

A Management Plan for
Lake Tohopekaliga Islands Complex
2018 - 2028



Osceola County, Florida

Florida Fish and Wildlife Conservation Commission
620 South Meridian Street
Tallahassee, Florida 32399-1600



Florida Department of Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

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Lt. Governor

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Secretary

April 20, 2018

Mr. Thomas Houston
Florida Fish and Wildlife Conservation Commission
620 South Meridian Street
Tallahassee, FL 32399-1600

RE: Lake Tohopekaliga Islands Complex - Lease No. 4270 and 2323

Dear Mr. Houston:

On **April 20, 2018**, the Acquisition and Restoration Council (ARC) recommended approval of the **Lake Tohopekaliga Islands Complex** management plan. Therefore, Division of State Lands, Office of Environmental Services, acting as agent for the Board of Trustees of the Internal Improvement Trust Fund, hereby approves the **Lake Tohopekaliga Islands Complex** management plan. The next management plan update is due April 20, 2028.

Pursuant to s. 253.034(5)(a), F.S., each management plan is required to "describe both short-term and long-term management goals, and include measurable objectives to achieve those goals. Short-term goals shall be achievable within a 2-year planning period, and long-term goals shall be achievable within a 10-year planning period." Upon completion of short-term goals, please submit a signed letter identifying categories, goals, and results with attached methodology to the Division of State Lands, Office of Environmental Services.

Pursuant to s. 259.032(8)(g), F.S., by July 1 of each year, each governmental agency and each private entity designated to manage lands shall report to the Secretary of Environmental Protection, via the Division of State Lands, on the progress of funding, staffing, and resource management of every project for which the agency or entity is responsible.

Pursuant to s. 259.032, F.S., and Chapter 18-2.021, F.A.C., management plans for areas less than 160 acres may be handled in accordance with the negative response process. This process requires small management plans and management plan amendments be submitted to the Division of State Lands for review, and the ARC for public notification. The Division of State Lands will approve these plans or plan amendments submitted for review through delegated authority unless three or more ARC members request the

division place the item on a future council meeting agenda for review. To create better efficiency, improve customer service, and assist members of the ARC, the Division of State Lands will notice negative response items on Thursdays except for weeks that have State or Federal holidays that fall on Thursday or Friday. The Division of State Lands will contact you on the appropriate Friday to inform you if the item is approved via delegated authority or if it will be placed on a future ARC agenda by request of the ARC members.

Pursuant to s. 259.036(2), F.S., management areas that exceed 1,000 acres in size, shall be scheduled for a land management review at least every 5 years.

Approval of this land management plan does not waive the authority or jurisdiction of any governmental entity that may have an interest in this project. Implementation of any upland activities proposed by this management plan may require a permit or other authorization from federal and state agencies having regulatory jurisdiction over those particular activities. Pursuant to the conditions of your lease, please forward copies of all permits to this office upon issuance.

Sincerely,



Raymond V. Spaulding
Chief, Office of Environmental Services
Division of State Lands
Department of Environmental Protection

A Management Plan
for the
Lake Tohopekaliga Islands Complex

Osceola County, Florida

Owned by the Board of Trustees of the Internal Improvement Trust Fund Managed by
the Florida Fish and Wildlife Conservation Commission and Osceola County



December 2017

Approved

Tom Champeau

Director, Division of Freshwater Fisheries Management

LAND MANAGEMENT PLAN EXECUTIVE SUMMARY

Lead Agency: Florida Fish and Wildlife Conservation Commission (FWC)

Common Name of Property: Lake Tohopekaliga Islands Complex

Location: Osceola County, Florida

Acreage Total: 236 acres

Acreage Breakdown:

<u>Land Cover Classification</u>	<u>Acres</u>	<u>Percent of Total Area</u>
Cypress/Tupelo	25.86	8.3
Freshwater Marshes	26.85	8.7
Mixed Hardwood-Coniferous	32.83	10.6
Mixed Hardwood Wetlands	45.01	14.5
Prairies and Bogs	15.83	5.1
Ruderal	10.26	3.3
Rural	77.58	25
Successional Hardwood Forest	22.93	7.4
Upland Hardwood Forest	53.25	17.2

*GIS-calculated acreage for land cover classification varies slightly from actual total acreage.

Lease/Management Agreement No.: 4270 and 4323 (Appendix 12.1 and 12.2)

Use: Single _____ Management Responsibilities:
 Multiple X Agency FWC Responsibilities
LEAD, LESSEE, SUBLESSEE,

Designated Land Use: Conservation and Recreational

Sublease (s): None

Encumbrances: None

Type Acquisition: Fish and Wildlife Habitat Program

Unique Features: Natural: Natural communities including upland and successional hardwood forest, mixed hardwood-coniferous and wetlands, cypress/tupelo, and freshwater marshes. Majority of area surrounded by Lake Tohopekaliga.

Archaeological/Historical: One documented within LTIC, and was destroyed by Hurricane Charley in 2004.

Management Needs: Habitat restoration and improvement; public access and recreational opportunities; hydrological preservation and restoration; exotic and invasive species maintenance and control; imperiled species habitat maintenance, enhancement, and restoration.

Acquisition Needs/Acreage: None

Surplus Lands/Acreage: None

Public Involvement: Management Advisory Group consensus building meeting and Public Hearing (Appendix 12.5)

DO NOT WRITE BELOW THIS LINE (FOR DIVISION OF STATE LANDS USE ONLY)

ARC Approval Date _____ BTIITF Approval Date: _____

Comments: _____

Land Management Plan Compliance Checklist

Required for State-owned conservation lands over 160 acres

Section A: Acquisition Information Items

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
1	The common name of the property.	18-2.018 & 18-2.021	ii, 1
2	The land acquisition program, if any, under which the property was acquired.	18-2.018 & 18-2.021	3, 4
3	Degree of title interest held by the Board, including reservations and encumbrances such as leases.	18-2.021	3-5
4	The legal description and acreage of the property.	18-2.018 & 18-2.021	ii, 1, 3, Appendix 12.1 and 12.2
5	A map showing the approximate location and boundaries of the property, and the location of any structures or improvements to the property.	18-2.018 & 18-2.021	8-11; 75
6	An assessment as to whether the property, or any portion, should be declared surplus. <i>Provide information regarding assessment and analysis in the plan, and provide corresponding map.</i>	18-2.021	36-37
7	Identification of other parcels of land within or immediately adjacent to the property that should be purchased because they are essential to management of the property. <i>Please clearly indicate parcels on a map.</i>	18-2.021	57-60
8	Identification of adjacent land uses that conflict with the planned use of the property, if any.	18-2.021	6-7
9	A statement of the purpose for which the lands were acquired, the projected use or uses as defined in 253.034 and the statutory authority for such use or uses.	259.032(10)	3
10	Proximity of property to other significant State, local or federal land or water resources.	18-2.021	5-6; 11

Section B: Use Items

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
11	The designated single use or multiple use management for the property, including use by other managing entities.	18-2.018 & 18-2.021	35-36
12	A description of past and existing uses, including any unauthorized uses of the property.	18-2.018 & 18-2.021	32-34
13	A description of alternative or multiple uses of the property considered by the lessee and a statement detailing why such uses were not adopted.	18-2.018	35-36
14	A description of the management responsibilities of each entity involved in the property's management and how such responsibilities will be coordinated.	18-2.018	4-5; 59
15	Include a provision that requires that the managing agency consult with the Division of Historical Resources, Department of State before taking actions that may adversely affect archeological or historical resources.	18-2.021	32, 56, 59, 69

16	Analysis/description of other managing agencies and private land managers, if any, which could facilitate the restoration or management of the land.	18-2.021	45-57, 59
17	A determination of the public uses and public access that would be consistent with the purposes for which the lands were acquired.	259.032(10)	33-36
18	A finding regarding whether each planned use complies with the 1981 State Lands Management Plan, particularly whether such uses represent “balanced public utilization,” specific agency statutory authority and any other legislative or executive directives that constrain the use of such property.	18-2.021	35-36
19	Letter of compliance from the local government stating that the LMP is in compliance with the Local Government Comprehensive Plan.	BOT requirement	Appendix 12.13
20	An assessment of the impact of planned uses on the renewable and non-renewable resources of the property, including soil and water resources, and a detailed description of the specific actions that will be taken to protect, enhance and conserve these resources and to compensate/mitigate damage caused by such uses, including a description of how the manager plans to control and prevent soil erosion and soil or water contamination.	18-2.018 & 18-2.021	13-15, 29, 32, 45-56
21	*For managed areas larger than 1,000 acres, an analysis of the multiple-use potential of the property which shall include the potential of the property to generate revenues to enhance the management of the property provided that no lease, easement, or license for such revenue-generating use shall be entered into if the granting of such lease, easement or license would adversely affect the tax exemption of the interest on any revenue bonds issued to fund the acquisition of the affected lands from gross income for federal income tax purposes, pursuant to Internal Revenue Service regulations.	18-2.021 & 253.036	N/A * Less than 1,000 acres
22	If the lead managing agency determines that timber resource management is not in conflict with the primary management objectives of the managed area, a component or section, prepared by a qualified professional forester, that assesses the feasibility of managing timber resources pursuant to section 253.036, F.S.	18-021	56
23	A statement regarding incompatible use in reference to Ch. 253.034(10).	253.034(10)	36

*The following taken from 253.034(10) is not a land management plan requirement; however, it should be considered when developing a land management plan: The following additional uses of conservation lands acquired pursuant to the Florida Forever program and other state-funded conservation land purchase programs shall be authorized, upon a finding by the Board of Trustees, if they meet the criteria specified in paragraphs (a)-(e): water resource development projects, water supply development projects, storm-water management projects, linear facilities and sustainable agriculture and forestry. Such additional uses are authorized where: (a) Not inconsistent with the management plan for such lands; (b) Compatible with the natural ecosystem and resource values of such lands; (c) The proposed use is appropriately located on such lands and where due consideration is given to the use of other available lands; (d) The using entity reasonably compensates the titleholder for such use based upon an appropriate measure of value; and (e) The use is consistent with the public interest.

Section C: Public Involvement Items			
Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
24	A statement concerning the extent of public involvement and local government participation in the development of the plan, if any.	18-2.021	7, Appendix 12.5
25	The management prospectus required pursuant to paragraph (9)(d) shall be available to the public for a period of 30 days prior to the public hearing.	259.032(10)	Appendix 12.5.4
26	LMPs and LMP updates for parcels over 160 acres shall be developed with input from an advisory group who must conduct at least one public hearing within the county in which the parcel or project is located. <i>Include the advisory group members and their affiliations, as well as the date and location of the advisory group meeting.</i>	259.032(10)	7, Appendix 12.5
27	Summary of comments and concerns expressed by the advisory group for parcels over 160 acres	18-2.021	Appendix 12.5.1
28	During plan development, at least one public hearing shall be held in each affected county. Notice of such public hearing shall be posted on the parcel or project designated for management, advertised in a paper of general circulation, and announced at a scheduled meeting of the local governing body before the actual public hearing. <i>Include a copy of each County's advertisements and announcements (meeting minutes will suffice to indicate an announcement) in the management plan.</i>	253.034(5) & 259.032(10)	Appendix 12.5
29	The manager shall consider the findings and recommendations of the land management review team in finalizing the required 10-year update of its management plan. <i>Include manager's replies to the team's findings and recommendations.</i>	259.036	N/A, 45
30	Summary of comments and concerns expressed by the management review team, if required by Section 259.036, F.S.	18-2.021	N/A, 45
31	If manager is not in agreement with the management review team's findings and recommendations in finalizing the required 10-year update of its management plan, the managing agency should explain why they disagree with the findings or recommendations.	259.036	N/A, 45

Section D: Natural Resources			
Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
32	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding soil types. <i>Use brief descriptions and include USDA maps when available.</i>	18-2.021	13-17; Appendix 12.6
33	Insert FNAI based natural community maps when available.	ARC consensus	18
34	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding outstanding native landscapes containing relatively unaltered flora, fauna and geological conditions.	18-2.021	13-23

35	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding unique natural features and/or resources including but not limited to virgin timber stands, scenic vistas, natural rivers and streams, coral reefs, natural springs, caverns and large sinkholes.	18-2.018 & 18-2.021	13-23, 29-32
36	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding beaches and dunes.	18-2.021	29
37	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding mineral resources, such as oil, gas and phosphate, etc.	18-2.018 & 18-2.021	32
38	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding fish and wildlife, both game and non-game, and their habitat.	18-2.018 & 18-2.021	23-31
39	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding State and Federally listed endangered or threatened species and their habitat.	18-2.021	27-31
40	The identification or resources on the property that are listed in the Natural Areas Inventory. <i>Include letter from FNAI or consultant where appropriate.</i>	18-2.021	31, Appendix 12.7
41	Specific description of how the managing agency plans to identify, locate, protect and preserve or otherwise use fragile, nonrenewable natural and cultural resources.	259.032(10)	45-74
42	Habitat Restoration and Improvement	259.032(10) & 253.034(5)	
42-A.	Describe management needs, problems and a desired outcome and the key management activities necessary to achieve the enhancement, protection and preservation of restored habitats and enhance the natural, historical and archeological resources and their values for which the lands were acquired.	↓	45-80
42-B.	Provide a detailed description of both short (2-year planning period) and long-term (10-year planning period) management goals, and a priority schedule based on the purposes for which the lands were acquired and include a timeline for completion.		64-73
42-C.	The associated measurable objectives to achieve the goals.		64-73
42-D.	The related activities that are to be performed to meet the land management objectives and their associated measures. <i>Include fire management plans - they can be in plan body or an appendix.</i>		45-80
42-E.	A detailed expense and manpower budget in order to provide a management tool that facilitates development of performance measures, including recommendations for cost-effective methods of accomplishing those activities.		76-78, Appendix 12.11
43	***Quantitative data description of the land regarding an inventory of forest and other natural resources and associated acreage. <i>See footnote.</i>	253.034(5)	15-23
44	Sustainable Forest Management, including implementation of prescribed fire management	18-2.021, 253.034(5) & 259.032(10) ↓	

44-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).		45-80
44-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		64-73
44-C.	Measurable objectives (see requirement for #42-C).		64-73
44-D.	Related activities (see requirement for #42-D).		45-80
44-E.	Budgets (see requirement for #42-E).		76-78, Appendix 12.11
45	Imperiled species, habitat maintenance, enhancement, restoration or population restoration	259.032(10) & 253.034(5)	
45-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).	↓	45-80
45-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		64-73
45-C.	Measurable objectives (see requirement for #42-C).		64-73
45-D.	Related activities (see requirement for #42-D).		45-80
45-E.	Budgets (see requirement for #42-E).		76-78, Appendix 12.11
46	***Quantitative data description of the land regarding an inventory of exotic and invasive plants and associated acreage. <i>See footnote.</i>	253.034(5)	20, 27, 51-52
47	Place the Arthropod Control Plan in an appendix. If one does not exist, provide a statement as to what arrangement exists between the local mosquito control district and the management unit.	BOT requirement via lease language	Appendix 12.12
48	Exotic and invasive species maintenance and control	259.032(10) & 253.034(5)	
48-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).	↓	45-80
48-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		64-73
48-C.	Measurable objectives (see requirement for #42-C).		64-73
48-D.	Related activities (see requirement for #42-D).		45-80
48-E.	Budgets (see requirement for #42-E).		76-78, Appendix 12.11

Section E: Water Resources

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
49	A statement as to whether the property is within and/or adjacent to an aquatic preserve or a designated area of critical state concern or an area under study for such designation. <i>If yes, provide a list of the</i>		29-32

	<i>appropriate managing agencies that have been notified of the proposed plan.</i>	18-2.018 & 18-2.021	
50	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding water resources, including water classification for each water body and the identification of any such water body that is designated as an Outstanding Florida Water under Rule 62-302.700, F.A.C.	18-2.021	29, 32
51	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding swamps, marshes and other wetlands.	18-2.021	29, 32
52	***Quantitative description of the land regarding an inventory of hydrological features and associated acreage. <i>See footnote.</i>	253.034(5)	29, 32
53	Hydrological Preservation and Restoration	259.032(10) & 253.034(5)	
53-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).	↓	55-56
53-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		64-73
53-C.	Measurable objectives (see requirement for #42-C).		64-73
53-D.	Related activities (see requirement for #42-D).		45-80
53-E.	Budgets (see requirement for #42-E).		76-78, Appendix 12.11

Section F: Historical, Archeological and Cultural Resources

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
54	**Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding archeological and historical resources. <i>Include maps of all cultural resources except Native American sites, unless such sites are major points of interest that are open to public visitation.</i>	18-2.018, 18-2.021 & per DHR's request	32, 56
55	***Quantitative data description of the land regarding an inventory of significant land, cultural or historical features and associated acreage.	253.034(5)	32, 56
56	A description of actions the agency plans to take to locate and identify unknown resources such as surveys of unknown archeological and historical resources.	18-2.021	56, Appendix 12.10
57	Cultural and Historical Resources	259.032(10) & 253.034(5)	
57-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).	↓	45-80
57-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		64-73
57-C.	Measurable objectives (see requirement for #42-C).		64-73
57-D.	Related activities (see requirement for #42-D).		45-80
57-E.	Budgets (see requirement for #42-E).		76-78, Appendix 12.11

**While maps of Native American sites should not be included in the body of the management plan, the DSL urges each managing agency to provide such information to the Division of Historical Resources for inclusion in their proprietary database. This information should be available for access to new managers to assist them in developing, implementing and coordinating their management activities.

Section G: Facilities (Infrastructure, Access, Recreation)			
Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
58	***Quantitative data description of the land regarding an inventory of infrastructure and associated acreage. <i>See footnote.</i>	253.034(5)	56-57
59	Capital Facilities and Infrastructure	259.032(10) & 253.034(5)	
59-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).	↓	45-80
59-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		64-73
59-C.	Measurable objectives (see requirement for #42-C).		64-73
59-D.	Related activities (see requirement for #42-D).		45-80
59-E.	Budgets (see requirement for #42-E).		76-78, Appendix 12.11
60	*** Quantitative data description of the land regarding an inventory of recreational facilities and associated acreage.		253.034(5)
61	Public Access and Recreational Opportunities	259.032(10) & 253.034(5)	
61-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).	↓	45-80
61-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		64-73
61-C.	Measurable objectives (see requirement for #42-C).		64-73
61-D.	Related activities (see requirement for #42-D).		45-80
61-E.	Budgets (see requirement for #42-E).		76-78, Appendix 12.11

Section H: Other/ Managing Agency Tools			
Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
62	Place this LMP Compliance Checklist at the front of the plan.	ARC and managing agency consensus	iii-x
63	Place the Executive Summary at the front of the LMP. Include a physical description of the land.	ARC and 253.034(5)	ii
64	If this LMP is a 10-year update, note the accomplishments since the drafting of the last LMP set forth in an organized (categories or bullets) format.	ARC consensus	37-45
65	Key management activities necessary to achieve the desired outcomes regarding other appropriate resource management.	259.032(10)	45-80

66	Summary budget for the scheduled land management activities of the LMP including any potential fees anticipated from public or private entities for projects to offset adverse impacts to imperiled species or such habitat, which fees shall be used to restore, manage, enhance, repopulate, or acquire imperiled species habitat for lands that have or are anticipated to have imperiled species or such habitat onsite. The summary budget shall be prepared in such a manner that it facilitates computing an aggregate of land management costs for all state-managed lands using the categories described in s. 259.037(3) which are resource management, administration, support, capital improvements, recreation visitor services, law enforcement activities.	253.034(5)	76-78, Appendix 12.11
67	Cost estimate for conducting other management activities which would enhance the natural resource value or public recreation value for which the lands were acquired, include recommendations for cost-effective methods in accomplishing those activities.	259.032(10)	76-78, Appendix 12.11
68	A statement of gross income generated, net income and expenses.	18-2.018	76-78, Appendix 12.11

*** = The referenced inventories shall be of such detail that objective measures and benchmarks can be established for each tract of land and monitored during the lifetime of the plan. All quantitative data collected shall be aggregated, standardized, collected, and presented in an electronic format to allow for uniform management reporting and analysis. The information collected by the DEP pursuant to s. 253.0325(2) shall be available to the land manager and his or her assignee.

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Management Plan Acronym Key

ADA	Americans with Disabilities Act
ARC	Acquisition and Restoration Council
BEER	Bureau of Economic and Business Research
BOT	Board of Trustees of the Internal Improvement Trust Fund
CAS	Conservation Action Strategy
CLC	Florida Cooperative Land Cover Map
CLIP	Critical Lands and Waters Identification Project
DACS	Department of Agriculture and Consumer Services
DEP	Department of Environmental Protection
DSL	Division of State Lands
FAC	Florida Administrative Code
FFS	Florida Forest Service
FLEPPC	Florida Exotic Pest Plant Council
FLUE	Florida Land Use Element
FNAI	Florida Natural Areas Inventory
FS	Florida Statute(s)
FWC	Florida Fish and Wildlife Conservation Commission
FWRI	Fish and Wildlife Research Institute
FWHAP	FWC's Fish and Wildlife Habitat Acquisition Program
GFC	Florida Game and Freshwater Fish Commission
GIS	Geographic Information Systems
IMPP	Internal Management Policies and Procedures
IPCC	Intergovernmental Panel on Climate Change
IWHRS	Integrated Wildlife Habitat Ranking System
LAP	Landowner Assistance Program
LMR	Land Management Review
LPIGD	Land Parcel Inventory of Geo-Database and Process
OBVM	Objective-Based Vegetation Management
OCPB	Optimal Conservation Planning Boundary
OFW	Outstanding Florida Waters
ORB	Optimal Resource Boundary
PUD	Planned Unit Development
RSPH	Rare Species Potential Habitat
SCHA	Strategic Habitat Conservation Areas
SFWMDD	South Florida Water Management District
WCPR	Wildlife Conservation Prioritization and Recovery

1 Introduction and General Information

Believed to be the birthplace in 1807 of Coacoochee, the Seminole Indian Chief who was removed from Florida to the Arkansas Indian Territory in 1841, Makinson Island has a history not widely known by mainland Floridians. Both Makinson and Paradise Islands are situated in the northern third of Lake Tohopekaliga, in northwestern Osceola County near the city of Kissimmee, Florida. Makinson and Paradise Islands conserve approximately 236 acres of important habitat. Although the area is known for some of the best freshwater sport fishing in the United States, it has become better known, perhaps, for its close proximity to Disney World, Sea World, Cypress Gardens, Universal Studios, and similar tourist attractions. Set within an increasingly urbanized region, visitors to Makinson and Paradise Islands have opportunities to find solace from the nearby bustle and see a diverse assemblage of Florida's wildlife, rare plants, and landscape.

The Lake Tohopekaliga Islands Complex (LTIC) is managed by the Florida Fish and Wildlife Conservation Commission (FWC) and Osceola County. This area consists of Makinson Island, Paradise Island, and two shoreline access parcels. The LTIC is managed for the conservation of imperiled and more common wildlife, and for fish- and wildlife-based public outdoor recreation. The area is managed to conserve the important natural communities on site that provide habitats for a wide range of imperiled and more common wildlife species.

The LTIC is owned by the Board of Trustees of the Internal Improvement Trust Fund (Board of Trustees). The FWC holds the lease and has lead management authority for all resources within the 88.26-acre Paradise Island and the 9.49-acre shoreline access parcel. The FWC also holds the lease for all resources within the 131.59-acre Makinson Island and the 7.24-acre shoreline access parcel, however, through a cooperative agreement, the FWC has designated Osceola County as the lead management authority for Makinson Island. The LTIC is managed to conserve and restore natural wildlife habitats, and to provide high-quality opportunities for fishing, wildlife viewing, environmental education, and other fish- and wildlife-based public outdoor recreation opportunities including boating and hiking.

1.1 Management Plan Purpose

This Management Plan serves as the basic statement of policy and direction for the management of the LTIC. It provides information including the past usage, conservation acquisition history, and descriptions of the natural and historical resources found on the LTIC. Furthermore, it identifies the FWC's future management intent, goals and associated short and long-term objectives, as well as identifying challenges and solutions. This Management Plan has been developed to guide each aspect of the LTIC resource and operational management for the next ten years.

This Management Plan is submitted for review to the Acquisition and Restoration Council (ARC) acting on behalf of the Board of Trustees of the Internal Improvement Trust Fund (Board of Trustees) of the State of Florida through the Florida Department of Environmental Protection’s Division of State Lands (DSL), in compliance with paragraph seven of Lease No. 4270 and 4323 (Appendix 12.1 and 12.2) and pursuant to Chapters 253 and 259, Florida Statutes (FS), and Chapters 18-2 and 18-4, Florida Administrative Code (FAC). Format and content were drafted in accordance with ARC requirements for management plans and the model plan outline provided by the staff of the DSL. Moreover, this Management Plan will also be submitted to Osceola County for review and approval in keeping with the terms of the LTIC Partnership Agreement. Terms (Appendix 12.4) used in this Management Plan describing management activities and associated measurable goals and objectives conform to those developed for the Land Management Uniform Accounting Council Biennial Land Management Operational Report.

1.1.1 FWC Planning Philosophy

The FWC’s planning philosophy includes emphasizing management recommendation consensus-building among stakeholders and input from user groups and the general public at the beginning of the planning process. The FWC engages stakeholders by convening a Management Advisory Group and solicits additional input from user groups and the general public at a public hearing (Appendix 12.5). The FWC also engages area, district, and regional agency staff, as well as other FWC staff expertise, in developing this Management Plan, thereby facilitating area biologist and manager “ownership” of the Management Plan, and thus the development of meaningful management intent language, goals with associated measurable objectives, timelines for completion, and the identification of challenges and solution strategies for inclusion in the LTIC Management Plan (Sections 5 – 8).

Further management planning input is received through Land Management Reviews (LMR) conducted every five years, which includes a review of the previous Management Plan, as well as a field review of the LTIC. The LMR report provides FWC staff with important information and guidance provided by a diverse team of land management auditors and communicates the recommendations of the LMR team to the FWC so they may be adequately addressed in this Management Plan, and thus guide the implementation of the LMR team recommendations on the LTIC.

Furthermore, the FWC maintains transparency and accountability throughout the development and implementation of this Management Plan. A “living document” concept, linking this updated Management Plan to the previous one, is accomplished by reporting on the objectives, management activities, and projects accomplished over the last planning timeframe (previous ten years; see Section 4), thereby ensuring agency accountability through time. Also, in an effort to remain adaptive for the duration of this Management

Plan, continuous input and feedback will be collected from FWC staff, stakeholders, user groups, and other interested parties and individuals. As needed, amendments to this Management Plan will be presented to the DSL and the ARC for review and consideration.

1.2 Location

Makinson Island is an approximately 131.59-acre island located within the northern portion of Lake Tohopekaliga, lying within Sections 3, 4, 9 and 10 of Township 26 South and Range 29 East. The shoreline access parcel is located southwest of the Islands along the shore of the Lake within Section 9, Township 26 South and Range 29 East. Also, located within the northern portion of Lake Tohopekaliga, is Paradise Island, which is approximately 97.79 acres. Paradise Island is located about a half mile directly north of Makinson Island. Paradise Island is also located within Sections 34 and 35 of Township 25 South and Range 29 East. The shoreline access parcel associated with Paradise Island, maintained by the FWC, is located to the east of the Islands along the shore of the Lake within Section 2 and 35 of Township 26 South and Range 29 East.

1.3 Acquisition

1.3.1 Purpose for Acquisition of the Property

Concern over the possibility of the Islands becoming developed led to the eventual purchase of the LTIC by the State of Florida. Acquisition of the Islands by the State primarily was to prevent development that could stand in opposition to lake management techniques necessary for maintaining healthy habitats in Lake Tohopekaliga.

A number of development options were being considered by the owners of Makinson and Paradise Islands prior to their sale to the state. Such development could have resulted in deterioration of the Lake's water quality. In addition, the need for access to the property by owners and users would have presented a major obstacle to the proposed management of Lake Tohopekaliga which includes periodic drawdowns for habitat improvement.

Acquisition of the Islands have helped ensure the proper management of the LTIC by removing impediments to periodic drawdowns and habitat enhancement projects in the Lake.

The LTIC is managed by the FWC for the purpose of operating as a conservation and recreational area, providing ecological diversity, providing managed habitats for both common and imperiled wildlife, and providing the public with fish- and wildlife-oriented outdoor recreational opportunities.

1.3.2 Acquisition History

Makinson Island was purchased in 1999 by the Board of Trustees, then subsequently leased to the FWC on May 3, 2000 under Lease number 4270. The Board of Trustees, with the assistance of the FWC, acquired the property with Preservation 2000 (P-2000) monies with the help of the Trust for Public Land as an intermediary.

Paradise Island was purchased in December 2000, using P-2000 funds with the help of the Trust for Public Land as an intermediary. In December 2001, the area was then leased to the FWC under Lease number 4323.

The FWC is directed via Lease numbers 4270 and 4323, from the Board of Trustees to “...manage the leased premises only for the conservation and protection of natural and historical resources and resource-based public outdoor recreation...”

Subsequently, in January 2002 an agreement was entered into between the FWC, Osceola County, City of Kissimmee and Osceola County School Board for cooperative management and utilization of Makinson Island.

1.4 Management Authority

The FWC is the designated lead managing agency for LTIC under the authority granted by Lease Number 4270 and 4323 from the Board of Trustees agent, the DSL. Under a partnership agreement with Osceola County, the FWC has designated the County lead manager of Makinson Island. Further management authority derives from Article IV, Section 9 of the Florida Constitution as well as the guidance and directives of Chapters 253, 259, 327, 370, 373, 375, 378, 379, 403, 487, 870, and 597 and of the Florida Statutes. These constitutional provisions and laws provide the FWC the authority to protect, conserve, and manage the State’s fish and wildlife resources.

1.5 Management Directives

The 50-year Board of Trustees’ Lease Agreement Number 4270 and 4323 with the FWC directs the FWC to “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 forth in subsection 253.023(11), FS...” The lease agreement further directs the FWC to "implement applicable Best Management Practices for all activities under this lease in compliance with paragraph 18-2.018(2)(h), FAC, which have been selected, developed, or approved by lessor, lessee, or other land managing agencies for the protection and enhancement of the leased premises.”

1.6 Title Interest and Encumbrances

The Board of Trustees holds the fee title interest to all lands within the LTIC. The FWC is the lead management authority on all lands established within the boundary of the LTIC. There are no known encumbrances or outstanding mineral rights or other interests within the established boundary.

Additional FWC management authority derives from Article IV, Section 9 of the Florida Constitution as well as the guidance and directives of Chapters 253, 259, 327, 370, 372, 375, 378, 379, 403, 487, 597, and 870 of the Florida Statutes. These laws establish the authority of the FWC with regard to protection and management of the State’s fish and wildlife resources. The LTIC is documented as having an area of 236 acres.

According to the Land Management Uniform Accounting Council’s biennial report, the LTIC is documented as having an area of approximately 236 acres. However, GIS-calculated acreage data for the area from the Florida Natural Areas Inventory (FNAI) maintained Florida Conservation Lands shapefiles and Osceola County Parcel data (April 2016), indicates the area has an acreage of approximately 310 acres. The FWC will continue to work with FNAI, Osceola County, and DEP to reconcile this apparent acreage discrepancy.

1.7 Proximity to Other Public Conservation Lands

The LTIC is located in the vicinity of an extensive network of conservation lands, including lands managed by the South Florida Water Management District (SFWMD) and Osceola County. Several Florida Forever projects (Figure 4) are also located in the vicinity of the area.

Tables 1 and 2 list the Florida Forever projects and conservation lands within a 10-mile radius of the LTIC, including lands managed by public and private entities, that conserve cultural and natural resources within this region of Florida.

Most of the conservation lands listed in Table 2 are owned in full-fee by a public entity. However, some of these areas fall within a less-than-fee ownership classification where the land is owned and being managed by a private landowner while a public agency or not-for-profit organization holds a conservation easement on the land.

