

**DRAFT**  
**WRITTEN FINDINGS OF THE**  
**WASHINGTON STATE NOXIOUS WEED CONTROL BOARD**  
**(Draft 8-16-00)**

Scientific Name:        *Nymphoides peltata* (Gmel.) Kuntze

Common Name:        yellow floating heart

Family:                Menyanthaceae

Legal Status:        PROPOSED Class B

Description and Variation: Aquatic, bottom-rooted perennial with long branched stolons extending up to one meter or more and lie just beneath the waters surface. The node on the stolons typically produces a plant and many thread-like roots. The floating heart- shaped to almost 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 are bright yellow, 5-petaled and 3-4 cm in diameter. The flowers are held above the water surface on long stalks, with one to several flowers per stalk. The flower edges are distinctively fringed. The fruit is a capsule to 2.5 cm long containing numerous seeds. The seeds are flat, oval and about 3.5 mm long with hairy edges. *Nymphoides peltata* spreads by seeds and vegetatively.

Economic Importance:

*Detrimental:* Yellow floating heart is established in Long Lake in Spokane/Stevens Counties, where it dominates the site. This floating-leaved plant grows in dense patches, excluding native species and creating stagnant areas with low oxygen levels underneath the floating mats. These mats make it difficult to fish, water ski, swim or paddle a canoe through. The plant spreads by seeds and vegetatively. Seed hairs help the seeds float and aid their attachment to waterfowl, which can be a vector in spreading this plant to new areas.

This common garden ornamental is offered for sale over the Internet. Lake residents are strongly discouraged from planting this species in lakes or natural waterbodies. "Hitchiker" plants, such as hydrilla can be introduced to an area with yellow floating heart when they are mail-ordered.

*Beneficial:* Yellow floating heart is a popular aquatic garden ornamental for outdoor water gardens.

Habitat: *Nymphoides peltata* prefers slow moving rivers, lakes, reservoirs, ponds and swamps. It can also grow on damp mud. It grows in water from 0.5 to 3-4 meters deep, where it dominates with a thick mat of floating leaves.

Geographic Distribution: *Nymphoides peltata* is native to the temperate regions of Europe, asia and the Mediterranean region.

History: *Nymphoides peltata* has been introduced to Washington and has established in one location along the Spokane River near Spokane in Long Lake or Lake Spokane. It was mis-identified in a 1994 survey funded by Stevens County. It is unclear how long this species has been present in this location in Washington.

*Nymphoides peltata* was introduced to North America as an ornamental pond species. The distribution of this species in North America is not clear, but there are established populations on the East Coast and one established population in eastern Washington. It is also a relatively recent arrival in New Zealand where it has been occasionally cultivated in garden ponds. There is one field site known in New Zealand and it is considered to be a nuisance plant and a threat to their waterways.

*Nymphoides peltata* is a Monitor List species of the Washington State Noxious Weed Control Board since 1999 and it is being proposed to be listed as a Class B noxious weed in 2000. **NH** – noxious weed and prohibited aquatic species; **MA** – 13 least wanted plant list; **VT** – Category 2 plant; **CT** – placed on a Watch List; **Canada** – listed on their *Invasive Plants of Canada* Web Site; **SC** – illegal, Category 2 (moderately invasive); **New Zealand** – Class B noxious weed and their aim is to eradicate it from all known sites within 10 years.

Growth and Development: *Nymphoides peltata* is a bottom rooted perennial with long branched stolons that extend up to one meter or more and lie just beneath the waters surface.

Reproduction: This species reproduces by seeds and vegetatively by broken stems. Broken leaves with attached stem parts will also form new plants. Viable seeds are produced abundantly and germinate readily.

Control: There is no direct control information available for Washington state. However, New Zealand information suggests that hand clearing is possible with small infestations and herbicides need to be used for larger infestations.

Response to Herbicide:

Response to Cultural Methods:

Response to Mechanical Methods:

Biocontrol Potentials:

Rationale for Listing: *Nymphoides peltata* (yellow floating heart) is a popular garden ornamental that appears to be an aggressive grower with the capability to establish in natural areas. Fish and wildlife habitat, recreation and water quality is negatively impacted when the dense mats of yellow floating heart outcompete native and beneficial plant species. Fish, swimmers and canoes cannot pass through these mats. At this time, the established distribution of yellow floating heart is limited in our state. It is established in Long Lake, where it dominates the site.

References:

WA Department of Ecology (DOE). Informational Bulletin. Invasive Non-native Freshwater Plants Yellow Floating Heart (*Nymphoides peltata*).

Washington DOE Web Site information:

<http://www.wa.gov/ecology/wq/plants/weeds>

New Zealand Web Site: <http://www.boprc.govt.nz/www/green/weed12.htm>

Monitor List files from the Washington State Noxious Weed Control Board office in Kent, WA.