Texas AgriLife Extension Service
Texas Water Resources Institute

Quarterly Progress Report

Water Quality at Caddo Lake
Center for Invasive Species Eradication: Caddo Lake Giant Salvinia Eradication Project
USDA NRCS Agreement #: 68-7442-10-499

Quarter No. 1 From: 7.27.2010 Through: 9.30.2010

Abstract:
The **Center for Invasive Species Eradication** (CISE) is in the process of being established this quarter and will be fully established during the next quarter. The focus of the Center is primarily on controlling invasive plant species in Texas. The Caddo Lake Giant Salvinia Eradication Project is the initial project being run through the Center and will focus on eradicating giant salvinia in Caddo Lake, evaluating new or improvements to methods to kill giant salvinia, expanding the public knowledge about giant salvinia and developing prescriptions for cost-effectively treating this noxious species.

Work this quarter has focused on beginning to establish the weevil rearing facility at Caddo Lake National Wildlife Refuge (NWR). Above ground tanks were constructed to grow giant salvinia and salvinia weevils for release on Caddo Lake and research purposes. Research activities are in the process of being planned for the next growing season as this one almost over. Project websites were established this quarter and plans are in place to further the projects presence on the web through social media outlets. Coordination meetings have also been held this quarter and will continue in the future.

Overall Progress and Results by Task:

Task 1. Project Administration: Texas Water Resources Institute

Subtask 1.1: *Establish a Center for Invasive Species Eradication at Texas A&M University under the administrative leadership of Texas AgriLife Research and Texas AgriLife Extension Service to utilize funds provided through USDA Natural Resources Conservation Service to focus research and Extension educational programs on controlling invasive plant species.*

This action is underway. Account set up is in process, personnel hiring is in process and planning is underway for future Center actions.

Task 50% Complete

Subtask 1.2: *Provide fiscal oversight of funds, make funds allocations to scientists and Extension personnel, establish contracts and subcontracts as necessary, perform accounting functions*

Fiscal management is being carried out by TWRI personnel. Account set-up continues and will be completed next quarter.

Task 5% Complete

Subtask 1.3: *Facilitate project and program discussions between AgriLife Research and Extension administration and NRCS administrative personnel to ensure that programmatic goals and objectives are met in a timely manner through this project*

Work toward this task is carried out as needed.

Task 5% Complete

Task 2. Project Coordination: Texas Water Resources Institute and other Agencies

Subtask 2.1: *Coordinate and facilitate meetings among project personnel to ensure research focus, maximum collaboration, educational programs and transfer of information*

Several meetings have been held amongst project personnel both in person and via conference call to discuss the focus of project research, demonstration and education.

Task 10% Complete

Subtask 2.2: *Work with groups currently engaged in controlling Giant Salvinia and other invasive species to foster collaboration and information transfer on the state of the science in controlling Giant Salvinia. These groups include those participating in the Interagency Giant Salvinia Control Team, including the Caddo Lake Institute, Cypress Valley Navigation District, East Texas Baptist University, Northeast Texas Municipal Water District, Northwestern State University, Louisiana Dept. of Fish and Wildlife, Louisiana State University, Texas AgriLife Research, Texas AgriLife Extension Service, Texas Parks and Wildlife Dept., USDA Agricultural Research Service, Animal & Plant Health Inspection Service, Natural Resource Conservation Service, US Army Corps of Engineers, Engineer Research & Development Center and Lewisville Aquatic Ecosystem Research Facility, and US Fish and Wildlife Service*

Project personnel are beginning to make contact with personnel from some of the agencies/entities listed above. Efforts will be made next quarter to re-convene the Inter-Agency Giant Salvinia Control Team.

Task 10% Complete

Subtask 2.3: *Work with project personnel to meet reporting requirements and to produce effective project publications*

Work on this task has started slowly. Educational publications will be developed when sufficient information has been gleaned to produce new publications.

Task 5% Complete

Task 3. Chemical Treatment and Evaluation: Texas AgriLife Research and Extension

Subtask 3.1: *Researchers and Extension Specialists will work with others to establish chemical treatment research and demonstration sites to the extent possible at Caddo Lake for Giant Salvinia control. (Killing Giant Salvinia at Caddo Lake is the primary focus; as such, demonstrations at private or isolated locations may be required for research demonstrations of chemical treatment combinations)*

Discussions have taken place bringing project personnel up to speed on current means and methods being utilized to kill giant salvinia on Caddo Lake.

Task 5% Complete

Subtask 3.2: *Test and evaluate chemical treatment practice alternatives for controlling Giant Salvinia at Caddo Lake using a variety of chemicals, surfactants, and combinations at various concentrations and timings (This may include contracting with local or private chemical applicators to chemically treat Caddo Lake)*

No activity to report at this time.

Task 0% Complete

Subtask 3.3: *Evaluate the efficacy and cost effectiveness information of each treatment scenario*

No activity to report at this time.

Task 0% Complete

Subtask 3.4: *Work with personnel in Task 4 to evaluate the efficacy of utilizing chemical treatments in concert with biological control*

No activity to report at this time.

