

Resource Management Plan  
for  
Lease 3995:  
Integrated Habitat Network (IHN) Lands  
2012 – 2022



***Approved Plan***



Division of Water Resource Management  
Bureau of Mining and Minerals Regulation

December 14, 2012

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**LAND MANAGEMENT PLAN EXECUTIVE SUMMARY**

Lead Agency: Florida Department of Environmental Protection, Division of Water Resource Management, Bureau of Mining and Minerals Regulation  
 Common Name: Integrated Habitat Network (IHN) Lands or "IHN Lands"  
 Location: Polk County, Florida  
 Acreage Total: 4,864 acres

Land Cover Classification	Acreage	Percent Coverage
Stream and Lake Swamps (Bottomland)	3,479	71.5%
Abandoned Pasture	705	14.5%
Freshwater Marshes	264	5.4%
Lakes	176	3.6%
Upland Hardwood-Conifer Mixed Forest	151	3.1%
Upland Coniferous Forest	39	0.8%
Impoundment/Artificial Pond	28	0.6%
Institutional	19	0.4%
Emergent Aquatic Vegetation	2	<0.1%
Wet Prairie	1	<0.1%

(A current natural communities mapping project by FNAI has not been completed)

Lease/Management Agreement Number: 3995 Use: Single  Multiple

**MANAGEMENT AGENCY**

FDEP, Division of Water Resource Management,  
 Bureau of Mining and Minerals Regulation

**RESPONSIBILITY**

LEAD – Natural and cultural resource management

Designated Land Use: Water Resource and Habitat Protection

Sublease(s): Yes

Encumbrances: Yes

Type Acquisition: Settlement and Donation

Unique Features: Sinkholes and karst features; extensive phosphate mining

Archaeological/Historical: Native American archeological sites; historical artifacts

Management Needs: Exotic species control; boundary survey and property delineation; FNAI and archaeological/historical surveys; restoration of native and disturbed ecosystems; additional staff

Acquisition Needs/Acreage: 3,020

Surplus Lands/Acreage: None

Public Involvement: Management Advisory Group Meeting; Public Hearing

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ARC Approval Date: \_\_\_\_\_ BTIITF Approval Date: \_\_\_\_\_

Comments: \_\_\_\_\_  
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 \_\_\_\_\_  
 \_\_\_\_\_

## ABBREVIATIONS AND ACRONYMS

Agrico	Agrico Chemical Company
BMPs	Best Management Practices
Board of Trustees	Board of Trustees of the Internal Improvement Trust Fund
Bureau	Bureau of Mining and Minerals Regulation, Division of Water Resource Management, Florida Department of Environmental Protection
CARL	Conservation and Recreation Land
CDA	Coordinated Development Area
CHNEP	Charlotte Harbor Natural Estuary Program
Coastal Settlement County	Coastal Petroleum Litigation Settlement Agreement Polk County, Florida
DSL	Division of State Lands, Florida Department of Environmental Protection
Department	Florida Department of Environmental Protection
DHR	Division of Historical Resources, Florida Department of State
Division	Division of Water Resource Management, Florida Department of Environmental Protection
EO	Element Occurrence
Estech	Estech, Inc.
F.A.C.	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FFS	Florida Forest Service, Florida Department of Agriculture and Consumer Services
FFWCC	Florida Fish and Wildlife Conservation Commission
FGS	Florida Geological Survey
FLUCFCS	Florida Land Use, Cover and Forms Classification System
FNAI	Florida Natural Areas Inventory
FPTA	Florida Paddling Trails Association
F.S.	Florida Statutes
IFAS	Institute of Food and Agricultural Sciences
IHN	Integrated Habitat Network
IMC	International Minerals & Chemical Corporation (now Mosaic Fertilizer, LLC)
MFLs	Minimum Flows and Levels
Mobil	Mobil Mining and Minerals Company
Mosaic	Mosaic Fertilizer, LLC
MSL	Mean Sea Level
NGVD	National Geodetic Vertical Datum
NRCS	Natural Resources Conservation Service, U.S. Department of Agriculture
OAWP	Office of Agricultural Water Policy, Florida Department of Agriculture and Consumer Services
OGT	Office of Greenways and Trails, Division of Recreation & Parks, Florida Department of Environmental Protection
PBP	Prescribed Burn Plan
PBS&J	Post, Buckley, Schuh, and Jernigan
PCPD	Polk County Planning and Development
PCSB	Polk County School Board
PREEN	Peace River Environmental Education Network
SCS	Soil Conservation Service (now Natural Resources Conservation Service, U.S. Department of Agriculture)

SEGS	Southeastern Geological Society
SWFWMD	Southwest Florida Water Management District
SWUCA	Southern Water Use Caution Area
TFMA	Tenoroc Fish Management Area
TMDLs	Total Maximum Daily Loads
UF	University of Florida
USGS	United States Geological Survey
ZWI and CCI	Zellers-Williams, Inc. and Conservation Consultants, Inc.

## I. MANAGEMENT PLAN OVERVIEW

### A. INTRODUCTION

The Coastal Petroleum Litigation Settlement Agreement (Coastal Settlement), finalized on November 3, 1987, set up a matrix whereby five phosphate mining companies were required to deed approximately 6,250 acres in various-sized tracts along the Peace, North Prong Alafia, and South Prong Alafia river floodplains to the State of Florida for alterations made by the companies in the State-owned natural channels of these rivers. The lands involved are predominantly streams and rivers with adjacent floodplains, together with isolated parcels of reclaimed uplands, all within the southern phosphate district. The five companies – Agrico Chemical Company; American Cyanamid Company; Estech, Inc.; International Minerals & Chemical Corporation; and, Mobil Mining and Minerals Company – were to conduct these transfers over a period of 12 years, with the agreement mandating that the transfers be accomplished on either a date or event positive. Through an elaborate procedure, the settlement lands were to be transferred in fee to the Board of Trustees of the Internal Improvement Trust Fund (Board of Trustees) through normal Division of State Lands (DSL) procedures and then leased by the DSL to an appropriate managing agency.

One of the powers and duties of the Florida Department of Natural Resources, Division of Resource Management as set forth in Section 370.02(3)(g), Florida Statutes (F.S.) was that “...the division shall also perform functions including, but not limited to, preservation, management, and protection of lands held by the State other than parks and recreational and wilderness areas...” The Attorney General and the Florida Department of Natural Resources, now the Florida Department of Environmental Protection (Department), identified the Division of Resource Management, now the Division of Water Resource Management (Division) as the entity to manage the lands transferred to the State that had not been leased to another agency.

In 1992, the Bureau published a guide entitled *A Regional Conceptual Plan for the Southern Phosphate District of Florida* in which the largely undisturbed lands in the riverine floodplains that were transferred to the State pursuant to the Coastal Settlement were to become the “core” lands of the Integrated Habitat Network (IHN). The IHN is linear and diffuse in nature, covering primarily undisturbed lands within the floodplains of the Peace, North Prong Alafia, and South Prong Alafia river systems as well as some adjacent, isolated upland buffer lands. The IHN component consists of a greenway network throughout the phosphate district that is designed to connect with regional hubs and linkages such as the Green Swamp, Myakka River State Park, and Charlotte Harbor. The adjacent reclaimed “buffer” lands, or Coordinated Development Area (CDA), were to compliment and enhance the habitat value of the core lands. The CDA consists of those lands outside the IHN that are to be or have been reclaimed for various, more intensive land uses, which may include but are not limited to: intensive agriculture such as citrus or row crops; semi-intensive agriculture such as pasture or silviculture; intensive development such as power plants or other industrial facilities; and, semi-intensive development such as residential and commercial complexes. While the long-term goals of the IHN are to enhance the regional water quantity and quality while replacing and protecting natural communities, the goals of the CDA are to protect these same water quantity and quality values while providing opportunity for varied development.



Managed properly, together these areas benefit the water quality and quantity in the area, improve wildlife habitat, and serve as connections between the mining region's rivers and significant environmental features outside the southern phosphate mining region. The Bureau and phosphate industry have long used a variety of "tools", including reclamation, mitigation, preservation, best management practices, less-than-fee conservation agreements, litigation settlement lands, donated lands, and various land acquisition programs to accomplish the goal of protecting wildlife habitat and water resources in the Peace, North Prong Alafia, and South Prong Alafia River basins. The Bureau envisioned that the IHN plan would become part of the "toolbox" as a guide for the reclamation of mined phosphate lands throughout the mining district and began promoting the plan through numerous publications and meetings.

In October 1993, approximately 930 acres of State-owned Coastal Settlement lands bordering the Peace River and Bowlegs Creek were leased to the Division in Lease 3995 and assigned to the Bureau for management. In 1994, House Bill 2445 repealed Section 370.02 F.S. related to the duties of the divisions of the Department of Natural Resources. Section 377.07, F.S., states "The Division of Resource Management of the Department of Environmental Protection is hereby vested with power, authority, and duty to administer, carry out, and enforce the provisions of this law as directed in <sup>1</sup>s. 370.02(3)". Between 1993 and 2009, Lease 3995 was amended eight times to include floodplain parcels on both sides of the Peace River north of Ft. Meade, floodplain parcels along the South Prong Alafia River tract, parcels along the Peace and North Prong Alafia Rivers, tracts along the upper Peace River north of Homeland and along the upper reaches of Little Payne Creek, and Polk Lake east of Bartow. In May 2010, the Board of Trustees accepted the transfer of title from the Williams Acquisition Holding Company, Inc. for approximately 770 acres of previously mined lands adjacent to the Tenoroc Fish Management Area (TFMA) near Lakeland, FL; this tract is scheduled to be added to the TFMA Lease 3977 and included in the management plan for that property so it is not included in this management plan for Lease 3995.

Because the lands within Lease 3995 are a complex mixture of diverse habitats and wildlife, different lease and amendment requirements, and assorted management and monitoring needs, current management activities within the IHN are incompatible with the current philosophies and strategies of other land management agencies. The Bureau's regulatory presence and familiarity with the central Florida phosphate mining district, as well as the commitment and experience of its staff, render it extremely qualified to provide, develop, conduct, assist, and monitor basic management activities for long-term protection of these lands; it is also quite capable of coordinating and supervising wide-ranging projects designed to improve habitat quality within the Integrated Habitat Network lands in Lease 3995. The Department's endorsement of the Bureau's work in the IHN provides further support of the Bureau's involvement in active land management.

## **B. PURPOSE AND SCOPE OF PLAN**

This plan serves as the basic statement of policy and direction for the management of the Integrated Habitat Network (IHN) lands within Lease 3995 as a part of the Division of State Lands' policy of providing stewardship of the more than 3.8 million acres of State-owned conservation lands. It identifies the objectives, criteria, and standards that guide each aspect of

its management and sets forth the specific measures that will be implemented to meet management objectives. This plan is intended to meet the requirements of Sections 253.034 and 259.032, Florida Statutes (F.S.), Chapter 18-2, Florida Administrative Code (F.A.C.), and is intended to be consistent with the State Lands Management Plan. All development and resource alteration actions encompassed in this plan are subject to the acquisition of appropriate permits, easements, licenses, and other required legal instruments. Approval of this management plan does not constitute an exemption for compliance with the appropriate local, county, state, or federal agencies.

The plan consists of two interrelated components, with each component corresponding to a particular aspect of the management of the property. The Resource Management Component provides a detailed inventory and assessment of the resources of the property. Resource management problems and needs are identified and specific management objectives are established for each resource type. This component provides guidance on the application of such actions as prescribed burning, exotic species control, and restoration of natural conditions. The Land Use Component is the recreational resource allocation plan for the property. Based on considerations such as access, regional population, and adjacent land uses, an assessment of the property is made to determine any potential use areas and the types of facilities and possible volumes of use to be needed or provided.

In the development of this plan, the potential of these IHN lands for both single-use and multiple-uses were evaluated. Section 253.034(a), F.S., states that all submerged lands shall be considered “single-use” lands, which are to be managed “for one particular purpose to the exclusion of all other purposes, except that the using agency shall have the option of including in its management program compatible secondary purposes which will not detract from or interfere with the primary management purposes.” Submerged lands are to be managed primarily for the maintenance of essentially natural conditions, the propagation of fish and wildlife, and limited public recreation (such as canoeing/kayaking, bird and wildlife viewing) permitted at the discretion of the managing agency.

Section 253.034(b), F.S., describes “multiple-use” management as “...the harmonious and coordinated management of timber, recreation, conservation of fish and wildlife, forage, archaeological and historic sites, habitat and other biological resources, or water resources so that they are utilized in the combination that will best serve the people of the state, making the most judicious use of the land for some or all of these resources, and giving consideration to the relative values of the various resources.” These secondary management purposes (“multiple uses”) were considered within the context of the Division’s statutory responsibilities and an analysis was made of the resource needs and values of the property.

This analysis considered the natural and cultural resources, management needs, and public use opportunities. For Lease 3995, it was decided that the primary concern would be the preservation and protection of the water resources, wildlife corridors, and habitat within the lease, but other uses would be considered on a case-by-case basis for each of the seven parcels in the lease if these uses could be accommodated so that they would not interfere with the primary purpose. This analysis is presented in further detail in Part III, Land Use Component.

## **C. MANAGEMENT PROGRAM OVERVIEW**

### **1. Management Authority and Responsibility**

In 1989, an amendment to Chapter 370.02(3), Florida Statutes, provided that the Florida Department of Natural Resources, Division of Resource Management (now the Florida Department of Environmental Protection, Division of Water Resource Management) "...shall perform functions including, but not limited to, preservation, management, and protection of lands held by the state other than parks and recreational and wilderness areas." During the negotiations in the mid-1980s that lead to the Coastal Settlement, the Division of Resource Management was identified by the Attorney General and the Department as the entity to manage lands to be transferred to the State and not leased to another agency. In 1994, House Bill 2445 repealed Section 370.02, F.S., related to the duties of the divisions of the Department of Natural Resources. Section 377.07, F.S., states that "The Division of Resource Management of the Department of Environmental Protection is hereby vested with power, authority, and duty to administer, carry out, and enforce the provisions of this law as directed in <sup>1</sup>s.370.02(3)."

In 1999, an amendment to Chapter 378.035, F.S. (Department responsibilities and duties with respect to Nonmandatory Land Reclamation Trust Fund) further codified the Division's land management role and provided for "...funding basic management or protection of reclaimed, restored, or preserved phosphate lands". In 2000, a Legislative Budget Request was approved for a \$200,000 Special Categories, Division of Water Resources budget line item to implement the responsibilities from both statutes. The \$200,000 line item has remained viable through the 2012-2013 budget (note that this amount is divided among several leased properties that are managed or co-managed by the Bureau).

The lands in the IHN that have been acquired by the State in fee simple title through the Coastal Settlement and donations were transferred to the Board of Trustees through normal DSL procedures. The DSL then leased these lands to the Department's Division of Resource Management, the Bureau's parent division, which was determined to be the appropriate management agency because of its statutory management authority, regulatory presence, and familiarity with the central Florida phosphate district.

### **2. Property Goals and Objectives**

Using the goals, objectives, and priority management activities planned for the Lease 3995 IHN Lands, estimates were developed for the funding and staff resources needed to implement the management plan. Funding priorities for all state property management and development activities are reviewed each year as part of the Division legislative budget process. The Division, based in part on input from the Bureau, prepares an annual legislative budget request based on the priorities established for the planned activities. The Bureau also pursues a wide range of other funding and staffing resources (such as grants, volunteers, and partnerships with other agencies, local governments, and the private sector – see Item 3 below) to supplement normal legislative appropriations to address unanticipated needs. The ability of the Bureau to implement the specific goals, objectives, and priority actions identified in this plan will be determined by the availability of funding resources for the purposes described in this document.

The concept of “basic” land management as set forth in Subsection 378.035(6)(a), F.S., which deals with preservation, management and protection of lands other than parks, recreation and wilderness areas, was strongly influenced by Chapter 370, F.S. and assumed that any lands to be made available to the public would be managed by an entity experienced in providing such services. “Basic management” to be provided to those lands being used for protection of wildlife habitat and water resources was defined by Cates and Woodard (1999) as:

1. Identification of property through legal description
2. Determination of boundaries via surveying and mapping
3. Establishment of access
4. Assessment of natural and cultural resources
5. Acquisition of GPS coordinates
6. Demarcation of boundaries
7. Inspection of property at a minimum once per year
8. Resolution of infringements
9. Installation of fencing or other impediments in high infringement areas
10. Management of nuisance/exotic plant infestations

In its management of Lease 3995, the Bureau seeks a balance between the goals of maintaining and enhancing natural areas and providing recreational opportunities for the public. Natural resource management activities are directed towards management of natural systems and the restoration or enhancement of disturbed systems to return them towards more natural conditions. Providing public access to and within Lease 3995 and providing recreational opportunities (such as canoeing/kayaking and wildlife observation) would provide a reasonable balance with the goal of creating and maintaining natural habitats and conditions. Program emphasis is on the preservation of natural areas and the restoration and enhancement of disturbed sites, with a secondary aim of developing potential aesthetic, recreational, and educational opportunities on site.

The goals and objectives discussed later in this management plan describe the Division’s long-term plans for managing the Lease 3995 IHN Lands. The Bureau developed goals and objectives for inclusion in this plan that were meaningful and practical, thus ensuring that the goals and objectives would be relevant over time.

### **3. Management Coordination**

Funding for restoration and management of Lease 3995 lands is limited, so although it is possible, it is very unlikely that sufficient monies will be available for private managers to facilitate the restoration or management of these lands. To overcome this, the Bureau has been or is currently involved in numerous multi-party projects and will continue to participate in these cost-effective, cooperative efforts with other agencies and interests (many of which are listed below) to benefit the resources of the Peace, North Prong Alafia, and South Prong Alafia watersheds:

Central Florida Ecotours – Provides information to the public about the Integrated Habitat Network and the Peace River watershed during children’s environmental festivals that are funded totally by the organization.

Charlotte Harbor National Estuary Program (CHNEP) – The CHNEP is a partner in education programs and research about environmental influences that affect the Peace River watershed. CHNEP and FDEP staffs continue to consult and coordinate on watershed management strategies, including public meetings supporting common goals for land and water management objectives. Bureau staff has successfully procured grants through the CHNEP to establish a stormwater pond community education project in Bartow and to secure funding for the presentation of the Historic Kissengen Spring State Marker.

City of Bartow – Grant coordination with CHNEP for stormwater pond community education garden; coordination with Bartow Chamber of Commerce to conduct requested visits to the Upper Peace River historic and geologic site.

City of Ft. Meade - Assistance with land use planning reviews for City future development involving Bowlegs Creek tracts; coordination and development of City canoe launch as part of the State Blueway.

City of Mulberry – Community revitalization coordination involving improvements to North Prong Alafia River tributaries and lands that affect water and wildlife resources of local IHN lands.

City of Winter Haven – Assistance with Water Sustainability Plan affecting water quality and quantity within the Upper Peace River IHN lands; cooperative development of Upper Peace River Blueway designation and cooperative support for Florida Paddling Trails Association.

Clear Springs Land Company – Ongoing cooperative planning and development of conservation easements and protection of natural resources adjacent to Lease 3995 along the Upper Peace River.

Cooperative Invasive Species Management Areas – Bureau staff works closely with this regional working group in addressing invasive plant management on State lands.

Florida Department of Agriculture & Consumer Service, Florida Forest Service – Cooperative planning and implementation of prescribed fire programs, emergency fire suppression, reforestation efforts, and plant procurement and research for improved BMPs involving agricultural practices.

Florida Department of Environmental Protection, Division of Historical Resources – Curation of artifacts and ongoing assessment and cataloging of new historical resources found on State lands.

Florida Department of Environmental Protection, Division of Law Enforcement - Cooperative enforcement programs providing for education, investigation, and prosecution of criminal acts on State lands.

Florida Department of Environmental Protection, Division of Recreation and Parks – Cooperative educational exchanges and land management support for control of invasive plants.

Florida Department of Environmental Protection, Office of Greenways and Trails – Cooperative programs involving planning and development of public trails associated with local waterways and communities near IHN lands, such as the Upper Peace River Blueway and Homeland Heritage Canoe Launch.

Florida Fish and Wildlife Conservation Commission – The Bureau currently coordinates with the FFWCC on the control of invasive aquatic and upland plants on its public conservation lands and waterways. In addition, Bureau staff will also work with the FFWCC to develop a Wildlife Management Strategy that will address all potential fish and wildlife species on the area, with specific focus on imperiled species and associated management prescriptions including species surveys and monitoring where appropriate, for their habitats and their sustainability based on site-specific population data.

Florida Geological Survey – Shared hydrogeologic studies focused on restoration of the Upper Peace River.

Florida Industrial and Phosphate Research Institute – Cooperative efforts on ongoing research into reclamation activities on Lease 3995.

Florida Natural Areas Inventory – Collaborative mapping of natural element occurrences and invasive species.

