

**Management Plan for the
Integrated Habitat Network /
Coordinated Development Area:
Lease Nos. 3963, 3995, and 4236**



**Florida Department of Environmental Protection
Bureau of Mine Reclamation**

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Summary

The Bureau of Mine Reclamation outlined its concept for the Integrated Habitat Network plan in 1992 in its publication *A Regional Conceptual Plan for the Southern Phosphate District of Florida*. 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 while the adjacent reclaimed “buffer” lands of the Coordinated Development Area were to compliment and enhance the habitat value of the core lands. With appropriate management, these areas would 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 mining region. The Bureau of Mine Reclamation envisioned that the plan would become a guide for the reclamation of mined phosphate lands throughout the southern phosphate district and began promoting the plan through numerous publications and meetings.

In 2002, the Bureau of Mine Reclamation published the *Management Plan for the Integrated Habitat Network: Lease Nos. 3963 and 3995*. This management plan was developed to coordinate basic management activities for long-term protection of the greenways/wildlife corridors, wildlife habitat, and riparian buffers within the Integrated Habitat Network. During the development of this IHN management plan, the BMR had to take into consideration the existing and proposed land uses; recommendations and requirements of other agencies and organizations working in cooperation with the BMR; the purposes, restrictions, and requirements of the Coastal Petroleum Litigation Settlement Agreement; limitations and requirements of the leases and lease amendments; applicable phosphate mine reclamation and restoration requirements; and, the existing problems and needs of the property.

By 2006, 23 parcels had become part of the Integrated Habitat Network through settlement, conservation easement/agreement, donation, or acquisition. Since the original publication, an historic site was added to the Department of State’s Master Site File, resource mapping revealed the presence of several listed species on these lands, and coordinated efforts with other agencies were underway to protect water resources and wildlife within the Integrated Habitat Network. Some of the proposed “pending” conservation easements/agreements listed in the 2002 management plan had either been finalized or deleted from the plan, some had been increased or reduced in size, and some were new tracts that had been added. The original management plan was updated in 2006 to include the changes and achievements that had occurred since the original plan was published; the revised document became the *Management Plan for the Integrated Habitat Network/Coordinated Development Area: Lease Nos. 3963, 3995, and 4236*.

The parcels leased to the Bureau of Mine Reclamation are a complex mixture of diverse habitats and wildlife, different lease and agreement requirements, and assorted management and monitoring needs, with the leases covering primarily undisturbed lands within the floodplains of the Peace and Alafia River systems and the adjacent reclaimed buffer lands. The complexity and diversity of these lands, along with the lack of detailed information for the individual parcels, necessitated that the initial management activities undertaken by the Bureau of Mine Reclamation were the identification of property boundaries, creation or

enhancement of access sites, security and protection of the lands, and the identification and location of existing resources. Following the completion of these initial tasks, the Bureau of Mine Reclamation staff is addressing additional issues associated with its leases and is currently in the process of determining long-term management needs for these parcels.

As part of its goal to have a holistically planned and functioning landscape via the Integrated Habitat Network/Coordinated Development Area concept, the Bureau of Mine Reclamation is coordinating with other agencies on several ambitious projects within this area. One project currently underway is the restoration of the disturbed ecological and hydrological functions in the heavily mined Saddle Creek and the Upper Peace River watershed, where surface water flow will be of paramount importance in the placement and success of mitigation wetlands in this area. The restoration of the Upper Peace River watershed is a major step in another significant project under in the Peace River basin. In 2003, the Florida Legislature mandated a study of the cumulative effects on landforms and hydrology primarily due to mining, agriculture, and urbanization in the Peace River basin. The results of this study are to be used to prepare a management plan for the Peace River basin to minimize existing and potential future adverse cumulative impacts to the resources of the basin. The third major project the Bureau is involved in is the development of a Mined Lands Agricultural Research and Education Center in the southern phosphate-mining district. The main goals of this project are to address various uses of reclaimed lands for semi-intensive and intensive agriculture, to develop Best Management Practices for phosphate mine reclamation activities, and to serve as a reclamation and environmental education facility for the public.

The complexity, varied needs, and long-range plans for the lands within the Integrated Habitat Network/Coordinated Development Area make them incompatible with the current philosophies and strategies of most other land management agencies. The Bureau of Mine Reclamation'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 as well as to coordinate and supervise wide-ranging projects designed to improve habitat quality within the Integrated Habitat Network/Coordinated Development Area lands. The Department of Environmental Protection's endorsement of the Bureau of Mine Reclamation's work in the Integrated Habitat Network/Coordinated Development Area provides further support of the Bureau's involvement in active land management.

Introduction

The Bureau of Mine Reclamation ("BMR") became active in land management in the late 1980's through the statutory change of the Florida Department of Natural Resources, Division of Resource Management to which it was assigned. One of the powers and duties of the division, as set forth in Section 370.02(3)(g), Florida Statutes ("FS") 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 ("DEP"), identified the Division of

Resource Management, now the Division of Water Resource Management (“DWRM”) as the entity to manage the lands transferred to the State that had not been leased to another agency.

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 in the floodplains along the Peace and Alafia Rivers to the State of Florida for alterations made by the companies in the State-owned natural channels of these rivers. 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 (“BOT”) through normal Division of State Lands (“DSL”) procedures and then leased by the DSL to an appropriate managing agency.

Approximately 991 acres of Coastal Settlement lands in the Homeland tract west of the Peace River were deeded to the BOT pursuant to the terms of the Coastal Settlement in April 1989 and the BMR was informally assigned management responsibilities. On June 28, 1991, the Division of State Lands recommended approval for lease of the western 777 acres to the Division of Resource Management for use as a reclaimed phosphate mine research center contingent upon modification of the settlement agreement. In the same document, the DSL recommended lease of the eastern 214 acres to the Department of Health and Rehabilitative Services (now the Department of Juvenile Justice) with a sublease to a private not-for-profit corporation for a substance abuse treatment center. The Homeland portion of the Coastal Settlement property was formally leased to the Department of Natural Resources (now the DEP) for the establishment and operation of a field office and aquatic weed control research center via Lease No. 3963 on October 30, 1992.

The BMR outlined its concept for the Integrated Habitat Network plan in 1992 in its publication *A Regional Conceptual Plan for the Southern Phosphate District of Florida* (http://www.dep.state.fl.us/water/mines/ihn/docs/RegionalConceptual%20Plan_So_Phosphate_District_FL.pdf). 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 adjacent reclaimed “buffer” lands, or Coordinated Development Area (“CDA”), were to compliment and enhance the habitat value of the core lands. Managed properly, together these areas would 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 mining region. The BMR envisioned that the plan would become a guide for the reclamation of mined phosphate lands throughout the southern phosphate district and began promoting the plan through numerous publications and meetings.

On October 15, 1993, approximately 930 acres of State-owned portion of the Coastal Settlement lands bordering the Peace River and Bowlegs Creek were leased to the Division of Resource Management (now the DWRM) in Lease No. 3995 and assigned to the BMR for

management. In July 1997, Lease No. 3995 was amended to include eight floodplain parcels on both sides of the Peace River north of Ft. Meade that are adjacent to the existing Homeland tract. The lease was amended again in February 1998 to include 36 additional floodplain parcels from the Coastal Settlement portion of the South Prong Alafia River tract. Amendment No. 3 added another 24 parcels along the Peace and Alafia Rivers to the lease in October 1999. A fourth amendment to Lease No. 3995 in April 2001 added tracts along the upper Peace River north of Homeland and along the upper reaches of Little Payne Creek. Amendment No. 5, executed in August 2003, amended the legal description of the leased premises.

A third lease, Lease No. 4236, was issued in October 1999. This lease covered over 100 parcels composed of approximately 1,400 acres of the total 6,600 acres of Cytec-Brewster Phosphates, Inc. donated to the State to be included in the Alafia River State Recreation Area. The DEP's Division of Recreation and Parks ("DRP") is currently managing the 5,200-acre parcel as a public park and recreation area. Because some re-mining and reclamation activities were reserved by the IMC-Agrico Company in the deed transferring the land to the State, the BMR was entrusted with the management of 1,400 acres until the completion of these mining-related activities; this area will revert to management by the DRP following reclamation and release.

