

Southeast Region FY 2011 Inventory and Monitoring Network Annual Report

1. Introduction

1.1. Present the vision, goals, and objectives for the regional I&M Initiative.

In the Southeast Region, we have established an Inventory and Monitoring Network to address the National Wildlife Refuge System's critical information needs and to help plan and evaluate the effectiveness of conservation strategies in close cooperation with Landscape Conservation Cooperatives. The Southeast I&M Network is committed to be a full partner in the national effort with biologists and a database managers in priority geographic areas to help provide long-term data to document the status, assess condition, and detect changes in fish and wildlife communities, physical resources, and ecological processes on National Wildlife Refuges. The vision is to establish an inventory and monitoring network for Southeast Region refuges that provides information to guide future management decisions. The intent is to determine and fulfill the priority information needs and contributions of refuges to decisions that are made at the local, regional and national scales.

1.2. Briefly describe how the regional I&M Initiative is organized with emphasis on the previous FY work activities.

Region 4 Inventory and Monitoring Network is organized around the Landscape Conservation Cooperatives the Region leads, e.g., South Atlantic, Gulf Coastal Plains and Ozarks, Peninsular Florida, and the Caribbean. The regional coordinator and database manager serve the entire region while field staff focuses their efforts within specific LCC geographies but cross boundaries as expertise is needed. Currently, field staff are co-located at refuges within the South Atlantic and will be in the Gulf Coastal Plains and Ozarks LCC geography, but work as a team to identify local, regional, and national monitoring needs; develop standardized data and data management protocols; and bring together existing and on-going monitoring efforts for the purpose of informing management decisions made at the NWR, LCC, and NWRS scales.

1.3. Briefly describe how the regional I&M Initiative integrated with the regional refuge biological program.

The Southeast Region I&M Network is within the Refuges, Division of Planning and Resource Management. Guidance is provided by the Division Chief as well as the Regional Refuge Management Leadership Team. At the station level, Comprehensive Conservation Plans and Habitat Management Plans serve as the basis to define refuge inventory and monitoring needs. Refuge I&M staff will work very closely with individual refuges' staff to identify inventory and monitoring needs, design consistent surveys for multiple refuges, implement monitoring protocols, and provide timely data analysis. Regional and field staff will work together to identify and prioritize monitoring needs at the refuge and regional scales, i.e., what projects are necessary to inform adaptive management decisions. In addition, regional refuge biologists and I&M staff will work with the respective landscape conservation cooperatives, other Service programs and partner initiatives to identify the roles refuges can play in contributing to larger projects (e.g., collection of data to inform regional climate change models).

1.4. Briefly describe how the regional I&M Initiative coordinate with the other regional FWS programs (Migratory Birds, T&E Species, Ecological Services, Fisheries, and LCCs) as well as other federal and state conservation partners. What role does the regional I&M Initiative serve within the LCC?)

Within the Southeast Region, there is a strong connection between Refuge I&M and the LCCs. For example, the Regional Refuge Chief David Viker serves on Steering Committee for the South Atlantic LCC (SALCC) and the Refuge I&M Branch Chief Laurel Barnhill serves on the consulting team for the SALCC. The Science Coordinators of the SALCC and Gulf Coastal Plains and Ozarks LCC are working closely with I&M staff to accomplish the following:

- Continue to develop, refine, or adopt inventory and monitoring protocols to capture data on priority species addressed in LCC work plans and refuge CCPs that are expected to be vulnerable to climate change.
- Work to identify refuge's contribution to the information/data needs of LCC questions and priorities (i.e., where can refuges contribute to larger objectives both in formation of questions and data gathering).
- Share technical expertise and technologies to build capacity without redundancy (i.e., new I&M ecologists complement and add to LCC skill sets, share existing technological infrastructure, servers)
- I&M biologists serve on LCC technical committees as they are developed.
- Continue to identify mechanisms to communicate information to increase understanding of climate change effects and data needed to efficiently make decisions at various levels. Working towards an information exchange with outcomes directed at action we need to take to (solve) effects of changes, e.g., rates of accretion and building siting.

