

Lake Conroe: A Case History of Integrated Plant Management for Hydrilla Control

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Abstract: Lake Conroe has long been synonymous with controversial control of the exotic plant hydrilla (*Hydrilla verticillata*). Hydrilla was first identified in Lake Conroe in 1975, only two years after the reservoir was impounded. By the time it was identified in Lake Conroe hydrilla already occupied 190 ha. Subsequent surveys indicated hydrilla was spreading rapidly. By 1979, hydrilla had increased to over 1,821 ha in Lake Conroe and was causing significant problems for boaters, skiers, and swimmers. As a result of efforts by the Lake Conroe Association and its supporters and despite objections by Texas Parks and Wildlife Department (TPWD) staff, the Texas Legislature directed the Texas Agricultural Experiment Station (now Texas AgriLife Extension Service) and TPWD to conduct a study to determine the efficacy, and other effects of grass carp use in Lake Conroe. Between September 1981 and September 1982, 270,000 non-sterile diploid grass carp were introduced into Lake Conroe to control aquatic vegetation. By October 1983 all vegetation had been removed from the lake. Hydrilla did not re-emerge in Lake Conroe for 13 years. In 1996, 1.3 ha of hydrilla were discovered. For nine years, herbicide treatments funded primarily by the San Jacinto River Authority (SJRA) and conducted by SJRA and TPWD were able to successfully inhibit the expansion of hydrilla. However, by 2005 hydrilla expanded despite intensive herbicide treatments in late 2004 and early 2005. As a result, TPWD and SJRA determined the need to develop a comprehensive hydrilla management plan for Lake Conroe, based on the principles of Integrated Pest Management (IPM). This plan was developed with the cooperation of angler, homeowner, and other user groups and local businesses. The plan calls for the integrated use of ecological, biological, chemical, and mechanical strategies for control of hydrilla. The goal of the plan is to reduce the surface coverage of hydrilla at Lake Conroe to < 16.2 ha by spring 2008 while preserving the reservoir's native aquatic plant community.

Proc. Annu. Conf. Southeast. Assoc. Fish and Wildl. Agencies 62:225