V(A). Planned Program (Summary)

Program # 3

1. Name of the Planned Program

Maintain, Conserve and Enhance Florida's Natural Environment

☑ Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

<table>
<thead>
<tr>
<th>KA Code</th>
<th>Knowledge Area</th>
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<th>%1890 Extension</th>
<th>%1862 Research</th>
<th>%1890 Research</th>
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<tbody>
<tr>
<td>103</td>
<td>Management of Saline and Sodic Soils and Salinity</td>
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<td>0%</td>
<td>0%</td>
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<tr>
<td>104</td>
<td>Protect Soil from Harmful Effects of Natural Elements</td>
<td>10%</td>
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<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>111</td>
<td>Conservation and Efficient Use of Water</td>
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<td>0%</td>
<td>0%</td>
<td>0%</td>
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<tr>
<td>112</td>
<td>Watershed Protection and Management</td>
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<td>0%</td>
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<tr>
<td>132</td>
<td>Weather and Climate</td>
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<td>0%</td>
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<td>135</td>
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V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

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<tr>
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<td>Actual Volunteer</td>
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2. Actual dollars expended in this Program (includes Carryover Funds from previous years)
V(D). Planned Program (Activity)

1. Brief description of the Activity

   Environmental Education
   
   1. Conduct needs assessment

2. Develop collaborative meetings/working partnerships/advisory committees

3. Write grants

4. Develop inservice/training programs for different audiences using

   - face to face field institutes

   - distance learning (web-based, podcasts, video conferences, polycom, etc.)

5. Establish Extension EE webpage

6. Develop educational materials for EE

7. Assist in development of educational events in EE for youth, volunteers, public, etc. at state, district, and/or county level.

8. Support and assist in assessing impacts of EE programs (in Extension) at state and county level.

2. Brief description of the target audience

   Citizens of the state
Tourism industry
   youth
Tourists
Fisherman, hunters
Wildlife organizations
conservationists
government and regulatory agencies

3. How was eXtension used?
   eXtension use was not reported for this program

V(E). Planned Program (Outputs)
1. Standard output measures

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<td>Direct Contacts Youth</td>
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</table>

2. Number of Patent Applications Submitted (Standard Research Output)
   Patent Applications Submitted
   Year: 2012
   Actual: 0

   Patents listed

3. Publications (Standard General Output Measure)
   Number of Peer Reviewed Publications

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</table>

V(F). State Defined Outputs

Output Target

Output #1
   Output Measure
   ● (No Data Entered)
## V(G). State Defined Outcomes

### V. State Defined Outcomes Table of Content

<table>
<thead>
<tr>
<th>O. No.</th>
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<tbody>
<tr>
<td>1</td>
<td>Change in Knowledge Water Resources</td>
</tr>
<tr>
<td>2</td>
<td>Change in Behavior Water Resources</td>
</tr>
<tr>
<td>3</td>
<td>Change in Condition Water Resources</td>
</tr>
<tr>
<td>4</td>
<td>Change in Knowledge Sustainable Use of Freshwater and Terrestrial Ecosystems</td>
</tr>
<tr>
<td>5</td>
<td>Change in Behavior Sustainable Use of Freshwater and Terrestrial Ecosystems</td>
</tr>
<tr>
<td>6</td>
<td>Change in Condition Sustainable Use of Freshwater and Terrestrial Ecosystems</td>
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<td>7</td>
<td>Change in Knowledge Environmental Education</td>
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<td>8</td>
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<td>Change in Condition Environmental Education</td>
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<tr>
<td>10</td>
<td>Change in Knowledge Sustainable Use of Coastal and Marine Ecosystems</td>
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<tr>
<td>11</td>
<td>Change in Behavior Sustainable Use of Coastal and Marine Ecosystems</td>
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<tr>
<td>12</td>
<td>Change in Condition Sustainable Use of Coastal and Marine Ecosystems</td>
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</tbody>
</table>
Outcome #1

1. Outcome Measures

Change in Knowledge Water Resources

2. Associated Institution Types

- 1862 Extension
- 1890 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

<table>
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<tbody>
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3c. Qualitative Outcome or Impact Statement

**Issue (Who cares and Why)**
Watersheds Don’t Stop at County Lines
The Water Wars of the 1970’s were the first indication of a real issue with the supply and demand of the water resources in the Tampa Bay area. With populations in Pinellas, Pasco and Hillsborough counties continuing to rise 18,917, 7,088 and 43,176 respectively between 2000 and 2011, water resource allocation will continue to be a topic of interest.