Also, within the Southeast Region I&M is working with Migratory Birds, Fisheries and Ecological Services Divisions on a variety of issues.

2. Public Interest Highlights

Provide examples of how I&M results are being used to better support refuge and region goals and objectives. We are especially interested in “bullets” and that contain examples of how I&M results have been used to enhance or streamline management, planning, or assessment of refuge resources.

In July 2011, the Southeast Region Inventory and Monitoring Network sent \$1.3 million directly to refuges to fund on the ground inventory and monitoring projects. A request for proposals was distributed and the response was pleasantly overwhelming, with 117 proposals received for a total request of \$9.25 million. A team carefully reviewed each proposal and ranked by a number of criteria. Twenty-five projects were funded ranging in scope from single to multi-refuge efforts, for example measuring sea level rise on multiple South Atlantic NWRs, conducting aquatic habitat assessment at St. Catherine Creek NWR; inventorying frog species at Carolina Sandhills and Santee NWRs; monitoring bat species occurrence on multiple NWRs in Louisiana, Arkansas, and Mississippi; conducting groundwater quality monitoring at Logan Cave NWR; and developing biometric and environmental DNA standardized protocols for early detection of aquatic invasive species for Arthur R. Marshall Loxahatchee NWR with application to all NWRs. Results will be available in FY2012 to address management, planning and/or assessment of refuge resources.

3. Staffing

Provide a list of regional I&M staff and their job type or role. Also include a list of key cooperators (with their affiliation and role) who were actively involved with the region's I&M activities. Indicate vacancies that were not filled or arose during the previous FY.

In the Southeast Region, we have hired staff in the South Atlantic LCC geography, co-located on refuges, and have advertised for additional positions to be mostly stationed on Gulf Coastal Plains/Ozarks LCC geography refuges. Long-desired staffing capacity within the Region -- dating back to several Fulfilling the Promises recommendations and ratified by the recent Conserving the Future vision -- will be realized to support clear monitoring objectives, standardized protocols, centralized data storage, timely data analysis and report generation across all refuges.

Roles and Responsibilities

Laurel Barnhill, Regional and South Atlantic LCC I&M Coordinator (co-located with National Park Service stationed at Athens, GA) (hire date January 2, 2011)

- Regional Refuge I&M Network Coordination
- Includes lead for implementing I&M Policy (e.g., refuge inventory and monitoring plan development)
- Focuses I&M efforts, to define questions and monitoring of pressing needs to ensure appropriate study designs, valid methods, cost effectiveness, and results provide reliable information to assist making refuge decisions. Work with refuges, FWS Divisions and partners to ensure cohesive and strategic approaches to regional and national wildlife monitoring initiatives.
- Coordinates Refuge I&M activities in accordance with LCC (South Atlantic and Gulf Coastal Plains and Ozarks) priorities
- Representation on LCC teams and working groups
- Representation on national I&M teams

Steve Holzman, Regional and South Atlantic Data Manager (to be co-located with National Park Service stationed at Athens, GA) (hired in FY10)

- Regional Refuge I&M data management
- Includes identification of database application needs to store refuge data and allow exchange of data at regional and national scales
- GIS coordination within Refuges and other programs, agencies, organizations
- Representation on National I&M teams
- Representation on Regional GIS teams and LCC teams and working groups
- Provides IT support to I&M and Athens Field Office

Rebecca Bartel, Terrestrial Ecologist, co-located at Alligator River NWR, Manteo, NC (hire date September 11, 2011)

Nicole Rankin, Coastal Ecologist, co-located at Cape Romain NWR, Awendaw, SC (hire date August 14, 2011)

Forbes (Maxwell) Boyle, Botanist, co-located at Okefenokee NWR, Folkston, GA (hire date August 28, 2011)

Vacant, Freshwater Aquatic Ecologist, co-located at Savannah NWR, Hardeville, SC (hire date January 1, 2012)

