

**HYDRILLA SURVEY**  
**LAKE MURRAY, SC**  
**2006**

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## **2006 Hydrilla Survey Lake Murray, South Carolina**

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The annual hydrilla survey was conducted in September and October this year. The 64,500 grass carp stocked in Lake Murray in 2003 have continued to provide excellent control of hydrilla. Based on the results of various survey and search methods utilized this year, hydrilla continues to be well-controlled. No direct evidence of hydrilla growth was found this year.

The lower lake, below the 'Gap,' was the focus of most of the survey this year, although the upper lake continues to be monitored. Much of the shoreline was surveyed and over 50 sites were targeted for direct sampling.

In 2002, hydrilla covered 6,645 acres. Over 2,700 acres of hydrilla were controlled by exposure during the major drawdown that began in 2003. In 2004, grass carp controlled an additional 1,475 acres of hydrilla and by the end of the growing season of 2005, the final 2,566 acres were controlled by grass carp. That control has continued through this year.

This year, one small patch of Illinois pondweed (*Potamogeton illinoensis*) was found near the dam and a small amount of variable-leaf pondweed (*Potamogeton diversifolius*) was found near Hallmark Shores. Undoubtedly these two species are present in other areas of the shoreline, but at this time they're only found in very shallow water, which is their normal habitat. The extremely shallow (1 to 3 inches) areas weren't extensively searched so it's likely that these species are more common than found during the survey. Other species that formerly were found in abundance in the past were not located again this year. These include slender pondweed (*Potamogeton pusillus*), slender naiad (*Najas minor*), and southern naiad (*Najas guadalupensis*). However, most of these species haven't been found in Lake Murray for several years. They all reproduce by seed, and will probably return if the grass carp pressure is reduced.

Water primrose, which grew in large amounts in 2005, especially in the upper lake, was dramatically reduced in acreage. Although it's fairly ubiquitous throughout the lake, the extent of its growth was exceptionally limited this year in most areas of the lake. There's no way to definitively determine why the acreage decreased so dramatically. However, it's likely that the reduction was a result of two things: an increase in water levels from the full-drawdown stage and grazing pressure from grass carp.

Although water primrose is by no means a preferred food plant of grass carp, it's possible that the grass carp have turned to water primrose as the biomass of hydrilla and other submersed species has been reduced. Grass carp would likely consume the submersed leaves that are usually

fairly 'tender' and it's also possible they'd eat new growth, particularly that which is just below or at the water surface.

Water primrose is an emergent species that forms mats on the surface of the water. Many plants have been stranded above the water due to the drawdowns, but they continue to persist. As the water continues to rise to normal levels, these stranded primrose beds will flourish, at least to a certain extent.

Despite the controversy over the 2005 report concerning the introduction of hydrilla by individuals who had intentions of increasing underwater structure for fish habitat, this method of introduction has indeed been confirmed. The introduction was a concerted effort by several to many people and hydrilla was purposely collected in the Santee-Cooper lakes and placed in large amounts throughout Lake Murray in the early 1990s.

#### SUMMARY:

Hydrilla continues to be well-controlled in Lake Murray by the grass carp stocked in 2003. The grass carp are effectively keeping the hydrilla and other submersed plant species well under control and will probably continue to do so for the foreseeable future. There's a good chance that water primrose will increase again in coverage in 2007 as water levels rise.