

# Waterweeds

(*Elodea spp.*)



**Family name:** Hydrocharitaceae (Frogbit family)

**Common name:** American Waterweed, Canadian Pondweed (*depending on species*)



Waterweeds (*Elodea spp.*) are submerged aquatic plants native to North America, known for their rapid growth and ability to form dense mats in freshwater habitats. In Ireland, they are considered high-risk invasive species that pose threats to aquatic ecosystems, water quality, and recreational activities.

The plants spread primarily through fragmentation, making management difficult. Control measures include mechanical removal, herbicide use, and preventative actions to limit their spread. If left unmanaged, Waterweeds can significantly impact local biodiversity and aquatic habitat dynamics.

**Description** - Waterweeds (*Elodea spp.*) are submerged, perennial aquatic plants known for their rapid growth and ability to form dense mats in freshwater environments. Native to North America, these species have been widely introduced across Europe, including Ireland, where they are considered invasive. Waterweeds can significantly impact aquatic ecosystems by outcompeting native plants, altering water quality, and hindering recreational activities.

**Key characteristics include:**

**Size:** Waterweeds can grow to 1-3 metres in length, depending on water depth and conditions.



**Leaves:** The leaves are small, lance-shaped, and arranged in whorls around the stem.

Typically, there are three to four leaves per whorl, with each leaf measuring 1-3 cm in length. The leaves are bright green and slightly translucent.

**Flowers:** Produces small, white to pale purple flowers that float on the water's surface, emerging from long, thread-like stalks.

Flowering is rare, and reproduction is mainly vegetative.



**Stems:** The stems are slender and branched, often reaching lengths of several metres, allowing the plant to form dense underwater growth.

The stems are brittle and can easily fragment, contributing to its spread.



**Root:** Waterweeds have a fibrous root system that can anchor the plant to the substrate, although they can also grow as a free-floating fragment.

**Habitat** - Waterweeds are native to North America, where they grow in a variety of freshwater habitats. In their introduced range, they can thrive in:

- **Lakes, Ponds, and Canals:** Commonly found in still or slow-moving freshwater, where they form dense underwater mats that cover large areas.
- **Rivers and Streams:** Can establish in slow-flowing sections of rivers and streams, although dense growth may be less pronounced in fast-moving waters.
- **Reservoirs and Ditches:** Frequently grow in artificial water bodies, such as reservoirs, ditches, and drainage channels.

The plants prefer nutrient-rich waters and can tolerate a range of light conditions, from full sun to partial shade, making them highly adaptable.

**Status in Ireland** - In Ireland, Waterweeds are considered high-risk invasive species, particularly in lakes, rivers, and canals, where they can outcompete native aquatic vegetation and significantly alter the ecosystem.

The rapid growth and dense mats of Waterweeds can impact water quality, recreation, and biodiversity.

**Reproduction and Spread** - Waterweeds spread primarily through vegetative propagation, although some species can produce seeds:

- **Fragmentation:** The main method of spread is through stem fragmentation, where even small pieces of the plant can root and form new colonies. This allows the plant to spread rapidly, especially through human activities such as boating or fishing gear, or by water currents.
- **Limited Seed Production:** While some species can produce seeds, seed-based reproduction is rare, and most spread occurs through vegetative means.
- **Human Activity:** The movement of boats, fishing gear, and aquaria can facilitate the spread of Waterweeds to new water bodies.

**Management and Control** - Controlling Waterweeds is challenging due to their rapid growth, ability to regenerate from fragments, and extensive distribution. Management strategies include:

- **Mechanical Control:** Manual removal, cutting, or raking can help reduce the plant's biomass, but care must be taken to remove all



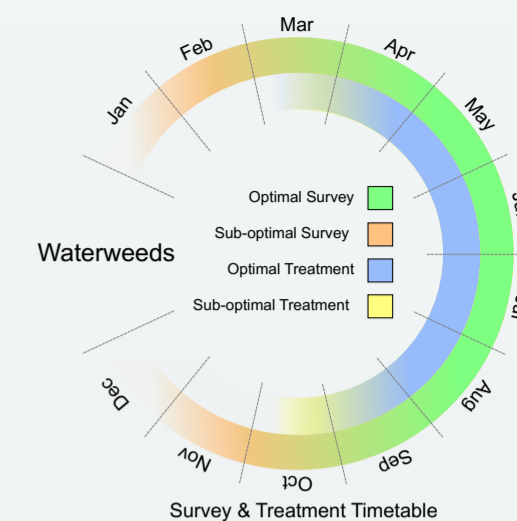
fragments to prevent regrowth. Repeated efforts are often needed for effective management.