Table 1. Florida Forever Projects in the Vicinity of the LTIC

Project Name	GIS Acres
Lake Hatchineha Watershed	81.7
Lake Wales Ridge Ecosystem – Ridge Scrub	2,444.54
Lake Wales Ridge Ecosystem – Horse Creek Scrub	5,472.98

Table 2. Conservation Lands in the Vicinity of the LTIC

Water Management District	Managing Agency
Kissimmee Chain of Lake	SFWMD
Oak Street Extension Preserve	SFWMD
Shingle Creek	SFWMD
Upper Lakes Basin Watershed	SFWMD
County/City	Managing Agency
Candella Island	Osceola County
Cherokee Point Conservation Area	Osceola County
Hamilton Reserve	Osceola County
Lake Runnymede Conservation Area	Osceola County
Poinciana Scrub Conservation Area	Osceola County
Shingle Creek Regional Park	Osceola County
Southport Regional Park	Osceola County
Twin Oaks Conservation Area	Osceola County
Private/Public Conservation Organization	Managing Agency
Disney Wilderness Preserve	TNC
Florida Mitigation Bank	Florida Mitigation Bank, LLC
Reedy Creek Mitigation Bank	Mitigation Resources, LLC
Southport Ranch Mitigation Bank	Mitigation Resources, LLC

Acronym	Agency Name
Key	
SFWMD	South Florida Water Management District
TNC	The Nature Conservancy

1.8 Adjacent Land Uses

As described above, the LTIC is located in Central Florida, just south of Kissimmee in Osceola County. Makinson and Paradise Islands are located within Lake Tohopekaliga, with a parcel on the northeastern shoreline of the lake and a parcel on the southwestern shoreline of the lake.

The 2015 U.S. Census estimates that there are 323,993 people living in Osceola County. The Department of Economic Affairs, Bureau of Economic and Business Research’s (BEBR) medium-range population projection indicates that in the year 2025, there will be 427,900 people living in Osceola County. The BEBR population projections for the counties surrounding Osceola county for the year 2025 are as follows: Brevard County – 621,000;

Indian River County – 166,400; Lake County – 394,000; Okeechobee County – 42,600; Orange County – 1,551,400; and Polk County – 744,600.

The current zoning ordinances for Makinson and Paradise Islands are Agricultural Development and Conservation, with the eastern shoreline parcel being designated as Institutional and the southwestern shoreline parcel is designated as low density residential. According to the Osceola County comprehensive plan, Agricultural Development and Conservation allows for 1 unit/5 acres. Osceola County’s future land use maps indicate that Makinson and Paradise Islands will continue to be zoned for Conservation, the southwestern shoreline parcel will also continue to be zoned as low density residential and the eastern shoreline parcel will continue to be zoned as Institutional.

While Makinson and Paradise Islands are surrounded by Lake Tohopekaliga, the shoreline areas in the vicinity of the LTIC primarily have land use designations of mixed use, low density residential, incorporated, and conservation.

The LTIC is not within an area of critical state concern or presently under study for such a designation.

1.9 Public Involvement

The FWC conducted a Management Advisory Group (MAG) meeting in Kissimmee, Florida on August 23, 2017 to obtain input from both public and private stakeholders regarding management of LTIC. Results of this meeting were used by the FWC to develop management goals and objectives and to identify opportunities and strategies for inclusion in this Management Plan. A summary of issues and opportunities raised by the MAG, as well as a listing of participants, is included as Appendix 12.5.1. Further, a public hearing, as required by Chapter 259.032(10), FS, was held in Kissimmee on October 26, 2017, to solicit input and comment from the general public regarding this Management Plan. The report of that hearing is also contained in Appendix 12.5.3. A website is also maintained for receipt of public input at <http://myfwc.com/conservation/terrestrial/management-plans/develop-mps/>. Further testimony and input is received at a public hearing held by the ARC. Input received from all public involvement efforts has been considered in the development of this Management Plan.

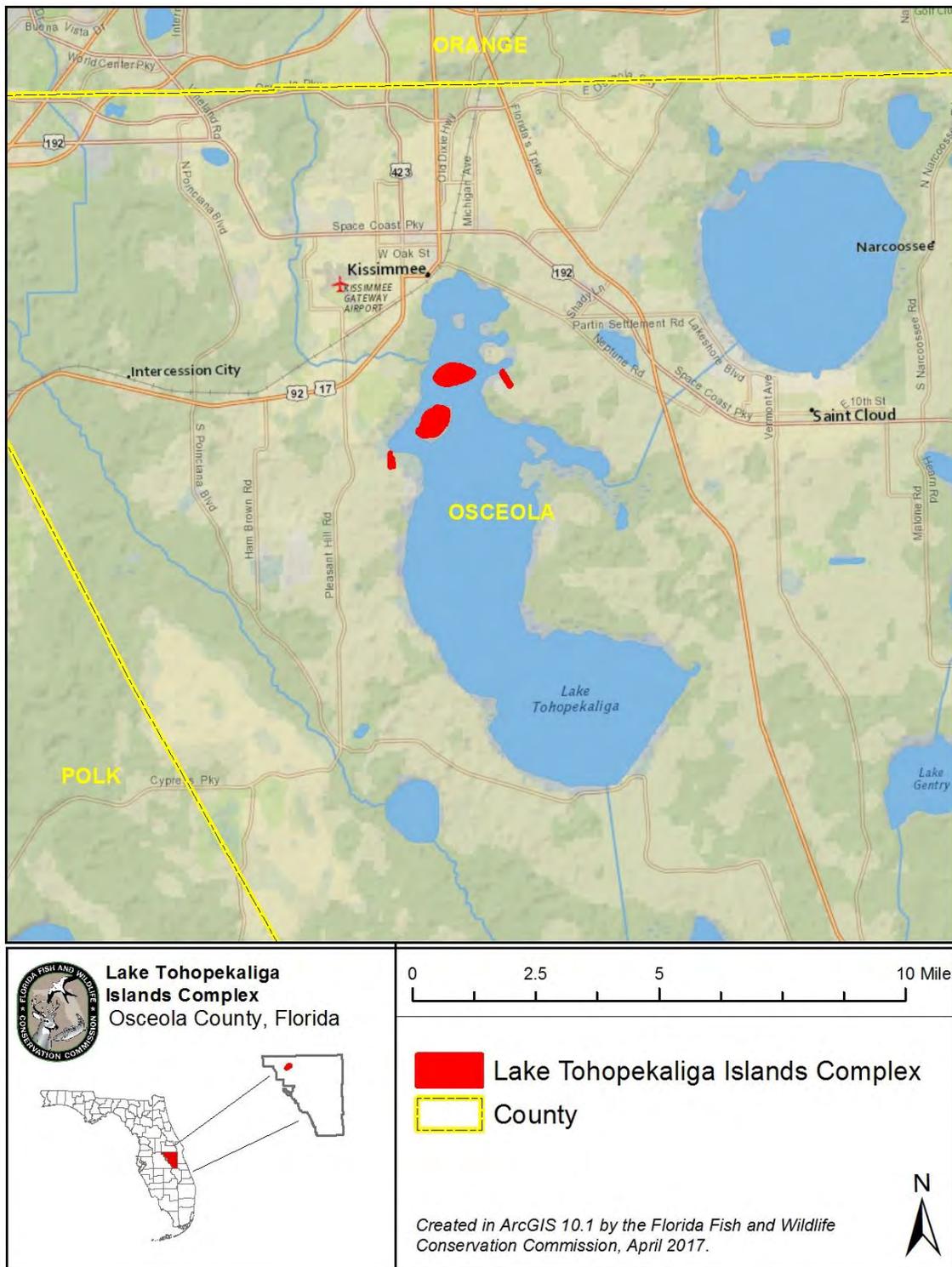


Figure 1. The LTIC Location



Figure 2. The LTIC Aerial Imagery

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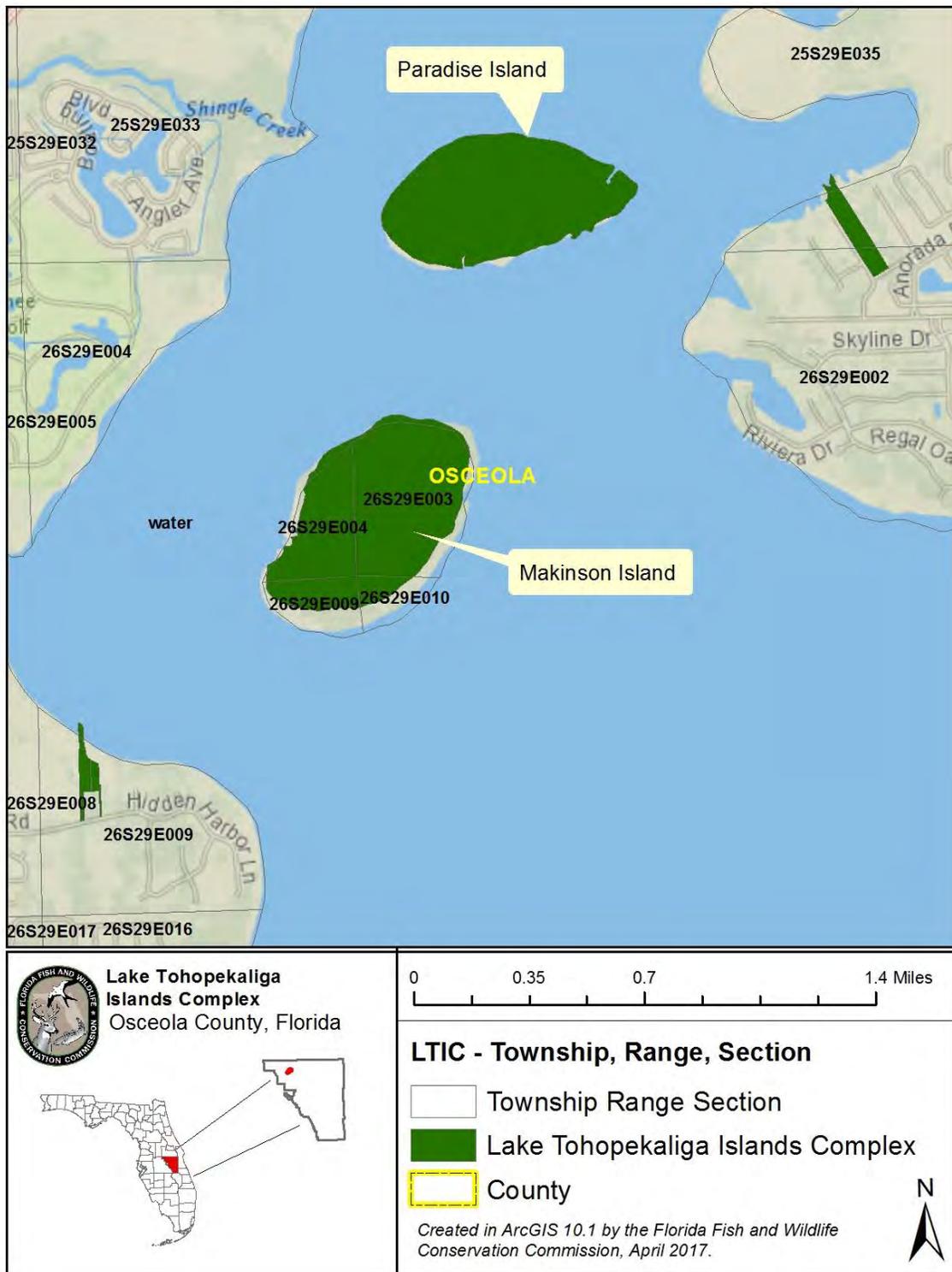


Figure 3. The LTIC – Township, Range, and Section

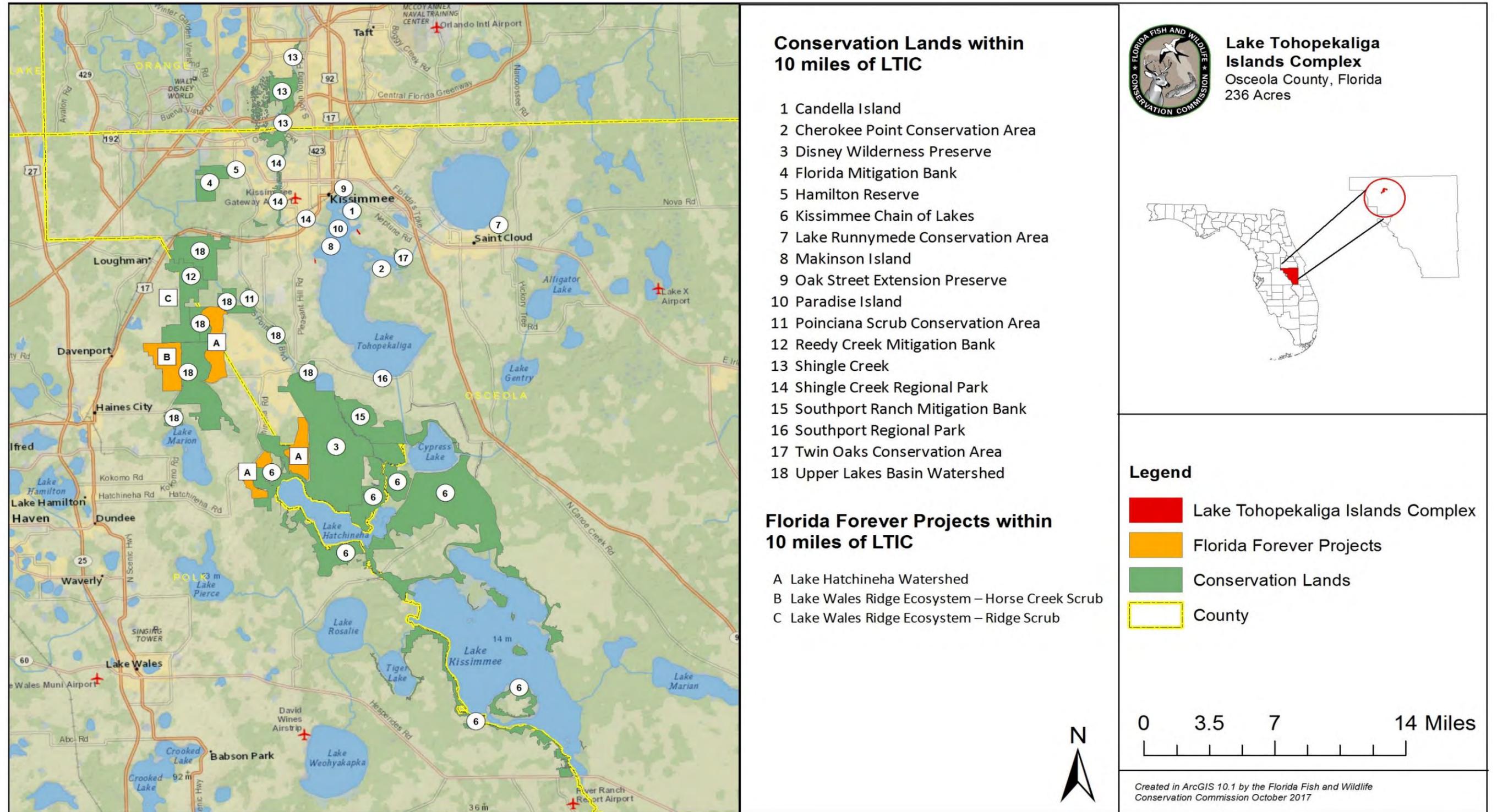


Figure 4. The LTIC – Conservation Lands and Florida Forever Projects within a 10-mile Vicinity

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2 Natural and Historical Resources

2.1 Physiography

The LTIC is located within the mid-peninsular physiographic zone south of the Orlando ridge and to the east of the northern portion of the Lake Wales Ridge. The mid-peninsular zone contains discontinuous highlands separated by broad valleys and is composed of distinct physiographic divisions. The LTIC lies within the Osceola Plain physiographic division. The area is predominantly flat, with only gentle slopes and slight changes in elevation.

2.1.1 Climate

The climate of Osceola County, like most of peninsular Florida, is humid and subtropical, with long, warm, and humid summers and mild, dry winters. In the summer, temperature tends to remain relatively constant from day to day, with high temperatures being tempered by clouds and frequent afternoon rain showers. In the winter, on the other hand, temperatures tend to vary considerably due to dry, cold air coming in the form of cold fronts from the north. The average annual temperature is 82° Fahrenheit (F) in the summer and 62° F in the winter. The average annual rainfall is approximately 51 inches, with approximately 60% of the rainfall occurring in the wettest months from June to September. Temperatures tend to be the highest in July and August, when the average maximum temperature is 92° F and the average minimum is nearly 74° F. January tends to be the coldest month, with an average maximum temperature of around 71° F and an average minimum temperature of 49° F.

2.1.2 Topography

The LTIC occurs in a physiographic district known as the Eastern Flatwoods District. Elevations within the area vary from a maximum of 93 feet above Mean Sea Level (MSL), to a minimum MSL of 60 feet. The LTIC's elevation usually ranges from 60-70 feet. The topography of this area is generally low and flat, with sandy soils and ranging areas of mixed hardwood.

The LTIC does not contain beaches, dunes, or virgin timber.

2.1.3 Soils

The U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) data were used to identify the LTIC's soil series and soil depth to water table (Figures 5 and 6). The map units described in the soil survey of the LTIC are distributed as shown in Figure 5. Analyses of depth to water table for map units occurring within the LTIC are also

provided in Figure 6. The NRCS defines a soil map unit as: “a collection of soil areas or non-soil areas (miscellaneous areas) delineated in a soil survey.” Soil map units may contain multiple soil components, which are given names that are unique identifiers. Figure 5 provides aggregation data for LTIC map units.

Soils found within the LTIC are generally associated with marine terraces on coastal plains, and are thus primarily consisting of sandy and loamy marine deposits. Adamsville sand, 0-2 percent slopes makes up nearly 25% of the LTIC with Pomello fine sand and Basigner fine sand each making up around 15% of the area. Various other fine sands that each make up less than 10% of the area include Immokalee, Myakka, Narcoossee, Delray loamy, Wabasso, Placid, Oldsmar, Riviera, Floridana, Pomona, and Winder loamy.

2.1.4 Geologic Conditions

The Central Highlands Region of peninsular Florida consists of a series of rather localized high grounds, comprising near subparallel north-south ridges that are remnants of beach and sand-dune systems associated with Early Pleistocene shorelines. The region consists of xeric residual sandhills, beach ridges and dune fields, the whole of which is interspersed with numerous sinkhole, lakes and basins caused by erosion of the underlying limestone bedrock. The main axis of the Central Highlands is the Central Ridge, extending from south-eastern Lake County in the north to southern Highlands County in the south. Undifferentiated Quaternary Sediments geological unit is what makes up the LTIC.

Undifferentiated Quaternary Sediments (Pleistocene/Holocene) – Much of Florida's surface is covered by a varying thickness of undifferentiated sediments consisting of siliciclastics, organics and freshwater carbonates. Where these sediments exceed 20 feet (6.1 meters) thick, they were mapped as discrete units. In an effort to subdivide the undifferentiated sediments, those sediments occurring in flood plains were mapped as alluvial and flood plain deposits. Sediments showing surficial expression of beach ridges and dunes were mapped separately as were the sediments composing Trail Ridge. Terrace sands were not mapped refer to Healy [1975] for a discussion of the terraces in Florida. The subdivisions of the Undifferentiated Quaternary Sediments are not lithostratigraphic units, but are utilized in order to facilitate a better understanding of the State's geology. The siliciclastics are light gray, tan, brown to black, unconsolidated to poorly consolidated, clean to clayey, silty, unfossiliferous, variably organic-bearing sands to blue green to olive green, poorly to moderately consolidated, sandy, silty clays. Gravel is occasionally present in the panhandle. Organics occur as plant debris, roots, disseminated organic matrix and beds of peat. Freshwater carbonates, often referred to as marls in the literature, are scattered over much of the State. In southern Florida, freshwater carbonates are nearly ubiquitous in the Everglades. These sediments are buff colored to tan, unconsolidated to poorly consolidated, fossiliferous carbonate muds. Sand, silt and clay may be present in limited quantities.

These carbonates often contain organics. The dominant fossils in the freshwater carbonates are mollusks.

2.2 Vegetation

The natural communities for the LTIC were mapped using the Florida Cooperative Land Cover Map (CLC). The CLC is a cooperative effort between the FWC and the FNAI to develop ecologically-based statewide land cover from existing sources and expert review of aerial photography. The CLC describes nine natural and anthropogenic community types existing on the LTIC, (Table 3, and Figure 7). FWC biologists have also documented a variety of native plant species (Table 4) and 19 invasive exotic plant species (Table 5) as occurring on the LTIC. There are no known rare plant species occurring on the area.

Table 3. Natural Community Types on the LTIC

Community Type	GIS Acres	Percentage
Cypress/Tupelo	25.86	8.3
Freshwater Marshes	26.85	8.7
Mixed Hardwood-Coniferous	32.83	10.6
Mixed Hardwood Wetlands	45.01	14.5
Prairies and Bogs	15.83	5.1
Ruderal	10.26	3.3
Rural	77.58	25
Successional Hardwood Forest	22.93	7.4
Upland Hardwood Forest	53.25	17.2

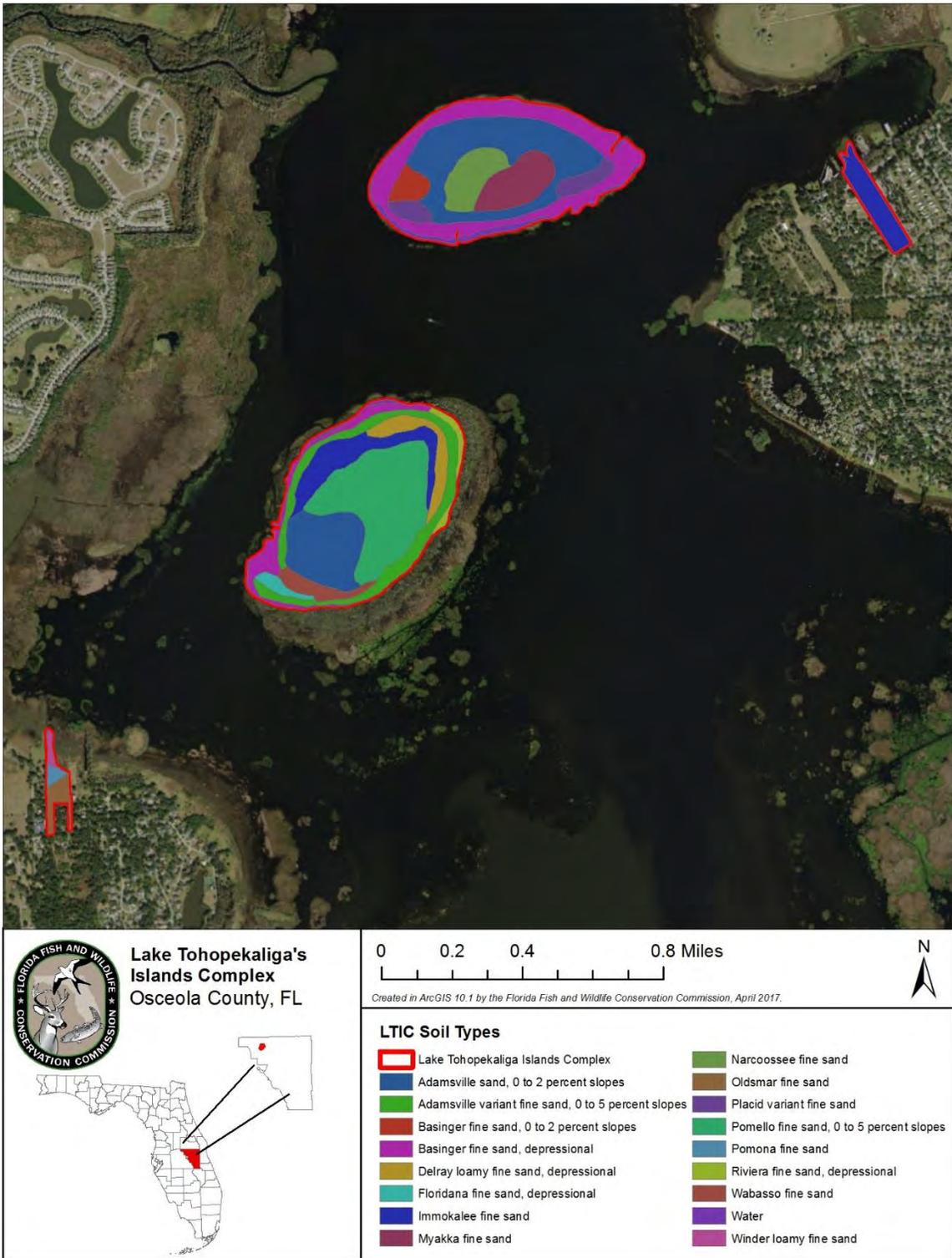


Figure 5. The LTIC Soil Types

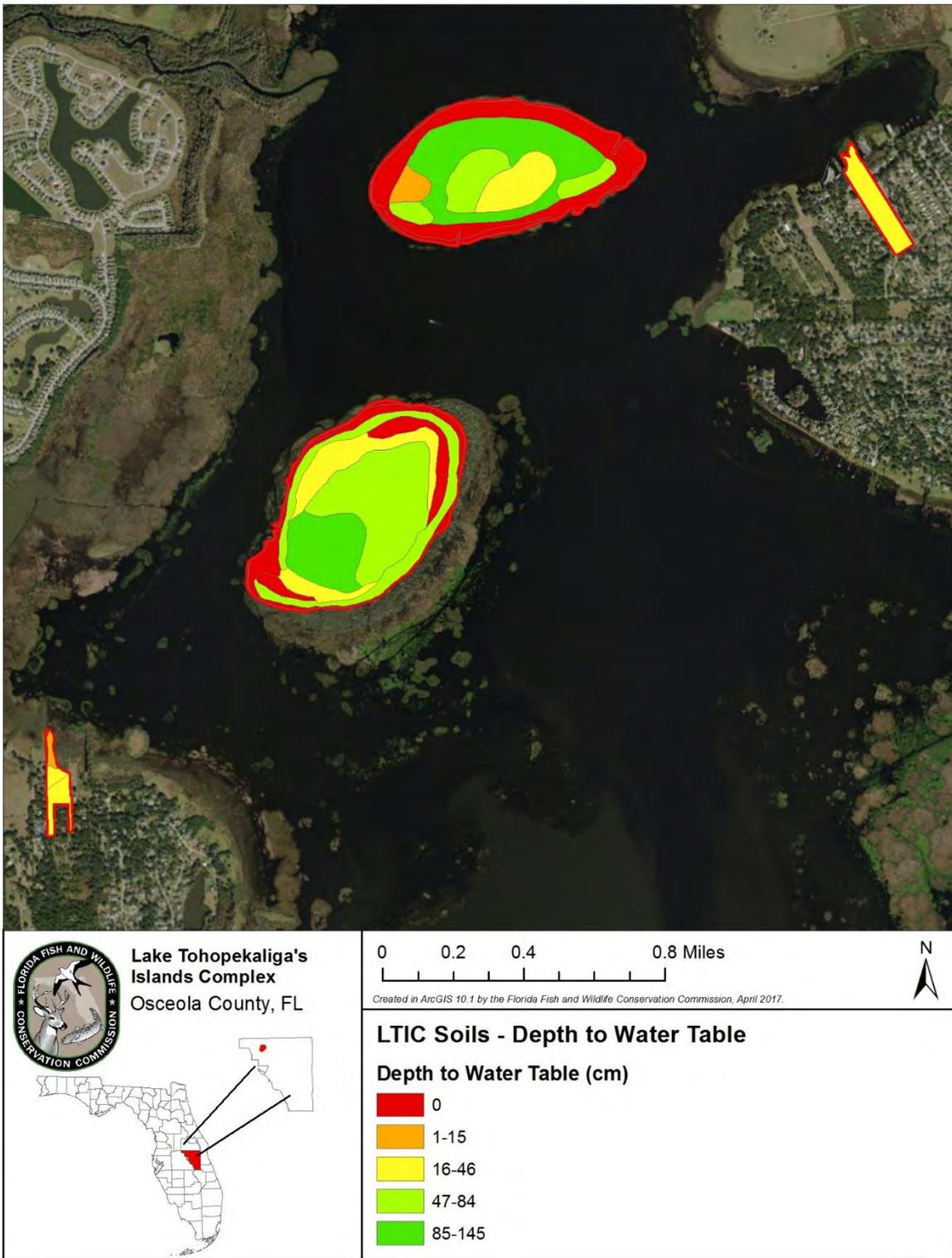


Figure 6. The LTIC Soils – Depth to Water Table

Florida Fish and Wildlife Conservation Commission | Lake Tohopekaliga Islands Complex Management Plan

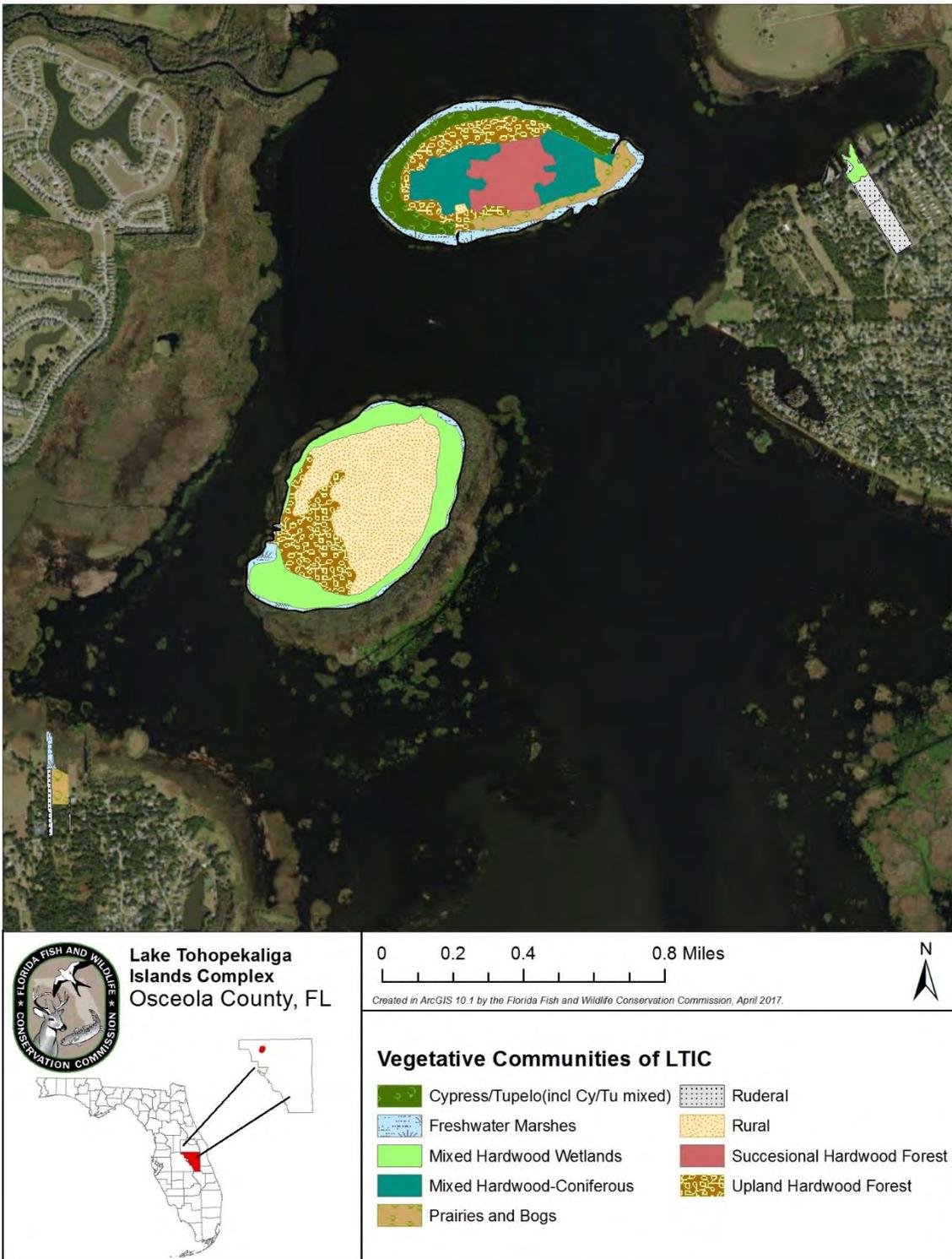


Figure 7. Natural Vegetative Community of the LTIC

Table 4. Native Plant Species Know or Expected to Occur on the LTIC

Common Name	Scientific Name
Alligator-weed	<i>Alternanthera philoxeroides</i>
American lotus	<i>Nelumbo lutea</i>
Bald cypress	<i>Taxodium distichum</i>
Bahiagrass	<i>Paspalum notatum</i>
Bamboo	<i>Phyllostachys sp.</i>
Beautyberry	<i>Callicarpa americana</i>
Broomgrass	<i>Andropogon spp.</i>
Cabbage palm	<i>Sabal palmetto</i>
Carolina willow	<i>Salix caroliniana</i>
Cattail	<i>Typha spp.</i>
Citrus	<i>Citrus sp.</i>
Common arrowhead	<i>Sagittaria latifolia</i>
Common duckweed	<i>Lemna minor</i>
Common salvinia	<i>Salvinia rotundifolia</i>
Duck potato	<i>Sagittaria lancifolia</i>
Eelgrass	<i>Vallisneria americana</i>
Egyptian paspalidium	<i>Paspalidium geminatum</i>
Flat-top goldenrod	<i>Euthamia caroliniana</i>
Foxtail grass	<i>Setaria spp.</i>
Fragrant water-lily	<i>Nymphaea odorata</i>
frog's-bit	<i>Limnobium spongia</i>
Giant bulrush	<i>Scirpus californicus</i>
Live Oak	<i>Quercus virginiana</i>
Maidencane	<i>Panicum hemitomon</i>
Pickerel weed	<i>Pontederia lanceolata</i>
Pignut hickory	<i>Carya galabra</i>
Red maple	<i>Acer rubrum</i>
Southern magnolia	<i>Magnolia grandiflora</i>
Southern naiad	<i>Najas guadalupensis</i>
Smartweed	<i>Polygonum spp.</i>
Spanish moss	<i>Tillandsia usneoides</i>
Spatterdock	<i>Nuphar luteum</i>
Sweetgum	<i>Liquidambar styraciflua</i>
Water primrose	<i>Ludwigia octovalis</i>
Water-hyacinth	<i>Eichhornia crassipes</i>
Water-lettuce	<i>Pistia stratiotes</i>
Willow	<i>Salix spp.</i>

Table 5. Exotic Invasive Plant Species Know to Occur on LTIC

Common Name	Scientific Name	FLEPPC Category
Air-potato	<i>Dioscorea bulbifera</i>	I
Alligator weed	<i>Alternanthera philoxeroides</i>	II
Brazilian peppertree	<i>Schinus terebinthifolius</i>	I
Caesar’s weed	<i>Urena lobata</i>	I
Camphor tree	<i>Cinnamomum camphora</i>	I
Chinaberry	<i>Melia azederach</i>	I
Chinese tallow tree	<i>Sapium sebiferum</i>	I
Cogon grass	<i>Imperata cylindrica</i>	I
Golden bamboo	<i>Phyllostachys aurea</i>	II
Guava	<i>Psidium guajava</i>	I
Hydrilla	<i>Hydrilla verticillata</i>	I
Lantana, shrub verbena	<i>Lantana camara</i>	I
Limpograss	<i>Hemarthria altissima</i>	II
Peruvian primrose willow	<i>Ludwigia peruviana</i>	I
Pothos	<i>Epipremnum pinnatum</i>	II
Torpedo grass	<i>Panicum repens</i>	I
Tropical soda apple	<i>Solanum viarum</i>	I
Water lettuce	<i>Pistia stratiotes</i>	I
Water-hyacinth	<i>Eichhornia crassipes</i>	I

2.2.1 FNAI Natural Community Descriptions

Cypress/Tupelo (~25.86 acres)

Cypress/Tupelo is associated with freshwater forested wetlands which are floodplains or depressions dominated by hydrophytic trees. Cypress/Tupelo is commonly dominated entirely by cypress or tupelo, and normally have a long hydroperiod. Depending on the hydrology and fire history, shrubs can be found throughout this community.

