

The Mid-Atlantic Aquatic Plant Management Newsletter

Rob Richardson – Editor, NCSU;
Lloyd Hipkins – Asst. Editor, VA Tech; Jack Whetstone – Asst. Editor, Clemson;
Rakesh Chandren – WV Contributor, WVU; Ron Ritter – MD Contributor, Univ. of MD

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I. Introduction and Newsletter Registration

[Rob Richardson, NCSU](#)

Welcome to the first issue of the electronic Mid-Atlantic Aquatic Plant Management Newsletter. This newsletter is a multi-state effort that arose from the North Carolina Aquatic Weed Management Newsletter initiated in 2005. These articles are meant to offer timely and brief updates on important issues. We will try to provide links to more detailed information and keep the newsletters short and to the point. Please note that you will need to register to receive future issues.

Registration for North Carolina Extension Personnel. Email rob_richardson@ncsu.edu to be added to his email list. Specific info on NC activities will be sent on this list rather than in the newsletter.

Registration for Everyone Else. While you may receive this first newsletter from a list serve not affiliated with this newsletter, future issues will only go to those individuals that register. For quick registration: go to <http://www.weedscience.ncsu.edu/aquaticweeds/>, click on Register for Aquatic Plant Newsletter, enter requested information into the fields provided. If you are a professional in an area related to aquatic plant management, please enter business contact information. If you are a property owner, please enter home contact information. This information is for extension and educational use only and will not be shared with third parties.

II. Warm Winter Favors Aquatic Weeds

[Rob Richardson, NCSU](#)

The unusually warm weather this past winter has given aquatic weeds a head start into the 2006 growing season. Already in North Carolina, filamentous algae, parrotfeather, watermeal, duckweed, and many other aquatic weeds are growing quite well with some small ponds already covered. In one pond near Raleigh, parrotfeather spread from a single spot to encircle the pond during winter. Water lettuce also over-wintered farther north in southeastern North Carolina than in previous years. Weed samples sent into NCSU so far this year have included the above species as well as hydrilla and native elodea. Expect more problems this year than in typical years as many aquatic weeds were not limited by the winter. Pond dyes may also be less effective this year as many aquatic weeds remained well-established through winter. For weed management recommendations refer to the following: [North Carolina Agricultural Chemicals Manual](#), [Virginia Pest Management Guide](#), [Chemical Control of Aquatic Weeds \(SC\)](#), [Pond Pest Management \(WV\)](#), and [Aquatic Plant Management](#).

III. Phragmites in South Carolina

Jack Whetstone, Clemson Univ.

Phragmites australis, common reed, is thought to have been introduced into South Carolina in the late 70s/early 80s. Since its introduction, phragmites has spread rapidly in the coastal area, particularly in coastal impoundments managed for waterfowl. Phragmites has overgrown native plants used for waterfowl management, and phragmites has developed into a monoculture covering between 5,000 and 10,000 acres in the Georgetown, SC area alone. Managers have attempted to control phragmites with a combination of burning, deep flooding, saltwater inundation, mechanical manipulation, and herbicides. These treatments have had varying degrees of success and the spread of phragmites has continued with little long term control.

Control demonstrations on several plantations comparing the efficacy of glyphosate and imazapyr on phragmites have been established and are in year two of post application evaluation. At one year after treatment on one plantation with the longest known and highest infestation of phragmites, the 64 oz/A imazapyr (Habitat®) per acre treatment was significantly more effective in controlling phragmites than 96 oz/A glyphosate (Aquaneat®, equivalent to 3 lb ae/A glyphosate acid) or 48 oz/A imazapyr. One specific sample site within the 48 oz/A imazapyr test did not exhibit control and skewed results. The long term effect of imazapyr versus glyphosate is of major importance and these treatments will be re-sampled this summer, two years post treatment.

The Winyah Bay Focus Area Task Force formed an Invasive Species Subcommittee composed of representatives of the Task Force, Clemson University, The Nature Conservancy, SC DNR, University of South Carolina, private industry, and landowners to address the threat of invasive species in the Winyah Bay Focus Area. The Subcommittee has identified five major invasive species: common reed, beach vitex, giant reed, alligatorweed and water hyacinth. Action plans and cooperative control programs for phragmites, identified as the primary invasive species of concern, have been developed. Grants have been obtained through public-private partnerships to determine the extent of coverage of the invasive species, conduct demonstrations of potential control methods, develop a cost-share program for private landowners to conduct control programs, and conduct symposia on the biology and latest control information from research.

