In March 2010, Extension specialists and staff at the School of Forest Resources and Conservation, University of Florida conducted a needs assessment regarding natural resources Extension programs in Florida. An online survey, designed to collect information for program development and to improve specialist-agent interactions, was sent to all Extension agents in Florida (N=342). The questionnaire contained nine questions about program topic areas, resources or tools needed to support natural resource programs, program audiences, and suggestions to improve both formal and informal communications between agents and specialists.

After two weeks and 3 reminder emails, 121 agents completed the questionnaire (36.2% response rate from 334 deliverable surveys). Agents from 58 counties (86.5%) and representing all five Extension districts responded to the survey (Figure 1). Respondents had a broad range of specialties, with 76% specializing in agriculture, 4H youth development, or horticulture (Figure 2).
A large part of the survey consisted of questions regarding natural resource program topics. Over 40 potential topics were split into three categories: aquatic resource or fishery topics, forestry topics, and other natural resource topics. For each topic, agents could select whether they already conduct programs related to the topic, want to conduct programs, work with others to conduct programs, or want training. For any topics selected, respondents were invited to identify the information, tools, and resources needed to support those programs. In addition, two open-ended questions allowed respondents to identify additional topics, tools, or resources.

The following highlights some key results from the program topic questions, while pages 5-13 provide the frequency tables and all open-ended responses:

**Aquatic Resources Topics (see pages 5-6)**

- *Aquatic Weed ID and Control* and *Water Quality* were both popular topics, containing high frequencies in each column compared to other topics. Thirty-five respondents reported wanting training in water quality programs.
- Agents are conducting programs, working with others to conduct programs, and would like more training in *Pond Management* and *Invasive Aquatic Organisms*.
- While fewer agents are conducting programs in *Nutrients in Aquatic Systems*, *Boating Management*, *Shellfish Aquaculture*, and *Ornamental Fish Ponds*, 11 to 32 respondents would like training in these areas.
Forestry Topics (see pages 7-8)

- *Invasive Terrestrial Plants* was by far the most popular topic, with the highest number of respondents conducting programs (35), working with others (34), wanting to conduct programs (13), and wanting training (26).
- *Restored Forest Ecosystems* was the least popular topic; 1 respondent reported conducting programs and 6 respondents want training.
- Topics with the highest frequencies for desiring training include *Forest Insects and Diseases* (19), *Enhancing Urban Forests* (18), *Invasive Terrestrial Animals* (17), *Measuring Urban Forests* (16), and *Woody Biomass* (16).

Other Natural Resource Topics (see pages 9-10)

- *Youth Environmental Education Programs* was the most popular topic with 62 respondents already conducting these programs.
- While only 5 respondents reported conducting programs or working with others to conduct programs about *Alternative Economic Uses of Forests/Natural Areas*, 19 respondents reported wanting training wanting training.
- Additional topics with high frequencies for training include: *Sustainable Energy* (28), *Ecotourism* (26), *Climate Change* (23), and *Sustainable Lifestyles* (23).

For the topics that respondents selected, agents work with both adults and youth (Table 1). A little over half work with private landowners, and nearly 30% reported that industry is their audience. Other audiences included: elected officials, green industry professionals, county planners, public land managers, farmers, volunteers, and landscapers.

<table>
<thead>
<tr>
<th>Audiences</th>
<th>Percent</th>
<th>Count*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult citizens</td>
<td>75.2%</td>
<td>85</td>
</tr>
<tr>
<td>Youth</td>
<td>70.8%</td>
<td>80</td>
</tr>
<tr>
<td>Private landowners</td>
<td>54.0%</td>
<td>61</td>
</tr>
<tr>
<td>Industry</td>
<td>29.2%</td>
<td>33</td>
</tr>
</tbody>
</table>

*n=113

Agents responded that workshops, video conferences, email lists, and webinars were their preferred methods for improving both formal and informal communication with specialists (Table 2). Twitter and social networking sites were preferred by very few agents.
Table 2. Preferred Specialist-Agent Communication Methods