- Terrestrial, Coastal, Freshwater Aquatic Ecologists and Botanist responsible for identification and implementation of activities to support I&M Network focused on respective ecological components with the South Atlantic LCC geography
- Develop and evaluate inventory and monitoring protocols and assemble, analyze, and evaluate data, and prepare reports and publications related to terrestrial objectives
- Assist refuges with inventory and monitoring needs
- Coordinate and implement various surveys undertaken as part of the Network respective location
- Representation on regional and national I&M and other related teams
- Representation on SALCC technical teams

Vacant, Deputy Branch Chief (overseeing Gulf Coastal Plain-Ozarks) (advertised September 2011)

- GCPO LCC Refuge I&M Network Monitoring Coordination
- Representation on national and regional I&M teams
- Coordinates Refuge I&M activities in accordance with GCPO LCC priorities
- Representation on LCC teams and working groups

Vacant, Assistant Data Administrator

- GCPO LCC Refuge I&M data management
- GIS coordination within Refuges and other programs, agencies, organizations
- Representation on national and regional I&M teams
- Provides IT support to I&M

Vacant, Terrestrial Ecologist, Coastal Ecologist, Aquatic Ecologist and Botanist (advertised October 2011)

- GCPO LCC I&M Ecologists responsible for identification and implementation of activities to support I&M Network focused on respective ecological components
- Develop and evaluate inventory and monitoring protocols and assemble, analyze, and evaluate data, and prepare reports and publications related to terrestrial objectives
- Assist refuges with inventory and monitoring needs
- Coordinate and implement various surveys undertaken with the Network respective location
- Representation on regional and national I&M teams
- Representation on GCPO LCC technical teams

Mike Chouinard, Senior Wildlife Biologist, co-located with TWRA, Jackson, TN (transferred August 22, 2011)

- Lead for capturing, collating, and characterizing historical I&M data from Refuges (i.e., Legacy Data).
- Serves as Regional lead and member of national team working on the Geo-referenced
- Archive Service to store data and allow exchange of data with other entities.
- Design and implement field and modeling studies with landscape planning and adaptive management including development of species habitat decision support tools.
- Actively seek out and secure funding for projects that emphasize a landscape approach to strategic habitat conservation. Assist in project design and supervises the budgeting and financial tracking of Service funded projects.

Key Cooperators

Chuck Hunter, Division Chief, Division of Planning and Resource Management

Susan Cielinski, Division Deputy Chief, Resource Management Branch, Regional Refuge Biologist

Janet Ertel, Assistant Regional Refuge Biologist, Resource Management Branch

Jane Griess, Project Leader, Savannah Coastal Refuges Complex

Mike Bryant, Project Leader, North Carolina Coastal Plain Refuges Complex

Raye Nilius, Project Leader, South Carolina Lowcountry Refuges Complex

Curtis McCasland, Refuge Manager, Okefenokee National Wildlife Refuge

James Burnett, Project Leader, North Florida Refuges Complex

John Stanton, Supervisory Wildlife Biologist, South Atlantic Migratory Bird Coordination Office

Randy Wilson, Station Leader, Migratory Bird Field Office (western portion of region)

Tom Edwards, Wildlife Biologist, Migratory Bird Field Office (western portion of region)

Ken McDermond, Coordinator, South Atlantic Landscape Conservation Cooperative

Rua Mordecai, Science Coordinator, South Atlantic Landscape Conservation Cooperative

Greg Wathen, Coordinator, Gulf Coastal Plains and Ozarks Landscape Conservation Cooperative

John Tirpak, Science Coordinator, Gulf Coastal Plains and Ozarks Landscape Conservation Cooperative

Pete Benjamin, Field Supervisor, Raleigh Ecological Services Field Office

Wilson Laney, South Atlantic, Fish and Wildlife Conservation Office

Joe DeVivo, Program Coordinator, National Park Service, Southeast Coast Inventory and Monitoring Network

4. Accomplishments - Activities and Products

Summarize the overall success of the regional program based upon progress made for major work activities and anticipated products identified in the work plan for the reporting FY. The outline below provides an example to consider for your regional summary that should describe tasks and products completed, progress made on others, and reasons any tasks or projects were not completed as planned. Use tabular format to report on status of individually planned tasks and anticipated products from the work plan. The summary should describe the overall progress made on tasks and products included in the table. Utilize the same sequence of activities as detailed in the corresponding work plan.