Florida Paddling Trails Association (FPTA) – Joint involvement in the creation of the Florida Paddling Trails Blueway on the Peace River from Bartow to Zolfo Springs. Bureau staff also serve as “riverkeepers” for the Upper Peace River on behalf of the FPTA while FPTA members provide year-round volunteer assistance with river clean-ups and natural resource protection.

Florida Rangers – The Florida Rangers is a non-profit entity whose volunteers perform land management activities on State lands managed by the Bureau on the Peace River near Bowlegs Creek. The Rangers maintain firebreaks, mow, and monitor more than 100 acres of State lands that are immediately adjacent to their 80-acre property known as Camp Wilderness.

Florida Wildlife Corridors Expedition – Bureau staff coordinates regional interest and involvement in the ongoing development of the IHN which is an integral part of the conservation lands that are the focus of the Statewide Wildlife Corridor development process.

Friends of Kissengen Spring – Comprised of laypersons, scientists, historians, and others interested in the fate of this spring and the historic site located on Lease 3995 lands, the Friends of Kissengen Spring and Bureau staffs coordinate on historical, archaeological, hydrogeological, and other studies of the spring and historic site.

FWC Ridge Rangers Volunteers – Assist with exotic plant removal, primarily Chinese tallow, in the Clear Springs segment

Keep Polk County Beautiful – Partnership clean-ups and special projects development involving local communities; Department staff was awarded “Volunteer of the Year” award in 2011 by this organization.

Mosaic Fertilizer, LLC – Collaborative effort to develop special restoration projects to create ecologic benefits that enhance the environmental quality of lands adjacent to Lease 3995 IHN lands; special projects include mitigation plantings, Conservation Easement enhancements related to off-site mine mitigation requirements, and cooperative public outreach promoting development of regional wildlife corridors.

Northern Bobwhite Quail Conservation Initiative – Bureau staff coordinates with the Initiative on the collection and exchange of census data, habitat conditions, and management recommendations to assist with the recovery of natural bobwhite quail populations in the area.

Peace Creek Alliance – Created to foster sustainable water resource management by linking land development with natural systems restoration; Bureau staff continues to interact with Alliance members in developing water quality and quantity standards and expanding wildlife habitat connections to the IHN in the southern phosphate district.

Peace River Environmental Education Network (PREEN) – Organization formed by the Bureau’s Environmental Resources staff which is dedicated to creating a watershed network of citizens, educators, and resource managers to foster awareness of watershed environmental issues and solutions; group also intends to develop and site a premier Environmental Education Center in the Upper Peace River region. From 2000 to 2010, PREEN was funded by SWFWMD and CHNEP which cooperated with Bureau staff to host meetings; in 2011, CHNEP assumed the primary role of guiding the PREEN watershed network and continues to partner with Bureau staff to foster key public outreach programs affecting both the Peace River watershed and Lease 3995 IHN lands.

Polk County Friends of the Parks – Coordination of matching grant procurement for SWFWMD Community Education Grant for the North Prong Alafia River watershed signage installation and nature reserve development.

Polk County Historical Association and Polk County Historical Museum – The Bureau’s Environmental Resources staff partnered with this association and the museum to create two historic products associated with Kissengen Spring, which is located on Lease 3995 lands: a) Staff produced and coordinated the installation of the Historic Kissengen Spring State Marker in cooperation with the DHR’s State Historical Marker Program; and, b) staff co-produced the Oral History DVD entitled “Remembering Kissengen Spring”, featuring keynote speaker Cynthia Barnett, in cooperation with Polk Government TV.

Polk County Parks and Natural Resources Division – The Bureau works closely with this group on cooperative land management projects including prescribed fire application and monitoring

the environmental quality of area habitats. Cooperative investigations of environmental impacts on the Upper Peace River regarding public recreation and safety and environmental evaluations of watershed TMDLs are regularly conducted.



Polk County Office of Planning and Development – Bureau staff works collaboratively with the agency by providing technical and regulatory information about phosphate-mined lands within the county and the PCPD works with Bureau staff to include the Integrated Habitat Network lands within the Polk County Conservation GreenPrint Masterplan.

Polk County School Board – Bureau staff works with the Polk County School Board to cooperatively manage State lands along the Peace River that are subleased to the School Board. Staff also coordinates with the School Board Office of Academic Rigor to plan in-school visitations for environmental education programs such as the Southeastern Geologic Society *Maps in Schools Project*.

Polk State College – Bureau staff worked with the college’s Geology Department to develop a laboratory program for students to visit the Upper Peace River karst area twice each year, enabling them to experience these unique hydrogeologic features.

Sierra Club – Provides ongoing consultation and recommendations for priority public interest concerns about protection of local natural resources.

Southeastern Geological Society (SEGS) – Bureau staff and SEGS representatives have (a) developed a program involving visits to the Upper Peace River for professional geologists and members of other scientific organizations who study karst features; (b) created a project called “Tapestry in Time and Terrain” using USGS/SEGS Maps in Schools; and, (c) encouraged the pursuit of geologic studies by presenting the Map program to regional high school classes and science teachers. SEGS leaders also provide technical consultation to Bureau staff regarding geologic issues affecting land management programs in the Upper Peace River.



Southwest Florida Water Management District – Coordinated efforts regarding ongoing Water Resource Recovery plan implementation for Minimum Flows and Levels associated with the Upper Peace River; cooperative information exchanges and consultations for permitting development, compliance, and enforcement.

U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) – Cooperative educational training and development of programs associated with BMPs for conservation lands.

U.S. Geological Survey (USGS) – Bureau staff works closely with USGS technical and field staff to monitor hydrologic and geologic conditions of the Peace River; Bureau staff also provides logistical support to scientific studies, offers background information about local environmental histories and conditions, and monitors field gauges in Lease 3995 waterbodies.

University of Florida, Geoplan Center – Bureau staff coordinates events with Geoplan personnel to facilitate completion of the Integrated Habitat Network and to foster cooperation among landowners, agencies, nongovernmental organizations, and others working to create the Florida Wildlife Corridor project. Bureau staff continues to work with Dr. Tom Hoctor to foster regional interest in the dedication and mapping of conservation lands to make important regional wildlife corridor connections with the Bureau's Integrated Habitat Network.

University of Florida, Institute of Food & Agricultural Sciences (IFAS) – In addition to providing the Bureau with required technical training for Pesticide Application licensing, IFAS and Bureau staff cooperate on invasive plant research, plant identification, and plant cultivation practices that assist with land restoration techniques. Bureau staff recently assisted with the IFAS-sponsored 2012 Polk County Water School by developing a syllabus and speaker bureau to assist regional public officials and citizens learn about water resources and FDEP programs that improve water quality and conservation.

University of Florida, School of Forest Resources and Conservation (SFRC) – Bureau staff has supported SFRC researchers with the development of an experimental biofuel tree plantation. Bureau staff also supported undergraduate projects designed to provide technical information about the use of short-rotation woody crops to inhibit the spread of cogongrass. Other cooperative research projects with the SFRC include supporting the creation of Florida Wildlife Corridors through its Integrated Habitat Network concept, working with the late Dr. L. D. Harris to foster regional awareness of the need for wildlife movement corridors.

University of South Florida (USF) – Bureau staff works with USF staff to facilitate graduate student studies pertaining to restoration of mined lands. Published graduate theses include the works of Raina O'Neil on amphibian biology in natural and reclaimed wetlands and Chrysa Mitrika's work on comparative water quality in reclaimed and natural lakes. Bureau staff also hosts special USF Geology Class visits to the Upper Peace River karst areas.

#### **4. Public Participation**

The Bureau conducted a combined public workshop and Advisory Group meeting in Lakeland, FL on August 9, 2012 to discuss the draft Lease 3995 IHN Lands Management Plan; details of this meeting are provided in Addendum 6. After revising the management plan to incorporate appropriate comments and recommendations, the Bureau presented the Lease 3995 Management Plan to the Acquisition and Restoration Council at its December 14, 2012 meeting.

## **5. Other Designations**

The Lease 3995 IHN Lands are not within an Area of Critical State Concern as defined in section 380.05, F.S. and currently are not under study for such designation. The lands within Lease 3995 are not a component of the Department's Office of Greenways and Trails (OGT) Trail System but the waters in the Peace River portion of the lease form the upper portion of a Designated Paddling Trail (<http://www.dep.state.fl.us/gwt/guide/paddle.htm>)

No waters within the property have been designated as Outstanding Florida Waters, pursuant to Chapter 62-302, F.A.C. The Lease 3995 IHN Lands are not an aquatic preserve as designated under the Florida Aquatic Preserve Act of 1975 (section 258.35, F.S.). Surface waters on this property are classified as Class III waters by the Florida Department of Environmental Protection. The Lease 3995 IHN Lands have been included in the Southern Water Use Caution Area, a 5,100 square mile area including all or part of eight counties in west-central Florida that has been identified by the Southwest Florida Water Management District (SWFWMD) as an area where water resources are or will become critical in the next 20 years (SWFWMD, 2006).

## **II. RESOURCE MANAGEMENT COMPONENT**

### **A. INTRODUCTION**

The Division of Water Resource Management has implemented resource management programs throughout the State for the preservation of representative examples of natural and cultural resources of statewide significance under its administration. This component of the management plan describes the natural and cultural resources of the Lease 3995 property and identifies the methods that will be used to manage them. The stated management measures in this plan are consistent with the Division's overall mission in ecosystem management.

The Bureau's main goal of natural resource management in Lease 3995 is to restore or enhance and then maintain, to the extent possible, the natural processes that shaped the structure, function, and species composition of Florida's diverse natural communities as they originally existed prior to any man-made disturbances. In the case of the Lease 3995 IHN Lands, the emphasis of natural resources management is on the restoration or enhancement of lands adversely impacted by the activities of agriculture and phosphate mining.

The management goal of the cultural resources on Lease 3995 is to preserve and protect sites and objects that represent all of Florida's cultural periods as well as significant historic events or persons. This goal may require active measures to stabilize, reconstruct, or restore resources that may be discovered on lease lands.

Because the Division's properties are often components of larger ecosystems, their management is often affected by conditions and events that occur beyond the property boundaries. Management on State-owned property is implemented through a resource management evaluation program (to assess resource conditions, evaluate management activities, and refine management actions), a review of local comprehensive plans, and a review of permit applications for impacts to this property and adjacent lands.

### **B. RESOURCE DESCRIPTION AND ASSESSMENT**

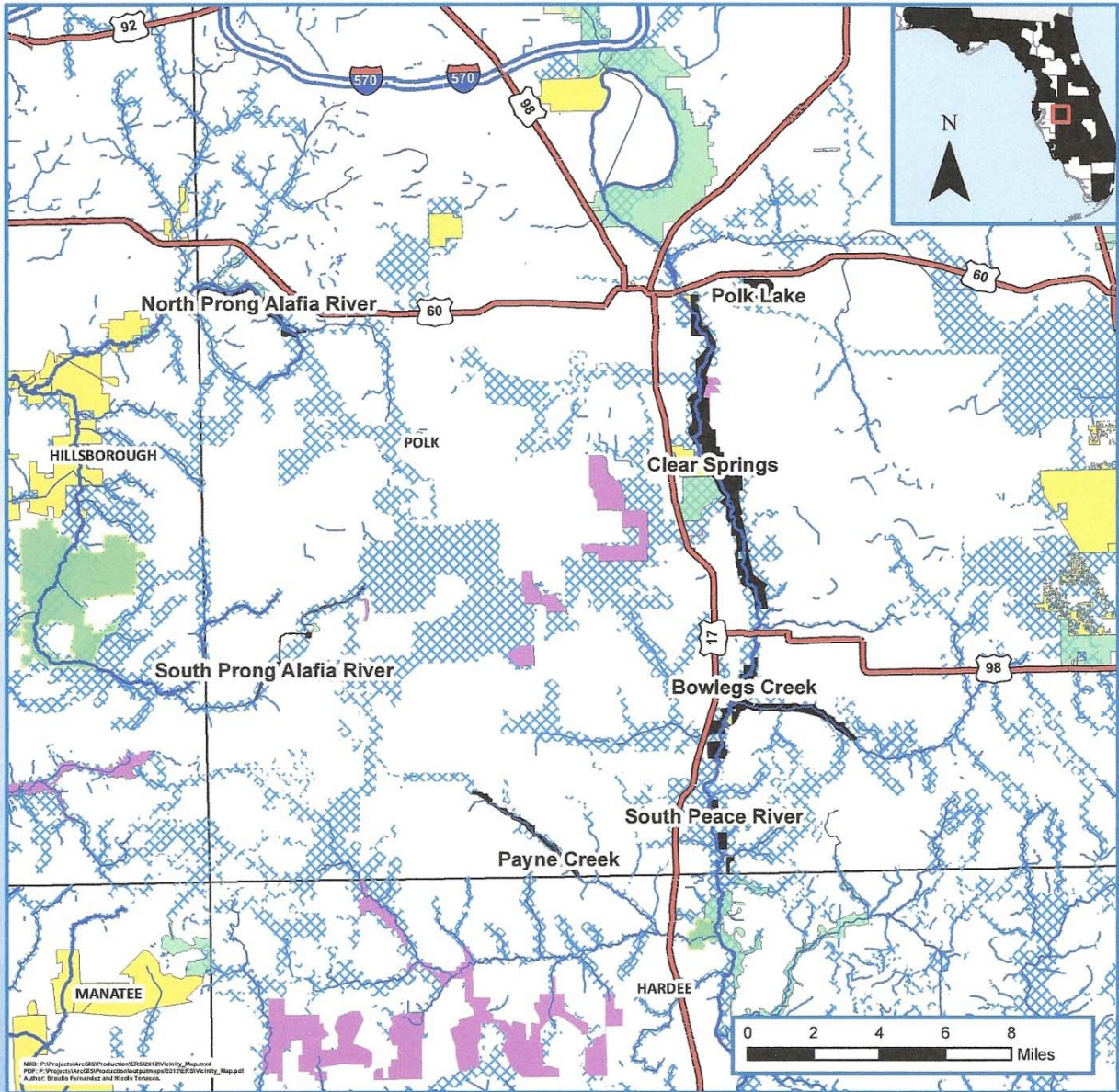
The aggregation of properties comprising the Integrated Habitat Network in general and Lease 3995 in particular is located within the southern phosphate district in west central Florida (see Vicinity Map). The common name, previous or current owner, acreage, means of acquisition, and status of each of the seven tracts in Lease 3995 are described below. Due to the diverse and complex nature of the acquisition of properties in Lease 3995, the original lease, the eight amendments, three subleases, and one related lease are extremely large and intricate documents. These 13 documents are comprised of 410 pages, 250 of which contain the legal descriptions of all the lands within the seven parcels in this lease. For this reason, copies of these documents are not provided in this addendum but are available from the Bureau upon request.

(1) The North Prong Alafia River tract is part of the Mobil Mining and Minerals Company (Mobil) portion of the Coastal Settlement and consists of approximately 218 acres. This tract is located along the North Prong Alafia River west of Mulberry and south of State Road 60 in the vicinity of the Nichols Mine. The boundary was surveyed but not marked in 2005.



## Vicinity Map

Department of Environmental Protection  
 Bureau of Mining and Minerals Regulation  
 Map produced in June 2012



MXD: P:\Projects\ArcGIS\Production\ESD\12\Vicinity\_Map.mxd  
 PDF: P:\Projects\ArcGIS\Production\Output\12\VICINITY\_Map.pdf  
 Author: Braulio Fernandez and Nicole Tenenka

- Lease/3995
- BMMR Conservation Easements
- Federal
- State
- Local
- Private
- Florida State Park Boundaries
- Integrated Habitat Network (Conceptual)
- Interstate
- Primary and US Highways
- Rivers 2006
- Counties

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## Aerial View of North and South Prong Alafia Segments







Department of Environmental Protection  
 Bureau of Mining and Minerals Regulation  
 Map produced in June 2012

### North Prong Alafia



### South Prong Alafia



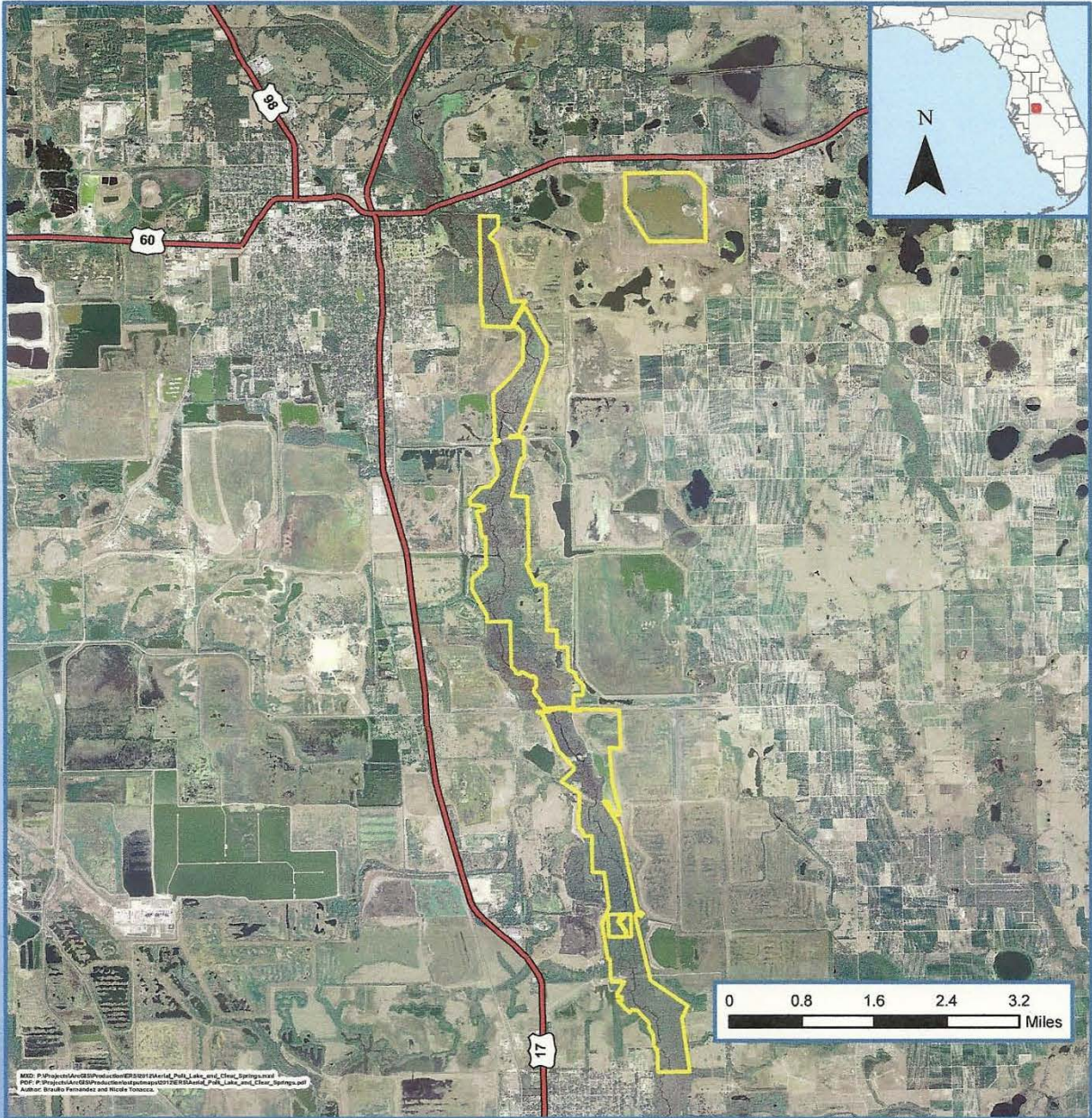
-  Lease 3995
-  Interstate
-  Primary and US Highways
-  Secondary, State and County Highways
-  Counties
-  Cities

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# Aerial View of Polk Lake and Clear Springs Segments

Department of Environmental Protection  
Bureau of Mining and Minerals Regulation  
Map produced in June 2012