<table>
<thead>
<tr>
<th>Communication Methods</th>
<th>Percent</th>
<th>Count*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workshops</td>
<td>74.6%</td>
<td>85</td>
</tr>
<tr>
<td>Video conferences</td>
<td>62.3%</td>
<td>71</td>
</tr>
<tr>
<td>Email lists</td>
<td>55.3%</td>
<td>63</td>
</tr>
<tr>
<td>Webinars</td>
<td>49.1%</td>
<td>56</td>
</tr>
<tr>
<td>Conference calls</td>
<td>23.7%</td>
<td>27</td>
</tr>
<tr>
<td>Online discussion forum</td>
<td>8.8%</td>
<td>10</td>
</tr>
<tr>
<td>Social networking sites</td>
<td>6.1%</td>
<td>7</td>
</tr>
<tr>
<td>Twitter</td>
<td>0.9%</td>
<td>1</td>
</tr>
</tbody>
</table>

*n=114

Finally, agents provided insight with personalized, open-ended comments:

- “Specialists are key to the success of IFAS on the county agent level.”
- “We need this type of needs assessment and a list of existing resources (powerpoints, expertise, programs ongoing) so we can better work together.”
- “There should be more natural resource, urban/nature interfaces. These seem to be lost within ‘ag Extension’ despite the fact that it is an increasingly important part of growth management in Florida.”

All comments can be found on page 14.

In sum, natural resource topics are extremely popular with Florida Extension agents with 68% of the respondents requesting training. Because the main focus of the majority of their positions is agriculture, 4H, and horticulture, natural resource specialists may wish to emphasize links between these areas, such as urban forestry and horticulture, wildlife/forestry and agriculture, or climate change and youth development. In-service training and increased communication between specialists and agents are needed and desired. The results of this needs assessment were used during the School of Forest Resources and Conservation’s Extension Retreat in May 2010 to discuss and plan program opportunities. A list of respondents wishing to receive additional information about natural resource programs has been developed for future use by SFRC specialists. Specialists are able to search the results to determine which agents want training in a specific topic area and communicate with that subgroup. For a copy of the survey, respondent information, or other questions, please contact Annie Oxarart at oxarart@ufl.edu.
<table>
<thead>
<tr>
<th>Aquatic Resource Topics</th>
<th>Already conduct programs</th>
<th>Work with other specialists, agencies, or managers</th>
<th>Want to conduct programs</th>
<th>Want to attend training</th>
<th>Count*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Quality</td>
<td>22</td>
<td>26</td>
<td>20</td>
<td>35</td>
<td>67</td>
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<tr>
<td>Aquatic Weed Identification and Control</td>
<td>25</td>
<td>28</td>
<td>10</td>
<td>30</td>
<td>57</td>
</tr>
<tr>
<td>Pond Management (e.g., fishing)</td>
<td>17</td>
<td>24</td>
<td>13</td>
<td>26</td>
<td>50</td>
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<tr>
<td>Invasive Aquatic Organisms</td>
<td>15</td>
<td>22</td>
<td>10</td>
<td>26</td>
<td>49</td>
</tr>
<tr>
<td>Fish Identification</td>
<td>12</td>
<td>15</td>
<td>10</td>
<td>20</td>
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<tr>
<td>Nutrients in Aquatic Systems</td>
<td>9</td>
<td>12</td>
<td>11</td>
<td>32</td>
<td>43</td>
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<tr>
<td>Other Aquaculture (e.g., foodfish, shrimp, bait)</td>
<td>3</td>
<td>16</td>
<td>6</td>
<td>14</td>
<td>31</td>
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<tr>
<td>Aquatic Animal Health</td>
<td>7</td>
<td>16</td>
<td>3</td>
<td>14</td>
<td>30</td>
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<tr>
<td>Aquascaping</td>
<td>8</td>
<td>8</td>
<td>9</td>
<td>16</td>
<td>30</td>
</tr>
<tr>
<td>Boating Management</td>
<td>3</td>
<td>14</td>
<td>7</td>
<td>14</td>
<td>28</td>
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<tr>
<td>Shellfish Aquaculture</td>
<td>4</td>
<td>13</td>
<td>5</td>
<td>11</td>
<td>26</td>
</tr>
<tr>
<td>Ornamental Fish Ponds</td>
<td>4</td>
<td>11</td>
<td>5</td>
<td>13</td>
<td>26</td>
</tr>
<tr>
<td>Aquarium Fish and Invertebrates (e.g., coral)</td>
<td>8</td>
<td>10</td>
<td>4</td>
<td>8</td>
<td>25</td>
</tr>
<tr>
<td>Florida LakeWatch (citizen lake monitoring program)</td>
<td>7</td>
<td>10</td>
<td>8</td>
<td>10</td>
<td>25</td>
</tr>
</tbody>
</table>
* n=94