**What has been done**
On September 11th and 12th, 2012, a mix of 45 community leaders, natural resource managers, and decision makers from Pinellas, Pasco, and Hillsborough Counties attended a two-day Tri-County Water School facilitated by Pinellas, Pasco, and Hillsborough Extension Faculty. The School focused on educating participants on current issues and future concerns regarding water quality, quantity, and conservation. This was accomplished through presentations from the Southwest Florida Water Management District and the University of Florida Water Institute, an interactive panel of experts from the University of Florida, Tampa Bay Water, Pinellas County Watershed Management, Southwest Florida Water Management District, Tampa Bay Estuary Program, and Keller Water Treatment Plant, as well as a hands-on, interactive watershed activity on Day 1 followed by field tours of the Keller Water Treatment Plant and Tampa Bay Seawater Desalination Plant on Day 2.

**Results**
Post evaluations (n=42) of Day 1 and Day 2 (n=28) completed by participants of the Tri-County Water School indicated 100% of respondents increased their knowledge of regional water issues, water treatment and water sources. 79% of respondents indicated their policies or practices will
be (16) or might be (17) altered and 79% said they were likely (18) or very likely (15) to implement at least one water conservation technique. 96% of respondents indicated the field trips added to their general understanding of critical water issues in the Tri-County area. Participation in the Streamline Shuffle watershed activity had responses such as, ?That was the highlight of the day. It is a great tool to illustrate peoples' impacts on a shared body of water? ? and ?A neat opportunity to think big picture. I think this is great for any age or audience. Nice work!? ? A few additional comments included, ?Loved it and hope you do more sessions like it in the future? ? and ?Great tours, fabulous facilities, please continue to offer this wonderful program!? 

4. Associated Knowledge Areas

<table>
<thead>
<tr>
<th>KA Code</th>
<th>Knowledge Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>111</td>
<td>Conservation and Efficient Use of Water</td>
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<tr>
<td>112</td>
<td>Watershed Protection and Management</td>
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</tbody>
</table>

Outcome #2

1. Outcome Measures

Change in Behavior Water Resources

2. Associated Institution Types

- 1862 Extension
- 1890 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

<table>
<thead>
<tr>
<th>Year</th>
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</thead>
<tbody>
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</table>

3c. Qualitative Outcome or Impact Statement

**Issue (Who cares and Why)**
Understanding water management techniques can provide savings in the pocket book as well as less water being pumped.

**What has been done**
283 participants have attended at least one of 16 water management workshops (53 in 2012, 89 in 2011, 141 in 2008-2010). 182 rain barrels have been installed by participants and clients.

**Results**
Of the 53 participants of one of 3 workshops in 2012, 41% (22) responded to a follow-up on-line survey sent out 4 to 6 months after the event. 86% of those respondents reported having adopted at least one new water management technique, including 25% installing rain barrels, 41% constructing composting units to produce soil amendments and 59% adding two inches of mulch to plant beds to conserve water.

4. Associated Knowledge Areas

<table>
<thead>
<tr>
<th>KA Code</th>
<th>Knowledge Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>111</td>
<td>Conservation and Efficient Use of Water</td>
</tr>
<tr>
<td>112</td>
<td>Watershed Protection and Management</td>
</tr>
</tbody>
</table>

Outcome #3

1. Outcome Measures

Change in Condition Water Resources

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

<table>
<thead>
<tr>
<th>Year</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>173</td>
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</table>

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
One large golf course and country club in Marion County is a great example of a collaborative effort to conserve water.

What has been done
A team effort among the homeowners’ association, the utility, the St. Johns River Water Management District, UF/IFAS Extension, the garden club, and the residents, resulted in a 40 percent water savings in two years. The association changed its covenants to allow less turf?a minimum of 50 percent in the yard, and they began to allow rain barrels. The utility moved to a one-day per week watering rotation and ran an aggressive water conservation education program. The garden club distributed stickers as reminders about the watering days to roughly half of the 3,600 households and helped residents set irrigation controllers. The garden club also established a Florida-Friendly demonstration garden. The extension agent continues to conduct education classes each month. The utility is pursuing use of reclaimed water for irrigation.
Results
This has reduced per person water usage from 471 gallons to 139 gallons annually.