4.1. Identify I&M priorities for the region.

4.1.1. Status of station Habitat Management Plans

4.1.2. Status of station Inventory and Monitoring Plans

4.1.3. Summary of inventory and monitoring priorities for the region

4.2. Abiotic Resources

4.2.1. Inventories

4.2.2. Monitoring

4.3. Biotic Resources

4.3.1. Inventories

4.3.2. Monitoring

4.4. Stressors (examples: fire, invasive species, climate change)

4.5. Adaptive Management Projects

4.6. Data Management (example: legacy data)

4.7. Communication (examples: reports, peer-reviewed publications, presentations, program reviews, training, workshops, partnerships)

SEE TABLES STARTING ON PAGE 7.

5. Budget Narrative and Budget

5.1. Provide a brief description of how the I&M funding was spent during the previous FY, including the major work activities presented in Section 4. List the major expenditures of I&M funds, including staff salaries and operations, contracts and agreements.

The Southeast Region received final FY 2011 allocations of \$1,943,540 for I&M (\$1,113,410 in FY2010). The tables below reflect funds expended and/or obligated in FY11 as of November 09, 2011.

In general, FY11 I&M funding was used for I&M salaries and benefits for positions in place (object codes 11 and 12); equipment, supplies and travel (including PCS moves) for those positions (object codes 21, 22, 25, 26, and 31). The regional data manager position was hired in FY10 while all others were hired at different times during FY11 (regional coordinator January 2, SALCC coastal ecologist August 14, SALCC botanist August 28, SALCC terrestrial ecologist September 11, and senior wildlife biologist transferred August 22).

Due to salary savings in FY10 and FY11, we developed a request for proposals for inventory and monitoring projects on refuges where funds were awarded in July and obligated in FY11 for completion in FY12.

Table 1. The Southeast Region I&M FY11 funds expended and/or obligated

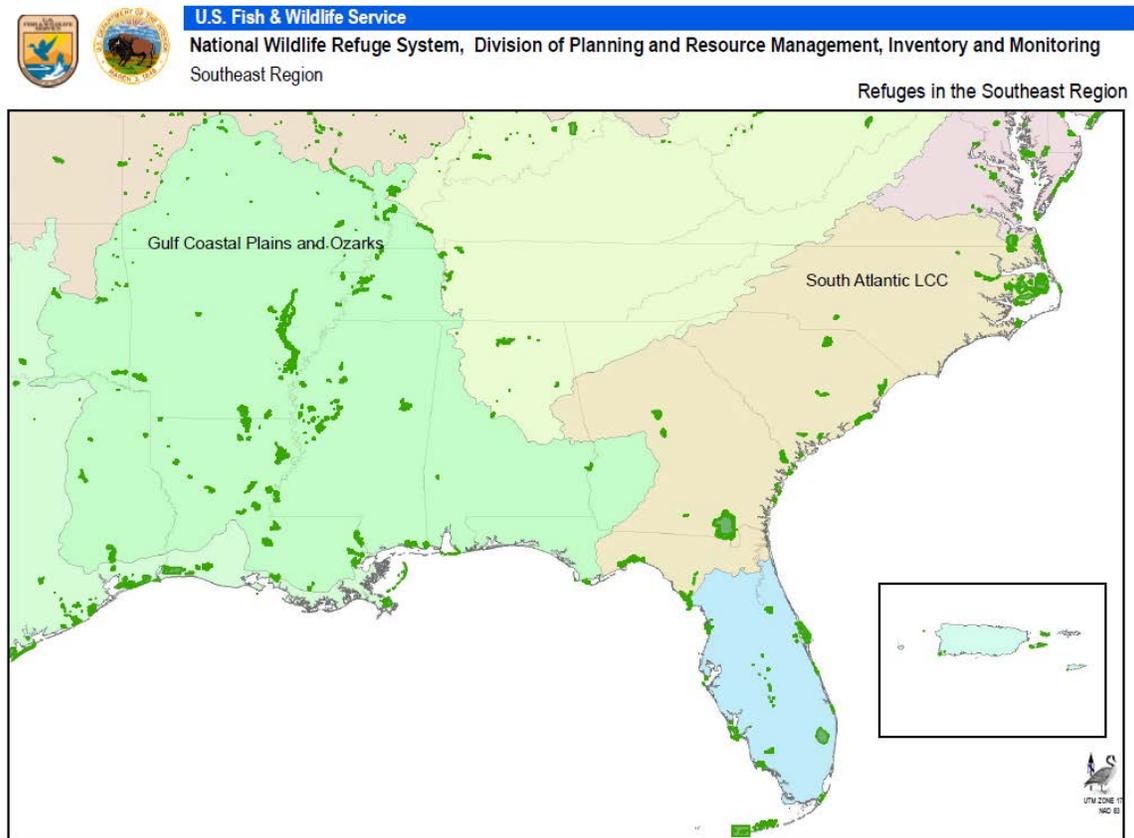
| Budget Item | |
|--------------------------------|-----------------------|
| Salaries and Benefits | \$ 212,786.14 |
| Equipment, supplies and travel | \$ 95,711.33 |
| <i>Subtotal-I&M staff</i> | <i>\$ 308,497.47</i> |
| Support Refuge I&M projects | \$1,083,927.28 |
| Total Obligations | \$1,392,424.75 |

