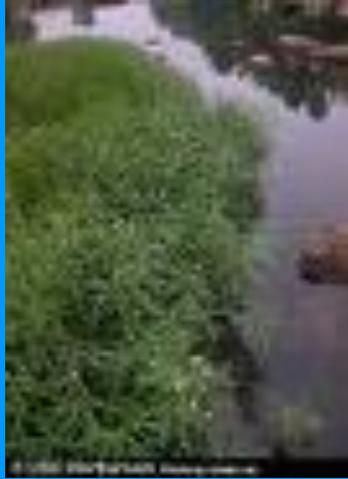


***A Discussion of the Role of
Aquatic Plants with Regards
to Watts Bar Reservoir's
Ecosystem***

Water-willow Weed



American Pondweed



Eelgrass



It is important to remember that native vegetation is natural and an important part of a reservoir ecosystem.

Benefits of Aquatic Plants

- Provide habitat
- Stabilize pond sediments
- Provide food for waterfowl
- Forms the base of food chain



<http://www.wikihow.com/Catch-Bluegill>



<http://www.luresforfishing.org/largemouth-bass-on-weed-beds>



<http://c3131372.r72.cf0.reckonin.com/FULL/20110624181205082.jpg>



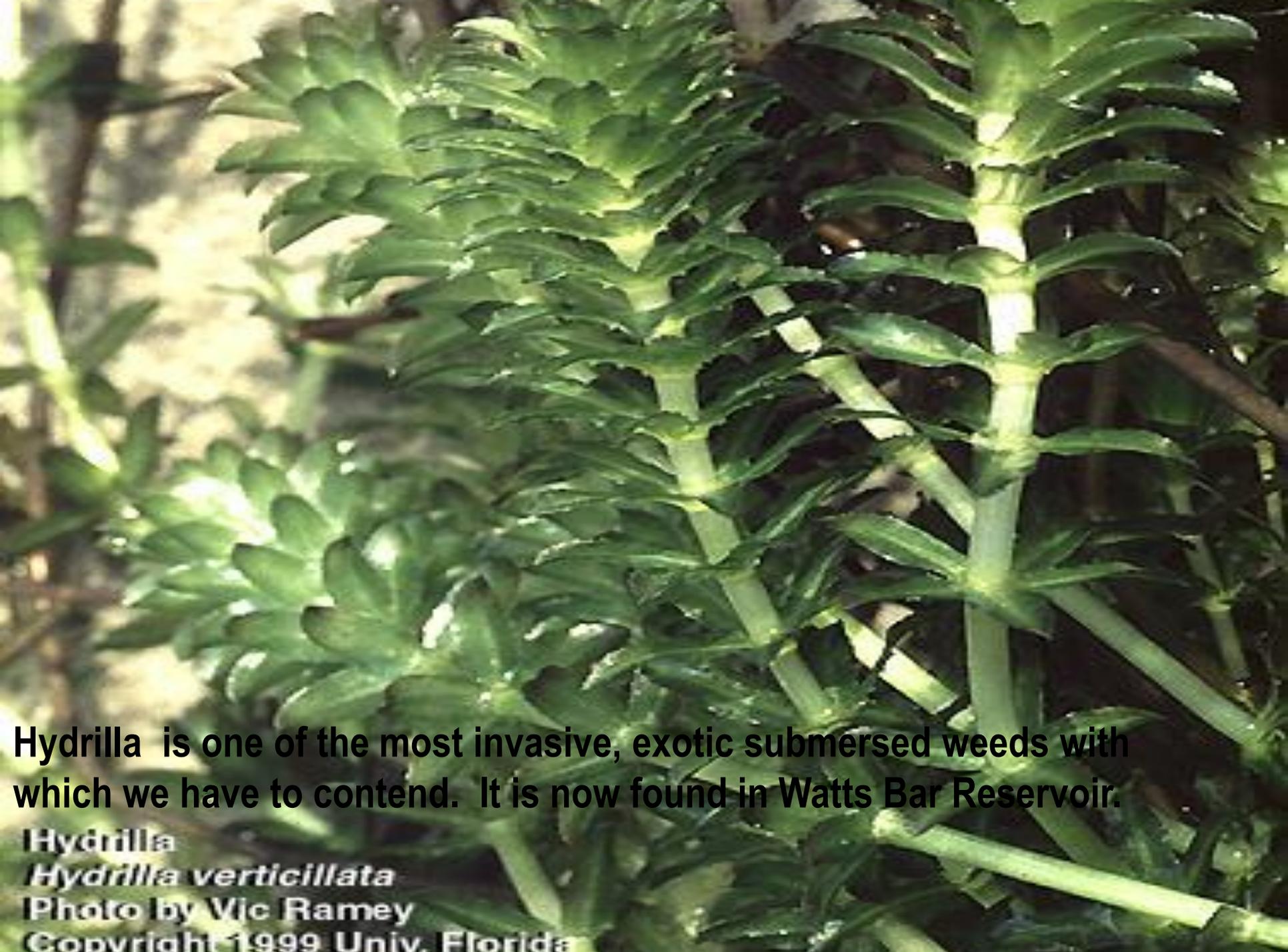
It is also important to remember that all lakes and reservoirs advance through natural stages of succession.



But, when invasive, exotic plant species take over. They can cause great detriment and greatly accelerate natural succession.

Hydrilla infestation
Withlacoochee River, Florida
Photo by Brian Nelson
Copyright 1997 Southwest Florida Water Management District

***Planning an Aquatic Plant
Management Program for
Invasive Plant Species in Watts
Bar Reservoir***



Hydrilla is one of the most invasive, exotic submersed weeds with which we have to contend. It is now found in Watts Bar Reservoir.

