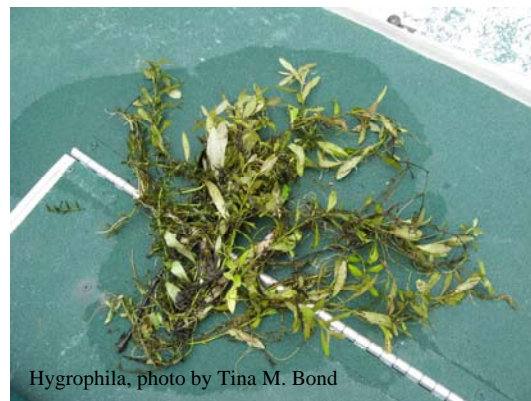




Osceola County was awarded a \$2.881 million dollar grant from the Environmental Protection Agency (EPA) to find new and alternative methods to control hydrilla and hygrophila in the Upper Kissimmee Chain of Lakes. What are hydrilla and hygrophila? They are two very invasive submerged aquatic plants that grow very quickly in the warm waters in Florida. Hydrilla and hygrophila were introduced to the United States in the 1950's and 60's by the aquarium trade to be used as aquarium plants. Unfortunately, the plants were released and have become a very large and expensive problem for Florida and many other states in the U.S.



Hydrilla, photo by Tina M. Bond



Hygrophila, photo by Tina M. Bond

Hydrilla and hygrophila are very difficult to control. Both are spread very easily by fragments that break off and float away to infest clean waters. We currently do not have good control measures for hygrophila. We have a number of different control measures for hydrilla control, but we are slowly losing these. One of the big problems with hydrilla is that it has become resistant to fluridone, which is a herbicide that used to work very well at killing hydrilla. We can use mechanical harvesters to control hydrilla, but this can make the problem worse. Harvesters can cut up the hydrilla and as we know hydrilla can spread by fragmentation. Grass carp are a very good biological control option; however we cannot use them in the Kissimmee Chain because of permitting regulations established by the Florida Department of Environmental Protection. In order to release Grass Carp in any body of water, you must make sure there are barriers set up to make sure the carp do not get out of the specified water body. This is because

grass carp will eat everything and will not discriminate against native or invasive plants. They can also cause harm to native fish populations because of their aggressive nature. The barriers alone cause a problem because it would be virtually impossible to ensure that the grass carp would be confined to Lake Toho and not escape to Lake Kissimmee or even to Lake Okeechobee. Even if we could remove all of the hydrilla, there is still one small problem: turions. Turions are survival structures, kind of like a small potato, that can remain dormant in the soil for years until conditions are right for the turions to germinate. We have no way of controlling turions.



So, what can we do? Osceola County is working with the University of Florida and SePRO on the EPA grant to find new ways that we can better control hydrilla, hygrophila and other aquatic invasive weeds in our waterways. We are currently looking at new herbicides that are being developed for use on aquatic plants. We are also looking at existing herbicides and different application methods, rates, etc. to improve their effectiveness on aquatic weeds. Researchers are traveling to Africa and India to find biological control agents, like insects, that are the natural enemies of hydrilla and hygrophila. One of the biological control agents being looked at by SePRO is a fungus called *Mycoleptodiscus terrestris*, or Mt. This fungus attacks hydrilla and essentially makes the hydrilla sick and more vulnerable to herbicide treatments or other control measures.



Another component of the grant is education and outreach. This is a very important component because it will help get the word out about hydrilla and hygrophila. We hope with educating the public that people will begin to recognize these problematic weeds and help prevent their spread. The component will serve as a means to help people understand why it is important to manage aquatic invasive weeds. We will also be updating the public on the status of the grant by providing the data researchers obtain through their studies. All of this information can be found on the grants website at: <http://plants.ifas.ufl.edu/osceola/index.html>

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