Nymphoides peltata (J.G. Gmel.) Kuntze

Yellow floatingheart

Family: Nymphaeaceae
Range: Washington, California and Arizona.
Habitat: Lakes, reservoirs and ponds, and slow moving rivers.
Origin: Introduced from Eurasia and the Mediterranean region as well as Japan, China, and India. Yellow floatingheart is cultivated as a pond ornamental, but has been released into certain natural lakes where it has become a nuisance weed.
Impacts: Yellow floatingheart often develops dense mat-like patches that displace desirable vegetation. Dense mats can also reduce recreational activities and create stagnant low-oxygen conditions in the water below.
Western states listed as Noxious Weed: Oregon, Washington

Yellow floatingheart is a submersed perennial water lily-like plant with creeping rhizomes and stolons and floating rounded heart-shaped leaves 2 to 5 inches in diameter that may be confused with those of the water lilies. The flowering stems have opposite leaves.

The inflorescence is a simple umbel of showy yellow flowers with five ciliate-margined petals. The flowers are on long stalks that rise a few inches above the water. Yellow floatingheart reproduces by seed and vegetatively from rhizomes, stolons, rhizome and stolon fragments, and separated leaves. The seeds are water-dispersed individually or in chain-like floating rafts. Seeds can also be dispersed by waterfowl. Seeds readily germinate, but there is no information on seed longevity in the soil. Fragmented leaves with part of a stem still attached will also form new plants, and vegetative fragments can also be dispersed by water. Plants can survive exposure on wet mud.

NON-CHEMICAL CONTROL

Mechanical (pulling, cutting, dredging)	Mechanical control of *Nymphoides peltata* is very difficult due to its ability to propagate vegetatively through fragments, and through underwater roots and rhizomes. Mechanical harvesting may create abundant plant fragments, potentially aiding in dispersal to new locations. Leaf petioles cut by mechanical harvesting will eventually form new leaves, requiring one or two cuts each spring and summer to maintain controlled areas. Nevertheless, these plants are sometimes controlled by cutting, harvesting, and covering with bottom barrier materials (synthetic and natural fibers). In severe infestations, excavation may be necessary to remove plants, rhizomes and seed in the sediment. However, both roots and rhizomes are also able to withstand mechanical removal by dredging. Hand raking can be effective in very small, localized areas where fishing or navigation lanes need to be created.
Cultural	Use alternative native floating plants and keep contained within pots. Dewatering is usually not sufficient to control this plant because the below-ground propagules (rhizomes, stolons) often survive.
Biological	The (sterile) triploid grass carp (white amur) is a relatively nonselective herbivorous fish that may partially consume the seedlings and young, tender parts of floatingheart, but usually only after it first consumes its preferred submersed plants such as native pondweeds. Grass carp do not eat water lilies in Washington and it is not known if they would readily eat yellow floating heart.

CHEMICAL CONTROL

The following specific use information is based on reports by researchers and land managers. Other trade names may be available, and other compounds also are labeled for this weed. Directions for use may vary between brands; see label before use. Other herbicides may be effective, but few tests have been conducted to demonstrate which products control yellow floatingheart.

AROMATIC AMINO ACID INHIBITORS	
Glyphosate *Rodeo*, *Aquamaster*	**Rate:** Use a 2% v/v *Rodeo* or *Aquamaster* solution (1% a.e.) with an approved surfactant and spray to thoroughly wet the floating leaf surface. **Timing:** Postemergence in late spring to mid-late summer. **Remarks:** Repeated applications are generally necessary.

RECOMMENDED CITATION: DiTomaso, J.M., G.B. Kyser et al. 2013. *Weed Control in Natural Areas in the Western United States*. Weed Research and Information Center, University of California. 544 pp.