Cypress/Tupelo can also have a high variability in size, shape, and species composition. This community typically occurs in any type of landscape depression such as old lake beds or river basins, or ancient coastal swales and lagoons that existed during higher sea levels. Cypress/Tupelo is primarily found on the western perimeter of Paradise Island. It is common for this community to occur around lakes and sometimes headwater sources for major rivers.

Freshwater Marshes (~26.85 acres)

Freshwater marshes are associated with freshwater non-forested wetlands which are herbaceous or shrubby palustrine communities in floodplains or depressions, and sometimes include canopy trees, but are often sparse and stunted. Freshwater marshes have a long hydroperiod and are dominated by grasses, sedges, broadleaf emergent, floating aquatics or shrubs. This community currently exists around both islands along the lakeshore of Lake Tohopekaliga and separates the lake from the more inland communities.

Mixed Hardwood – Coniferous (~32.83 acres)

Mixed hardwood can be classified within several natural community types such as successional hardwood forest, upland hardwood forest, mesic hammock, baygall, and others. Since there has not been any community mapping on the area, the natural communities are distinguished based on aerial data. This community is primarily found on Paradise Island. This type of area may occur on high ground within basin or floodplain wetlands, as patches of oak/palm forest in dry prairie or flatwoods communities, on river levees, or in ecotones between wetlands and upland communities. Historically, mesic hammocks were likely restricted to naturally fire-protected areas such as islands and peninsulas of lakes.

Other landscape positions that can provide protection from the spread of fire from one or more directions are thus likely places for this type of community development. These include edges of lakes, sinkholes, other depressional or basin wetlands, and river floodplains. Soils of this type of community are sands mixed with organic matter and may have a thick layer of leaf litter. Rock outcrops are common in some hammocks, especially where limestone is near the surface, and occupy soils that, although well-drained, maintain high moisture by heavy shading of the ground layer and accumulation of litter.

Mixed Hardwood – Wetlands (~45.01 acres)

Mixed hardwood wetlands occur in broad, low flatlands, often in a mosaic with these communities. They are found in the ecotones between mesic flatwoods, shrub bogs, wet prairies, dome swamps, or strand swamps. Wet flatwoods are pine forests with a sparse or absent midstory and a dense groundcover of hydrophytic grasses, herbs, and low shrubs. The relative density of shrubs and herbs varies greatly in wet flatwoods. Shrubs tend to dominate where fire has been absent for a long period or where cool season fires predominate; herbs are more abundant in locations that are frequently burned. Soils and hydrology also influence the relative density of shrubs and herbs. Soils of shrubby wet flatwoods are generally poorly to very poorly drained sands. These soils generally have a mucky texture in the uppermost horizon. Loamy sands are typical of soils in grassy wet flatwoods.

At the LTIC, mixed hardwood wetlands make up almost 15% of the area and are located primarily on the outer boundary of Makinson Island. Wet flatwoods typically have an open pine canopy with an understory of hydrophytic herbs and shrubs. Wet flatwoods that burn frequently typically have a sparse understory and a dense complement of herbs and smaller shrubs. Conversely, thick, shrubby understory layers tend to suppress groundcover plants.

Prairies and Bogs

Prairie and Bog communities typically contain herbaceous or shrubby palustrine communities that occurs in floodplains or depressions. These areas are usually wet, but not inundated. Soils are somewhat flat or gentle slopes between lower lying depression marshes or dome swamps, and slightly higher wet or mesic flatwoods, or dry prairie. They have a short hydroperiod and are dominated by grasses, sedges, and/or titi. This community is primarily found on the eastern portion of Paradise Island.

Upland Hardwood Forest

Upland hardwood forest occurs on rolling mesic hills, slopes above river floodplains, in smaller areas on the sides of sinkholes, and occasionally on rises within floodplains. Limestone or phosphatic rock may be near the surface. Soils are generally sandy clays or clayey sands with substantial organic and sometimes calcareous components. These soils have higher nutrient levels than the sandy soils prevalent in most of Florida. The moisture retention properties of clays and layers of leaf mulch conserve soil moisture and create decidedly mesic conditions. The dense canopy and multiple layers of midstory vegetation restrict air movement and light penetration, which maintains high relative humidity within the community. The upland hardwood forest at the LTIC occurs on the upland portion of both Islands. Additional botanical survey may produce interesting findings.

Altered Community Descriptions

Ruderal

Ruderal can also be referred to as developed area. This can include check stations, parking lots, buildings, maintained lawns (as part of recreational, business, or residential areas), botanical or ornamental gardens, campgrounds, and recreational, industrial and residential areas. Ruderal communities are primarily found on the shoreline access parcels associated with the area, and include offices, parking lots, and maintained areas.

Rural

Rural refers to an area that has been predominantly stripped of a significant percentage of their native vegetation and seeded with grasses, but still retain some natural structure. On the LTIC, rural can also be classified as pasture or rangeland. This community

predominantly is found on Makinson Island, and much of this area was cleared prior to acquisition. This community is now used as the recreational areas on the Island and is regularly maintained and mowed, with portions of the area being managed using prescribed burning techniques, as necessary and appropriate.

Successional Hardwood Forest

Successional hardwood forests are closed-canopied forest dominated by fast growing hardwoods, and often with remnant pines. These forests are either invaded natural habitat (i.e., mesic flatwoods, sandhill, upland pine, upland mixed woodland) due to lengthy fire-suppression or old fields that have succeeded to forest. The subcanopy and shrub layers of these forests are often dense and dominated by smaller individuals of the canopy species. Remnant species of the former natural community may also be present.

Successional hardwood forest at the LTIC have invaded or replaced the citrus grove on the area. Presently, successional hardwood forests occur on Paradise Island and are surround by mixed hardwood.

2.3 Fish and Wildlife Resources

As described above, the LTIC has a variety of natural communities and habitat types that support a wide array of imperiled, rare, and more prevalent wildlife species. Active, ongoing wildlife management practices and the high quality of habitat make the LTIC an excellent place to view wildlife. The LTIC’s mixed and upland hardwood, and freshwater marshes, prairies, and other communities provide critical habitat for resident and migratory wildlife.

Additionally, the FWC maintains an inventory of fauna occurring on or near the LTIC listed in the following tables, including amphibians and reptiles (Table 6), birds (Table 7), mammals (Table 8), and fish (Table 9). Table 10 contains an inventory of the exotic wildlife species that have been documented on or near the LTIC.

Table 6. Native Reptile and Amphibian Species Known or Expected to Occur on the LTIC

Common Name	<i>Scientific Name</i>
Common snapping turtle	<i>Chelydra serpentina</i>
Eastern mud turtle	<i>Kinosternon subrubrum</i>
Florida cottonmouth	<i>Agkistrodon piscivorus conanti</i>
Florida soft shell	<i>Apalone ferox</i>
Florida water snake	<i>Nerodia fasciata pictiventris</i>
Green anole	<i>Anolis carolinensis</i>

Green treefrog	<i>Hyla cinerea</i>
Grey rat snake	<i>Elaphe obsoleta spiloides</i>
Peninsula cooter	<i>Pseudemys floridana spp.</i>
Pig Frog	<i>Rana grylio</i>
Six-lined racerunner	<i>Cnemidophorus sexlineatus sexlineatus</i>
Slider	<i>Trachemys scripta</i>
Southeastern five-lined skink	<i>Eumeces inexpectatus</i>
Southern Leopard frog	<i>Rana sphenoccephala utricularia</i>

Table 7. Native Bird Species Known or Expected to Occur on the LTIC

Common Name	Scientific Name
American bittern	<i>Botaurus lentiginosus</i>
American coot	<i>Fulica americana</i>
American crow	<i>Corvus brachyrhynchos</i>
American robin	<i>Turdus migratorius</i>
American wigeon	<i>Anas americana</i>
Anhinga	<i>Anhinga anhinga</i>
Bald eagle	<i>Haliaeetus leucocephalus</i>
Barn owl	<i>Tyto alba</i>
Barred owl	<i>Strix varia</i>
Belted kingfisher	<i>Megaceryle alcyon</i>
Black and white warbler	<i>Mniotilta varia</i>
Black-crowned night heron	<i>Nycticorax nycticorax</i>
Black-necked stilt	<i>Himantopus mexicanus</i>
Black vulture	<i>Coragyps atratus</i>
Blue Jay	<i>Cyanocitta cristata</i>
Blue-headed vireo	<i>Vireo solitarius</i>
Blue-winged teal	<i>Anas discors</i>
Boat-tailed grackle	<i>Quiscalus major</i>
Brant	<i>Branta bernicla</i>
Brown pelican	<i>Pelecanus occidentalis</i>
Brown thrasher	<i>Toxostoma rufum</i>
Cattle egret	<i>Bubulcus ibis</i>
Carolina wren	<i>Thryothorus ludovicianus</i>
Common bobwhite	<i>Colinus virginianus</i>
Common grackle	<i>Quiscalus quiscula</i>
Common ground dove	<i>Columbina passerina</i>
Common moorhen	<i>Gallinula chloropus</i>
Common screech owl	<i>Otus asio</i>

Common snipe	<i>Gallinago gallinago</i>
Double crested cormorant	<i>Phalacrocorax auritus</i>
Eastern bluebird	<i>Sialia sialis</i>
Eastern meadowlark	<i>Sturnella magna</i>
Eastern towhee	<i>Pipilo erythrophthalmus</i>
European starling	<i>Sturnus vulgaris</i>
Fish crow	<i>Corvus ossifragus</i>
Fulvous whistling duck	<i>Dendrocygna bicolor</i>
Gadwall	<i>Anas strepera</i>
Glossy ibis	<i>Plegadis falcinellus</i>
Great blue heron	<i>Ardea herodias</i>
Great egret	<i>Ardea alba</i>
Great horned owl	<i>Bubo virginianus</i>
Greater yellowlegs	<i>Tringa melanoleuca</i>
Green heron	<i>Butorides striatus</i>
Green-winged teal	<i>Anas crecca</i>
Herring gull	<i>Larus argentatus</i>
Hooded merganser	<i>Lophodytes cucullatus</i>
House sparrow	<i>Passer domesticus</i>
Killdeer	<i>Charadrius vociferus</i>
Laughing gull	<i>Larus atricilla</i>
Least bittern	<i>Ixobrychus exilis</i>
Lesse scaup	<i>Aythya affinis</i>
Lesser Yellowlegs	<i>Tringa flavipes</i>
Mourning dove	<i>Zenaida macroura</i>
Mottled duck	<i>Anas fulvigula</i>
Northern cardinal	<i>Cardinalis cardinalis</i>
Northern harrier	<i>Circus cyaneus</i>
Northern mockingbird	<i>Mimus polyglottos</i>
Northern shoveler	<i>Anas clypeata</i>
Osprey	<i>Pandion haliaetus</i>
Palm warbler	<i>Setophaga palmarum</i>
Purple gallinule	<i>Porphyryula martinica</i>
Purple martin	<i>Progne subis</i>
Ring-billed gull	<i>Larus delawarensis</i>
Red-shouldered hawk	<i>Buteo lineatus</i>
Red-tailed hawk	<i>Buteo jamaicensis</i>
Red-winged blackbird	<i>Agelaius phoeniceus</i>
Ring-necked duck	<i>Aythya collaris</i>
Ruddy duck	<i>Oxyura jamaicensis</i>
Sora	<i>Porzana carolina</i>

Swallow-tailed kite	<i>Elanoides forficatus</i>
Tufted titmouse	<i>Picoides bicolor</i>
Tree swallow	<i>Iridoprocne bicolor</i>
Turkey vulture	<i>Cathartes aura</i>
Whistling Duck	<i>Dendrocygna autumnalis</i>
White pelican	<i>Pelecanus erythrorhynchos</i>
White-eyed vireo	<i>Vireo griseus</i>
Wild turkey	<i>Meleagris gallopavo</i>
Wood duck	<i>Aix sponsa</i>
Yellow-crowned night heron	<i>Nycticorax violacea</i>

Table 8. Native Mammal Species Known or Expected to Occur on the LTIC

Common Name	Scientific Name
Eastern grey squirrel	<i>Sciurus carolinensis</i>
Eastern mole	<i>Scalopus aquaticus</i>
Marsh rabbit	<i>Sylvilagus palustris</i>
Nine-banded armadillo	<i>Dasypus novemcinctus</i>
Opossum	<i>Didelphis virginiana</i>
Raccoon	<i>Procyon lotor</i>
River otter	<i>Lutra canadensis</i>
White-tailed deer	<i>Odocoileus virginianus</i>

Table 9. Native Fish Species Known or Expected to Occur on the LTIC

Common Name	Scientific Name
Black crappie	<i>Pomoxis nigromaculatus</i>
Bluegill	<i>Lepomis macrochirus</i>
Bowfin	<i>Amia calva</i>
Brown bullhead	<i>Ameiurus nebulosus</i>
Chain pickerel	<i>Esox niger</i>
Channel catfish	<i>Ictalurus punctatus</i>
Eastern mosquitofish	<i>Gambusia holbrooki</i>
Florida gar	<i>Lepisosteus platyrhincus</i>
Gizzard shad	<i>Dorosoma cepedianum</i>
Golden shiner	<i>Notemigonus crysoleucas</i>
Lake chubsucker	<i>Erimyzon sucetta</i>
Largemouth bass	<i>Micropterus salmoides floridanus</i>
Longnose gar	<i>Lepisosteus osseus</i>
Needlefish	<i>Strongylura spp.</i>

Redbreast sunfish	<i>Lepomis auritus</i>
Redear sunfish	<i>Lepomis microlophus</i>
Sailfin molly	<i>Poecilia latipinna</i>
Seminole killifish	<i>Fundulus seminolis</i>
Spotted gar	<i>Lepisosteus oculatus</i>
Spotted sunfish	<i>Lepomis punctatus</i>
Threadfin shad	<i>Dorosoma petenense</i>
Warmouth	<i>Lepomis gulosus</i>

Table 10. Exotic Animal Species Known or Expected to Occur on the LTIC

Common Name	Scientific Name
Cuban anole	<i>Anolis porcatius</i>
Cuban tree frog	<i>Osteopilus septentrionalis</i>
Feral hog	<i>Sus scrofa</i>
Mouflon sheep	<i>Ovis aries</i>

2.3.1 Integrated Wildlife Habitat Ranking System

The FWC has developed the Integrated Wildlife Habitat Ranking System (IWHRS) as a Geographic Information Systems (GIS)-based assessment tool that incorporates a wide variety of land cover and wildlife species data. The IWHRS evaluates the Florida landscape based upon the habitat needs of wildlife as a way to identify ecologically significant lands in the state, and to assess the potential impacts of management and land-use changes. The IWHRS was developed to provide technical assistance to various local, regional, state, and federal agencies, and entities interested in wildlife needs and conservation in order to: (1) determine ways to avoid or minimize project impacts by evaluating alternative placements, alignments, and transportation corridors during early planning stages, (2) assess direct, secondary, and cumulative impacts to habitat and wildlife resources, and (3) identify appropriate parcels for public land acquisition for wetland and upland habitat mitigation purposes. The IWHRS (2009) indicates that LTIC has a mean wildlife value of 3.6 (Figures 8).

2.3.2 Imperiled Species

For the purposes of this Management Plan, the term “Imperiled Species” refers to plant and animal species that are designated as Endangered, Threatened, or a Species of Special Concern by the FWC, or that are designated as Endangered or Threatened by the U.S. Fish and Wildlife Service. This designation is also commonly known as “listed species.” At its November 2016 Commission meeting, the FWC approved Florida’s Imperiled Species Management Plan (<http://myfwc.com/wildlifehabitats/imperiled/plan/>), which included

changes to the listing status for many wildlife species. Subsequent rule changes (68A-27.003 and 68A-27.005 FAC) reflecting changes came into effect in January, 2017. All federally listed species that occur in Florida are included in Florida’s Endangered and Threatened Species list (<http://myfwc.com/media/1515251/threatened-endangered-species.pdf>) as federally-designated Endangered or federally-designated Threatened. Species that are not federally listed, but which have been identified by the FWC as being at some level of risk of extinction, are listed as state-designated Threatened. Additionally, the FWC continues to maintain a separate Species of Special Concern category. This category was reviewed as part of Florida’s Imperiled Species Management Plan, with the majority of the species previously contained within the category either being removed from Florida’s Endangered and Threatened Species list due to conservation success, or had their status changed to state-designated Threatened.

Table 11. Imperiled and Focal Wildlife Species Occurring On or Near the LTIC

Common Name	Scientific Name	Status
American alligator	<i>Alligator mississippiensis</i>	FT (S/A)
Audubon's crested caracara	<i>Polyborus plancus audubonii</i>	FT
Bald eagle	<i>Haliaeetus leucocephalus</i>	NL
Eastern indigo snake	<i>Drymarchon corais couperi</i>	FT
Everglade snail kite	<i>Rostrhamus sociabilis plumbeus</i>	FE
Florida sandhill crane	<i>Antigone canadensis pratensis</i>	ST
Little blue heron	<i>Egretta caerulea</i>	ST
Roseate spoonbill	<i>Platalea ajaja</i>	ST
Southeastern American kestrel	<i>Falco sparverius paulus</i>	ST
Swallow-tailed kite	<i>Elanoides forficatus</i>	NL
Tricolored heron	<i>Egretta tricolor</i>	ST
Woodstork	<i>Mycteria americana</i>	FT

Abbreviation	Status
FE	Federal Endangered
FT	Federal Threatened
F(XN)	Federally Listed as an experimental population in Florida
FT(S/A)	Federally Threatened due to similarity of appearance
SSC	State Species of Special Concern
ST	State Threatened
NL	Not Listed

2.3.3 FWC Wildlife Observations and FNAI Element Occurrences

A diversity of wildlife species is found on the LTIC. The FNAI element occurrence records include two occurrences of bald eagles in the vicinity of the LTIC. As defined by the FNAI, an “element” is any exemplary or rare component of the natural environment, such as a species, natural community, bird colony, spring, sinkhole, cave, or other ecological feature. An element occurrence is a single extant habitat which sustains or otherwise contributes to the survival of a population or a distinct, self-sustaining example of a particular element. The FNAI assigns a rank to each “element” occurrence. This ranking system was developed by The Nature Conservancy and the Natural Heritage Program Network based on the element’s global rank (element’s worldwide status) or state rank (status of element in Florida). The FNAI ranking system and definitions are located on the following website: www.fnai.org/ranks.cfm.

Known locations of FWC wildlife occurrences and FNAI element occurrences from the most recent GIS databases of the respective agencies are displayed in Figure 9. Appendix 12.7 contains a letter from the FNAI authorizing the FWC to utilize their database for the purpose of displaying known plant and animal resources.

2.4 Native Landscapes

The predominate native landscapes occurring on the LTIC are cypress/tupelo, mixed, successional, and upland hardwood forests, freshwater marshes, and prairies and bogs. As described in detail above, complete descriptions of the natural communities found on the LTIC can be found in Section 2.2 of this Management Plan.

2.5 Water Resources

All surface waters of the State are classified by the DEP according to designated uses as described in Chapter 62-302.44 FAC. The surface waters of the LTIC are designated as Class III, and classified for fish consumption; recreation, as well as propagation and maintenance of a healthy, well-balanced population of fish and wildlife.

Lake Tohopekaliga, surrounds the LTIC, however is not included in the management of this area. The LTIC does not contain a first magnitude spring, nor is it designated as an aquatic preserve and is not under consideration for such designation, and there are no portions of LTIC that are designated as Outstanding Florida Waters (OFW).

2.6 Beaches and Dunes

There are no beach or dune resources on LTIC.

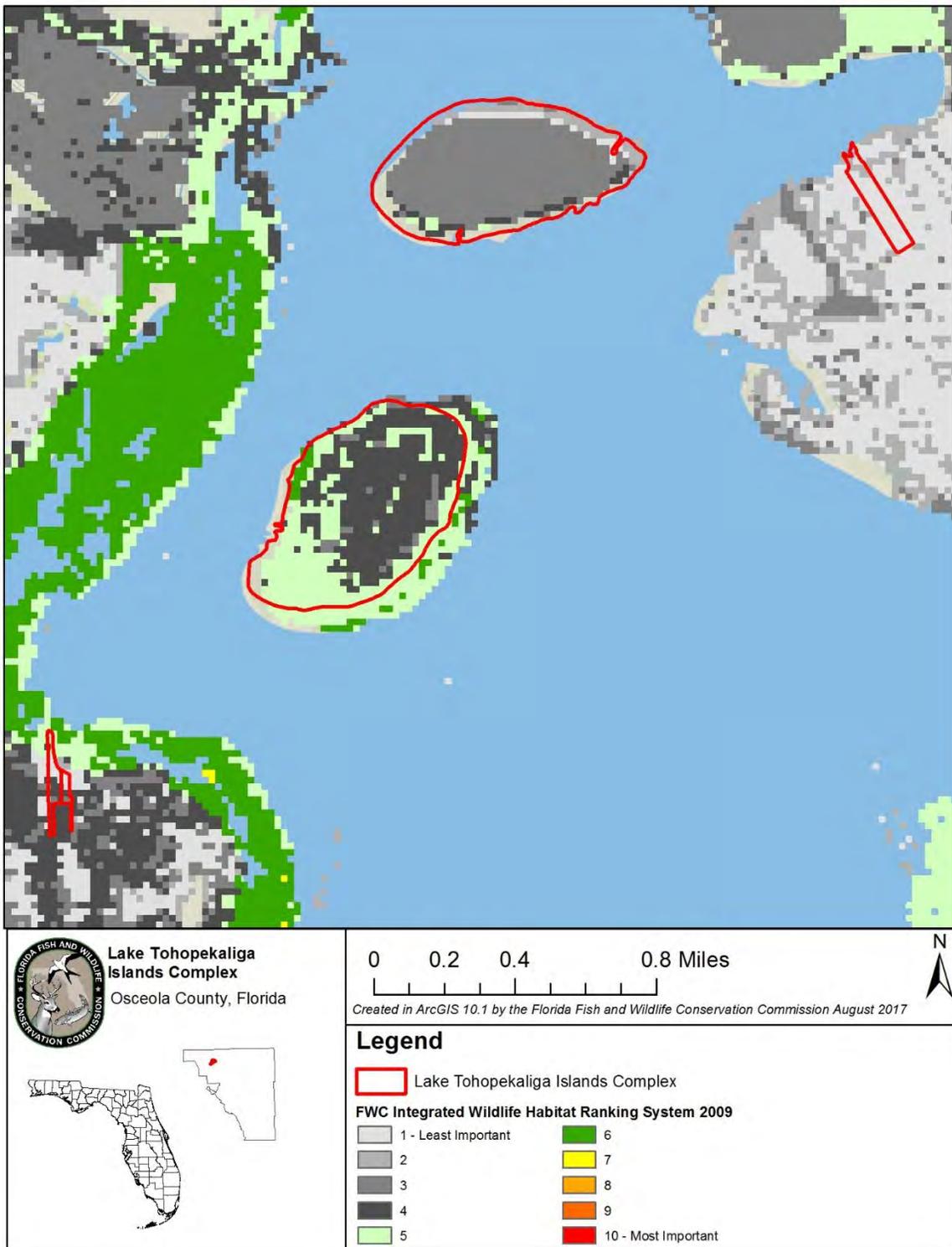


Figure 8. FWC Integrated Wildlife Habitat Ranking System for the LTIC

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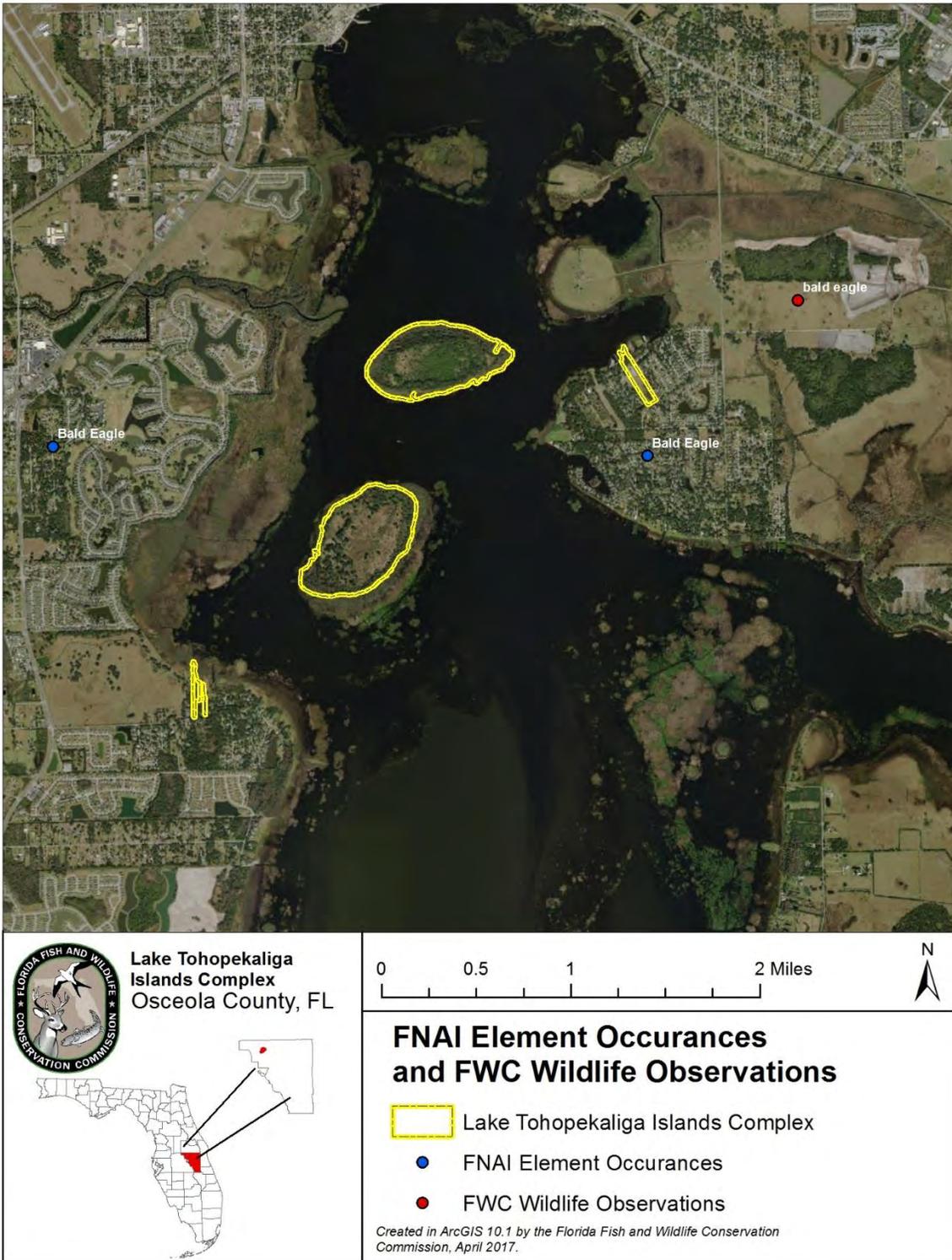


Figure 9. FNAI Element Occurrences and FWC Wildlife Observations for the LTIC

Florida Fish and Wildlife Conservation Commission | Lake Tohopekaliga Islands Complex Management Plan

2.7 Mineral Resources

There are no known commercial mineral deposits on the LTIC.