Hydrilla
Hydrilla verticillata
Photo by Vic Ramey
Copyright 1999 Univ. Florida

STEPS FOR PREPARING A PLAN FOR THE MANAGEMENT OF INVASIVE AQUATIC PLANTS

Identify the Problem

Involve Local and State Officials

Form a Broadly Representative Stakeholder Group

Utilize Consulting Expertise Familiar With The Problem

Plan for Funding and Technical Assistance

Research and Customize Management Principals

Draft a Long-Term Action Plan (Example Slide Provided)

Apply Sound Management Techniques (Illustrative Slides)



When invasive and/or exotic vegetation becomes weedy, it is important to implement a control program.

The Next Two Slides Show An
Example Aquatic Plant
Management for Gunterville
Reservoir



Managing Aquatic Plants In Guntersville Reservoir

A Long-Term Action Plan

Foreword

This plan lays out a strategy for future management of plants that grow in the waters of Guntersville Reservoir. It was developed primarily by the people who live on the reservoir or benefit from the recreational and economic development opportunities it provides. A stakeholder group made up of various reservoir user interests—fisherman, boaters, homeowners, industry, tourism councils, local governments, environmental groups, TVA, and others—evaluated control options for aquatic plants and recommend the following management strategy tailored to the unique needs and preferences of Guntersville Reservoir users.

The proposed strategy calls for a combination of mechanical harvesters to provide access to open water areas and herbicide treatments to manage aquatic plant populations in near-shore areas. These methods were used in combination in 1998 and were found to be effective in providing a satisfactory level of control.

This plan reflects a commitment to managing aquatic plants in Guntersville Reservoir in a way that is both responsive and responsible—in a way that achieves the related goals of meeting the recreational needs of as many lake users as possible and protecting the reservoir's ecological health and natural beauty.

Background

Aquatic plants have been abundant and widespread in Guntersville Reservoir since the 1960s. The most abundant species on the reservoir are exotic, or non-native, species such as Eurasian water-milfoil, hydrilla, and spinyleaf naiad—all introduced to the United States from other regions of the world. Native species such as coontail, small pondweed, American pondweed, southern naiad, and muskgrass also grow in the reservoir but seldom colonize large areas like non-native species.

These plants provide many benefits. They provide food and cover for waterfowl, fish, and smaller aquatic organisms. They benefit the sport-fishing industry by making it easier to catch fish, which helps attract more recreational and professional anglers. They reduce the effects of wave action, filter sediments suspended in the water, add oxygen to the water, and help protect shorelines from erosion.

However, aquatic plants cause significant problems when they reach excessive levels. They can interfere with swimming, skiing, and bank fishing, clog boat propellers, and make it hard for boaters to reach ramps and docks. Large colonies are unsightly, which

Aquatic Plant Management Work Summary Guntersville Reservoir - 2006

Background

Aquatic plant management activities on Guntersville Reservoir in 2006 were guided by an aquatic plant management plan that was developed primarily by people who live on the reservoir or benefit from the recreational and economic development opportunities it provides. The stakeholder group that developed the plan was made up of various reservoir user interests and included fishermen, boaters, homeowners, industry, tourism councils, local governments, environmental groups, and state and federal resource management agencies. The strategy to manage aquatic plants in the reservoir included mechanical harvesters to provide access to open water areas and herbicide treatments to control aquatic plants in near shore areas. This document provides a summary of 2006 work accomplishments associated with implementing the stakeholder plan and other information supporting aquatic plant management activities.

Stakeholder Meetings

The Guntersville Stakeholder Group (Group) met on December 15, 2005, to discuss 2005 work accomplishments, implementation of the plan in 2006, and other issues such as need for plan modification and evaluation of new technologies.

Mechanical Harvesting

Most access lanes on Guntersville Reservoir were cut to a width of 20 to 50 feet and to a depth of about 5 feet except where shallower water reduced the depth of cut. Lane length varied by site from a maximum of about 4,860 feet to a minimum of about 20 feet. The lanes provided boating access from residential areas, public and commercial recreational facilities, and embayments to navigation channels and open water areas of the reservoir. Area harvested for “cleanup” and removal also varied by site from less than 0.1 acre for an individual dock to as much as 0.75 acre in areas with multiple docks. A harvester schedule with work locations for the upcoming week was published in late week or weekend editions of local newspapers (*Guntersville Advertiser Gleam*, *Scottsboro Sentential*, and *Huntsville Times*).

Two Aquarius Systems harvesters (Model 9500 and Model HM-420) and a Hockney Underwater Weed Cutter were used to cut and maintain boating access lanes. The Aquarius Model 9500 harvester is a prototype that grinds harvested plants and disposes of them in the water as small, mostly non viable fragments. The Aquarius HM-420 harvester, which was purchased by TVA in 2003, collects the plants after cutting in an on board storage bin. Harvested plants are then transported to shallow water sites or isolated shorelines for disposal. The Hockney cutter, which cuts but does not remove fragments, was used in areas that were inaccessible to harvesters or where work schedule



Management of aquatic plants may be accomplished by a variety of techniques and combinations – Herbicidal treatments are a mainstay of most aquatic plant management programs



Harvesting can be an important tool as well



Once aquatic weed infestations have reached certain levels, eradication is not possible Management is required



Coordination of herbicidal applications and harvesting can produce near-shore “open areas” and boat lane access to recreational areas