

# UF WATER INSTITUTE ANNUAL REPORT

## MAY 2007

### 1. INTRODUCTION

University of Florida (UF) established a campus-wide interdisciplinary Water Institute in May 2006. The UF Water Institute is committed to developing new knowledge; creative engineering, policy and legal solutions; and innovative educational programs for solving state, national, and global water resource problems. The Water Institute is led by a full-time Director (Dr. Wendy Graham), and three Research Coordinators (Kathleen McKee, Mark Newman, and Lisette Staal). The responsibilities of each of these individuals is summarized in [Table 1](#).

First year Water Institute activities focused on internal and external stakeholder development, strategic planning, and the initiation of new interdisciplinary Water Institute programs. Details regarding each of these first year activities are summarized below.

### 2. STAKEHOLDER DEVELOPMENT

- Conducted on-Campus Meetings with 30 diverse on-campus groups including faculty from CLAS, CALS, COE, COB, CDCP, Law, and Vet Medicine ([see Appendix 1](#) for details)
- Conducted 66 meetings with External Stakeholders including state, national and international cooperators and funding agencies ([see Appendix 2](#) for details)
- Sent periodic newsletters to Water Institute Faculty (Aug 2006, Feb 2007, May 2007)
- Developed and maintained Water Institute Website

### 3. STRATEGIC PLANNING

- Conducted On-Line Faculty Survey: Completed 1 Sep 2006
- Conducted 1-day Faculty Forum: Completed 16 Oct 2006
- Formed Faculty Advisory Committee (FAC): Elections completed and Advisory Committee Charter developed November 2006; monthly meetings initiated December 2006 ([See Appendix 3 for FAC membership](#))
- Prepared Draft Strategic Plan: Completed May 2007 ([see Appendix 4](#))
- Formed External Council of Advisors: Ad-hoc group consisting of Distinguished Scholars participating in Water Institute Seminar Series for academic year 2007-08.

## **4. WATER INSTITUTE PROGRAM ACTIVITIES**

### **4.1 The Smallwood- UF Water Institute Distinguished Scholar Seminar Series**

A gift from the Frances C. and William P. Smallwood Foundation will fund a new Distinguished Scholar Seminar Series beginning in Fall 2007. This seminar series invites high profile scholars to UF on a monthly basis to: (1) conduct a general Water Institute seminar that will be of interest to a broad audience, (2) meet with the Water Institute Faculty Advisory Committee to discuss strategic planning and partnering opportunities, and (3) meet with interested Water Institute faculty to discuss specific research/education issues. Each scholar will also be invited to serve on the External Council of Advisors for the Water Institute for a 12 month period following their visit.

An impressive line-up of interdisciplinary speakers has been arranged for the inaugural 2007 Seminar Series; seven of whom hold Eminent Scholar Chairs at their institutions and five of whom are National Academy members ([see Appendix 5](#))

### **4.2 Inaugural Progress Energy – UF Water Institute Symposium**

The inaugural Water Institute Symposium will be held at the Gainesville Hilton University of Florida Conference Center on 27,28 February 2008. The theme of the first conference will be **Sustainable Water Resources: Florida Challenges, Global Solutions**. The purpose of the conference is to: (1) bring academics, policy makers, water managers, industry and agriculture representatives, consultants, lawyers, legislators, and citizens together to define current status of water resources sustainability in Florida; (2) showcase new technologies/policies/incentives available that show promise to promote sustainability; and (3) identify pressing issues, knowledge gaps, research/educational programs needed to ensure sustainability.

This conference will also feature a graduate student poster session to highlight relevant, on-going research at UF. A research award for the best poster will be presented (made possible by a gift from the Smallwood Foundation). This award will cover the costs for the student to attend a national research conference to present their work. A preliminary flyer for the conference and the composition of the planning committee are included in [Appendix 6](#).

### **4.3 2007 Water Institute Program Initiation Fund Awards (Total Awards = \$195K)**

The first call for proposals for the Water Institute Program Initiation fund was released on 8 Dec 2006. Proposals were received through January and reviews were completed by the Faculty Advisory Committee (FAC) by 26 Feb 2007. The following awards were made from UF seed funds in early March:

- Protecting Florida's Water Quality: Identifying and Overcoming Barriers to Implementation of Low Impact Development (LID) Practices. Mark W. Clark - PI (Soil and Water Science), Tom R. Ankerson (Conservation Clinic, Levin College of Law), Pierce H. Jones (Agricultural and Biological Engineering), Barbra C. Larson (Environmental Horticulture)

- A Framework for Assessing The Hydrologic Footprint of Large-scale Biofuel Production . Matt Cohen - PI (School of Forest Resources and Conservation), Mark T. Brown (Center for Wetlands, Environmental Engineering Sciences), Angela Lindner (Environmental Engineering Sciences)
- Environmental Consequences of Nutrients and Organic Matter Injection into Carbonate Aquifers; Implications for Water Quality in Aquifer Storage and Recovery (ASR) Technology. Andrew R. Zimmerman - PI (Geological Sciences), Jean-Claude Bonzongo (Department of Environmental Engineering Sciences), Willie Harris (Soil and Water Science)
- Sediment Transport through Tidal Inlets During Extreme Forcing: Erosion or Accretion? Arnaldo Valle-Levinson - PI (Civil and Coastal Engineering), John M. Yeager (Geological Sciences), Tian-Jian Hsu (Civil and Coastal Engineering), Alexandru Sheremet (Civil and Coastal Engineering)
- Coupling of Advanced Oxidation and Adsorption Processes onto Silica-Titania Composites for Low Level Capture of Metals from Water Effluents. David W. Mazyck - PI (Environmental Engineering Sciences), Jean-Claude Bonzongo (Environmental Engineering Sciences), Lena Q. Ma (Soil and Water Science)
- Water, Gender and Equity in India. Whitney Sanford - PI (Religion), Anita Anantharam (Women's Studies), Vasudha Narayanan (Center for the Study of Hindu Traditions, Religion)

#### **4.4 Externally Funded Water Institute Projects**

In December 2006 the FAC established a Project Classification policy for the Water Institute. There are three categories of projects that apportion credit and IDC in an equitable way depending on how involved the Water Institute was in the project development ([See Appendix 7 for details](#))

##### **4.4.1 Category 1 Water Institute Affiliated (Total Funding \$12,911,192 )**

Approximately \$13,000,000 in 155 active externally funded projects have been designated by 43 Water Institute faculty as Category 1 Water Institute Affiliated projects for 2006-07. The Category 1 designation indicates that the Project Team would like the project to be recognized as a Water Institute Project, but no Water Institute services are requested and no budget flows through the Water Institute. These projects are cataloged in a searchable database that will soon be web accessible and integrated with the web accessible faculty expertise database. A list of these projects is included in [Appendix 8](#). Repeated follow-up with Water Institute faculty is expected to increase the number of projects in this database.

##### **4.4.2 Category 2 Water Institute Assisted (Total Funding \$1,291,000)**

The following projects funded during 2006-07 are designated as Category 2 Water Institute Assisted projects, indicating either an agreement to provide Water Institute services (e.g. technical, data management, project management) for the project, or acknowledgement that

Water Institute assistance was instrumental in proposal development (e.g. referral to a sponsoring agency, initial organization of the project team, provision of matching funds).

- **Conserve Florida Clearinghouse**, J. Heaney (Environmental Engineering Sciences), H. Beck (Agricultural and Biological Engineering), W. Graham (Water Institute). Category 2: Florida Department of Environmental Protection, Apr 2006-Apr 2008, \$620K.
- **Reducing nonpoint source loss of nitrate with in the Santa Fe Basin** M. Clark, E. Dunne, J. Jawitz (Soil and Water Science). Category 2: Florida Department of Environmental Protection, Apr 2007- Oct 2009, \$304K.
- **Cooperative Graduate Research Assistantships in Critical Water Resources Areas for South Florida** , Rafael Munoz Carpena, Greg Kiker (Agricultural and Biological Engineering), Wendy Graham (Water Institute). Category 3: South Florida Water Management District/Florida Water Resources Research Center, Mar 2006- Mar 2008, \$140K.
- **Summary and Synthesis of the Available Literature on the Effects of Nutrients on Spring Organisms and Systems** M. Brown (Environmental Engineering) , M. Cohen (Forestry), R. Reddy (Soil and Water Sciences) , T. Frazer, C. Jacoby, E. Philips (Fisheries and Aquatic Sciences), W. Graham (Water Institute). Category 2: Florida Department of Environmental Protection, Apr 2007 – Apr 2008; \$227K.