2.8 Historical Resources

The DHR Master Site File indicates that there is one recorded archaeological structure within the boundaries of the LTIC. However, this structure was destroyed in 2004 from Hurricane Charley. The FWC and Osceola county will coordinate with the DHR to conduct a cultural resource survey during this planning period.

2.9 Scenic Resources

The LTIC offers remarkably scenic views of marshes, hardwood forests and Lake Tohopekaliga that surrounds it. As a result, the area has been valued for its scenic quality unaffected by development and most other human alterations of the landscape. Wildlife is abundant year-round throughout the area. The scenery of the LTIC can be enjoyed by hiking on the area's trails. Some of the scenic sites on the LTIC have also been developed with interpretive signage.

3 Uses of the Property

3.1 Previous Use and Development

Florida was inhabited for thousands of years before Spanish explorer Ponce de Leon landed on the peninsula he named La Florida in 1513. Among those early indigenous people were the Ais, Apalachee, Calusa, Timucua, and Tocobaga tribes. Here, in the central part of the state, the Timucua and Tocobaga people roamed the land. It is estimated that about 50,000 Timucua lived in Florida at the time that European explorers arrived.

Consequently, prior to European settlement, the landscape of Florida was settled and used by a variety of aboriginal peoples whose culture relied mainly on hunting, fishing, and subsistence agriculture. Though some land alteration occurred, more intensive alteration of the landscape is thought to have taken place when the advent of European settlement beginning with the Spanish occupation of Florida in the sixteenth century.

Osceola County was named after one of the most famous Seminole leaders, Osceola, who led the Seminoles to many successes on the battlefield in their battle to remain an independent tribal nation through three separate wars with the U. S. At the conclusion of the Third Seminole War in 1858, many Native Americans had been removed from Florida. Eventually, the Seminoles were either removed to a reservation in Oklahoma or fled south to the Everglades where their descendants live today as a sovereign tribal nation on the

Seminole Reservation, though most of the state acceded to the onslaught of new settlers and their settlements.

Along with more advanced agricultural practices, the Spanish and other settlers brought livestock, primarily cattle and hogs, as well as horses to Florida. This began an era of broad use of the landscape for agriculture. Rangeland cattle grazing and other agricultural practices began to be utilized in a more systematic way and occurred throughout much of the central Florida peninsula through most of the European settlement era from the 16th through the 20th centuries. Use of these agricultural practices began an era of increased alteration of the natural landscape. However, it wasn't until the 19th and 20th centuries when major settlement and more extensive alteration of the landscape in the area began with the widespread use of agriculture and associated development.

For decades after the turn of the century, both Makinson and Paradise Islands were operated as commercial citrus groves. Citrus produce was barged to a point on the mainland now known as Hidden Harbor and to the downtown Kissimmee docks. At one time, Makinson Island was also owned by an Orlando physician who converted it into a rehabilitation center for alcoholics.

In 1982, Makinson Island was purchased by R.H. Dickerman from a trust of 120 investors. Mr. Dickerman kept the interior of the Islands mowed and used it as a grazing and foraging habitat for his personal collection of more than 250 exotic animals native to Australia, New Zealand, Africa, Asia, and South America. Exotic fauna included rheas, emus, llamas, maras, sheep, and goats. Prior to acquisition, Makinson Island was being considered for a number of development options including a golf course and a time share community. Paradise Island was also being consider for a single-family home residential development.

3.2 Current Use of the Property

The LTIC is leased to and managed by the FWC in cooperation with Osceola County as a conservation, recreation, and environmental education area in conformance with the provisions of the Board of Trustees lease to the FWC to protect and provide for water conservation; maintain ecological diversity; conserve habitat for imperiled, rare, and more common wildlife species; and to provide a diversity of public outdoor recreational opportunities that are fish- and wildlife-oriented, and that are compatible with the Board of Trustees lease provisions that do not adversely impact the long-term well-being of fish and wildlife habitats and their associated wildlife populations.

Per the agreement made in 2002 with Osceola County, "...the Commission (FWC) has directed the County as the lead agency in a cooperative effort between the FWC, the County, the City of Kissimmee, and the Osceola County School Board to preserve Lake Tohopekaliga and utilize the natural resources on Makinson Island..." The LTIC is being managed by the county in coordination with the FWC as a multiple-use conservation land.

Multiple-use management strategies incorporate uses related to wildlife, fisheries, and forest management and natural resource based public outdoor recreation. Provisions have been made for fish- and wildlife-based public outdoor educational and recreational opportunities that are compatible with the original purposes for acquiring the LTIC. The current land use designation as depicted in the Florida Land Use Element (FLUE) for the LTIC is listed as conservation.

Currently, LTIC is managed for the conservation and protection of fish and wildlife habitat and fish and wildlife based public outdoor recreation. A wide range of operational and resource management actions are conducted on LTIC each year including activities such as prescribed burning; wildlife habitat restoration and improvement; invasive exotic species maintenance and control; imperiled species management, monitoring and protection; facilities and infrastructure maintenance and repair; conservation acquisition and stewardship activities; archeological and historical resources monitoring and protection; and research related activities.

Current and anticipated resource uses of the property are diverse. The area also offers excellent opportunities for bird watching. The diversity of vegetation not only harbors a variety of bird species but also provides good opportunities for mammalian wildlife viewing. Other uses include hiking, photography, biking, and sightseeing. Due to the proximity of population centers in Osceola County, public use can be expected to increase as public awareness of opportunities increases.

3.2.1 Visitation and Economic Benefits

Visitation and public use of the area for fish- and wildlife-based public outdoor recreational opportunities is the primary source of economic benefits from the LTIC, and contribute to the overall economy for this region of Florida. Primarily, as a result of visitation and use of the area, FWC economic analysis estimates indicate that the LTIC has the potential to generate an estimated annual economic impact of \$8,090,043 for the State and the Northeast Florida region. This estimated annual economic impact has the potential to aid in the support or creation of an estimated 141 jobs.

Further economic generating potential of the LTIC will depend upon future uses described in this Management Plan. Additional revenue from environmental lands such as the LTIC might include sales of various permits and recreational user fees and ecotourism activities, if such projects could be feasibly developed. The annual area regulations can be consulted to clarify the necessary and required permits, fees, and regulations. Additionally, the long-term value of ecosystem services, including the protection of air and water quality functions, are considered to be significant to local and regional land and water resources, as well as human health.

3.3 Single- or Multiple-use Management

The LTIC will be managed under the multiple-use concept as a conservation, recreation, and environmental education area. The LTIC will provide fish and wildlife resource-based public outdoor recreation and educational opportunities, while protecting the natural and historical resources found on the area. Any natural and historical resources of the LTIC will be managed under the guidance of the ARC, the Conceptual State Lands Management Plan, and as outlined in the original purposes for acquisition.

3.3.1 Analysis of Multiple-use Potential

The following actions or activities have been considered under the multiple-use concept as possible uses to be allowed on the LTIC. Uses classified as “Approved” are considered to be in accordance with the purposes for acquisition, as well as with the Conceptual State Lands Management Plan, and with the FWC agency mission, goals and objectives as expressed in the Agency Strategic Plan (Appendix 12.8). Uses classified as "Conditional" indicate that the use may be acceptable but will be allowed only if approved through a process other than the management plan development and approval process (e.g., special-use permitting, managed-area regulation and rule development). Uses classified as “Rejected” are not considered to be in accordance with the original purpose of acquisition or one or more of the various forms of guidance available for planning and management:

	<u>Approved</u>	<u>Conditional</u>	<u>Rejected</u>
Apiaries		✓	
Astronomy		✓	
Bicycling		✓	
Cattle grazing			✓
Citrus or other agriculture			✓
Ecosystem services and maintenance	✓		
Ecotourism		✓	
Environmental Education	✓		
First-responder training		✓	
Fishing	✓		
Geocaching		✓	
Hiking	✓		
Horseback riding			✓
Hunting			✓
Linear facilities			✓
Military training		✓	
Preservation of historical resources	✓		
Primitive camping	✓		

Protection of imperiled species	✓	
Off-road vehicle use		✓
Shooting sports park		✓
Soil and water conservation	✓	
Timber harvest		✓
Wildlife observation	✓	

3.3.2 Incompatible Uses and Linear Facilities

Consideration of incompatible uses and linear facilities on the LTIC are made in accordance with the requirements of Section 253.034(10) FS, and other applicable Florida constitution, statute, rule, and policy requirements, as well as other provisions governing applications for proposed incompatible uses or linear facilities on state-owned conservation lands. Upon approval and implementation of this management plan, any proposed future uses that have been classified herein as Rejected, or other proposed future uses that are determined to be incompatible with the purposes of acquisition or other management authorizations and guidance, will be forwarded for review and approval consideration to the DEP-DSL, the ARC and the Board of Trustees prior to any incompatible use or linear facility being authorized on the LTIC.

3.3.3 Assessment of Impact of Planned Uses of the Property

To communicate the FWC’s planned uses and activities, specific management intentions, long- and short-term goals and with associated objectives, identified challenges, and solution strategies have been developed for the LTIC (Sections 5 -8). A detailed assessment of the benefits and potential impacts of planned uses and activities on natural and historical resources was an integral part of the development of the management activities and intent, goals, objectives, challenges, and strategies sections of this Management Plan.

3.4 Acreage Recommended for Potential Surplus Review

On conservation lands where the FWC is the lead manager, the FWC evaluates and identifies recommended areas for a potential surplus designation by the DSL, the ARC, and the Board of Trustees. This evaluation consists of GIS modeling and analysis, aerial photography interpretation, analysis of fish and wildlife resources, a review of resource and operational management needs, and a review of public access and recreational use of the area. Also, the FWC considers recommendations for surplus lands as they relate to Florida’s “No Net Loss of Hunting Lands” legislation (Ch. 379.3001 F.S.), as well as surplus restrictions for lands acquired through the Federal Aid in Wildlife Restoration Act (Pittman-Robertson) or through other federal grant programs.

The evaluation of the LTIC by the FWC has determined that all portions of the area are being managed and operated for the original purposes of acquisition, and remain integral to

the continued conservation of important fish and wildlife resources, and continue to provide good fish and wildlife resource-based public outdoor recreational opportunities. Therefore, no portion of the LTIC is recommended for potential surplus review.

4 Accomplished Objectives from the Makinson Island and Paradise Island Management Plans 2001 – 2011 or Interim Management Activities

This section is dedicated to reporting the extent to which the Objectives described in the Makinson Island Management Plan 2001 – 2011 (pages 12 - 15) and in the Paradise Island Management Plan 2001-2011 (pages 12-15) were successfully completed. Accomplishments for the LTIC during the previous planning timeframe are further discussed in more comprehensive detail throughout **Section 5 Management Activities and Intent** of this Management Plan.

The following **Resource Management Goals and Objectives** from the 2001 Makinson Island Management Plan and the 2001 Paradise Island Management Plan describe the planned activities for Makinson and Paradise Island during this period. The degree to which the FWC was able to accomplish the planned activities during this period is reflected as **Percent Accomplished** for each associated Objective.

<u>Goals and Objectives</u>	<u>Percent Accomplished</u>
Goal 1: Provide Recreational Uses Which are Compatible with Enhancement of Wildlife Viewing Opportunities, Retention of Native Plant Communities and Protection of Sensitive Natural and Cultural Resources. (Both Islands)	
<u>Objective 1:</u> By 2001, allow no motorized vehicular access except for maintenance. (Paradise Island) <i>Comment: No motorized vehicles are allowed on the Island, except for maintenance purposes.</i>	100%
<u>Objective 2:</u> By 2001, enter into an "Agreement" with Osceola County School Board, Valencia Community College, Osceola County, and the City of Kissimmee outlining responsibilities of each agency with respect to funding and recreational/educational opportunities on Paradise Island. <i>Comment: Extensive ongoing conversations with Osceola County School Board, Valencia Community College, Osceola County, and the City of Kissimmee have occurred regarding cooperative management and recreational/ educational opportunities.</i>	25%

<p><u>Objective 3:</u> By 2002, request a comprehensive cultural resource survey by the Division of Historical Resources. (Paradise Island) <i>Comment: Cultural resource survey was requested from the DHR. The DHR found no records of cultural resources on the area and it was concluded that a survey was not needed at that time.</i></p>	100%
<p><u>Objective 4:</u> By 2002, establish a working school classroom on the island for middle and high school and college age students. (Paradise Island) <i>Comment: Extensive ongoing conversations have occurred regarding recreational/educational opportunities, such as a working classroom. However, budgetary restraints have prevented further development of these opportunities.</i></p>	0%
<p><u>Objective 5:</u> By 2003, fashion a loop nature trail with signs and kiosks. (Paradise Island) <i>Comment: Due to management challenges and budget constraints, development of a trail system was not feasible during this planning period.</i></p>	0%
<p><u>Objective 6:</u> By 2001, allow primitive camping for groups by use permit only. (Makinson Island) <i>Comment: The FWC and Osceola County have established, maintained, and continue to offer primitive camping on Makinson Island.</i></p>	100%
<p><u>Objective 7:</u> By 2001, allow no motorized vehicular access except for maintenance. (Makinson Island) <i>Comment: No motorized vehicles are allowed on the Island, except for maintenance purposes.</i></p>	100%
<p><u>Objective 8:</u> By 2003, fashion a loop nature trail with signs, kiosks and a boardwalk across associated swamps and wetlands. (Makinson Island) <i>Comment: The FWC and Osceola County have established nature trails, and installed informational signs and kiosks. However, in development of the trail system, alternatives to a boardwalk were used in association with the swamps and wetlands on the area.</i></p>	100%
<p><u>Objective 9:</u> By 2001, request a comprehensive cultural resource survey by the Division of Historical Resources. (Makinson Island) <i>Comment: A cultural resource survey was requested from the DHR. At the time of request, the DHR only found one historical structure on the area and did not recommend a survey be completed at that time.</i></p>	100%

<p>Objective 10: By 2001, enter into a MOU with Osceola County, Osceola County School Board, Valencia Community College and the City of Kissimmee outlining responsibilities of each agency with respect to funding and recreational/educational opportunities on Makinson Island. <i>Comment: An agreement with the FWC, Osceola County, Osceola County School Board, and the City of Kissimmee was established in 2002. However, Valencia Community College declined to enter into the agreement.</i></p>	100%
<p>Goal 2: Protect and Enhance the Quality of the Existing Native Plant Communities.</p>	
<p>Objective 1: Provide protection for sensitive plant communities and individual species by prohibiting access by motorized vehicles and using existing trails as the primary impact sites. (Ongoing) (Paradise Island) <i>Comment: No motorized vehicles are allowed on the Island, except for maintenance purposes, and limited to no public impacts occur on the area.</i></p>	100%
<p>Objective 2: Remove a selected portion of the citrus grove and allow the cleared area to undergo succession, limit mowing and replant native trees in the areas. (Paradise Island) <i>Comment: Succession of the citrus and the cleared area have occurred. However, due to management challenges and budget constraints replanting has not yet been feasible.</i></p>	50%
<p>Objective 3: Monitor vegetation for the invasion of exotic plant species, and take appropriate measures to eradicate or control. (Ongoing) (Paradise Island) <i>Comment: Island was surveyed and/or treated for exotic plant species twice during this planning period.</i></p>	20%
<p>Objective 4: Replant native trees where appropriate and use controlled burning as necessary. (Ongoing) (Paradise Island) <i>Comment: Due to budget constraints, Paradise Island was unable to be feasibly burned, and no native trees were able to be planted during this planning period.</i></p>	0%
<p>Objective 5: Provide protection for sensitive plant communities and individual species by prohibiting access by motorized vehicles and using existing trails as the primary impact sites. (Ongoing) (Makinson Island) <i>Comment: No motorized vehicles are allowed on the Island, except for maintenance purposes, and existing trails are the primary impact sites.</i></p>	100%
<p>Objective 6: Allow a selected portion of improved pasture to undergo succession by limiting mowing to the areas immediately adjacent to educational facilities. (Ongoing) (Makinson Island) <i>Comment: Improved pasture on Makinson Island has undergone succession and mowing has been limited in certain areas.</i></p>	100%

<p><u>Objective 7:</u> Monitor vegetation for the invasion of exotic plant species, and take appropriate measures to eradicate or control. (Ongoing) (Makinson Island) <i>Comment: Exotic plants have been, and are, regularly treated on the area to continue to control exotic species.</i></p>	100%
<p><u>Objective 8:</u> Replant native trees where appropriate and use controlled burning as necessary. (Ongoing) (Makinson Island) <i>Comment: The FWC and Osceola County have implemented prescribed burning on the Island to encourage natural regeneration of native tress.</i></p>	100%
<p>Goal 3: Inventory and Manage for Natural Faunal Species Diversity and Richness.</p>	
<p><u>Objective 1:</u> In cooperation with the Bureau of Wildlife Diversity Conservation, develop a contract for a systematic, comprehensive wildlife survey by 2003. (Paradise Island) <i>Comment: During this planning period the Bureau of Wildlife Diversity Conservation, within the FWC, was dissolved into other sections. However, FWC area biologists have worked with the appropriate FWC sections regarding wildlife management. During this time, a wildlife survey for Paradise Island was not necessary.</i></p>	0%
<p><u>Objective 2:</u> Manage for selected wildlife species by providing natural (butterfly gardens, etc.) and artificial (nest boxes, etc.) habitat enhancements. (Ongoing) (Paradise Island) <i>Comment: Due to management challenges and budget constraints, natural and artificial habitat enhancements were not feasible during this planning period.</i></p>	0%
<p><u>Objective 3:</u> Monitor for exotic species and capture and remove such animals. (Ongoing) (Paradise Island) <i>Comment: Paradise Island had a survey completed on the area during this planning period and there were no exotic animal species found on the area.</i></p>	100%
<p><u>Objective 4:</u> Introduce native species that are compatible with educational objectives for the island. (Ongoing) (Paradise Island) <i>Comment: Due to management challenges and budget constraints planting of native species was not feasible during this planning period.</i></p>	0%
<p><u>Objective 5:</u> In cooperation with the Bureau of Wildlife Diversity Conservation, develop a contract for a systematic, comprehensive wildlife survey by 2003. (Makinson Island) <i>Comment: During this planning period the Bureau of Wildlife Diversity Conservation, within the FWC, was dissolved into other sections. However, FWC area biologists have worked with the appropriate FWC sections regarding wildlife management. Regular and ongoing surveys for Makinson Island have been completed during this planning period.</i></p>	100%

<p>Objective 6: Manage for selected wildlife species by providing natural (butterfly gardens, etc.) and artificial (nest boxes, etc.) habitat enhancements. (Ongoing) (Makinson Island) <i>Comment: The FWC and Osceola County have planted several native species on Makinson Island to enhance the natural habitat of the area.</i></p>	100%
<p>Objective 7: Monitor for exotic species and capture and remove such animals. (Ongoing) (Makinson Island) <i>Comment: The FWC and Osceola County regularly monitor and remove any known and found exotic animal species.</i></p>	100%
<p>Objective 8: Introduce native species that are compatible with educational objectives for the island. (Ongoing) (Makinson Island) <i>Comment: The FWC and Osceola County have planted several native species on Makinson Island to enhance the natural habitat of the area, and have installed informational signs for educational purposes.</i></p>	100%
<p>Goal 4: Update and Improve Educational and Interpretive Materials and Programs.</p>	
<p>Objective 1: Coordinate signage and other educational needs with Osceola County Schools, Valencia Community College, Osceola County, and City of Kissimmee cooperators. (Ongoing) (Paradise Island) <i>Comment: Extensive ongoing conversations with Osceola County, Osceola County School Board, and the City of Kissimmee have occurred regarding cooperative management and recreational/educational opportunities. Budgetary restraints have prevented further development of any agreements and opportunities.</i></p>	0%
<p>Objective 2: Maintain self-interpretive hiking trails and educational materials in kiosks. (Ongoing) (Paradise Island) <i>Comment: Due to management challenges and budget constraints, development of a trail system and educational materials were not feasible during this planning period.</i></p>	0%
<p>Objective 3: By 2003, provide necessary infrastructure for picnic area (tables, rest rooms, etc.) to accommodate up to (100) students. Build and maintain a classroom for the students. (Paradise Island) <i>Comment: Due to management challenges and budget constraints, development of any infrastructure was not feasible during this planning period.</i></p>	0%
<p>Objective 4: Maintain self-interpretive hiking trails and educational materials in kiosks. (Ongoing) (Makinson Island) <i>Comment: The FWC and Osceola County have established and maintain nature trails, and installed and maintain informational signs and kiosks.</i></p>	100%

<p>Objective 5: Coordinate signage and other educational needs with Osceola County, Osceola County Schools, and City of Kissimmee cooperators. (Ongoing) (Makinson Island) <i>Comment: An agreement with the FWC, Osceola County, Osceola County School Board, and the City of Kissimmee was established in 2002, which encouraged coordination of recreational and educational needs on the Island.</i></p>	100%
<p>Objective 6: By 2002, provide necessary infrastructure for picnic area (tables, rest rooms, etc.) to accommodate up to (100) students. (Makinson Island) <i>Comment: The FWC and Osceola County have established and maintained a composting restroom facility, a pavilion with picnic tables, and a gazebo.</i></p>	100%
<p>Goal 5: Protect the Integrity of the Area's Shoreline and Wetlands.</p>	
<p>Objective 1: Restrict recreational uses to those that are least disruptive to soil and vegetative components. (Ongoing) (Paradise Island) <i>Comment: Currently there is limited public access on Paradise Island, so little to no disruption of soil and vegetation has occurred on Paradise Island.</i></p>	100%
<p>Objective 2: Prohibit vehicle use on the island except for necessary maintenance. (Ongoing) (Paradise Island) <i>Comment: No motorized vehicles are allowed on the Island, except for maintenance purposes.</i></p>	100%
<p>Objective 3: (By 2003) Provide boat access to the island only at a constructed boat dock. (Paradise Island) <i>Comment: Due to management challenges and budget constraints, construction of a boat dock was not feasible during this planning period.</i></p>	0%
<p>Objective 4: Employ water quality Best Management Practices for facility construction and maintenance. (Ongoing) (Paradise Island) <i>Comment: The FWC and Osceola regularly and ongoingly employ water quality Best Management Practices for Paradise Island.</i></p>	100%
<p>Objective 5: Restrict recreational uses to those that are least disruptive to soil and vegetative components. (Ongoing) (Makinson Island) <i>Comment: The FWC and Osceola work to restrict recreational uses to designated areas on the Island, in order to minimize disruption of the natural habitat.</i></p>	100%

<p>Objective 6: Prohibit vehicle use on the island except for necessary maintenance. (Ongoing) (Makinson Island) <i>Comment: No motorized vehicles allowed on the Island, except for maintenance purposes.</i></p>	100%
<p>Objective 7: (By 2003) Provide boat access to the island only at a constructed boat dock. (Makinson Island) <i>Comment: One boat dock is located on Makinson Island and the FWC and Osceola County work to maintain and control boat access at this location.</i></p>	100%
<p>Objective 8: Employ water quality Best Management Practices for facility construction and maintenance. (Ongoing) (Makinson Island) <i>Comment: The FWC and Osceola regularly and ongoingly employ water quality Best Management Practices for Makinson Island.</i></p>	100%
<p>Goal 6: Protect the Integrity of the Island's Cultural Resources</p>	
<p>Objective 1: (By 2002) contract with a licensed archaeologist to locate and identify archaeological and cultural resources of the island. (Paradise Island) <i>Comment: A cultural resource survey was requested from the DHR. The DHR found no records of cultural resources on the area and a survey was not needed during this planning period.</i></p>	0%
<p>Objective 2: (By 2002) Ensure that laws of the State of Florida pertaining to archaeological and cultural resources are adhered to by all managers and users of the island. (Paradise Island) <i>Comment: The FWC and Osceola County regularly communicate with the DHR and ensure all laws are abided by regarding any archaeological and cultural resources that are found on the Island.</i></p>	100%
<p>Objective 3: (By 2002) contract with a licensed archaeologist to locate and identify archaeological and cultural resources of the island. (Makinson Island) <i>Comment: A cultural resource survey was requested from the DHR during this planning period. At the time of request, the DHR only found one historical structure on the area and did not recommend a survey be completed during this planning period.</i></p>	0%
<p>Objective 4: (By 2002) Ensure that laws of the State of Florida pertaining to archaeological and cultural resources are adhered to by all managers and users of the island. (Makinson Island) <i>Comment: The FWC and Osceola County regularly communicate with the DHR and ensure all laws are abided by regarding any archaeological and cultural resources that are found on the Island.</i></p>	100%
<p>Goal 7: Provide Adequate Infrastructure to Facilitate Operations and Visitations.</p>	

<p><u>Objective 1:</u> By 2003, construct a classroom facility for educational purposes. <i>Comment: Due to management challenges and budget constraints, construction of a classroom facility was not feasible during this planning period.</i></p>	0%
<p><u>Objective 2:</u> By 2002, provide portable restroom facilities until permanent facilities can be constructed. <i>Comment: Due to management challenges and budget constraints, construction of restroom facilities was not feasible during this planning period.</i></p>	0%
<p><u>Objective 3:</u> By 2002, seek funding to construct permanent restroom facilities. <i>Comment: The FWC and Osceola County worked to pursue any possible additional funding to assist with constructing restroom facilities on Paradise Island. However, no funding was found to be available during this planning period.</i></p>	100%
<p><u>Objective 4:</u> By 2003, coordinate with Osceola County Schools and Valencia Community College to adapt portions of the island for middle school, high school and college level programs. <i>Comment: Extensive ongoing conversations with the Osceola County School Board regarding cooperative management and recreational/ educational opportunities. (Valencia Community College declined to participate) Budgetary restraints prevented further development of the agreements and opportunities.</i></p>	0%
<p><u>Objective 5:</u> By 2002, refurbish existing outdoor pavilions for use as educational facilities. (Makinson Island) <i>Comment: The outdoor pavilion on Makinson Island was refurbished prior to 2002. However, in 2004 it was destroyed by Hurricane Charley, and subsequently rebuilt in 2005.</i></p>	100%
<p><u>Objective 6:</u> By 2001, provide portable restroom facilities until permanent facilities can be constructed. (Makinson Island) <i>Comment: A permanent composting restroom facility is currently maintained on Makinson Island.</i></p>	100%
<p><u>Objective 7:</u> By 2003, seek funding to construct permanent restroom facilities. (Makinson Island) <i>Comment: The FWC and Osceola County were able to obtain funding sources that allowed for construction of the current composting restroom facility on the area.</i></p>	100%

<p>Objective 8: By 2003, coordinate with Osceola County Schools to adapt portions of the island for high school and middle school programs. (Makinson Island) <i>Comment: An agreement was developed with Osceola County School Board in 2002 but, due to budgetary constraints, programs developed by the school have now been discontinued.</i></p>	100%
<p>Goal 8: Provide adequate security to accomplish all other provisions of this plan.</p>	
<p>Objective 1: By 2001, develop an "Agreement" between cooperating management agencies that addresses the manner in which law enforcement security for the island is to be effected. (Paradise and Makinson Island) <i>Comment: Currently, Osceola County law enforcement and the FWC LE cooperatively enforce rules and regulations of both islands.</i></p>	100%

5 Management Activities and Intent

The following section provides a description of agency plans to locate, identify, protect, preserve or otherwise use fragile natural resources and nonrenewable historical resources. In general, the FWC and Osceola County’s management intent for the LTIC is to restore and maintain natural communities in a condition that sustains ecological processes and conserves biological diversity, especially fish and wildlife resources. In conjunction with this primary emphasis, it is FWC’s and Osceola County’s intent to provide quality fish and wildlife resource-based public outdoor recreational opportunities on the LTIC. The FWC and Osceola County will utilize the best available data, guidelines, natural resource management practices, and recreational management practices to achieve these outcomes in accordance with the original purposes for acquisition. Furthermore, as noted earlier, the management activities described in this section are in compliance with those of the Conceptual State Lands Management Plan.

5.1 Land Management Review

Pursuant to Chapter 259.036, FS, the DEP-DSL is required to “cause periodic management reviews to be conducted” on Board of Trustees conservation lands to determine if they “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.”

Due to the fact that the LTIC is less than the normal acreage threshold (1,000 acres) necessary to trigger an LMR, a LMR has not been conducted on the area. If a LMR for the LTIC is conducted in the future, the FWC will incorporate it into the LTIC Management Plan.

5.2 Adaptive Management

Adaptive management is "learning by doing";¹ it is the adjustment or modification of conservation actions to achieve a desired conservation goal. In practice, adaptive management is a rigorous process that includes sound planning and experimental design with a systematic evaluation process that links monitoring to management.^{1,2} Adaptive management requires flexibility for implementation, but should be fitted over a fundamentally sound, well-planned design.

An adaptive management process produces the strongest inference and most reliable results when experimental design components are incorporated into the monitoring process. Adaptive management is most rigorously applied in an active format when components of experimental design (i.e., controls, replication, and randomization) are included in the monitoring process.^{2,3} Incorporating valid statistical analyses of results will further enhance the value of the adaptive management process. However, in some situations, rigorous experimental design procedures can be relaxed without invalidating monitoring results. In a passive format, adaptive management can involve applying a conservation action at a site, observing the results and adjusting the action in the future if warranted.^{2,3}

Proposed adaptive management, monitoring and performance measures are developed through literature reviews and FWC staff meetings. Overall, a results-based approach is incorporated into this Management Plan, for which effective monitoring is an integral component. The FWC and Osceola County will monitor conservation actions, species, habitats, and major threats to the conservation of the natural and historical resources of LTIC.

5.2.1 Monitoring

A well-developed monitoring protocol is also one of the principal, required criteria for the management of the LTIC. Monitoring and performance measures are important, but often overlooked elements of conservation planning. Monitoring provides the critical link between implementing conservation actions and revising management goals.

Monitoring is the systematic, repeated measurement of environmental characteristics to detect changes, and particularly trends, in those characteristics. Monitoring provides essential feedback, the data needed to understand the costs, benefits, and effectiveness of planned conservation actions and the management projects undertaken to address them.²

For natural communities, the FWC will work with Osceola County in monitoring how specific vegetative attributes are responding to FWC and Osceola County management. For imperiled and focal fish and wildlife species, Osceola County and FWC staff will monitor fish and wildlife species as appropriate. Exotic and invasive plant and animal species (Section 5.5) are also monitored as needed and appropriate. Recreational

uses are monitored through Osceola County, and work in conjunction with the establishment and adjustment of public access carrying capacities (Section 5.6.2). Historical resources (Section 5.9) are monitored with guidance from the Florida Department of State's Division of Historical Resources (DHR).

5.2.2 Performance Measures

Performance measures include qualitative or quantitative measures used to provide an estimate or index of the characteristic of interest, and to chart the overall progress of conservation actions towards specific goals. Successful monitoring programs and their associated performance measures provide natural resource professionals with valuable feedback on the effectiveness of conservation actions and make it possible to implement a more flexible adaptive management approach. An adaptive management approach ultimately will be more efficient and effective when it tracks inputs, incorporates an effective monitoring program that integrates performance measures, and evaluates results against desired goals.

5.2.3 Implementation

The LTIC Management Plan serves as the guiding framework to implement this adaptive management process. It serves as the underpinning for the integration of management programs underway to accomplish needed conservation actions that are planned to manage the natural resources of the LTIC, and resolve conservation threats to fish and wildlife and the habitats they occupy. Based on evaluations of project results, the conservation actions are revised as necessary, and the adaptive management process is repeated.

5.3 Habitat Restoration and Improvement

On the LTIC, the FWC and Osceola County will focus on managing for native habitat diversity, emphasizing maintenance of high-quality natural communities, and restoration of disturbed areas. Restoration may be achieved on disturbed areas by the re-introduction of fire, restoring historic hydrological conditions and/or the use of mechanical or chemical forest management techniques as appropriate. Retention of the native old growth component of forests, while also providing for natural regeneration, remains an important consideration. The LTIC has high-quality native communities including cypress/tupelo, freshwater marshes, mixed hardwood-coniferous, mixed hardwood wetlands, prairies and bogs, successional hardwood forest, and upland hardwood forest that the FWC will continue to manage and protect. On disturbed upland sites, the FWC intends to initiate ground cover and natural community restoration.

