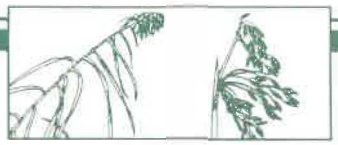

Aquatic Plant Identification and Management Workbook, *Series 3*

The Aquatic Plant Identification and Management Workbook Series is designed to acquaint pond owners in Maryland with naturally-growing aquatic plants and the general means for managing their growth. Aquatic plants play an important role in the natural ecology of ponds: they provide food and shelter for many fish, aquatic animals and other wildlife, and they provide oxygen, which can benefit fish production.

Sometimes, however, growth gets out of hand and the plants become so numerous they interfere with the intended use of the pond, for example, fishing, swimming, boating — they are then called aquatic weeds. When this occurs, control measures often become necessary.

The suggested chemical controls in this workbook series are intended as guidelines and must not replace directions on chemical labels. Separate fact sheets display each of the aquatic plants in this series and are available from the Maryland Sea Grant Extension Program or your local Cooperative Extension Office.

EMERGENT VEGETATION

Maidencane

Reginal M. Harrell and Richard E. Bohn

University of Maryland Cooperative Extension Service, Sea Grant Extension Program

Vascular flowering aquatic plants are seedbearing and are characterized by a system of conductive and supportive tissue. They can be classified into several broad categories of vegetation: floating, submersed, emergent, and terrestrial. This fact sheet focuses on maidencane, an emergent plant.

As a group, emergent plants are usually found rooted in shallow waters and all or part of the plant extends above the water line or hydrated soil. Some plants are not truly aquatic, and may be found in dry fields completely removed from a water source. The plants are usually rooted to the bottom of a pond, have a rigid cell structure, and are not dependent on the water column for support.

MAIDENCANE

(Panicum hemitomon)

Maidencane is one of the unjustly labeled nuisance plants found in Maryland. The misrepresentation comes about because it rapidly covers the margins of lakes or ponds, especially when they are dewatered due to drought or summer drawdowns for irrigation. Once established it can form dense stands that make it difficult to pass through or to fish around. It is also one of the most difficult aquatic grasses to control. However, maidencane is one of the more important plants for fish management. The species provides valuable cover and spawning habitat around its roots in alkaline fresh waters and sandy shorelines throughout Maryland.

IDENTIFICATION

Maidencane has an extensive root-rhizome system and, although it grows best in moist soil, it can grow quite well in relatively dry soils such as cultivated fields. In deeper waters, feathery roots occur at submerged nodes. The stems and roots branch from the lower nodes

Credit: IFAS, University of Florida, Gainesville

Emergent Vegetation: Maidencane

UM-SG-MAP-96-04

and the plant grows up to 2 1/2 feet tall (up to 7 feet tall in deeper waters). The leaf blades are rough to the touch along the margins, 6 to 11 inches long, 1/4 inch wide at the base, and gradually taper to point at the end.

As a grass, maidencane has a one-sided panicle (a compound branched group of flowers) at its inflorescence, or the flowering portion of the plant. The panicle is very narrow (7 to 11 inches long), and consists of ascending branches no more than 1/4 -inch width and 1 to 5 inches in length. The spikelets (individual flowers found in grasses) are perfect (have both male and female parts to the flower), lance-shaped, and about 1/10 of an inch long. Flowers can be found from May through August. Reproduction is by the seeds or vegetatively by outgrowths from the rhizomes.

CONTROL

When chemicals are used to control aquatic vegetation, certain precautions must be followed. Always read the label and follow the directions. It is best to treat where maidencane is first sighted instead of waiting until it becomes well established. Determine the water uses and any use restrictions associated with the chemical control. Obtain all necessary permits. Make sure you have properly identified the aquatic plant and have chosen the correct chemical control. Mix and apply the chemical according to the label directions. Keep the necessary records–they are required by law. Finally, monitor the water for dissolved oxygen and pH shifts after treatment to determine the effectiveness of the treatment and whether any fish kill occurs. Heavy

CHEMICAL CONTROL. The following is a table of chemicals labeled to treat maidencane. The table was compiled from information gathered from the aquatic chemical industry. *Inclusion in the table does not imply endorsement by the University of Maryland nor by the authors.* Omission of chemicals is a result of oversight on the authors' part or of new label registration. The table is for comparison purposes only and is not intended to replace the chemical label. Labels are subject to change; therefore, always check the label for treatment sites, rates, and precautions before purchasing or applying any chemical. **Do not use the table for treating aquatic plant problems.**

Maidencane (*Panicum* spp.)

