CHESAPEAKE BAY FOUNDATION

GUIDE TO

Underwater Grasses

UNDERWATER BAY GRASSES are known by many names, including seaweed, sea grass, weed beds, and submerged aquatic vegetation (or SAV). These grasses (which are actually flowering vascular plants) were long spurned because they fouled boat propellers and made swimming difficult. Today, however, the importance of these grasses to the overall health of the Bay is widely recognized.

In particular, underwater grasses:

- provide critical food and shelter for fish and wildlife, especially blue crabs;
- help remove harmful nutrient and sediment pollution from the Bay's waters;
- stabilize sediments and reduce wave energy and erosion.

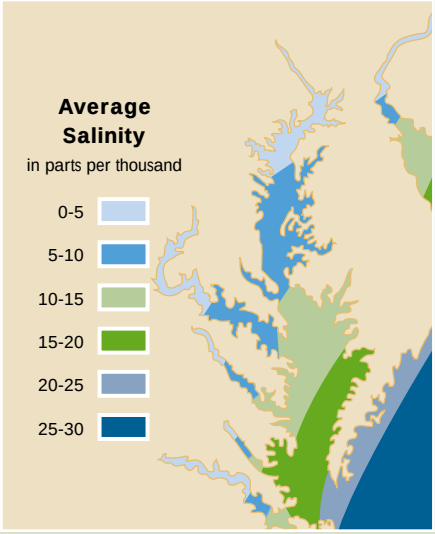
Unfortunately, the Bay's underwater grasses today cover only about 10 percent of their historic acreage. We must protect the remaining grass beds, reduce polluted runoff, and eventually restore grasses to areas where they historically grew.

About this guide

This guide provides a quick reference for the most common underwater grass species found in the tidal Chesapeake Bay, as well as two species of algae that are sometimes confused with underwater grasses. Salinity levels often determine where particular species of grasses grow. Underwater grasses are found from pure freshwater to true seawater. This guide groups species according to the salinity ranges in which they are generally found.

The following sources also provide useful information on underwater grasses:

- Maryland Department of Natural Resources On-line Key (www.dnr.state.md.us/bay/sav/key)
- Virginia Institute of Marine Science SAV Web page (www.vims.edu/bio/sav/)



LEGEND

Salinity range in which the plant is most commonly found (ppt = parts of salt per 1,000 parts of water)

Time period when flowers and fruits are present

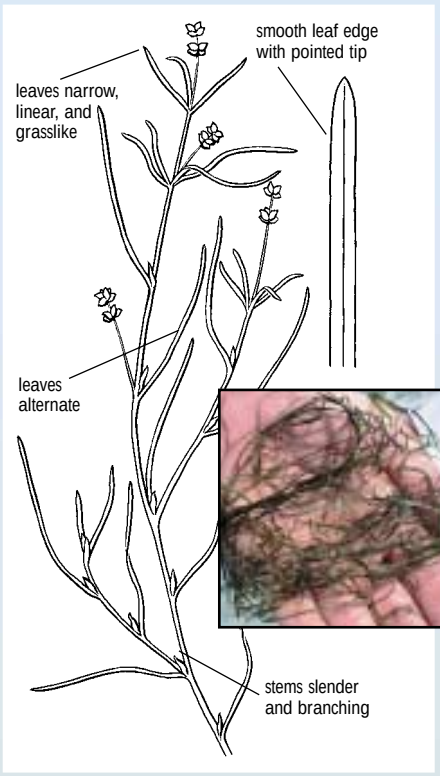
Origin of the plant — native or exotic to the Chesapeake Bay region

