



Aquatic Invasive Plant Control Program

California State Parks Division of Boating and Waterways (DBW)

Floating Aquatic Vegetation Approved for Control (2018 Season)

Water hyacinth

Eichhornia crassipes

Floating



Image Credit: Michael Kwong, DBW

Description

- Free-floating perennial, sometimes rooted in mud
- Shiny leaves and spongy stalks
- Lavender to white flowers with a yellow “eye-spot”
- When non-flowering and intermediate-aged, can be confused with South American spongeplant
- Native to South America

Growth Period: spring - late fall; flowers June - October

Habitat: ponds, sloughs, channels, canals, streams, rivers, lakes

Control Methods Currently Used By DBW:

- Herbicide
- Mechanical Removal
- Hand Removal

Uruguay water primrose

Ludwigia hexapetala

Floating

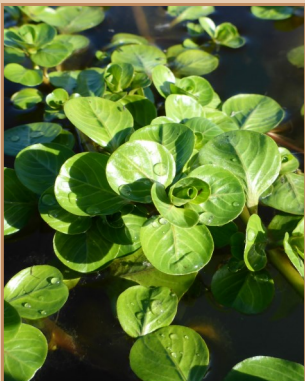


Image Credits: Left: Hoffman; Right: Janet Zipser Zipkin

Description

- Floating to emergent perennial
- Leaves and stems creep onto land, float on the water surface, or grow upright; upright stems are slightly hairy
- Oval-shaped (younger) to willow-like (more mature) leaves
- Bright, showy yellow flowers
- Native to South America

Growth Period: spring - late fall; flowers May - December

Habitat: slow-flowing rivers, lake and reservoir margins, and in the shallow waters of canals and floodplains

Control Methods Currently Used By DBW:

- Herbicide
- Mechanical Removal

South American spongeplant

Limnobium laevigatum

Floating



Image Credits: Left: Michael Kwong, DBW; Right: Lars Anderson

Description

- Floating to rooted perennial
- Thick, spongy, floating ovate to spatula-shaped leaves; honeycomb-like spongy tissue on lower surfaces
- Juveniles develop into mature clumps up to 50 cm (~20 in) tall
- Small white flowers
- More mature plants can be confused with water hyacinth
- Native to Central and South America

Growth Period: spring - late fall; flowers June - September

Habitat: ponds, sloughs, channels, canals, streams, lakes

Control Methods Currently Used By DBW:

- Herbicide
- Mechanical Removal
- Hand Removal

Alligatorweed

Alternanthera philoxeroides



Image Credit: Top: Jose Martinez, DBW; Bottom: Michael Kwong, DBW

Description

- Aquatic to terrestrial perennial
- Aquatic form has hollow stems above and below the water, while terrestrial form has solid stems
- Lance-like to oval-like leaves that narrow at the base
- Leaves have distinctive midrib
- Pleasantly fragrant pearly white flowers
- Can be confused with water primrose when not in bloom
- Native to South America

Growth Period: rapid growth in summer, survives cold winters without long periods of frost; flowers June - October

Habitat: shallow water in ditches, marshes, pond margins, and slow-moving waterways. May also be found terrestrially in wet soils



To report sightings of these invasive aquatic plants, contact the Division of Boating and Waterways (DBW) at (888) 326-2822 or AIS@parks.ca.gov

For more detailed information about DBW's invasive aquatic plant control activities for the 2018 Season, please visit: www.dbw.parks.ca.gov/WeedControlNotices

For more general information, visit our website: www.dbw.parks.ca.gov

What Can You Do?*

- Learn how to recognize invasive aquatic plants and report all sightings to DBW
- Clean all plant fragments from watercraft and equipment, ensuring that all fragments are disposed of on land
- Avoid purchasing and using plants for landscaping until you know the potential impacts associated with the plant
- Do not release non-native species into the wild

***Hand Removal**

Pull plants from the roots. Ensure that the entire plant and all fragments are collected and removed to prevent vegetative regrowth.

