Water Quality Research

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V(A). Planned Program (Summary)

1. Name of the Planned Program

Water Quality Research

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
111	Conservation and Efficient Use of Water				50%
112	Watershed Protection and Management				50%
	Total				100%

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	0.0	0.0	0.0	5.0
Actual	0.0	0.0	0.0	5.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	0	0	364558
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	0	79088
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	90876

V(D). Planned Program (Activity)

1. Brief description of the Activity

Close coordination was established with the Florida Department of Environmental Protection, Florida Water Management Districts, US Forest Service and the Natural Resource Conservation Service (NRCS/USDA) in designing and executing research to study water quality issues within the state. Research studies were undertaken to study the wetland processes and water quality of North Florida, develop a Biotic Integrity Index for forested ecosystems and to monitor the water quality in the Apalachicola River Basin in North Florida.

2. Brief description of the target audience

Coastal area residents, small and limited resource farmers, natural resources extension specialists, environmental protection personnel, aquatic biology scientists, wetland researchers, local, state and federal agencies.

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	0	0	0	0
2007	55	20	10	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year	Target
Plan:	0
2007:	1

Patents listed

Multi-element Scanning Thermal Analysis (MESTA)

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	0	4	4

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

Research publications Grant Proposals Submitted and Funded Dissemination of Results to Stakeholders Training of Graduate and Undergraduate Students

Year	Target	Actual
2007	0	0

Output #2

Output Measure

Development of a biotic index for water quality and a model for salinity in wetlands

Year	Target	Actual
2007	{No Data Entered}	0

V(G). State Defined Outcomes

O No.	Outcome Name
1	Reduction in the amount of agriculture runoff into groundwater; Adoption of program recommendations for improving water quality; Preservation of Florida's water resources;Improved environmental stewerdship; Better understanding of aquatic fauna; Well-trained graduate and undergraduate students in soil and water sciences.
2	Development of salt marsh water salinity model
3	Biotic Integrity Index Development for Forested Ecosystems

Water Quality Research
Outcome #1

1. Outcome Measures

Not reporting on this Outcome for this Annual Report

2. Associated Institution Types

3a. Outcome Type:

3b. Quantitative Outcome

Year	Quantitative Target	Actual

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area

V(H). Planned Program (External Factors)

External factors which affected outcomes

Natural Disasters (drought,weather extremes,etc.)
Public Policy changes
Government Regulations
Competing Programmatic Challenges

Brief Explanation

The major external factor that affected the water quality researchin FY 2007 was the prolong drought in Florida and the southeastern United States. Many of the freshwater streams which were being monitored over the years dried-up and aquatic insect population was affected. Protection of Florida wetlands is subjected to changing government regulations.

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

After Only (post program)
Before-After (before and after program)
During (during program)
Time series (multiple points before and after program)

Evaluation Results

The Water Quality Program at FAMU takes an interdisciplinary approach to protect, improve and maintain water resources and quality in Florida and the Southeast. It provides information to other agencies, groups, research and extension workers and public-at-large to address similar issues. There is an excellent cooperative working relationship between the program and NRCS, FS, Florida Department of Environmental Protection and non-governmental organizations. Over the years, the program achieved the following: developed a mesh-bag method to assess soil and nutrient erosion, developed a prototype of UV-based system to decontaminate water, generated biotic index for freshwater streams and developed Best Management Practices for seletecd Florida crops. Awell-equipped and functioning water analysis laboratory has been established. There is good track record of training students, publications and grant activities.

Key Items of Evaluation

Development of a salt marsh salinity model that can be used to predict changes in sea level, river discharge volume, tide, precipitation and temperature in coastal systems.

Development of Multi-element Scanning Thermal Analysis (META), patent is pending.

An inventory of aquatic insects (available at FAMU) as baseline data for biomonitoring of fresh water stream.

A biological assessment of water quality in the Apalachicola River Basin in north Florida