Table 2. The Southeast Region I&M FY 11 funds expended and/or obligated listed by budget object class.

| Object Class | Object Class Name | Expend/obligate |
|---------------|---------------------------|-----------------------|
| 11, 12 | Salaries and Benefits | \$ 289,364.38 |
| 21, 22 | Travel and Transportation | \$ 34,731.46 |
| 25 | Contracts | \$ 600,530.84 |
| 26 | Supplies and Materials | \$ 35,810.45 |
| 31 | Equipment | \$ 140,732.62 |
| 41 | Grants and Agreements | \$ 291,255.00 |
| | | \$1,392,424.75 |

6. Appendix

6.1. Map of NWRS stations in the region, by state and LCC.



Number of refuges within Region 4 by LCC: Gulf Coast Plain and Ozarks LCC = 52 refuges; Appalachian LCC = 10; South Atlantic LCC = 28; Peninsular Florida LCC = 25; Gulf Coast Prairie = 11

Table 1. Region 4 Inventory and Monitoring Activities, Staff, Funding and Status by Project or Theme

| Blueprint Objectives and Tasks | Project or Theme; Status and Accomplishments | Product | I&M Staff or other Staff | Funding I=I&M R=Refuges O=Other | Status P=Planned F=Funded IP=In progress C=Completed |
|--|---|--|---|--|--|
| IDENTIFY I&M PRIORITIES | | | | | |
| 3.1.1 | Status of station Habitat Management Plans The development of HMPs for all refuges is in progress, with anticipated region-wide completion by EOY 2015. Refer to updated S:\RW\RW-RM\Step-down Plans\HMP_Coordination\HMP_RefugeTargetandStatus.xlsx | HMPs in various stages of completion. | Sue Cielinski and Janet Ertel | R | IP |
| 3.1.2 | Status of station inventory and monitoring plans | Working with SALCC refuges (28) to input information into PRIMR to complete part 1 of the IMP | Laurel Barnhill, Steve Holzman, Becky Bartel, Nicole Rankin | I, R | IP |
| 3.1.3 | Hire biological staff. | Hired 3 ecologists and advertised 1 ecologist for SALCC; working with HR to advertise 6 positions in GCPO. | Chuck Hunter and Laurel Barnhill | I | IP |
| General | Cross walk existing refuge surveys to determine consistencies and identify needs. | In progress awaiting all SALCC refuges data entered into PRIMR | Laurel Barnhill | I | IP |
| 4.2.1 ABIOTIC RESOURCES - INVENTORIES | | | | | |
| 1B | <i>Complete baseline hydrogeomorphic (HGM) analysis at selected stations.</i> HGMs are planned for the following stations: White River NWR - work will begin in April 2011 Cape Romain NWR - we plan to begin work on Project in FY 2012. Work completes by contractor with the assistance of Sue Cielinski and John Faustini, Regional Hydrologist | HGMs were initiated as planned. | Sue Cielinski and John Faustini | R | IP |