Using the CLC to map the current vegetative communities on the LTIC, the FWC and Osceola County will use this information to guide and prioritize management and restoration efforts on the area.

5.3.1 Prescribed Fire and Fire Management

Periodic spring and summer fires occurred in fire-adapted communities under natural conditions. Plant species composition reflects the frequency and intensity of these fires. In the absence of fire, fallow fields on former longleaf sites follow a successional pattern through mixed pine-hardwood forests to an exclusively hardwood community rather than to the original plant community. The plant species composition may differ slightly on poorer soils, but the dominant role of fire in controlling hardwoods is equally important.

Timber removal, site preparation, drainage, and lack of fire have all combined to alter the plant species composition of the area resulting in a loss of fuel and inhibiting the return to a more “natural” fire management regime. Site-specific combinations of prescribed fire, mechanical and chemical vegetation control, reforestation, and restoration of natural water regimes are likely necessary actions needed to restore the area to historic natural communities.

The FWC and Osceola County employs a fire management regime to increase both species and habitat diversity and will continue a prescribed burning program on the LTIC in accordance with vegetative management objectives. As fire moves across a landscape, some areas carry fire better than others. Areas with higher vegetative fuel loads typically burn more evenly and with greater intensity. Areas with lower vegetative fuel loads or wetland areas inundated with water typically will not carry fire as evenly, and usually burn at a lower intensity. Employing a burning program with different burning frequencies, intensities, and seasonality (dormant season vs. growing season) of prescribed burns create habitat diversity and a mosaic of vegetation patterns. This mosaic is designed to have both frequently burned and infrequently burned aspects.

On some areas, prescribed burning is limited by the buildup of mid-story brush and a lack of pyrogenic groundcover fuels. This condition creates unsuitable habitat for many wildlife species. Mechanical control of brush on upland sites can reduce shading and encourage the grasses and forbs that are necessary to sustain prescribed fire.

Single drum (with standard, not offset blades), one-pass roller chopping can be a valuable management tool, enabling the use of prescribed fires in areas heavily invaded by dense woody vegetation. However, roller chopping may damage the herbaceous ground cover, especially wiregrass. Therefore, its application will be limited to situations where burning can only be accomplished by first reducing woody vegetation by mechanical means.

Whenever possible, existing firebreaks such as roads and trails, as well as natural breaks such as creeks and wetlands, will be used to define burning compartments. Disk harrows, mowing, and foam lines will be used as necessary to minimize disturbance and damage created by fire plows.

The transitional areas between two adjacent but different vegetative cover types, such as forests and wetlands, are known as ecotones. With the possible exception of wildfire suppression, mechanical soil disturbance in ecotones will be avoided in order to protect habitats for important rare species that often occur between flatwoods and riparian drainages. Silvicultural site preparation and creation of firebreaks are avoided when possible in these zones. Additionally, fires are allowed to burn into the edges of marshes, swamps and other wetlands in order to maintain these habitats. Once fuel loads have been reduced and a more open appearance has returned, vegetative management objectives will likely dictate a fire return interval that averages 1-4 years, preferably during the spring and early summer months.

In addition to the general prescribed fire management guidelines described above, an area-specific Prescribed Fire Plan will be developed and implemented for the LTIC. This plan will include, but not be limited to, delineation of burn management units, detailed descriptions of prescribed fire methodology, safety, and smoke management guidelines.

During the previous 10-year planning period, 100% of the area's fire adapted communities on Makinson Island have been treated with prescribed fire. Approximately 100% of the fire-adapted communities on Makinson Island are maintained within the recommended fire return intervals. However, due to budget constraints Paradise Island has not been treated with prescribed fire during the previous planning period. As detailed in the goals and objectives in Section 6 below, the FWC and Osceola County plans to conduct prescribed burning on 100% of the area's fire adapted communities resulting in 100% of the area being maintained within the recommended fire return intervals during this planning period. Potential projected challenges with continuing to successfully implement prescribed fire on the area are described further in Section 8. The continuing benefits of prescribed fire on the area's wildlife habitats along with other ongoing habitat restoration activities that are being implemented on the LTIC are discussed in more detail below.

5.3.2 Habitat Restoration

Significant habitat management activities have taken place within many of the natural communities of Makinson Island over the course of the previous management period beginning in 2001. Since 2001 almost all management units with fire-adapted natural communities within Makinson Island have been treated with prescribed fires, most on a repeated basis as established within the management plan. This has aided in the restoration of native ground cover and improved wildlife habitat throughout the LTIC. In addition to conducting prescribed burning, mowing has been conducted to further improve the habitat value of the natural communities at the LTIC and specifically encourage better habitat conditions for listed wildlife. Within the cypress/tupelo, mixed, successional, and upland hardwood forests communities, planting and native canopy restoration has occurred

in order to facilitate native groundcover restoration and support optimal habitat for native species.

In addition to prescribed burning activities, the FWC and Osceola County employs periodic natural community monitoring, to track restoration progress. Natural communities on the LTIC that may undergo some level of habitat restoration include cypress/tupelo, mixed, successional, and upland hardwood forests, freshwater marshes, and rural communities. Continuing habitat management activities on the LTIC will focus on enhancing natural communities, maintaining recommended fire return intervals for fire adapted communities, treating and removing exotic plant species, and controlling vegetation through mowing as needed. Chemical and mechanical treatments may also be implemented in some select hardwood habitats in order to restore these areas to an earlier successional condition. Exotic species control is more extensively discussed in Section 5.5, below. Further specific habitat management and improvement objectives planned for the LTIC are described in Section 6 below.

5.4 Fish and Wildlife Management, Imperiled and Focal Species Habitat Maintenance, Enhancement, Restoration, or Population Restoration

5.4.1 Fish and Wildlife

Due to the variety of natural communities, a diversity of associated wildlife, including rare, imperiled, common game, and non-game species, can be found on the LTIC. In managing for wildlife species, an emphasis will be placed on conservation, protection and management of natural communities. As noted above, natural communities important to wildlife include cypress/tupelo, freshwater marshes, mixed hardwood-coniferous, mixed hardwood wetlands, prairies and bogs, successional hardwood forest, and upland hardwood forest.

The size and natural community diversity of the LTIC creates a habitat mosaic for a wide variety of wildlife species. Resident wildlife will be managed for optimum richness, diversity and abundance. In addition to resident wildlife, the LTIC provides resources critical to many migratory birds including waterfowl, passerines, raptors, shorebirds and others. Habitats important to migratory species will be protected, maintained or enhanced.

Wildlife monitoring emphasis is placed on documenting the occurrence and abundance of rare and imperiled species on the property. The FWC and Osceola County will continue to update inventories for certain species, with emphasis on rare and imperiled fish and wildlife species. Monitoring of wildlife species will continue as an ongoing effort for the area.

Concurrent with ongoing species inventory and monitoring activities, management practices are designed to restore, enhance or maintain rare and imperiled species, and their habitats. This will be further augmented by following approved Federal and FWC species recovery plans, guidelines, and other scientific recommendations for these species. Guided by these recommendations, land management activities including prescribed burning and native species planting will address rare and imperiled species requirements and habitat needs.

The FWC will also continue to monitor bat houses located on Makinson Island, and as outlined in Section 6.2 and 6.3 the FWC and Osceola County will continue to monitor and protect imperiled and focal species occurring on and around the LTIC. The FWC and Osceola County will also explore the feasibility of installing wood duck boxes and an Osprey platform on the area during this planning period. These imperiled species projects, along with other ongoing imperiled species management activities, will continue to be implemented in accordance with the FWC's and Osceola County's LTIC Species Management Strategies.

5.5 Exotic and Invasive Species Maintenance and Control

The FWC will continue efforts to control the establishment and spread of Florida Exotic Pest Plant Council (FLEPPC) Category I or II plants on the LTIC. Control technologies may include mechanical, chemical, biological, and other appropriate treatments. Treatments utilizing herbicides will comply with instructions found on the herbicide label and employ the Best Management Practices for their application.

Exotic and invasive plant species known to occur on the LTIC and treated annually by the FWC include air-potato, alligator weed, Brazilian peppertree, Caesar's weed, camphor tree, chinaberry, Chinese tallow tree, cogon grass, golden bamboo, guava, hydrilla, lantana, shrub verbena, limpgrass, Peruvian primrose willow, pothos, torpedo grass, tropical soda apple, water lettuce, and water-hyacinth. Exotic and invasive plant species have been identified as occurring at varying densities on approximately 20 acres of Makinson Island. However, the FWC's methodology for determining the number of acres "infested" with invasive exotic plants only represents a cumulative acreage, and does not reflect the degree of the invasive exotic occurrence. The degree of infestation among areas identified with invasive exotic plant occurrences often varies substantially by species, level of disturbance, environmental conditions, and the status of ongoing eradication and control efforts. The FWC and Osceola County will continue to focus treatments on areas identified as having invasive exotic plant occurrences, as well as treating any new occurrences as they are identified through continued monitoring. Other vegetation management on Makinson Island may include pasture grass maintenance in the improved area and periodic removal

of deadfall of limbs from the mature oaks. Grassy areas will also be mowed on a regular rotation.

Currently the span of exotic and invasive species growth on Paradise Island is unknown. However, as outlined in Section 6.4, the FWC and Osceola County will conduct a survey and/or mapping of exotic and invasive species on Paradise Island during this planning period.

Primarily chemical control will be the primary means of control on the LTIC, however other methods such as mechanical, fire, hand removal, and seed collection may be used as needed and appropriate.

Additionally, the FWC and Osceola County will continue efforts to control the introduction of exotic and invasive species, as well as pests and pathogens, on the LTIC by inspecting any vehicles and equipment brought onto the area by contractors and requiring that they be free of vegetation and dirt. If vehicles or equipment used by contractors are found to be contaminated, they will be referred to an appropriate location to clean the equipment prior to being allowed on the area. This requirement is included in every contract for contractors who are conducting any operational or resource management work on the area. In this way, the FWC implements a proactive approach to controlling the introduction of exotic pests and pathogens to the area.

An exotic animal species of concern on the LTIC is the feral hog. These animals have high reproductive rates, and when populations reach high densities, feral hogs can significantly degrade natural communities through foraging activity (rooting). The FWC will consult with other regional natural resource managing agencies and private landowners to coordinate feral hog control measures as necessary. Feral hog populations may also be controlled by trapping, as necessary, to aid in minimizing the negative impacts caused by feral hog populations on the area.

Other exotic animal species that are found or have the potential to be found on the area include Cuban tree frog, Cuban anole, and mouflon sheep. The FWC will continue to conduct measures to control and monitor exotics species on the area as outlined in Section 6.4 of this management plan. Ongoing exotic plant species challenges are further detailed in Section 8 below.

Currently, maintenance and control of invasive exotic plant species (Table 5) continues to be a significant management challenge at the LTIC. During the previous 10-year planning period, the FWC continued to implement extensive exotic and invasive species control and maintenance activities throughout the LTIC. The FWC and Osceola County will continue to focus control and maintenance activities on areas identified as having invasive exotic

plant occurrences, as well as treating any new occurrences as they are identified through continued monitoring activities. Ongoing exotic plant species objectives and challenges for the LTIC are further detailed in Sections 6 - 8 below.

5.6 Public Access and Recreational Opportunities

5.6.1 Americans with Disabilities Act

When public facilities are developed on areas managed by the FWC, every effort is made to comply with the Americans with Disabilities Act (Public Law 101-336). As new facilities are developed, the universal access requirements of this law are followed in all cases except where the law allows reasonable exceptions. Recreation facilities in semi-primitive or primitive zones will be planned to be universally accessible to the degree possible except as allowed by the ADA⁴ where:

1. Compliance will cause harm to historical resources, or significant natural features and their characteristics.
2. Compliance will substantially alter the nature of the setting and therefore the purpose of the facility.
3. Compliance would not be feasible due to terrain or prevailing construction practices.
4. Compliance would require construction methods or materials prohibited by federal or state statutes, or local regulations.

5.6.2 Public Access Carrying Capacity

Baseline carrying capacities for users on FWC-managed lands are established by conducting a site-specific sensitivity analysis using available data for the site. The intent of the carrying capacity analysis is to minimize wildlife and habitat disturbance and provide the experience of being “immersed in nature” that visitors to FWC-managed areas desire. Carrying capacities are just a first step; management of recreational use requires a means of monitoring visitor impacts. Responding to these impacts may require adjusting the carrying capacities as necessary. The carrying capacities generated through this process are used as a tool to help plan and develop public access, wildlife viewing, and fish and wildlife resource based public outdoor recreation opportunities. Based on an analysis of the overall approved uses and supported public access user opportunities, and the anticipated proportional visitation levels of the various user groups, the FWC has determined that Makinson Island can currently support 111 visitors per day, and Paradise Island can support 83 visitors per day. It is important to note that public access carrying capacities are not developed to serve as a goal for expanding the public use of a particular area to match the established carrying capacity. Rather, they are developed to establish maximum

thresholds for public use of the respective area in order to protect the natural and historical resources on the LTIC and to ensure that visitors will have a high-quality visitor experience. The public access carrying capacity will be periodically reevaluated, and additional capacity may be contemplated in the future.

5.6.3 Wildlife Viewing

The LTIC is home to a variety of resident wildlife found within its flatwoods, scrub, and other natural communities. The LTIC's size, location, and variety of habitat types create outstanding wildlife viewing opportunities. Additionally, wildlife opportunities are projected to increase upon completed of planned improvement for public access and wildlife viewing outlined in Section 6.5 and 6.9 of the plan.

To facilitate wildlife viewing recreational opportunities on the area, the FWC has continued to establish and maintain hiking trails, one kiosk, a pavilion, and a gazebo. During the previous 10-year planning period, the FWC completed several public access, recreational, and facility improvements on LTIC. Further planned public access facility improvements are detailed in Section 6 below. Ongoing public access and recreational opportunity management challenges are addressed in Section 8 below. In addition, the FWC will continue to implement public access, recreational, and educational opportunities on the area in accordance with the Osceola Recreational Master Plan.

5.6.4 Hunting

Hunting is prohibited on the LTIC. However, hunting opportunities are offered on nearby public lands.

5.6.5 Fishing

Fishing is authorized year-round at the LTIC. However, currently fishing opportunities on the LTIC are limited. Additionally, however, fishing opportunities are projected to increase upon completion of planned improvement for capital facilities and infrastructure outlined in Section 6.9 of this plan.

5.6.6 Boating

The LTIC does not contain any surface or natural water bodies on the area, however boating is authorized year-round on Lake Tohopekaliga.

5.6.7 Trails

Currently, the LTIC offers nearly 2.25 miles of designated trails on Makinson Island.

5.6.7.1 Hiking

Hiking is authorized year-round on the LTIC. However, currently hiking opportunities are only available on Makinson Island.

5.6.7.2 Bicycling

Bicycling is authorized year-round on the LTIC. However, bicycling is only accessible on Makinson Island, and opportunities are limited.

5.6.7.3 Equestrian

Horseback riding is prohibited on the LTIC. However, equestrian opportunities are offered on nearby public lands.

5.6.8 Camping

Primitive camping is authorized year-round on the LTIC through a permit only process. However, camping opportunities are currently only available on Makinson Island.

5.6.9 Geocaching

Geocaching, also known as Global Positioning System (GPS) Stash Hunt and GeoStash, is a contemporary combination of orienteering and scavenger hunting generally utilizing a GPS receiver unit. Geocache websites routinely promote good stewardship. However, the potential exists for resource damage, user conflicts, or safety issues caused by inappropriately placed caches and/or links that do not provide adequate information about the area.

It is the policy of the FWC to allow placement of geocaches only in those locations that do not present the potential for resource damage, user conflicts, or threats to the safety of the activity participants. The placement of geocaches on FWC-managed lands is governed by specific guidelines. These guidelines may be found on the following FWC website: <http://myfwc.com/license/public-land-use/geocaching/guidelines/>.

5.6.10 Environmental Education

Currently, the FWC and Osceola County are working to increase environmental education opportunities on both Makinson and Paradise Island. These potential opportunities are further outlined in Section 6.5, 6.9, and 6.13.

5.7 Hydrological Preservation and Restoration

5.7.1 Hydrological Assessment

The LTIC does not contain any surface or natural bodies of water on the islands themselves, however the FWC will continue to work with the SFWMD and the DEP on

monitoring groundwater resources and water quality. The FWC will also continue to cooperate on maintaining the LTIC in a way that continues to conserve and protect the surrounding Lake Tohopekaliga.

5.8 Forest Resource Management

There are no substantial timber resources found on the LTIC. As a result, the FWC and the FFS have determined that a professional forest assessment for the LTIC is unnecessary. The FWC will cooperate with the FFS or a qualified professional forestry consultant regarding any forest management activities should they become necessary or appropriate.

5.9 Historical Resources

Procedures outlined by the DHR will be followed to preserve the historical sites of the LTIC. The FWC will consult with the DHR in an attempt to locate any additional historical features on the area. In addition, the FWC will ensure management staff has the DHR Archaeological Resources Monitoring training. The FWC will refer to and follow the DHR's Management Procedures for Archaeological and Historical Sites and Properties on State-Owned or Controlled Properties for management of these resources, and prior to any facility development or other ground disturbing activities. Furthermore, as appropriate and necessary, the FWC will contact professionals from the DHR for assistance prior to any ground-disturbing activity on the LTIC. To date, the DHR Master Site File indicates one known historic structure on the LTIC, however this structure was destroyed in 2004 during hurricane Charley. The FWC will contract a new archeological survey during this planning period and will continue to coordinate with the DHR on any further historic sites that may be found on the area

5.10 Capital Facilities and Infrastructure

The FWC's land management philosophy is designed to conserve the maximum amount of wildlife habitat while providing the minimal number of capital facilities and infrastructure necessary to effectively conduct operational and resource management activities, and provide ample opportunities for fish and wildlife resource-based public outdoor recreation. For these reasons, planned capital facilities and infrastructure will focus on improving access, recreational potential, hydrology, or other resource and operational management objectives.

Current capital facilities and infrastructure on the LTIC include a boat access dock on Makinson Island and a boat ramp on the eastern shoreline. Facilities and infrastructure on Makinson Island also include a kiosk, a composting restroom facility, a pavilion, primitive campsites, a well, ~2.25 miles of designated trails, and a gazebo. On the eastern shoreline parcel, there includes a pole barn, an FWC office facility, a wet lab, and a garage.

Possible future facilities and infrastructure that may occur on the area are further outlined in Section 6.9. As described in Section 2.4.1 of this Management Plan, for any public facilities that are developed on areas managed by the FWC, every effort is made to comply with the Americans with Disabilities Act (Public Law 101-336).

5.11 Land Conservation and Stewardship Partnerships

The FWC utilizes a three-tiered approach to identifying, acquiring or otherwise protecting important conservation lands adjacent to or in proximity to existing FWC-managed areas. This involves development of an Optimal Resource Boundary (ORB), Optimal Conservation Planning Boundary (OCPB) and associated Conservation Action Strategy (CAS).

Increasingly, cooperative land steward partnership efforts with private landowners plays an integral role in this effort as does ongoing land conservation, either through fee-simple or less-than-fee conservation easements. In combination, this tiered model helps the FWC to further the regional conservation of important fish and wildlife habitats through a proactive, comprehensive, and cooperative approach towards conservation.

5.11.1 Optimal Resource Boundary

This three-tiered model begins with the development of an ORB, which is a resource-based analysis on a regional scale that integrates important FWC conservation research and analysis into practical planning, acquisition, and management efforts through GIS analysis. The ORB focuses on critical and important wildlife species or habitat considerations such as rare and imperiled species habitat within a particular region or ecosystem-like area on a landscape scale within which an FWC-managed area is contained while eliminating urban areas or lands that have already been conserved or protected.

5.11.2 Optimal Conservation Planning Boundary

The second tier is known as the OCPB. The OCPB combines the regional natural resources identified in the ORB, as well as regional and local area conservation planning, including habitat conservation and restoration, habitat linkages, management challenges, land use and zoning issues, infrastructure including roads and developments, improving access, eliminating inholdings, providing prescribed burn buffers, resolving boundary irregularities, water resource protection, and conserving other important natural and historical resources.

The OCPB provides the basis for development of a broader CAS for the LTIC. Although the OCPB provides the basis for potential future voluntary, willing-seller conservation acquisitions, it is designed to function primarily as a conservation planning boundary. The OCPB identifies surrounding lands and natural resources that may be important to the continued viability of fish and wildlife populations in the region. As they are currently

managed, these lands appear to contribute to regional conservation and may support conservation landscape linkages.

5.11.3 Conservation Action Strategy

The CAS is the third tier, and implements the results of the ORB and OCPB tiers. This element of the process incorporates the conservation planning recommendations into an action strategy that prioritizes conservation needs. The CAS is integral to the development of conservation stewardship partnerships and also implements the current approved process for establishing the FWC Florida Forever Inholdings and Additions acquisition list.

Primary components of the CAS may include:

- FWC Landowner Assistance Program
- FWC conservation planning
- FWC Additions and Inholdings Program Land Conservation Work Plan
- Forest Stewardship Program proposals
- Florida Forever project proposals and boundary modifications
- Conservation easements
- Federal or State grant conservation proposals
- Regional or local conservation proposals
- Local, state, and federal planning proposals
- Non-governmental organization conservation proposals

Continued conservation of these lands may be aided by available voluntary landowner stewardship programs, conservation easements, and in some cases, potential voluntary conservation acquisitions. Participation in any FWC conservation effort is entirely voluntary and at the sole choice of willing landowners.

Private landowners seeking assistance with habitat management will likely find it offered within the FWC's Landowner Assistance Program (LAP). The FWC employs biologists who are available to provide wildlife-related assistance with land-use planning and habitat management. There are many forms of assistance that include technical, financial, educational, and various forms of recognition that seek to award landowners who manage their wildlife habitat responsibly. More information on the FWC's LAP program and online habitat management tools are available online at: <http://myfwc.com/conservation/special-initiatives/lap/> .

5.11.4 FWC Florida Forever Additions and Inholdings Acquisition List

Currently, the FWC has identified no potential additions or privately held inholding for the LTIC. Upon completion of the CAS, additions to the FWC Florida Forever Additions and Inholdings acquisition list may be recommended.

5.12 Research Opportunities

The FWC intends to cooperate with researchers, universities, and others as feasible and appropriate. For LTIC, the FWC will continue to assess and identify research needs, and pursue research and environmental education partnership opportunities as appropriate. Research proposals involving the use of the area are evaluated on an individual basis. All research activities on LTIC must have prior approval by the FWC.

5.13 Cooperative Management and Special Uses

5.13.1 Cooperative Management

The FWC is responsible for the overall management and operation of LTIC as set forth in the lease agreements with the Board of Trustees. In keeping with the lease agreements, and in order to conduct its management operations in the most effective and efficient manner, the FWC cooperates with other agencies to achieve management goals and objectives described in this management plan. The FWC has a cooperative management agreement for Makinson Island with Osceola County, the City of Kissimmee, and the Osceola County School Board. This agreement deems Osceola County as lead management authority over Makinson Island. The FWC will continue to work with Osceola County for management of Makinson Island, and work towards developing a cooperative management agreement for Paradise Island during this planning period. Other agencies the FWC works to cooperate with include cooperating with the DHR to ensure the requirements of the Management Procedures Guidelines – Management of Archaeological and Historical Resources document (Appendix 12.10) are followed with regard to any ground-disturbing activities. In addition, the FFS assists the FWC by providing technical assistance on forest resource management. Also, the FWC cooperates and consults with the SFWMD and the DEP for the monitoring and management of both ground and surface water resources and the overall management of the LTIC.

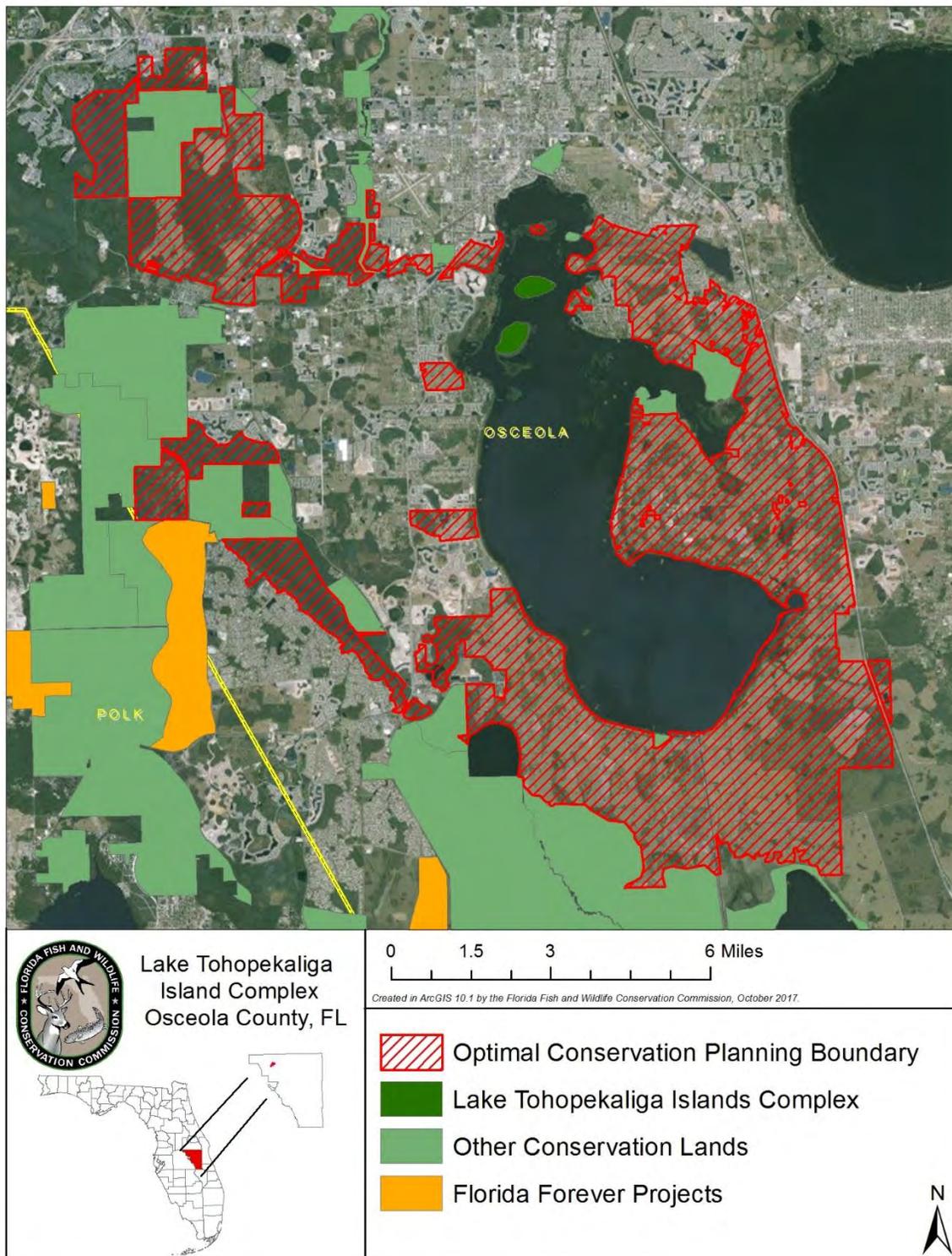


Figure 10. The LTIC's Optimal Conservation Planning Boundary

Florida Fish and Wildlife Conservation Commission | Lake Tohopekaliga Islands Complex Management Plan

5.13.2 First Responder and Military Training

First-responder (public governmental police department or agency, fire and emergency medical service personnel) training and military training are conditionally allowed on the LTIC. Such activities are considered allowable uses only when undertaken intermittently for short periods of time, and in a manner that does not impede the management and public use of LTIC, and causes no measurable long-term impact to the natural resources of the area. Additionally, FWC staff must be notified and approve the training through issuance of a permit prior to any such training taking place on the LTIC. Any first-responder or military training that is not low-impact, intermittent and occasional would require an amendment to this management plan, and therefore will be submitted by the FWC to the DSL and the ARC for approval consideration prior to authorization.

5.13.3 Apiaries

Currently, there are no apiaries operating on the LTIC. However, use of apiaries is conditionally approved for the LTIC, and is deemed to be consistent with purposes for acquisition, is in compliance with the Conceptual State Lands Management Plan, and is consistent with the FWC agency mission, goals, and objectives as expressed in the agency Strategic Plan and priorities document (Appendix 12.10). Location, management, and administration of apiaries on the LTIC will be guided by the FWC Apiary Policy (Appendix 12.9).

The FWC Apiary Policy (Appendix 12.9) will be followed with regards to site location, management, and administration of apiaries.

5.14 Climate Change

Because of Florida's unique ecology and topography, any potential impacts as a result of climate change may be particularly acute and affect multiple economic, agricultural, environmental, and health sectors across the state. The impact of climate change on wildlife and habitat may already be occurring, from eroding shorelines and coral bleaching to increases in forest fires and saltwater intrusion into inland freshwater wetlands.

The Intergovernmental Panel on Climate Change (IPCC), a multi-national scientific body, reports that climate change is likely proceeding at a rate where there will be unavoidable impacts to humans, wildlife, and habitat. Given current levels of heat-trapping greenhouse gas emissions, shifts in local, regional, and national climate patterns including changes in precipitation, temperature, increased frequency and intensity of extreme weather events, rising sea levels, tidal fluctuations, and ocean acidification are projected. The current trend of global temperature increase has appeared to accelerate in recent decades, and continued greenhouse gas emissions may result in projected global average increases of 2 – 11.5° F by the end of the century.⁵

This apparent change in global climate has the potential to disrupt natural processes; in some areas, climate change may cause significant degradation of ecosystems that provide services such as clean and abundant water, sustainable natural resources, protection from flooding, as well as hunting, fishing and other recreational opportunities. Consequently, climate change is a challenge not only because of its likely direct effects, but also because of its potential to amplify the stress on ecosystems, habitats, and species from existing threats such as exponential increases in surface and ground water use, habitat loss due to increased urbanization, introduction of invasive species, and fire suppression.

Potential impacts that may be occurring as a result of climate change include: change in the timing of biological processes, such as flowering, breeding, hibernation, and migration;^{6, 7, 8} more frequent invasions and outbreaks of exotic invasive species;⁹ and loss of habitat in coastal areas due to sea level rise.¹⁰ Some species are projected to adjust to these conditions through ecological or evolutionary adaptation, whereas others are projected to exhibit range shifts as their distributions track changing climatic conditions. Those species that are unable to respond to changing climatic conditions are projected to go extinct. Some estimates suggest that as many as 20% - 30% of the species currently assessed by the IPCC are at risk of extinction within this century if global mean temperatures exceed increases of 2.7 – 4.5° F.¹¹ A number of ecosystems are projected to be affected at temperature increases well below these levels.

At this time, the potential effects of climate change on Florida's conservation lands are just beginning to be studied and are not yet well understood. For example, the FWC has begun a process for currently developing climate change adaptation strategies for monitoring, evaluating, and determining what specific actions, if any, may be recommended to ameliorate the projected impacts of climate change on fish and wildlife resources, native vegetation, and the possible spread of exotic and invasive species. Currently, the FWC is continuing its work on the development of these potential adaptation strategies. However, as noted above, the effects of climate change may become more frequent and severe within the time period covered by this Management Plan.