Task 0% Complete

Task 4. Biological Treatment and Evaluation: Texas AgriLife Research and Extension

Subtask 4.1: *Collaborate with other agencies and groups to setup new studies and cooperate in ongoing research and Extension educational programs dealing with biological strategies for controlling Giant Salvinia at Caddo Lake; practices which can be utilized for public and private lands statewide (If needed, research and demonstration sites away from Caddo Lake will be utilized as quickly killing Giant Salvinia at Caddo Lake is the priority)*

AgriLife Extension is making contact with personnel at LAERF, USDA ARS, LSU Ag Center, TPWD and others to glean as much information as possible on salvinia weevils. Research efforts are in the planning stage.

Task 10% Complete

Subtask 4.2: *Work with TPWD and local Caddo Lake agencies, organizations and individuals to enhance weevil rearing capabilities for use at Caddo Lake (This may include contracting with local or private entities to expedite the delivery of weevils to infected areas)*

The Caddo Lake Institute, Extension, TPWD, TWRI and local volunteers are working very closely to establish a weevil rearing facility at the Caddo Lake NWR. The tanks were completed this quarter and 2 greenhouses will be constructed next quarter.

Task 35% Complete

Subtask 4.3: *Coordinate with USACE's Lewisville Aquatic Ecosystem Research Facility to collaborate in ongoing efforts, transfer knowledge and expand their operations*

AgriLife Extension personnel maintain routine contact with LAERF personnel regarding weevil rearing and release methodologies. Several on-site discussions have been held to-date.

Task 10% Complete

Subtask 4.4: *Evaluate improved methods of rearing weevils, harvesting weevils, delivering weevils to infested areas in Caddo Lake and various timing options of weevil applications in Caddo Lake to determine the most effective biological treatment scenarios to employ to the extent possible; as indicated earlier, killing Giant Salvinia at Caddo Lake may result in the need for research demonstration sites in the vicinity of Caddo Lake.*

No activity to report at this time.

Task 0% Complete

Subtask 4.5: *Assess practice efficacy and cost effectiveness of utilizing weevils in the control of Giant Salvinia*

No activity to report at this time.

Task 0% Complete

Subtask 4.6: *Use information gleaned from demonstration sites to develop biological treatment recommendations and guidelines for use of weevils to treat Giant Salvinia in infested areas*

No activity to report at this time.

Task 0% Complete

Subtask 4.7: *Work with personnel in Task 3 to evaluate the efficacy of utilizing chemical treatments in concert with biological control*

No activity to report at this time.

Task 0% Complete

Task 5. Other Treatment: All involved agencies

Subtask 5.1: *Work with federal, state and local agencies as well as local entities and individuals to evaluate the feasibility, efficacy and cost effectiveness of utilizing other treatment options (hydrological, mechanical, others) for controlling Giant Salvinia*

No activity to report at this time..

Task 0% Complete

Subtask 5.2: *Convert feasible options into treatment practice descriptions to include in recommended treatment strategies and guidelines*

No activity to report at this time.

Task 0% Complete

Subtask 5.3: *Develop treatment prescriptions suitable for inclusion in NRCS FOTGs, Extension printed materials and other guides for treating Giant Salvinia; these will take the form of job sheets, fact sheets, supplements to conservation practice standards and technical brochures.*

No activity to report at this time.

Task 0% Complete

Task 6. Education and Outreach: Texas AgriLife Extension Service and Texas Water Resources Institute

Subtask 6.1: *Extension and TWRI will work with TPWD and other agencies to enhance existing outreach and education efforts through the use of news releases, TV spots, demonstrations, and other communications focused on prevention of spread and control methods for Giant Salvinia*

This task is just beginning. Efforts are being made to identify other existing materials and efforts will be built upon them. Duplication of efforts will be avoided.

Task 5% Complete

Subtask 6.2: *Identify and secure partnerships with local, state, regional and national organizations (ex: B.A.S.S., fishing and hunting guides, cities, water sports manufacturers, Ranger Boats, Evinrude, Mercury, others) to expand the dissemination of educational materials on Giant Salvinia*

No activity to report at this time.

Task 0% Complete

Subtask 6.3: *Develop and host CISE website for invasive species eradication information and as an outlet for information dissemination*

Website development is now complete and provides links to numerous information outlets. Content is continually being added to the site.

CISE Web address: http://cise.tamu.edu/
Project Web address: http://cise.tamu.edu/caddo

Task 45% Complete

Subtask 6.4: *Facilitate education and outreach efforts and support media relations*

Project personnel are making plans to be actively involved in attending local meetings of various organizations to expand the distribution of information on project happenings, knowledge transfer and material dissemination.

Task 5% Complete

Task 7. GIS Support: Texas AgriLife Research

Subtask 7.1: *Texas AgriLife Research will provide GIS support for all aspects of the project and develop maps illustrating project activities and demonstration locations*

No activity to report at this time.

Task 0% Complete

Task 8. Include Treatment Scenarios in Agency Guidelines: All Agencies

Subtask 8.1: Using information gleaned from this project, develop detailed strategies and practices for control of Giant Salvinia for inclusion in agency guidelines such as NRCS FOTGs, Extension bulletins and factsheets, TPWD outreach information and other agency materials for utilization in both private and public water bodies

No activity to report at this time.

Task 0% Complete

Subtask 8.2: *Work closely with NRCS and other agencies to disseminate the control practices for Giant Salvinia as appropriate*

No activity to report at this time.

Task 0% Complete

Attachments:

Photo 1: Weevil tank construction

Photo 2: Filling the tanks with water