4. Associated Knowledge Areas

<table>
<thead>
<tr>
<th>KA Code</th>
<th>Knowledge Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>103</td>
<td>Management of Saline and Sodic Soils and Salinity</td>
</tr>
<tr>
<td>104</td>
<td>Protect Soil from Harmful Effects of Natural Elements</td>
</tr>
<tr>
<td>111</td>
<td>Conservation and Efficient Use of Water</td>
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<tr>
<td>112</td>
<td>Watershed Protection and Management</td>
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<tr>
<td>132</td>
<td>Weather and Climate</td>
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<tr>
<td>135</td>
<td>Aquatic and Terrestrial Wildlife</td>
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</table>

Outcome #4

1. Outcome Measures

Change in Knowledge Sustainable Use of Freshwater and Terrestrial Ecosystems

2. Associated Institution Types

- 1862 Extension
- 1890 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

<table>
<thead>
<tr>
<th>Year</th>
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<td>2012</td>
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</table>

3c. Qualitative Outcome or Impact Statement

**Issue (Who cares and Why)**
Hydrilla is a serious issue in Florida waterways and lakes.

**What has been done**
We developed a target audience needs assessment tool to provide local insight on perceptions of hydrilla. After gaining UF Institutional Review Board approval for the assessment we worked to obtain the maximum response rate to the needs assessment survey. We used the survey responses to prioritize our development of material to support this project. A website has been created for the project at http://entomology.ifas.ufl.edu/hydrilla. We included pages on Extension, Research, Resources, FAQ, Team Members, Events, Links, etc. We will
continue to update and add to the website as the project progresses.

**Results**

Since its inception in 2011 there have been over 12,000 individual user page views recorded on this site. In addition to our local project website we are partnering with the eXtension Invasive Species Community of Practice to deliver material to a different audience. The eXtension website is supported by a nationwide network of extension specialists. Our work and IPM plan will be posted on eXtension as it becomes available. Our first guest article was published in April of 2012.

In order to raise awareness about the Hydrilla IPM project and our project website, we created several promotional items including webcards, ruler bookmarks and fish ruler stickers. Each of these items includes the project website address and a QR (quick response) code that can be scanned with a smart phone. We distributed packets of the promotional items to Extension faculty from each county at the 2011 statewide Extension Professional Associations of Florida conference held in Lake Buena Vista, FL, 29 August-1 September. County faculty will be able to use these tools to influence more diverse audiences focusing on new strategies to enhance IPM.

We also created a pull-up banner and poster display to use at various meetings, conferences and events to advertise our project. We displayed these at a table-top display at the annual statewide Extension Professional Associations of Florida conference. We will track the use of this material and distribute additional material to augment program implementation with the complete IPM program available in 2014.

### 4. Associated Knowledge Areas

<table>
<thead>
<tr>
<th>KA Code</th>
<th>Knowledge Area</th>
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<tbody>
<tr>
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**Outcome #5**

1. **Outcome Measures**

   Change in Behavior Sustainable Use of Freshwater and Terrestrial Ecosystems

2. **Associated Institution Types**

   - 1862 Extension
   - 1890 Extension

3a. **Outcome Type:**

   Change in Action Outcome Measure

3b. **Quantitative Outcome**

<table>
<thead>
<tr>
<th>Year</th>
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Report Date 06/10/2013
3c. Qualitative Outcome or Impact Statement

**Issue (Who cares and Why)**
At the Everglades REC specialists have evaluated fertilizer management strategies for crop production on muck soils.

**What has been done**
Different field experiments conducted on grower farms tested efficacy of silicon and nitrogen amendments for lettuce production. Amendments failed to increase lettuce yield, indicating that growers were following best management guidelines with respect to these amendments.

**Results**
Further trials evaluated phosphorus amendments, and confirmed that rates of phosphorus fertilizer necessary for optimal crop yield were higher than currently recommended. Growers gained knowledge of use of higher phosphorus fertilization rates to improve yield, while knowing that no additional changes to silicon and nitrogen management were needed.

4. Associated Knowledge Areas

<table>
<thead>
<tr>
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<th>Knowledge Area</th>
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<tbody>
<tr>
<td>111</td>
<td>Conservation and Efficient Use of Water</td>
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**Outcome #6**

1. **Outcome Measures**

Change in Condition Sustainable Use of Freshwater and Terrestrial Ecosystems

2. **Associated Institution Types**

- 1862 Extension
- 1890 Extension

3a. **Outcome Type:**

Change in Condition Outcome Measure

3b. **Quantitative Outcome**

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3c. **Qualitative Outcome or Impact Statement**
Issue (Who cares and Why)
During 2012 I completed the applications of the Everglades Landscape Model (ELM) to evaluate water quality constraints associated with an Everglades restoration project - the Decompartmentalization of Water Conservation Area 3A (DECOMP, Phase 1) project.