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|--|---|---|--|--|--|
| 2A | <p><i>Water Resource Inventory and Assessment (WRIA)</i> Water inventories for the following were planned or initiated as follows: LOWER SUWANNEE NWR - planned for 2012-13 OKEFENOKEE NWR - planned for 2012-13 CACHE RIVER NWR - planned for 2012-13 WHITE RIVER NWR - field work will be conducted in conjunction with the HGM in April 2011 CAHABA RIVER NWR - field work conducted in 2010, data entry and analysis in process (contingent on WRIA database completion) ERWIN NFH - planned for 2012-13.</p> | <p>WRIAs were initiated as planned, some funded support provided by July I&M rfp.</p> <p>Sue and John spent time working with the national water quality team, led by Mike Higgins, to refine the Water Quality Inventory and Assessment (WRIA) process and advise the team on the development of a database.</p> | Sue Cielinski and John Faustini | R | IP |
| <i>Projects funded by the I&M request for proposals completion in FY12</i> | | | | | |
| 1F | Clarks River National Wildlife Refuge LiDAR | Baseline data to assess topographic and hydrological condition | Clarks River NWR | Staff - R; Project - I | IP |
| 1F | LIDAR and Color digital Imagery for Lower Hatchie NWR | Baseline data to monitor topographical changes (water quality) | Lower Hatchie NWR | Staff - R; Project - I | IP |
| ABIOTIC RESOURCES - MONITORING | | | | | |
| 5B | <p><i>Complete initial sea-level rise modeling for coastal refuges.</i> The purpose of this project will be to organize and understand existing SLAMM projects, role and needs of refuges, and identify if data can be scaled to regional efforts.</p> | Summary on hold due to timing of hiring and planned for FY12 | Laurel Barnhill, Sue Cielinski and Nicole Rankin | I, R | P |
| 5A | <p><i>We plan to work with the SALCC and partners to identify the best protocol to use to identify sea-level rise modeling.</i> The purpose of this project will be to determine the best model to invest in and use for coastal refuges to make better management decisions.</p> | Report on hold | | | |
| 5B | <p><i>Determine need for surface evaluation table (SET) stations</i> Identify and compile existing SET station objectives, protocols, and data usage. Nicole Rankin assembling information from Refuges to guide selection of sites for SET proposal.</p> | Table and NWRs selected for SET project | Nicole Rankin with Refuges and partners (USGS, TNC, NPS) | R, I, O | IP |

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|--|--|---|--|--|--|
| 5B | <i>Establish a SET station at Alligator River NWR</i> We plan to secure equipment, clarify objectives, identify data collection roles, and establish station. Work with TNC, R5 and SE-NPS to ensure station consistent with others in area and use of data in LCC climate models. The purpose of this project is to establish an additional station at Alligator River NWR to assist with on-going work. | SET station established on Alligator River | Sue Cielinski and Mike Bryant | I | C |
| <i>Projects funded by the I&M request for proposals completion in FY12</i> | | | | | |
| 2A | Groundwater Quality Monitoring at Logan Cave National Wildlife Refuge | Long term ground water quality monitoring program implemented | Logan Cave NWR | Staff - R; Project - I | IP |
| 5B | Sea-level rise monitoring for SALCC Refuges (SET stations) | Implement 50+ SET stations implemented in FY12 | Multiple NWRs along South Atlantic Coast | Staff I & R, Project I | IP |
| BIOTIC RESOURCES - INVENTORIES | | | | | |
| 1E | <i>Design, fund and implement a strategic process for completing vegetative inventories and cover mapping, using the National Vegetation Classification Standard</i> Committee formed and working via conference calls. Chuck Hunter and Forbes Boyle represent R4 with representatives from each Region. This project was identified as a national priority in December 2011. | Committee work on-going. | Chuck Hunter and Forbes Boyle | R | IP |
| <i>Projects funded by the I&M request for proposals completion in FY12</i> | | | | | |
| 4 | Inventory of frog species in the South Carolina Sandhills with a focus on the pine barrens treefrog and the gopher frog | Baseline inventory, relative abundance, and detection probability | Carolina Sandhills NWR | Staff - R; Project - I | IP |
| 4 | Inventory and Monitoring of Vernal Pools on Dahomey National Wildlife Refuge | Baseline inventory | Dahomey NWR | Staff - R; Project - I | IP |
| 4 | Herpetofaunal survey of Santee National Wildlife Refuge | Baseline inventory | Santee NWR | Staff - R; Project - I | IP |
| 4 | Inventory and Monitoring of the Aquatic Biota of Tallahatchie National Wildlife Refuge | Baseline inventory | Tallahatchie NWR | Staff - R; Project - I | IP |
| 4 | Bat Species Occurrence and Long-Term Bat Population Monitoring on Refuges using Acoustical Detection | Baseline inventory, foundation for long-term monitoring | Tensas River NWR and others | Staff - R; Project - I | IP |