#### **4.4.3 Category 3 Water Institute Directed (Total Funding \$2,034,750).**

The following new projects funded during 2006-07 are designated as Category 3 Water Institute Directed projects. This designation indicates that the Water Institute Director/Staff were responsible for overall proposal coordination and project management. Project management as well as technical and data management services are typically also directly budgeted in the proposal.

- **India Agricultural Knowledge Initiative**, R. Reddy (Soil and Water Science), D. Haman (Agricultural and Biological Engineering), W. Graham (Water Institute). Category 3: U.S. Department of Agriculture Aug 2006- Jul 2009, \$150K.
- **Suwannee River Hydrologic Observatory**, W. Graham (Water Institute), J. Martin (Geology), M. Cohen (Forestry) , C. Slatton (Electrical and Computer Engineering), J. Delfino (Environmental Engineering Sciences. Category 3: National Science Foundation, Dec 2006- Nov 2008, \$360K).
- **Use of Seasonal Climate Forecasts to Reduce Risk in Regional Public Water Supply Management in the Tampa Metropolitan Region**, W. Graham (Water Institute), J. Jones (Agricultural and Biological Engineering), C. Martinez (Agricultural and Biological Engineering. Category 3: Tampa Bay Water, Apr 2007 – Mar 2009, \$175K.
- **Demonstration of Water Quality Best Management Practices for Beef Cattle Ranching in the Lake Okechobee Basin**, W. Graham (Water Institute), Sanjay

Shukla (Agricultural and Biological Engineering), Don Graetz (Soil and Water Sciences), Alan Hodges (Food and Resource Economics) Category 3: Florida Department of Environmental Protection, Sep 2002-Jun 2007 \$1.35M.

#### **4.4.4 Water Institute Proposals Submitted**

The following proposals have been submitted and are currently under review:

- “Solutions for Water Resources Sustainability”, Florida Legislative Budget Request (Category 3: \$4.75 Million)
- “Water Institute Core Labs and Post-Doctoral Researcher Program” US Congressional Budget Earmark (Category 3: \$5 Million)
- “Critical Zone Observatory for the Santa Fe Basin”, NSF (Category 3: \$4.25 Million)
- “Integrated Springshed Management: Improving Water Quality By Linking Land Use, Hydrologic And Socioeconomic Factors”, USDA (Category 3: \$600K)
- “Proposal for Hydrologic Modeling Research and Development Services”, South Florida Water Management District (Category 3: MOU, individual contracts to be negotiated)

**Table 1: Water Institute Staff Responsibilities**

<b>Activity</b>	<b>Kathleen McKee</b>	<b>Mark Newman</b>	<b>Lisette Staal</b>	<b>Wendy Graham</b>
<b>Coordinate Workgroups</b>	Water and Ecosystems	Water Resources Sustainability	Water and Society	Water and Climate
<b>Project Coordination</b>	Suwannee HO Springs Synthesis	TBW WRRC Liaison	Conserve Clearinghouse, AKI	AKI, TBW Suwannee HO
<b>Project Research</b>	Suwannee HO	HO time series data support, TBW	AKI	Suwannee HO TBW-Climate Forecasting
<b>Seminar Series</b>				yes
<b>Annual Symposium</b>			yes	yes
<b>Faculty Adv Committee</b>		yes		yes
<b>Web site/PR</b>	yes			yes
<b>Misc Admin</b>	Expertise database	HSAC; Awards database	Center/Department database	yes

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## Appendix 1: On-Campus Stakeholder Meetings and Presentations

- March 30 CLAS Ecology and Environment
- April 13 Florida Water Resources Research Center
- April 14 School of Natural Resource and Environment
- April 19 Interdisciplinary International Water Interest Group
- May 5 Hydrologic Sciences Academic Cluster
- May 8 IFAS Extension
- May 9 Center for Latin American Studies
- May 11 Public Utilities Research Center
- May 18 Soil and Water Science Department
- May 22 UF Geoplan Center
- May 23 UF Office of Sustainability
- May 26 Fisheries and Aquatic Sciences Department
- June 20 Program for Resource Efficient Communities
- August 17<sup>th</sup>, Aquatic Vet Medicine
- August 18<sup>th</sup> IFAS Extension Dean re Hastings Demonstration Facility
- September 1<sup>st</sup> IFAS Research Dean re SFWMD liaison
- September 15<sup>th</sup>, Soil and Water Sciences Department
- September 28<sup>th</sup>, School of Forest Resources and Conservation
- October 2<sup>nd</sup> IFAS Research and Extension Associate Deans
- October 5<sup>th</sup> Religion Group (Florida Organization on Religion Environmental Sciences and Technology)
- October 9<sup>th</sup> School of Natural Resources and Environment
- October 13<sup>th</sup> Fisheries and Aquatic Sciences Department
- October 23<sup>rd</sup> Particle Science Engineering Research Center
- November 1<sup>st</sup>, IFAS Tropical Research and Education Center, Homestead
- November 3<sup>rd</sup>, Environmental Engineering Sciences Dept.
- November 6<sup>th</sup>, CLAS Ecology and Environment Committee
- November 22<sup>nd</sup>, IFAS International Programs
- Feb 26<sup>th</sup>, Meeting with International Programs C4 group (Title VI center directors)
- April 19<sup>th</sup>, Meeting with Hydrologic Sciences Academic Cluster Faculty
- May 2<sup>nd</sup>, Water Institute presentation to the SNRE External Advisory Committee

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## Appendix 2: External Stakeholder Meetings and Presentations

- March 23, Frank Rijsberman, Director of International Water Management Institute (Sri Lanka)
- May 2 Florida Century Commission (in conjunction with SNRE)
- May 12 Stan Bronson, Director Florida Earth Foundation (WPB)
- May 12 South Florida Water Management District (WPB)
- May 22 Delegation from Punjab Agricultural University (India)
- May 24 Hilary Swain, Director Archbold Biological Station
- May 25 Florida Pesticide Review Council Meeting
- May 25 Dean of Science, Makerere University, Uganda
- May 30 NSF Geosciences Director, Washington DC
- June 1 US Geological Survey
- June 6 Progress Energy
- June 12 Suwannee River Water Management District
- June 15 Florida Association for Water Quality Control, Naples
- June 16 Tampa Bay Water
- June 20 Delegation from Ranga Agricultural Univ (Hyderabad, India)
- June 22 Conserv Florida Clearinghouse Steering Committee
- June 27 Delegation from the Florida Chapter AWWA
- June 29 Lake Okeechobee Interagency Meeting (SFWMD, DACS, DEP)
- July 25 Nancy Johnson International Center for Tropical Agriculture (CIAT – Columbia)
- July 26 Florida Department of Environmental Protection & Florida Department of Agriculture (Tallahassee)
- July 27<sup>th</sup> Florida Institute of Phosphate Research (Paul Clifford)
- July 28 Swisher Foundation (JAX)
- August 3-14 ICRISAT (Hyderabad India), Ranga Agricultural University (Hyderabad India), International Water Management Institute (Colombo, Sri Lanka)
- September 6-8 Annual Water Management District/DEP Conference, Tarpon Springs
- Sept 13<sup>th</sup>, USDA Washington DC
- September 21, St. Johns River Water Management District, Palatka
- September 25, NSF Washington DC
- October 2<sup>nd</sup>, Florida Natural Areas Inventory
- October 18<sup>th</sup> University of Florida Foundation Orlando Regional Planning Committee
- October 23<sup>rd</sup>, Tampa Bay Water
- October 31<sup>st</sup>, South East Climate Consortium/NOAA
- November 1<sup>st</sup>, South Florida Water Management District, West Palm Beach
- November 8<sup>th</sup>, UF Foundation, College of Medicine, and Holloway Farms, Leesburg
- November 9<sup>th</sup>, SJRWMD Hastings
- November 10<sup>th</sup>, Florida Federation of Garden Clubs, Jacksonville
- November 11<sup>th</sup>, UF Foundation Board
- November 13<sup>th</sup>, USGS Orlando
- November 14-17<sup>th</sup> CUAHSI, NSF Austin TX
- November 21<sup>st</sup> Marion County
- November 29-30<sup>th</sup> NSF: Waters Network MREFC Planning Meeting, Washington, DC.
- December 1-2<sup>nd</sup> : ASABE Board of Trustees Meeting, Chicago