SIMILAR SPECIES: Other species with which the plant is commonly confused

DEFINITIONS

OPPOSITE LEAVES: arranged directly across from one another along a stem

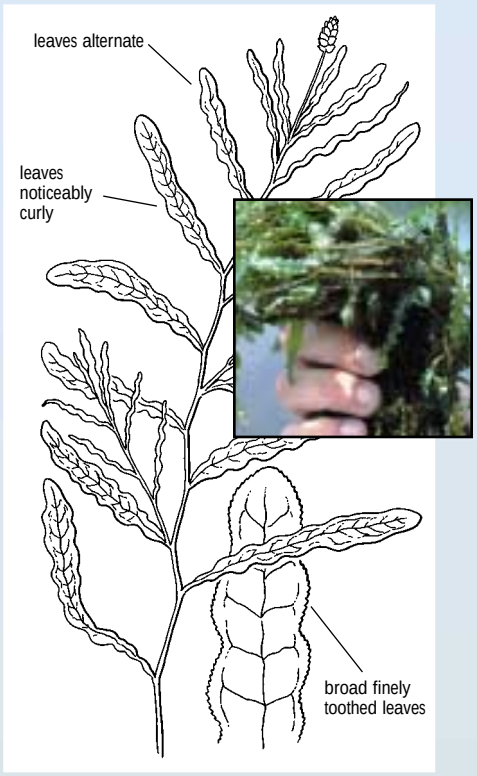
ALTERNATE LEAVES: not opposite to each other but at regular intervals along a stem



Slender pondweed / *Potamogeton pusillus*

0-5 ppt | Late July - Sept. | Native

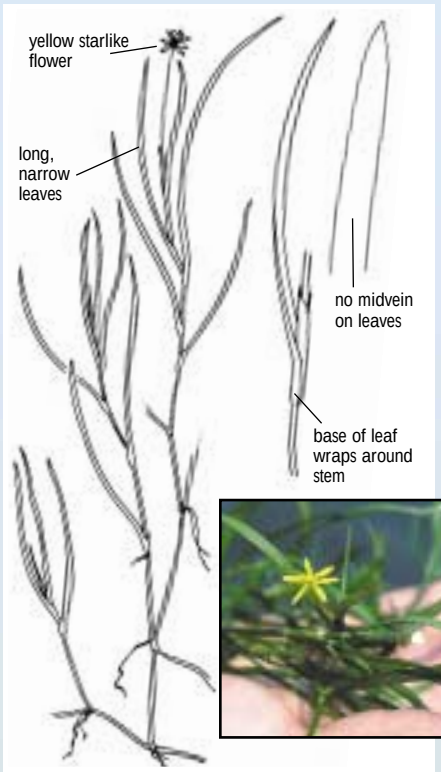
SIMILAR SPECIES: Southern naiad (slender pondweed has alternate leaves)



Curly pondweed / *Potamogeton crispus*

0-5 ppt | April-June | Exotic

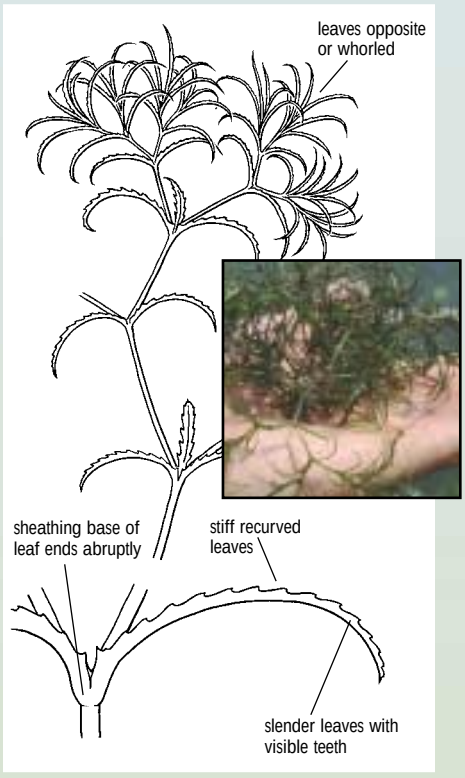
SIMILAR SPECIES: Redhead grass (curly pondweed has longer, thinner leaves)