For these reasons, there is a continuing need for increased information and research to enable adaptive management to cope with potential long-term climate change impacts. The most immediate actions that the FWC can take are to work with partners to gather the best scientific data possible for understanding natural processes in their current state, model possible impacts and subsequent changes from climate change, develop adaptive management strategies to enhance the resiliency of natural communities to adapt to climate change, and formulate criteria and monitoring for potential impacts when direct intervention may be necessary to protect a species. To this end, when appropriate, the FWC will participate in organizations such as the Peninsular Florida Land Conservation

Cooperative or similar organizations so that the FWC continues to gain understanding and share knowledge of key issues related to potential climate change. In addition, the FWC will consider the need for conducting vulnerability assessments to model the potential effects of climate change, especially sea level rise and storm events, on imperiled species and their habitats on FWC-managed land.

Elements of climate change that may potentially affect the LTIC include, more frequent and more potent storm events, alteration of vegetation reproductive cycles, and changes in the fire regime. The potential loss of habitat may result in the loss of species using that habitat, including migrating and nesting birds. Storm events also cause considerable physical damage to native vegetation along vulnerable shorelines, impacting nesting habitat for sea life and shorebirds. The projected rise in sea levels may decrease the availability and abundance of prey for wading birds. Climate change may amplify and hasten these effects, potentially at rates that exceed the normal resiliency of plant communities to recover, shift or adapt accordingly.^{16, 17} Projected saltwater intrusion into the subsurface freshwater lens from potential sea level rise and saltwater inundation of surface freshwaters from storm surges may alter coastal ecosystems and freshwater marshes, possibly resulting in more salt-tolerant aquatic plant communities.

To address the potential impacts of climate change on the LTIC, Goals and Objectives have been developed as a component of this Management Plan (Section 6.11). Depending on the recommendations of the adaptive management strategies described above, additional specific goals and objectives to mitigate potential climate change impacts may be developed for the LTIC Management Plan in the future.

5.15 Soil and Water Conservation

Soil disturbing activities will be confined to areas that have the least likelihood of experiencing erosion challenges. On areas that have been disturbed prior to acquisition, an assessment will be made to determine if soil erosion is occurring, and if so, appropriate measures will be implemented to stop or control the effects of this erosion.

6 Resource Management Goals and Objectives

The management goals described in this section are considered broad, enduring statements designed to guide the general direction of management actions to be conducted in order to achieve an overall desired future outcome for the LTIC. The objectives listed within each management goal offer more specific management guidance and measures, and are considered the necessary steps to be completed to accomplish the management goals. Many of the objectives listed have specific end-of-the-calendar-year target dates for completion and all of them are classified as having either short-term (less than two years) or long-term (up to ten years) timelines for completion.

6.1 Habitat Restoration and Improvement

Goal: Improve extant habitat and restore disturbed areas.

Short-term

- 6.1.1** Conduct prescribed burning on approximately 10 acres of fire adapted communities per year on Makinson Island.
- 6.1.2** Maintain 53 acres of fire adapted communities (100%) within 3 – 5 year target fire return interval on Makinson Island.
- 6.1.3** Contract for mapping of historic and current natural communities on both Makinson and Paradise Islands.
- 6.1.4** Develop and implement prescribed burn plan for Makinson Island.
- 6.1.5** Conduct habitat/natural community improvement and restoration activities on 1 acres per year including planting on Makinson Island.

Long-term

- 6.1.6** Conduct prescribed burning on approximately 10 acres of fire adapted communities per year on Makinson Island.
- 6.1.7** Maintain 53 acres of fire adapted communities (100%) within 3 – 5 year target fire return interval on Makinson Island.
- 6.1.8** Develop and implement prescribed burn plan for Paradise Island.
- 6.1.9** Continue to implement prescribed burn plan on Makinson Island.

- 6.1.10 Maintain 30 acres of fire adapted communities (30%) within 3 – 5 year target fire return interval on Paradise Island
- 6.1.11 Continue to conduct habitat/natural community improvement on 1 acres per year on Makinson Island.
- 6.1.12 Continue to conduct habitat/natural community restoration activities on 2 – 3 acres on Makinson Island.

6.2 Imperiled and Focal Species Habitat Maintenance, Enhancement, Restoration, or Population Restoration

Goal: Maintain, improve, or restore imperiled species populations and habitats.

Short-term

- 6.2.1 Monitor 11 imperiled and focal species. (American alligator, Audubon’s crested caracara, Little blue heron, Roseate spoonbill, Southeastern American kestrel, Eastern indigo snake, Tricolored heron, Florida sandhill crane, Southern bald eagle, Wood stork, and Everglade snail kite)
- 6.2.2 Continue to collect opportunistic wildlife species occurrence data.

Long-term

- 6.2.3 Monitor 13 imperiled and focal species. (American alligator, Audubon’s crested caracara, Little blue heron, Roseate spoonbill, Southeastern American kestrel, Eastern indigo snake, Tricolored heron, Florida sandhill crane, Southern bald eagle, Wood stork, and Everglade snail kite)
- 6.2.4 Continue to collect opportunistic wildlife species occurrence data.

6.3 Other Wildlife (Game and Nongame) habitat maintenance, enhancement, restoration, or population restoration.

Short-term

- 6.3.1 Continue to collect opportunistic wildlife occurrence data
- 6.3.2 Continue to monitor bat house on Makinson Island.

Long-term

- 6.3.3 Continue to collect opportunistic wildlife occurrence data

6.3.4 Continue to monitor bat house on Makinson Island.

6.3.5 Explore the feasibility of constructing Osprey platform.

6.4 Exotic and Invasive Species Maintenance and Control

Goal: Remove exotic and invasive plants and animals and conduct needed maintenance- control.

Short-term

6.4.1 Annually treat at least 20 acres of EPPC Category I and Category II invasive exotic plant species on Makinson Island. (list species)

6.4.2 Monitor for exotic and nuisance animal species, including feral hog and Cuban tree frog, and implement control measure as necessary on Makinson Island.

Long-term

6.4.3 Continue to annually treat at least 20 acres of EPPC Category I and Category II invasive exotic plant species on Makinson Island.

6.4.4 Continue to monitor for exotic and nuisance animal species, including feral hog and Cuban tree frog, and implement control measure as necessary Makinson Island.

6.4.5 Conduct survey and/or mapping of invasive exotic plant species on Paradise Island.

6.5 Public Access and Recreational Opportunities

Goal: Provide public access and recreational opportunities.

Short-term

6.5.1 Maintain and develop public access and recreational opportunities to allow for a recreational carrying capacity of 111 visitors per day on Makinson Island and 83 visitors per day on Paradise Island.

6.5.2 Continue to provide one kiosk, website, and informational signs for interpretation and education on Makinson Island.

6.5.3 Maintain/design/develop ~2.25 miles of designated trails.

6.5.4 Continue to provide paddling opportunities on appropriate water bodies.

6.5.5 Continue to provide fishing opportunities on appropriate water bodies.

6.5.6 Continue to provide primitive camping opportunities on Makinson Island.

- 6.5.7 Cooperate with other agencies, including Osceola County, stakeholders, and regional landowners to investigate regional recreational opportunities including linking paddling, hiking, and trail systems between adjacent public areas.
- 6.5.8 Continue to identify partnerships that could provide for environmental educational programs and outreach.
- 6.5.9 Monitor trail annually for visitor impacts.
- 6.5.10 Continue to cooperate and coordinate with the Great Birding Trail on Makinson Island.

Long-term

- 6.5.11 Maintain and develop public access and recreational opportunities to allow for a recreational carrying capacity of 111 visitors per day on Makinson Island and 83 visitors per day on Paradise Island.
- 6.5.12 Continue to provide one kiosk, website, informational signs for interpretation and education on Makinson Island.
- 6.5.13 Continue to maintain/design/develop ~2.25 miles of designated trails on Makinson Island.
- 6.5.14 Explore the feasibility of developing trail systems on Paradise Island.
- 6.5.15 Implement Osceola County's recreation plan.
- 6.5.16 Monitor trails annually for visitor impacts.
- 6.5.17 Explore the feasibility of expanding camping opportunities on Makinson Island and developing camping opportunities on Paradise Island.
- 6.5.18 Reassess recreational opportunities every three years.
- 6.5.19 Continue to provide paddling opportunities on appropriate water bodies.
- 6.5.20 Continue to provide fishing opportunities on appropriate water bodies.
- 6.5.21 Explore the feasibility of constructing an environmental lab on Paradise Island for educational purposes.
- 6.5.22 Explore the feasibility of identifying partnerships to construct a fishing and ecotourism resort on Makinson Island.

6.5.23 Cooperate with other agencies, including Osceola County, stakeholders, and regional landowners to investigate regional recreational opportunities including linking paddling, hiking, and trail systems between adjacent public areas.

6.5.24 Continue to cooperate with City of Kissimmee and Osceola County School Board and identify partnerships that could provide for environmental educational programs and outreach.

6.5.25 Continue to cooperate and coordinate with the Great Birding Trail on Makinson Island.

6.5.26 Explore the feasibility of incorporating Paradise Island with the Great Birding Trail.

6.6 Hydrological Preservation and Restoration

Goal: Protect water quality and quantity, restore hydrology to the extent feasible, and maintain the restored condition.

Short-term

6.6.1 Continue to cooperate with the SFWMD for the monitoring of surface and ground water quality and quantity.

Long-term

6.6.2 Continue to cooperate with the SFWMD for the monitoring of surface and ground water quality and quantity.

6.7 Forest Resource Management

Goal: Manage timber resources to improve or restore natural communities for the benefit of wildlife.

Short-term

6.7.1 Consult with the FFS or a professional forestry consultant regarding forest management activities as necessary and appropriate.

Long-term

6.7.2 Continue to consult with the FFS or a professional forestry consultant regarding forest management activities as necessary and appropriate.

6.8 Historical Resources

Goal: Protect, preserve and maintain historical resources.

Short-term

- 6.8.1** Ensure all known sites are recorded in the Florida Division of Historical Resources Master Site file.
- 6.8.2** Coordinate with the DHR to reassess the need for conducting a historical resource survey.
- 6.8.3** Coordinate with the DHR for historical resource management guideline staff training.

Long-term

- 6.8.4** Cooperate with the DHR in designing site plans for development of infrastructure.
- 6.8.5** Cooperate with the DHR to manage and maintain known existing historical resources.
- 6.8.6** Coordinate with the DHR for historical resource management guideline staff training.

6.9 Capital Facilities and Infrastructure

Goal: Develop the capital facilities and infrastructure necessary to meet the goals and objectives of this Management Plan.

Short-term

- 6.9.1** Continue to maintain 11 facilities (boat access dock, boat ramp, composting restroom facility, pavilion, campsites, well, gazebo, pole barn, FWC office facility, wet lab, and garage) on Makinson Island and shoreline FWC office complex.
- 6.9.2** Maintain and repair perimeter fencing around FWC shoreline office complex.
- 6.9.3** Maintain 2.25 miles of trails existing on site (as applicable) on Makinson Island.
- 6.9.4** Monitor trails and infrastructure annually for visitor impacts on Makinson Island.
- 6.9.5** To improve or repair 1 facilities (boat dock) on Makinson Island.
- 6.9.6** Explore the feasibility of constructing additional docking facilities, a fishing pier, and a screen enclosed lodge shelter on Makinson Island.

Long-term

- 6.9.7** Continue to maintain 11 facilities (boat access dock, boat ramp, composting restroom facility, pavilion, campsites, well, and gazebo, pole barn, FWC office facility, pole barn, wet lab, and garage) on Makinson Island and shoreline FWC office complex.
- 6.9.8** Maintain 2.25 miles of trails existing on site (as applicable) on Makinson Island.
- 6.9.9** Monitor trails and infrastructure annually for visitor impacts on Makinson Island.
- 6.9.10** Explore the feasibility of constructing facilities on Paradise Island including an environmental lab, trails, composting restroom facility, utilities, and boardwalk.
- 6.9.11** Explore the feasibility of installing security protection for utility boxes and pumps on Makinson Island.
- 6.9.12** Explore feasibility of constructing a fishing pond on FWC complex grounds.
- 6.9.13** Explore the feasibility of constructing observation structures on Makinson Island.
- 6.9.14** Explore the feasibility of constructing a caretaker residence on Makinson Island.

6.10 Land Conservation and Stewardship Partnerships

Goal: Enhance fish and wildlife conservation, resource, and operational management through development of an optimal boundary.

Short-term

- 6.10.1** Identify potential important wildlife habitat, landscape-scale linkages, wildlife corridors, and operational/resource management needs.
- 6.10.2** Identify and develop conservation stewardship partnerships.
- 6.10.3** Identify and pursue conservation acquisition needs.
- 6.10.4** Develop and maintain a GIS shapefile and other necessary data to facilitate nominations from the FWC OCPB and for the FWC's LAP and Land Acquisition Programs.
- 6.10.5** Develop a Conservation Action Strategy.

- 6.10.6** Contact and inform adjoining landowners about the FWC Landowners Assistance Program to pursue non-acquisition conservation stewardship, partnerships, and potential conservation easements.
- 6.10.7** Determine which parcels should be added to the FWC acquisition list.
- 6.10.8** Identify potential non-governmental organization partnerships and grant program opportunities.
- 6.10.9** Determine efficacy of conducting an adjacent landowner's assistance/conservation stewardship partnership workshop.
- 6.10.10** Identify potential conservation easements donations.

Long-term

- 6.10.11** To minimize fragmentation of the area, continue to identify strategic parcels to revise the completed OCPB for LTIC as appropriate and necessary.
- 6.10.12** Continue to identify and develop conservation stewardship partnerships.
- 6.10.13** Continue to identify and pursue conservation acquisition needs.
- 6.10.14** Continue to maintain a GIS shapefile and other necessary data to facilitate nominations from the FWC OCPB and for the FWC LAP and Land Acquisition Program.
- 6.10.15** Continue to propose nominations of selected properties as additions to the FWC acquisition list.
- 6.10.16** Continue to pursue acquisition of parcels added to the FWC acquisition list as acquisition work plan priorities and funding allow.
- 6.10.17** As feasible, continue to periodically contact and meet with adjacent landowners for willingness to participate in the Conservation Action Strategy, and coordinate landowner assistance/conservation stewardship partnership workshops as deemed appropriate.
- 6.10.18** Coordinate and conduct landowner assistance/conservation stewardship partnership workshop(s) as necessary and appropriate.
- 6.10.19** Continue to identify potential conservation easements donations.
- 6.10.20** Continue to evaluate and determine if any portions of LTIC are no longer needed for conservation purposes, and therefore may be designated as surplus lands.

6.11 Climate Change

Goal: Develop appropriate adaptation strategies in response to projected climate change effects and their potential impacts on natural resources, including fish and wildlife, and the operational management of the LTIC.

Long-term

- 6.11.1** Coordinate with FWC-FWRI Climate Change Adaptation Initiative to identify potential impacts of projected climate change on fish and wildlife resources and operational management of the LTIC.
- 6.11.2** As appropriate, update the LTIC Prescribed Fire Plan to incorporate new scientific information regarding projected climate change, such as increased frequency of drought, on the fire regime of the LTIC's fire-adapted habitats.
- 6.11.3** As science, technology, and climate policy evolve, educate natural resource management partners and the public about the agency's policies, programs and efforts to study, document and address potential climate change; assess the need to incorporate public education about climate change into the update of the LTIC Management Plan.

6.12 Research Opportunities

Goal: Explore and pursue cooperative research opportunities.

Long-term

- 6.12.1** Explore and pursue cooperative research opportunities through universities, Fish and Wildlife Research Institute, etc.
- 6.12.2** Continue to cooperate with researchers, universities, and others as appropriate.
- 6.12.3** Continue to assess the need for and pursue research and environmental education partnership opportunities as appropriate.

6.13 Cooperative Management and Special Uses

Short Term

- 6.13.1** Explore the feasibility of private and public partnerships for special uses on the area.

6.13.2 Continue to cooperate with SFWMD for lake water levels and public access to the islands.

6.13.3 Continue to cooperate with the Osceola County School Board regarding educational opportunities and use of the area.

Long Term

6.13.4 Explore the feasibility of private and public partnerships for special uses on the area.

6.13.5 Continue to cooperate with SFWMD for lake water levels and public access to the islands.

6.13.6 Continue to cooperate with the Osceola County School Board regarding educational opportunities and use of the area.

7 Resource Management Challenges and Strategies

The following section identifies and describes further management needs and challenges associated with the LTIC and provides solution strategies that will address these challenges. These specific challenges may not be fully addressed in the broader goals and objectives section above, and are thereby provided here.

7.1 Challenge: Currently, law enforcement and management staffing is at insufficient levels for optimal management of the LTIC.

7.1.1 Strategy: Pursue funding for increased law enforcement and management staffing and additional private sector contract services.

7.1.2 Strategy: Explore potential volunteer resources for assisting with management.

7.2 Challenge: The LTIC is not a widely known recreational destination.

7.2.1 Strategy: Continue to coordinate and communicate with existing and future partnerships

7.2.2 Strategy: Work with Osceola County and Experience Kissimmee to promote the LTIC.

7.2.3 Strategy: Cross promote the LTIC with other regional conservation lands.

7.3 Challenge: Currently, there has found to be some confusion regarding usage and purpose linked to the area.

7.3.1 Strategy: Review and revise mission statement for the area.

7.3.2 Strategy: Increase public awareness of the area.

7.4 Challenge: Currently, there is ongoing vandalism and unauthorized uses on the area.

7.4.1 Strategy: Continue to work with the FWC and Osceola County law enforcement for enforcement of rules and regulations, and increase patrol of the islands.

7.4.2 Strategy: Explore potential of constructing a caretaker residence on the Islands.

7.4.3 Strategy: Pursue outreach efforts to increase public awareness of area rules and regulations.

7.5 Challenge 5: Public access to the Islands is limited due to lack of easily accessible transportation opportunities.

7.5.1 Strategy: Explore public and private partnership opportunities for establishing transportation alternatives.

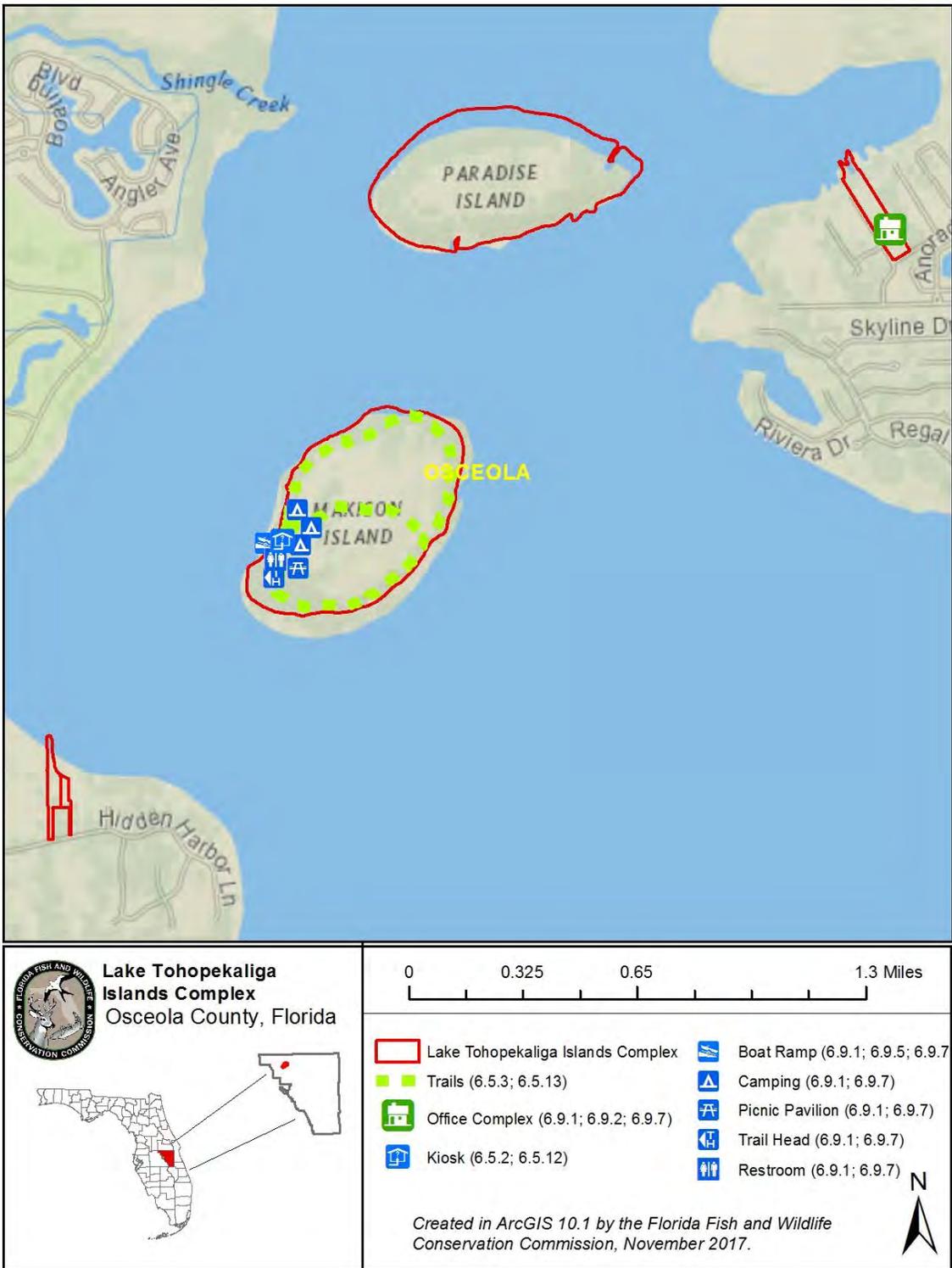


Figure 11. LTIC Project Locations

8 Cost Estimates and Funding Sources

The following represents the actual and unmet budgetary needs for managing the lands and resources of the LTIC. This cost estimate was developed using data developed by the FWC and other cooperating entities, and is based on actual costs for land management activities, equipment purchase and maintenance, and for development of fixed capital facilities. Funds needed to protect and manage the property and to fully implement the recommended program are derived primarily from the Land Acquisition Trust Fund and from State Legislative appropriations. However, private conservation organizations may be cooperators with the agency for funding of specific projects. Alternative funding sources, such as monies available through grants and potential project-specific mitigation, may be sought to supplement existing funding as needed.

The cost estimate below, although exceeding what the FWC typically receives through the appropriations process, is estimated to be what is necessary for optimal management, and is consistent with the current and planned resource management and operation of the LTIC. Cost estimate categories are those currently recognized by the FWC and the Land Management Uniform Accounting Council. More information on these categories, may be found in Appendix 12.11.

Lake Tohopekaliga Islands Complex Management Plan Cost Estimate

Maximum expected one year expenditure

<u>Resource Management</u>	<u>Expenditure</u>	<u>Priority</u>	Priority schedule:
Exotic Species Control	\$28,719	(1)	(1) Immediate (annual)
Prescribed Burning	\$42,280	(1)	(2) Intermediate (3-4 years)
Cultural Resource Management	\$314	(1)	(3) Other (5+ years)
Timber Management	\$0	(1)	
Hydrological Management	\$966	(1)	
Other (Restoration, Enhancement, Surveys, Monitoring, etc.)	\$24,376	(1)	
Subtotal	\$96,656		
<u>Administration</u>			
General administration	\$11,869	(1)	
<u>Support</u>			
Land Management Planning	\$16,338	(1)	
Land Management Reviews	\$8,362	(3)	
Training/Staff Development	\$1,569	(1)	
Vehicle Purchase	\$342,378	(2)	
Vehicle Operation and Maintenance	\$48,804	(1)	
Other (Technical Reports, Data Management, etc.)	\$10,598	(1)	
Subtotal	\$428,050		
<u>Capital Improvements</u>			
New Facility Construction	\$1,366,638	(2)	
Facility Maintenance	\$186,744	(1)	
Subtotal	\$1,553,383		
<u>Visitor Services/Recreation</u>			
Info./Education/Operations	\$8,111	(1)	
<u>Law Enforcement</u>			
Resource protection	\$209	(1)	
<u>Total</u>	\$2,098,277	*	

* Based on the characteristics and requirements of this area, 3 FTE positions would be optimal to fully manage this area. All land management funding is dependent upon annual legislative appropriations.

Lake Tohopekaliga Islands Complex Management Plan Cost

Estimate

Ten-year projection

<u>Resource Management</u>	<u>Expenditure</u>	<u>Priority</u>	Priority schedule:
Exotic Species Control	\$252,331	(1)	(1) Immediate (annual)
Prescribed Burning	\$371,480	(1)	(2) Intermediate (3-4 years)
Cultural Resource Management	\$2,756	(1)	(3) Other (5+ years)
Timber Management	\$0	(1)	
Hydrological Management	\$8,488	(1)	
Other (Restoration, Enhancement, Surveys, Monitoring, etc.)	\$214,172	(1)	
Subtotal	\$849,228		
<u>Administration</u>			
General administration	\$104,279	(1)	
<u>Support</u>			
Land Management Planning	\$143,551	(1)	
Land Management Reviews	\$23,937	(3)	
Training/Staff Development	\$13,782	(1)	
Vehicle Purchase	\$1,204,844	(2)	
Vehicle Operation and Maintenance	\$428,800	(1)	
Other (Technical Reports, Data Management, etc.)	\$93,118	(1)	
Subtotal	\$1,908,031		
<u>Capital Improvements</u>			
New Facility Construction	\$3,947,517	(2)	
Facility Maintenance	\$1,640,757	(1)	
Subtotal	\$5,588,273		
<u>Visitor Services/Recreation</u>			
Info./Education/Operations	\$71,261	(1)	
<u>Law Enforcement</u>			
Resource protection	\$1,838	(1)	
Total	\$8,522,910	*	

* Based on the characteristics and requirements of this area, 2 FTE positions would be optimal to fully manage this area. All land management funding is dependent upon annual legislative appropriations.

9 Analysis of Potential for Contracting Private Vendors for Restoration and Management Activities

The following management and restoration activities have been considered for outsourcing to private entities. It has been determined that items selected as “approved” below are those that the FWC either does not have in-house expertise to accomplish or which can be done at less cost by an outside provider of services. Those items selected as “conditional” items are those that could be done either by an outside provider or by the agency at virtually the same cost or with the same level of competence. Items selected as “rejected” represent those for which the FWC has in-house expertise and/or which the agency has found it can accomplish at less expense than through contracting with outside sources:

Approved Conditional Rejected

- | | |
|---|---|
| • Dike and levee maintenance | ✓ |
| • Exotic species control | ✓ |
| • Mechanical vegetation treatment | ✓ |
| • Public contact and educational facilities development | ✓ |
| • Prescribed burning | ✓ |
| • Timber harvest activities | ✓ |
| • Vegetation inventories | ✓ |

10 Compliance with Federal, State, and Local Governmental Requirements

The operational functions of FWC personnel are governed by the agency’s Internal Management Policies and Procedures (IMPP) Manual. The IMPP Manual provides internal guidance regarding many subjects affecting the responsibilities of agency personnel including personnel management, safety issues, uniforms and personal appearance, training, as well as accounting, purchasing, and budgetary procedures.

When public facilities are developed on areas managed by the FWC, every effort is made to comply with Public Law 101 - 336, the Americans with Disabilities Act. As new facilities are developed, the universal access requirements of this law are followed in all cases except where the law allows reasonable exceptions (e.g., where handicap access is structurally impractical or where providing such access would change the fundamental character of the facility being provided).

Uses planned for the LTIC are in compliance with the Conceptual State Lands Management Plan and its requirement for “balanced public utilization,” and are in compliance with the mission of the FWC as described in its Agency Strategic Plan (Appendix 12.8). Such uses also comply with the authorities of the FWC as derived from Article IV, Section 9 of the Florida Constitution as well as the guidance and directives of Chapters, 253, 259, 327, 370, 379, 403, 870, 373, 375, 378, 487, and 597 FS.

The FWC has developed and utilizes an Arthropod Control Plan for the LTIC in compliance with Chapter 388.4111 F.S. (Appendix 12.12). This plan was developed in cooperation with the local Osceola County arthropod control agency. This plan is also in conformance with the Local Government Comprehensive Plan as approved and adopted for Osceola County, Florida, (Appendix 12.13).

11 Endnotes

- ¹ Aldridge, C. L., M. S. Boyce and R. K. Baydack. 2004. Adaptive management of prairie grouse: how do we get there? *Wildlife Society Bulletin* 32:92-103.
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- ³ Walters, C. J. and R. Hilborn. 1978. Ecological optimization and adaptive management. *Annual Review of Ecology and Systematics* 9:157–188.
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- ⁵ Karl, T. R., J. M. Melillo, and T. C. Peterson (Eds.). 2009. *Global Climate Change Impacts in the United States*. Cambridge University Press. New York, NY.
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- ¹⁰ Stevenson, J. C., M. S. Kearney, and E. W. Koch. 2002. Impacts of sea level rise on tidal wetlands and shallow water habitats: A case study from Chesapeake Bay. *American Fisheries Society Symposium* 32:23-36.
- ¹¹ IPCC. 2007b. *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press, Cambridge, UK.
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- ¹⁴ Webster et al. 2005; Webster, P. J., et al. 2005. Changes in Tropical Cyclone Number, Duration, and Intensity, in a Warming Environment. *Science* 309: 1844–1846.
- ¹⁵ Mann, M.E. and K.A. Emanuel. 2006. Atlantic Hurricane Trends Linked to Climate Change. *Eos Trans. AGU* 87: 233-244.
- ¹⁶ Stanton, E.A. and F. Ackerman. 2007. *Florida and Climate Change: The Costs of Inaction*. Tufts University Global Development and Environment Institute and Stockholm Environment Institute–US Center, Tufts University, Medford, MA.
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12 Appendices

12.1 Lease Agreement 4270 - Makinson Island

(1) 4270

SAL3

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT
TRUST FUND OF THE STATE OF FLORIDA
131.6 Acres

LEASE AGREEMENT

LAKE TOHOPEKALIGA FISH MANAGEMENT AREA
Lease Number 4270

This lease is made and entered into this 3rd day of May, 2000, between the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, hereinafter referred to as "LESSOR", and the STATE OF FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION, hereinafter referred to as "LESSEE".

WITNESSETH:

WHEREAS, the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA holds title to certain lands and property being utilized by the State of Florida for public purposes, and

WHEREAS, the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA is authorized in Section 253.03, Florida Statutes, to enter into leases for the use, benefit and possession of public lands by State agencies which may properly use and possess them for the benefit of the people of the State of Florida;

NOW, THEREFORE, for and in consideration of the mutual covenants and agreements hereinafter contained, LESSOR leases the below described premises to LESSEE subject to the following terms and conditions:

1. DELEGATIONS OF AUTHORITY: LESSOR'S responsibilities and obligations herein shall be exercised by the Division of State Lands, Department of Environmental Protection.

2. DESCRIPTION OF PREMISES: The property subject to this lease, is situated in the County of Osceola, State of Florida and is more particularly described in Exhibit "A" attached hereto and hereinafter called the "leased premises".
3. TERM: The term of this lease shall be for a period of fifty years, commencing on May 3, 2000, and ending on May 2, 2050, unless sooner terminated pursuant to the provisions of this lease.
4. PURPOSE: LESSEE shall manage the leased premises only for the conservation and protection of natural and historical resources and resource based public outdoor recreation including environmental education which is compatible with the conservation and protection of these public lands, as set forth in subsection 259.032(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.
5. QUIET ENJOYMENT AND RIGHT OF USE: LESSEE shall have the right of ingress and egress to, from and upon the leased premises for all purposes necessary to the full quiet enjoyment by said LESSEE of the rights conveyed herein.
6. UNAUTHORIZED USE: LESSEE shall, through its agents and employees, prevent the unauthorized use of the leased premises or any use thereof not in conformance with this lease.
7. MANAGEMENT PLAN: LESSEE shall prepare and submit a Management Plan for the leased premises, in accordance with Section 253.034, Florida Statutes, and subsection 18-2.021(4), Florida Administrative Code, within twelve months of the effective date of this lease. The Management Plan shall be submitted to LESSOR for approval through the Division of State Lands. The leased premises shall not be developed or physically altered in any way other than what is necessary for security and maintenance of the leased premises without the prior written

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approval of LESSOR until the Management Plan is approved. The Management Plan shall emphasize the original management concept as approved by LESSOR at the time of acquisition which established the primary public purpose for which the leased premises were acquired. The approved Management Plan shall provide the basic guidance for all management activities and shall be reviewed jointly by LESSEE and LESSOR at least every five years. LESSEE shall not use or alter the leased premises except as provided for in the approved Management Plan without the prior written approval of LESSOR. The Management Plan prepared under this lease shall identify management strategies for exotic species, if present. The introduction of exotic species is prohibited, except when specifically authorized by the approved Management Plan.