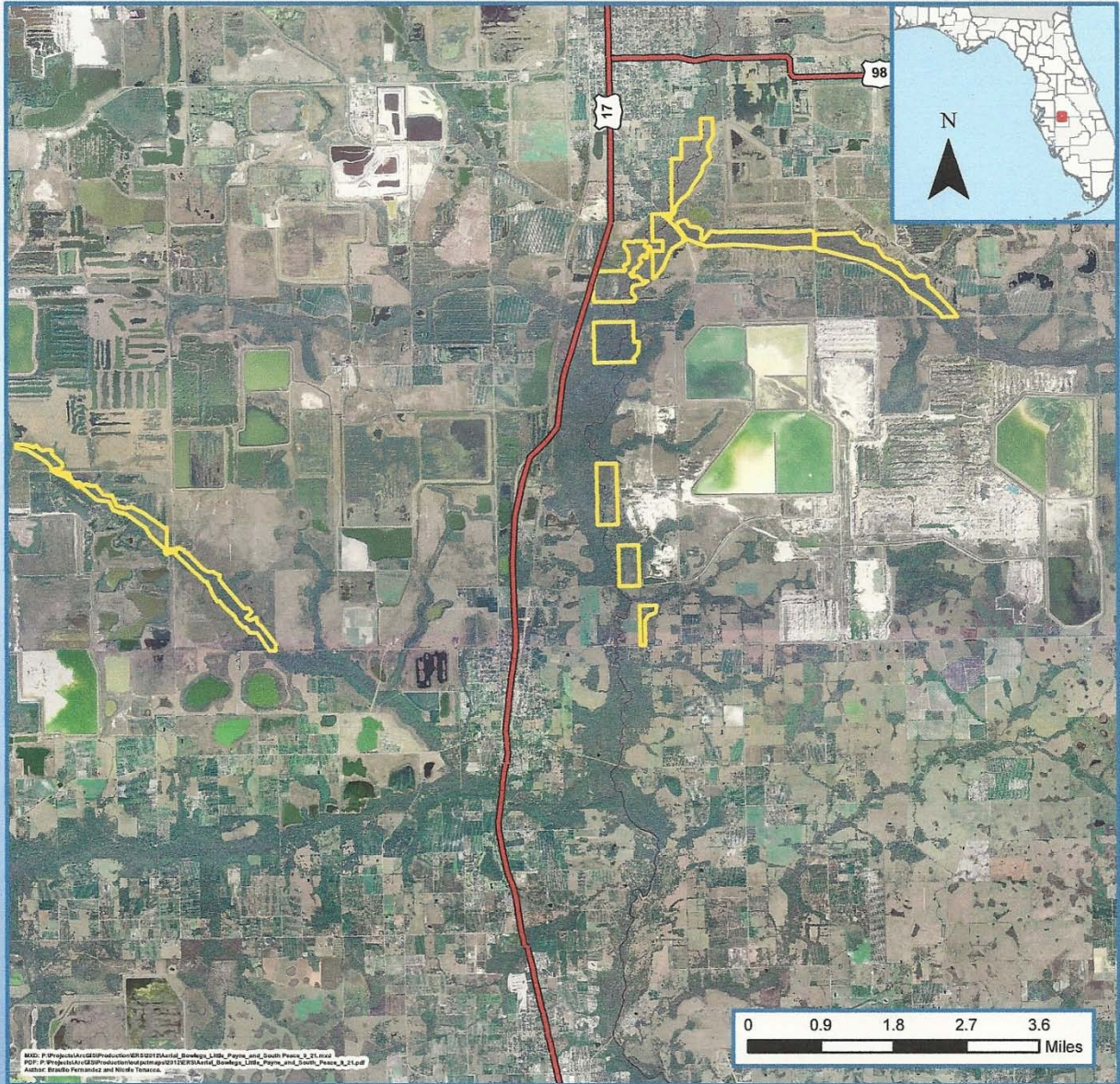
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PDF: P:\Projects\AveGIS\Production\2012\Aerial\_Polk\_Lake\_and\_Clear\_Springs.pdf  
Author: Braulio Fernandez and Nicole Tomasco

-  Lease3995
-  Interstate
-  Primary and US Highways



## Aerial View of Bowlegs Creek, South Peace River, and Little Payne Creek Segments

Department of Environmental Protection  
Bureau of Mining and Minerals Regulation  
Map produced in June 2012



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PDF: F:\Project\ArcGIS\Production\Map\0312\0312Aerial\_Bowlegs\_Little\_Payne\_and\_South\_Peace\_0312.pdf  
Author: Ericka Fernandez and Nicole Tenasco

-  Lease3995
-  Rivers 2006
-  Interstate
-  Primary and US Highways

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(2) The South Prong Alafia River tract, another portion of the Coastal Settlement lands that was owned by the Cytec Brewster Phosphates, Inc., is located west of State Road 37 within the Haynsworth Mine along the South Prong Alafia River. This tract is approximately 116 acres in size and is currently patrolled by Bureau staff to assess its status. Boundary surveying and marking have not been completed.

(3) The Clear Springs tract, originally part of the IMC Phosphates Company (IMC, now part of Mosaic Fertilizer, LLC) portion of the Coastal Settlement, is a 2,538-acre area that stretches from south of State Road 60 to north of County Road 640 along the Peace River in the vicinity of the former Clear Springs Mine. The boundary delineation and marking of the portion north of County Road 640 were completed in 2006, while surveying and partial boundary markings have been completed south of the road.

(4) The Polk Lake tract was donated to the State in fee simple by Mosaic Fertilizer, LLC (Mosaic) in 2009. This tract is approximately 393 acres in size and is located east of the City of Bartow on the south side of State Road 60. The parcel was surveyed in 2008.

(5) The Bowlegs Creek tract, part of the Estech, Inc. (Estech) portion of the Coastal Settlement, is located along Bowlegs Creek and its confluence with the Peace River south of Ft. Meade. This 1,068-acre tract was partially surveyed in 2005 but has not been demarcated. The Florida Rangers, Inc., a church youth group, aids management activities through a formalized volunteer organization agreement with the Bureau.

(6) The South Peace River tract, part of the Mobil portion of the Coastal Settlement, is located along the Peace River between Ft. Meade and Bowling Green. This tract is approximately 232 acres in size and is surrounded by the active South Ft. Meade Mine owned by Mosaic Fertilizer, LLC (Mosaic). The boundary of this parcel has not been surveyed or marked.

(7) The Little Payne Creek tract was originally part of the Coastal Settlement lands owned by Agrico Chemical Company (Agrico), which is now part of Mosaic Fertilizer, LLC. This tract, approximately 299 acres in size, is located southwest of Ft. Meade is surrounded by Mosaic's active Payne Creek Mine. Surveying and boundary delineation have not been conducted.

## **1. Natural Resources**

### **a. Topography**

Lease 3995 is in the Central Highlands physiographic province, mainly on the Polk and Lake Uplands. Elevations within Polk County range from 50 to 305 feet above National Geodetic Vertical Datum (NGVD) with the lowest elevation in the Kissimmee River Valley and the highest along the crest of the Lake Wales Ridge. Elevations in the Polk Upland range generally between 100 and 130 feet above MSL (SCS, 1990); in Lease 3995, the topography varies widely in the seven disjunct parcels located in and near the floodplains of the Peace River and the North and South Prongs of the Alafia River. There are no beaches or dunes within Lease 3995.

### **b. Geology**



The U.S. Geological Survey has identified nine geologic units in Polk County, Florida (USGS, 2012); of these, the three most prevalent are:

1) Reworked Cypresshead sediments (Pliocene/Pleistocene): Covering 34% of the surface, this unit is the result of post-depositional reworking of the Cypresshead Formation, which occurs only in peninsular Florida and eastern Georgia and forms peninsular highlands from northern Nassau County southward to Highlands County. Original fossil material is not present in the sediments although poorly preserved molds and casts of mollusks and burrow structures are occasionally present, documenting the marine influence of the depositions (USGS, 2012).

2) Hawthorn Group, Peace River Formation, Bone Valley Member (Miocene/Pliocene): Covering 22% of the surface, the Bone Valley Member (originally the Bone Valley Formation) occurs in a limited area on the southern part of the Ocala Platform in Hillsborough, Polk, and Hardee Counties. Throughout its extent, the Bone Valley Member is a clastic unit consisting of sand-sized and larger phosphate grains in a matrix of quartz sand, silt, and clay in a highly variable lithology. Mollusks are found as reworked, often phosphatized casts. Vertebrate fossils occur in many of the beds within the Bone Valley Member, with silicified corals and wood occasionally present and shark's teeth often abundant. The Bone Valley member is an extremely important, unique phosphate deposit and has provided much of the phosphate production in the United States during the twentieth century (USGS, 2012). Polk County contains more individual fossil recovery sites than any other county due to phosphate mining activities in this member; representative vertebrate fossils that have been collected include: turtles, crocodiles, horses, camels, deer, dolphins, seals, whales, mammoths, mastodons, camels, and elephants (FIPR, 2012; USGS, 2012; Wikipedia, 2012).

3) Undifferentiated sediments (Pleistocene/Holocene): Covering 21% of the surface, these sediments consist of siliciclastics, organics, and freshwater carbonates and are found in alluvial and floodplain deposits as well as in ridges, dunes, and terraces. Clay or mud, beach sand, silt, gravel, peat, and sand all comprise the lithology of this geologic unit (USGS, 2012).

After Kissengen Spring (a second magnitude spring) ceased continuous flow in 1950 due to over-pumping of groundwater in the Peace River watershed, the karstic geology underlying the Upper Peace River was subjected to accelerated sinkhole development as surface water drained into the lowered groundwater system (Peek, 1951; PBS&J, 2007). These sinkholes and karst features are present in the Peace River channel and floodplain and have been well-documented over the past few decades. As many as 150 to 200 sinkholes may exist between Bartow and Fort Meade and it has been speculated that at least half of these would not have occurred had the potentiometric surface remained at its 1949 levels (Patton, 1981; Metz and Lewelling, 2009). Most of the sinkholes are larger than 9-feet in diameter and the largest, Gator Sink, is 100-feet in diameter and exposes the Floridan Aquifer System. Hydrologic and geologic impairments have also adversely affected historic cypress forests that once covered the karstic floodplain, likely caused by the combined effects of the lowered water table and the unstable clayey substrates (Cook, 2007).

### **c. Soils**

Those portions of the IHN within Lease 3995 contain predominantly streams and rivers with adjacent floodplains and some isolated reclaimed uplands. The soils typically found in and near the Peace River include Neilhurst sand, Nittaw sandy clay loam, Bradenton fine sand, and Bradenton-Felda-Chobee association. The two most common soil associations in the Lease 3995 portions of the North Prong and South Prong Alafia Rivers are Hydraquents, clayey, Arents, and Felda fine sand (see Soils Maps).

The phosphate mining, by-product disposal, and reclamation activities that occurred in some portions of the IHN lands within Lease 3995 created soil types that are very different from the original soils. The soils typically produced by phosphate mining operations include Hydraquents, Arents-water complex, Haplaquents, and Arents, all of which are highly unsuited to development due to high clay or water content. The third most common soil type in the lease is a post-mining soil known as Hydraquents, clayey. Soil descriptions (Ford et al, 1990; NRCS, 1990) are provided in Addendum 3.

Table 1 lists the most common soil types in Lease 3995 in each tract; due to the landscape position and soil type, most of these soils are “frequently flooded” (NRCS, 1990).

Table 1. Soil Types by Tract in Lease 3995

Tract	Soil Type
Clear Springs	Nittaw sandy clay loam, frequently flooded; Bradenton fine sand
Polk Lake	Water; Adamsville fine sand
Bowlegs Creek	Bradenton-Felda-Chobee Association, frequently flooded; Nittaw sandy clay loam, frequently flooded
South Peace River	Bradenton-Felda-Chobee Association, frequently flooded
Little Payne Creek	Felda Fine Sand, frequently flooded; Arents
North Prong Alafia River	Hydraquents, clayey; Haplaquents, clayey
South Prong Alafia River	Felda Fine Sand, frequently flooded; Arents

**d. Minerals**

The surface and near surface sediments in Polk County consist of quartz sand, clay, phosphorite, limestone, and dolomite. These sediments range in age from Late Eocene age to Holocene age (40 millions years ago to present). Deposits of Holocene age (10,000 years ago to present) are mainly limited to present stream floodplains, beaches, swamps, marshes, and lakes. They consist of sand, silt, clay, and organic material. Undifferentiated surficial sand, clayey sand, and clay blanket essentially all of Polk County; in the region which includes the Lease 3995 IHN Lands, these undifferentiated surficial sediments are less than 10 feet to more than 120 feet thick (Campbell, 1986; NRCS, 1990).

Phosphate mining and mining operations have taken place on or adjacent to all the parcels within Lease 3995. No records of oil, gas, or remnant phosphate resources of economic importance have been found for the Bureau-managed Lease 3995 IHN Lands. Due to the environmental sensitivity of these areas and the need to protect them for water resources and wildlife corridors, the Bureau has no plans to attempt to locate and/or use any resources that may be discovered.



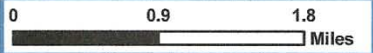
## Soils of North Prong and South Prong Alafia Segments

Department of Environmental Protection  
 Bureau of Mining and Minerals Regulation  
 Map produced in June 2012

### North Prong Alafia

HILLSBOROUGH

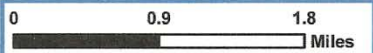
POLK



### South Prong Alafia

HILLSBOROUGH

POLK



#### North Prong and South Prong Soils

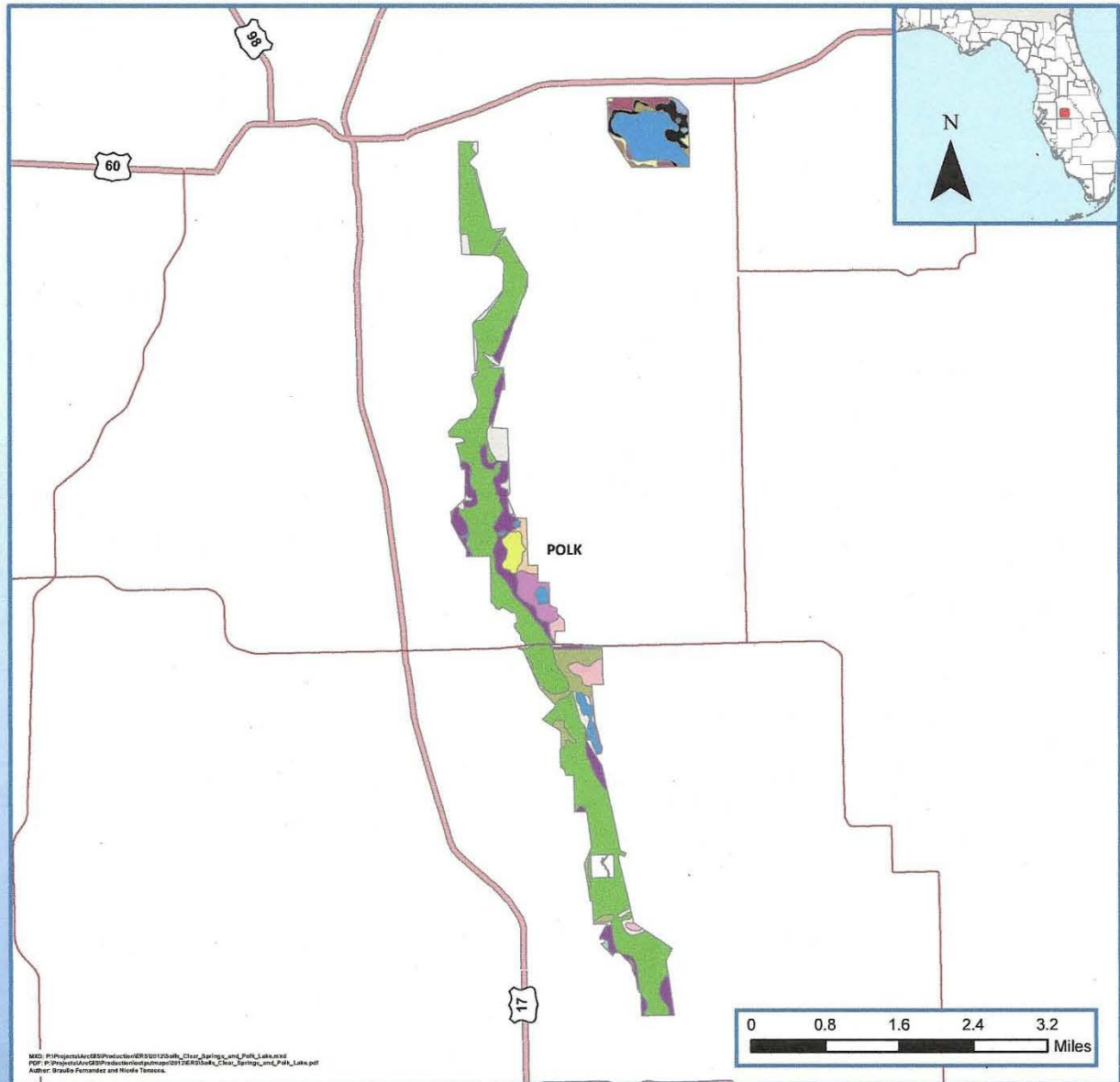
- Arents, 0 to 5 percent slopes
- Chobee fine sandy loam, frequently flooded
- Felda fine sand
- Felda fine sand, frequently flooded
- Haplaquents clayey
- Hydraquents, clayey
- Neilhurst sand, 1 to 5 percent slopes
- Sparr sand, 0 to 5 percent slopes
- Water

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# Soils of Clear Springs and Polk Lake Segments

Department of Environmental Protection  
 Bureau of Mining and Minerals Regulation  
 Map produced in June 2012



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 Author: Bradie Fernandez and Nicole Tomasco

**Clear Springs and Polk Lake Soils**

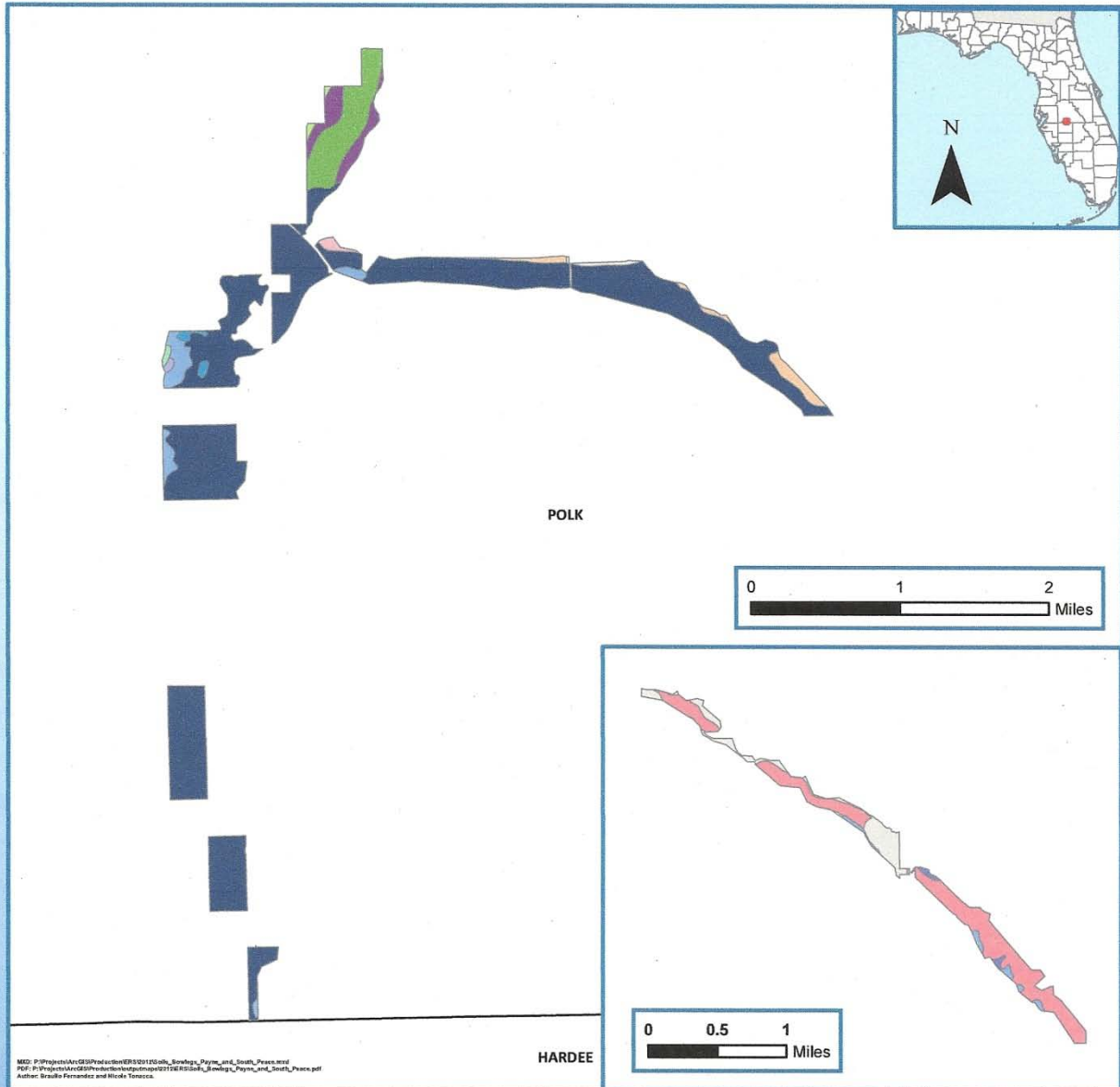
Adairville fine sand
Amelia, 0 to 5 percent slopes
Amelia, 5 to 10 percent slopes
Amelia-State complex
Bethesda fine sand
Candler sand, 0 to 5 percent slopes
Castalia fine sand
Elmore fine sand
Falls fine sand
Highlands clayey silt
Hudson muck
High Springs, clayey
Hubbard sand, 0 to 5 percent slopes
Hubbard sandy clay loam, reportedly forested
Phonix and Mable fine sands, depressed
Florida fine sand
Florida fine sand
Seminole muck
Sumner and Mable fine sands
Tallahassee fine sand, 0 to 5 percent slopes
Wakulla fine sand
Water

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# Soils of Bowlegs Creek, South Peace River, and Little Payne Creek Segments

Department of Environmental Protection  
Bureau of Mining and Minerals Regulation  
Map produced in June 2012



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 PDF: P:\Programs\ArcGIS\Production\Output\012\ER3\012\Soils\_Bowlegs\_Plym\_and\_South\_Peace.pdf  
 Author: Braulio Fernandez and Nicole Tenocca

- Bowlegs Creek, South Peace, Little Payne Creek Soils**
- Adamsville fine sand
  - Arents, 0 to 5 percent slopes
  - Arents-Water complex
  - Bradenton fine sand
  - Bradenton-Felda-Chobee association, frequently flooded
  - Felda fine sand, frequently flooded
  - Holopaw fine sand, depressional
  - Hydraquents, clayey
  - Nittaw sandy clay loam, frequently flooded
  - Pomona fine sand
  - Smyrna and Myakka fine sands
  - Sparr sand, 0 to 5 percent slopes
  - Udorthents, excavated
  - Water

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## **e. Hydrology**

The Integrated Habitat Network, of which Lease 3995 is a part, has been recognized by numerous regional, state, and local agencies as well as private and environmental entities as comprising a significant percentage of the historic and current watershed of the Peace and North and South Prong Alafia Rivers. Several of the tracts that constitute Lease 3995 were identified by ZWI and CCI (1980) and PBS&J (2007) as critical for the protection of river basins on the lease.