The conclusions from the ELM applications were used to make State and Federal agency decisions on the management and restoration of the Everglades landscape, significantly impacting the methodology that agencies use in that decision-process.

What has been done
The audience for these analyses was Federal and State scientists, engineers, and managers on the technical team(s) that are developing the plans and evaluations for the DECOMP and related Everglades restoration projects.

Results
The conclusions from the ELM applications were used to make State and Federal agency decisions on the management and restoration of the Everglades landscape, significantly impacting the methodology that agencies use in that decision-process.

4. Associated Knowledge Areas

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<td>Aquatic and Terrestrial Wildlife</td>
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Outcome #7

1. Outcome Measures

Change in Knowledge Environmental Education

2. Associated Institution Types

- 1862 Extension
- 1890 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

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</table>
3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
At least 100 citizens will volunteer a minimum of 500 hours to cleanup the coastal environment, develop outreach and education materials, and promote marine extension activities at community events. This will be evaluated through tracking hours worked on volunteer service projects and other community outreach events.

What has been done
Outcomes: 77 community volunteers donated 628.5 hours to coastal cleanup events, environmental restoration projects, the development of education and outreach materials, and program assistance.

Impacts: Through first-hand experience with marine debris, participants will be empowered to correctly modify their behavior to minimize negative human-induced impacts to the environment. Volunteers, with increased knowledge and experience, will be likely to spread their knowledge gain to fellow residents resulting in potential secondary benefits. A healthier marine environment can result in more enjoyable recreational opportunities for residents and visitors which will result in economic benefits to the local economy.

Results
Success Story: Ohio Buck-I-Students dedicate efforts to Florida
In the past several years, the economic downturn has caused budget cuts at the county and state levels. Where there were once abundant county employees to accomplish maintenance and restoration efforts at the Parks and Preserves of Pinellas County, today the county increasingly reliant on the efforts of volunteers. In December 2011, 10 dedicated students from Ohio State University (OSU) BUCK-I-SERV Program (Students Engaged in Responsible Volunteering) headed south to Pinellas County, Florida for a week of service with the Pinellas County Sea Grant Extension Agent. The students learned about nearshore and coastal habitats of Tampa Bay and the Gulf of Mexico and local wildlife and social marine issues. The training included classroom seminars, an education center scavenger hunt, fish printing, seining for fish and invertebrates, and other teachable moments in the field. In a practical use of their new knowledge and skills, the students assisted with invasive plant removal and coastal cleanups. While it was the first time many of them had used a machete or bow saw, the students were enthusiastic to learn new skills and put them to work. The group removed Australian pine and Brazilian pepper trees from approximately 20 acres of Weedon Island and Shell Key preserves in Pinellas County. On the beach and in the mangrove forests, the students collected six bags of debris, weighing approximately 135 pounds. In all, OSU students dedicated 320 hours of valuable service. As evidenced by an assessment, all students increased their knowledge, with an average of 34% increase in post-test scores compared to pre-test. In the evaluations, all participants said that they would recommend this program to fellow students. A testimonial from this year's participants is available online at http://youtu.be/flB2DeFHkV0.

4. Associated Knowledge Areas

<table>
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<tr>
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Outcome #8

1. Outcome Measures

Change in Behavior Environmental Education

2. Associated Institution Types

- 1862 Extension
- 1890 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

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3c. Qualitative Outcome or Impact Statement

**Issue (Who cares and Why)**
There is a need for Florida citizens to learn how to learn improve the economic, environmental and social environment in Florida communities.

**What has been done**
In two years, the Sustainable Floridians program in Pinellas County has trained 66 participants as part of the statewide training initiative. Participants learn how to improve the economic, environmental and social sustainability of their communities. The 7-week training session is both educational and action oriented with participants learning about Florida specific actions for conserving energy and water. Each participant also receives sustainable living devices to encourage practice change (e.g. rain barrels, power strips, LEDs). Participants also explore opportunities for community level leadership while promoting the Extension service.