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|--|--|--|--|--|--|
| BIOTIC RESOURCES - MONITORING | | | | | |
| 4C | <p><i>Coordinate bird monitoring with migratory birds and other partners</i></p> <p>The National I&M Bird Monitoring Team is initially charged with identifying national bird monitoring needs. Representatives from each region comprise the committee including other divisions.</p> | Committee work on-going to identify objectives and set priorities. Committee conference call minutes outlining progress on I&M share point site. | Laurel Barnhill | I | IP |
| 4C | Work with NPS Southeast Network, FWS Migratory Birds and other partners to explore need for a consistent protocol for monitoring beach utilization by shorebirds. | Discussion initiated and on hold. Focus shifted to IWMM and implementation within the Region. | Laurel Barnhill with John Stanton, Randy Wilson, and many others | I, R, O | IP |
| <i>Projects funded by the I&M request for proposals completion in FY12</i> | | | | | |
| 4A | Survey and Monitoring of Sea Turtle Index Nesting Beaches on NWRs in the Southeast Region for Landscape Management and Global Conservation - includes NWRs in FL, GA, SC, and St Croix | Data to support management decision | Archie Carr NWR, Blackbeard NWR, Cape Romain NWR, Egmont Key NWR, Hobe Sound NWR, Merrit Island NWR, Sandy Point NWR, and Wassaw NWR | Staff - R; Project - I | IP |
| 4A | Comprehensive Shorebird Surveys on Front Beach Habitat within Cape Romain NWR | Data to support management decisions | Cape Romain NWR | Staff - R; Project - I | IP |
| 4A | Monitoring productivity, dispersal, and habitat restoration/expansion in the Harris Neck NWR wood stork colony. | Data to support future de-listing | Harris Neck NWR | Staff - R; Project - I | IP |
| ADAPTIVE MANAGEMENT PROJECTS | | | | | |
| 1F | Adaptive Resource Management of Florida Scrub Jay Merritt Island | Continue data collection for modeling work | Merritt Island | Staff - R; Project - I | IP |
| <i>Projects funded by the I&M request for proposals</i> | | | | | |
| 1F | Development of biometric and environmental DNA standardized protocols for early detection and population assessment of aquatic invasive species (AIS) for Arthur R. Marshall Loxahatchee National Wildlife Refuge. | eDNA technology and protocols to detect AIS | Arthur R. Marshall Loxahatchee NWR | Staff - R; Project - I | IP |