Water resources in Lease 3995 include natural rivers, streams, and wetlands as well as reclaimed lakes and streams or unreclaimed mine cuts and clay settling areas that were created by phosphate mining and reclamation activities. The predominant bodies of natural water in those areas of the IHN covered by the Lease 3995 management plan are the Peace River, North and South Prongs of the Alafia River, and Bowlegs and Little Payne Creeks. These rivers and streams have been labeled Class III waterbodies but are not designated as Outstanding Florida Waters. The reclaimed and unreclaimed streams, lakes, clay settling areas, and water-filled mine cuts in the Lease 3995 IHN lands are of varying quality but are also considered Class III waters; none of these artificially-created waterbodies are Outstanding Florida Waters (PBS&J, 2007; FDEP, 2007).

The most outstanding feature of the Peace River is its geology. The upper Peace River has a geology that is unique from the remainder of the watershed. Between Bartow and Fort Meade in Polk County, a number of karstic features occur in the limestone beds that form the river channel and associated floodplain. Large limestone formations frequently emerge from the banks and river bottom, creating shoals and gentle rapids (depending on water levels). Limestone, with its high calcium carbonate content, is easily dissolved by the weak solution of carbonic acid in rainwater and most natural Florida surface streams. When this acidic water enters the ground and interacts with the limestone, the water dissolves the limestone to form karst topography—a combination of caves, underground channels, and an irregular ground surface. This area of karst creates a direct connection between the river channel and the Floridan aquifer, as demonstrated by the history of Kissengen Spring, which before 1950 supplied the upper Peace River with 15-30 cubic feet per second of spring flow. Kissengen Spring ceased continuous flow by 1950 (PBS&J, 2007; FDEP, 2007).

In its historic and natural state, the upper portions of the Peace River were spring-fed; during dry periods, the river flow contained amazingly clear, tannin-colored water. A steady, long-term decline in Peace River flows has been observed since the early-1960s. The causes of the decline are complex. Average annual rainfall over the last 30 years is about five inches/year lower than in the previous 30 years. Groundwater withdrawals for public supply, agriculture, and mining have lowered the potentiometric surface of the Floridan aquifer since the early-1930s which has reversed the hydraulic gradient between the river and underlying confined aquifers. This has caused gravity drainage of the river into sinkholes in the upper part of the basin. The karstic section of the Peace River channel was first observed going dry during unusually dry spring seasons in the 1980s. Following the severe drought of 1999-2001, however, the channel has gone dry every spring except during the above-average rainfall years of 2003-2005 (PBS&J, 2007).

Major restoration activities and initiatives are under way in the river's headwaters to enhance the hydrology and ecology of the river's upper portion. The Lease 3995 IHN Lands have been included in the Southern Water Use Caution Area (SWUCA), a 5,100 square mile area including all or part of eight counties in west-central Florida that has been identified by the Southwest Florida Water Management District as an area where water resources are or will become critical in the next 20 years (SWFWMD, 2006). The Peace and North and South Prong Alafia Rivers have also been included in several other projects and programs headed by the SWFWMD and the FDEP with the goal of protecting and restoring water and related resources; several of these include: Minimum Flows and Levels, Central Florida Coordination Area Action Plan, Upper Peace River/Saddle Creek Restoration Project, and the West-Central Florida Water Restoration Action Plan, among others. TMDLs for Fecal Coliform Bacteria have been adopted for the Peace River above Bowlegs Creek; no BMAP is anticipated, however other TMDL implementation options are being explored (SWD, 2012). The Peace River has also been the subject of several studies to assess the cumulative effects of climate change and historical land use and water use on basin ecology, water quantity, and water quality, including the *Final Report for the Peace River Cumulative Impact Assessment* (PBS&J, 2007) and the *Peace River Basin Resource Management Plan* (FDEP, 2007).

#### **f. Natural Communities**

The last map and database search that was performed on Lease 3995 IHN Lands was conducted only on a small area of the lease in April 1999. Another FNAI map and database search for listed species and natural communities in Polk County (FNAI, 2011) that encompasses all the lands within this lease is needed to determine current presence or absence of rare, threatened, or endangered species; this search should then be followed by a site specific survey.

In the absence of recent FNAI information for Lease 3995, vegetation communities were identified using the Florida Land Use, Cover and Forms Classification System (FLUCFCS), a uniform land classification developed by the Florida Department of Transportation (FDOT, 1999). Descriptions of the land uses are provided in the following sections; see also the Land Cover Maps for the individual parcels within Lease 3995.

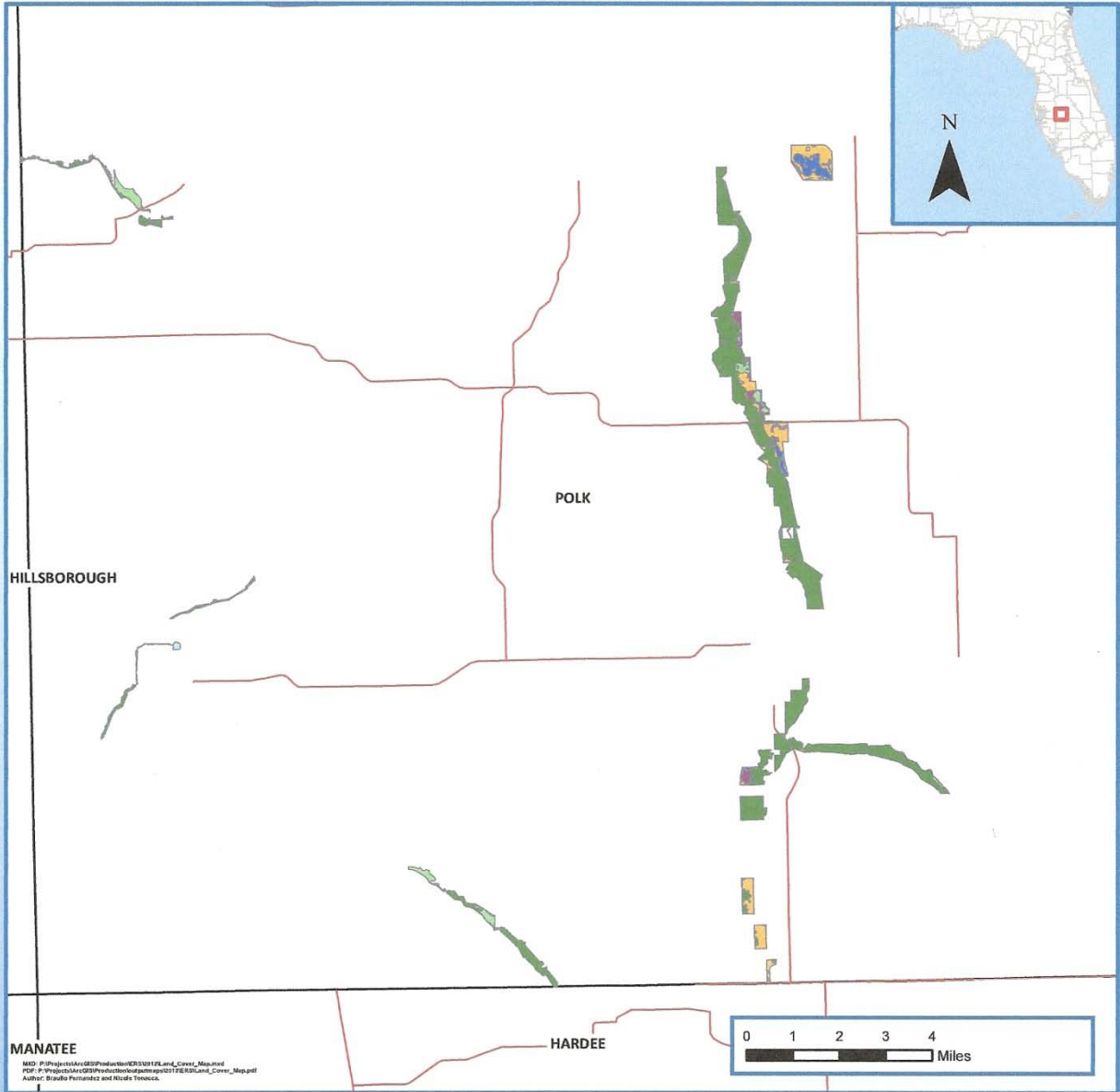
FLUCFCS 170 – Institutional (19 acres or 0.4% of the total) – This classification contains educational, religious, health, military facilities, and other typical compounds. This grouping includes all buildings, grounds, and parking lots that make up the facility but does not contain area not specifically related to the purposes of the institution. On Lease 3995, this classification pertains to the two concrete buildings and immediate surroundings in the Clear Springs parcel; this area is subleased to the Polk County School Board (Sublease 3995-02) for the establishment and operation of public school workforce education.

FLUCFCS 210 – Pasture Abandoned (705 acres or 14.5% of the total) – Pastures may be drained and/or irrigated lands where the management objective is to establish or maintain stands of grasses, either alone or in mixtures. In the case of Lease 3995, these pastures have not had any of the management activities needed to maintain a pasture, such as brush control, fertilization, or irrigation, and the majority of these areas have become infested with invasive species, especially



# Land Cover Map

Department of Environmental Protection  
Bureau of Mining and Minerals Regulation  
Map produced in June 2012.



**Legend**

**Land Cover**

- CONIFEROUS FOREST
- ABANDONED PASTURE
- EMERGENT AQUATIC VEGETATION
- FRESHWATER MARSHES
- HARDWOOD CONIFER MIXED
- IMPOUNDMENT/ARTIFICIAL POND
- INSTITUTIONAL
- LAKES
- STREAM AND LAKE SWAMPS (BOTTOMLAND)
- WET PRAIRIE

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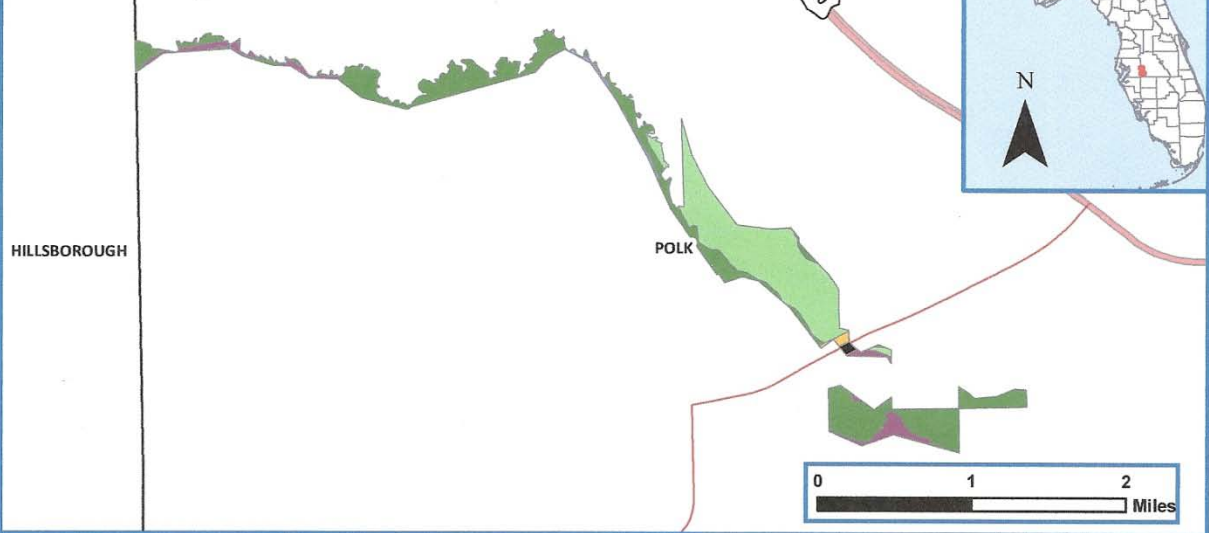




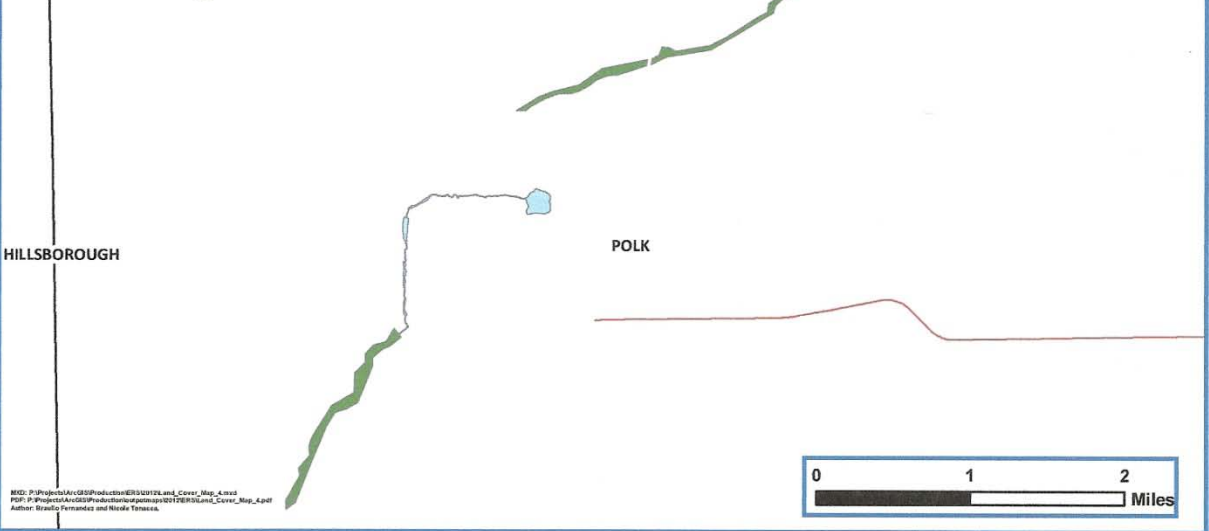
## Land Cover Map 4

Department of Environmental Protection  
Bureau of Mining and Minerals Regulation  
Map produced in June 2012

### North Prong Alafia River



### South Prong Alafia River



MKG: P:\Projects\ArcGIS\Production\ES\2012\Land\_Cover\_Map\_4.mxd  
PDF: P:\Projects\ArcGIS\Production\es\2012\Land\_Cover\_Map\_4.pdf  
Author: Brady Fernandez and Nicole Torres

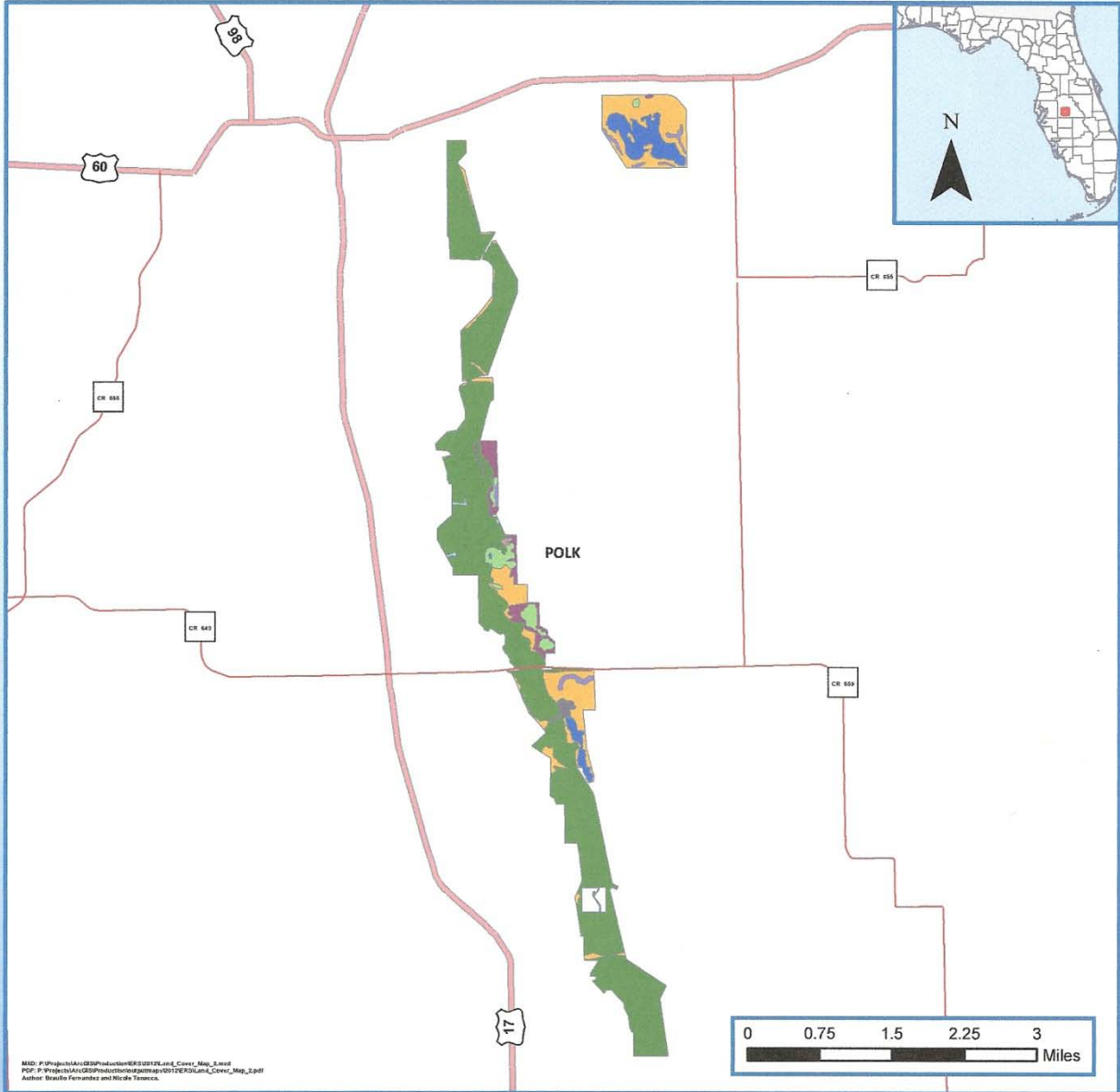
Legend	
	CONIFEROUS FOREST
	ABANDONED PASTURE
	EMERGENT AQUATIC VEGETATION
	FRESHWATER MARSHES
	HARDWOOD CONIFER MIXED
	IMPOUNDMENT/ARTIFICIAL POND
	INSTITUTIONAL
	LAKES
	STREAM AND LAKE SWAMPS (BOTTOMLAND)
	WET PRAIRIE

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## Land Cover Map 2

Department of Environmental Protection  
Bureau of Mining and Minerals Regulation  
Map produced in June 2012



MED: P:\Projects\AUG25\Production\ERIS0121\Line\_Cover\_Arri\_Maps\_3.mxd  
PDF: P:\Projects\AUG25\Production\Output\map\0012\ERISLan4\_Cover\_Map\_2.pdf  
Author: Brian Fernandez and Nicole Terence.