**Results**
After graduation, participants continue to be mentored by Extension faculty through monthly meetings that examine sustainability issues at the local and regional level. Graduates of the program have shared personal stories about the merits of the program, are energized and inspired to become more engaged with sustainability, and are immensely gratified to network with others who share a similar passion for sustainability. Overall, the participatory structure of the program continues to educate and engage graduates who are motivated to improve the triple bottom-line of their communities.
4. Associated Knowledge Areas

<table>
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<tr>
<th>KA Code</th>
<th>Knowledge Area</th>
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<tbody>
<tr>
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<td>Conservation and Efficient Use of Water</td>
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<tr>
<td>112</td>
<td>Watershed Protection and Management</td>
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</tbody>
</table>

**Outcome #9**

1. **Outcome Measures**

Change in Condition Environmental Education

Not Reporting on this Outcome Measure

**Outcome #10**

1. **Outcome Measures**

Change in Knowledge Sustainable Use of Coastal and Marine Ecosystems

2. **Associated Institution Types**

   - 1862 Extension
   - 1890 Extension

3a. **Outcome Type:**

   Change in Knowledge Outcome Measure

3b. **Quantitative Outcome**

<table>
<thead>
<tr>
<th>Year</th>
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<tbody>
<tr>
<td>2012</td>
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3c. **Qualitative Outcome or Impact Statement**

   **Issue (Who cares and Why)**
   Current projects focus on continuing long-term, science-based, GIS/GPS integrated, research, and education programs to support ecological restoration and management efforts in South Florida. International projects aim to apply lessons learned from research in South Florida to analogous ecosystems in the Caribbean. Crocodilians are indicator species in the Everglades landscape, and are being used as indicators of ecosystem response to restoration plans. Results from long-term research and monitoring projects on American crocodiles and American alligators in Florida are being used by the US Department of the Interior and US Army Corps of Engineers to evaluate and assess restoration plans and projects. Results of a decision support/landscape modeling program have been used to guide selection of alternatives for the Comprehensive
Everglades Restoration Plan (CERP). This effort has allowed decision-makers to choose alternatives most effective at meeting ecological goals of CERP at minimum cost.

**What has been done**
Working cooperatively the Florida Fish and Wildlife Conservation Commission, South Florida Water Management District, and Zoo Miami we have established the first early detection and rapid response network for invasive species in Florida. Once the best restoration alternatives are chosen, the next important task is to determine the success of restoration efforts. Projects encompassing wildlife habitat relations provide baseline information and reliable methods for monitoring ecosystem responses to ecological changes.

**Results**
Information from studies of pythons is already having a profound effect on the evolution of management and control plans in Everglades National Park.

4. Associated Knowledge Areas

<table>
<thead>
<tr>
<th>KA Code</th>
<th>Knowledge Area</th>
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<tbody>
<tr>
<td>111</td>
<td>Conservation and Efficient Use of Water</td>
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<tr>
<td>135</td>
<td>Aquatic and Terrestrial Wildlife</td>
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</table>

**Outcome #11**

1. Outcome Measures

Change in Behavior Sustainable Use of Coastal and Marine Ecosystems

Not Reporting on this Outcome Measure

**Outcome #12**

1. Outcome Measures

Change in Condition Sustainable Use of Coastal and Marine Ecosystems

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

<table>
<thead>
<tr>
<th>Year</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>704</td>
</tr>
</tbody>
</table>
3c. Qualitative Outcome or Impact Statement

**Issue (Who cares and Why)**
The Florida bay scallop all but disappeared from SW Florida waters in the 1980s. In recent years, bays scallops have been seen in greater numbers in southwest Florida, magnifying the need to document their current status, initiate restoration efforts where appropriate and monitor for recovery.

**What has been done**
The agent is working with agency and non-profit partners to involve citizens in the bay scallop recovery efforts. Sea Grant volunteers participate in an annual Pine Island Sound Scallop Search, a no-harvest events that teach residents and visitors about active field research and the importance of the bay scallop.

**Results**
In August of 2012 over 270 volunteers on 74 vessels participated in searches in Lemon Bay, Gasparilla Sound and Pine Island Sound and counted 424 scallops. These searches complement similar searches in Tampa Bay and Sarasota Bay and use the same methods to ensure uniformity across Southwest Florida. Having standardized methods allow researchers to compare data collected from year to year, site to site and bay to bay. The goal of this project is to develop a regional and long-term picture of scallop distribution and abundance in area waters. The results of the searches and other Sea Grant coordinated scallop projects have been wide-reaching. Agents have provided bay scallop, seagrass ecology and field research methods training and demonstrations to over 1300 people since 2009. Over 50 media outreach publications have been produced as a result of Sea Grant’s bay scallop outreach efforts. Results of the scallop search and other efforts have been used to determine site suitability for larval release restoration efforts. Two larval releases were executed in Sarasota Bay in 2012 and an additional two to four releases are planned in Charlotte Harbor. Sea Grant created SW Florida bay scallop working group has been formed to gives scientist and educators from FWC, county governments, nonprofits, commercial hatcheries and Sea Grant a chance to discuss local bay scallop efforts for better collaboration at a regional scale. The group is also working to develop a consistent educational message regarding bay scallop status and restoration potential in SW Florida.