On July 17, 2001, copies of the draft *Management Plan for the Integrated Habitat Network: Lease Nos. 3963 and 3995* (<http://www.dep.state.fl.us/water/mines/ihn/index.htm>) were provided to the Advisory Committee, a group encompassing a broad range of occupations, interests, and experience whose input was used to develop and improve the management plan for the IHN. During the development of this IHN management plan, the BMR had to take into consideration the existing and proposed land uses; recommendations and requirements of other agencies and organizations working in cooperation with the BMR; the purposes, restrictions, and requirements of the Coastal Petroleum Litigation Settlement Agreement; limitations and requirements of the two leases and four lease amendments; applicable phosphate mine reclamation and restoration requirements; and, the existing problems and needs of the property.

The advisory committee meeting/public hearing was held on August 15, 2001 and the comments from committee members and the public were used to finalize the management plan. The draft IHN management plan was submitted to the Division of State Lands on November 19, 2001 and was presented to the Acquisition and Restoration Council for the public hearing in February 2002. The draft *Management Plan for the Integrated Habitat Network: Lease Nos. 3963 and 3995* was revised in March 2002 and presented to the council meeting of the Acquisition and Restoration Council in April 2002. The management plan was also put on DEP's website in 2002. Since its original publication, periodic updates of land management activities completed on IHN lands have been posted by BMR staff on this website. The first revision of both print and website versions of the management plan, now entitled *Management Plan for the Integrated Habitat Network/Coordinate Development Area: Lease Nos. 3963, 3995, and 4236*, was completed in March 2006. Additional revisions will be published as circumstances dictate.

As part of its goal to have a holistically planned and functioning landscape via the Integrated Habitat Network/Coordinated Development Area concept, the DEP initiated an ambitious project for restoration of disturbed ecological and hydrological functions in the heavily mined Saddle Creek and the Upper Peace River watershed. The impetus for the project was a Memorandum of Understanding signed in 1995 by the DEP, U.S. Army Corps of Engineers, Southwest Florida Water Management District (“SWFWMD”), Department of Transportation (“DOT”), and Florida Game and Freshwater Fish Commission, now the Florida Fish and Wildlife Conservation Commission (“FFWCC”). Of the four potential alternatives originally considered, one was eventually selected following the completion of modeling studies as the route for surface water flow through the Tenoroc Fish Management Area (“TFMA”). Deemed a key element in the success of the restoration project, surface water flow will be of paramount importance in the selection, placement and success of mitigation wetlands at TFMA and the completion of reclamation activities on various Nonmandatory Reclamation Programs at the site (additional details can be seen at <http://www.dep.state.fl.us/water/mines/upr/index.htm>). A contract with a private company was executed with the State on June 26, 1998; reclamation activities have been underway since then and are expected to be completed within the next several years.

The restoration of the Upper Peace River watershed is a major step in another significant project being undertaken in the Peace River basin by the BMR. In 2003, the Florida Legislature mandated that the DEP/BMR, in consultation SWFWMD, conduct a cumulative impact study (primarily on the effects of mining, agriculture, and urbanization) in the Peace River basin to assess changes in landforms and hydrology. The results of this study are to be used by the DEP/BMR to prepare a resource management plan for the Peace River basin to minimize existing and potential future adverse cumulative impacts to the waters of the basin. All participants in the development of the Peace River Cumulative Impact Study/Resource Management Plan (“PRCIS/RMP”) will be required to comply with all pertinent programs of the DWRM. The PRCIS is expected to be completed in August 2006 and the RMP in January 2007.

Property

The BMR is currently the lessee and manager of approximately 5,600 acres of State-owned land along the Peace and Alafia Rivers. In cooperation with landowners and the DSL, the BMR is also involved in the development of easement agreements and management plans and in the supervision of landowners activities on IHN lands committed to habitat management through conservation easement or deed restrictions. The BMR is currently the designated managing agency for over 22,000 acres of Perpetual Conservation Easements (“PCEs”) in the phosphate mining district and the Green Swamp. Other properties within the confines of the IHN that are currently undergoing permit negotiations may eventually be defined and codified as PCEs and assigned to the BMR for management.

The aggregation of disjunct properties comprising the IHN is located in the southern phosphate district in west central Florida. Two main categories of lands are found within the IHN – those acquired by the State and leased to appropriate managing agencies and those owned and managed by public or private entities. The State-owned lands have been acquired through settlement, donation, conservation easement/agreement, purchase, or regulatory

action. Some of these lands have already been formally leased to the BMR for management; it is likely that other lands owned by the State may eventually become the management or monitoring responsibility of the BMR. The voluntary cooperation of the public and private owners whose lands are considered a significant part of the IHN is essential to attaining the goals of this plan.

EXISTING IHN LANDS

Brief descriptions of the lands currently included in the IHN management plan are provided below.

Coastal Settlement

- CS 1. The North Prong Alafia River tract, part of the Mobil Mining and Minerals Company (“Mobil”) portion of the Coastal Settlement, consists of approximately 234 acres. This tract is currently patrolled by BMR personnel. A land surveying company under contract with the DSL has completed a boundary survey of a portion of the North Prong of the Alafia River. BMR staff worked with the surveying company to post this parcel with IHN signs during the fall/winter of 2002.
- CS 2. The Alafia River State Recreation Area tract contains 960 acres of Coastal Settlement lands that were originally owned by American Cyanamid Company and later by Brewster Phosphates, Inc. (“Cytec”). Only the floodplains along the South Prong Alafia River that are inside this tract were transferred to the State as part of the Coastal Settlement and are currently co-managed by the DRP and BMR.
- CS 3. The South Prong Alafia River tract, another portion of the Coastal Settlement lands that was owned by Cytec, is approximately 135 acres in size and is currently patrolled by BMR personnel. Boundary delineations and marking were deemed unnecessary due to its inaccessibility to the public.
- CS 4. The Clear Springs tract, originally part of the IMC Phosphates Company (“IMC”) portion of the Coastal Settlement, is approximately 1,439 acres in size and is currently patrolled by BMR personnel. The contracted land surveying company completed boundary surveys of this parcel in 2004; boundary signs were installed where necessary by BMR staff. Comprehensive mapping of land use cover types and significant features was completed using Global Information System/Global Positioning System (“GIS/GPS”) technologies by BMR staff in 2004.
- CS 5. The 1,709-acre Homeland tract, part of the Mobil portion of the Coastal Settlement, is the site of the DEP’s Homeland Field Office for personnel of the BMR and Bureau of Invasive Plant Management. Structures and improvements on this parcel include an office building, several storage buildings for vehicles, boats, and maintenance equipment, and a paved entrance road and parking area. The BMR staff has also constructed a native plant nursery at Homeland to develop stock for use in reclamation activities and research projects within the IHN. According to Lease No. 3963, the Homeland tract also serves as the headquarters of the DEP’s Mined Lands Research Center; current research efforts include the production and use of native

vegetation in reclamation projects, control of nuisance and exotic vegetation, and development of Best Management Practices (“BMPs”) for reclaimed lands.

- CS 6. The Bowlegs Creek tract, the Estech, Inc. portion of the Coastal Settlement, approximately 921 acres in size, is patrolled by BMR personnel. The Florida Rangers, Inc., a church youth group in Ft. Meade, aids management activities through a formalized volunteer organization agreement. The contracted land surveying company delineated portions of this parcel in 2003 and boundary signs have been posted in an attempt to curtail the continuing problem with illegal hunting on the property.
- CS 7. The 366-acre South Peace River tract, originally part of the Mobil portion of the Coastal Settlement, is surrounded by the active South Ft. Meade Mine, which is currently owned by Mosaic Phosphates, Inc. (“Mosaic”). BMR personnel currently patrol this tract; boundary delineation and marking are scheduled to occur within the next few years.
- CS 8. The Little Payne Creek tract was part of the Coastal Settlement lands owned by Agrico Chemical Company. This tract, approximately 299 acres in size, is monitored by BMR staff.
- CS 9. The 214-acre Department of Juvenile Justice tract (originally included as a portion of the Homeland property) is leased to that agency for use as a juvenile detention facility. The facility is currently not in operation; future status of the tract is uncertain at this time.