**Legend**

**Land Cover**

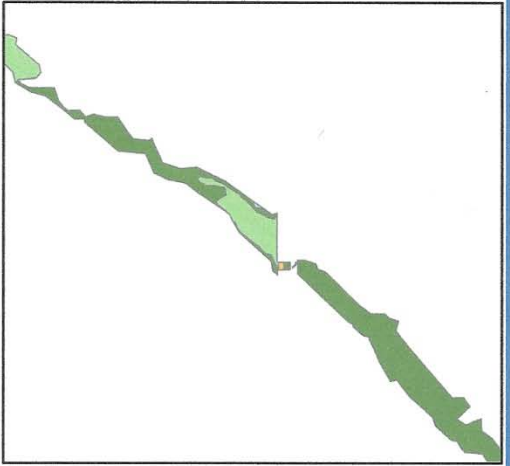
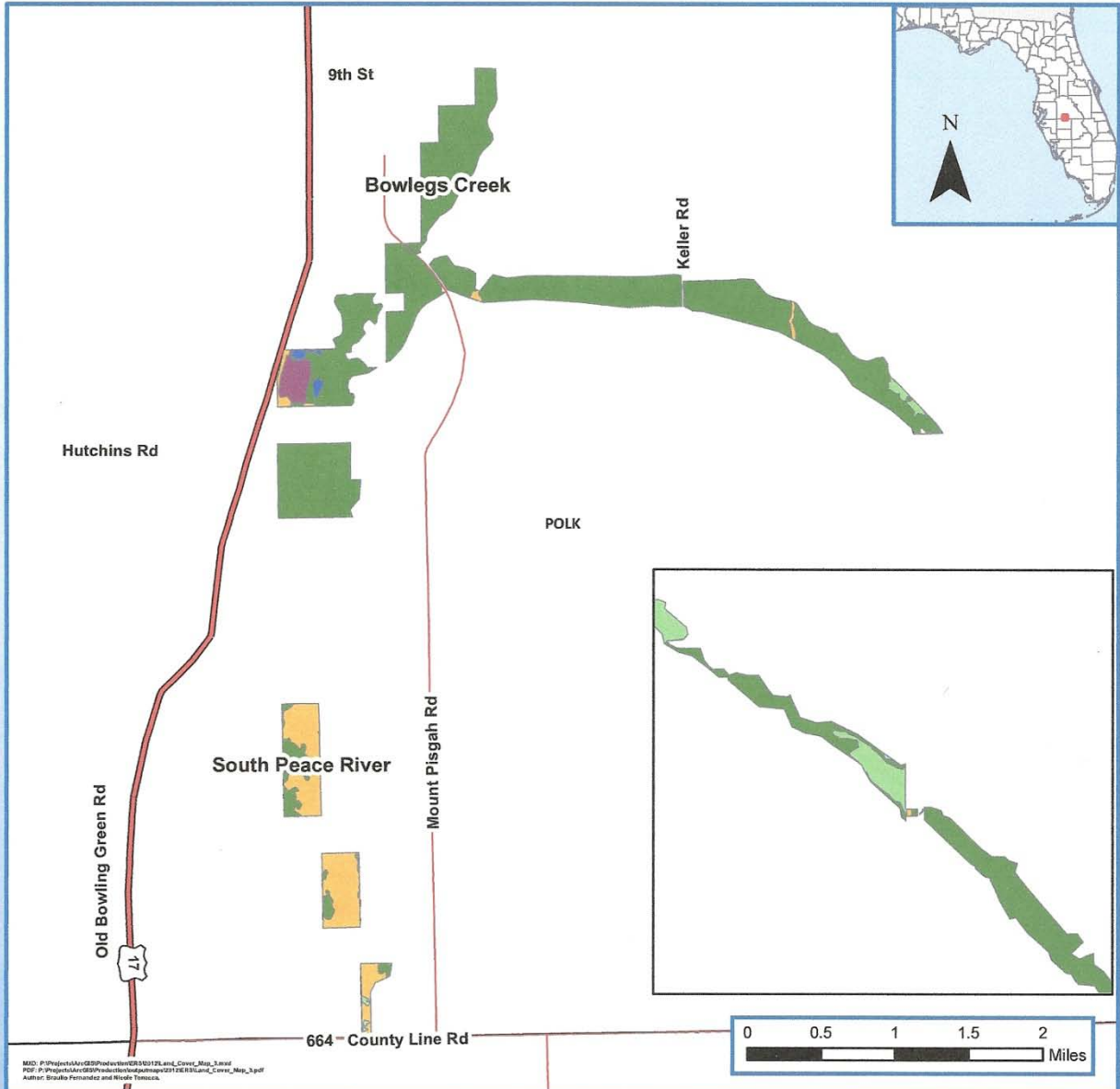
- CONIFEROUS FOREST
- ABANDONED PASTURE
- EMERGENT AQUATIC VEGETATION
- FRESHWATER MARSHES
- HARDWOOD CONIFER MIXED
- IMPOUNDMENT/ARTIFICIAL POND
- INSTITUTIONAL
- LAKES
- STREAM AND LAKE SWAMPS (BOTTOMLAND)
- WET PRAIRIE

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### Land Cover Map 3

Department of Environmental Protection  
 Bureau of Mining and Minerals Regulation  
 Map produced in June 2012



MID: P:\Project\A\GIS\Projects\B31011\Land\_Cover\_Map\_3.mxd  
 PDF: P:\Project\A\GIS\Projects\B31011\Land\_Cover\_Map\_3.pdf  
 Author: Brenda Fernandez and Heidi Tenaca

**Legend**

Land Cover

	CONIFEROUS FOREST
	ABANDONED PASTURE
	EMERGENT AQUATIC VEGETATION
	FRESHWATER MARSHES
	HARDWOOD CONIFER MIXED
	IMPOUNDMENT/ARTIFICIAL POND
	INSTITUTIONAL
	LAKES
	STREAM AND LAKE SWAMPS (BOTTOMLAND)
	WET PRAIRIE

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cogongrass (*Imperata cylindrica*). This category is predominantly found in the Clear Springs, Polk Lake, and South Peace Creek parcels.

FLUCFCS 410 - Upland Coniferous Forest (39 acres or 0.8% of the total) – A natural forest stand whose canopy is composed of at least 66 percent coniferous species. This community covers an extremely small portion of the lease property in the Clear Springs and Polk Lake parcels.

FLUCFCS 434 - Upland Hardwood-Conifer Mixed Forest (151 acres or 3.1% of the total) – This class is reserved for those forested areas in which neither upland conifers nor hardwoods achieve 66 percent crown canopy dominance. This upland forest community, like the upland coniferous forests described above, is limited in its distribution and is found only in the extreme ends of the North Prong Alafia River parcel, the western end of the Bowlegs Creek parcel, and along the eastern side of the Peace River in the northern portion of the Clear Springs parcel.

FLUCFCS 520 - Lake (176 acres or 3.6% of the total) – This category covers all areas that are predominantly or persistently water-covered and usually does not include those portions that are emergent vegetation or observable submerged vegetation. Waterbodies that are classified as “lakes” in Lease 3995 are found in the Polk Lake, Clear Springs, and Bowlegs parcels.

FLUCFCS 530 - Impoundment/Artificial Pond (28 acres or 0.6% of the total) – These waterbodies were classified as “artificial impoundments of water” primarily because some form of water control structure (pipe) or the excavation used to create the impoundment is evident and was used in determining the classification. Approximately one-third of the South Prong Alafia River parcel is comprised of an impoundment.

FLUCFCS 615 - Stream and Lake Swamp (Bottomland) (3,479 acres or 71.5% of the total) – Wetlands are those areas where the water table is at, near, or above the land surface for a significant portion of most years. Extensive parts of river floodplains qualify as wetlands (rather than streams and waterways) because of the predominance of vegetation in the area. This community is usually found on, but not restricted to, river, creek, and lake floodplains or overflow areas. These swamps, found in all seven parcels, comprise the predominant category in the Lease 3995 IHN Lands, emphasizing the linear wetland habitat composition of the property.

FLUCFCS 641 - Freshwater Marsh (264 acres or 5.4% of the total) – These communities typically have one or more emergent vegetation present. One of the larger categories within Lease 3995, this habitat type is found in the North Prong Alafia River, Clear Spring, Polk Lake, Bowlegs Creek, South Peace River, and Little Payne Creek.

FLUCFCS 643 - Wet Prairie (1 acres or <0.1% of the total) – This classification is composed primarily of grassy vegetation on hydric soils and is usually distinguished from marshes by having less water and shorter herbage. Like the freshwater marshes, these communities are typically dominated by one or more emergent species. This habitat, the smallest of all the land uses in Lease 3995, covers a very small area in the extreme eastern portion of the Bowlegs Creek parcel.

FLUCFCS 644 - Emergent Aquatic Vegetation (2 acres or <0.1% of the total) – This category of wetland plant species includes both floating vegetation and vegetation which is found either partially or completely above the surface of the water, including water lettuce (*Pistia stratiotes*), duckweed (*Lemna spp.*), water lily (*Nymphaea spp.*), and spatterdock (*Nuphar luteum*). This small cover type is found only in the northern portion of the Clear Springs parcel.

#### **g. Designated Species**

Designated plant and animal species (FNAI, 2012) that have been observed on the Lease 3995 IHN Lands by Bureau staff are listed in Addendum 4 and shown on the Points of Interest Map below. The lack of current information regarding listed species on the property is indicative of the need for updated FNAI and FFWCC map and database searches to determine current presence or absence of rare, threatened, or endangered species so that protective measures can be implemented.

#### **h. Special Natural Features**

The most outstanding feature of the Peace River is located between Bartow and Fort Meade in the Clear Springs parcel, where this portion of the river has a geology that is unique from any other in watershed. Here a number of karst features occur in the limestone beds that form the river channel and associated floodplain, with large limestone formations frequently emerging from the banks and river bottom to create shoals and gentle rapids (depending on water levels).

These formations are created by the weak solution of carbonic acid in rainwater and most natural Florida surface streams, which easily dissolve the underground limestone (which has high calcium carbonate content). When this acidic water enters the ground and interacts with the limestone, the water dissolves the limestone to form karst topography—a combination of caves, underground channels, and an irregular ground surface. This area of karst creates a direct connection between the river channel and the Floridan aquifer, as demonstrated by the history of Kissengen Spring, which before 1950 supplied the upper Peace River with 15-30 cubic feet per second of spring flow (see Points of Interest Map). Since then, as the Peace River flows through the Clear Spring segment of Lease 3995 where its riverbed overlies karst formations with numerous sinkholes, it is not unusual for the river water to enter these sinkholes and be lost to surface flows (PBS&J, 2007; FDEP, 2007).

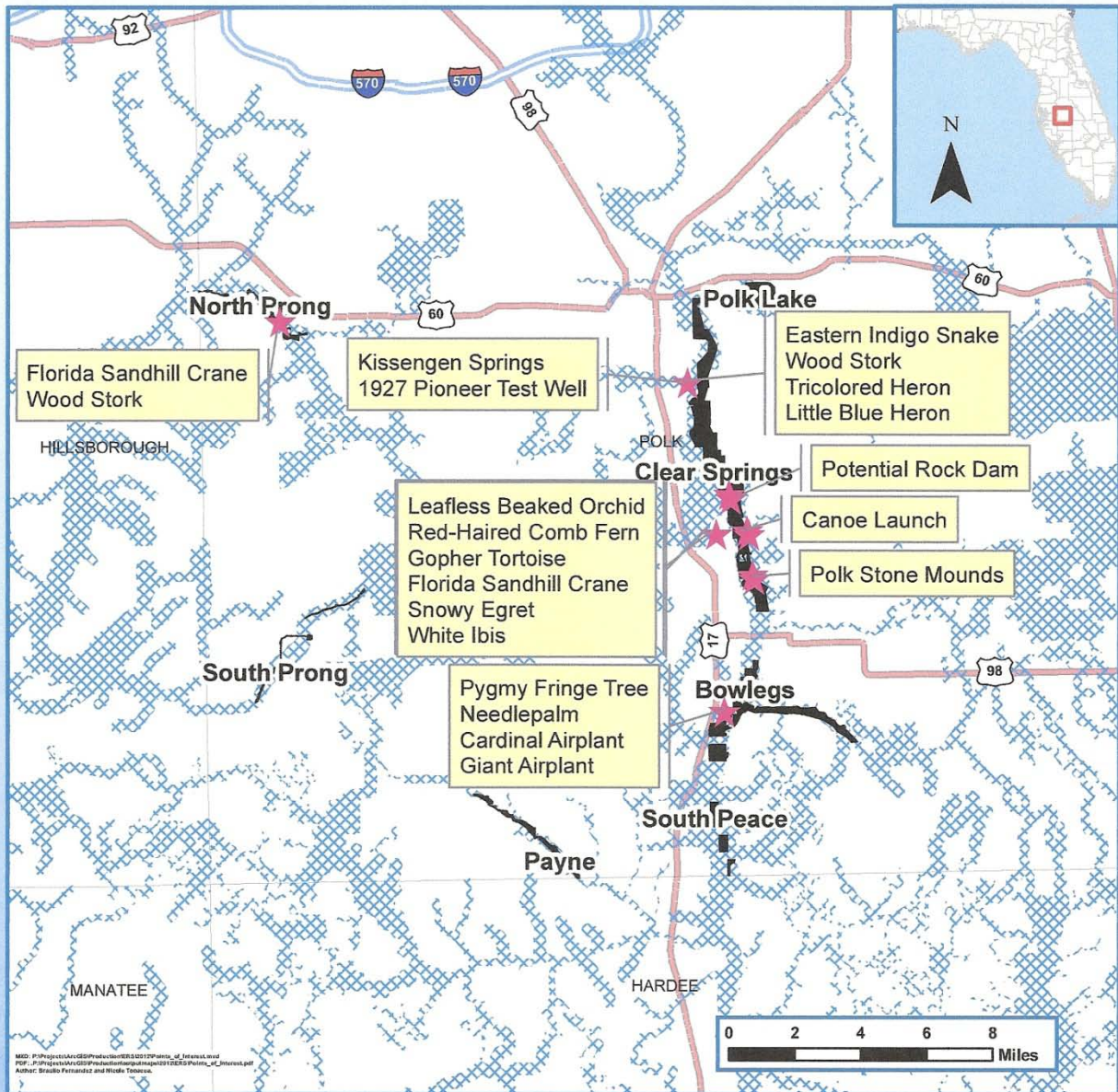
## **2. Cultural Resources**

Large sections of the Peace River, the North and South Prong Alafia Rivers, and their associated tributaries in Polk County were mined beginning in the late 1800's for phosphate. After being clear-cut for timber to operate the steam shovels and other equipment used to mine the rivers and floodplains, the adjacent uplands were then strip-mined for phosphate beginning in the 1940's. While the majority of the floodplains within the IHN are relatively undisturbed by phosphate mining operations, many acres of nearby uplands were mined or disturbed with a significant portion of the area used as waste sand and clay disposal areas for several more years.



## Points of Interest Land Management Area

Department of Environmental Protection  
Bureau of Mining and Minerals Regulation  
Map produced in Jun. 2012.



MDD: P:\Projects\ArcGIS\Projects\BIB\0212\MapInfo\_of\_Interest.mxd  
 POF: P:\Projects\ArcGIS\Projects\BIB\0212\MapInfo\_of\_Interest.mxd  
 Author: Braulio Fernandez and Nicole Tennessa

- Lease3995
- Integrated Habitat Network (Conceptual)

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Any areas in the Lease 3995 IHN Lands that were merely clear-cut for timber or grazed by cattle have the potential to contain intact archaeological or historical resources below the disturbance as opposed to areas that were mined or disturbed by phosphate mining in which any artifacts would have been destroyed. The presence of lithic scatters along the banks of the Peace River was cited by the Florida Department of State, Division of Historical Resources (DHR) in 2006 following a review of the Florida Master Site File (results of a previous search in 1999 revealed that the limited information available in the site file on these scatters indicated that they were most likely not significant sites). In addition, a number of antique glass bottles found in the Peace River floodplain were submitted to the Florida State Museum.

The existing or potential cultural resources described below are also shown on the Points of Interest Map (above).

Kissengen Spring (Master Site File #PO6810), located in the Clear Springs portion of Lease 3995, was a site that was possibly utilized by Native Americans for centuries. Throughout the first half of the 1900's, the area was renowned as a resort providing bathing and recreational facilities for locals and visitors from across the United States (Peek, 1951). A historic marker was placed at the site in 2011.

Also present in the Clear Springs portion of Lease 3995 is a relict oil test well, dug in 1927 a few hundred feet from Kissengen Spring, evidence of a "wildcat" oil exploration effort funded by a consortium of investors (Peek, 1951).

In 2007, an area that appears to be a rock weir was found within Lease 3995. The site was given the name "Polk Stone Mounds" and has been assigned #PO7071 in the Florida Master Site File. Another potential rock dam was located north of County Road 640 in the Upper Peace River portion of Lease 3995; the exact location was not recorded at the time, but an attempt will be made by 2014 to relocate the weir and present it for inclusion into the Florida Master Site File.

A number of Native American settlements were known to have existed along the Peace River (Brown, 1991). The Paynes Creek Historic Site is located immediately downstream of where Fort Chokonikla was built in the mid-1800's as the first outpost in a chain of forts established to control the Seminoles. It is believed that the Native Americans inhabited the area as early as 5,000 B.C.

The Peace River south of Wauchula is very popular with fossil hunters, who pan for sharks' teeth and fossilized bones. While fossil collecting is not permitted on the State-owned Lease 3995 IHN Lands between Bartow and Wauchula, a permit to collect fossils from the river south of this property must be obtained from the DHR prior to the search (see <http://www.flmnh.ufl.edu/vertpaldo/> for more information).

### **C. RESOURCE MANAGEMENT PROGRAM**

The managing agency for the Lease 3995 IHN Lands is tasked with (a) managing the property to ensure the conservation of the state's plant and animal species and the habitats needed to sustain them; and, (b) managing the lands for the benefit and enjoyment of all people of the state, both present and future generations. The resources administered by the Bureau are divided into two

principal categories: natural resources and cultural resources. The Bureau's primary objective in natural resource management is to restore and maintain to the extent possible the conditions that existed prior to man-made impacts within the Lease 3995 parcels. The desired outcome of managing cultural resources is to protect any extant resources from human-related and natural threats, which will arrest deterioration and help preserve the cultural resources for future generations.

## **1. Management Needs and Problems**

Existing and potential needs and problems that are part of this lease are briefly described below and will be addressed in more detail in the following sections of this management plan:

- a. Property boundaries of Lease 3995 have not been completely surveyed and/or delineated; a complete set of surveys would aid in identifying and limiting infringements from off-site sources;
- b. The inability to easily access several parcels within the Lease 3995 IHN Lands currently limits Bureau inspections and management activities;
- c. Inventories of plants and animals that are present on all seven segments of land within Lease 3995 need to be generated so that these populations can be properly managed;
- d. Portions of the Lease 3995 lands were searched in the Florida Natural Areas Inventory database in 1999. In order to preserve and protect sensitive species and habitats property, within the lease, a current and complete search is needed;
- e. The acreages, species, and exact locations of invasive nuisance and exotic plant species have not yet been determined, making it difficult to develop the specific management activities and treatment schedules needed to eliminate or control these plants;
- f. No timber survey has been conducted on the lease as required by Chapter 253.036, Florida Statutes;
- g. The need and/or development of Prescribed Burn Plan (PBP) has not yet been evaluated or completed for the Lease 3995 property;
- h. No documentation has been collected on the presence of potentially problematic insects and diseases within the lease and no arthropod control plan has been developed;
- i. Several archaeological and historical resources are known to be on the property but others may be present; studies and searches are needed to locate these artifacts so that preservation and protection measures can be implemented;
- j. While no known soil and water protection issues currently exist, inspections are needed to determine the current status of these resources and strategies should be developed in the event that problems are discovered or develop later;



- k. Additional staff is essential if the desired outcomes of this management plan are to be achieved; while even greater emphasis on working cooperatively with personnel from other agencies, private contractors and consultants, and volunteers will be stressed, the addition of four staff members will bring the team back up to a number sufficient to meet all management goals on these lands;
- l. The identification, acquisition, and management of “connections” between the protected floodplains and wetlands in the IHN is essential for wildlife corridors and water flows along the river systems;
- m. The Polk County Comprehensive Plan *Existing Land Use Map* shows the Lease 3995 IHN lands as “Conservation”, but these lands in the *Future Land Use Map* are shown as “Within City Boundaries”, “Phosphate Mining”, “Recreation and Open Space”, and “Preservation”; clarification of these labels is needed as is assurance that the lease lands are in compliance with the 2030 Comprehensive Plan; and,
- n. A determination is needed as to the appropriate types and levels of “resource-based public outdoor recreation” that will be possible on Lease 3995 IHN Lands without being detrimental to the natural and cultural resources on the property (discussed in the Land Use Component of this management plan).

## **2. Management Measures for Natural and Cultural Resources**

As part of the development of the Lease 3995 IHN Lands management plan, the Bureau designated priority issues that need to be addressed based on the management needs and problems listed above. The management goals, objective, and activities (or “strategies”) planned to address these issues are described below. The estimated schedule and budget for these items are provided in Addendum 5. This section will discuss the management goals, objectives, and activities that will be used to preserve and protect the natural and cultural resources of Lease 3995.