As a result of the formation of a SWFL Bay Scallop working groups two scallop restoration projects have occurred and at least two more are on target to occur before the end of 2012. Restoration projects were delayed due to water quality issues and red tide. The restorations planned for Charlotte will be led by the Sea Grant agent and a FL Fish and Wildlife Conservation Commission biologist, and involve trained volunteers. The working group has begun creating a uniform educational and policy message through the increased coordination of scientists and educators. It is hoped that a common voice on a regional scale will result in increased funding for scallop restoration.

4. Associated Knowledge Areas

<table>
<thead>
<tr>
<th>KA Code</th>
<th>Knowledge Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>111</td>
<td>Conservation and Efficient Use of Water</td>
</tr>
<tr>
<td>135</td>
<td>Aquatic and Terrestrial Wildlife</td>
</tr>
</tbody>
</table>
V(H). Planned Program (External Factors)

External factors which affected outcomes
- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges

Brief Explanation

Florida is still being heavily impacted by the economic situation. Public higher education in Florida has lost more than 50% of state funding and has been impacted by other losses caused indirectly by the economic down turn. Issues related to Medicaid are also expected to impact us heavily. Changes in state, county and federal appropriations can also affect the outcomes related to the Florida land-grant mission. Because of limited resources in Florida and continuing devolution Extension programs can always be affected by changing public and governmental priorities. These can include appropriations.

Natural and national disasters can also affect the number of volunteers available to work with youth. Florida is a state located in the tropics. Natural disasters such as tropical storms and hurricanes are common annual occurrences in this state. Severe weather conditions such as droughts frequently led to large-scale fires. We also have other weather extremes such as floods leading to large scale damage especially along the coastal regions. All of these can have a direct and indirect impact on Extension programs.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Finding ways to maintain, conserve and enhance Florida's natural environment is very important to the people of Florida as shown in a recent grassroots strategic plan. Florida UF/IFAS Extension works hard to find solutions to the problems that impact the natural environment and along the coastline. This year we surveyed 24,926 people who increased their knowledge in managing, conserving and enhancing Florida's natural environment. 6,975 people made changes in their behavior that had positive impacts on the environment and 704 people attending extension educational programs made a wider impact on their communities in environmental areas. Some of our faculty also influenced regulatory decisions and policies in the state of Florida as well as in other states.

Areas of particular concern that were impacted included water resources, the sustainable use of freshwater and terrestrial ecosystems, environmental education, the sustainable use of coastal and marine ecosystems and changes related to climate variability and change.

Key Items of Evaluation

Success Story: LORAN-C service was discontinued February 2010, yet Bay County continued to report reef locations on official website only in LORAN. Mathematical conversion from LORAN to GPS coordinates is inaccurate. Erroneous reef information and
coordinates frustrated boaters, expending additional hours and fuel searching for reefs that have been misreported, moved, or no longer existed. Published reef data needs to reflect current condition and exact location.

Bay County Sea Grant Advisory Committee suggested an interactive website for local artificial reefs where users could share their observations and experiences with the public. Florida Sea Grant Communications helped create website policies for comments, video, and image sharing. UF-IFAS IT provided PHP code to manage and update our WordPress site hosting information on over 240 public reefs. The Bay County Agent provided training information to area diving and fishing clubs, and through strategic partnerships with the BOCC, Panama City Beach TDC, Mexico Beach Artificial Reefs Association. Additionally, the website has been promoted through television, newspaper, and newsletters. Informational flyers with QR-codes link smartphones to a mobile version of the website have been share with area businesses.

Sept 2012, Bay County BOCC provided a direct link to the new website which is moderated by the Sea Grant Agent. ESRI embedded maps, photos, and YouTube videos provide an enriching interactive experience. Discussion with individual users and groups is providing increased communication and direction for reef monitoring efforts.

Monitoring Bay County’s reef sites and providing accurate locations to the public, using a grassroots approach, is a fraction of the initial deployment costs.