Donation

- D 1. The BMR-managed portion of the donated Alafia River State Recreation Area tract, approximately 1,400 acres in size, contains recently reclaimed phosphate-mined lands. A 16-year minerals lease encumbers the land with royalties payable to Cytec. A \$30.5 million bond held by Hillsborough County secures the reclamation obligations of Mosaic and Cytec. The BMR is currently monitoring the reclamation activity on this parcel. When Mosaic completes reclamation and the requirements have been satisfied, the land will revert to the DRP for management.
- D 2. The DRP-managed portion of the donated Alafia River State Recreation Area tract contains lands that were given to the State by Cytec. This approximately 5,200-acre parcel is currently in use as a public park and recreation area with restrictive covenants to ensure these uses.

Conservation Easement/Agreement

- CE 1. The Four Corners Mine tract in Hillsborough and Manatee Counties is a two-phased conservation easement that was executed in May 2004. Phase I consists of 3,243 acres in 25-year floodplains in the Lonesome and Four Corners Mine Areas and 200 acres of enhanced wildlife habitat associated with Mosaic’s Manatee County Wellfield Site. The second phase is to be composed of adjacent lands reclaimed to

wildlife habitat that will be identified following the completion of mining and reclamation. The BMR will monitor Mosaic's reclamation activities on the PCE; following release from State regulations the tract will be offered either to Hillsborough County or the FFWCC for management.

- CE 2. The FPC Hines tract consists of lands located at the headwaters of Camp Meeting Branch, Barber Branch, McCullough Creek, and Six Mile Creek, all tributaries to the Peace River. Progress Energy, formerly Florida Power Corporation ("FPC"), provided 1,575 acres of these lands for a perpetual conservation easement on May 3, 2002. Located on the east side of the power plant's property, the BMR has been designated to serve as the managing agency for this tract.
- CE 3. Mosaic's Manson Jenkins (West Fork of Horse Creek Headwaters) tract is a two-phased PCE that consists of not less than 521 acres. The first phase consists of not less than 182 acres of preserved floodplain and surrounding uplands of the West Fork of Horse Creek. This portion of the easement has been executed and filed. The second phase will consist of not less than 339 acres of "created wetlands and encompassed stream associated with the West Fork of Horse Creek". The legal description of the second phase will be incorporated as an amendment to the existing PCE within time certain of BMR's approval of final reclamation/mitigation contours. Mosaic will manage and the BMR will monitor the land through the release of reclamation and mitigation. Following release, the BMR will provide basic management of the protected property.
- CE 4. The Hardee Lakes (Payne Creek floodplain portion of Hardee Lakes Park) tract is located in northwestern Hardee County along the west side of Payne Creek. In June 2000, IMC-Agrico Company (now Mosaic) conveyed the 1,261-acre Hardee Lakes Park to the county. The 441-acre floodplain and reclaimed wetland portions of the park are included in the executed PCE to the DEP. Reclamation has been completed in this tract; Hardee County is managing the entire park and the BMR is monitoring the PCE.
- CE 5. The Hooker's Prairie Link tract is approximately 442 acres in size. FPC gave this executed PCE to the DEP as an environmental consideration for its Hines Power Facility Site Certification in 1994. Any land management required will be the responsibility of the landowner and be monitored by the BMR. Preliminary evaluation of this PCE was completed by BMR staff in the summer of 2005.
- CE 6. The 15-acre Camp Meeting Ground Branch tract is an easement that is managed by a private landowner whose activities are monitored by the BMR.
- CE 7. CF Industries' South Pasture Mine conservation agreement tract, located in Hardee County, was the result of pre-application discussions between the company and the BMR. At the time of its development, the preservation plan created for the mine contained approximately 1,532 acres of wetland and upland habitat within the mine and 566 acres on adjacent CF Industries' property north of the mine. The preserved

areas will serve as the core habitat for the mine's reclamation and greenway plan, with exact boundaries and acreages to be determined as the reclamation is completed.

- CE 8. The Jahna Ranch tract, owned by E.R. Jahna Industries, Inc. ("Jahna"), is located in northern Polk County in the core area of the Green Swamp Area of Critical State Concern. As a result of lengthy negotiations between Jahna, the DEP, the Florida Department of Community Affairs, and The Nature Conservancy, approximately 5,775 acres of natural habitat are protected through a PCE. Following BOT approval of the overall land transaction, finalization of the life-of-the-mine permit issuance and land acquisition were completed on October 25, 2001. Jahna will actively manage the protected property; the BMR is the designated managing agency with monitoring responsibility.
- CE 9. The Pickle Wetland South Prong Alafia River (Kingsford Complex), approximately 44 acres in size, is currently owned by Mosaic. It was placed under a PCE to the DEP in April 2005 as a resolution to Consent Order 94-0661. The BMR is monitoring the mitigation requirements being undertaken by Mosaic.
- CE 10. The Charles David Grimes Property conservation easement tract, approximately 1,247 acres in size, is also located in northern Polk County in the core area of the Green Swamp Area of Critical State Concern. The BMR is the designated managing agency with monitoring responsibility.
- CE 11. Hooker's Prairie Southeast conservation easement was granted to the State by Seminole Fertilizer Corporation in 1990. The BMR is the designated managing agency with monitoring responsibility for this approximately 261-acre tract which is located south of Highway 630 in Polk County.

Acquisition

- A 1. The Southwest Florida Water Management District purchased the 3,535-acre site from Old Florida Plantation, Ltd in 2003 and later purchased an adjoining 590 acres of the eastern shore of Lake Hancock. SWFWMD is developing several projects to restore the water quality and functionality of this 4,519-acre lake as well as the entire Peace River system from the Green Swamp to Charlotte Harbor.

ADJACENT LANDS

Several significant federal, state, or local land and water resources are located within the IHN that will provide wildlife habitat, improved water quality, and connections between various river systems. These areas 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, and SWFWMD's Medard Park.

Other nearby existing or proposed public lands with significant land and water resources include: portions of the Green Swamp Area of Critical State Concern, Myakka River State Park, 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. Likewise, currently disjointed tracts within the IHN could be connected and enhanced by the States' acquisition of nearby parcels owned by various private or corporate landowners. The Polk County and Hillsborough County Land Acquisition Programs provide another means of preserving or protecting significant lands in the IHN.

Other tributaries to the Peace River that were historically impacted by mining operations are listed in the Nonmandatory Phosphate Reclamation Rules (Chapter 62C-17, Florida Administrative Code/Zellers-Williams Report incorporated) 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 BMR is working with private landowners to improve these important tributaries and their sub-basins.

Just as there are significant areas within and near the IHN that would benefit this system, there are 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 BMR-managed lands. The BMR is working with these adjacent property owners to ensure that lands within the IHN are protected and preserved for maximum public benefit.

PROPOSED IHN LANDS

Approvals of conservation easements/agreements for the Hooker's Prairie, South Fort Green, Ona/Fort Green, South Fort Meade, and South Pasture phosphate mines are under consideration in pending reclamation plans and permit applications. The boundaries of the lands to be included in the IHN in these easements will be defined and codified upon a date or event certain. Lands within other properties (Hardee County, Ona, and Pine Level phosphate mines) are undergoing pre-application considerations; portions of these lands may eventually be included in easements or agreements.

The BMR is also working with the DSL on pending donations from various companies. As with other State-acquired lands, these donated lands will be transferred to the BOT through normal DSL procedures and then leased by the DSL to an appropriate managing agency.

The Circle B-Bar Reserve was acquired jointly by the Polk County Environmental Lands Program and the SWFWMD to protect the floodplain of Lake Hancock and to restore the Banana Creek marsh. Restoration projects are planned for this marsh system which runs through the center of the reserve and a scrub area on the southern part of the property.