- **Chemical Control:** Herbicides approved for aquatic use, such as those containing diquat or fluridone, may be applied to manage infestations.

Multiple treatments may be necessary, and care must be taken to minimise impacts on non-target species and water quality.

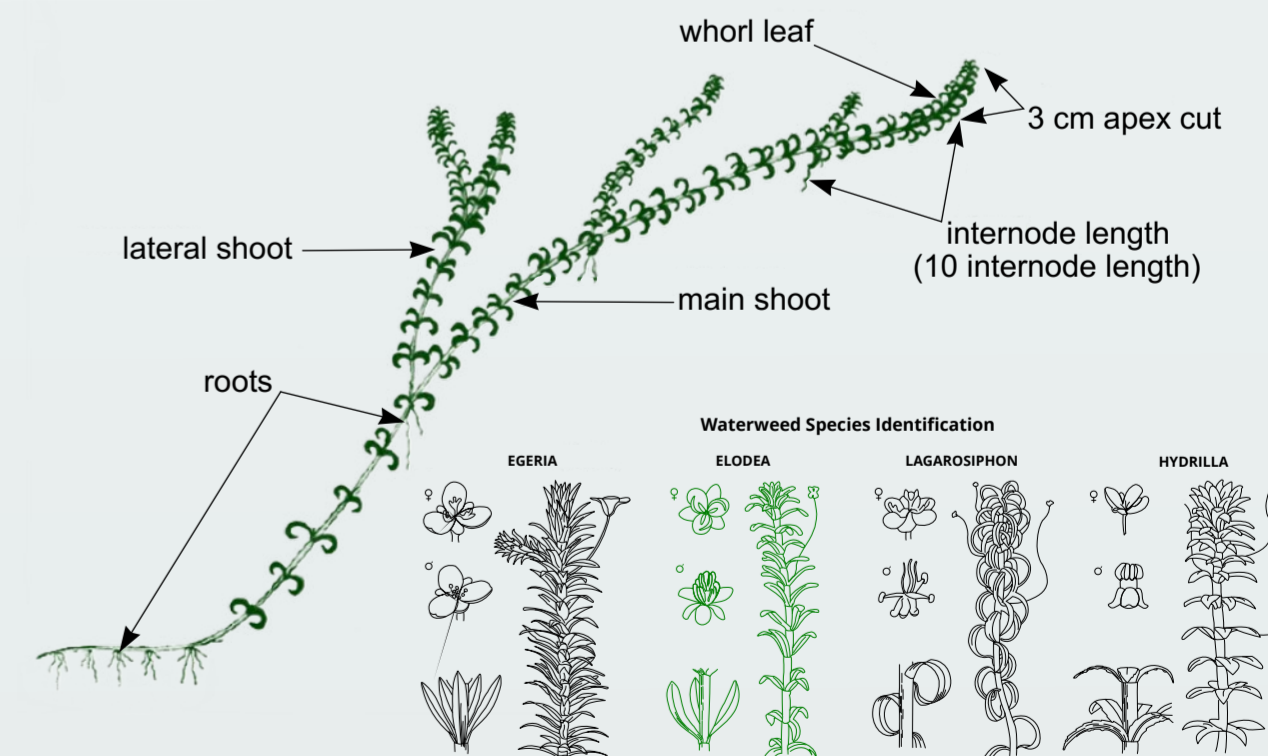
- **Biological Control:** There is no widely accepted biological control method for Waterweeds, although some herbivorous fish (e.g., Grass Carp) have been used to manage their growth in certain areas.

- **Preventative Measures:** Cleaning boats, fishing gear, and equipment before moving between water bodies can help prevent the spread of plant fragments.



**Ecological Impact** - Waterweeds can have significant ecological impacts, especially in areas where they become invasive:

- **Competition with Native Species:** Forms dense mats that outcompete native aquatic plants, leading to a reduction in biodiversity.
- **Alteration of Water Flow and Oxygen Levels:** The dense growth can impede water flow, reduce dissolved oxygen levels, and increase sedimentation, negatively affecting fish and other aquatic life.
- **Impact on Recreational Activities:** Can hinder boating, fishing, and swimming by creating dense underwater growth that entangles equipment and restricts movement.



**For further information and free advice, please contact:**  
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