

# *Elodea canadensis*



Taxon	Family / Order / Class / Phylum
<i>Elodea canadensis</i> Michaux 1803	Hydrocharitaceae / Hydrocharitales / Liliopsida / Magnoliophyta

## COMMON NAMES (English only)

Canadian waterweed  
Canada waterweed  
Canadian pondweed  
Canadian water pest  
American waterweed  
Broad waterweed  
Common waterweed  
Water-thyme  
Oxygen weed

## SYNONYMS

*Udora canadensis* (Michaux) Nuttall 1818  
*Serpicula canadensis* (Michaux) 1829  
*Anacharis canadensis* (Michaux) Planchon 1848  
*Elodea latifolia* Caspary 1857  
*Elodea planchonii* Caspary 1857  
*Elodea oblongifolia* Michaux ex Caspary 1858  
*Philotria canadensis* (Michaux) Britton 1895  
*Philotria linearis* Rydberg 1908  
*Philotria planchonii* (Caspary) Rydberg 1908  
*Elodea ioensis* Wylie 1910  
*Philotria iowensis* (Wylie) Wylie 1911  
*Anacharis canadensis* (Michaux) Planchon, var. *planchonii* (Caspary) Victorin 1931  
*Anacharis linearis* (Rydberg) Victorin 1931  
*Anacharis planchonii* (Caspary) Rydberg 1932  
*Elodea brandegeae* St. John 1962  
*Elodea linearis* (Rydberg) St. John 1965.



*Elodea canadensis* in Lough Derg, Ireland

Photo: Dan Minchin

## SHORT DESCRIPTION

It is an aquatic herb with branching stems 20-30 cm long, which tends to form dense monospecific stands that can cover hundreds of acres. Leaves are oblong-linear in groups of three. Flowers are white or pale purple appear at the water surface. Fruits are capsules less than 1 cm in length.

## BIOLOGY/ECOLOGY

### Dispersal mechanisms

Dispersed by seeds and fragments via water currents.

### Reproduction

It is a dioecious plant flowering from June to August. Pollination occurs near the water surface and pollen is distributed by wind and water currents. Vegetative reproduction by fragments is very common. Mass development has been reported multiple times in the last century.

### Known predators/herbivores

Preyed upon by a high number of freshwater organisms including fish and birds.

### Resistant stages (seeds, spores etc.)

Unknown.

## HABITAT

### Native (EUNIS code)

C1: Surface standing waters, C2: Surface running waters) Shallow lakes, ponds, pools, ditches and streams with slow moving water.

### Habitat occupied in invaded range (EUNIS code)

Surface standing waters, C2: Surface running waters). Shallow lakes, ponds, pools, ditches and streams with slow moving water, up to 3 m water depth. In exceptional cases up to 16 m in depth.

### Habitat requirements

Tolerates pH values from 6.0 to 7.5 and temperatures from 1 to 25 °C.

## DISTRIBUTION

### Native Range

North American inland waters.

### Known Introduced Range

The first European record was reported from Ireland in 1836. It subsequently became widespread in north and central European countries.




### Trend

After a rapid colonization of northern Europe the populations declined due to the introduction of *Elodea nuttallii*. Today the population is stable.

## MAP (European distribution)



### Legend

	Known in country		Known in CGRS square		Known in sea
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## INTRODUCTION PATHWAY

Accidental release after intentional import for ornamental purposes in aquaria and ponds.

## IMPACT

### Ecosystem Impact

As it can be very dominant, it competes for nutrients and space with other plants. It can bioaccumulate nutrients and modify the habitat by reducing water movement. The species is known to outcompete other plants.

### Health and Social Impact

Unknown.

## **Economic Impact**

During dense blooms, impairs boating, fishing, swimming, and water skiing. Clogging of water intake pipes of power plants and other industries were reported.

## **MANAGEMENT**

### **Prevention**

Should not be released in the wild.

### **Mechanical**

Covering the plants to block light may result in eradication. In reservoirs and lake systems the water level may be lowered in winter with the aim of controlling the population. The success is related to the degree of desiccation, air temperature (at best freezing conditions after drainage), and the presence of snow. As the plant spreads through fragmentation, mechanical controls should only be undertaken during mass developments and when the risk of spread to other water systems is minimal. Using mechanical controls during an ongoing invasion may promote the spread due to fragmentation.

### **Chemical**

Trials were undertaken by using various chemical formulations, such as complexed copper, dipotassium salt and fluridone.

### **Biological**

Recently a fungus (*Fusarium* sp.) was identified which damaged *Elodea* in laboratory tests. The enhancement of native or introduced herbivorous fish may pose another biocontrol option. Carp prey upon *E. canadensis*. However, a risk remains, as most biocontrol species do not selectively prey upon the invader only.

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