A grant from the National Fish and Wildlife Foundation along with additional cost-share funding from state, federal and environmental organizations have been obtained to conduct *Phragmites australis* cost-share control programs. Over \$100,000 will be available for cost-share for private landowners to conduct control work following a selection of cost-share participants utilizing a specific selection rating of applicants, specific cost-share reimbursement basis for herbicides used and South Carolina Department of Natural Resources phragmites control applicator requirements. Applications under the cost-share program should begin in June 2006.

A NPS fact sheet on Phragmites may be found here: <http://www.nps.gov/plants/alien/fact/phau1.htm>

IV. About Watermeal (*Wolffia* spp.)

P. L. Hipkins, Virginia Tech

Watermeal is a group of species in the Duckweed Family (Lemnaceae) and are the smallest vascular plants in the world. Fronds are green, spherical, and about 1.0 mm in diameter. Rootlets are absent, as opposed to duckweed, and flowers are rarely observed. Watermeal is usually found growing with other duckweeds, such as *Lemna spp.* and *Spirodela polyrhiza*, and may also be found with mosquito fern (*Azolla spp.*). Watermeal reproduction is by vegetative fragmentation and can occur rapidly. Often mistaken for algae, it can obscure the surface of ponds. Watermeal over-winters by sinking to the sediment and rising in the spring when photosynthesis resumes. When fully affecting a pond such that the surface is obscured, shading severely limits growth of submersed plants as well as that of other aquatic organisms. Additionally, when the pond surface is completely covered, gas exchange between the

water and the atmosphere is greatly restricted. Under very warm conditions, when the dissolved oxygen in the water is already low, limitations of gas exchange can cause fish kills.

Watermeal is a very difficult plant to control and there are very few management options available. Further, should reasonably good to excellent control be obtained, the rapid reproductive potential of this plant can lead to extensive re-infestation in a short period of time. Additionally, this plant is easily transported on the bodies of waterfowl. The only herbicide treatments recommended for control of watermeal are fluridone (Sonar®, Avast®) and carfentrazone (Stingray™). Fluridone is a systemic herbicide that works very slowly and is used by treating the entire impoundment. It is applied on a rate per acre-foot basis and provides fairly good control. Non-target plants may be affected as well as the watermeal. Carfentrazone is a contact herbicide that is labeled for watermeal, although limited research has been conducted with this product as it is new to the market. A nonionic surfactant is required with carfentrazone and it will likely affect only those plants it contacts. Regardless of the product chosen, treatment should begin when the plant becomes visible.

Additional information on watermeal and duckweed control is available from Purdue University, courtesy of Carole Lembi. <http://www.btny.purdue.edu/Pubs/APM/APM-2-W.pdf>

V. Upcoming Events

- [Water Quality Management of Ponds](#): May 4, Brunswick Co., NC
- [Southeast Exotic Pest Plant Council](#): May 23-25, Raleigh, NC
- [Ponds - Problems and Solutions Workshop](#): June 23, 24, Moundsville, Wheeling, WV
- [Aquatic Plant Management Society](#): July 16-19, Portland, OR
- [South Carolina Aquatic Plant Management Society](#): Aug. 16-18, Myrtle Beach, SC
- [Northeast Aquatic Plant Management Society](#): Jan. 15-17, West Dover, VT

VI. Author Information

[P. L. Hipkins](#), Extension Weed Specialist, Dept. of Plant Pathology, Physiology and Weed Science, Virginia Tech, Blacksburg, VA

[Rob Richardson](#), Assistant Professor of Weed Science and Extension Specialist, Dept. of Crop Science, North Carolina State Univ., Raleigh, NC

[Jack Whetstone](#), Extension Aquaculture Specialist and Associate Professor, Baruch Institute of Coastal Ecology and Forest Science, Clemson University, Georgetown, SC