Restoration of the marsh system will help to restore the original hydrologic function of the area; restoration of the scrub will benefit wildlife that utilize both it and the marsh at various times during their life cycles.

Other areas of note that may become part of the Integrated Habitat Network through easement or agreement, deed restriction, donation, exchange, acquisition, or regulatory action include lands, among others, near McCullough Creek, Whidden Creek, Camp Meeting Ground Branch, the Peace River and the South Prong of the Alafia River.

CDA LANDS

As explained in *A Regional Conceptual Plan for the Southern Phosphate District of Florida* (published in July 1992) and the draft *Guidelines for the Reclamation, Management, and Disposition of Lands Within the Southern Phosphate District of Florida* (originally compiled in 1993), the overall goal for the phosphate district is a plan that incorporates: a) environmental, economic, and some political impacts; b) considers the drainage and hydrologic restoration, future land use, and critical habitat replacement for lands affected by phosphate mining; and, c) provides for wildlife corridor connections to outlying preserved lands, protection of regional water resources, and protection of non-intensive land uses. To achieve this, the plan will be based on the drainage basin or sub-basin with the stream channel (either mined or unmined) becoming the focal point. Moving out from the stream channel, the floodplain would be reclaimed to provide for annual flooding yet contain a 100-year flood event. Adjacent to the floodplain will be a buffer zone of habitats considered “critical” and in need of protection. In general, these reports recommend a progression from less intensive land uses near the floodplain to more intensive uses as the distance from the floodplain increases. Improved pasture, cropland, and citrus groves are among the semi-intensive and intensive land uses which will be situated as far as possible from the floodplains to limit adverse impacts. It is these semi-intensive and intensive land uses that comprise the Coordinated Development Area of the IHN/CDA concept. The integrated, flexible management approaches within these semi-intensive and intensive land uses will incorporate sustainable or best management practices that will benefit the biological and physical resources of the area.

Resources

When the various properties were leased to the BMR, there was little information available at the time regarding existing conditions on the parcels. Property boundaries were undefined, access to the sites was often restricted, off-site infringements were a continuing problem, the extent of renewable and non-renewable resources was unknown, and the presence of hazardous conditions resulting from phosphate-mining activities were just some of the problems in existence. The following is a description of what was known of the resources on the BMR-leased parcels in 2002.

Archaeological/Historical

Areas in the IHN that were merely clear-cut for timber or grazed by cattle may contain intact resources below the area of disturbance. However, high-impact activities, such as phosphate mining or power plant construction, likely had an adverse effect on any archaeological or historical resources that may have been present. During the development of the management

plan for the IHN, a review was conducted of the Division of Historical Resources' ("DHR") database for possible archaeologically sensitive areas in the lands managed by the BMR. Results indicated that recorded sites along the banks of the Peace River appeared to be lithic scatters and were probably not significant sites. Because of significant mining activities in the vicinity, it is not known if any of these sites still exist.

Data records for those portions of the IHN acquired by the State not leased to the BMR have not yet been reviewed by the DHR. The BMR recognizes the importance of Section 267.061, FS regarding the protection and interpretation of archaeological and historical sites and will adhere to DHR guidelines recommending conservation until the resources have been better addressed by the DHR.

Outstanding/Unique Natural Features

Because of the amount of human-related activity in this area, the greatest possibility for the presence of outstanding native landscapes with relatively unaltered flora, fauna, or geological conditions is in the southern portion of the mining district, not on the BMR leases. However, the BMR will continue to conduct field surveys and database reviews of its leases to identify and locate any remnant communities, populations, or natural features that may have gone undetected. The BMR will emphasize the protection and preservation of any outstanding or unique natural features that currently exist or which may be found on IHN lands within the realm of this management plan. Outstanding and unique natural features that are discovered on lands under review for development or impact will be protected through the Environmental Resource Permit process and associated long-term maintenance and protection mechanisms.

Soils/Minerals

The IHN is predominantly streams and rivers with adjacent floodplains and some isolated reclaimed uplands. The soils typically found in and near the Peace River in Polk County include Neilhurst sand, Nittaw sandy clay loam, Bradenton fine sand, Bradenton-Felda-Chobee association, and Chobee fine sandy loam. In Hillsborough County, the main soil type in the floodplain of the Alafia River was Winder fine sand. The phosphate mining, by-product disposal, and reclamation activities that occurred in some portions of the IHN resulted in 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 BMR has found no records of oil, gas, or remnant phosphate resources of economic importance in the BMR-managed portions of the IHN management plan area. The BMR has no plans to attempt to locate and/or use any resources that may be discovered. Phosphate and sand reserves do exist in various grades and quantities within areas under a PCE and/or Conservation Agreement; the easements and agreements state that there will be no exploration for or exploitation of mineral resources within the protected lands.

Water

Water resources in the IHN include natural rivers and streams, reclaimed lakes and streams, and unreclaimed mine cuts and clay settling areas created by phosphate mining activities. The predominant bodies of natural water in those areas of the IHN managed by the BMR are the Peace and Alafia Rivers and Bowlegs, Little Payne, Payne, and Horse 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 area are of varying quality but are considered Class III waters. BMR staff is working with state, regional, and local agencies and private landowners to restore the drainage basins and floodplains of Saddle, Six-Mile, McCullough, and Whidden Creeks and Camp Meeting Ground Branch that were adversely affected by phosphate mining in the area.

Except for the Jahna Ranch tract, which is within the Green Swamp Area of Critical State Concern, the tracts in the IHN are not within an aquatic preserve or designated Area of Critical State Concern nor are they under study for such designation. However, wetlands in the IHN provide important ecosystem functions (such as flood mitigation, storm abatement, aquifer recharge, and water quality improvement) and make the IHN extremely important to downstream waters that may be in an aquatic preserve or a designated Area of Critical State Concern. BMR management staff plans to protect and conserve water resources by employing site-specific management guidelines to address the varying conditions on the individual tracts within the IHN.

Vegetation/Land Uses

Vegetation and land use surveys are underway in the Coastal Settlement lands under lease to the BMR, but have not yet been conducted on the majority of the lands within the IHN. Consequently, aeriels (1994), LANDSAT maps (1986), and the Florida Land Use, Cover and Forms Classification System (1985) were used to identify possible habitat types present on the parcels. The generalized habitat types include: Urban and Built-Up (Extractive and Recreational); Agriculture; Rangeland; Upland Forest; Water; Wetlands; and Barren Land.

Detailed examinations of all the tracts within the IHN are needed to determine the habitat types and plant species that are actually present. BMR staff and/or private contractors who are familiar with the floral species of Florida have begun conducting site-specific surveys of the IHN lands, with emphasis on locating listed species. Results of these surveys will be used to develop site-specific management activities, including the use of nuisance and exotic species control, supplemental planting, timber harvests, and prescribed burns.

Fish/Wildlife

The Florida Natural Areas Inventory (“FNAI”) and Florida Fish and Wildlife Conservation Commission conducted database reviews of the BMR-leased portions of the IHN in April 1999. The FNAI database contained records of several wildlife species of interest either in or within one mile of the areas examined. The FNAI listed numerous Element Occurrence Records of several wildlife species of interest either within or near the approximate boundaries of the BMR leases along the Peace and Alafia River tracts. The FFWCC review of its species occurrence databases revealed no records of state or federally listed wildlife or plant species in these BMR-leased areas.

Site-specific surveys of lands in the IHN need to be conducted to determine the current existence and status of listed species, with the surveys to be conducted by individuals familiar with Florida's fauna. Results will be used to determine the appropriate management activities needed to protect and preserve the existing wildlife and enhance conditions to promote and sustain their presence on the property.

Land Uses

"Approved" land uses in the IHN that may have occurred or may still be occurring include: mining and reclamation, industrial (power plants), timbering, and agricultural (including livestock grazing, row crops, and citriculture) activities. "Unapproved" activities that previously occurred or may still be occurring on the property include: encroachment by adjacent property owners, hunting, trespassing, camping, fishing, vandalism, dumping, marijuana cultivation, off-road vehicle use, and illegal excavation and/or collection of archaeological relicts and listed plants.