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|--------------------------------|---|--|----------------------------------|--|--|
| 1F | Forest Habitat Evaluation at Atchafalaya NWR | | Atchafalaya NWR | Staff - R; Project - I | IP |
| 1F | Pine Savannah restoration monitoring –Tammany Holding Tract | Plot data to evaluate management | Big Branch NWR | Staff - R; Project - I | IP |
| 1F | Population dynamics of the king rail <i>Rallus elegans</i> | Genetic markers to examine population structure | Mackay Island and Currituck NWRs | Staff - R; Project - I | IP |
| 1F | Assess Wet Pine Savanna Response to Refuge Management MS Sandhill Crane | Savanna richness index protocol | Mississippi Sandhill Crane NWR | Staff - R; Project - I | IP |
| 1F | Monitoring the Effects of Climate Change on Waterfowl Abundance in the Mississippi Alluvial Valley: optimizing sampling efficacy and efficiency | Aerial survey for waterfowl with visibility correction factor and rapid method to display distribution and abundance | Multiple NWR in MAV | Staff - R; Project - I | IP |
| 1F | Forest Habitat Inventory Equipment for Refuges | Equipment to inventory forest resources | Multiple NWRs Region wide | Staff - R; Project - I | IP |
| 1F | Inventory of Bottomland Hardwood Forests on the Roanoke River NWR and Establishment of Continuous Forest Inventory Plots. | Establish continuous forest monitoring plots, populate desired forest characteristics model | Roanoke River NWR | Staff - R; Project - I | IP |
| 1F | St. Catherine Creek NWR Aquatic Habitat Assessment in Support of Gulf Coastal Plains CPO LCC | Models to forecast ecological changes in a dynamic floodplain | St. Catherine Creek NWR | Staff - R; Project - I | IP |
| 1F | An objective analysis of 21 years of fire history at St. Marks NWR utilizing MTBS mapping protocol. | Parcel specific fire occurrence and fire intensity histories | St. Marks NWR | Staff - R; Project - I | IP |
| 1F | Flood impacts to Forest Habitat plots established on White River NWR | Data to evaluate tree health and condition related to water management | White River NWR | Staff - R; Project - I | IP |
| 1F | Streamline forest data analysis on R4 refuges | Software to process forestry plot data to address desired forest condition | White River NWR | Staff - R; Project - I | IP |
| DATA MANAGEMENT | | | | | |
| 1A | <i>Assemble existing abiotic data sets needed by NWRs managers to set management objectives through the CCP process</i> Geospatial Advisory Committee developed and tasked with compiling WH1.8 layers and identifying additional refuge needs. Steve representing region on the Geospatial Advisory Committee tasked with completing this objective. Task identified by NRLT in May 2011. | Geospatial Advisory Committee assembling layers. | Steve Holzman | I | IP |

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|--------------------------------|---|--|--|--|--|
| General | <i>Reconciling the inventory of refuge inventories and monitoring review database.</i> The purpose of this project is to ensure all Regions are using the same database to assemble a list of existing inventory and monitoring efforts. | Three PRIMR subteams formed with representation from each region. Each working on various aspects of definitions and purposes of the database. | Steve Holzman and Laurel Barnhill | I | IP |
| General | <i>Populate inventories and monitoring review database (survey of surveys)</i> Working with refuge biologists to enter survey information into PRIMR | Data entered into PRIMR for 5 refuges, other 23 in SALCC in various stages of completion (site visit, data entry, data proofing, etc) | Steve Holzman, Becky Bartel, and Laurel Barnhill with Refuge Staff | I, R | IP |
| COMMUNICATION | | | | | |
| General | <i>Produce a regional I&M fact sheet.</i> The purpose of this project is to develop a fact sheet that outlines the purpose and current status of the I&M program that can be distributed to refuges and partners. | Fact sheet produced in July | Laurel Barnhill | I | C |
| General | <i>Develop a MOU/interagency agreement with NPS SECN</i> The purpose is to integrate operations between FWS Region 4 I&M and the Southeast Coast Network. This document is necessary to outline the relationship between FWS and NPS (e.g., sharing office space). | Draft MOU developed | Joe Devivo, NPS, Chuck Hunter, and Laurel Barnhill | O, I, R | IP |
| General | <i>Establish a regional inventory and monitoring SharePoint site.</i> The purpose of this site is to provide central storage and collaboration space for Region 4 I&M documents, information and ideas. | Sharepoint developed and fully operational in April | Steve Holzman | I | C |
| General | <i>Work closely with the SALCC and other regional LCCs</i> serving on committees and working groups as priorities and processes are defined. | Representation on SALCC Steering Committee Representation on SALCC Consulting Team | David Viker Laurel Barnhill | R, I | IP |