### **GOAL #1 – Property Definition and Security**

There are seven tracts composed of numerous disconnected parcels that comprise the several thousand acres within Lease 3995. While approximately half of the boundaries in the seven parcels have been surveyed, a portion of the lease that has not been marked by signs or fences (although not all of the boundaries need to be fenced). Access to several of these properties is restricted or non-existent, making management activities difficult to carry out. Encroachment from adjacent landowners and individuals has been a common occurrence in some areas, and includes dumping, vandalism, and illegal motorized vehicle use. Completion of property surveying, fencing, and marking is necessary to prevent future encroachment.

#### **Objective #1: Define property boundaries**

Activity: Obtain services of private surveyor and/or DSL's Bureau of Survey and Mapping to affix property boundaries on sites that have not been but need to be surveyed

Schedule: Complete all needed surveys by December 31, 2022

**Objective #2: Mark property boundaries**

Activity: Install *Integrated Habitat Network* signs and fencing in areas as needed that have not yet been marked using Bureau staff and/or private contractors

Schedule: Complete by December 31, 2017

**Objective #3: Improve or develop access**

Activity: Review aerials of and conduct site visits to properties with limited or nonexistent access and use Bureau staff, private contractors, and/or volunteers to construct or improve access

Schedule: Complete by December 31, 2017

Activity: Coordinate as needed with adjacent landowners to obtain entry to those lands within Lease 3995 that currently are difficult or impossible to access

Schedule: Complete by December 31, 2022

**Objective #4: Protect against infringements**

Activity: Use Bureau staff, private contractors, and/or volunteers to conduct boundary maintenance, including constructing ditches, repairing fences, installing gates and locks, replacing signs, or installing barriers along boundaries where trespass and vandalism are recurrent problems

Schedule: Complete by December 31, 2017

Activity: Conduct inspections of parcels at least annually to detect unauthorized entries

Schedule: Ongoing through December 31, 2022

Activity: Continue to work with FFWCC, FDEP, and local law enforcement agencies regarding prosecution of violators

Schedule: Ongoing through December 31, 2022

**GOAL #2 – Protection of Renewable Resources**

While many species of fish and wildlife are presumed present on Lease 3995, no definitive field surveys have been conducted to document the listed and non-listed animal species and numbers on site. The habitats that support these animals have also not been extensively investigated and documented, so habitat types, designated plants, site conditions, etc. are not adequately known.

**Objective #1: Evaluate status of renewable natural resources**

## Plant and Animal Surveys

The management strategies needed to protect and preserve designated flora and fauna will vary depending on existing conditions, the species to be protected, and the desired results. The well-being of both listed and non-listed plant and animal species is an important concern for the Bureau on Lease 3995. In most cases these species will benefit from proper management of their habitats but in some cases additional management measures are needed to overcome poor or unusual conditions that may impact a particular species.

Activity: Contact FNAI and FFWCC about database review and map searches  
Schedule: Complete by June 30, 2013

Activity: Bureau staff, in cooperation with other agencies, private contractors, and volunteers will conduct detailed surveys of plant and animal species, with emphasis on designated species, on each parcel to document the presence, location, densities, etc. with goal of enhancing or restoring populations

Schedule:

Parcel	Year
Bowlegs Creek	2013
North Prong Alafia River / South Prong Alafia River	2014
Clear Springs / Polk Lake	2015
Little Payne Creek	2016
South Peace River	2017

Activity: In cooperation with the FFWCC, Bureau staff will develop a Wildlife Management Strategy that addresses all appropriate fish and wildlife species, including appropriate imperiled species, their habitats, and their sustainability based on site-specific population data. In conjunction with this plan, Bureau staff will also work with the FFWCC to institute a continuous monitoring program to ensure the viability of these populations.

Schedule: Ongoing through December 31, 2022

## Timber Surveys

Chapters 253 and 259, F.S., require an assessment of the feasibility of managing timber in land management plans for parcels greater than 1,000 acres if the lead agency determines that timber management is not in conflict with the primary management objectives of the land. The feasibility of harvesting timber on this property during the period covered by this management plan was considered in the context of the Division's statutory responsibilities and an analysis of the property's resources needs and values. The extensive bottomland swamps filled with hardwoods and cypress serve as critical buffers to adjacent waterways and timbering in this habitat type would be contrary to the Bureau's long-term management goals. The upland forests on the lease cover less than 4 acres and it was determined that the primary management objective of this lease could be met without conducting timber management activities in these forests for this management cycle. However, the Bureau's long-term management goal for the upland hardwood and hardwood conifer mixed forest communities in Lease 3995 is to maintain or re-

establish old-growth forest characteristics to the greatest extent possible, so timber management will be reevaluated during the next revision of this management plan to determine if timbering would be beneficial as a management tool.

Activity: Contact FDACS' Florida Forest Service (FFS) about conducting a timber survey to determine efficacy of conducting a timber harvest

Schedule: Contact FFS in January 2021 in preparation for next revision of management plan in 2022

## **Exotic Species Control**

Exotic plant and animal species are those which are not native to Florida but which were introduced through human interference. Exotic species have fewer natural enemies and likely have higher survival rates than do native species. They may also harbor diseases or parasites that can have significant adverse effects on native species that are not resistant to these introductions. The policy of the Bureau is to remove exotic species from native natural communities wherever possible.

Exotic species are a threat to the integrity of the Lease 3995 natural communities and are in conflict with the Bureau's goal of restoring and maintaining previously impacted habitats to more closely resemble the natural communities that existed prior to the impacts. Of the exotic plant species that occur within the Lease 3995 IHN Lands, cogongrass (*Imperata cylindrica*), Chinese tallow (*Triadica sebifera*, syn. *Sapium sebiferum*), Brazilian pepper, air potato (*Dioscorea bulbifera*), and primrose willow (*Ludwigia* spp.) are the most common, pose the greatest threat due to their ability to readily invade and disrupt communities, and necessitate the highest priority for removal. In addition, invasive species that have been found on nearby lands but have not yet been found on Lease 3995 are Old World climbing fern (*Lygodium microphyllum*) and kudzu (*Pueraria montana*); Bureau staff will monitor the lease and adjacent properties to ensure that the invasive species do not become established on these lands.

Many of these exotics occur along boundaries between the lease properties and adjacent properties and roadways, and occurrences are caused by seed sprout and rhizome spread from these nearby areas. Other exotic plants which exhibit a lesser threat to the reclaimed and native communities of the Lease 3995 IHN Lands will be the subject of control measures on an as-needed basis as soon as their presence is detected. The Bureau staff coordinates with adjacent property landowners, managing agencies, and volunteers on cooperative projects to remove these exotics.

One significantly harmful exotic animal species that has been observed in large numbers on Lease 3995 is the feral hog (*Sus scrofa*). Hogs use a variety of habitat types in Florida including flatwoods, upland pine forests, bottomland hardwood forests, marshes, and swamps (Giuliano, 2010), habitats that predominate the Lease 3995 lands. Their preference is large forested areas with abundant food interspersed with marshes, hammocks, ponds, and drainages with dense cover to use as bedding areas and protection from predators and hunters. Wild hogs directly compete with game animals such as deer, turkey, and squirrels for hard mast, have been reported to consume the nests and young herptiles, ground-nesting birds, and mammals, and feed on tree

seeds and seedlings, causing considerable damage in existing and newly planted forests (Giuliano, 2010). In good habitat, it is unlikely that any amount or type of population control will eradicate wild hog populations but it may be possible to limit further population expansion by using a combination of methods on a sustained basis.

Activity: Coordinate with UF - IFAS Extension and FFWCC - Bureau of Invasive Plant Management to determine best management practices for nuisance and exotic plant control

Schedule: Ongoing through December 31, 2022

Activity: Become involved with the Heartland Cooperative Invasive Species Management Area to improve invasive plant management control knowledge/skills and better coordinate regional control efforts

Schedule: Initial involvement by December 31, 2012, then ongoing participation through December 31, 2022

Activity: Coordinate with UF - IFAS County Extension Office and FFWCC - Division of Habitat and Species Conservation to determine best management practices for nuisance and exotic animal control

Schedule: Ongoing through December 31, 2022

Activity: Continue control of known Old World Climbing Fern (*Lygodium microphyllum*) on public lands and streams near IHN lands using consultants and Lygodium Strike Force grants

Schedule: Ongoing through December 31, 2022

Activity: Continue the 10-year project in the Clear Spring parcel (begun in 2009) involving Chinese tallow removal/bald cypress revegetation effort currently funded by FFWCC's Invasive Upland Plant Control Grant

Schedule: Ongoing through December 31, 2019

## **Objective #2: Prepare specific management strategies**

### **Prescribed Burning**

The objectives of a prescribed burn plan (PBP) are to create those conditions that are most natural for a particular community and to maintain the desired ecological diversity within the property's natural communities. Prescribed burning is also important in preventing or minimizing the adverse impacts of wildfire on an area. To meet these objectives, Bureau staff will conduct surveys of the vegetative communities on Lease 3995 to determine what, if any, fire-dependent communities are present, are accessible, and can be burned on a routine basis (young restoration areas are not burned until the trees are old enough to withstand fire). The survey will also be used to examine imperiled areas adjacent to highways that have been and remain susceptible to human-caused wildfires. Using this information, a PBP will be developed for Lease 3995 that incorporates this tool into management strategies for these properties.

Prescribed burn plans that are developed will be reviewed annually and updated as needed to meet current conditions. Any prescribed burns that are conducted will be with authorization from the Florida Forest Service. In the event of a wildfire on Lease 3995 IHN Lands, suppression activities will be coordinated between the Bureau and the FFS. Due to issues such as lack of access onto a parcel or a parcel's location near major roadways, some lands within Lease 3995 will not be able to undergo prescribed burns and will instead undergo mechanical and/or herbicide treatments of undesirable plant species to improve the community's condition. Upon removal of the undesirable species, either by prescribed fire, mechanical removal, or herbicide treatment, desirable trees, shrubs, and understory plants will be installed to facilitate the community's recovery.

- Activity: Coordinate with Florida Forest Service about the development of prescribed burn plans and wildfire emergency plans for the individual parcels
- Schedule: Complete by December 31, 2014

### **Arthropod and Disease Control**

Property management activities will be conducted in such a way as to avoid insect and disease problems. If outbreaks do occur, operational and strategic plans will be implemented to control any such infestations. Specific long-term strategies to avoid and/or minimize losses to any future outbreaks will be the management objective. The Florida Forest Service will be consulted for assistance with the development of scientifically sound responses and/or management protocols to deal with any insect or disease problems.

In compliance with 388.4111, F.S., Lease 3995 properties will be evaluated to determine if the lands within the lease can or should be designated as environmentally sensitive and biologically highly productive. Such designation would be appropriate and consistent with the purposes of the property acquisition and would afford protection from arthropod control practices that would impose a potential hazard to fish, wildlife, and other natural resources on this property. If such a designation is granted, the local arthropod control agency will be contacted and provided with a description of the approved management objectives for this lease, upon which that agency must then prepare a public lands control plan to be reviewed and approved by the FFS prior to being allowed to conduct any arthropod control activities on Lease 3995 lands.

- Activity: Coordinate with UF/IFAS Extension, FDACS/Division of Plant Industry, and Polk County Mosquito Control about developing arthropod and disease control plans, including possible designation as environmentally sensitive and biologically highly productive
- Schedule: Complete by December 31, 2015

### **GOAL #3 – Conservation of Nonrenewable Resources**

Archaeological and historical artifacts and outstanding and unique natural features are known to exist on the Lease 3995 IHN Lands and preservation and protection efforts are in place for them. However, there is a possibility that more of these nonrenewable resources are present. Detailed

field surveys and data reviews are needed to determine their existence so that guidelines can be developed for their conservation and preservation.

Protection of soil and water resources is also an important need for these leased lands. While there are no known major soil/erosion or water problems present on Lease 3995, any management activities conducted on the property will be executed in a manner that minimizes the potential for soil erosion and water quality impairment. All activities planned for Lease 3995 will be conducted in accordance with *Silviculture Best Management Practices* (FDACS, 2004) and/or other appropriate measures as deemed necessary to prevent soil loss or water quality degradation. In addition, if soil or water resource problems should arise in the future, they will be immediately assessed and the appropriate action will be implemented in cooperation with and under the direction of the U. S. Department of Agriculture, Natural Resources Conservation Service and the University of Florida, Institute of Food and Agricultural Sciences.

**Objective #1: Conservation of unknown cultural resources**

The management of cultural resources is often complicated because, while these resources are irreplaceable and extremely vulnerable to disturbances, they are often intricately intertwined with natural resources and could easily be damaged during the course of routine management activities for these resources. The advice and approval from the Florida Department of State, Division of Historical Resources (DHR) is required prior to any actions that could affect or disturb cultural resources on State lands, in accordance with *Management Procedures for Archaeological and Historical Sites and Properties on State-Owned or Controlled Properties* (Addendum 7).

While there are known recorded sites within this lease, there are potentially other cultural resources on the property, such as a second rock weir and Native American mounds, which have not yet been documented. Management measures for cultural resources should include drafting a proposal for a cultural resource reconnaissance survey on Lease 3995 IHN Lands. If any archaeological or historical resources are discovered during the recommended cultural resource reconnaissance survey, management measures should then develop a phased plan for managing these newly discovered resources in the context of their surroundings. This should include a workable written plan for the physical management of the identified resources as well as an outline of approved methodologies for executing the plan. Several Bureau staff have already received training in Archaeological Resources Management, but as part of the proposed management actions, additional staff and volunteers would also receive training to ensure that all existing and newly discovered artifacts are preserved and protected.

Activity: Conduct field searches to locate previously reported or observed cultural resources using DHR’s *Best Management Practices: An Owner’s Guide to Protecting Archaeological Sites* (BAR, 2005) and cultural resource reconnaissance survey

Schedule:

Parcel	Year
Bowlegs Creek	2013
North Prong Alafia River / South Prong Alafia River	2014

Clear Springs / Polk Lake	2015
Little Payne Creek	2016
South Peace River	2017

Activity: Contact DHR regarding any positive results of search for a project review and possible listing on Master Site File  
Schedule: As needed

Activity: Obtain *Archaeological Resource Management Training* for Bureau staff as needed  
Schedule: Complete by 2017

**Objective #2: Conservation of outstanding and unique natural resources**

Activity: Conduct field searches to locate previously reported or observed outstanding or unique features, reporting any findings to Florida Geological Survey (FGS)

Schedule:

Parcel	Year
Bowlegs Creek	2013
North Prong Alafia River / South Prong Alafia River	2014
Clear Springs / Polk Lake	2015
Little Payne Creek	2016
South Peace River	2017

Activity: Develop management plan for preservation and protection of any newly discovered outstanding or unique features  
Schedule: Complete within two months of locating new feature

**Objective #3: Conservation of soil resources**

Bureau staff has coordinated with adjacent property landowners to redirect stormwater run-off from these private lands to prevent scouring and alleviation of river bank soils into the Peace River floodplain during peak storm events. Reclaimed wetlands have been reconnected with grassed swales and rip-rap where needed to reduce the velocity of stormwater run-off and prevent erosion. Bureau staff has worked with private landowners to capture and remove cattle from the Peace River floodplain and encourage the use of *Water Quality Best Management Practices for Florida Cow/Calf Operations* (OAWP, 2008). All Bureau staff received certification as Florida Stormwater Erosion and Sedimentation Control inspectors from the Department's Nonpoint Source Management Section, which enables it to provide training to private and public employees in various construction-related fields to increase the proper design, construction, and maintenance of erosion and sediment control during and after construction is complete. By working with cooperative extension services to determine BMPs for fertilizers and pesticides used on the natural and reclaimed lands within the Lease 3995 IHN Lands, Bureau staff will be able to minimize or avoid adverse impacts to surface and ground waters.

Activity: Conduct inspections of IHN leased lands to determine current condition of soil



resources, erosion on site, or other possible problems  
Schedule: Complete by December 31, 2013, then monitor annually through December 31, 2022

Activity: Coordinate with NRCS, Polk County Soil and Water Conservation District, UF/IFAS, and SWFWMD for information and assistance with soil or erosion problems detected during inspections

Schedule: Immediately upon detection

Activity: Implement as needed the appropriate soil conservation BMPs to minimize or eliminate erosion and soil loss

Schedule: Immediately upon detection

#### **Objective #4: Conservation of water resources**

The Southwest Florida Water Management District and Florida Department of Environmental Protection are responsible for water quality and quantity in the Peace River and North and South Prongs of the Alafia River on the Lease 3995 IHN Lands as well as in the surrounding properties. The Bureau works cooperatively with ongoing hydrologic and geologic studies and monitoring programs in conjunction with the USGS, the SWFWMD, and their consultants to implement several water resource projects for the Upper Peace River. Bureau support also includes promotion of water conservation practices (OAWP, 2003), logistical access to remote geologic features, coordination of optimal access and times for project work limited by flow conditions, and facilitation with adjacent landowners for access and easement agreements to monitoring locations.

Activity: Conduct inspections of each parcel on Lease 3995 to determine current and potential condition of water resources

Schedule: Complete by December 31, 2013, then monitor annually through December 31, 2022

Activity: Coordinate with NRCS, Polk County Soil and Water Conservation District, University of Florida – IFAS, and SWFWMD for information and assistance with water quality and quantity issues discovered during inspections

Schedule: Immediately upon detection

Activity: Coordinate with other agencies to develop site-specific guidelines to reduce or eliminate adverse impacts to water resources within Lease 3995

Schedule: Complete by December 31, 2014

#### **GOAL #4 – Acquisition of Additional Resources and Considerations**

The current number of Bureau personnel is insufficient to adequately complete the wide range of management activities on all the properties under Bureau management. Obtaining additional staff to replace those recently lost to resignation and promotional transfers is of utmost importance. Increasing the already significant level of cooperation with personnel from other

State, regional, federal, and local agencies, private contractors and consultants, and volunteers is also imperative.

This need for additional personnel will become even more urgent as more property acquisitions are made to increase the protection and efficacy of the Integrated Habitat Network. The acquisition process will be facilitated by obtaining “Preservation” status for the Integrated Habitat Network in the 2030 Polk County Comprehensive Plan as it will emphasize the importance of the Integrated Habitat Network in protecting in perpetuity the riverine habitats and wildlife corridors along the Peace River, North Prong Alafia River, and South Prong Alafia River.

**Objective #1: Increase Bureau staff**

Activity: Hire two (2) Full-Time Employees and two (2) Other Personal Services  
Schedule: Complete by December 31, 2013

**Objective #2: Acquire lands to bolster the foundation and efficacy of the IHN system**

Activity: Encourage groups to prioritize the areas within the optimal area  
Schedule: Complete by December 31, 2016

**Objective #3: Obtain “Preservation” status for Lease 3995 IHN lands in Polk County 2030 Comprehensive Plan**

Activity: While Lease 3995 Management Plan is in compliance with the Polk County Comprehensive Plan (Addendum 8), Bureau staff needs to encourage Polk County Office of Planning and Development staff to change Future Land Use designations for Lease 3995 IHN lands to “Preservation” status (OPD, 2012).  
Schedule: Complete by June 30, 2012

**3. Research Needs**

**a. Previous and Current Research**

The Bureau has coordinated with the SWFWMD and USGS to identify highly vulnerable floodplain soils subject to severe erosion caused by seasonal flooding across a shallow karst plain in the Peace River basin. To mitigate the loss of floodplain soils caused by the loss of mature cypress trees along in the floodplain, the Bureau has been involved in a project since 2007 to replant young cypress trees every year in the floodplain following herbicide treatment of Chinese tallow. This activity will regain the integrity of the forest floor soils and reduce the potential for new erosion features caused by karst collapse, lowered groundwater tables, and canopy reduction.

In response to Chapter 373.042, F.S., the SWFWMD, along with the Department, were charged with identifying the limit at which further withdrawals would be significantly detrimental to the water resources or ecology of the area and studies began as part of the Minimum Flows and

Levels Project in late 2003 to establish the critical levels within the Upper Peace River (<http://www.swfwmd.state.fl.us/projects/mfl/>). The Governing Board of the SWFWMD included the three upper segments of the Peace River to the 2012 Minimum Flows and Levels Priority List and Schedule for 2012 and the Bureau will continue to assist the SWFWMD, the USGS, and the Department's Bureau of Watershed Management in this effort.

The Division began its Total Maximum Daily Loads (TMDL) Program to determine the maximum amount of a given pollutant that a surface water can absorb and still meet the water quality standards that protect human health and aquatic life. Water bodies that do not meet the water quality standards as set forth primarily in rule 62-302, F.A.C. are identified as "impaired" for the particular pollutants of concern. The TMDLs must be developed, adopted and implemented for those pollutants to reduce their levels and improve the quality of the water in that system (<http://www.dep.state.fl.us/water/tmdl/index.htm>). TMDLs for Fecal Coliform Bacteria have been adopted for the Peace River above Bowlegs Creek; no BMAP is anticipated, however other TMDL implementation options are being explored (SWD, 2012). Bureau staff will continue to assist Division staff with these studies in the Peace River basin.