For the topics you checked above, please identify information or resources you need to support your programming.

Resources for specific topics and areas of interest
- Aquaponics
- Powerpoints and handouts for landscaping the waterfront of water bodies. Need fresh water plants and brackish for NE FL.
- Any updates on weed control
- A trouble shooting guide for pond problems.
- Information about ponds, canal and wetlands on ag-production properties that may or may not be utilized to recycle irrigation water.
- ID Decks for aquatic plant species, regional workshops on freshwater aquaculture
- Explain EPA's takeover of Florida EPD responsibilities and how that is constitutionally allowed.
- I would be interested in training on marine aquatic animal health topics such as fibropapilloma virus in order to better explain these to the general public.
- Checklists for preventative and corrective maintenance BMPs managing habitat and/or vegetation in fresh and salt water urban environments. County data and urban management littoral planting methods for restoring eroded shorelines with native plantings. Measurement tools for determining buffer areas around lakes.
- A complete pond management booklet would be great. We need one that includes info like: aquascaping, aquatic plant management, wildlife management, maintenance of structures, the role of retention/detention ponds, how they work, who is responsible for them, etc.
- Water quality and fish farming continue to be needs expressed by land owners. Specialists support continue to be important.
- I teach INDOOR WATER conservation/quality - Need more handouts (camera-ready) about testing/treatment, ways to avoid contamination (proper disposal, etc.) I used to be involved in LakeWatch but had to drop due to time limitations.
• I need to have Dr. Cichra and Dr. Langeland available as long as I work here. I don't know much about freshwater species other than the ones that I work with, but I'd like to know more. I don't fish, but I do pond work, so I could use some basics- tying a hook to the line kind of stuff.
• I am a new Community Sustainability Extension agent and have not developed my programs yet, but it would be good to have easily digestible material on nutrients in aquatic systems and water quality. I would also like information that highlights the Lakewatch water quality data and program.
• Lake Watch is also very important in Orange County.
• Currently do not offer any programming in these areas. Would like to learn what curriculum is out there that can be used.
• I am the new extension agent in Pinellas County. I will be developing, implementing, and evaluating marine educational programs that focus on marine industries, fisheries and habitat, and climate issues. I need some assistance with seeing what programs are already out there and forming partnerships.
• Updates on current research in the water quality area

Resources for working with youth
• As a youth development agent, we utilize 4-H curriculum to teach sportfishing and work with Water Action Volunteers to teach youth about water quality. Any youth targeted materials would be great.
• Information on how to's for youth and adults
• Would love to have these topics for 4-H projects

General resource needs
• Availability of training opportunities and fact sheets.
• Training
• IST
• Training via PolyCom. EDIS publications.
• PowerPoints, other educational materials, and training would be helpful.
• Narrated powerpoints for training and client access.
• A good video (on-line and/or DVD's) and Power Points with detailed speaker notes.
• Field guides, relevant video's, manuals
• Developed resources to help us teach.
• Websites
• Reference brochures or handouts
• Fact sheets, diagrams, CD's, props
• Field workshop lesson plans
• List of supportive businesses as potential sponsors
• Case studies to study

Other
• Most concerned about basic information and political issues
• Help and update on timely issues