The BMR, as the sole managing agency for the lands within the IHN that are leased to it, has designated "single use management" for the submerged lands and "multiple use management" for the remainder of the lands in accordance with Sections 253.034(a, b), FS. Submerged lands will be managed primarily to maintain essentially natural conditions, the propagation of fish and wildlife, and public recreation, with limited public recreation permitted at the discretion of the managing agency. Recreational activities, fish and wildlife habitat, agricultural and forested lands, archaeological and historic sites, and water resources will be managed so that they best serve the people of the State and provide the most judicious use of the land. Site-specific management decisions have been and will be predicated upon environmental, economical, recreational, sociological, and aesthetic issues.

At the BMR's request, the Polk County Planning Division conducted an analysis of the Integrated Habitat Network management plan and determined the plan to be in compliance with the goals, objectives and policies of the Polk County Comprehensive Plan. By ensuring the minimization or mitigation of impacts, promoting the restoration of regional drainage patterns and wildlife habitats within the post-mining landscape, and manage the natural riparian lands and adjacent reclaimed habitats provide regional water quality enhancement and wildlife corridor connectivity, it is the BMR's contention that this management plan also complies with the goals and objectives of the Conceptual State Lands Management Plan.

Expenses

Section 378.035(6)(a), Florida Statutes authorized the use of up to one-half of the interest income annually for basic management of lands within the IHN from the \$30 million reserved in the Nonmandatory Land Reclamation Trust Fund. This reserved amount was increased to \$50 million through legislation enacted by the Legislature and Governor in 2001. These monies are available to the DEP annually to fund basic management or protection of reclaimed, restored, or preserved phosphate lands: (1) which have wildlife habitat value as determined by the BMR; (2) which have been transferred by the landowner to a public agency or private, nonprofit land conservation and management entity in fee

simple, or which have been made subject to conservation easement; and, (3) for which other management funding options are not available. These funds may, after the basic management or protection has been assured for all such lands, be combined with other available funds to provide a higher level of management for such lands.

Other possible funding sources include Conservation and Recreation Lands, Florida Forever P2000, Department of Transportation, Charlotte Harbor National Estuary Program-Restoration Partners Grant, water management districts, acquisition programs, mitigation projects, and environmental organizations, depending on the intended use of the funds and the requirements of the organization. Potential revenue sources include payments for agricultural leases, natural gas pipeline leases, recreational user fees, timber leases, etc.

The Legislature and Governor approved a \$200,000 appropriation in the 2001/2002 Department of Environmental Protection's portion of the State budget. Basic land management activities scheduled in 2001/2002 for that appropriation included:

- Boundary determination, including surveys and marking;
- Physical land management, including fire guards, fencing, mowing, etc.;
- Equipment and supplies, including fuel, lubricants, hand tools, etc.;
- Part-time employee(s);
- Helicopter rental to conduct cursory aerial inspections to assist in prioritization of boundary determinations.
- Costs for training in exotic plant control and prescribed burning/fire control;
- Gates, chains, locks, and extra keys for fenced areas;
- Aerial photographs and topographic maps;
- Assistance with controlled burns by the Division of Forestry; and,
- Seed, plant stock, and fertilizers for the native plant nursery and reforestation areas.

Basic management activities conducted in the years following the initial appropriation have been similar to those carried out in 2001/2002.

An analysis of the potential use of contractor services for management and restoration activities was conducted as part of the development of this IHN management plan. The activities that were considered for outsourcing to private entities included: surveying, road development and maintenance, prescribed burning, vegetation inventories, timber harvesting activities, public contact and education, and exotic species control. Although some of these activities will be contracted, results of the analysis revealed that existing BMR personnel were extremely qualified to perform the majority of the required land management activities on the IHN lands. In fact, BMR staff has conducted prescribed burns, GIS/GPS surveys of existing resources, exotic species control operations, and hosted educational opportunities for the public on its leased properties. Other measures that have been considered and implemented wherever possible to minimize the costs of basic land management activities include: fencing only those areas where infringements from off-site sources continue to occur; minimizing the use of boundary markers wherever possible (such as along boundaries of state- or county-owned or -managed lands); and, using volunteers whenever possible and appropriate in maintenance and monitoring activities.

BMR staff possesses considerable education and experience in land management as well as numerous other disciplines. The “core” of the BMR land management group in Tallahassee is comprised of highly skilled personnel who are directly involved in plan development, contract supervision, regulatory oversight, and property additions to the IHN. The “support” group of highly experienced BMR employees in the Homeland location concentrates on providing the practical but highly important management activities on its leased properties, such as conducting prescribed fires, controlling nuisance and exotic vegetation, growing and promoting the use of native plant species, mowing, fencing, conducting storm clean-up efforts, etc. The BMR employees in Homeland also assist the Tallahassee staff with the responsibilities and duties of the Mandatory Phosphate, Mandatory Nonphosphate, Nonmandatory Reclamation, and Financial Responsibility Sections. The BMR land management group in Homeland provides informed assistance with management tasks for leased properties, DSL records experience, GIS support, and considerable State Lands, budgetary, and legislative guidance and support. In those areas where outside assistance may be required for restoration or management activities, the Homeland-based BMR land management staff also has access to and is part of an extensive network of land managers throughout the phosphate-mining region and the State who can provide additional information and assistance upon request. Cooperative efforts with local agencies and environmental groups have been employed on numerous occasions by BMR staff in Homeland for management activities on IHN lands.

Management Issues

The *Management Plan for the Integrated Habitat Network: Lease Nos. 3963 and 3995* was originally published in 2002. Five significant issues affected the tracts of land leased to or being monitored by the BMR. Since then, the BMR staff has identified a sixth issue, which will be addressed in this management plan revision. Since these issues also pertain to other tracts within the IHN not leased to the BMR, they either have been or will need to be addressed in those areas as well. These issues are:

- Undefined property boundaries, restricted site access, and continuing infringement from off-site sources on leased lands;
- Unknown types and locations of renewable and non-renewable resources on leased lands;
- Existence of hazardous conditions and associated safety concerns due to previous on-site mining activity;
- Absence of guidelines for optimal development for environmental and economical use of leased lands;
- Lack of public awareness and use of the Integrated Habitat Network/Coordinated Development Area; and,
- Incorporating the IHN concept into land use review processes of other agencies.

BMR land management staff at the Homeland Office has made significant progress in addressing and resolving these management issues during the past several years. The BMR’s

updated plans to address these management issues on its leased properties and other areas within the IHN are outlined below.

ISSUE 1: DEFINITION AND PROTECTION OF PROPERTY IN IHN

When the IHN management plan was first published in 2002, property boundaries around most of the BMR-managed tracts had not been delineated, marked by signs, or fenced. Access onto many of these properties was obstructed or non-existent. Encroachment from adjacent landowners and individuals was a common occurrence. The BMR's initial needs upon acquisition of these leases were the definition and protection of property boundaries.

A land surveying company under state contract with the DSL was engaged in 2002 to survey property boundaries of the BMR-managed IHN lands. To date, boundary delineation has been completed in the majority of the BMR-managed Coastal Settlement tracts on the North Prong of the Alafia River and the Peace River. For those BMR-leased tracts where property definition has not yet been completed, BMR staff will continue to assess the need for delineation and ensure this work is completed within the next few years by private firms under contract with the DSL.

Signs stating Integrated Habitat Network lands are '**Managed for the Environment in Cooperation with Landowners**' were designed and produced in 2002. These signs have been installed along the boundaries of the following BMR-managed Coastal Settlement tracts: Little Payne Creek, North Prong of the Alafia River, Clear Springs, and Homeland. BMR staff will continue to install or supervise the installation of markers denoting those areas as part of the Integrated Habitat Network along property boundaries accessible by the public.

BMR staff has coordinated with adjacent landowners and has made significant progress in improving access to IHN lands where it was previously limited or non-existent in order to carry out management and monitoring activities. In areas where unauthorized access to BMR-leased lands has been or continues to be a problem, fencing has been installed or repaired and/or security gates and locks installed at access points. BMR staff will continue to conduct frequent inspections of tracts to detect unauthorized infringements and will continue to work with the FFWCC, the Polk County Sheriff's Office, and DEP's Division of Law Enforcement in the investigation and prosecution of any illegal encroachment on these parcels of land.