8. RIGHT OF INSPECTION: LESSOR or its duly authorized agents shall have the right at any and all times to inspect the leased premises and the works and operations thereon of LESSEE, in any matter pertaining to this lease.

9. INSURANCE REQUIREMENTS: LESSEE shall procure and maintain fire and extended risk insurance coverage, in accordance with Chapter 284, F.S., for any buildings and improvements located on the leased premises by preparing and delivering to the Division of Risk Management, Department of Insurance, a completed Florida Fire Insurance Trust Fund Coverage Request Form and a copy of this lease immediately upon erection of any structures as allowed by paragraph 4 of this lease. A copy of said form and immediate notification in writing of any erection or removal of structures or other improvements on the leased premises and any changes affecting the value of the improvements shall be submitted to the following: Bureau of Public Land Administration, Division of State Lands, Department of Environmental Protection, Mail Station 130, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000.

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10. LIABILITY: LESSEE shall assist in the investigation of injury or damage claims either for or against LESSOR or the State of Florida pertaining to LESSEE'S respective areas of responsibility under this lease or arising out of LESSEE'S respective management programs or activities and shall contact LESSOR regarding the legal action deemed appropriate to remedy such damage or claims.

11. ARCHAEOLOGICAL AND HISTORIC SITES: Execution of this lease in no way affects any of the parties' obligations pursuant to Chapter 267, Florida Statutes. The collection of artifacts or the disturbance of archaeological and historic sites on state-owned lands is prohibited unless prior authorization has been obtained from the Department of State, Division of Historical Resources. The Management Plan prepared pursuant to Section 253.034, Florida Statutes, shall be reviewed by the Division of Historical Resources to insure that adequate measures have been planned to locate, identify, protect and preserve the archaeological and historic sites and properties on the leased premises.

12. EASEMENTS: All easements including, but not limited to, utility easements are expressly prohibited without the prior written approval of LESSOR. Any easement not approved in writing by LESSOR shall be void and without legal effect.

13. SUBLEASES: This lease is for the purposes specified herein and subleases of any nature are prohibited, without the prior written approval of LESSOR. Any sublease not approved in writing by LESSOR shall be void and without legal effect.

14. POST CLOSING RESPONSIBILITIES: In an effort to define responsibilities of the LESSOR and LESSEE with regard to resolving post closing management issues, the parties agree to the following:

- a. After consultation with the LESSEE, LESSOR agrees to provide the LESSEE with the title, survey and

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environmental products procured by the LESSOR, prior to closing.

- b. LESSOR will initiate surveying services to locate and mark boundary lines of specific parcels when necessary for immediate agency management and will provide a boundary survey of the entire acquisition project at the conclusion of all acquisition within the project boundary. Provided, however, the LESSEE may request individual parcel boundary surveys, if necessary, prior to the conclusion of acquisition activities within the project boundaries.
- c. Unless otherwise agreed to by LESSEE, LESSOR shall at its sole cost and expense, make a diligent effort to resolve all issues pertaining to all title defects, survey matters or environmental contamination associated with the leased premises, including but not limited to trash and debris, which were either known or should have been reasonably known by LESSOR at the time LESSOR acquired the leased premises. Notwithstanding the foregoing, LESSOR will not be responsible for any of LESSEE'S attorney's fees, costs, or liability or damages incurred by the LESSEE in resolving any issue in which the LESSEE is named as a party in any litigation or other legal or administrative proceeding.
- d. With regard to all title defects, survey matters, or environmental contamination associated with the leased premises which were not known or could not have been reasonably known by LESSOR at the time LESSOR acquired the leased premises, LESSOR and MANAGING AGENCIES agree to cooperate in developing an appropriate strategy for jointly resolving these matters. LESSOR acknowledges and understands that LESSEE is unable to commit any substantial amount of

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its routine operating funds for the resolution of any title defect, survey matter, or environmental contamination associated with the lease premises. Notwithstanding the foregoing, LESSOR will not be responsible for any of LESSEE'S attorney's fees, costs, or liability or damages incurred by the LESSEE in resolving any issue in which the LESSEE is named as a party in any litigation or other legal or administrative proceeding.

15. SURRENDER OF PREMISES: Upon termination or expiration of this lease, LESSEE shall surrender the leased premises to LESSOR. In the event no further use of the leased premises or any part thereof is needed, written notification shall be made to the Bureau of Public Land Administration, Division of State Lands, Department of Environmental Protection, Mail Station 130, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000, at least six months prior to the release of all or any part of the leased premises. Notification shall include a legal description, this lease number and an explanation of the release. The release shall only be valid if approved by LESSOR through execution of a release of lease instrument with the same formality as this lease. Upon release of all or any part of the leased premises or upon expiration or termination of this lease, all permanent improvements, including both physical structures and modifications to the leased premises, shall become the property of LESSOR, unless LESSOR gives written notice to LESSEE to remove any or all such improvements at the expense of LESSEE. The decision to retain any improvements upon termination of this lease shall be at LESSOR'S sole discretion. Prior to surrender of all or any part of the leased premises, a representative of the Division of State Lands shall perform an on-site inspection and the keys to any buildings on the leased premises shall be turned over to the Division. If the leased premises and improvements located thereon do not meet all conditions set

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forth in paragraphs 18 and 21 herein, LESSEE shall pay all costs necessary to meet the prescribed conditions.

16. BEST MANAGEMENT PRACTICES: LESSEE shall implement applicable Best Management Practices for all activities conducted under this lease in compliance with paragraph 18-2.018(2)(h), Florida Administrative Code, which have been selected, developed, or approved by LESSOR, LESSEE or other land managing agencies for the protection and enhancement of the leased premises.

17. PUBLIC LANDS ARTHROPOD CONTROL PLAN: LESSEE shall identify and subsequently designate to the respective arthropod control district or districts within one year of the effective date of this lease all of the environmentally sensitive and biologically highly productive lands contained within the leased premises, in accordance with Section 388.4111, Florida Statutes and Chapter SE-13, Florida Administrative Code, for the purpose of obtaining a public lands arthropod control plan for such lands.

18. UTILITY FEES: LESSEE shall be responsible for the payment of all charges for the furnishing of gas, electricity, water and other public utilities to the leased premises and for having all utilities turned off when the leased premises are surrendered.

19. ASSIGNMENT: This lease shall not be assigned in whole or in part without the prior written consent of LESSOR. Any assignment made either in whole or in part without the prior written consent of LESSOR shall be void and without legal effect.

20. PLACEMENT AND REMOVAL OF IMPROVEMENTS: All buildings, structures, improvements, and signs shall be constructed at the expense of LESSEE in accordance with plans prepared by professional designers and shall require the prior written approval of LESSOR as to purpose location, and design. Further, no trees, other than non-native species, shall be removed or major land alterations done without the prior written approval of LESSOR. Removable equipment placed on the leased premises by

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LESSEE which do not become a permanent part of the leased premises will remain the property of LESSEE and may be removed by LESSEE upon termination of this lease.

21. MAINTENANCE OF IMPROVEMENTS: LESSEE shall maintain the real property contained within the leased premises and any improvements located thereon, in a state of good condition, working order and repair including, but not limited to, keeping the leased premises free of trash or litter, maintaining all planned improvements as set forth in the approved Management Plan, meeting all building and safety codes in the location situated and maintaining any and all existing roads, canals, ditches, culverts, risers and the like in as good condition as the same may be at the date of this lease; provided, however, that any removal, closure, etc., of the above improvements shall be acceptable when the proposed activity is consistent with the goals of conservation, protection, and enhancement of the natural and historical resources within the leased premises and with the approved Management Plan.

22. ENTIRE UNDERSTANDING: This lease sets forth the entire understanding between the parties and shall only be amended with the prior written approval of LESSOR.

23. BREACH OF COVENANTS, TERMS, OR CONDITIONS: should LESSEE breach any of the covenants, terms, or conditions of this lease, LESSOR shall give written notice to LESSEE to remedy such breach within sixty days of such notice. In the event LESSEE fails to remedy the breach to the satisfaction of LESSOR within sixty days of receipt of written notice, LESSOR may either terminate this lease and recover from LESSEE all damages LESSOR may incur by reason of the breach including, but not limited to, the cost of recovering the leased premises or maintain this lease in full force and effect and exercise all rights and remedies herein conferred upon LESSOR.

24. NO WAIVER OF BREACH: The failure of LESSOR to insist in any one or more instances upon strict performance of any one or more

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of the covenants, terms and conditions of this lease shall not be construed as a waiver of such covenants, terms and conditions, but the same shall continue in full force and effect, and no waiver of LESSOR of any one of the provisions hereof shall in any event be deemed to have been made unless the waiver is set forth in writing, signed by LESSOR.

25. PROHIBITIONS AGAINST LIENS OR OTHER ENCUMBRANCES: Fee title to the leased premises is held by LESSOR. LESSEE shall not do or permit anything which purports to create a lien or encumbrance of any nature against the real property contained in the leased premises including, but not limited to, mortgages or construction liens against the leased premises or against any interest of LESSOR therein.

26. CONDITIONS AND COVENANTS: All of the provisions of this lease shall be deemed covenants running with the land included in the leased premises, and construed to be "conditions" as well as "covenants" as though the words specifically expressing or imparting covenants and conditions were used in each separate provision.

27. DAMAGE TO THE PREMISES: (a) LESSEE shall not do, or suffer to be done, in, on or upon the leased premises or as affecting said leased premises or adjacent properties, any act which may result in damage or depreciation of value to the leased premises or adjacent properties, or any part thereof. (b) LESSEE shall not generate, store, produce, place, treat, release or discharge any contaminants, pollutants or pollution, including, but not limited to, hazardous or toxic substances, chemicals or other agents on, into, or from the leased premises or any adjacent lands or waters in any manner not permitted by law. For the purposes of this lease, "hazardous substances" shall mean and include those elements or compounds defined in 42 USC Section 9601 or which are contained in the list of hazardous substances adopted by the United States Environmental Protection Agency (EPA) and the list of toxic pollutants designated by the United

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States Congress or the EPA or defined by any other federal, state or local statute, law, ordinance, code, rule, regulation, order or decree regulating, relating to, or imposing liability or standards of conduct concerning any hazardous, toxic or dangerous waste, substance, material, pollutant or contaminant. "Pollutants" and "pollution" shall mean those products or substances defined in Chapters 376 and 403, Florida Statutes, and the rules promulgated thereunder, all as amended or updated from time to time. In the event of LESSEE'S failure to comply with this paragraph, LESSEE shall, at its sole cost and expense, promptly commence and diligently pursue any legally required closure, investigation, assessment, cleanup, decontamination, remediation, restoration and monitoring of (1) the leased premises, and (2) all off-site ground and surface waters and lands affected by LESSEE'S such failure to comply, as may be necessary to bring the leased premises and affected off-site waters and lands into full compliance with all applicable federal, state or local statutes, laws, ordinances, codes, rules, regulations, orders and decrees, and to restore the damaged property to the condition existing immediately prior to the occurrence which caused the damage. LESSEE'S obligations set forth in this paragraph shall survive the termination or expiration of this lease. Nothing herein shall relieve LESSEE of any responsibility or liability prescribed by law for fines, penalties and damages levied by governmental agencies, and the cost of cleaning up any contamination caused directly or indirectly by LESSEE'S activities or facilities. Upon discovery of a release of a hazardous substance or pollutant, or any other violation of local, state or federal law, ordinance, code, rule, regulation, order or decree relating to the generation, storage, production, placement, treatment, release or discharge of any contaminant, LESSEE shall report such violation to all applicable governmental agencies having jurisdiction, and to

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LESSOR, all within the reporting periods of the applicable governmental agencies.

28. PAYMENT OF TAXES AND ASSESSMENTS: LESSEE shall assume full responsibility for and shall pay all liabilities that accrue to the leased premises or to the improvements thereon, including any and all drainage and special assessments or taxes of every kind and all mechanic's or materialman's liens which may be hereafter lawfully assessed and levied against the leased premises.

29. RIGHT OF AUDIT: LESSEE shall make available to LESSOR all financial and other records relating to this lease and LESSOR shall have the right to audit such records at any reasonable time. This right shall be continuous until this lease expires or is terminated. This lease may be terminated by LESSOR should LESSEE fail to allow public access to all documents, papers, letters or other materials made or received in conjunction with this lease, pursuant to Chapter 119, Florida Statutes.

30. NON-DISCRIMINATION: LESSEE shall not discriminate against any individual because of that individual's race, color, religion, sex, national origin, age, handicap, or marital status with respect to any activity occurring within the leased premises or upon lands adjacent to and used as an adjunct of the leased premises.

31. COMPLIANCE WITH LAWS: LESSEE agrees that this lease is contingent upon and subject to LESSEE obtaining all applicable permits and complying with all applicable permits, regulations, ordinances, rules, and laws of the State of Florida or the United States or of any political subdivision or agency of either.

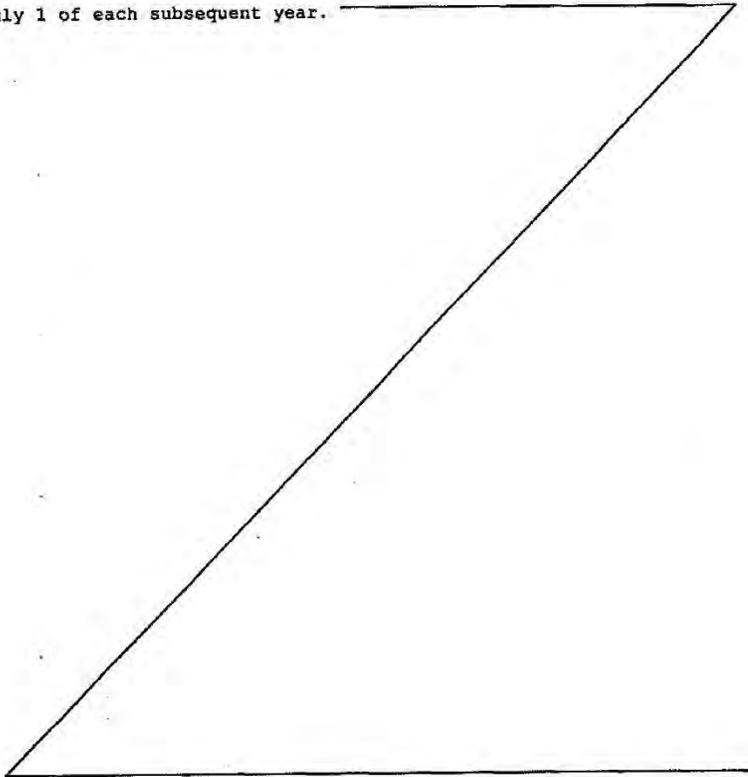
32. TIME: Time is expressly declared to be of the essence of this lease.

33. GOVERNING LAW: This lease shall be governed by and interpreted according to the laws of the State of Florida.

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34. SECTION CAPTIONS: Articles, subsections and other captions contained in this lease are for reference purposes only and are in no way intended to describe, interpret, define or limit the scope, extent or intent of this lease or any provisions thereof.

35. ADMINISTRATIVE FEE: LESSEE shall pay LESSOR an annual administrative fee of \$300. The initial annual administrative fee shall be payable within thirty days from the date of execution of this lease agreement and shall be prorated based on the number of months or fraction thereof remaining in the fiscal year of execution. For purposes of this lease agreement, the fiscal year shall be the period extending from July 1 to June 30. Each annual payment thereafter shall be due and payable on July 1 of each subsequent year.



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IN WITNESS WHEREOF, the parties have caused this lease to be executed on the day and year first above written.

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA

Judy Woodard
Witness

Judy Woodard
Print/Type Witness Name

Florence Davis
Witness

Florence Davis
Print/Type Witness Name

By: Gloria C. Nelson (SEAL)
GLORIA C. NELSON, OPERATIONS AND MANAGEMENT CONSULTANT MANAGER, BUREAU OF PUBLIC LAND ADMINISTRATION, DIVISION OF STATE LANDS, DEPARTMENT OF ENVIRONMENTAL PROTECTION

"LESSOR"

STATE OF FLORIDA
COUNTY OF LEON

3rd The foregoing instrument was acknowledged before me this May day of May, 2000, by Gloria C. Nelson, as Operations and Management Consultant Manager, Bureau of Public Land Administration, Division of State Lands, Florida Department of Environmental Protection, acting as agent on behalf of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida.

Sylvia D. Roberts
Notary Public, State of Florida



Sylvia S. Roberts
MY COMMISSION OF QUALITY EXPIRES
July 25, 2001
BONDED THROUGH TRUST FUND INSURANCE, INC.

Print/Type Notary Name

Commission Number:

Commission Expires:

Approved as to Form and Legality

By: David J. Hise
DEP Attorney

STATE OF FLORIDA FISH AND WILDLIFE
CONSERVATION COMMISSION

By: Victor J. Heller (SEAL)

Victor J. Heller

Print/Type Name

Title: Assistant Executive Director

"LESSEE"

Brenda Collins
Witness
Brenda Collins
Print/Type Witness Name

Cynthia Ward
Witness
Cynthia Ward
Print/Type Witness Name

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this
25th day of April, 2000, by Victor J. Heller,
as Assistant Executive Director, State of Florida Fish and
Wildlife Conservation Commission. He/~~she~~ is personally known to
me or produced _____ as identification.

Jimmie C. Bevis
Notary Public, State of Florida

JIMMIE C. BEVIS

Print/Type Notary Name

Commission Number:  00000000
Commission Expires: December 28, 2001
Jimmie C. Bevis
MY COMMISSION # 00000000 EXPIRES
December 28, 2001
BONDED THROUGH BOYFAN INSURANCE, INC.

APPROVED AS TO FORM
AND LEGAL SUFFICIENCY
[Signature]
Commission Attorney

EXHIBIT "A"

LEGAL DESCRIPTION OF THE LEASED PREMISES

This Instrument Prepared By:
Harvey A. Abrams, Esq.
The Trust for Public Land
306 North Monroe Street
Tallahassee, Florida 32301

Return to: R. Stephen Miles, Jr., Esq.
Overstreet, Miles, Rich & Cumbie, P.A.
100 Church Street
Kissimmee, Florida 34741

Property Appraiser's Parcel Identification Number:
03-26-29-3511-0001-0010; 03-26-29-3511-0001-0020; and
03-26-29-0000-0010-0000.



WARRANTY DEED

(STATUTORY FORM - SECTION 689.02, F.S.)

THIS INDENTURE, made this 27th day of September, A.D. 1999, between THE TRUST FOR PUBLIC LAND charitable nonprofit California corporation, whose address is 306 North Monroe Street, Tallahassee, Florida 32301, of the County of Leon, in the State of Florida, ("Grantor"), and BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, whose address is 3900 Commonwealth Blvd., Mail Station 115, Tallahassee, Florida 32399-3000 ("Grantee"),

(Whoever used herein the terms "Grantor" and "Grantee" include all the parties to this instrument and their heirs, legal representatives, success and assigns. "Grantor" and "Grantee" are used for singular and plural, as the context requires and the use of any gender shall include all gender.

WITNESSETH: That the said Grantor, for and in consideration of the sum of Ten Dollars and other good and value considerations, to said Grantor in hand paid by said Grantee, the receipt whereof is hereby acknowledged, has granted, bargained and to the said Grantee, and Grantee's successors and assigns forever; the following described land situate, lying and being in Osceola Co Florida, to-wit:

See Exhibit "A" attached hereto and by this reference made a part hereof.

TOGETHER with all the tenements, hereditaments and appurtenances thereto belonging or in anywise appertaining. **SUBJECT TO** applicable restrictions, reservations, easements, roadways and covenants of record, if any now exist, but any interests that may have been terminated are not hereby reimposed.

AND the said Grantor does hereby fully warrant the title to said land, and will defend the same against the lawful claims of persons whomsoever.

IN WITNESS WHEREOF the Grantor has hereunto set Grantor's hand and seal, the day and year first above written.

THIS INSTRUMENT IS EXEMPT FROM DOCUMENTARY STAMP TAXES PURSUANT TO CHAPTER 196, FLORIDA STATUTES

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EXHIBIT "A"

LEGAL DESCRIPTION OF THE LEASED PREMISES

Signed, sealed and delivered
in the presence of:

Cheryl Vickers
Signature
Cheryl Vickers
Printed Signature
Danette G. Rasky
Signature
Danette G. Rasky
Printed Signature

THE TRUST FOR PUBLIC LAND, a charitable
nonprofit California corporation

By: W. Dale Allen
Name: W. Dale Allen
Title: Vice President
306 North Monroe Street
Tallahassee, FL 32301
(CORPORATE SEAL)

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 27th day of September, 1999, by W. Dale Allen, Vice President of The Trust for Public Land, a charitable nonprofit California corporation, on behalf of the corporation. Such person (Notary Public must check applicable box):

- is personally known to me.
- produced a current driver license.
- produced _____ as identification.

(NOTARY PUBLIC SEAL)

Cheryl Vickers
Notary Public



Cheryl A. Vickers
MY COMMISSION EXPIRES
September 24, 2002
COUNTY OF LEON, FLORIDA, INC.

(Printed, Typed or Stamped Name of
Notary Public)
Commission No.: _____
My Commission Expires: _____

FAKAREBULEGALPROBECTICYPRESSTATVDREO.ST(9-15-99)

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EXHIBIT "A"

LEGAL DESCRIPTION OF THE LEASED PREMISES

Lot 1 of Section 3; Lot 3 of Section 4; Lot 3 of Section 9; and Lot 1 of Section 10, all in Township 26 South, Range 29 East. The above numbered lots are all according to the United States survey of the said Section, Township and Range in Osceola County, Florida.

Together with a non-exclusive right-of-way easement on the following described property: From a point 1443.83 feet North of the S.W. corner of the East 660.0 feet of Government Lot 2 of Section 9, Township 26 South, Range 29 East, Osceola County, Florida, said point being on the West line of the East 660.0 feet of said Government Lot 2; run thence North 75 degrees East, 72.47 feet; run thence North parallel to aforesaid West line to the water's edge of Lake Tohopekaliga; run thence Northwesterly along said water's edge to the West line of the East 660.0 feet of said Government Lot 2; Run thence South to the Point of Beginning. (Being the same easement described in O.R. Book 108, Page 260, Public Records of Osceola County, Florida.)

AND

Lots 1 and 2, WINDFOREST COVE, according to the Official Plat thereof, as recorded in Plat Book 10, Page 52 and 53, Public Records of Osceola County, Florida.

Lake Tohopekaliga, FMA
Hock/Cypress Island and Shore Property
Osceola County

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109M - 2000
by *RB* Date *5.27*

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12.2 Lease Agreement 4323 – Paradise Island

SAL3

93.25 Acre

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT
TRUST FUND OF THE STATE OF FLORIDA

PARADISE ISLAND - LAKE TOHOPEKALIGA
FISH MANAGEMENT AREA

LEASE AGREEMENT

Lease Number 4323

This lease is made and entered into this 23rd day of April, 2001, between the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, hereinafter referred to as "LESSOR", and the STATE OF FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION, hereinafter referred to as "LESSEE".

WITNESSETH:

WHEREAS, the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA holds title to certain lands and property being utilized by the State of Florida for public purposes, and

WHEREAS, the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA is authorized in Section 253.03, Florida Statutes, to enter into leases for the use, benefit and possession of public lands by State agencies which may properly use and possess them for the benefit of the people of the State of Florida;

NOW, THEREFORE, for and in consideration of the mutual covenants and agreements hereinafter contained, LESSOR leases the below described premises to LESSEE subject to the following terms and conditions:

1. DELEGATIONS OF AUTHORITY: LESSOR'S responsibilities and obligations herein shall be exercised by the Division of State Lands, Department of Environmental Protection.

2. DESCRIPTION OF PREMISES: The property subject to this lease, is situated in the County of Osceola, State of Florida and is more particularly described in Exhibit "A" attached hereto and hereinafter called the "leased premises".
3. TERM: The term of this lease shall be for a period of fifty years, commencing on April 23, 2001, and ending on April 22, 2051, unless sooner terminated pursuant to the provisions of this lease.
4. PURPOSE: 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 forth in subsection 259.032(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.
5. QUIET ENJOYMENT AND RIGHT OF USE: LESSEE shall have the right of ingress and egress to, from and upon the leased premises for all purposes necessary to the full quiet enjoyment by said LESSEE of the rights conveyed herein.
6. UNAUTHORIZED USE: LESSEE shall, through its agents and employees, prevent the unauthorized use of the leased premises or any use thereof not in conformance with this lease.
7. MANAGEMENT PLAN: LESSEE shall prepare and submit a Management Plan for the leased premises, in accordance with Section 253.034, Florida Statutes, and subsection 18-2.021(4), Florida Administrative Code, within twelve months of the effective date of this lease. The Management Plan shall be submitted to LESSOR for approval through the Division of State Lands. The leased premises shall not be developed or physically altered in any way other than what is necessary for security and maintenance of the leased premises without the prior written

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approval of LESSOR until the Management Plan is approved. The Management Plan shall emphasize the original management concept as approved by LESSOR at the time of acquisition which established the primary public purpose for which the leased premises were acquired. The approved Management Plan shall provide the basic guidance for all management activities and shall be reviewed jointly by LESSEE and LESSOR at least every five years. LESSEE shall not use or alter the leased premises except as provided for in the approved Management Plan without the prior written approval of LESSOR. The Management Plan prepared under this lease shall identify management strategies for exotic species, if present. The introduction of exotic species is prohibited, except when specifically authorized by the approved Management Plan.

8. RIGHT OF INSPECTION: LESSOR or its duly authorized agents shall have the right at any and all times to inspect the leased premises and the works and operations thereon of LESSEE, in any matter pertaining to this lease.

9. INSURANCE REQUIREMENTS: LESSEE shall procure and maintain fire and extended risk insurance coverage, in accordance with Chapter 284, F.S., for any buildings and improvements located on the leased premises by preparing and delivering to the Division of Risk Management, Department of Insurance, a completed Florida Fire Insurance Trust Fund Coverage Request Form and a copy of this lease immediately upon erection of any structures as allowed by paragraph 4 of this lease. A copy of said form and immediate notification in writing of any erection or removal of structures or other improvements on the leased premises and any changes affecting the value of the improvements shall be submitted to the following: Bureau of Public Land Administration, Division of State Lands, Department of Environmental Protection, Mail Station 130, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000.

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10. LIABILITY: LESSEE shall assist in the investigation of injury or damage claims either for or against LESSOR or the State of Florida pertaining to LESSEE'S respective areas of responsibility under this lease or arising out of LESSEE'S respective management programs or activities and shall contact LESSOR regarding the legal action deemed appropriate to remedy such damage or claims.

11. ARCHAEOLOGICAL AND HISTORIC SITES: Execution of this lease in no way affects any of the parties' obligations pursuant to Chapter 267, Florida Statutes. The collection of artifacts or the disturbance of archaeological and historic sites on state-owned lands is prohibited unless prior authorization has been obtained from the Department of State, Division of Historical Resources. The Management Plan prepared pursuant to Section 253.034, Florida Statutes, shall be reviewed by the Division of Historical Resources to insure that adequate measures have been planned to locate, identify, protect and preserve the archaeological and historic sites and properties on the leased premises.

12. EASEMENTS: All easements including, but not limited to, utility easements are expressly prohibited without the prior written approval of LESSOR. Any easement not approved in writing by LESSOR shall be void and without legal effect.

13. SUBLEASES: This lease is for the purposes specified herein and subleases of any nature are prohibited, without the prior written approval of LESSOR. Any sublease not approved in writing by LESSOR shall be void and without legal effect.

14. POST CLOSING RESPONSIBILITIES: In an effort to define responsibilities of the LESSOR and LESSEE with regard to resolving post closing management issues, the parties agree to the following:

- a. After consultation with the LESSEE, LESSOR agrees to provide the LESSEE with the title, survey and

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environmental products procured by the LESSOR, prior to closing.

- b. LESSOR will initiate surveying services to locate and mark boundary lines of specific parcels when necessary for immediate agency management and will provide a boundary survey of the entire acquisition project at the conclusion of all acquisition within the project boundary. Provided, however, the LESSEE may request individual parcel boundary surveys, if necessary, prior to the conclusion of acquisition activities within the project boundaries.
- c. Unless otherwise agreed to by LESSEE, LESSOR shall at its sole cost and expense, make a diligent effort to resolve all issues pertaining to all title defects, survey matters or environmental contamination associated with the leased premises, including but not limited to trash and debris, which were either known or should have been reasonably known by LESSOR at the time LESSOR acquired the leased premises. Notwithstanding the foregoing, LESSOR will not be responsible for any of LESSEE'S attorney's fees, costs, or liability or damages incurred by the LESSEE in resolving any issue in which the LESSEE is named as a party in any litigation or other legal or administrative proceeding.
- d. With regard to all title defects, survey matters, or environmental contamination associated with the leased premises which were not known or could not have been reasonably known by LESSOR at the time LESSOR acquired the leased premises, LESSOR and LESSEE agree to cooperate in developing an appropriate strategy for jointly resolving these matters. LESSOR acknowledges and understands that LESSEE is unable to commit any

substantial amount of their routine operating funds for the resolution of any title defect, survey matter, or environmental contamination associated with the lease premises. Notwithstanding the foregoing, LESSOR will not be responsible for any of LESSEE'S attorney's fees, costs, or liability or damages incurred by the LESSEE in resolving any issue in which the LESSEE is named as a party in any litigation or other legal or administrative proceeding.

15. SURRENDER OF PREMISES: Upon termination or expiration of this lease LESSEE shall surrender the leased premises to LESSOR. In the event no further use of the leased premises or any part thereof is needed, written notification shall be made to the Bureau of Public Land Administration, Division of State Lands, Department of Environmental Protection, Mail Station 130, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000, at least six months prior to the release of all or any part of the leased premises. Notification shall include a legal description, this lease number and an explanation of the release. The release shall only be valid if approved by LESSOR through execution of a release of lease instrument with the same formality as this lease. Upon release of all or any part of the leased premises or upon expiration or termination of this lease, all permanent improvements, including both physical structures and modifications to the leased premises, shall become the property of LESSOR, unless LESSOR gives written notice to LESSEE to remove any or all such improvements at the expense of LESSEE. The decision to retain any improvements upon termination of this lease shall be at LESSOR'S sole discretion. Prior to surrender of all or any part of the leased premises, a representative of the Division of State Lands shall perform an on-site inspection and the keys to any buildings on the leased premises shall be turned over to the Division. If the leased premises and

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improvements located thereon do not meet all conditions set forth in paragraphs 18 and 21 herein, LESSEE shall pay all costs necessary to meet the prescribed conditions.

16. BEST MANAGEMENT PRACTICES: LESSEE shall implement applicable Best Management Practices for all activities conducted under this lease in compliance with paragraph 18-2.018(2)(b), Florida Administrative Code, which have been selected, developed, or approved by LESSOR, LESSEE or other land managing agencies for the protection and enhancement of the leased premises.

17. PUBLIC LANDS ARTHROPOD CONTROL PLAN: LESSEE shall identify and subsequently designate to the respective arthropod control district or districts within one year of the effective date of this lease all of the environmentally sensitive and biologically highly productive lands contained within the leased premises, in accordance with Section 388.4111, Florida Statutes and Chapter 5E-13, Florida Administrative Code, for the purpose of obtaining a public lands arthropod control plan for such lands.