Chemical Name	Chemical Type	Application	Restriction	Comments
Sonar 5P	Fluridone	Pond Depth < 3 ft 10-15 lb/acre 3-5 ft 15-20 lb/acre > 5 ft 20-30 lb/acre	no irrigation of established tree crops – 7 days new crops and turf – 30 days	do not use in tidal or brackish water or on farmed crayfish
Sonar AS	Fluridone	Pond Depth < 3 ft 0.5-0.75 qt/acre 3-5 ft 0.75-1.0 qt/acre > 5 ft 1.0-1.5 qt/acre	no irrigation of established tree crops – 7 days new crops and turf – 30 days	do not use in tidal or brackish water or on farmed crayfish
Rodeo	Glyphosate	6-7.5 pts/acre as a 0.75-1.5% solution with ionic surfactant in water	do not apply within 1/4 mile of potable water intake	treat in late summer

plant die-off can cause oxygen depletion, while heavy growth can cause pH shifts on a daily cycle.

REFERENCES AND FURTHER READING

Aulbach-Smith, Cynthia A., Steven J. de Kozlowski, and Lawrence A. Dyck. 1990. Aquatic and wetland plants of South Carolina. South Carolina Aquatic Plant Management Council and South Carolina Water Resources Commission, Columbia.

Radford, Albert E., Harry E. Ahles, and C. Ritchie Bell. 1968. Manual of the vascular flora of the Carolinas. The University of North Carolina Press, Chapel Hill.

Traver, David P., John A. Rodgers, Michael J. Mahler, and Robert L. Lazor. 1978. Aquatic and wetland plants of Florida. Special Publication, Florida Department of Natural Resources, Bureau of Aquatic Plant Research and Control. Tallahassee, Florida.

NOTE: Because of the ecological role and sensitivity of aquatic vegetation, as well as Baywide efforts to restore this important resource, the state does not permit the use of chemical control in tidal waters, and greatly restricts their use in nontidal, flowing waters. Acquaint yourself with all regulations governing plant control activities, and obtain all necessary permits. Non-chemical means should be utilized where practicable.

FOR FURTHER INFORMATION

For general information about the Maryland Sea Grant Extension Program, visit the web:

http://www.mdsg.umd.edu/MDSG/Extension/index.html

For technical questions, contact an extension agent or specialist at one of these locations:

Maryland Sea Grant Extension
University of Maryland
Wye Research and Education Center
P.O. Box 169
Queenstown, MD
Telephone: (410) 827-8056

Maryland Sea Grant Extension
University of Maryland
Chespeake Biological Laboratory
P.O. Box 38
Solomons, MD 20688
Telephone: (410) 326-7356

Maryland Sea Grant Extension
Universityof Maryland
Cooperative Extension Service
NOAA Chesapeake Bay Office
410 Severn Ave., #107A
Annapolis, MD 21403
Telephone: (410) 267-5674

ACKNOWLEDGEMENTS

This fact sheet was funded in part by the University of Maryland Center for Environmental Science and through a grant NA46RG0091, awarded by the National Oceanic and Atmospheric Administration to the University of Maryland Sea Grant College Program.

Publication Number
UM-SG-MAP-96-04

FOR ADDITIONAL COPIES

Copies of Maryland Sea Grant Extension workbooks on aquatic plants, including color photographs for use in identifying species, are available on the web at:

http://www.mdsg.umd.edu/MDSG/Extension/Workbooks

Additional copies of printed workbooks are available from the Maryland Sea Grant College Program, 0112 Skinner Hall, University of Maryland, College Park, MD 20742-7640.

Illustration on page 1 provided by the Information Office of the University of Florida, IFAS, Center for Aquatic Plants (Gainesville) 1990.

COOPERATIVE EXTENSION SERVICE

UNIVERSITY OF MARYLAND, COLLEGE PARK

UNIVERSITY OF MARYLAND EASTERN SHORE