No needs
• Sturmer(IFAS), Adams(IFAS), Ohs(IFAS), Harbor Branch Oceanographic
• Most already have the info and technology in place.
• We do not have faculty to conduct these programs any longer.
• Not in my area
• I don't know much about these subjects.
• All these fisheries/aquaculture topics are very interesting and important and need to be addressed by someone, but they do not fit into my line of work, thus I left the survey page blank.
<table>
<thead>
<tr>
<th>Forestry Topics</th>
<th>Already conduct programs</th>
<th>Work with other specialists, agencies, or managers</th>
<th>Want to conduct programs</th>
<th>Want to attend training</th>
<th>Count*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invasive Terrestrial Plants</td>
<td>35</td>
<td>34</td>
<td>13</td>
<td>26</td>
<td>64</td>
</tr>
<tr>
<td>Invasive Terrestrial Animals</td>
<td>9</td>
<td>23</td>
<td>6</td>
<td>17</td>
<td>42</td>
</tr>
<tr>
<td>Forest Insects and Diseases</td>
<td>9</td>
<td>14</td>
<td>6</td>
<td>19</td>
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<tr>
<td>Reducing the Risk of Wildfire</td>
<td>11</td>
<td>20</td>
<td>6</td>
<td>13</td>
<td>35</td>
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<tr>
<td>Managing Resources in the Wildland-Urban Interface</td>
<td>11</td>
<td>15</td>
<td>8</td>
<td>15</td>
<td>32</td>
</tr>
<tr>
<td>Enhancing Urban Forests</td>
<td>7</td>
<td>11</td>
<td>8</td>
<td>18</td>
<td>31</td>
</tr>
<tr>
<td>Forest Stewardship Program (private landowner assistance for forest management)</td>
<td>10</td>
<td>20</td>
<td>4</td>
<td>8</td>
<td>29</td>
</tr>
<tr>
<td>Woody Biomass</td>
<td>6</td>
<td>12</td>
<td>9</td>
<td>16</td>
<td>29</td>
</tr>
<tr>
<td>NonTimber Forest Products</td>
<td>7</td>
<td>10</td>
<td>5</td>
<td>11</td>
<td>23</td>
</tr>
<tr>
<td>Measuring Urban Forests</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>16</td>
<td>23</td>
</tr>
<tr>
<td>Production Forestry</td>
<td>10</td>
<td>14</td>
<td>5</td>
<td>8</td>
<td>22</td>
</tr>
<tr>
<td>Fertilizers in Forestry – Use &amp; Effects</td>
<td>3</td>
<td>10</td>
<td>3</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Restored Forest Systems</td>
<td>1</td>
<td>13</td>
<td>2</td>
<td>6</td>
<td>17</td>
</tr>
</tbody>
</table>

*n=76

For the topics you checked above, please identify information or resources you need to support your programming.

Resources for specific topics and areas of interest
- Powerpoint and pub on invasive terrestrial animals and control measures
- IFAS Invasive Assessment tool needs a point person and not a working group to better train agents how it is properly used in the field especially for those living in urban areas.
- Invasive plant control is always in big need from specialists.
- How about a new topic, carbon accounting for forests, how to capture carbon markets for forestry operations, need info for private landowners on the value of their land for wildlife habitat vs forest harvest. Materials in web based video (like youtube or narrated powerpoints).
- Biofuels and ornamental tree pests.
- Would like updated training regarding agro-forestry
- Will soon be working with DOF to provide some wildfire landscaping classes. I would like training to do this.
- Firewise is a huge program for Orange County.
- Private Landowners with woodlots are occasional.
- Most concerned about basic information and political issues
- Would like to conduct program on forestry/natural resources in county

Resources for working with youth
- Help with the 4-H Forest ecology contest.
- Posters and handouts for youth specifically would be great.
General resource needs
- Developed resources to help us teach
- A good video (on-line and/or DVD's) and Power Points with detailed speaker notes.
- Availability of training and fact sheets
- PowerPoints, other educational materials, and training would be helpful.
- Training
- IST
- Training via PolyCom
- Websites
- Reference brochures or handouts
- Field workshop lesson plans
- List of supportive businesses as potential sponsors
- Case studies to study
- EDIS publications
- Currently do not offer any programming in these areas. Would like to learn what curriculum is out there that can be used.