ISSUE 2: DEFINITION AND PROTECTION OF RESOURCES WITHIN IHN

Distinct archaeological or historical resources, outstanding or unique natural features, atypical soils or minerals, diverse water resources, and listed animal or plant species and the habitats that might support them are all likely to be present on the IHN lands. However, in the absence of more definitive field surveys and data reviews, the existence, extent, and location of these resources could only be speculated. More definitive information about any existing non-renewable and renewable resources was needed for the development of specific guidelines in the conservation and preservation of these assets.

BMR staff began to address this issue in 2003 using GIS/GPS to comprehensively map locations of exotic plant infestations, water sources, archaeological features, potential habitats of listed species, and other points of interest relative to the management of the property.

Archaeological/Historical

The field surveys and resource mapping have revealed several interesting discoveries within the BMR-managed IHN tracts. One of these sites is Kissengen Spring, located on the west side of the Peace River south of Bartow. Flow from the spring ceased many years ago but an upwelling appeared in Kissengen Spring in January 2006 and remained visible for several weeks after. Though the exact cause of this “boil” is as yet undetermined, the BMR will continue to assist the U.S. Geological Survey (“USGS”), SWFWMD, and Polk County with the investigation of this phenomenon. The second historical resource site was discovered by BMR staff in 2004 and later added to the Department of State’s Master Site File. The site is a rock weir constructed by Native Americans (probably used to concentrate fish for harvesting) located on the Peace River in the vicinity of Ft. Meade.

To date, resource mapping in the northern tract of the Peace River has been completed on the areas designated Clear Springs and Homeland tracts. Resource mapping will continue in other BMR-managed lands within the IHN. BMR staff will continue to work with the DHR and other agencies in the conservation and preservation of archaeological/historical resources and outstanding/unique natural features on IHN lands.

Outstanding/Unique Natural Features

Although there is little possibility of outstanding native landscapes with relatively unaltered flora, fauna, or geological conditions on the BMR-managed leases, the BMR will continue to conduct field surveys and database reviews of its leases to identify and locate any remnant communities, populations, or natural features that may have gone undetected up until now. The BMR will emphasize the protection and preservation of any outstanding or unique natural features that currently exist or which may be found on IHN lands within the realm of this management plan. Any outstanding and unique natural features on lands being considered for lease to the DEP/BMR will be protected through the Environmental Resource Permit process and the long-term maintenance and protection mechanisms arising from this process.

Soils/Minerals and Water

Plans to protect and conserve land and water resources on the IHN need to incorporate aspects for both natural, undisturbed areas as well as those for mined, disturbed lands. Best Management Practices currently exist for the management of many natural areas and agricultural lands, but BMPs and site-specific management guidelines for reclaimed lands still need to be addressed and developed.

SWFWMD began Total Maximum Daily Load and Minimum Flows and Levels studies as well as exploring other research endeavors on the Upper Peace River hydrology in late 2003. BMR land management staff joined with SWFWMD, the USGS, and the DEP Bureau of Watershed Management in this effort. BMR staff also assisted Charlotte Harbor National

Estuary Program, SWFWMD, and Polk County Natural Resources in the collection of water samples from area tributaries in the aftermath of Hurricane Charley to study flow patterns and water quality differences of surface and groundwater along the Peace River. The BMR also plans to coordinate with agencies such as U. S. Department of Agriculture-Natural Resources Conservation Service (“NRCS”), soil and water conservation districts, water management districts, and cooperative extension services regarding BMPs for soil erosion control and water resource management. By working with cooperative extension services to determine Integrated Pest Management Programs for lands within the IHN, BMR staff will be able to employ BMPs for pesticide and fertilizer use on BMR-managed lands to minimize or avoid adverse impacts to surface and ground waters. Appropriate water conservation BMPs will also be used on individual tracts of IHN, as needed. Information collected from these studies will be incorporated into the Peace River Cumulative Impact Study/Resource Management Plan, currently under development by the BMR in conjunction with SWFWMD.

Vegetation/Land Uses and Fish/Wildlife

In August 2005 the FFWCC and DEP executed a Memorandum of Agreement (“MOA”) for the coordination of conservation issues related to permitting, reclamation and management on lands affected by mining. Under this MOA, these two agencies will work together to conserve and protect water resources and wildlife within the IHN. While maintenance and enhancement activities such as prescribed fires, exotic species control, and planting food species for wildlife have been performed by these agencies in the past, the MOA will increase the efficacy of management activities aimed toward improving habitats for wildlife. A link to this document is available on <http://www.dep.state.fl.us/water/mines/ihn/index.htm>.

Several threatened and regionally rare species have been found on IHN lands by BMR staff during its resource surveying efforts. BMR staff will continue to carry out resource mapping and surveying on IHN lands to obtain more information about existing resources and use it to develop adequate guidelines and schedules for maintenance and enhancement activities needed to protect and preserve these resources.

ISSUE 3: IMPROVEMENTS TO IMPACTED AREAS WITHIN IHN

Phosphate mining began in central Florida in 1800’s and several of the parcels in the Integrated Habitat Network have been impacted at one time or another by mining or mining-related activities. Mining debris is still present on some of these properties and presents safety concerns for the public and impediments to beneficial wildlife habitat. Lands mined prior to July 1, 1975 were not required by the State to be reclaimed and there are areas within the IHN in this condition. Some of the mined or disturbed areas that were reclaimed but not actively managed since their release from State reclamation requirements have become dominated by nuisance or exotic species.

A major effort to reclaim one of these impacted areas is currently underway on the BMR-managed Homeland tract. An Environmental Resource Permit was issued to the DWRM by SWFWMD in 2003 to initiate reclamation activities on Nonmandatory Reclamation Parcel MCC-FM-06. Testing of surface water leaving MCC-FM-06 began in the summer of 2003 and work has progressed to the point where earthmoving and revegetation are well underway.

By early 2006, earthmoving activities in this parcel were approximately 80% complete; reclamation activities in this parcel are expected to be completed in the near future.

The restoration of the ecological and hydrological functions in the heavily mined Saddle Creek and the Upper Peace River watershed is another ambitious project initiated by the BMR. In 1995, a Memorandum of Understanding, signed by the DEP, U.S. Army Corps of Engineers, SWFWMD, DOT, and Florida Game and Freshwater Fish Commission (now the FFWCC), was the impetus for the project. Of the four potential alternatives originally considered, one was eventually selected following the completion of modeling studies as the route for surface water flow through the Tenoroc Fish Management Area. Deemed a key element in the success of the restoration project, surface water flow will be of paramount importance in the selection, placement and success of mitigation wetlands at TFMA and the completion of reclamation activities on various Nonmandatory Reclamation Programs at the site (details can be seen at <http://www.dep.state.fl.us/water/mines/upr/index.htm>). A contract with a private company was executed with the State on June 26, 1998; reclamation activities have been underway since then and are expected to be completed within the next several years.

In other areas of the IHN, BMR staff has mapped the location of old mining debris along portions of the Peace River and worked with phosphate companies to enhance the property by removing the debris from several areas. BMR staff will continue to work with landowners, consultants, phosphate industry representatives, and other agency personnel to determine areas in need of reclamation, potential sources of funding for reclamation activities, and in the development of reclamation plans for those areas in the IHN with secured funding.

ISSUE 4: DEVELOPMENT OF BMPs FOR IHN/CDA LANDS

Management plans to protect and conserve land resources on the IHN need to incorporate aspects for both natural, undisturbed areas as well as those for mined or disturbed lands. It has become apparent that existing BMPs for unmined lands, such as those for forests, cattle, construction, citrus, water quality, etc. are inadequate when applied to mined and reclaimed lands, especially those reclaimed for environmental purposes. The massive impacts that occur in an area during phosphate mining can significantly hamper the success of reclamation efforts. Soils are drastically altered through the removal of natural soil layers and the introduction of waste sands or clays, important soil microorganisms are depleted or destroyed, and wetlands, streams, and water bodies that were eliminated or severely impacted by mining activities are likely replaced by mine pits or created wetlands and water bodies with different substrates, drainage patterns, and locations. BMPs designed specifically for mined lands reclaimed for environmental and agricultural purposes need to be developed, tested, and compiled for use throughout the phosphate mining district in order to better protect IHN lands.

