

# AISS

## Aquatic Invasive Species

### YELLOW FLOATING HEART



Photo compliments of Spokane County Noxious Weed Control Board

**COMMON NAMES:** Yellow floating heart, Fringed water lily

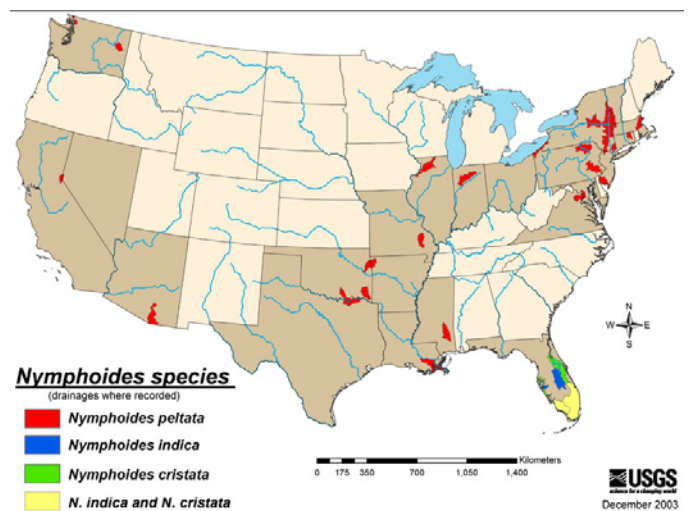
**SCIENTIFIC NAME:** *Nymphoides peltata*

The genus name comes from the Greek *nympha* meaning ‘nymph’ and *oides* meaning ‘resembling.’

**DISTRIBUTION:** Yellow floating heart is native to temperate and tropical Asia and Europe. This plant has been introduced to North America and New Zealand.

**Indiana:** Yellow floating heart has been found in a few Indiana ponds.

**DESCRIPTION:** Yellow floating heart is “an aquatic, bottom-rooted perennial with long branched stolons extending up to one meter or more and lie just beneath the water’s surface. A new shoot and roots are capable of forming at each node on a stolon. The floating heart has heart shaped or nearly circular



leaves are 3-10 cm long on long stalks and they arise from creeping underwater rhizomes. The leaves are frequently purplish underneath, with slightly wavy, shallowly scalloped margins. The flowers, 3-4 cm in diameter, are bright yellow with five petals. The flower edges are distinctively fringed giving this plant one of its common names, fringed water lily. The fruit is a capsule up to 2.5 cm long containing numerous seeds. The seeds are flat, oval and about 3.5 mm long with “hairy edges.”

Plants most likely confused with yellow floating heart are spatterdock and watershield. Spatterdock has a large yellow "cup-shaped" flower and leaves that can grow to 30 cm or larger. Watershield has small floating leaves, an inconspicuous purple flower, and the stem and underside of the leaves often coated in a gelatinous slime.

**LIFE CYCLE BIOLOGY:** *Nymphoides peltata* prefers slow moving rivers, lakes, reservoirs, ponds and swamps 1.5 to 13 feet deep. The plant functions as an important “nutrient pump” from the sediment. Nutrients are then partitioned between the decomposition pathway and the reabsorption by the rhizomes. This species reproduces by seeds and broken stems. Seed hairs help the seeds float and attach to waterfowl and animals, which can serve as a vector in spreading this plant to new areas. Viable seeds are produced abundantly and germinate readily and broken leaves with attached stem parts can form new plants. The growing season of *N. peltata* ranges from April/May to late October. Life span of its leaves varies from “23 to 43 days in relation to several factors (substrate, water level fluctuations, degree of exposure to wind and wave action). This plant overwinters as dormant tuberous rhizomes.”

**PATHWAYS/HISTORY:** Yellow floating heart is a native of Eurasia and the Mediterranean area and was introduced as an ornamental from eastern Asia.

**DISPERSAL/SPREAD:** Yellow floating heart is a popular aquatic garden ornamental for outdoor water gardens and can be readily purchased on the internet and by mail-order. This plant can escape these private water bodies during flooding or can be physically discarded into other waters. Fragmented parts of the plant can move to other areas and establish a population. Waterfowl and other animals can carry the hitchhiking seeds to other bodies of water.

**RISKS/IMPACTS:** Fish and wildlife habitat and water quality is negatively effected when the dense mats of yellow floating heart outcompete native plant species. Like other floating plants, yellow floating heart grows in dense patches, excluding native species and even creating stagnant areas with low oxygen levels underneath the floating mats. Dense mats of yellow floating heart reduce recreational opportunities as it can impact angling, recreational boating, swimming, etc.

**MANAGEMENT/PREVENTION:** Little information is available on the control of yellow floating heart. Based on the plant’s characteristics, mechanical and hand removal would most likely be effective. It is not known whether biological or chemical controls are effective on *N. peltata*. An aquatic herbicide with Glyphosate as the active ingredient would be the most likely chemical to control the plant.

Like all invasive species, the key to preventing their spread is knowledge! You can help by practicing a few good techniques for stopping the spread of any aquatic invasive plant.

- ✓ Dispose of unwanted aquarium and ornamental pond plants in the trash. DO NOT discard plants in other water bodies!
- ✓ Rinse any mud and/or debris from equipment and wading gear and drain any water from boats before leaving the launch area.
- ✓ Remove plant fragments from all equipment. The transportation of plant fragments on boats, trailers, and in livewells is the main introduction route to new lakes and rivers.
- ✓ Use native plants in ornamental ponds.

#### **REFERENCES:**

National Biological Information Infrastructure (NBII) and Invasive Species Specialist Group (ISSG). *Nymphoides peltata* (aquatic plant).

<http://www.issg.org/database/species/ecology.asp?si=225&fr=1&sts=>

Non-Native Freshwater Plants.

[http://www.ecy.wa.gov/programs/wq/plants/weeds/floating\\_heart.html](http://www.ecy.wa.gov/programs/wq/plants/weeds/floating_heart.html)

The Western Aquatic Plant Management Society. *Nymphoides peltata*-Yellow Floating Heart. <http://www.wapms.org/plants/nymphoides.html>