- December 13<sup>th</sup> : Meeting with Cindy Littlejohn (UF Lobbyist) and Steve Oelrich (FL State Senator) re LBR
- December 13<sup>th</sup> Conserve Florida Clearinghouse Steering Committee Meeting, Gainesville
- January 8<sup>th</sup> : Meeting with FDEP and FDACS re BMP Research Coordination, Tallahassee
- Jan 9-10<sup>th</sup> CUAHSI Board of Directors Meeting, NSF Meeting, Washington DC
- Jan 12-22<sup>nd</sup> , Indian Council for Agricultural Research, Punjab Agricultural University, Angrau Agricultural University, India
- Jan 26<sup>th</sup> Water Institute presentation to Florida Section of the American Water Resources Association, Gainesville
- January 30<sup>th</sup>, Meeting and Seminar with Ruth Meinzen-Dick, International Food Policy Research Institute (Washington DC), Gainesville Florida
- January 31<sup>st</sup> Meeting with Marion Hoffman, UF Lobbyist re LBR, Gainesville
- February 13<sup>th</sup>, Proposal meeting with Tampa Bay Water, Tampa
- February 14<sup>th</sup>, Presentation to the Campus Community Council Breakfast Series, Gainesville
- February 14<sup>th</sup>, Meeting with IFAS, FDEP, FDACS and WMDs re BMP Research Coordination, Tallahassee
- February 16<sup>th</sup>, Proposal Presentation to the Smallwood Foundation, Gainesville
- February 18<sup>th</sup>- 20<sup>th</sup>, WATERS National Network Design Meeting, Dallas TX
- February 21<sup>st</sup>, Water Institute presentation to UF Retired Faculty Club, Gainesville
- March 1-2, Meeting with South Florida Water Management District, West Palm Beach Florida.
- March 29<sup>th</sup>, Meeting with Mary Oakley, Century Commission
- April 9<sup>th</sup>, Meeting with IFAS, FDEP, FDACS and WMDs re BMP Research Coordination, Gainesville
- April 10<sup>th</sup>, Meet with State Legislators in Tallahassee about Water Institute LBR (Cretul, Chestnut, Williams, Kendrick, Troutman, Oelrich, Boyd, Machek, Pickens and Alexander)
- April 16<sup>th</sup>, Meet with St. Johns River Water Management District, Southwest Florida Water Management Districts, Jones Edmunds and Associates, and Post Buckley Shuh and Jernigan about developing new interdisciplinary GIS in Water Resources courses at UF.
- April 17<sup>th</sup>, attend Florida Water Resources Conference session re the Florida Conserve Clearinghouse
- April 20-21st, ASABE Board of Trustees Meeting, Chicago
- May 1<sup>st</sup>, Water Institute Presentation to the University of Florida Foundation Jacksonville Regional Planning Committee and the Carl S. Swisher Foundation
- May 9-10<sup>th</sup>, WATERS Network Design presentation to NSF Geosciences and Engineering Directorates, Washington DC.
- May 15<sup>th</sup>, Suwannee River Water Management District, Live Oak, Florida
- May 23<sup>rd</sup> Florida Pesticide Review Council Meeting, Gainesville Florida
- May 30<sup>th</sup>, Water Institute Presentation to Gainesville Downtown Rotary Club

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### **Appendix 3: Faculty Advisory Committee Membership**

- Dorota Haman, IFAS, Chair
- Karl Havens, IFAS, Chair Elect
- Sanford Berg, College of Business (2 year term)
- Mark Brenner, College of Liberal Arts and Sciences (2 year term)
- Richard Hamann, College of Law (3 year term)
- Jim Heaney, College of Engineering (2 year term)
- Jim Jawitz, IFAS (3 year term)
- Jim Jones, IFAS (3 year term)
- Jon Martin, College of Liberal Arts and Sciences (3 year term)
- Stephen Mulkey, College of Liberal Arts and Sciences (2 year term)
- Peter Sheng, College of Engineering (1 year term)
- Rick Stepp, College of Liberal Arts and Sciences (1 year term)

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## **Appendix 4: University of Florida Water Institute Draft Strategic Plan**

Draft 4/27/07

### **1. Introduction**

With the world's largest ecosystem restoration project, one of the world's most productive aquifers, the largest concentration of first magnitude springs in the country, a burgeoning human population, and vulnerability to both climatological and anthropogenic changes in the water cycle, Florida provides a unique living laboratory to develop new knowledge and test solutions to global water problems. In recognition of the importance of these water issues, and the need to address them in a new interdisciplinary manner (NAS, 2001), the University of Florida (UF) established a campus-wide interdisciplinary Water Institute in May 2006. The UF Water Institute is committed to developing new scientific understanding; creative engineering, policy and legal solutions; and innovative educational programs for solving state, national, and global water resource problems.

### **2. Mission**

*The Water Institute mission is to foster comprehensive research, education, and public outreach programs designed to:*

- Improve knowledge of the physical, chemical, and biological processes in aquatic systems (rivers, lakes, oceans, estuaries, wetlands, and ground waters).
- Enhance understanding of the interactions and interrelationships between human attitudes and activities, and aquatic systems.
- Develop and promote the adoption of improved methodologies for water management and policy (including quantity, quality and ecosystem services) based on a strong background in water-related sciences, engineering, management and law.

### **3. Vision and Values**

Success of the Water Institute mission requires that we:

- Stimulate productive interdisciplinary partnerships (i.e. successfully break down disciplinary silos)
- Build and maintain strong partnerships with Water Management Districts and State and Local agencies
- Facilitate discussions between regulatory agencies, industry and academia
- Build strong externally funded grants program from state, national and international sources (both competitive funds and earmarks)
- Build water faculty at UF in under-represented disciplines
- Obtain funding for new endowed professorships
- Implement a strong visiting scholar program
- Engage a robust, well-respected external council of advisors
- Conduct a successful annual symposium
- Distribute indirect costs in an equitable manner that fosters interdisciplinary work and does not threaten department chairs or deans

- Be perceived an honest broker (the go-to place to have problems solved) within UF, state, nation, and world
- Have an excellent Water Institute staff including a grants facilitator, communications director, IT director, and accountant
- Have an outstanding academic reputation within UF, state, nation, and world

A Successful Water Institute is built on an Affiliate faculty who:

- Are world renowned, receive prestigious awards, have strong publication records in peer reviewed journals, and are members of NAS, NAE, etc.
- Publish white papers and synthesis articles for agencies and op-ed pieces in newspapers, and are called on regularly by state and national press
- Develop new solutions and technologies for state, national and international applications
- Develop new knowledge that impacts state and national water policy
- Train an excellent cadre of students

#### **4. Organization**

The Water Institute is led by a full-time Director, who reports to the Vice President for Research. An internal Faculty Advisory Committee for the Water Institute consists of 12 members of the Affiliate Water Institute faculty, 8 elected and 4 appointed on staggered 3 year terms. Individual faculty association with the Water Institute is through voluntary registration in the on-line faculty expertise database. All registered faculty are considered Water Institute Affiliate Faculty members and eligible to vote for the Faculty Advisory Committee Members, and other governance issues. All Affiliate Faculty members retain their positions in their tenure department homes where all administrative and performance review functions are carried out.