The BMR has been working with various entities in the development of BMPs for mined lands reclaimed to environmental habitats, including:

- Coordinating the planning of prescribed burns with owners of lands adjacent to the North Peace River tract to better manage the reclaimed shrub marsh and floodplain forest;
- Cooperating with the NRCS, University of Florida-Institute of Food and Agricultural Sciences (“IFAS”), area native plant nurseries, Florida Native Plant Society, and various phosphate companies regarding the construction and operation of a native plant nursery at the Homeland tract to study and develop native species to be used in phosphate mine reclamation;
- Supporting Florida Institute of Phosphate Research (“FIPR”) and IFAS staff in the development of a study on the interaction between native plants and cogongrass in a former clay settling area;
- Improving wildlife corridor functionality in conjunction with greenways used for recreational purposes;
- Coordinating with FFWCC, FIPR, DOT, IFAS, and the U.S. Fish and Wildlife Service to determine enhancement actions, such as the planting of native food and cover species, the control of nuisance and exotic species, appropriate use of pesticides and fertilizers, etc. on reclaimed lands;
- Encouraging research on wildlife on reclaimed lands, headwaters and hydrology restoration, etc.; and,
- Continuing efforts at Homeland to promote the use of native vegetation through the development of its nursery for the propagation of native plant seeds and seedlings and offering the plant material to phosphate companies for use on reclamation projects.

BMR staff will continue with these efforts and initiate others to further the development of these BMPs for lands reclaimed to environmental and agricultural/silvicultural uses.

While some phosphate mined land is reclaimed to environmental land use, the majority is reclaimed to an agricultural land use. The BMR has been promoting research on lands reclaimed for agricultural purposes through coordinated efforts with other groups, including:

- Assisting researchers from IFAS with a study of vegetation filter strips at the Homeland tract;
- Supporting FIPR and IFAS staff research on commercial tree crops on phosphate-mined lands on a clay settling area near the Homeland tract (<http://trees.ifas.ufl.edu>); and,
- Working with the Federal Emergency Management Agency, the city of Bartow, and Polk County in the use of mulch from hurricane storm debris by incorporating it as a soil amendment.

Since the predominant post-reclamation land use is agriculture-related, the BMR began promoting in 2002 the development of a Mined Lands Agricultural Research and Education Center (“MLRC”) to address various uses of reclaimed lands for semi-intensive and intensive agriculture. Proposed research would include appropriate cattle stocking rates, grazing management, the use of controlled grazing/prescribed fire/integrated pest management, and other areas of interest in agricultural-related uses of reclaimed lands. The MLRC would be developed as a reclamation and environmental education facility that could be used to

develop BMPs for phosphate mine reclamation activities, serve to educate the public about the phosphate industry, and serve as part of a larger regional environmental education center (proposed research into agricultural uses on reclaimed lands would be conducted with the attainment of Minimum Flows and Levels, Water Conservation and Re-Use, Total Minimum Daily Limits, and nutrient recycling as the primary objectives). In early 2006, the mined lands research center is in initial development; documents by the MLRC Ad Hoc Committee are available through links on <http://www.dep.state.fl.us/water/mines/ihn/index.htm>.

ISSUE 5: PUBLIC AWARENESS AND USE OF IHN/CDA LANDS

Since the inception of the Integrated Habitat Network management plan in 2002, the BMR has expended a great deal of effort in promoting the idea to industry representatives, agency employees, and environmental groups. BMR staff has joined with representatives from other agencies to offer meetings, visual displays, documents, lectures, field trips, etc. in an effort to increase the general public's knowledge and understanding about the IHN concerns, needs, and accomplishments. Several examples include:

- Participating in numerous festivals and educational demonstrations throughout the area to inform attendees of the IHN and BMR management practices;
- Publishing *Reclamation-Mitigation-Management Methodologies and Topics for Mined Lands: Volume 1* to increase comprehensive knowledge of land management issues;
- Giving presentations to interested parties at schools, environmental groups, government agencies, industry representatives, etc. about the IHN;
- Producing and maintaining a website with periodic updates of management goals, issues, and activities within the BMR-managed portions of the IHN; and,
- Hosting field and canoe trips along the Peace River to educate groups about the work being done by the BMR along the river and acquaint them with the IHN concept.

Future educational efforts might include organizing volunteers to assist with resource management projects on BMR-leased lands, such as conducting resource inventories, monitoring vegetation or wildlife population changes in response to management activities, mapping exotic/nuisance species, etc. BMR assistance with other avenues of environmental education, such as creating information kiosks for trails, assisting with field trips, offering presentations, etc., would also serve to promote the IHN concept to the public. Promoting programs that provide funding for organizations which create/maintain greenways and trails systems with in-kind services and volunteer hours, such as the Recreational Trails Program, DuPont Awards Program, the Forest Service's Florida National Scenic Trail cost-share program, Florida Recreational Development Assistance Program, etc. would serve to promote the IHN. Developing volunteer organizations with the Florida Trail Association, the Florida Canoe and Kayak Association, the Audubon Society, etc. to construct and maintain areas to be used by the public would also give the BMR a means to educate the public about the IHN concept.

While the main focus of the management plan is on maintaining lands for wildlife habitat, water quality and quantity, and riparian connections, there is also interest in providing limited areas of the IHN for public use. Except for portions of the Alafia River State

Recreation Area tract, the current level of public use in the IHN is extremely low. Numerous areas, such as the sensitive floodplain wetlands, lands that may contain archaeological or historical resources, wildlife habitat, or geological sites, will not be able to support unrestricted public use. Other 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, some areas may be capable of supporting recreational, educational, and limited agricultural activities. Until it can be determined exactly what resources and conditions exist on these lands, it is in the best interests of the public and the State to restrict recreational use on the BMR-leased lands. Restrictions and requirements of leases and agreements, the type and extent of proposed public use, and results of vegetation and wildlife surveys would be used in the determinations for or against public use on a parcel of land. The DEP is aware of the need to facilitate public access to State lands in portions of the IHN, provided that this increased use does not compromise the original conservation intent of the IHN property. As the need for more human-intensive uses of these lands increases, the BMR will work with land management agencies to ensure compatibility of use and may relinquish management of portions of the IHN as appropriate on a site-specific basis. The BMR has worked with local government land acquisition departments regarding priority lists for acquisitions that will simultaneously benefit the county and the IHN. The BMR is also coordinating with local organizations and agencies in the development of Nonmandatory Reclamation Program lands for horseback, off-road bicycling, all-terrain vehicles, and other high impact public recreational uses.

ISSUE 6: IHN/CDA CONCEPT INCLUDED IN AGENCY REVIEWS

Current emphasis in the State is to increase coordination among the various government agencies involved in permit reviews, with the goal being to eliminate duplicate efforts, present uniform permit requirements to stakeholders, and improve efforts at natural resource conservation, reclamation, land use, etc. through enhanced policies and regulations. Legislative initiatives and cooperative efforts between local, county, state, federal, and regional agencies have resulted in a more comprehensive view of conservation and protection of IHN/CDA lands beyond the wetland permitting and reclamation emphasis that occurred in the past. Cumulative impact studies are determining changes that have occurred in the southern phosphate mining district, primarily as a result of agriculture, mining, and urbanization, and the efficacy of previous and current regulatory and non-regulatory efforts. Resource management plans are being produced that can lead to recommendations for an improved regulatory framework that will minimize or eliminate these adverse impacts to the environment. Consistency in the regulatory and non-regulatory requirements will make the public better able to understand the need for such legislation as well as more willing to comply or assist with the protection efforts.

