by the BC Inter-Ministry Invasive Species Working Group.

IDENTIFICATION

Flowers: Water hyacinth has 4-15 flowers loosely clustered on a spike above the plant rosette. Each flower has six lavender-coloured petals, with the uppermost petal being slightly larger. This larger petal has a bright yellow patch surrounded by a dark purple or blue border.

Stems/Stalks: Stalks are arranged to form a rosette. Each stock is bulbous and is sometimes inflated. The stalks have a fleshy texture and are made of spongy tissue.



L. Merhoff; Bugwood.org



W. Durden; Bugwood.org

Leaves: Thick and leathery. They are bright green in colour and egg-shaped or rounded.

Roots: Dark purple or black and appear feathery due to how fibrous they are. The roots typically hang under the plant rosette and are free-floating. Under certain circumstances, the roots can attach themselves to the water body's soil layer and support the plant.

Fruits/Seeds: Held within a ribbed capsule. This capsule can hold up to 450 egg-shaped seeds that can survive up to 28 years in a dormant stage before germination occurs.

Similar Species: A related non-native species to Water hyacinth is Pickerelweed (*Pontederia cordata*). Pickerelweed has heart-shaped leaves that do not attach to bulbous stocks. Their flowers are attached to a long, thin spike and are arranged in an elongated cluster. Unlike Water hyacinth, the Pickerelweed does not form dense mats of plants.

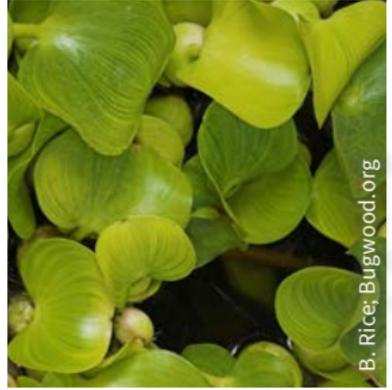
A similar invasive species to Water hyacinth is Water lettuce (*Pistia stratiotes*). It forms a rosette that looks like a head of lettuce. Unlike Water hyacinth, Water lettuce produces white flowers and lacks bulbous stocks.

ECOLOGICAL CHARACTERISTICS

Habitat: Water hyacinth lives in freshwater habitats and prefers shallow ponds, wetlands, and marshes. It also does well in slow-flowing waterways, rivers, and lakes. Water hyacinth prefers nutrient-rich water systems and can withstand seasonal water fluctuations.

Reproduction: It can produce daughter plants from floating stolons. Under the right circumstances, a single plant can produce many individuals and create large mats.

Dispersal: This plant can be dispersed by two methods. One method is releasing an axillary bud from its stolon, which is then dispersed by water movement, wind, and human activity. The other method is to produce seeds that are viable for up to 28 years. These seeds can be dispersed by rainwater, floods, stream flow, and human activity.



IMPACTS

Ecological: Water hyacinth infestations create large, dense mats which make it harder for native species to get nutrients, sunlight, and space. The mats also reduce the oxygen levels underneath them, changing the aquatic environment in which fish and invertebrate species live. Water hyacinth can also release heavy metals and other pollutants into the water as they decompose, which reduces the water quality for other organisms sharing the same habitat.

Social: This species impedes recreational activities by blocking access to bodies of water, activities such as swimming, fishing, and boating are all hindered, making it hard or even impossible to enjoy recreational activities in areas that are infested.

The presence of Water hyacinth also produces ideal habitat for species that can carry diseases, such as mosquitoes, which can be more prevalent in these areas due to the changes that the vegetative mats create in the water.

Economic: The dense mats can lead to water flow decreasing in an area or blockage of irrigation canals. This can affect our hydroelectric and water treatment facilities by delaying their output and increasing the maintenance costs associated with running the facilities.

INTEGRATED PEST MANAGEMENT

Integrated Pest Management is a decision-making process that includes the identification and inventory of invasive plant populations, assessment of the risks that they pose, development of well-informed control options that may include several methods, site treatment, and monitoring.

Prevention:

- ▶ Clean, drain, and dry all equipment when moving between water bodies.
- ▶ Avoid planting Water hyacinth in ponds and water gardens, and instead choose a native plant to include in your garden.
- ▶ Do not release unwanted plants into natural water bodies. Instead, dispose of them with household garbage in a sealed bag.
- ▶ Report online to the Province or the ISCBC at info@bcinvasives or 1-888-933-3722.



Mechanical Control: If a small infestation is found, it can be dealt with by hand pulling, racking, or seining the water's surface. Ensure that all plant material removed is placed in a garbage bag and disposed of appropriately.

Chemical Control: Herbicide recommendations and use must consider site characteristics and be prescribed based on site goals and objectives. Herbicide labels and other sources of information must be reviewed before selecting and applying herbicides.

There are currently no herbicides recommended for this species. The use of herbicides in aquatic environments in Canada is extremely limited and very restrictive.

Application of pesticides on Crown lands must be carried out following a confirmed Pest Management Plan (*Integrated Pest Management Act*) and under the supervision of a certified pesticide applicator. <https://www2.gov.bc.ca/gov/content/environment/pesticides-pest-management>

Biological Control: There currently are no biological control agents available.

DISPOSAL

Note: *Disposal of invasive plants varies by region. Contact your local government for specific information on how to dispose of your invasive plants.*

To dispose of Water hyacinth, place the entire plant and any plant material generated by the removal of the plant into a garbage bag. Ensure that no pieces are left on site. Dispose of the plant in a garbage bin or directly to the landfill. Do not dispose in the compost, as the seeds can survive through the composting process.





REFERENCES/LINKS

<https://www.invasivespeciesinfo.gov/aquatic/plants/water-hyacinth>

<https://www.invadingspecies.com/invaders/aquatic-plants/water-hyacinth-2/>

<https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/invasive-species/edrr/edrr-status>

<https://ssisc.ca/water-hyacinth/>

http://www.bio.brandeis.edu/fieldbio/Wildflowers_Kimonis_Kramer/PAGES/PICKERELWEED_PAGE_FINAL.html

<https://www.sciencedirect.com/science/article/pii/S0254629911000238#:~:text=Seed%20dispersal%20by%20water%2C%20called,wash%2C%20downstream%20flow%20and%20floods>

BCINVASIVES.CA
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**Invasive Species
Council of BC**

ADDITIONAL CONTACT INFO