For the first 3 years following the establishment of the Water Institute, participants in the monthly Water Institute Distinguished Scholar Seminar Series will constitute an ad-hoc External Council of Advisors for a 12 month period following their seminar. A Formal External Science Advisory Board (SAB) will be formed at the conclusion of the third year (May 2009). The SAB will consist of representatives leading academic institutions in the field of water science, engineering, policy and law; state and federal governmental agencies; industry; non-governmental organizations and other private entities with an interest in water related issues.

#### **5. Action Plan**

##### 5.1 Research, Education and Outreach Thrust Areas

Research, Education and Outreach Thrust Areas are the main vehicle for facilitating interdisciplinary research within the Water Institute. Thrust Areas provide broad outlines of emphasis areas rather than narrow definitions of the Institute, and represent areas in which cross-cutting collaboration is likely to produce significant progress. Potential Thrust Areas are periodically proposed by the Affiliate Faculty, the Faculty Advisory Committee, the Science Advisory Board and other external stakeholders. Proposed Thrust Areas are approved, assessed, and eventually terminated by the Faculty Advisory Committee.

**Table 1 Water Institute Research, Education and Outreach Thrust Areas**

<ul style="list-style-type: none"> <li>▪ <b>Water Resources Sustainability</b> <ul style="list-style-type: none"> <li>○ Development of Alternative Water Supplies (Desalination, ASR, Reservoirs)</li> <li>○ Water Treatment, Wastewater Treatment, Groundwater Remediation</li> <li>○ Water Quality Protection, Management of Groundwater Recharge Areas</li> <li>○ Water Conservation, Reuse, Demand Management</li> <li>○ Impacts of Alternative Energy Supplies on Water Resources</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>▪ <b>Water, Land Use and Ecosystems</b> <ul style="list-style-type: none"> <li>○ Linking Terrestrial and Coastal Systems (Estuaries and Coastal Zone)</li> <li>○ Springsheds</li> <li>○ Wetlands</li> <li>○ Watersheds</li> <li>○ MFLs, TMDLs, BMPs, Ecosystem restoration</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>▪ <b>Water and Climate</b> <ul style="list-style-type: none"> <li>○ Extreme Events (Floods, Flood Control, Droughts, Hurricanes)</li> <li>○ Climate Variability (ENSO phase, MDO)</li> <li>○ Climate Forecasts</li> <li>○ Climate Change (Global warming, sea level rise, rainfall redistribution)</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>▪ <b>Water and Society</b> <ul style="list-style-type: none"> <li>○ Water Policy and Law</li> <li>○ Water Pricing</li> <li>○ Water Marketing</li> <li>○ Social Impacts and Implications (religion, poverty, social equity)</li> <li>○ Public Health</li> </ul> </li> </ul>

Initial Thrust Areas proposed by Affiliate Faculty during the 2006 Survey and Retreat Process are summarized in Table 1. Within Thrust Areas the following types of activities are conducted:

- Interdisciplinary Faculty Working groups develop peer reviewed white papers and synthesis documents, as well as proposals for interdisciplinary extramurally-funded research, education and outreach projects
- Interdisciplinary Faculty Teams work on funded research, education and outreach projects
- Graduate students and Post-doctoral fellows work on funded projects
- Sabbatical Fellows work on proposal development, white-paper development, funded projects
- Seminar speakers and short-term visitors are hosted to build community, provide brainstorming venues, and to develop partnerships, joint proposals etc.

### 5.2 Strategy to Engage Faculty

The following activities are conducted to foster internal academic cohesiveness among Water Institute Affiliate Faculty, and to focus internal energy and intellect on important interdisciplinary water-related science, engineering, policy and law problems of the State of Florida, the Nation and the World. These activities enhance graduate student and faculty recruitment and retention, and help develop and promote Water Institute faculty programs:

- Creation and maintenance of a Water Institute faculty expertise data base
- Creation and maintenance of a database of extramural funded projects led by Water Institute faculty.
- Creation of a network of interdisciplinary laboratories (both existing and new facilities) to support water-related research conducted by Water Institute faculty
- Formation and coordination of Faculty Working Groups along Water Institute Thrust Areas
- Annual Program Initiation Fund to provide funding for new, faculty-initiated research, extension and outreach programs
- Proposal writing support for large interdisciplinary proposals
- Matching funds for extramural interdisciplinary proposals
- Project management support for large interdisciplinary projects
- Monthly Distinguished Scholar Seminar Series
- Annual Water Institute Symposium

### 5.3 Strategy to Engage Existing Departments and Centers

The Water Institute provides a focal point for water-related research and education on campus and an entry point for external stakeholders seeking water-related expertise. Therefore the Institute must provide a portal to, and integrate the water-related programs in, existing University of Florida disciplinary academic departments; interdisciplinary water-related clusters and certificates (e.g the Hydrologic Sciences Academic Cluster (HSAC) and the Wetland Science Concentration); on-campus Centers (e.g. the Water Resources Research Center and the Public Utilities Research Center); and off-campus Research and Education Centers (e.g. the IFAS Research and Education Centers).

The following services are provided to Departments/Centers that affiliate with the Water Institute:

- Inclusion in a web-accessible Department/Center water programs database
- Link to Department/Center's website from Water Institute webpage
- Promotion of Department/Center's water-related research and education programs
- Collaboration on large-scale interdisciplinary proposals of mutual interest
- Joint hosting of meetings with external stakeholders and potential sponsors of mutual interest
- Referral of appropriate research and outreach opportunities encountered by Water Institute Director.

#### 5.4 Strategy to Engage External Partners

The following strategies are pursued to engage external state, national and international partners in Water Institute programs. These activities create and foster external recognition that the University of Florida has a diverse but organized critical mass of expertise in water-related sciences, engineering, policy and law. These activities increase extramural funding, improve graduate student recruitment, and enhance stakeholder satisfaction with Water Institute programs:

- Establish and maintain a formal network with external stakeholders to identify critical water issues requiring interdisciplinary collaboration of UF Water Institute Faculty
- Provide one-stop shopping for UF water expertise to stakeholders
- Provide short-term assistance (i.e peer review services, short courses etc. ) to external stakeholders
- Establish and maintain external financial resources to support basic and applied research programs, and testing of new technologies, management strategies, regulatory strategies and water policies that address stakeholders' interests
- Host stakeholder scientists to work for short periods at the Water Institute
- Coordinate undergraduate and graduate internship programs for external stakeholders
- Increase the pool of well-trained water-related scientists, engineers, planners for employment with stakeholders
- Host state, national and international symposia to highlight recent advances in water-related sciences, engineering, policy and law of interest to external stakeholders

### **6. Performance Measures (to be completed)**

### **7. Business Plan**

The following summarizes the business plan for funding Water Institute programs:

- Base funds from UF for Water Institute Director and staff salaries
- Endowment funds for operating expenses
- Grant funding from Research and Outreach Partners for Programs
- IDC returns for re-investment in internal Program Initiation Fund Awards
- Industrial Membership Program to fund focus groups, working groups, etc.
- Fee-based Short-courses and Symposia
- Naming Opportunities for donors, e.g.
  - Endowed Chairs
  - Named Professorships
  - Named Graduate Fellowships
  - Named Undergraduate Research Fellows
  - Named Lectureships or Visiting Fellowships
  - Named Conferences
  - Named Buildings, Labs, Computational Centers

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## Appendix 5: 2007-2008 Water Institute Distinguished Scholar Seminar Series

### September 6-7, 2007

Donelson Wright, Chancellor Professor of Marine Science, Virginia Institute of Marine Science, College of William and Mary. [www.vims.edu/physical/faculty/wright\\_ld.html](http://www.vims.edu/physical/faculty/wright_ld.html)

### October 18-19, 2007

Edward L. Miles, Virginia & Prentice Bloedel Professor of Marine & Public Affairs, and Senior Fellow Joint Institute for the Study of Atmosphere and Oceans, School of Marine Affairs, University of Washington. [www.sma.washington.edu/faculty/e\\_miles.html](http://www.sma.washington.edu/faculty/e_miles.html)