Bureau staff assisted Charlotte Harbor National Estuary Program (CHNEP), the SWFWMD, and Polk County's Division of Parks and Natural Resources in the collection of water samples from area tributaries in the aftermath of Hurricane Charley in 2004 to study flow patterns and water quality differences of surface and ground waters along the Peace River.

#### **b. Proposed Research**

Proposed research needs for Lease 3995 IHN lands include:

- (1) Develop Best Management Practices (BMPs) for producing native food and cover vegetation species on reclaimed lands within the lease property
- (2) Develop BMPs for using Integrated Pest Management to control nuisance and exotic vegetation on reclaimed lands within Lease 3995
- (3) Develop BMPs to determine appropriate uses of pesticide and fertilizer on the reclaimed lands within the lease
- (4) Develop innovative ways to attract and sustain wildlife on the property

#### **4. Resource Management Schedule**

Each of the seven segments that comprise Lease 3995 will be inspected at least once each year during the 2012-2022 management plan cycle. During these inspections, the general condition of the tract will be recorded and only "emergency" actions will be taken. In addition to the regular inspection, one parcel or group of parcels will be the "focus" of a more intensive, two-part inspection. The first part will take place during the initial six months and will consist of the collection of detailed data and a thorough assessment of the following: dominant and rare plant species; wildlife utilization; instances of encroachment and vandalism; potential for hazard for wildfire risk or prescribed burning plan; signage needs; additional surveying needs; presence and density of invasive nuisance and exotic species; new archaeological resources; water quality characterizations; and, potential list of critical management activities to be undertaken. This

period of data collection and analysis will be followed by a six-month period of intensive management activity in the focus project. During this phase, Bureau staff and volunteers will conduct activities such as: herbicide treatments of invasive plants, followed by replanting with desirable native species; trash removal and vandalism repair; and, boundary delineation.

A priority schedule (based on the purposes for which these lands were acquired) that describes all management activities to be conducted and cost estimates for conducting priority management activities, based on the most cost effective methods and recommendations currently available, are presented in Addendum 5.

All seven IHN parcels in Lease 3995 will be monitored annually to determine its condition since the previous year’s inspection, and as a result some activity may be required during the inspection, (minor fence repairs, trash and mine debris removal, treatment of small areas of invasive plants, etc.). If Bureau staff finds during an annual inspection that significant damage to the resources has occurred or is imminent, then emergency measures will be taken at the time of the inspection to immediately address these concerns by eliminating or preventing adverse impacts to the lease property.

In addition to these annual inspections and projects, one parcel or group of parcels will be chosen as the “focus” area for extra management efforts during that year, with the scheduled focus area to be rotated as shown in Table 2 below:

Table 2. Scheduled Focus Area by Year

Parcel / Parcel Group	Year
Bowlegs Creek	2013
North Prong Alafia River/South Prong Alafia River	2014
Clear Springs / Polk Lake	2015
Little Payne Creek	2016
South Peace River	2017
Bowlegs Creek	2018
North Prong Alafia River/South Prong Alafia River	2019
Clear Springs / Polk Lake	2020
Little Payne Creek	2021
South Peace River	2022

The extra management activities most often will be specific projects that involve the concentrated efforts to reduce or eradicate invasive plants with both initial and subsequent treatments, followed by revegetation with native species. Signage denoting that the area is part of the *Integrated Habitat Network* will also be placed along the perimeters of the parcels.

Currently the most crucial requirement on the lease properties is control of invasive species followed by revegetation with native species. Because the Bureau shares staff and equipment over all of the leased lands that it manages, the information provided in Addendum 5 shows how the portion of the Bureau’s budget (estimated to be \$106,000 for the 10-year period) will be spent on Lease 3995 IHN Lands. Note that the Clear Springs parcel has an annual Old World Climbing Fern project and a Chinese tallow (*Triadica sebifera*, syn. *Sapium sebiferum*) removal

with bald cypress (*Taxodium distichum*) replanting project in effect for another 10 years, so additional funds have been provided annually to finance those projects.

## **5. Land Management Review**

Section 259.036, Florida Statutes, established land management review teams to determine whether conservation, preservation, and recreation lands titled to the Board of Trustees of the Internal Improvement Trust Fund are being managed for the purposes for which they were acquired and in accordance with a land management plan adopted pursuant to s. 259.032, F.S. The managing agency is to consider the findings and recommendations of the land management review team in finalizing the required updates of its management plan.

Lease 3995 has not been the subject of a land management review.

### **III. LAND USE COMPONENT**

#### **A. INTRODUCTION**

Land use planning and management activities for the IHN lands leased to the Division of Water Resource Management are based on the dual purposes ascribed to the managing agencies in Lease 3995. These purposes are to "...manage these lands for the conservation and protection of natural and historical resources and for resource-based public outdoor recreation which is compatible with the conservation and protection of these public lands as set forth in subsection 253.023(11), Florida Statutes, along with other related uses necessary for the accomplishment of this purpose as designated in the Management Plan..."

This portion of the management plan includes a brief accounting of the existing and planned uses (external conditions) of adjacent properties as well as an analysis of the existing and potential uses of the Lease 3995 IHN Lands. Existing uses, special conditions on use, and specific areas within the lease that will be given special protection are identified. The land use component then summarizes the current conceptual land use plan for the property and identifies the existing or proposed activities directed towards the particular parcel or resource.

#### **B. EXTERNAL CONDITIONS**

An evaluation of the conditions that exist beyond the boundaries of the Lease 3995 parcels can identify any special problems or opportunities that exist immediately adjacent to or in the vicinity of the leased property, which in turn helps to identify the opportunities and constraints they present for recreational uses on the Lease 3995 properties.

##### **1. Existing Use of Adjacent Lands**

Although the IHN management plan pertains primarily to lands along the Peace and North and South Prong Alafia Rivers and their tributaries, the IHN is part of the Statewide Greenways System within the southern phosphate mining district that contains portions of the Peace, Manatee, Little Manatee, and Myakka Rivers. The Statewide Greenways System is expected to connect the IHN lands with nearby regional hubs and linkages such as the Green Swamp, Tampa Bay, Myakka River State Park/Carlton Preserve, Charlotte Harbor, Babcock-Webb Wildlife Management Area, and the Kissimmee River via the Avon Park Bombing Range-Arbuckle State Park and Forest reserves.

Several significant federal, state, or local land and water resources area located within the Integrated Habitat Network in this part of the State, of which the Lease 3995 IHN lands are a part. These areas, which provide wildlife habitat, improved water quality, and connections between various river systems include: Tenoroc Fish Management Area, Alderman Ford Park, Alafia River State Recreation Area, Payne Creek State Historic Site, the Polk County Saddle Creek and IMC-Peace River parks, SWFWMD's Medard Park, Balm Boyette Scrub, and Bullfrog Creek Scrub.

Other nearby existing public lands with significant land and water resources include: portions of the Green Swamp Area of Critical State Concern (a Conservation and Recreation Land or “CARL project), Choctawatchee River Water Management District Area, Circle B-Bar Reserve, Myakka River State Park, Manatee Watershed/Duette Park, Lake Arbuckle State Forest, Lake Wales Ridge Ecosystem, Avon Park Bombing Range, Brighthour Watershed, Babcock-Webb Wildlife Management Area, Catfish Creek State Preserve, and Disney Wilderness Preserve.

The Statewide Greenways System is expected to connect the significant land and water resources on and near the IHN lands with nearby regional hubs and linkages such as the Green Swamp, Tampa Bay, Charlotte Harbor, and the Kissimmee River. The efficacy of the IHN greenways system in the region would be greatly enhanced by these connections.

Just as there are significant areas within and near the Lease 3995 IHN lands that benefit this system, there area also adjacent properties with land uses that may conflict with the planned uses of the IHN. Land uses such as residential/industrial development, intensive recreation usage, and continuing phosphate mining operations, as well as conflicting management strategies on nearby lands for controlled burns, livestock grazing, and nuisance/exotic species control, all pose potential conflicts with the Bureau-managed lands within Lease 3995. The Bureau is working with these adjacent property owners to ensure that lands within the IHN are protected and preserved for maximum public benefit.

## **2. Planned Use of Adjacent Lands**

The Bowlegs Creek parcel may be impacted by an RV park development that is anticipated to be built next to it. Bureau staff continues to work with Polk County and the City of Fort Meade governments to ensure that the resources on the State-owned property will not be adversely impacted by this development.

The Hooker’s Prairie to Camp Meeting Ground Branch Connection, a heavily impacted tributary to the Peace River near Homeland, is an example of an area that the Bureau recommends for State acquisition. Camp Meeting Ground Branch serves as the main drainage system for approximately 3,000 acres and is a direct conduit to the Peace River. The properties surrounding this tributary are under multiple ownerships and have a variety of land uses. Some land within the basin has been reclaimed and is part of pending donations/conservation easements, some has been developed into a Class III landfill, and the rest has been developed into sludge drying facilities. Acquisition and reclamation of a strategic controlling interest within this basin would greatly enhance the potential water quality to the Peace River and downstream habitats. Acquisition of three small drainage lakes at the outfall of Camp Meeting Ground Branch near the Peace River would provide even more control over the hydrology and water quality of this area.

## **C. PROPERTY ANALYSIS**

Effective planning requires a thorough understanding of the lease property’s natural and cultural resources. This section describes the resource characteristics and existing uses of the property. Past and present uses were assessed for their effects on the property, compatibility with the site, and relation to the property’s classification. The lease’s potential resource-based public outdoor

recreation or other public use elements were examined to identify the opportunities and constraints they present for the property.

## 1. Assessment of Use

Boundaries, significant natural and cultural features, and listed plant and animal species on the Lease 3995 IHN Lands are delineated on the Points of Interest Map. Specific past, present, and potential uses of the leased lands are briefly described in the following sections.

### a. Past Uses

Before acquisition by the State, the property was owned by several phosphate mining companies and was mined or disturbed by phosphate mining operations. Previous “approved” land uses within the IHN, as well as within the IHN lands comprising Lease 3995, involved mining and reclamation, industrial (power plants), timbering, and agricultural (including livestock grazing, row crops, and citriculture) activities.

Conservation Lands Under Fire



“Unauthorized” activities that have occurred on the property in the past include the encroachment by adjacent property owners for cattle grazing, dead-head logging, and illegal



hunting. Other illegal and often quite destructive activities that have occurred and may still be occurring on the IHN lands include vandalism, illegal dumping, marijuana cultivation, and off-road vehicle use. Other “unapproved” activities that have been observed on Lease 3995 include trespassing, camping, poaching, illegal fishing, discharge of firearms, and open fires during burn bans.

The illegal excavation and/or collection of archaeological relicts from the riverbeds and floodplain forests along the Peace River and Bowlegs Creek (as well as from the adjacent, well-known historical site at Kissengen Spring) is a continuing problem on Lease 3995 lands.

#### **b. Recreational Uses**

There currently is no public usage of the majority of the property that could be described as regular or recurring; the public canoe launch on the subleased portion of the Clear Springs tract is the only area frequently used by public for resource-based outdoor recreation such as canoeing/kayaking, bird/wildlife viewing, and fishing.

#### **c. Protected Zones**

A protected zone is an area of high sensitivity or outstanding character from which most types of development or human activities are excluded as a protective measure. Generally, facilities or activities that require extensive land alteration or result in intensive resource destruction, such as parking lots, camping areas, shops or maintenance areas, are not permitted. All decisions involving potential impacts to protected zones are made on a case-by-case basis after careful site planning and analysis.

In an effort to preserve and maintain the water resources and wildlife habitat and corridors along the linear core of the Integrated Habitat Network, the wetlands and waterbodies within Lease 3995 have been designated as protected zones. These areas, comprising approximately 81.5 percent of the lease property, are delineated on the Land Cover Map.

#### **d. Existing Facilities**

A public boat ramp providing access to the Peace River for canoeing/kayaking may be found on in the Clear Springs portion of Lease 3995 on the land subleased to Polk County. There are no other existing facilities on Lease 3995 IHN Lands.

### **2. Public Use and Recreation Resource Elements**

This section gauges the physical qualities of Lease 3995 that, either singly or in combination, could support the various resource-based recreation or other public use activities. Separating the property into such elements provides a way to measure the capability of the Lease 3995 IHN Lands to support individual public use activities.

Also part of the deliberations was the purpose for the lease to the Florida Department of Environmental Protection, Division of Resource Management (now the Division of Water

Resource Management), which says that the “Lessee shall manage the leased premises only for the conservation and protection of natural and historical resources and resource-based public outdoor recreation which is compatible with the conservation and protection of these public lands, as set for in subsection 253.023(11), Florida Statutes, along with other related uses necessary for the accomplishment of this purpose as designated in the Management Plan required by paragraph 7 of this lease”.

**GOAL #5 – Determination of Public Recreation Usage**

Numerous areas within the Lease 3995 IHN Lands are sensitive floodplain wetlands or lands that may contain archaeological/historical resources, wildlife habitat, or unique geological formations that will not be able to support unrestricted or even limited public use. Some areas contain unconsolidated clays, mine debris, or unreclaimed lands that would make them unsafe for public use in their present condition. However, under certain conditions, other areas may be capable of supporting recreational, educational, or limited agricultural activities. Until it can be determined exactly what resources and conditions exist on Lease 3995, it is in the best interests of the public and the State to restrict public recreational use on these lands. The Bureau is aware of the emphasis on facilitating public access to State-owned lands, but this advocacy must be tempered with the realization that this recreational use must not compromise the original purpose for this property. The Bureau will continue to work with local governments to facilitate reviews and planning for proposed access and use of Lease 3995 IHN lands in accordance with subsection 253.023(11), F.S.

**Objective #1: Evaluate lands to determine appropriate types and levels of recreational use**

Activity: Conduct inspections of IHN lands within Lease 3995 to determine appropriate areas for future recreational use

Schedule: Complete by December 31, 2017

Table 3 lists the potential uses of the Lease 3995 IHN Lands that were evaluated by Bureau staff as part of this management plan. After consideration, each potential use was assigned one of the following ratings: “approved” if it was deemed a resource-based public outdoor recreation or other activity that would be compatible with the primary goal of preserving and protecting natural and cultural resources on the property; “conditional” if the activity was either approved as part of this current management plan for specific circumstances on specific sites within the lease or could be re-evaluated during the management plan revision scheduled for 2023; and, “rejected” if the potential activity was determined to be detrimental to either the natural or cultural resources on the lease.

Table 3. Evaluation of Potential Resource-Based Public Outdoor Recreation or Other Public Use Activities on Lease 3995

Potential Activity	Approved	Conditional	Rejected
Apiaries		X	
Bicycling			X
Bird/wildlife viewing		X	

Camping			X
Canoeing/Kayaking		X	
Cattle grazing			X
Citriculture or other agriculture		X	
Community Supported Agriculture		X	
Ecosystem maintenance	X		
Environmental education/tours	X		
Fishing		X	
Hiking			X
Horseback riding			X
Hunting			X
Linear facilities			X
Off-road vehicle use			X
Other uses (determined on individual basis)		X	
Photography		X	
Protection of endangered/threatened species	X		
Preservation of archaeological/historical sites	X		
Soil and water conservation	X		
Timber harvesting		X	

The lands within Lease 3995 are a mixture of linear and diffuse parcels that consist primarily of undisturbed lands within the floodplains of the Peace and North and South Prong Alafia river systems as well as some adjacent, isolated upland buffer lands. They are a complex mixture of diverse habitats and wildlife, different lease, sub-lease, and amendment requirements, and assorted management and monitoring needs scattered among seven separate parcels composed of numerous disconnected pieces of land. The Lease 3995 IHN Lands have limited uplands that are suitable for public use which is compatible with the mandated to be compatible with the conservation and protection of the property. Access to many of the parcels that make up the lease is limited or nonexistent.

The vast majority of these lease properties is wetlands (approximately 77.3 percent) and waterbodies (approximately 4.2 percent) which constitute the water resources and wildlife habitat which are to be preserved and protected by the Bureau as conditions of the lease. The upland areas within Lease 3995 are comprised of disturbed or developed lands (14.6 percent) and upland forests (3.9 percent), neither of which are conducive to resource-based public outdoor recreation or other public uses.

There is one site in the Clear Springs parcel on the Peace River which provides public access to the river via a canoe launch site that is part of Sublease 3995-03 to Polk County; this site provides opportunities for public canoeing/kayaking, fishing, bird/wildlife viewing and photography. The Bureau also works closely with the Florida Paddling Trails Association and the FDEP's Office of Greenways and Trails Blueway Program regarding this canoe launch site to create online notices about recreational opportunities, resource protection, and hydrologic limitations currently affecting the Upper Peace River areas.

In addition, the sinkholes in the Peace River floodplain in the Clear Springs parcel are unusual natural features of the property and as a result are often the destination of Bureau staff-led visits of members of other agencies and private organizations for educational purposes.

As a result of these deliberations, the Bureau, as the sole managing agency determined that multiple-use management will be used for the Lease 3995 IHN Lands, with primary emphasis on the preservation and protection of the water resource and wildlife habitat; public recreation and other public uses will be considered on a case-by-case basis for each of the seven parcels in the lease and approved only if these uses can be accommodated so that they do not interfere with the primary purpose of the property.

**Objective #2:    Designate areas where public recreational use could occur on Lease 3995 lands without causing adverse impacts to natural or cultural resources**

Activity:    Develop a comprehensive map designating areas where potential recreational use could occur

Schedule:    Complete by December 31, 2018

**Objective #3:    Develop cooperative efforts with other groups to investigate potential for public recreational opportunities on IHN lands within Lease 3995**

Activity:    Meet with representatives from variety of public recreation organizations such as Florida Trail Association, Audubon of Florida, Great Florida Birding Trail, Florida Paddling Trails Association, Office of Greenways and Trails, etc. to discuss potential for public recreational opportunities on Lease 3995 lands and develop programs for those areas within the lease where public use is determined to be feasible

Schedule:    Ongoing through December 31, 2022, with at least annual meeting with representatives

The Bureau is committed to providing long-term “basic management” for the protection of greenways and corridors, wildlife habitat, and riparian buffers as critical functions of the IHN lands within Lease 3995. This long-term protection may consist of active and/or passive land management activities intended to conserve the environmental qualities of each parcel; active management may include boundary identification and marking, habitat enhancement, prescribed burning, and exotic/nuisance species control while passive management may include property inspections and preparing reports, planning projects with other land management agencies, and educating stakeholders on appropriate land management methodologies of lands impacted by phosphate mining operations.

#### **D. CONCEPTUAL LAND USE PLAN**

During the development of this management plan, the Bureau reviewed the resource management and land use components of the leased property and assessed potential impacts of the proposed uses on the natural and cultural resources of Lease 3995. Resource management planning for this State-owned property began with a comprehensive review of the known

existing natural and cultural resources on site and, after detailed management objectives and goals for these resources were developed, decisions were made as to the management measures that will be used to preserve and protect these resources. The land use component is a critical part of a plan as it allocates land and water resources on the property to be protected from public use as well as commits those resources that can be set aside for public use that is compatible with the conservation and protection of these public lands. Land use planning for Lease 3995 began with an examination of the property, including consideration of such factors as access, public interest in use, adjacent land uses, and exceptional, rare or sensitive areas and features that require strict protection. Uses that could potentially result in unacceptable impacts were not included in the conceptual land use plan in accordance with the conditions found within Lease 3995.

### **1. Potential Uses/Facilities**

Paragraph 4 of Lease 3995 states that the lessee "...shall manage the leased premises only for the conservation and protection of natural and historical resources and resource-based public outdoor recreation which is compatible with the conservation and protection of these public lands..." The Florida Department of Environmental Protection defines "resource-based outdoor recreation" as "...dependent on a particular element or combination of elements in the natural and cultural environments that cannot be easily duplicated by man" in contrast to "user oriented recreation" which "...can generally be provided anywhere, assuming the availability of space and funds for development" (DRP, 2012a; DRP, 2012b).

The seven disconnected parcels that make up Lease 3995 IHN Lands are themselves composed of numerous smaller disconnected pieces of land. This disjointed arrangement of small pieces of property interspersed with property owned by other public and private landowners is not conducive to extensive public usage or to the development of facilities for recreational purposes. Occasional passive recreational uses such as canoeing/kayaking, bird/wildlife viewing, photography, or other similar activities by the public are possible at the Clear Springs parcel where public access is available. These activities are in accordance with Item 4 of the lease agreement that advises resource-based public outdoor recreation may be allowed if not incompatible with the conservation and protection of these public lands and are not in conflict with paragraph 7 which states that "...the lease premises shall not be developed or physically altered in any way other than what is necessary for security and maintenance....". The current management activities for long-term protection of greenways, wildlife corridors, wildlife habitat, and riparian buffer within the Lease 3995 IHN Lands are incompatible with the current philosophies and strategies of other land management agencies. While the Bureau neither encourages or discourages passive recreational uses such as canoeing/kayaking, wildlife viewing, or photography by the public on portions of Lease 3995 where there are no possible conflicts with the primary goal of preserving water resources and wildlife habitat, the Bureau believes that "resource-based outdoor recreation" on these leased properties can be easily duplicated and more safely enjoyed on nearby public lands that are designed and managed primarily for public use. Some of these areas include: Alafia River State Park, Circle B Bar Reserve, Gator Creek Reserve, Hickory Lake Scrub, Lakeland Highlands Scrub, Mosaic Peace River Park, and Tenoroc Fish Management Area.