No needs
- Not in my area
- None of these apply to me (FCS)
- These forestry-related topics seem relevant and important and need to be addressed by someone with expertise and interest in the topics, but they do not fit into my line of work, thus I left the survey page blank.
- I don't really do much with forestry-related topics.
- I work well with our County Forester and am content to working with him.
- DOF has resources and personnel to give presentations and do training for agents on most of these, and those in professional positions.
<table>
<thead>
<tr>
<th>Other Natural Resource Topics</th>
<th>Already conduct programs</th>
<th>Work with other specialists, agencies, or managers</th>
<th>Want to conduct programs</th>
<th>Want to attend training</th>
<th>Count*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Youth Environmental Education Programs</td>
<td>62</td>
<td>26</td>
<td>18</td>
<td>24</td>
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<td>Ecotourism</td>
<td>14</td>
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<td>17</td>
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<td>Project Learning Tree</td>
<td>16</td>
<td>18</td>
<td>9</td>
<td>12</td>
<td>45</td>
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<tr>
<td>Sustainable Lifestyles</td>
<td>18</td>
<td>18</td>
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<tr>
<td>Sustainable Energy</td>
<td>14</td>
<td>12</td>
<td>13</td>
<td>28</td>
<td>43</td>
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<tr>
<td>Resource Efficient Communities</td>
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<td>16</td>
<td>9</td>
<td>22</td>
<td>42</td>
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<tr>
<td>Climate Change</td>
<td>13</td>
<td>17</td>
<td>11</td>
<td>23</td>
<td>42</td>
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<tr>
<td>Game (wildlife) Management</td>
<td>18</td>
<td>22</td>
<td>10</td>
<td>18</td>
<td>41</td>
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<td>Conservation Planning</td>
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<td>8</td>
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<tr>
<td>Non-game (wildlife) Management</td>
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<td>Urban Wildlife Management</td>
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<td>Growth Management</td>
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<tr>
<td>Recreation</td>
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<td>16</td>
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<td>11</td>
<td>29</td>
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<tr>
<td>Alternative Economic Uses of Forests/Natural Areas</td>
<td>5</td>
<td>5</td>
<td>8</td>
<td>19</td>
<td>27</td>
</tr>
</tbody>
</table>

*n=107

For the topics you checked above, please identify information or resources you need to support your programming.

Resources for specific topics and areas of interest

- These would be with a horticulture/landscape focus. I teach master gardeners and homeowners urban wildlife management.
- Would like to conduct program on wildlife management (food plots) in county
- Resources on sustainable energy options in Florida would be nice.
- More easy to use wildlife, aquatic, and forestry products
- Vertibrate crop pests, mainly birds.
- Biofuel crops
- Agri-tainment opportunity
- Most concerned about basic information and political issues
- IST's on developing low impact uses of privately owned and public greenspace in rural counties
- This area continues to increase in Orange County as population increases and wildlife interface brings constant issues. I answer questions every day in this area and can always use all the help I can get.

Resources for working with youth

- Would like training in how to evaluate IMPACTS of youth environmental education programs....
- PLT materials are great and would love to see anything you have targeting youth.
- Would like an update on programs & info for youth and volunteers - in the Panhandle
- I work with consumers and youth in the areas of water/energy conservation and recycling. I am always looking for good materials (reproducible handouts, PowerPoints, and especially hands-on activities for youth)
General resource needs

- IST
- An inservice at EPAF would be a good first start to addressing these topics, then I could decide how I might fit the topics into my line of work.

- Training
- Training via PolyCom
- PowerPoints, other educational materials, and training would be helpful.
- CD’s, props
- Case studies to study
- Reference brochures or handouts
- EDIS publications
- Field workshop lesson plans
- List of supportive businesses as potential sponsors
- Websites
- A good video (on-line and/or DVD’s) and Power Points with detailed speaker notes.
- Web videos on topics for training and clientele access. Link to local extension offices for additional assistance and local expertise.
- Smithsonian, FLDEP, St. Luce County marine resources

No needs

- Currently do not offer any programming in these areas. Would like to learn what curriculum is out there that can be used.
More Suggested Program Topics

In addition to the topics listed in the previous questions, what natural resource topics do you feel are important to consider for potential extension programs?