### November 1-2, 2007

Stephen Lansing, Professor of Ecological Anthropology, University of Arizona, and Research Professor, Santa Fe Institute. [www.ic.arizona.edu/~lansing/](http://www.ic.arizona.edu/~lansing/)

### December 6-7, 2007

Charlie Vorosmarty, Research Professor Global-Scale Hydrology, Dept. of Earth Sciences & Institute for the Study of Earth, Oceans & Space, University of New Hampshire. [www.unh.edu/esci/vorosmarty.html](http://www.unh.edu/esci/vorosmarty.html)

### January 10-11, 2008

George Hornberger, Ernest H. Ern Professor, Environmental Hydrology, Department of Environmental Science, University of Virginia. [www.people.Virginia.EDU/~gmh3k/](http://www.people.Virginia.EDU/~gmh3k/)

### February 7-8 2008

Len Shabman, Natural Resource Economist, Resident Scholar in Energy and Natural Resources, Resources for the Future, Washington DC. [www.rff.org/rff/Shabman.cfm](http://www.rff.org/rff/Shabman.cfm)

### March 2008 (exact date TBA)

Lonnie Thompson, Distinguished University Professor, Department of Geological Sciences, and Byrd Polar Research Center, Ohio State University. [www-bprc.mps.ohio-state.edu/Icecore/GroupP.html#lonniethompson](http://www-bprc.mps.ohio-state.edu/Icecore/GroupP.html#lonniethompson)

### March 27-28 2008

Sandra Zellmer, Natural Resource and Water Law professor and Havelone Research Chair at the University of Nebraska College of Law [watercenter.unl.edu/FacStaffProfiles/ZelmerSandy.asp](http://watercenter.unl.edu/FacStaffProfiles/ZelmerSandy.asp)

### April 17-18 2008

Tissa Illangasakare, AMAX Distinguished Chair of Environmental Sciences and Engineering, Colorado School of Mines. [www.mines.edu/Academic/envsci/people/faculty/tillanga01.html](http://www.mines.edu/Academic/envsci/people/faculty/tillanga01.html)

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## **Appendix 6: Inaugural Progress Energy - University of Florida Water Institute Symposium**

### **Sustainable Water Resources: Florida Challenges, Global Solutions**

#### **Focusing on Solutions to Challenges to Sustainability:**

Population growth and Land Use Change

Climate Variability and Climate Change

Public Health, Wildlife Health, Ecosystem Health

**Purpose:** Bring academics, policy makers, water managers, industry representatives, consultants, lawyers, legislators, citizens together to define current status of Water Resources Sustainability in Florida; new technologies/policies/incentives available that show promise to promote sustainability; pressing issues, knowledge gaps, research/educational programs needed to ensure sustainability.

**Target Audience:** External Academics, State/Federal Agency Staffers, State Legislators/Staffers, Local Government Representatives, Industry representatives, managers, consultants, lawyers, policy makers

**Dates:** February 27-28 2008

**Location:** Hilton University of Florida Conference Center, Gainesville FL

#### **Symposium Planning Committee:**

- Tom Ankersen, College of Law
- Joe Delfino, College of Engineering
- Ruth Francis Floyd, College of Veterinary Medicine
- Ramesh Reddy, IFAS
- Les Thiele, College of Liberal Arts and Sciences
- Caroline Choi, Progress Energy

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## Appendix 7: UF Water Institute Project Classification Policy

Externally funded Water Institute projects are recognized under one of the 3 following categories:

1.  **Water Institute Affiliated Project.** Project Team wishes project to be recognized as a Water Institute Project, but no Water Institute services (e.g. technical, data management, project management, agency liaison) are required or requested. A link to a project description and/or website is supplied by project PI and is accessible from the Water Institute website. Project is cataloged in searchable Water Institute Project database. Budget does not flow through the Water Institute, Water Institute Director did not sign off on project and no IDC is taken.
2.  **Water Institute Assisted Project.** Water Institute Director/Staff were not responsible for overall proposal coordination, but Water Institute Director signs off on the proposal indicating agreement to provide Water Institute services (e.g. technical, data management, project management, agency liaison), or acknowledgement that Water Institute assistance was instrumental in proposal development (e.g. referral to a sponsoring agency, initial organization of the project team, provision of matching funds). A link to a project description and/or website is supplied by the project PI and is accessible from the Water Institute website. Project is cataloged in searchable Water Institute Project database. IDC is accrued to the Water Institute (10.0% Investigator and 7.5% Center) for the portion of the budget that is spent in the Water Institute for desired services.
3.  **Water Institute Directed Project.** Project resulted from a Water Institute Program Initiation Fund effort or Water Institute Director/Staff are responsible for overall proposal coordination and project management. Project management as well as technical and data management services may be directly budgeted in the proposal. Center IDC (7.5%) is accrued to the Water Institute on the entire project budget. An additional 10.0% Investigator IDC is accrued for that portion of the budget that is spent within the Water Institute. A link to a project description and/or website is accessible from the Water Institute website. Project is cataloged in searchable Water Institute Project database.

I understand that the following project *[Insert Project Name Below]*

\_\_\_\_\_ is a  
category *[1, 2 or 3]* project as indicated above.

Investigator(s): \_\_\_\_\_  
Signature(s)

Chair: \_\_\_\_\_  
Signature

Dean: \_\_\_\_\_  
Signature

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## Appendix 8: Category 1 Water Institute Projects

<u>PI NAME</u>	<u>PROJECT END</u>	<u>PROJECT name</u>
<i>ALLEN M S</i>	6/30/2008	EVALUATION OF LITTORAL FISH COMMUNITIES IN DENSE EMERGENT PLANT COMMUNITIES AT LAKES KISSIMMEE AND ISTOKPOGA
	12/20/2013	"EXPERIMENTAL EVALUATION OF A HABITAT ENHANCEMENT PROJECT FOR FISH & WILDLIFE AT GRANT LAKE, FL "
	12/31/2006	"IMPORTANT MICROHABITATS FOR SPOTTED SUNFISH AT THE MANATEE RIVER, FLORIDA "
	9/30/2006	IMPORTANT MICROHABITATS FOR SPOTTED SUNFISH IN THE ANCLOTE MANATEE R1
	1/31/2007	JOHN A KNAUSS MARINE POLICY FELLOWSHIP
	5/31/2006	"LITTORAL VEGETATION, FISHERIES AND WILDLIFE RESPONSES TO HYDROLOGIC VARIATIONS IN LAKE OKEECHOBEE, LITERATURE..... "
	9/30/2007	EFFECTS OF GIZZARD SHAD REMOVAL ON NUTRIENT CYCLING AND GIZZARD SHAD POPULATION
<i>BAKER S M</i>	6/15/2006	"CHANNELED APPLE SNAILS, POMACEA CANALICULATA, IN FLORIDA: DISTRIBUTION, HABITAT USE, AND POTENTIAL "
	1/31/2008	R/LR-A-39B ENHANCING PRODUCTION OF CULTURED HARD CLAMS IN FLORIDA BY TRIPLOIDY
	6/30/2007	"CHANNELED APPLE SNAILS, POMACEA INSULARUM, IN FLORIDA: DISTRIBUTION, HABITAT USE, AND POTENTIAL IMPACTS..... "
	1/31/2007	ENHANCING STRESS RESISTANCE OF CULTURED HARD CLAMS IN FLORIDA BY TRIPLOIDY
<i>BEESON JR R C</i>	12/31/2008	DETERMINING WATER REQUIREMENTS OF SELECT TROPICAL FOLIAGE PLANTS DURING PRODUCTION
	11/30/2012	DEVELOPMENT OF IRRIGATION SCHEDULES AND CROP COEFFICIENTS FOR TREES FROM SEEDLINGS TO FIVE-INCH CALIPERS - PHASE II
<i>BERG S V</i>	11/30/2007	BENCHMARKING CENTRAL AMERICAN WATER UTILITIES
	01/01/2006	SURVEY OF WATER UTILITY BENCHMARKING METHODOLOGIES
	04/01/2007	TRAINING FOR LIAONING PROVINCE WATER OFFICIALS
	01/01/2010	PURC/WORLD BANK INTERNATIONAL TRAINING PROGRAM FOR UTILITY REGULATION AND STRATEGY
<i>BOWES G E</i>	8/31/2006	HYDRILLA'S UNUSUAL PEPC GENE FAMILY: EXPRESSION AND KINETIC REGULATION
<i>CAMPBELL K L</i>	2/20/2006	PASTURE WATER MANAGEMENT FOR REDUCED PHOSPHORUS LOADING IN THE LAKE OKEECHOBEE WATERSHED
<i>CASTLE W S</i>	9/30/2006	ASSESSING DIFFERENT MANAGEMENT TACTICS FOR THE SUPPRESSION OF DIAPREPES ROOT WEEVIL LARVAE & ADULTS WITH EMPHASIS....
	9/30/2006	ROOTSTOCK PERFORMANCE IN RELATION TO SOIL IN FLATWOODS CITRUS AND THE DEVELOP....
<i>COHEN M J</i>	8/31/2007	LAKE OKEECHOBEE SEDIMENT QUALITY MAPPING
	6/30/2007	RAPID ASSESSMENT OF RESTORATION PERFORMANCE MEASURES AT MULTIPLE SCALES IN THE GREATER EVERGLADES
	9/30/2006	SEED FUNDS - DEV A PROPOSAL TO AMERICAN WATER WORKS ASSOC ON A WATER SUPPLY DECISION SUPPORT SYS FOR LOWER EAST COAST
	9/30/2008	SPATIAL NUTRIENT LOADING DYNAMICS IN THE NEWNANS LAKE WATERSHED
	11/30/2008	DESIGN AND DEMONSTRATION OF A DISTRIBUTED SENSOR ARRAY FOR PREDICTING WATER FLOW AND NITRATE FLUX IN THE SANTA FE BASIN
<i>COMERFORD N B</i>	8/31/2007	FOREST & WETLAND RESOURCE MANAGEMENT: AN EDUCATION CONSORTIUM TARGETING TROPICAL AND TEMPERATE ECOSYSTEMS
<i>CUDA J P</i>	4/28/2006	BRAZILIAN PEPPER BIOCONTROL
	6/15/2007	SCREENING OF A NEW CANDIDATE BIOLOGICAL CONTROL AGENT FOR BRAZILIAN PEPPER TREE