Water stargrass / *Heteranthera dubia*

0-5 ppt | Late July - Sept. | Native

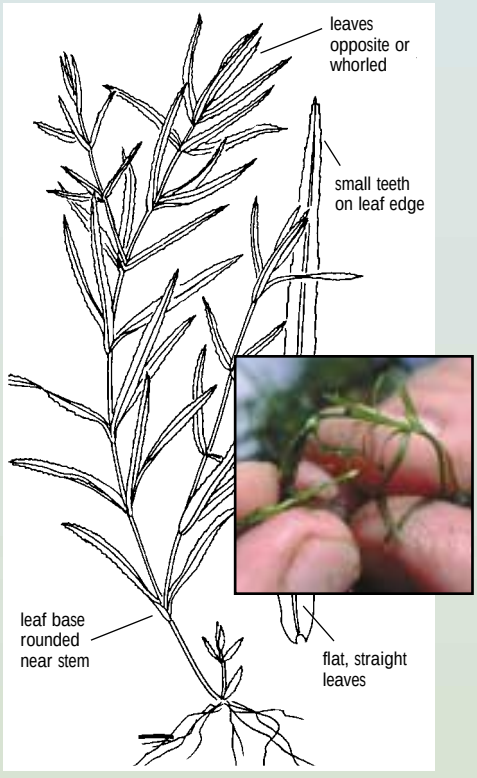
SIMILAR SPECIES: Wild celery (water stargrass leaves grow from the stem)



Spiny naiad / *Najas minor*

0-5 ppt | Late July - Sept. | Exotic

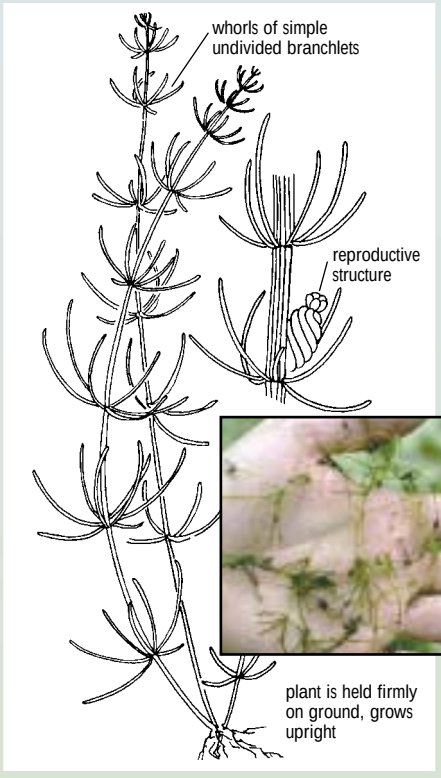
SIMILAR SPECIES: Southern naiad (spiny naiad has visible toothed leaves)



Southern naiad / *Najas guadalupensis*

0-5 ppt | Late July - Sept. | Native

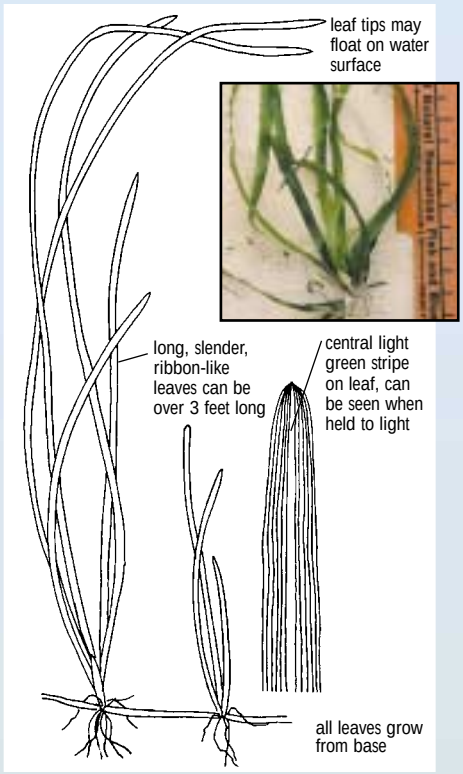
SIMILAR SPECIES: Spiny naiad (southern naiad leaves have small teeth on edges)



Muskgrass / *Chara* spp.