*n=46

Aquatic/fisheries
- Fisheries management process
- Aquaponics
- Ethical fishing
- Urban Pond/Aquatic Systems Management

Marine/wetland environments
- Impact of climate change on coastal communities
- Coastal development
- Coastal ecosystems
- Plankton dynamics (red tide)
- Marine resources
- Wetlands
- Wetlands ecosystems
- Wetlands protections

Water issues
- Water conservation (for FCS that is indoor)
- Water conservation
- I work in outdoor water conservation, mostly landscape irrigation. Water is a natural resource, of course, but I'm not sure it fits the in the topics mentioned in the survey.
- Water usage
- Water quality management
- Water quality (testing/treatment; ways that water is polluted by improper disposal of household chemicals, prescriptions, etc.)
- Proposed Class II numeric nutrient criteria
- Water Issues
- Stormwater retention and reuse
- Stormwater management
- Ground water runoff issues
- Stormwater issues

Ag/forestry
- Agro-forestry
- Agro-forestry
- Energy crops for bio fuel
- Sustainable farming practices
- Migratory bird species are serious pests of some horticultural crops, including various berries. Eliminating these species is not an option. We could use help in programming tactics to avoid as much injury as possible from these species.

Horticulture
- Gardening
- Florida Master Naturalist Program
- Master Naturalist
- Helping the green industry (landscape maintenance, tree trimming, pest control, etc.) reduce its carbon footprint.
• Teaching homeowners the value of trees on their property--so many are removed because people view them as messy and an expense to maintain

Wildlife
• Game management
• Food and forage plots
• Natural food enhancement
• Wildlife management process
• Endangered species
• Wading birds
• Natural bird populations in agricultural settings, and their seasonality

Human dimensions
• Preference studies (living on the water)- Landscapes, preserves, common areas, etc. within communities needing water quality enhancements. Where can environmentalists and citizens meet and agree on moving forward? Ex. Boat lift replacement in Cape Coral is deadlocked. City vs. citizens can't agree what to do to?
• Conflict resolution strategies when working on contentious resource issues
• Land Use Issues
• Value of rural counties' green space to the state's cultural quality of life and state's soil and water quality
• Community-based Social Marketing Strategies
• Behavior Change Strategies
• How to organize and present your ideas/data/requests at public hearings/workshops

Ecotourism/recreation
• Location of preserves and their history
• How to use natural settings to encourage physical fitness/(i.e. trails, etc)
• More agri-tourism, eco-tourism, and the legal and liability (insurance) issues with these situations.
• Developing sites for ecotourism: like hunting, horseback riding, or wildlife viewing

Youth
• Tips and tricks for hands on activities
• Wildlife and natural area conservation for youth. More youth involvement.
• Getting youth involved
• Letting youth know it's okay to enjoy being outside.
• Nature crafts

Sustainability/energy
• Sustainability
• Sustainability and energy conservation
• Energy efficiency
• Sustainability- business, environment, economics, home, life, business. How do we reach audiences on these topics, how do we work together as faculty. Discuss with Mickey Swisher the new state mandate on sustainability. Extension could play a major role if we don't spend too long in committee to investigate it! Who is the lead with UF Extension and Research on sustainability?

Other
• Water Quality and Prescribed Fire topics are essential to wildlife populations and vegetation management. Invasive species is of utmost concern.
• Entomology
• Soil Sciences
• For private landowners less than 50 acres
More Tools, Resources, and Information to Support Programs

What specific tools, resources, or information can we provide to help you with your natural resource extension programs (other than those you mentioned in previous questions)?

More interaction/partnerships with specialists
- Need opportunities to interact with state specialists to share ideas. Need an online searchable resource database so county faculty can find county and state faculty with expertise in topics. I am hoping this survey is going to horticulture and agriculture faculty who do natural resources work in their program areas. We need a summit or some kind of networking activity to get ag, hort, fcs and natural resources faculty together on the topic of sustainability.
- Contacts with programs and/or individuals in my area that I can form partnerships with
- Partnerships with county-level projects
- Curriculum and access to specialists to conduct trainings on-site when feasible.
- We conducted a 4-H Camp Eco-Fun last summer. The kids learned how to identify fish, about water quality, went to a state park, etc... It would be valuable to me as a 4-H agent to have natural resource specialists come to my county and help conduct day camps and workshops like this. Having the specialists lend their expertise is what I really need. I think kids would learn so much more having someone with that knowledge teaching them.