Conclusion

The BMR developed the IHN concept in the early 1990's as a guide to assist the phosphate industry with reclamation, enhancement, and management activities on lands within the southern mining district. In 2002, the BMR formalized its guidelines when it published the *Management Plan for the Integrated Habitat Network: Lease Nos. 3963 and 3995* to coordinate basic management activities for long-term protection of the greenways/wildlife corridors, wildlife habitat, and riparian buffers within the Integrated Habitat Network. This

management plan, revised in 2006 as *Management Plan for the Integrated Habitat Network/Coordinated Development Area: Lease Nos. 3963, 3995, and 4236*, incorporates the developments that occurred following the publication of the original plan. The BMR has been the leading force behind the presentation of the IHN concept to the phosphate industry, the public, and other agencies to foster understanding, cooperation, and voluntary participation in the program. Through the BMR's efforts, the IHN concept has gained wide acceptance and virtually unanimous implementation in the phosphate-mining industry as a blueprint for reclamation and preservation activities on mine properties.

The BMR itself is currently responsible for several disjunct parcels of mined and unmined lands in the Integrated Habitat Network that were acquired by the State through settlement agreements or donations and then leased to the BMR for management and protection. The BMR-leased parcels are a complex mixture of lands primarily within and adjacent to the floodplains of the Peace and Alafia River systems that contain diverse habitats and wildlife, different lease and agreement requirements, and assorted management and monitoring needs. The linear, diffuse nature of the IHN is not compatible with the current management philosophies and strategies of other land management agencies and sections of the DEP, especially when all the conditions and requirements for these IHN lands are considered. The BMR's regulatory presence and familiarity with the central Florida phosphate mining district, as well as the commitment and experience of its staff, render it uniquely qualified for the protection and production of vital greenspace within a rapidly urbanizing area.

In addition to being committed to providing basic management and protection of corridors and buffers within the IHN and southern mining region, the BMR is also committed to the development BMPs specific for mined lands reclaimed for environmental purposes, the development of a research/education center to address the use of reclaimed lands for semi-intensive and intensive agriculture, increasing public awareness and understanding of the benefits and goals of the Integrated Habitat Network/Coordinated Development Area, and the inclusion of the IHN/CDA concept by other agencies into land use review policies and procedures.

Lands in the IHN are predominantly stream and rivers with adjacent floodplains and some isolated reclaimed uplands, generally not appropriate for public use. However, as the public seeks additional venues for recreation, the BMR may relinquish its intensive habitat-related management activity to other land management agencies or branches within the DEP for human activity after ensuring the proposed land use's compatibility with the IHN vision.

With the BMR's long history of land management and planning, the integral nature of the IHN conceptual reclamation plan for the southern phosphate district, and legislative authorization for the BMR to provide basic management of lands included in the IHN, the BMR is committed to providing long-term "basic management" for the protection of corridors, habitat, and buffers as critical functions of the IHN. The DEP's endorsement of the BMR's efforts in the Integrated Habitat Network/Coordinated Development Area provides further support of the BMR's role in active land management.

Acknowledgements

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The authors would like to thank all the landowners, agency representatives, concerned citizens, and consultants who have assisted the Bureau of Mine Reclamation in so many ways throughout this endeavor and look forward to their continued support. We would also like to thank the numerous staff members of the Bureau of Mine Reclamation, both in Tallahassee and Homeland, who have dedicated significant time and effort to this undertaking.

In Memoriam

William H. "Bill" Hawkins, Jr. (1949-2005): Bill Hawkins was much more than a long-time professional colleague. He was also a good friend. Bureau staff that had the opportunity to work with and know Bill believe themselves fortunate. We miss Ol' Bill everyday, but will always feel his presence when in the field.

Bill was born in Polk County to a farming family – farming and the land were in his blood and soul. He began his professional career with Zellers-Williams, Inc, and was involved in the Evaluation of Lands Mined for Phosphate prior to June 30, 1975. In other words, he was there at the start of Mine Reclamation as we now know it. Subsequently, Bill worked as the Reclamation Manager for Mobil Mining & Minerals Company and Agrifos, L.L.C.; and was known for his willingness to try or invent innovative reclamation techniques. After a lengthy career with the mining industry, Bill went to work with the Bureau of Mine Reclamation, in charge of the Homeland Field Office. Several months prior to his death, Bill returned to working the land in the capacity of a Land Manager with Cargill Fertilizer, Inc.

A “Florida Cracker” in the best sense of the term, Bill always exhibited an old-school understanding of right and wrong, love of family and friends, and unrelenting dedication to the land. Bill loved to read about and discuss Florida history, farming, and cattle ranching. The Native Plant Nursery at the Homeland Office is in most part thanks to Bill and “the itch he always needed to scratch”. Known to borrow, scrounge, and collect “antique” farming equipment (aka Junk), Bill nevertheless always found a way to scratch the itch, and instill it in others.

We were born too late, Old Friend – and you are gone from us too soon! (A Fellow Cracker)

Advisory Committee (2001/2002)

Lead Managing Agency

Bud Cates – DEP BMR

Janine Callahan – DEP BMR

Bill Hawkins – DEP BMR

Private Landowner

Dee Allen - IMC Phosphates Company

Leah Lauderdale – Farmland Hydro L.P.

Tom Myers – Cargill Fertilizer, Inc.

Jim Sampson – CF Industries, Inc.

Phong Vo – U.S. Agri-Chemicals Corp.

Lou Roeder – Old Florida Plantation, Ltd.

Lou Farless – Clear Springs Land Development Co.

C.B. Myers III (Corby) – E.R. Jahna Industries, Inc. / The Rupp Trust

Local Elected Official

Hon. Neal Combee – Polk County Board of County Commissioners

Hon. Bill Lambert – Hardee County Board of County Commissioners

Hon. John Laurent – Florida Legislature, Senate District 17

Soil and Water Conservation District

David Hafer – Polk County Soil and Water Conservation District

Environmental Organizations

Janet Jackson – The Green Horizon Land Trust

Ann Paul – Audubon of Florida

Andy Clewell – A.F. Clewell, Inc.

Ernie Caldwell – Florida Stewardship Foundation

At Large

Marlene Duffy-Young – Non-Mandatory Land Reclamation Committee

Sally Thompson – Hillsborough County Environmental Lands Acquisition & Protection Program

Estus Whitfield – Natural Future Foundation

Acronyms

Acronym	Explanation	Page First Used
BMP	Best Management Practice	9
BMR	Bureau of Mine Reclamation (Division of Water Resource Management)	4
BOT	Board of Trustees of the Internal Improvement Trust Fund	5
CDA	Coordinated Development Area	5
Coastal Settlement	Coastal Petroleum Litigation Settlement Agreement	5
Cytec	Cytec Brewster Phosphates, Inc.	8
DEP	Department of Environmental Protection	4
DHR	Division of Historical Resources (Department of State)	14
DOT	Department of Transportation	7
DRP	Division of Recreation and Parks (Department of Environmental Protection)	6
DSL	Division of State Lands (Department of Environmental Protection)	5
DWRM	Division of Water Resource Management (Department of Environmental Protection)	5
FFWCC	Florida Fish and Wildlife Conservation Commission	7
FIPR	Florida Institute of Phosphate Research	23
FNAI	Florida Natural Areas Inventory	15
FPC	Florida Power Corporation	10
FS	Florida Statute	4
GIS/GPS	Global Information System/Global Positioning System	8
IFAS	Institute of Food and Agricultural Sciences (University of Florida)	23
IHN	Integrated Habitat Network	5
IMC	IMC Phosphates Company	8
Jahna	E.R. Jahna Industries, Inc.	11
MLRC	Mined Lands Agricultural Research and Education Center	23
MOA	Memorandum of Agreement	21
Mobil	Mobil Mining and Minerals Company	8
Mosaic	Mosaic Phosphates, Inc.	9
NRCS	Natural Resources Conservation Service (U.S. Department of Agriculture)	21
PCE	Perpetual Conservation Easement	7
PRCIS/RMP	Peace River Cumulative Impact Study/Resource Management Plan	7
SWFWMD	Southwest Florida Water Management District	7
TFMA	Tenoroc Fish Management Area	7
USGS	U.S. Geological Service	20