0-5 ppt | No flowers, Algae | Native

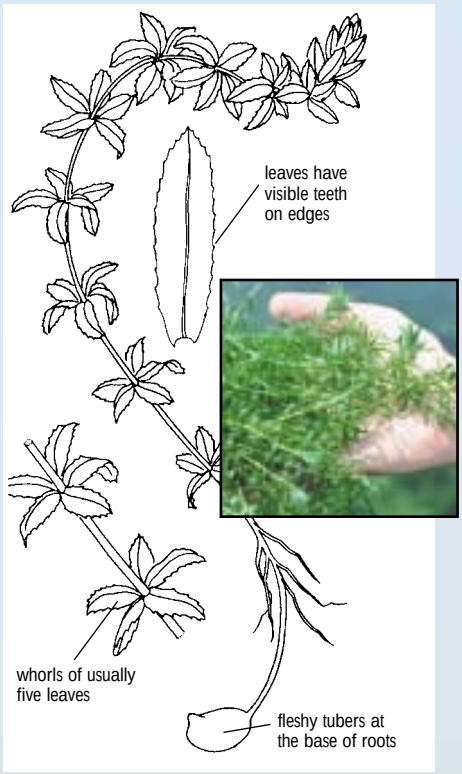
SIMILAR SPECIES: Coontail (muskgrass has no true stems or leaves)



Wild celery / *Vallisneria americana*

0-10 ppt | Late July - Sept. | Native

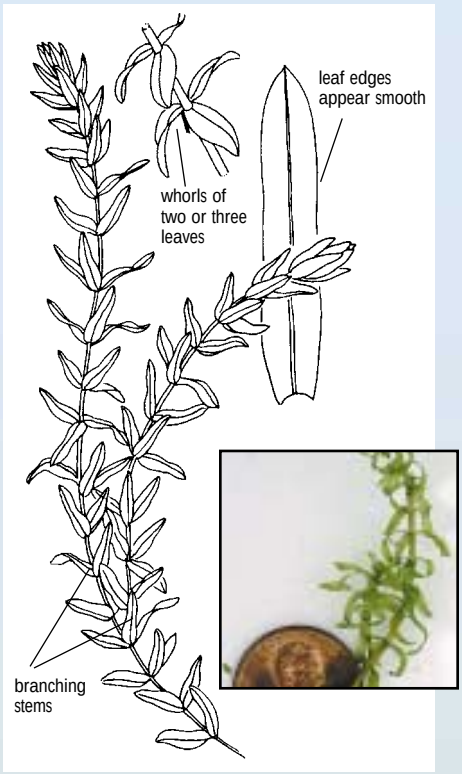
SIMILAR SPECIES: Eelgrass (wild celery occurs in lower salinities); water stargrass (wild celery leaves grow from the base)



Hydrilla / *Hydrilla verticillata*

0-5 ppt | August-Sept. | Exotic

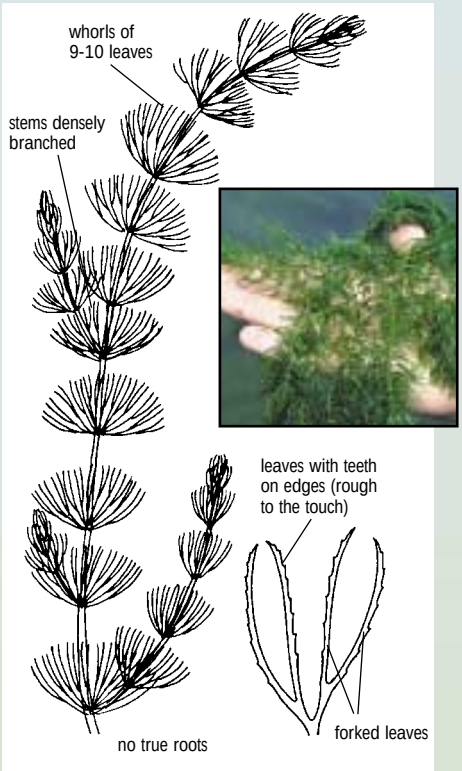
SIMILAR SPECIES: Common waterweed (hydrilla has toothed leaves)