PI NAME  
PROJECT name

PROJECT END

	6/15/2007	CLASSICAL BIOCONTROL OF BRAZILIAN PEPPERTREE (SCHINUS TEREBINTHIFOLIUS) IN FLORIDA
	9/30/2006	DEVELOPING A SUSTAINABLE MANAGEMENT PLAN FOR BRAZILAIN PEPPER TREE IN FLORIDA
<i>DELFINO J J</i>	11/30/2008	DESIGN AND DEMONSTRATION OF A DISTRIBUTED SENSOR ARRAY FOR PREDICTING WATER FLOW AND NITRATE FLUX IN THE SANTA FE BASIN
	12/31/2006	"MERCURY BINDING CAPACITY BY DISSOLVED ORGANIC MATTER: IMPLI CATIONS FOR HG DISPERSAL, BIOACCUMULATION AND HUMAN
<i>DUKES M D</i>	2/28/2006	EVALUATION OF WATER USA AND NUTRIENT LEACHING WITH HIGH FREQUENCY IRRIGATION FOR USE IN BEST MANAGEMENT PRACTICES
	12/31/2006	MAINTAINING OPTIMAL SOIL MOISTURE IN PEANUTS WITH VARIABLE-RATE IRRIGATION
	9/30/2007	UPDATE ON THE AFSIRS CROP WATER USE SIMULATION MODEL- AMENDMENT #3
	2/28/2007	INVESTIGATION AND DEVELOPMENT OF METHODS TO DETERMINE URBAN LANDSCAPE IRRIGATION FOR PLANNING AND PERMITTING.....
	12/31/2007	EVALUATION OF SOIL MOISTURE BASED ON-DEMAND IRRIGATION CONTROLLERS
	2/28/2010	EVALUATION AND DEMONSTRATION OF SOIL MOISTURE BASED ON DEMAND IRRIGATION CONTROLLERS FOR VEGETABLE PRODUCTION(B228)
	10/2/2006	DETERMINE REASONABLENESS OF DISTRICT PERMIT AMOUNTS FOR MICRO IRRIGATED RIDGE CITRUS IN HIGHLANDS COUNTY
	12/11/2007	EVALUATION AND DEMONSTRATION OF EVAPOTRANSPIRATION-BASED CONTROLLERS
	12/31/2007	"EVALUATION OF SOIL MOISTURE BASED ON-DEMAND IRRIGATION CONTROLLERS, PHASE 11
<i>FRANCIS-FLOYD R</i>	6/1/2006	MANATEE CAPTURE SUPPORT PROGRAM
	6/1/2006	DERMATOLOGY STUDY AT HOMOSASSA SPRINGS
	7/30/2009	AQUATIC MEDICAL EDUCATION PROGRAMS
	6/1/2006	SUPPORT OF PROGRAM DIRECTOR
<i>FRAZER T K</i>	2/29/2008	"COLLABORATIVE RESEARCH: LAGRANGIAN STUDIES OF THE TRANSPORT, TRANSFORMATION AND BIOLOGICAL IMPACT..METALS...
	12/31/2007	KINGS BAY VEGETATION EVALUATION AND MONITORING PROGRAM
	8/31/2009	PROJECT COAST
<i>FREDERICK P C</i>	3/31/2007	"WADING BIRD COLONY LOCATION, SIZE TIMING AND WOOD STORK NESTING SUCCESS - WO 227 "
	9/30/2008	EFFECTS OF ENVIROMENTAL MERCRY EXPOSURE ON DEVELOPMENT AND REPRODUCTION IN WHITE IBISES
	1/31/2008	MODELING THE RESPONSE OF WOOD STORKS TO HYDROLOGIC RESTORATION
	7/27/2007	"MONITORING OF WADING BIRD REPORDUCTION IN WCAS 1,2 AND 3 OF THE EVERGLADES AND SURVIVAL AND MOVEMENTS OF JUVENILE WOOD
	3/30/2009	"MONITORING OF WADING BIRD REPRODUCTION IN WCAS 1,2,AND 3 OF THE EVERGLADES "
<i>GRAETZ D A</i>	1/12/2008	EVALUATING EFFECTIVENESS OF BEST MGMT PRACTICES (BMP'S) FOR ANIMAL WASTE & FERTILIZER MGMT TO REDUCE NUTRIENT INPUTS....

PI NAME  
PROJECT name  
 GRAHAM W D

PROJECT END

11/30/2008 DESIGN AND DEMONSTRATION OF A DISTRIBUTED SENSOR ARRAY FOR PREDICTING WATER FLOW AND NITRATE FLUX IN THE SANTA FE BASIN  
 3/11/2006 DEMONSTRATION OF WATER QUALITY BEST MANAGEMENT PRACTICES FOR BEEF CATTLE RANCHING IN THE LAKE OKEECHOBEE BASIN

HAMAN D Z

1/31/2006 DEMONSTRATION OF EBB AND FLOW WATER APPLICATION SYSTEM FOR OUTDOOR CONTAINERIZED PLANT PRODUCTION IN FLORIDA  
 3/10/2007 DEMONSTRATION OF MULTIPOT BOXES FOR CONTAINER NURSERY  
 12/31/2007 REAL-TIME IRRIGATION SCHEDULING FOR ORNAMENTAL PLANT PRODUCTION USING ECHO MOISTURE SENSORS  
 4/30/2007 WORKSHOPS ON FROST/FREEZE PROTECTION FOR ORNAMENTAL AND VEGETABLE GROWERS (B202)

