

Fanwort

(*Cabomba caroliniana*)



Family name: Cabombaceae (Fanwort family)
Common name/s: Fanwort, Carolina Fanwort, Fishgrass, Green Cabomba



Fanwort (*Cabomba caroliniana*) is an aquatic plant known for its rapid growth and invasive potential in non-native regions. In Ireland, it poses a high risk to aquatic ecosystems, especially in lakes and slow-moving rivers, where it can outcompete native plants and disrupt water flow. The plant spreads primarily through fragmentation, making management challenging.

Control measures include mechanical removal, herbicide use, and preventative actions to limit the spread. If left unmanaged, Fanwort can significantly impact biodiversity, water quality, and recreational activities in freshwater environments.

Description - Fanwort is a submerged, perennial aquatic plant noted for its delicate, fan-shaped leaves and rapid growth, which allows it to form dense underwater mats.

It has become invasive in various parts of the world, including Ireland, where it can significantly impact aquatic ecosystems. It is commonly used as an ornamental plant in aquariums but can escape into natural water bodies and establish itself.

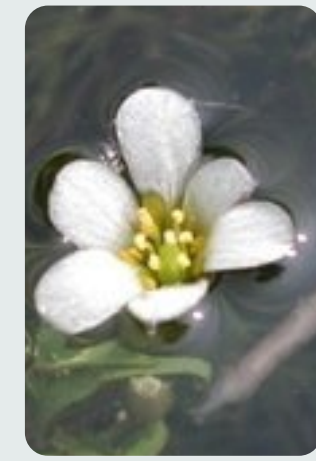
Key characteristics include:

Height: Can grow to lengths of up to 2 metres, depending on water depth and growing conditions. The plant typically forms dense, floating mats in shallow waters.



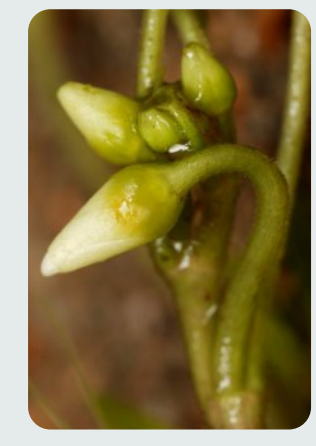
Leaves: The submerged leaves are finely divided and fan-shaped, giving the plant its common name. These leaves are green to olive-green and measure about 2-5 cm across.

The plant also produces small, floating, oval-shaped leaves when it reaches the water's surface, which are typically 1-3 cm long.

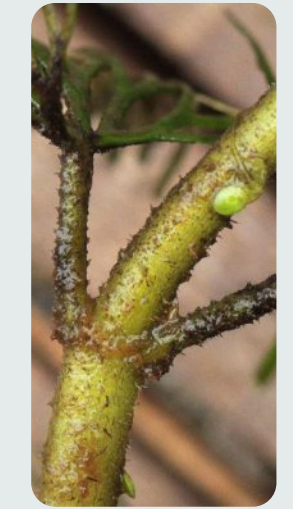


Flowers: Produces small, white to pinkish flowers that emerge above the water surface. Each flower is about 1-2 cm in diameter and blooms during the summer months.

Fruit: The fruit is small and inconspicuous. It typically appears as a cluster of small, dry, single-seeded capsules.



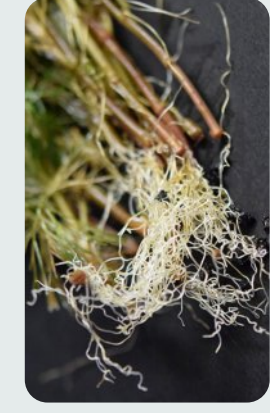
Each fruit contains a single seed and is not particularly fleshy or colourful, blending well with the plant's green foliage.



The fruiting structures are often submerged and can go unnoticed among the dense aquatic leaves.

Stem: The stems are slender and branching, with a greenish or reddish-brown colour. They are delicate and can easily fragment.

Root: Has a fibrous root system that anchors it to the substrate, but it can also survive as a free-floating fragment.



Habitat - Fanwort is native to the southeastern United States, where it grows in freshwater environments. It has been introduced to various regions globally and thrives in:



- **Lakes, Ponds, and Slow-Moving Rivers:** Commonly found in still or slow-flowing freshwater, where it can form dense underwater mats.
- **Canals and Reservoirs:** Can establish in artificial or disturbed water bodies, such as canals, reservoirs, and drainage ditches.
- **Soft Sediment Substrates:** Prefers muddy or sandy substrates in clear, nutrient-rich water, with depths ranging from 0.5 to 3 metres.

The plant grows best in full sun to partial shade, and optimal growth occurs in warm, nutrient-rich waters.

Status in Ireland - In Ireland, Fanwort is considered a high-risk invasive species, particularly in lakes, ponds, and slow-moving rivers.

It can outcompete native aquatic plants, reduce oxygen levels, and impact the overall health of aquatic ecosystems.

Once established, it is very difficult to eradicate due to its ability to spread through fragmentation.

Reproduction and Spread - Fanwort spreads primarily through vegetative propagation and, to a lesser extent, seed production:

- **Fragmentation:** The plant spreads easily through stem fragments, which can root and grow into new plants.

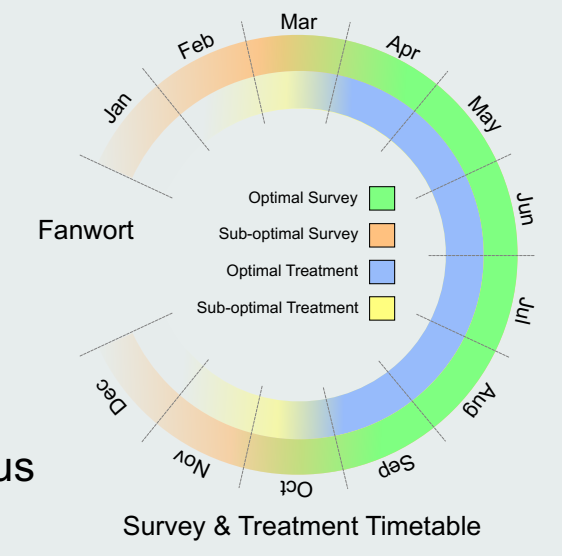
This allows the plant to colonise new areas quickly, especially through human activities such as boating or fishing.

- **Seed Production:** While it can produce seeds, seed-based reproduction is less common than vegetative propagation, particularly in non-native regions.

Management and Control - Controlling Fanwort is challenging due to its rapid growth and ability to regenerate from small fragments:

- **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 necessary to manage established populations.

- **Chemical Control:** Herbicides approved for aquatic use may be applied to manage infestations, though care is needed to minimise impacts on non-target species. Multiple treatments may be required.



- **Biological Control:** Some research has explored the use of herbivorous fish (e.g., grass carp) to control Fanwort, but this approach must be carefully managed to prevent unintended ecological consequences.

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

Ecological Impact - Fanwort can have several significant ecological impacts, particularly in areas where it becomes invasive:

- **Competition with Native Species:** Forms dense mats that outcompete native aquatic plants, reducing biodiversity in affected areas.
- **Alteration of Water Flow and Oxygen Levels:** The mats can impede water flow and reduce dissolved oxygen levels, negatively impacting 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.



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