Common waterweed / *Elodea canadensis*

0-10 ppt | Late July-Sept. | Native

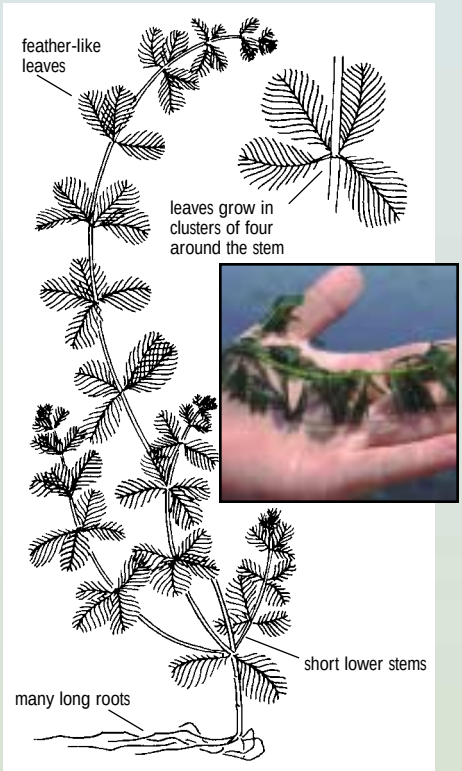
SIMILAR SPECIES: Hydrilla (common waterweed leaf edges have tiny teeth, but appear smooth to the naked eye)



Coontail / *Ceratophyllum demersum*

0-10 ppt | July - Sept. | Native

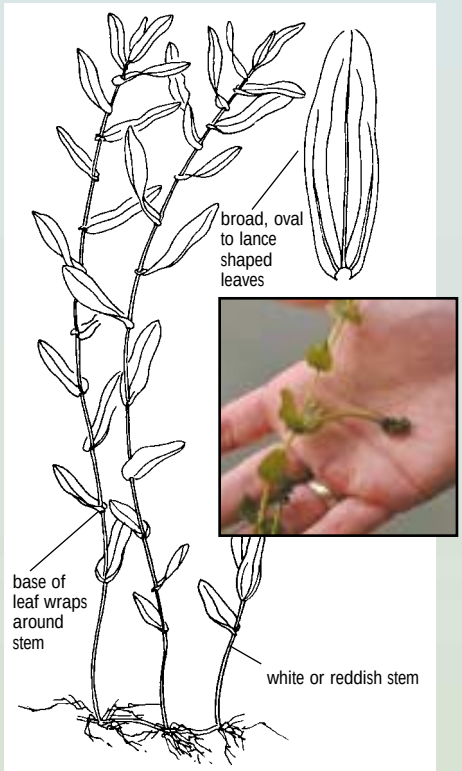
SIMILAR SPECIES: Eurasian milfoil (coontail leaves not feather-like)