***Diver-assisted Hand Removal**

For deeper waters and more intensive hand-pulling programs, SCUBA divers should be hired to remove plants. Divers should be followed by boats to capture escaping plant fragments.

****Residents that opt to participate in these activities do so at their own risk. DBW does not assume any liability for injuries or damages that may occur while residents implement these activities. Only DBW and its partner agencies are legally authorized to use mechanical and biological control, and selected herbicides. Information on hand removal and diver-assisted control methods was referenced from Biology and Control of Aquatic Plants: A Best Management Practices Handbook, 3rd edition, Aquatic Ecosystem Restoration Foundation. <http://www.aquatics.org/bmp.html>.***



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Submersed Aquatic Vegetation Approved for Control (2018 Season)

Brazilian waterweed

Egeria densa

Submersed



Image Credit: Jose Martinez, DBW

Description

- Completely submersed with roots anchored in the soil
- 3-6 leaves in a whorled arrangement
- Middle and upper leaves are between 15-40 mm (~0.50-1.50 in) long and 2-5 mm (~0.10-0.25 in) wide
- Small white flowers that extend up to 3 cm (~1.25 in) above the water surface
- Native to South America

Growth Period: spring - late fall; flowers June - October

Habitat: slow-flowing or still water in sloughs, canals, river, ponds, lakes, reservoirs; often in nutrient-rich substrates

Control Methods Currently Used By DBW:

- Herbicide

Curlyleaf pondweed

Potamogeton crispus

Submersed



Image Credit: Leslie Mehroff, University of Connecticut

Description

- Leaves are floating and/or submersed
- Wavy, stiff, crinkled leaves between 50-76 mm (~2-3 in)
- Develop turions, or specialized stem buds that survive unfavorable conditions
- Turions resemble brown pinecones between 7-25 mm (~0.25-1 in) long
- Native to Eurasia

Growth Period: early spring - late summer; flowers May - September

Habitat: ponds, lakes, streams, rivers, reservoirs, irrigation ditches, marsh areas

Control Methods Currently Used By DBW:

- Herbicide

Eurasian watermilfoil

Myriophyllum spicatum

Submersed



Image Credit: Zoya Akulova

Description

- Perennial with creeping underground stems; typically submersed, sometimes emergent leaves while flowering
- Finely divided, whorled leaves with more than 12 leaflet pairs
- Uniform, parallel, acutely-angled leaf segments
- Stems and growing tips often red-tinged
- Does not develop turions
- Small, pinkish, whorled emergent flowers
- Native to Eurasia and northern Africa

Growth Period: spring - fall; flowers June - September; plants can die back in winter or remain green

Habitat: ponds, lakes, rivers, streams, canals, ditches

Control Methods Currently Used By DBW:

- Herbicide

Coontail

Ceratophyllum demersum

Submersed



Image Credit: Ron Vanderhoff

Description

- Submersed annual to perennial with firm, forked, toothed, olive-green to dark green bottlebrush-like leaves
- Stems up to 2.5 m (~8.2 feet) long
- Plants lack roots, and are free-floating or anchored by specialized buried stems
- Turions that consist of clusters of scale-like leaves at stem tips
- Small, inconspicuous, water-pollinated flowers
- Native to California

Growth Period: germinates in spring, slow growth through winter; flowers June - October

Habitat: ponds, slow-flowing streams, ditches

Control Methods Currently Used By DBW:

- Herbicide

Fanwort

Cabomba caroliniana

Submersed



Image Credits: Micheal Finnell, DBW

Description

- Submersed, rooted to free-floating perennial, but can have floating leaves while flowering
- Opposite leaves on short stalks without toothed margins
- Finely divided, red to green fan-shaped leaves
- Floating leaves are 1-3 cm (~0.40-1.25 in) long
- Small white to pink to purplish flowers extend above the water surface
- Introduced from the Eastern United States

Growth Period: spring - early fall, flowers May - September

Habitat: ponds, slow-flowing streams, ditches

Control Methods Currently Used By DBW:

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