The configuration of the seven disconnected parcels that make up Lease 3995 IHN Lands, which are each composed of numerous smaller disconnected pieces of land, renders this property as generally unsuitable for public recreation. As a consequence, no facilities are planned for construction within this lease during the next 10-year management period. If public interest in using these properties for resource-based public outdoor recreations increases during that period, the potential for developing facilities to accommodate this use will be reviewed for the update of the Lease 3995 management plan.

## **2. Property Improvements**

Any “improvements” to the Lease 3995 IHN Lands will involve activities that will restore or enhance the resources on the property, such as improving access, removing nuisance and exotic vegetation, supplementing native vegetation, etc. The priority schedule that describes all management activities to be conducted and the methods and means to be used to enhance the resource values on the lease are provided in Addendum 5. These cost estimates are based on the most cost-effective methods and recommendations currently available and may be revised as more information is collected through the planning and design phases or as new management methods are developed.

## **3. Existing Use and Optimum Carrying Capacity**

“Carrying capacity” is an estimate of the numbers of users a recreational resource or facility can hold and still provide a high quality recreational experience while simultaneously preserving the natural and cultural resources of the site. A property’s carrying capacity is calculated by identifying the resource requirements for each proposed recreational activity and then determining if the property can accommodate those requirements. The physical capacity of the property’s natural communities to withstand the impacts of recreational uses without suffering significant adverse impacts are then considered; the results of this analysis identify the range within which the carrying capacity most appropriate to the specific recreational activity, activity site, and property’s classification is determined.

The optimum carrying capacity for the Lease 3995 IHN Lands is a preliminary estimate of the number and types of users that these lands could accommodate after the current conceptual development program has been implemented. Currently, public use is limited to the canoe launch and take-out site located in that portion of the Clear Springs parcel that is subleased to Polk County. No records have been kept, either by Polk County or the Bureau, of the number of canoe/kayak launches and take-outs that have occurred or estimates made of the number that may occur. As a consequence, it is not possible to estimate an optimum carrying capacity for this sublease.

## **4. Optimum Boundary**

Modification of the optimum boundary of Lease 3995 may be needed if property use, development impacts, research reports, and activities on adjacent lands indicate that management and protection of water resources, wildlife habitat, cultural resources, recreational uses, or management efficiency could be ameliorated. Identification of lands on the Optimum Boundary

Map is specifically for planning purposes and the presence of any property on the map should not be used to constrain the landowner's property management or rights. Identification on the map does not authorize or require any government entity to impose additional or more restrictive environmental land use or zoning regulations, is not for regulatory purposes, and is not to be used as the basis for permit denial or the imposition of permit conditions.

Although not necessarily "essential" to the management of Lease 3995 IHN Lands, the efficacy of the IHN greenways system in the region would be greatly enhanced via its connection to nearby public lands with significant land and water resources (see Vicinity Map). Likewise, currently disjointed tracts within the Lease 3995 IHN Lands (and the IHN itself) could be connected and enhanced by the State's acquisition of nearby parcels owned by various private or corporate landowners. The Bureau land management staff will continue its efforts to determine properties within the district that may be of value to the State and to recommend these lands for acquisition and lease to the Bureau for management.

Potential acquisitions recommended by Bureau staff are:

Potential buffer areas in a North Prong Alafia River Connection along the east side of the river would help protect the parcel that was acquired by the State as part of the Coastal Settlement agreement. The North Prong Alafia River parcel is comprised on a thin sliver of uplands that border the south bank of the North Prong Alafia River while the north bank abuts the Polk County-owner Alafia Hammock Reserve. This location leaves this portion of the IHN unprotected along its southern boundary near reclaimed uplands that are slated for future development and also makes it vulnerable to stormwater run-off and erosion, unauthorized ATV traffic, and the spread of invasive plants. It is recommended that the 282 acres of buffer lands be acquired to widen this existing portion of the Integrated Habitat Network, which will help protect the wildlife corridors and riverine floodplains from off-site impacts.

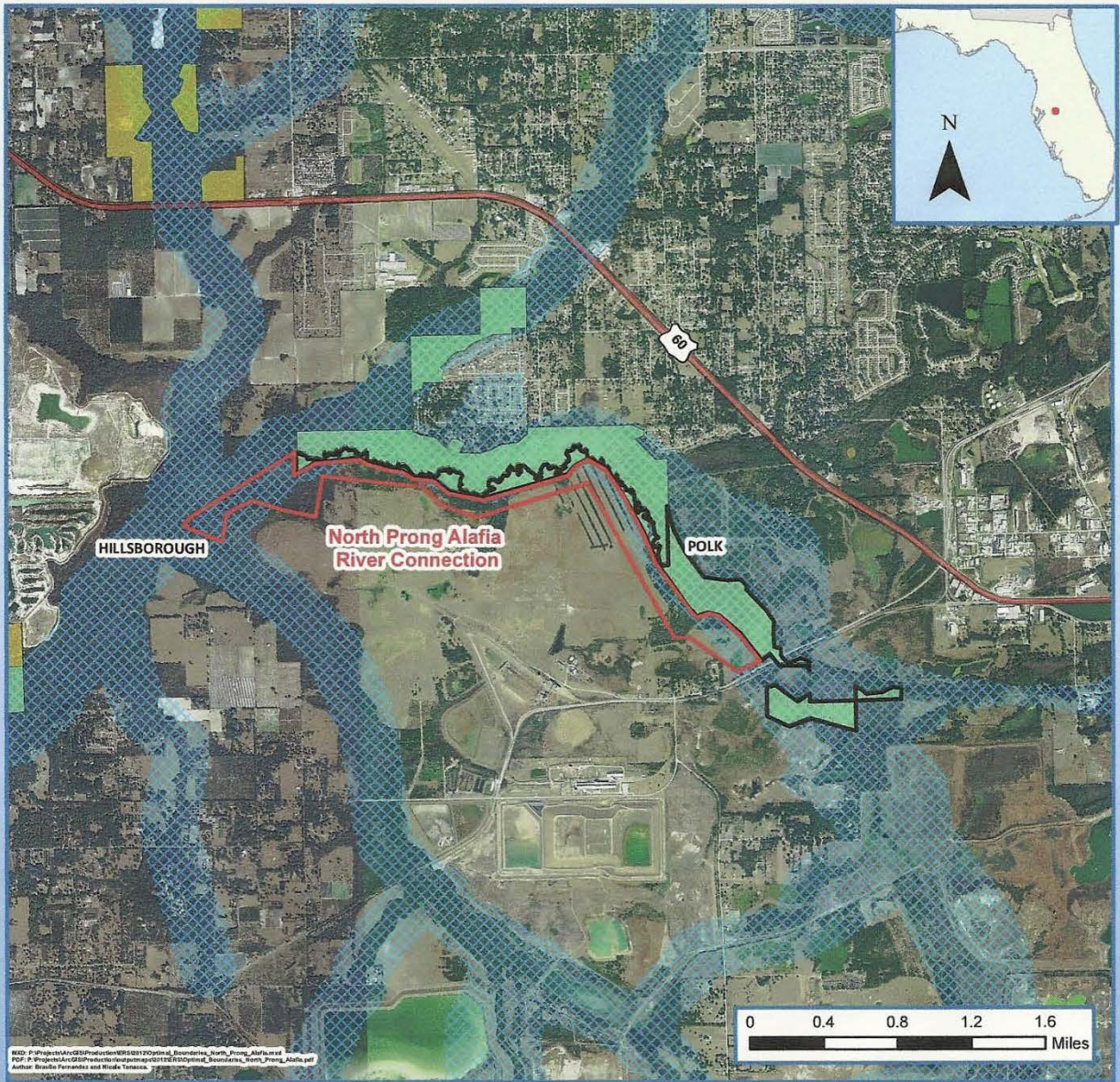
The Hooker's Prairie to Camp Meeting Ground Branch Connection, a heavily impacted tributary to the Peace River near Homeland, is an example of an area with properties that the Bureau recommends for State acquisition. The approximately 1,649-acre Camp Meeting Ground Branch connection serves as the main drainage system for approximately 3,000 acres and is a direct conduit to the Peace River. The properties surrounding this tributary are under multiple ownerships and have a variety of land uses. Some land within the basin has been reclaimed and is part of pending donations/conservation easements, some has been developed into a Class III landfill, and the rest has been developed into sludge drying facilities. It is recommended that these properties, located between the existing Bureau-managed IHN properties in this portion of Polk County, be considered for inclusion in the regional Integrated Habitat Network via fee-simple acquisition or conservation easement agreement. Acquisition and reclamation of a strategic controlling interest within this basin would benefit water quality to the Peace River and downstream habitats. Acquisition of three small drainage lakes at the outfall of Camp Meeting Ground Branch near the Peace River would provide even more control over the hydrology and water quality of this area.

The Clear Springs Connection consists of two small properties (totaling 119 acres) bisected by the Peace River that are owned by entities other than the Board of Trustees. Although there is










# Optimum Boundary North Prong Alafia River

Department of Environmental Protection  
 Bureau of Mining and Minerals Regulation  
 Map produced in June 2012



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 PDF: P:\Projects\ArcGIS\Production\Output\maps\ERS2012\Optimal\_Boundaries\_North\_Prong\_Alafia.pdf  
 Author: Braxton Perdomo and Nicola Tomasco

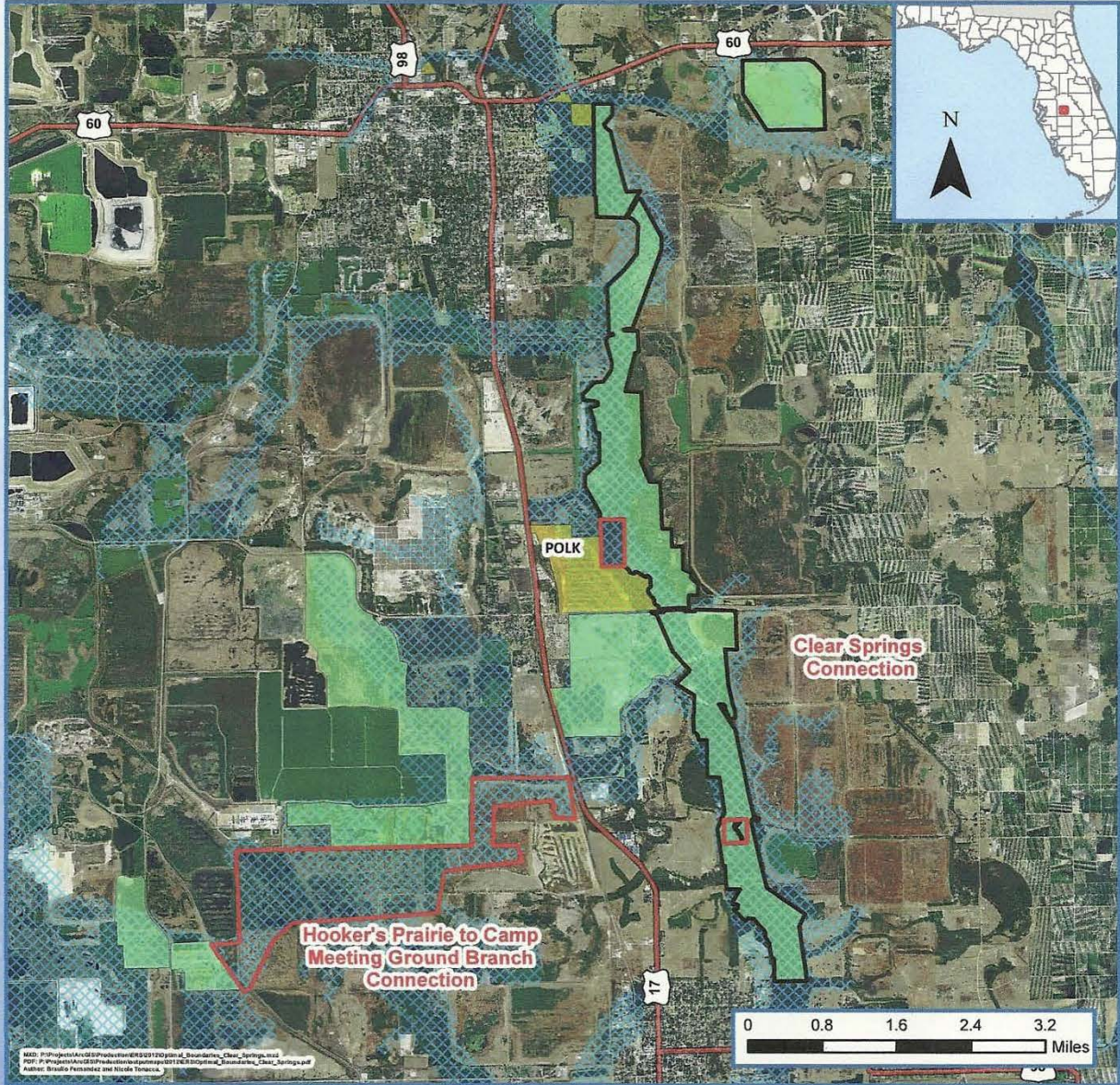
-  Optimal Boundary
-  Lease 3995
-  Federal
-  State
-  Local
-  Private
-  Integrated Habitat Network (Conceptual)

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**Optimum Boundary Clear Springs**  
 Department of Environmental Protection  
 Bureau of Mining and Minerals Regulation  
 Map produced in June 2012



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 PXY: P:\Project\ArcGIS\Production\pdx\2012\ER2012\Optim\Boundary\_Clear\_Springs.mxd  
 Author: Branko Fernandez and Nicole Tomack

**Legend**

**Optimal Boundary**

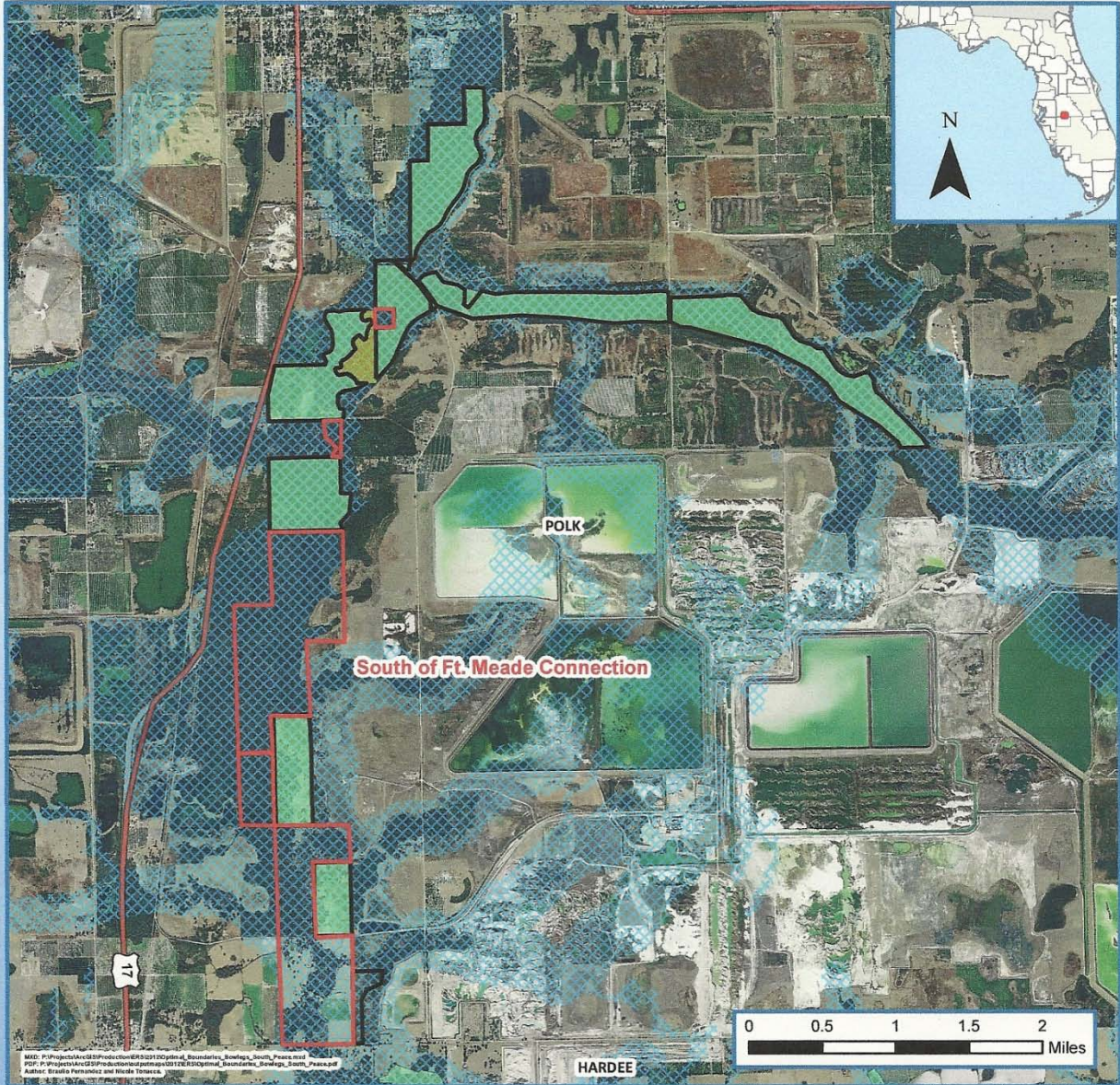
- Optimal Boundary
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# Optimum Boundary Bowlegs and South Peace

Department of Environmental Protection  
 Bureau of Mining and Minerals Regulation  
 Map produced in June 2012



MXD: P:\Projects\ArcGIS\Production\ER3\012\Optimal\_Boundary\_Bowlegs\_South\_Peace.mxd  
 PDF: P:\Projects\ArcGIS\Production\getmap\012\012\Optimal\_Boundary\_Bowlegs\_South\_Peace.pdf  
 Author: Estrella Fernandez and Nicole Tomasek

- Optimal Boundary
- Lease 3995
- Federal
- State
- Local
- Private
- Integrated Habitat Network (Conceptual)

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little likelihood that any development within these lands would be proposed or approved, the acquisition of these areas by the State of would ensure that the floodplains of the Peace River will remain undisturbed and continue to provide wildlife habitat and water quality protection.

A South of Fort Meade Connection, composed of several properties along the Peace River south of Fort Meade, would be beneficial additions to the existing disjointed parcels of Lease 3995 IHN Lands in that area. Supporting these tracts are two Conservation Easements - the Florida Department of Transportation (FDOT) mitigation wetland north of County Line Road and the South Fort Meade Mine (owned by Mosaic Fertilizer, LLC) mitigation lands on the east side of the Peace River. Acquisition of the parcel near the Polk County-owned Peace River Hammock Park would complete the link between the two conservation parcels. Mosaic and other private owners hold title to the remaining Peace River bottomland forests south of Fort Meade and it is recommended that agreements be sought to secure protection of these properties within the South of Fort Meade Connection (totaling 970 acres) as important corridor links in the Integrated Habitat Network.

Because the long-range plan for the IHN include the preservation and protection of wildlife habitat and greenways from Charlotte Harbor north to the Green Swamp, it is recommended that the floodplains south of Fort Meade be obtained by the State through voluntary conservation agreements, land trades, or fee simple acquisition in order to protect the linear wildlife corridors already in existence in other parts of the Peace River watershed.

Other tributaries to the Peace River that were historically impacted by phosphate mining operations are listed in the Nonmandatory Phosphate Reclamation Rules (Chapter 62C-17, Florida Administrative Code) and *Evaluation of Pre-July 1, 1975 Disturbed Phosphate Lands: Executive Summary* (ZWI and CCI, 1980) as areas in need of restoration. These areas are an important part of the IHN and are critical to the return of quality flows to the Peace River. Through the Nonmandatory Reclamation and Acquisition programs, the Bureau is working with private landowners to improve these important tributaries and their sub-basins.

The Optimum Boundary Map reflects lands, both public and private, identified by Bureau staff as having the potential to improve the continuity and functionality of the Integrated Habitat Network (including that portion contained within Lease 3995), provide additional natural and cultural resource protection, or allow for increased opportunities for recreational use. Less than fee simple options, such as conservation easements, should be considered to address the issue of limited or nonexistent access to several of these lands within Lease 3995. The areas denoted on this map will help Bureau staff communicate and coordinate with other planning agencies which could help bring regional connectivity to the IHN.

While there are several properties that have been identified as potentially beneficial if acquired by the State and amended to the lease, no lands within Lease 3995 are currently considered surplus to the needs of the Integrated Habitat Network.