Eurasian watermilfoil / *Myriophyllum spicatum*

0-15 ppt | Late July-Sept. | Exotic

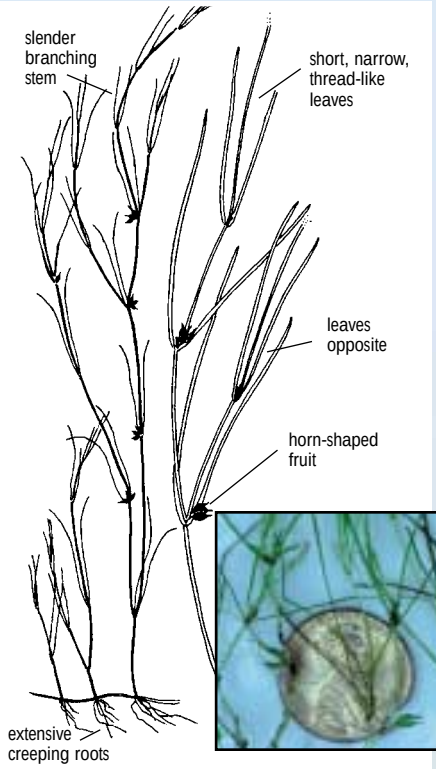
SIMILAR SPECIES: Coontail (Eurasian watermilfoil leaves feather-like)



Redhead grass / *Potamogeton perfoliatus*

0-15 ppt | June-August | Native

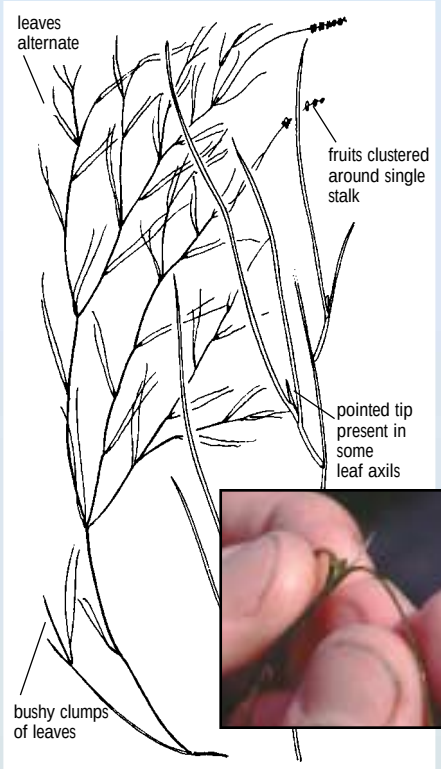
SIMILAR SPECIES: Curly pondweed (redhead grass has broader, shorter leaves)



Horned pondweed / *Zannichellia palustris*

0-20 ppt | April-June | Native

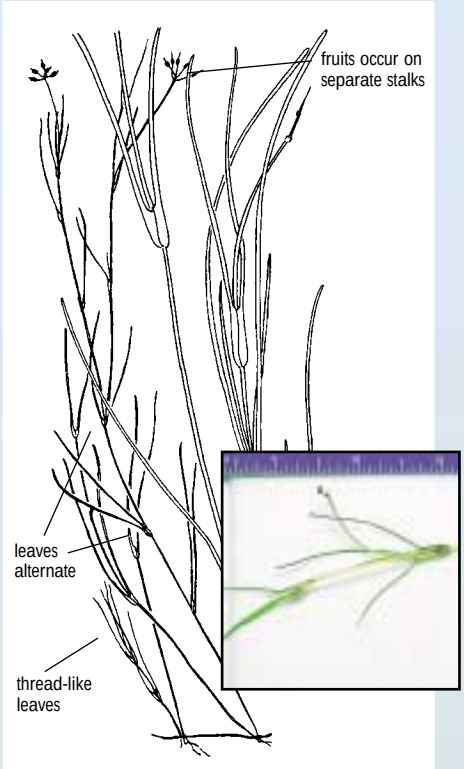
SIMILAR SPECIES: Sago pondweed and widgeon grass (horned pondweed has opposite leaves)