HE Z

11/24/2009 EVALUATION OF SOIL QUALITY PARAMETERS IN TROPICAL SOILS AND ASSESSMENT OF ELEMENTAL COMPOSITION IN TROPICAL CROPS  
 3/31/2006 USE OF CALCIUM CHLORIDE TO REDUCE PHOSPHORUS LOADING IN SURFACE RUNOFF FROM VEGETABLE FARMS  
 4/12/2006 PHYTOREMEDIATION TO REMOVE NITROGEN AND PHOSPHORUS FROM STORMWATERS IN DETENTION WATER SYSTEMS  
 3/31/2006 DEVELOPMENT OF SLOW RELEASE FERTILIZERS USING DOLOMITE PHOSPHATE ROCK AND N-VIRO SOIL  
 3/31/2006 DEVELOPMENT OF DPR FERTILIZERS USING DOLOMITE PHOSPHATE ROCK AND BIOSOLIDS FOR CITRUS AND VEGETABLE CROPS  
 3/12/2007 "SOIL AMENDMENT TO REDUCE N, P AND HEAVY METAL IN SURFACE RUN OFF FROM CITRUS GROVES IN THE INDIAN RIVER AREA "

HOCHMUTH II G J

2/28/2006 ON FARM NUTRIENT AND WATER MANAGEMENT IN CONJUNCTION WITH EPA DEMONSTRATION PROJECT  
 2/2/2006 "AGRONOMIC, VEGETABLE, WATER RESOURCES AND NURSERY BMP MANUAL DEVELOPMENT "  
 8/31/2007 DEVELOPMENT OF A SYSTEM APPROACH TO ORGANIC GREENHOUSE HERB PRODUCTION FOR PROTECTED AGRICULTURE IN A MILD WEATHER  
 3/23/2006 FIELD TESTING LIVESTOCK WASTE TESTING LAB MANURE RECOMMENDATIONS  
 4/9/2007 FIELD TESTING LIVESTOCK WASTE TESTING LAB MANURE RECOMMENDATIONS (YEAR 3)  
 9/30/2006 LIVESTOCK WASTE TESTING AND EDUCATION MANAGEMENT PROGRAM  
 2/2/2006 LIVESTOCK WASTE TESTING AND NUTRIENT MANAGEMENT EDUCATION PROCESS  
 9/30/2006 THE SUWANNEE VALLEY RESEARCH & EDUCATION CENTER LIVESTOCK WASTE TESTING LABORATORY AND NUTRIENT MANAGEMENT PROGRAM  
 12/8/2006 "VERIFICATION, MODIFICATION, AND DEMONSTRATION OF HMP'S IN THE SUWANNEE RIVER BASIN FY2006 "  
 9/30/2007 TOMATO RESEARCH PROJECT SUPPORT FOR 2006-2007  
 2/14/2007 LIVESTOCK WASTE TESTING LAB AND NUTRIENT MANAGEMENT EDUCATION PROGRAM

HSU T

8/31/2007 COLLABORATIVE RESEARCH: ITR COASTAL MODELING AND MANAGEMENT  
 9/30/2008 "CROSSTEX - WAVE BREAKING, BOUNDARY LAYER PROCESSES, THE RESULTING SEDIMENT TRANSPORT AND BEACH PROFILE EVOLUTION  
 9/30/2006 MEASUREMENTS OF EROSION AT DISTRICT HYDRAULIC STRUCTURES  
 9/30/2006 STUDY OF COMPLEX FLOWS THROUGH SFWMD CULVERT STRUCTURES BY CFD MODELING

JAWITZ J W

10/31/2007 IMPACTS OF DNAPL SOURCE ZONE TREATMENT  
 4/30/2007 REVIEW OF LAND USE AND GROUNDWATER RECHARGE PLAN

<u>PI NAME</u>	<u>PROJECT END</u>	<u>PROJECT name</u>
<i>JONES J W</i>	12/8/2006	INTEGRATION AND VERIFICATION OF WATER QUALITY AND CROP YIELD MODELS FOR BMP PLANNING
	6/30/2008	DECISION SUPPORT SYSTEM FOR REDUCING AGRICULTURAL RISKS CAUSED BY CLIMATE VARIABILITY
	5/31/2008	DOWNSCALING AND APPLYING CLIMATE FORECAST IN AGRICULTURE
	8/31/2007	INTEGRATED CROP MANAGEMENT INFORMATION SYSTEM UNDER CURRENT AND FUTURE CLIMATE CONDITIONS
	6/30/2007	INTEGRATION AND VERIFICATION OF WATER QUALITY AND CROP YIELD MODELS FOR BMP PLANNING YEAR 3
	3/31/2006	AGRICULTURAL APPLICATION OF CLIMATE INFORMATION SYSTEM FOR AGRICULTURE AND WATER RESOURCE MANAGEMENT IN THE SE USA
<i>JORDAN J D</i>	9/30/2006	EXPERIMENTAL SPECTRAL REFLECTANCE CALIBRATION FOR AIRBORNE IMAGERY OF VEGETATION IN THE LOWER ST. JOHN'S RIVER
	6/15/2006	HYPERSPECTRAL SIGNATURE BASELINE FOR MONITORING THE BIOCONTROL OF SCHINUS TEREBINTHIFOLIUS
<i>JUDGE J</i>	2/28/2008	IMPROVED ESTIMATION OF EVAPOTRANSPIRATION AND RECHARGE FROM A DYNAMIC SVAT MODEL THROUGH ASSIMILATION OF
	12/31/2006	LINKING CHANGES IN DYNAMIC VEGETATION TO PASSIVE MICROWAVE REMOTE SENSING
<i>LARKIN I V</i>	9/18/2010	PAPILLOMA TRACKING AND REPRODUCTIVE ASSESSMENTS OF FLORIDA MANATEES
	6/1/2006	PAPILLOMATRACKING AND REPRODUCTIVE ASSESSMENTS OF FLORIDA MANATEES
<i>LINDNER A S</i>	2/28/2006	FY 2002 WATER RESOURCES RESEARCH INSTITUTE ANNUAL BASE PROGRAM (SUPPLEMENT TO 4504-817-12)
	3/31/2006	HEALTH EFFECTS OF CHLORINATED COMPOUNDS: ASSESSMENT OF NATURAL BIOATTENUATION OF PCE AND TCE - PROJECT 7
<i>MARTIN J B</i>	11/30/2008	DESIGN AND DEMONSTRATION OF A DISTRIBUTED SENSOR ARRAY FOR PREDICTING WATER FLOW AND NITRATE FLUX IN THE SANTA FE BASIN
	7/31/2007	INTEGRATED PHYSICAL AND CHEMICAL OBSERVATIONS OF WATER-ROCK INTERACTIONS AND COUPLE MATRIX-CONDUIT FLOW IN THE
<i>MUELLER P A</i>	8/31/2007	TECHNICAL SUPPORT FOR A NEW ICP-MS LABORATORY FOR EARTH AND OCEAN SCIENCE RESEARCH AT THE UNIVERSITY OF FLORIDA
<i>NAIR V D</i>	8/8/2007	PROTOCOL DEVELOPMENT TO EVALUATE THE EFFECT OF WATER TABLE MANAGEMENT ON PHOSPHORUS RELEASE TO DRAINAGE WATER
<i>NEUHOFF P S</i>	12/31/2007	SITE SPECIFIC ENERGETICS OF WATER IN ROCK-FORMING ZEOLITES
<i>O'CONNOR G A</i>	12/31/2006	AGRONOMIC AND ENVIRONMENTAL CHARACTERIZATION OF P IN FL BIOSOLIDS
	12/31/2006	CHARACTERIZATION OF MILOGRANITE R 6-2-0 BIOSOLIDS RELATING TO PHAOSPHORUS POTENTIAL FOR SOIL WATER MOVEMENT
	4/28/2006	"CHARACTERIZING THE FORMS, SOLUBILITIES, BIOAVAILABILITY AND MINERALIZATION RATES OF PHOSPHORUS IN BIOSOLIDS, COMMERCIAL.."
	8/31/2008	FATE AND TRANSPORT OF BIOSOLIDS-BONE TRICLOCARBAN
	2/19/2006	LAND APPLICATION OF RESIDUALS AND MANURE IN THE LAKE OKEECHOBEE WATERSHED: P CONSIDERATIONS
	2/28/2006	SUSTAINABLE LAND APPLICATION - CONFERENCE SUPPORT
	4/26/2006	TOXICITY OF ALUMINUM FROM WATER TREATMENT RESIDUALS TO CATTLE