Resources for youth
- Youth activities and project books
- Youth oriented activities
- A project book that encompasses physical fitness while encouraging environmental stewardship at the same time. An updated version of a nature crafts project book.

Other
- Many respondents reiterate general tools and resources from previous responses, such as Inservice Training, seminars, polycoms, EDIS pubs, Powerpoints, and videos.
- Funding, curriculum, good and safe field sites
- Really figuring out where the buffer zone should be for fertilization around water bodies.
- Technical breakdown of btus provided by wood crops (grass crops). More on wood gasification and FT distillation.
- Preserved specimens, a stingray dissection manual
- Measuring tools, Hand held GPS data collectors, Tools to do on-site calculation of waterfront perimeters, buffer width area, riprap, mulch or plants required. Tools for determining depth along shoreline on a lake. We also need a native wildflower specialist in South Florida.
- Videos of natural resource/fisheries management. Just had a question about a video on mangroves.
- Hire specialists that focus on Game species management
- I have no natural resource extension programs, other than talks on Africanized honey bees. I find that the IFAS website on honey bees is very good already, and just getting better.
Additional Comments

**Specialist-agent interaction**
- Would like to do more with specialists, graduate students, etc....
- Need better communication from specialist to agents with updated research information.
- Specialists are key to the success of IFAS on the county agent level.
- I am new to extension as well as new to Pinellas County. Any info I can receive would be very helpful to me.
- I don't necessarily conduct workshops in this area, however, I do receive phone calls and walk-ins with people that ask for this information from time to time and would like to be able to have the knowledge or location of appropriate resources so that I can properly assist them.
- We need this type of needs assessment, and a list of existing resources (powerpoints, expertise, programs ongoing) so we can better work together. I am an experienced extension agent, 30 years, and I have my ways of finding out. Cannot imagine how new faculty get help they need these days.
- There should be more natural resource, urban/nature interfaces....these seem to be lost within "ag extension" despite the fact that it is an increasingly import part of growth management in Florida.
- It is difficult for me to find UF training. Most of the training I attend I host myself. My greatest need is for updating in the sciences of urban forestry, climate change and what to plan for with climate change.
- I think we need to either work closer with FWC or develop some programs like they have. I've had FWC come and do a number of programs with me. Other than Drs. Cichra, Langeland, and Petty, and Floyd, I've not had much dealings with our specialists. I mean no disrespect. I don't know what the rest have to offer.
- Please, use a GIS-based reporting of this survey's results of county agents to identify the needs & assets in NR programming to foster more multi-county projects

**Other**
- The topic is growing in popularity at the elementary school level. Teachers seek further school enrichment resources.
- NR/Sea Grant Extension programming is a major focus of Extension programming in Franklin County.
- BMP Practices Guides and checklists for recognizing and Enhancing the Environmental Quality of existing planned communities lakes, preserves, marinas, etc.
- I predominantly work with community associations (Condos, HOAs, neighborhoods) and programs that address stewardship of the (often adjacent) preserve areas, and stormwater systems are of particular interest to me.
- County extension faculty need to be trained to position ourselves for grant-funded opportunities associated with climate change work, especially in the area of monitoring the health and value of urban forests. We need to be able to marry our work in teaching tree care best practices to the green industry and property owners/managers with the environmental benefits that these practices provide insofar as enhanced carbon sequestration and pollution mitigation are concerned.

**No needs**
- I do not work in your area. Thus, you may want to discard my answers. I work mainly with commercial citrus growers.
- I am not the natural resources agent in my county. I have asked her to do this survey as well. However, as CED I will be involved in landscaping for wildfire classes we have been asked by DOF to give.
- I have no problems with the relationship between specialist and extension.
- I love PLT and Martha Monroe. She is enthusiastic and wonderful and very easy to work with.