Sago pondweed / *Stuckenia pectinata*

0-20 ppt | June-July | Native

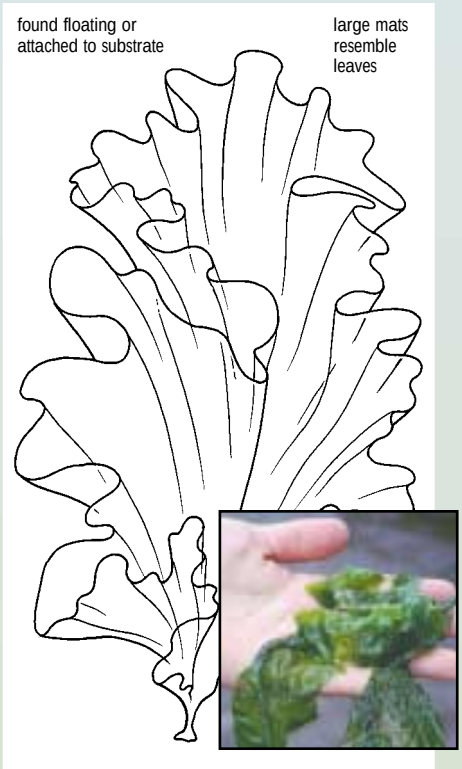
SIMILAR SPECIES: Widgeon grass and horned pondweed (sago pondweed has bushy, alternate leaves with fruits clustered around a single stalk)



Widgeon grass / *Ruppia maritima*

0-35 ppt | Late June-July | Native

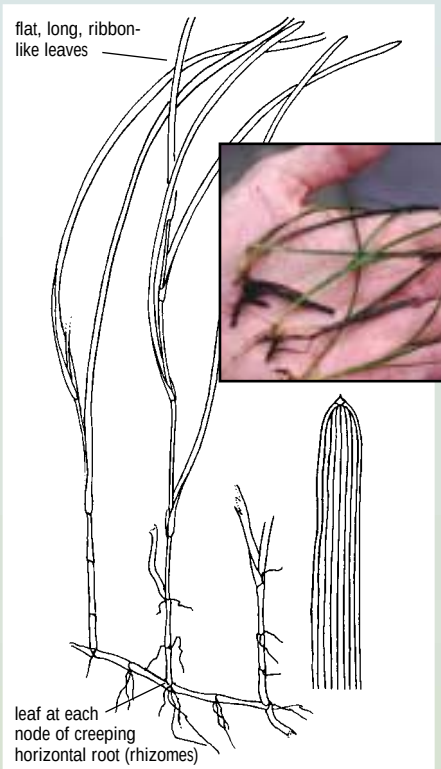
SIMILAR SPECIES: Sago pondweed and horned pondweed (widgeon grass has linear, alternate leaves with fruits occurring on separate stalks); eelgrass (widgeon grass has thread-like leaves)



Sea lettuce / *Ulva lactuca*

10-25 ppt | No flowers, Algae | Native

SIMILAR SPECIES: None (sea lettuce is found in mats either floating or attached to substrate)



Eelgrass / *Zostera marina*

10-35 ppt | March-June | Native

SIMILAR SPECIES: Wild celery (eelgrass is a saltwater species); widgeon grass (eelgrass has ribbon-like leaves)

YOU CAN HELP UNDERWATER GRASSES

Participate in underwater grass restoration and monitoring projects. Contact the Chesapeake Bay Foundation at 410/268-8816, or visit our web site at www.savethebay.cbf.org.

- DRIVE LESS. Thirty percent of the nitrogen going into the Bay comes from the air, and much of that is from automobile exhaust.
- SPEAK OUT FOR THE BAY. Urge policy makers to protect underwater grasses and prevent pollution.
- REDUCE RUNOFF by minimizing your use of fertilizer and toxic materials around the house.
- PLANT TREES in your yard or along streams and waterways to help reduce nutrient and sediment pollution.

Illustrations by Karen Teramura, except slender pondweed, curly pondweed, and sea lettuce by John Norton.
Photographs by Linda M. Hurley, U.S. Fish & Wildlife Service, except redhead grass and wild celery by Peter Bergstrom, and widgeon grass by Bob Stankelis.

To become a CBF BaySaver volunteer, call
410/268-8816 (in Maryland)
804/780-1392 (in Virginia)
or 717/234-5550 (in Pennsylvania)
or e-mail CBF at chesapeake@cbf.org.