<u>PI NAME</u>	<u>PROJECT END</u>	<u>PROJECT name</u>
<i>OVERHOLT W A</i>	9/30/2006	COMMUNITY LEVEL IMPACT OF WEST INDIAN MARSH GRASS ON THE MYAKKA RIVER WATERSHED & EVAL. OF A POTENTIAL MGT. STRATEGY
	7/15/2007	FOREIGN EXPLORATION FOR NATURAL ENEMIES OF HYDRILLA VERTICILLATA IN EAST AFRICA
	12/29/2006	FOREIGN EXPLORATION FOR NATURAL ENEMIES OF HYDRILLA VERTICILLATA IN EAST AFRICA
<i>PEARLSTINE L G</i>	3/31/2011	"DEVELOPMENT OF SPATIALLY EXPLICIT WATER DEPTH SURFACES FOR THE EVERGLADES, FLORIDA "
<i>PHLIPS E J</i>	9/30/2006	WATER QUALITY CHARACTERISTICS OF FLORIDA COASTAL WATERS
	9/30/2007	ZOOPLANKTON SAMPLE ANALYSIS AND INTERPRETATION IN THE MIDDLE ST. JOHNS RIVER BASIN AND ORANGE CREEK BASIN FY 2006-2007
	6/15/2007	"FISH HELATH IN THE ST. LUCIE ESTUARINE SYSTEM: MICROCYSTIS AERUGINOSA, A SOURCE OF BIOLOGICAL TOXICITY "
	9/30/2006	ZOOPLANKTON SAMPLE ANALYSIS IN THE MIDDLE ST. JOHNS RIVER BASIN AND ORANGE CREEK BASIN IN FY 2005i2006
	9/30/2006	PHYTOPLANKTON ABUNDANCE AND COMPOSITION IN THE INDIAN RIVER LAGOON
	6/15/2007	MONITORING OF TOXIC ALGAI IN THE INDIAN RIVER LAGOON
	7/31/2007	GTMNERR WATER QUALITY MONITORING
	9/30/2007	ALGAL SAMPLING AND ANALYSIS IN THE INDIAN RIVER LAGOON
	3/30/2006	AN EXAMINATION OF POTENTIALLY TOXIC ALGAE IN HILLSBOROUGH COUNTY LAKES
	5/31/2007	HOW ESTUARIES RESPOND TO NUTRIENT LOAD: THE GUANA TOLOMATO MATANZAS NATIONAL ESTUARINE RESEARCH RESERVE AS A MODEL
	3/30/2008	PLANKTON SAMPLING AND ENUMERATION IN THE LOWER ST. JOHN'S RIVER
<i>SCHAFFER B A</i>	12/28/2007	BREAKING INTO THE LIGHT: RECOVERY STEPS FOR ENDANGERED JACQUEMONTIA RECLINATA AND AMORPHA HERBACCEA
	8/14/2008	DETERMINING ATMOSPHERIC LOADING OF AGROCHEMICALS AND OTHER ORGANIC POLLUTANTS TO THE EVERGLADES & THE GREATER SO FL BAS
	9/14/2007	FOLIAR ACID APPLICATIONS TO PREVENT IRON DEFICIENCY IN TROPICAL FRUIT CROPS GROWN IN CALCAREOUS SOILS
<i>SCHUMANN A W</i>	11/5/2007	VARIABLE RATE FERTILIZATION FOR ENHANCEMENT OF RIDGE CITRUS N-BMPS
	12/22/2006	VERIFICATION MONITORING OF THE RIDGE CITRUS BMP
<i>SCHUUR E A</i>	9/14/2006	THE RESPONSE OF SOIL CARBON TO PERMAFROST MELTING IN HIGH LATITUDE ECOSYSTEMS: USING RADIOCARBON TO DETECT THE
	9/30/2006	THE SENSITIVITY OF TROPICAL FOREST ECOSYSTEM DYNAMICS TO PRECIPITATION
	8/31/2008	THE CARBON BALANCE OF ARCTIC TUNDRA IN RESPONSE TO PERMAFROSTHAWING: USING RADIOCARBON TO DETECT THE LOSS OF
	5/31/2007	MANAGING FIRE WITH FIRE-PREDICTING ECOSYSTEM TRAJECTORIES
	9/30/2006	EFFECTS OF DETRIAL EXPORT FROM DIFFERENT LAND USES ON WATER QUALITY AND FOOD WEBS OF THE ST. JOHNS RIVER
	8/31/2007	EFFECT OF WARMING AND DRYING ON PLANT ALLOCATION AND SOIL CARBON DYNAMICS IN BOREAL FOREST: USING RADIOCARBON TO .....
	8/31/2007	EFFECT OF WARMING AND DRYING ON PLANT ALLOCATION AND SOIL CARBON DYNAMICS IN BOREAL FOREST: USING RADIOCARBON TO .....
	12/15/2006	DEVELOPMENT OF MONITORING TECHNIQUES TO DETECT CHANGE IN CARBON CYCLING IN RELATION TO THERMOKARST IN NATIONAL PARKS
	12/15/2007	DEVELOPMENT OF MONITORING TECHNIQUES TO DETECT CHANGE IN CARBON CYCLING IN RELATION TO THERMOKARST ....PHASE II

<u>PI NAME</u>	<u>PROJECT END</u>	<u>PROJECT name</u>
	9/30/2006	REU SUPPLEMENT: COLLABORATIVE RESEARCH CLIMATE CONTROLS OVERECOSYSTEM RESPIRATION USING ISOTOPES TO DETERMINE THE
<i>SOLLENBERGER L E</i>	5/6/2006	CONFIRMATION OF INTERIM BMP FOR MAXIMUM NITROGEN FERTILIZATIFERTILIZATION HAYFIELDS IN THE SUWANNEE RIVER
	8/31/2007	DETERMINANTS OF NUTRIENT POOLS AND FLUXES IN GRAZED GRASSLANDS
<i>STEIN T V</i>	1/15/2006	DEVELOPING A PLAN FOR JACKSON COUNTY SUSTAINABLE TOURISM DEVELOPMENT
	9/30/2008	FIVE YEAR FLORIDA NATIONAL SCENIC TRAIL USER ASSESSMENT
	12/31/2007	UNDERSTANDING THE HUMAN DIMENSIONS OF OHV RECREATION ON THE OCALA NATIONAL FOREST TO AID IN MANAGEMENT AND PLANNING
<i>SVORONOS S A</i>	9/1/2006	IPPD 2005/2006: CRYSTAL RIVER PLANT THERMAL DISCHARGE
	8/15/2007	IPPD 2006-2007: CONDENSATE/HEATER DRIP PUMP CONTROLS
	8/15/2007	IPPD 2006-2007: REDUCTION OF NITRATES AND ORGANIC COMPOUNDSFROM SOLUTIAS INJECTED WASTE STREAMS
<i>TEPLITSKI M</i>	12/1/2007	ASSAYS TO TEST COMPONENTS THAT MAY ACT AS CONTROLLED SENSOR BLOCKERS
<i>YOUNG L</i>	6/30/2007	"TASK 3 ASSESS CONTRIBUTIONS OF OWTS RELATIVE TO OTHER SOURCES, WEKIVA ONSITE NITROGEN CONTRIBUTION STUDY "
	6/30/2006	ASSESSMENT OF CHANGES IN RED TIDE FREQUENCY AND INTENSITY
	12/31/2006	SPATIAL MODELING AND ANALYSIS

**REPORT AMT AWARDED: \$12,911,192.00**

**REPORT COUNT TITLES: 155**