18. UTILITY FEES: LESSEE shall be responsible for the payment of all charges for the furnishing of gas, electricity, water and other public utilities to the leased premises and for having all utilities turned off when the leased premises are surrendered.

19. ASSIGNMENT: This lease shall not be assigned in whole or in part without the prior written consent of LESSOR. Any assignment made either in whole or in part without the prior written consent of LESSOR shall be void and without legal effect.

20. PLACEMENT AND REMOVAL OF IMPROVEMENTS: All buildings, structures, improvements, and signs shall be constructed at the expense of LESSEE in accordance with plans prepared by professional designers and shall require the prior written approval of LESSOR as to purpose location, and design. Further, no trees, other than non-native species, shall be removed or

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major land alterations done without the prior written approval of LESSOR. Removable equipment placed on the leased premises by LESSEE which do not become a permanent part of the leased premises will remain the property of LESSEE and may be removed by LESSEE upon termination of this lease.

21. MAINTENANCE OF IMPROVEMENTS: LESSEE shall maintain the real property contained within the leased premises and any improvements located thereon, in a state of good condition, working order and repair including, but not limited to, keeping the leased premises free of trash or litter, maintaining all planned improvements as set forth in the approved Management Plan, meeting all building and safety codes in the location situated and maintaining any and all existing roads, canals, ditches, culverts, risers and the like in as good condition as the same may be at the date of this lease; provided, however, that any removal, closure, etc., of the above improvements shall be acceptable when the proposed activity is consistent with the goals of conservation, protection, and enhancement of the natural and historical resources within the leased premises and with the approved Management Plan.

22. ENTIRE UNDERSTANDING: This lease sets forth the entire understanding between the parties and shall only be amended with the prior written approval of LESSOR.

23. BREACH OF COVENANTS, TERMS, OR CONDITIONS: Should LESSEE breach any of the covenants, terms, or conditions of this lease, LESSOR shall give written notice to LESSEE to remedy such breach within sixty days of such notice. In the event LESSEE fails to remedy the breach to the satisfaction of LESSOR within sixty days of receipt of written notice, LESSOR may either terminate this lease and recover from LESSEE all damages LESSOR may incur by reason of the breach including, but not limited to, the cost of recovering the leased premises or maintain this lease in full

force and effect and exercise all rights and remedies herein conferred upon LESSOR.

24. NO WAIVER OF BREACH: The failure of LESSOR to insist in any one or more instances upon strict performance of any one or more of the covenants, terms and conditions of this lease shall not be construed as a waiver of such covenants, terms and conditions, but the same shall continue in full force and effect, and no waiver of LESSOR of any one of the provisions hereof shall in any event be deemed to have been made unless the waiver is set forth in writing, signed by LESSOR.

25. PROHIBITIONS AGAINST LIENS OR OTHER ENCUMBRANCES: Fee title to the leased premises is held by LESSOR. LESSEE shall not do or permit anything which purports to create a lien or encumbrance of any nature against the real property contained in the leased premises including, but not limited to, mortgages or construction liens against the leased premises or against any interest of LESSOR therein.

26. CONDITIONS AND COVENANTS: All of the provisions of this lease shall be deemed covenants running with the land included in the leased premises, and construed to be "conditions" as well as "covenants" as though the words specifically expressing or imparting covenants and conditions were used in each separate provision.

27. DAMAGE TO THE PREMISES: (a) LESSEE shall not do, or suffer to be done, in, on or upon the leased premises or as affecting said leased premises or adjacent properties, any act which may result in damage or depreciation of value to the leased premises or adjacent properties, or any part thereof. (b) LESSEE shall not generate, store, produce, place, treat, release or discharge any contaminants, pollutants or pollution, including, but not limited to, hazardous or toxic substances, chemicals or other agents on, into, or from the leased premises or any adjacent lands or waters in any manner not permitted by law. For the

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purposes of this lease, "hazardous substances" shall mean and include those elements or compounds defined in 42 USC Section 9601 or which are contained in the list of hazardous substances adopted by the United States Environmental Protection Agency (EPA) and the list of toxic pollutants designated by the United States Congress or the EPA or defined by any other federal, state or local statute, law, ordinance, code, rule, regulation, order or decree regulating, relating to, or imposing liability or standards of conduct concerning any hazardous, toxic or dangerous waste, substance, material, pollutant or contaminant. "Pollutants" and "pollution" shall mean those products or substances defined in Chapters 376 and 403, Florida Statutes, and the rules promulgated thereunder, all as amended or updated from time to time. In the event of LESSEE'S failure to comply with this paragraph, LESSEE shall, at its sole cost and expense, promptly commence and diligently pursue any legally required closure, investigation, assessment, cleanup, decontamination, remediation, restoration and monitoring of (1) the leased premises, and (2) all off-site ground and surface waters and lands affected by LESSEE'S such failure to comply, as may be necessary to bring the leased premises and affected off-site waters and lands into full compliance with all applicable federal, state or local statutes, laws, ordinances, codes, rules, regulations, orders and decrees, and to restore the damaged property to the condition existing immediately prior to the occurrence which caused the damage. LESSEE'S obligations set forth in this paragraph shall survive the termination or expiration of this lease. Nothing herein shall relieve LESSEE of any responsibility or liability prescribed by law for fines, penalties and damages levied by governmental agencies, and the cost of cleaning up any contamination caused directly or indirectly by LESSEE'S activities or facilities. Upon discovery of a release of a hazardous substance or pollutant, or any other

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violation of local, state or federal law, ordinance, code, rule, regulation, order or decree relating to the generation, storage, production, placement, treatment, release or discharge of any contaminant, LESSEE shall report such violation to all applicable governmental agencies having jurisdiction, and to LESSOR, all within the reporting periods of the applicable governmental agencies.

28. PAYMENT OF TAXES AND ASSESSMENTS: LESSEE shall assume full responsibility for and shall pay all liabilities that accrue to the leased premises or to the improvements thereon, including any and all drainage and special assessments or taxes of every kind and all mechanic's or materialman's liens which may be hereafter lawfully assessed and levied against the leased premises.

29. RIGHT OF AUDIT: LESSEE shall make available to LESSOR all financial and other records relating to this lease and LESSOR shall have the right to audit such records at any reasonable time. This right shall be continuous until this lease expires or is terminated. This lease may be terminated by LESSOR should LESSEE fail to allow public access to all documents, papers, letters or other materials made or received in conjunction with this lease, pursuant to Chapter 119, Florida Statutes.

30. NON-DISCRIMINATION: LESSEE shall not discriminate against any individual because of that individual's race, color, religion, sex, national origin, age, handicap, or marital status with respect to any activity occurring within the leased premises or upon lands adjacent to and used as an adjunct of the leased premises.

31. COMPLIANCE WITH LAWS: LESSEE agrees that this lease is contingent upon and subject to LESSEE obtaining all applicable permits and complying with all applicable permits, regulations, ordinances, rules, and laws of the State of Florida or the

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United States or of any political subdivision or agency of either.

32. TIME: Time is expressly declared to be of the essence of this lease.

33. GOVERNING LAW: This lease shall be governed by and interpreted according to the laws of the State of Florida.

34. SECTION CAPTIONS: Articles, subsections and other captions contained in this lease are for reference purposes only and are in no way intended to describe, interpret, define or limit the scope, extent or intent of this lease or any provisions thereof.

35. ADMINISTRATIVE FEE: LESSEE shall pay LESSOR an annual administrative fee of \$300. The initial annual administrative fee shall be payable within thirty days from the date of execution of this lease agreement and shall be prorated based on the number of months or fraction thereof remaining in the fiscal year of execution. For purposes of this lease agreement, the fiscal year shall be the period extending from July 1 to June 30. Each annual payment thereafter shall be due and payable on July 1 of each subsequent year.

36. SPECIAL CONDITIONS: The following special conditions shall apply to this lease: None.

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IN WITNESS WHEREOF, the parties have caused this lease to be executed on the day and year first above written.

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA

Judy Woodard
Witness
Judy Woodard
Print/Type Witness Name
Karen Davis
Witness
Florence Davis
Print/Type Witness Name

By: Gloria C. Nelson (SEAL)
GLORIA C. NELSON, OPERATIONS AND MANAGEMENT CONSULTANT MANAGER, BUREAU OF PUBLIC LAND ADMINISTRATION, DIVISION OF STATE LANDS, DEPARTMENT OF ENVIRONMENTAL PROTECTION

"LESSOR"

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 23rd day of April 2001, by Gloria C. Nelson, as Operations and Management Consultant Manager, Bureau of Public Land Administration, Division of State Lands, Florida Department of Environmental Protection, acting as agent on behalf of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida.

Cheryl J. King
Notary Public, State of Florida

Print/Type Notary Name

Commission Number:

Commission Expires:

Approved as to Form and Legality

By: Frank Wren
DEP Attorney



STATE OF FLORIDA FISH AND WILDLIFE
CONSERVATION COMMISSION

Brenda Collins
Witness
Brenda Collins
Print/Type Witness Name

Cynthia Ward
Witness
Cynthia Ward
Print/Type Witness Name

By: Victor J. Heller (SEAL)

Victor J. Heller, Assistant Executive Director
Print/Type Name

Title: _____

"LESSEE"

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this
17 day of April, 2001, by Victor J. Heller, as
Assoc. Exp. Director, State of Florida Fish and
Wildlife Conservation Commission. He/she is personally known to
me or produced _____ as identification.



Rosemary Mara
MY COMMISSION # CC 661908 EXPIRES
October 20, 2003
BONDED THRU TROY FARM INSURANCE, INC.

Rosemary Mara
Notary Public, State of Florida

Print/Type Notary Name

Commission Number:

Commission Expires:

APPROVED AS TO FORM
AND LEGAL SUFFICIENCY
Robert F. Kolbe
Commission Attorney

EXHIBIT "A"

LEGAL DESCRIPTION OF THE LEASED PREMISES

This Instrument Prepared By:
Peter Fodor
The Trust for Public Land
306 North Monroe Street
Tallahassee, Florida 32301

Property Appraiser's Parcel
Identification Number:
R342529-484000010010
R262529-314000050180

APPROVED
FOR CLOSING

DEC 28 2000

WCR
By: William C. Robinson, Jr.
(DEP Attorney)

WARRANTY DEED
(STATUTORY FORM - SECTION 689.02, F.S.)

THIS INDENTURE, made this 11th day of December A.D. 2000,
between THE TRUST FOR PUBLIC LAND, a charitable nonprofit California corporation,
whose address is 308 N. Monroe St., Tallahassee, FL 32301 Grantor, and the BOARD OF
TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF
FLORIDA, whose address is c/o the Division of State Lands, 3900 Commonwealth Blvd.,
Tallahassee, FL 32396-3000, Grantee.

(Wherever used herein the terms "grantor" and "grantee" include all the
parties to this instrument and their heirs, legal representatives, successors
and assigns. "Grantor" and "grantee" are used for singular and plural, as the
context requires and the use of any gender shall include all genders.)

WITNESSETH: That the said grantor, for and in consideration of the sum of Ten
Dollars and other good and valuable considerations, to said grantor in hand paid by said grantee,
the receipt whereof is hereby acknowledged, has granted, bargained and sold to the said grantee,
and grantee's successors and assigns forever, the following described land situate, lying and
being in Osceola County, Florida, to-wit:

See Exhibit "A" attached hereto and by this reference made a part hereof.

This conveyance is subject to easements, restrictions, limitations and conditions of record
if any now exist, but any such interests that may have been terminated are not hereby re-
imposed.

AND the said grantor does hereby fully warrant the title to said land, and will defend the
same against the lawful claims of all persons whomsoever.

IN WITNESS WHEREOF the grantor has hereunto set grantor's hand and seal, the day
and year first above written.

THIS INSTRUMENT IS EXEMPT FROM DOCUMENTARY STAMP TAXES
PURSUANT TO CHAPTER 201.02(8), FLORIDA STATUTES.

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Signed, sealed and delivered in the presence of:

THE TRUST FOR PUBLIC LAND, a charitable nonprofit California corporation

Kiana L. Willis
(Signature of first witness)

By: [Signature]
W. Dale Allen, Senior Vice President

Kiana E. Webb
(Printed name of first witness)

(CORPORATE SEAL)

[Signature]
(Signature of second witness)

CAROL PENROSE
(Printed name of second witness)

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 22 day of December, 2000, by W. Dale Allen, Senior Vice President of The Trust for Public Land, a charitable nonprofit California corporation, on behalf of said corporation. Such person is personally known to me.

[Signature]
NOTARY PUBLIC

(NOTARY PUBLIC SEAL)

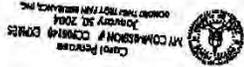


EXHIBIT "A"

Lots 1 to 12 inclusive of Frank Van Agnew's Subdivision known as Paradise Island, being a subdivision of Government Lot 1, of Section 34, Township 25 South, Range 29 East, according to the plat thereof as recorded in Plat Book 1, Page 45, Public Records of Osceola County, Florida. Also, that certain tract designated on the official plat of Paradise Island filed in the office of the Clerk of the Circuit Court, Osceola County, Florida by Frank Van Agnew on the 13th day of June, 1911, in Plat Book 1, Page 45, as "RESERVED" and being in the Southwestern part of said Paradise Island and bounded on the East by Lot 1, on the South by the shoreline of the lake and Lot 12, on the West by the shoreline of the lake, and on the North by Lots 11, 10, 9, and 8 of said subdivision, including all land on Paradise Island above the mean high water mark of Lake Tohopekaliga.

Sec-34
Twp-25-S
Rg-29E

AND

Lot 18, of Block 5 of THE FLORIDA DRAINED LAND COMPANY'S SUBDIVISION No. 1, according to plat thereof recorded in Plat Book B, pages 65 and 66, Public Records of Osceola County, Florida, together with that part of Fowler Road contiguous thereto on the Northwest as vacated in Deed Book 164, page 211, and also including all land Westerly of the vacated road right-of-way to the mean high water mark of Lake Tohopekaliga, less the most Southwesterly 40 feet thereof conveyed to Osceola County by Quit Claim deeds recorded in Official Records Book 39, page 33, Official Records Book 39, page 35, Official Records Book 39, page 37, Official Records Book 39, page 39, Official Records Book 39, page 41, and Official Records Book 39, page 43, Public Records of Osceola County, Florida.

Sec 23
Twp 25S
Rg-31E

Less and except that part of Lot 18 described as follows:

Commence at the Southerly common corner to Lots 18 and 19 of said Block 5, said corner being on the Northerly right of way of Parson's Road; thence North 30° 34' 47" West along the common line between said Lots 18 and 19 a distance of 1,433.00 feet to the Point of Beginning; thence South 59° 25' 13" West a distance of 14.00 feet; thence North 30° 34' 47" West a distance of 175.00 feet; thence North 59° 25' 13" East a distance of 14.00 feet to the aforesaid common line between Lots 18 and 19; thence South 30° 34' 47" East along said common line a distance of 175.00 feet to the Point of Beginning.

Lake Toho FMA, Paradise Island & Shore Parcel, TPL (Paradise Groves Partnership)
Revised: 10.25.00

Page 1 of 1

AB
Date: 12.11.00

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Lease No. 4323

Revised 03/16/2000

12.3 Makinson Island Cooperative Management Agreement

MAKINSON ISLAND AGREEMENT

Between and Among

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION,
OSCEOLA COUNTY BOARD OF COUNTY COMMISSIONERS,
CITY OF KISSIMEE,
and
OSCEOLA COUNTY SCHOOL BOARD
JANUARY 14, 2002

This AGREEMENT is made and entered into between and among Fish and Wildlife Conservation Commission, an agency of the State of Florida, hereinafter referred to as COMMISSION, Osceola County Board of County Commissioners, a political subdivision of the State of Florida, hereinafter referred to as COUNTY, City of Kissimmee, a political subdivision of the State of Florida, hereinafter referred to as CITY, and The School Board of Osceola County, Florida, a political subdivision of the State of Florida, hereinafter referred to as SCHOOL BOARD.

WHEREAS, it is the purpose and intent of this AGREEMENT, the parties hereto, and the Florida Inter-local Cooperation Act of 1969, as amended, codified as Section 163.01, Florida Statutes, to permit COMMISSION, COUNTY, CITY and SCHOOL BOARD to make the most efficient use of their respective powers, resources and capabilities by enabling them to cooperate on the basis of mutual advantage and thereby to furnish the facilities provided for herein in a manner that will best accord with the existing resources available to each of them and with the needs and developments within their respective jurisdictions; and

Whereas, the Board of Trustees of the Internal Improvement Trust Fund, STATE OF FLORIDA, hereinafter STATE owns Makinson Island, located in Lake Tohopekaliga, Osceola County, Florida. The State has directed the Commission to be the land manager for Makinson Island and the Commission has directed the County as the lead agency in the cooperative effort between the Commission, the County, the City and the School Board to preserve Lake Tohopekaliga and utilize the natural resources on Makinson Island for educational and recreational purposes; and

WHEREAS, COMMISSION, COUNTY, CITY and SCHOOL BOARD have completed a cooperative venture regarding improvements on Makinson Island with the intent to manage for high quality recreational and educational opportunities in support of additional economic and educational value to the STATE of Florida, COUNTY, CITY and SCHOOL BOARD; and

WHEREAS, to further efforts undertaken by COMMISSION and COUNTY in connection with development and utilization of Lake Tohopekaliga as a designated Fish Management Area (designated in November 1998), hereinafter referred to as FMA, and by COMMISSION to meet FMA needs, the parties hereto acknowledge and agree to cooperate with each other to the fullest extent reasonably necessary to accomplish the mutual desire of the parties that the FMA be successful (Attachment A); and

Whereas, COMMISSION, COUNTY, CITY and SCHOOL BOARD agree that the primary reason for the STATE to purchase Makinson Island was for the protection and management of Lake Tohopekaliga and that no activity on the island should take precedence over the COMMISSION'S responsibility of protection and management of Lake Tohopekaliga; and

WHEREAS, COMMISSION, COUNTY, CITY and SCHOOL BOARD intend by this AGREEMENT to more fully establish the joint and several obligations, duties and responsibilities of COMMISSION, COUNTY, CITY and SCHOOL BOARD to design, install, operate and maintain Makinson Island for the people of Florida; and

NOW, THEREFORE, in consideration of the mutual terms, conditions, promises and covenants hereinafter set forth, COMMISSION, COUNTY, CITY and SCHOOL BOARD hereby agree as follows:

DUTIES OF THE COMMISSION:

1. The COMMISSION agrees to cause or be responsible for causing the preparation of plans and specifications for approved activities on the island and periodically report as required to Florida Department of Environmental Protection, Division of State Lands. Upon completion of such plans and specifications, if any such plans and specifications require COUNTY, CITY and/or SCHOOL BOARD activities, COMMISSION shall submit same to COUNTY, CITY and/or SCHOOL BOARD for review and approval. The Commission has prepared a Management Plan for the utilization of Makinson Island, a copy of which is attached hereto as Attachment B, and made part hereof by this reference.

2. The COMMISSION agrees to share planning responsibilities for all activities associated with Makinson Island, with the COUNTY, the CITY, and the SCHOOL BOARD, provided that all such activities remain consistent with the Management Plan as referenced above.

3. The COMMISSION agrees to manage the shoreline habitat around Makinson Island for fish and wildlife communities. Upland areas may be needed for future

disposal of organic sediments (after obtaining all necessary State and Federal required permits). No disposal area shall permanently impede the recreational or educational use of the island.

4. The COMMISSION agrees to provide law enforcement officers to periodically inspect the island while on routine lake duty.

5. The COMMISSION agrees to share expertise, knowledge and assistance where and when possible to replant and restore native animals, plants and trees and remove exotic animals and exotic plants.

6. The COMMISSION agrees to provide funds Legislatively appropriated to the Commission specifically for Makinson Island for management activities on Makinson Island, facilities and/or vessel operation(s).

Activities for Makinson Island by the COMMISSION may include but are not limited to the above mentioned list, so long as any additional activities are within the stated purpose of this AGREEMENT.

DUTIES OF THE COUNTY:

7. By virtue of the County's status as the lead agency for this cooperative effort, the County will be responsible for coordinating a schedule of use for Makinson Island. The Commission, the City, and the School Board will be responsible for contacting the County to schedule special events or any such other use.

8. The COUNTY agrees to provide, and maintain, during the term of this AGREEMENT, recreational opportunities such as, but not limited to, overnight and day camping, hiking, nature watching, and educational experiences.

9. The COUNTY agrees to monitor the number of persons camping, on Makinson Island, by issuing no cost permits for overnight utilization of the area.

10. The COUNTY agrees to provide a caretaker, Sheriff's Office law enforcement patrol while on routine water duty, mowing services, and refuse collection, electricity, water and restroom facilities on Makinson Island.

11. The COUNTY agrees not to close or limit public access, to Makinson Island, in any way, which is inconsistent with this agreement, without the prior written approval of the Commission. Nor will the County charge user fees or

establish concessions on Makinson Island without prior written approval from the Commission.

12. The COUNTY agrees to incorporate Makinson Island information into COUNTY's public information materials where appropriate.

13. The COUNTY agrees to provide and maintain a passenger transportation vessel and equipment transportation vessel for use by all parties hereto upon approval from County representative.

14. The COUNTY agrees to provide a representative to assist with future planning, development and management of Makinson Island.

15. The COUNTY MANAGER, or designee, and Ex-Officio Clerk of the Osceola County Board of County Commissioners, are hereby authorized and directed, after approval of this AGREEMENT by the Governing Bodies of the COMMISSION, COUNTY, CITY and SCHOOL BOARD and the execution thereof by the duly qualified and authorized officers of each of the parties hereto, to file this AGREEMENT with Clerk of the Circuit Court of Osceola County, Florida, for recording in the public records of Osceola County, Florida as required by Section 163.01(11), Florida Statutes.

Activities for Makinson Island by the COUNTY may include but are not limited to the above mentioned list, so long as any additional activities are within the stated purpose of this AGREEMENT and agreed to by the COMMISSION.

DUTIES OF THE CITY:

16. The CITY agrees to incorporate public recreational programs through its Parks and Recreation Department for Makinson Island.

17. The CITY agrees to provide boat storage for up to two passenger transportation vessels, one owned by the COUNTY and one owned by the OSCEOLA COUNTY SCHOOL BOARD at or near the main city pier.

18. The CITY agrees to provide refuse collection for all CITY functions held on the island.

19. The CITY agrees to provide advertisement and information about Makinson Island where appropriate.

20. The CITY agrees to provide a representative to assist with future planning, development and management of Makinson Island.

Activities for Makinson Island by the CITY may include but are not limited to the above mentioned list, so long as any additional activities are within the stated purpose of this AGREEMENT and agreed to by the COMMISSION.

DUTIES OF THE OSCEOLA COUNTY SCHOOL BOARD:

21. The SCHOOL BOARD agrees to approve field trips in order to allow minor age students to visit Makinson Island for educational purposes.

22. The SCHOOL BOARD agrees to assist with costs associated with transportation, maintenance and insurance of the transportation vessel. These funds shall be mutually agreed upon with the COUNTY.

23. The SCHOOL BOARD agrees to attempt to acquire its own transportation vessel to transport minor students to Makinson Island.

24. The SCHOOL BOARD agrees to allow teachers to apply for and receive grants to offset costs of activities and programs for their students on Makinson Island.

25. The SCHOOL BOARD agrees to provide a representative to assist with future planning, development and management of Makinson Island.

Activities for Makinson Island by the SCHOOL BOARD may include but are not limited to the above mentioned list, so long as any additional activities are within the stated purpose of this AGREEMENT and agreed to by the COMMISSION.

MUTUAL AND ADDITIONAL COVENANTS:

26. The Commission, County, City and School Board agree that the full extent of any individual entity use of Makinson Island can not yet be determined and that sharing the costs associated with such entity use, including but not limited to, electricity and the maintenance and operation of the transportation vessel, will need to be discussed at such time as individual entity use may be better determined. In the event, individual entity use warrants sharing any or all of the costs associated with such use, the parties hereto agree to modify this agreement to reflect same.

27. The COMMISSION, COUNTY, CITY and SCHOOL BOARD agree not to assign any right, interest or obligation hereunder without the written consent of all other parties. Any attempt by COMMISSION, COUNTY, CITY and/or SCHOOL BOARD to transfer by any means, any of the rights, duties or obligations of this AGREEMENT without such consent is null and void.

28. The COMMISSION, COUNTY, CITY and SCHOOL BOARD agree that all parties are to receive equal recognition in all local advertisements and public announcements concerning Makinson Island. The COMMISSION, COUNTY, CITY and SCHOOL BOARD agree to display sponsor group(s) signage, to denote their involvement in Makinson Island operations.

29. **Effective Date:** This AGREEMENT shall become effective upon the date of execution by the last party hereto and shall remain in full force and effect until terminated as provided herein by any party.

30. **Termination:** Any party may terminate this AGREEMENT by giving written notice to the other parties specifying the termination date, by certified mail, return receipt requested, at least 30 days prior to the termination date specified in the notice.

31. **Contract Administrator:** The Contract Administrator for this AGREEMENT is the County Manager, or designee, for COUNTY, City Manager, or designee, for CITY, the Superintendent or designee, for SCHOOL BOARD and Mikel Hulon, Biological Administrator II, or designee for COMMISSION. In the administration of this AGREEMENT, as contrasted with matters of policy, all parties may rely upon instructions or determinations made by the respective Contract Administrators.

32. **Amendments:** This AGREEMENT may be amended by written modification between and among the COUNTY, CITY, SCHOOL BOARD and COMMISSION.

33. **Relationship of Parties:** It is understood that an employer-employee relationship does not exist between and among the COMMISSION, COUNTY, CITY and/or SCHOOL BOARD and the COMMISSION is not responsible for providing Worker's Compensation insurance and withholding services for the COUNTY, CITY, OR SCHOOL BOARD or their employees.

34. There is no conflict of interest or any other prohibited relationship between or among the COUNTY, CITY, SCHOOL BOARD and the COMMISSION.

35. **Other AGREEMENTS:** This AGREEMENT contains the complete AGREEMENT between and among the COMMISSION, COUNTY, CITY and SCHOOL BOARD and, as of the effective date hereof, shall supersede all other AGREEMENTS, communications or representations, either verbal or written, between the COMMISSION, COUNTY, City and/or SCHOOL BOARD.

36. The COMMISSION, COUNTY, CITY and/or SCHOOL BOARD stipulate that neither agency has made any representations except such representations as are specifically contained within this AGREEMENT and each party acknowledges reliance on its own judgment in entering into this AGREEMENT. The COMMISSION, COUNTY, CITY and/or SCHOOL BOARD further acknowledge that any payments or any representations that may have been made outside of those specifically contained herein are of no binding effect and have not been relied upon by any party in its dealings with any other in entering into this AGREEMENT.

37. **Commitment of Funds:** The State of Florida's performance and obligation to pay under this AGREEMENT is contingent upon an annual appropriation by the Legislature and the availability of those funds.

38. **Public Records:** The COMMISSION, COUNTY, CITY and/or SCHOOL BOARD individually reserve the right to unilaterally cancel this AGREEMENT for refusal by the other party to allow public access to all documents, papers, letters, or other material subject to the provisions of Chapter 119, Florida Statutes, and made or received by the party in possession of such documents, papers, letters, or other material in conjunction with this AGREEMENT.

39. **Notice:** Unless there is a change of address, any notice required by this contract shall be delivered to: Mr. Mikel Hulon, Biological Administrator II, Florida Fish and Wildlife Conservation Commission, 600 N. Thacker Avenue, Suite A-1, Kissimmee, Florida, 34741, County Manager, 1 Courthouse Square, Suite 4700, Kissimmee, FL 34741, City Manager, 101 N. Church Street, Kissimmee, Florida 34741, and the Superintendent of Osceola County Schools, 817 Bill Beck Blvd., Kissimmee, Florida 34744.

40. **Non-Discrimination:** The parties hereto covenant and agree not to discriminate against any individual because of that individual's race, color, religion, sex, national origin, age, handicap, or marital status with respect to any activity occurring pursuant to this AGREEMENT.

41. **Severability:** All provisions or paragraphs or clauses of this AGREEMENT

are severable, and in the event any such provision or paragraph or clause shall be held to be invalid by any court of competent jurisdiction, this AGREEMENT shall be construed as if such invalid provision or paragraph or clause were never contained herein unless such construction would be unreasonable or lead to absurd results or defeat the intent or obvious purposes of this AGREEMENT.

42. **Third Party Beneficiaries:** This AGREEMENT in no respect conveys any benefits to any third parties and does not afford legal standing for any third parties.

43. **Waiver:** Waiver by any party hereto, of a breach of any provision of the Agreement, shall not be deemed to be a waiver of any other breach and shall not be construed to be a modification of the terms of this Agreement.

44. **Venue:** This AGREEMENT shall be governed by the laws, rules, and regulations of the State of Florida, both procedural and substantive, along with any applicable Federal statutes, rules and/or regulations. The venue for any and all litigation, arising under this Agreement, shall lie in Osceola County, Florida.

45. **Indemnification:** The liability of the Commission, the County, the City, and the School Board is regulated by Florida law. Except for any negligent acts or omissions, damages proximately caused by said acts or omissions or tortious acts of a party hereto, or the employees or agents, of a party hereto, which result in claims or suits against another party hereto, the Commission, the County, the City, and the School Board shall not indemnify any entity or person. However, nothing herein is intended to serve as a waiver of sovereign immunity. The Commission, the County, the City and the School Board are insured to the extent of their liability under the law and any liability in excess of that specified by statute may be awarded only through special legislative action. Accordingly, the Commission's, the County's, the City's and the School Board's liability and indemnification obligations, to one another, under this agreement shall be effective only to the extent expressly required by Florida Statutes, Section 768.28

IN WITNESS HEREOF, the parties hereto have executed this contract through their duly authorized signatories on the respective dates under each signature.

CL 2002106548

OR 2068/1916

ATTEST:

FLORIDA FISH AND WILDLIFE
CONSERVATION COMMISSION

Victor J. Heller

~~Rilan L. Egbert, Ph.D.~~ **Victor J. Heller**
~~Executive Director~~ **Assistant Executive Director**
Farris Bryant Building
620 South Meridian Street
Tallahassee, FL 32399-1600

Witness

Brenda Collins

Dated: *3/22/02*

Approved as to form:

Attorney *Paulson T. Robertson*

OSCEOLA COUNTY, through its
BOARD OF COUNTY COMMISSIONERS

[Signature]
Chairman

County Manager and
Ex-Officio Clerk of the
Board of County Commissioners
of Osceola County, Florida

Dated: *4/20/02*



CITY OF KISSIMMEE,

through its CITY COMMISSIONERS

George A. Gant
~~Commissioner~~ George A. Gant
Mayor-Commissioner

Dated: *March 26, 2002*

ATTEST:

Linda P. Jaworski
Linda P. Jaworski, City Clerk

THE SCHOOL BOARD OF OSCEOLA COUNTY,
FLORIDA

David E. Stone
David E. Stone, Chairman

Blaine A. Myse
Blaine A. Myse, Superintendent

Date *2/28/2002*

DR 2068/1917

DL 2002106548

COPY

ATTACHMENT A

**ESTABLISHMENT OF LAKES TOHOPEKALIGA, CYPRESS,
HATCHINEHA AND KISSIMMEE
FISH MANAGEMENT AREA**

STATE OF FLORIDA
GAME AND FRESH WATER FISH COMMISSION

CL 2002106548

OR 2068/1919

ORDER NUMBER
FMA 98-8

Establishment of
Lakes Tohopekaliga, Cypress,
Hatchineha and Kissimmee
Fish Management Area

The Game and Fresh Water Fish Commission of the State of Florida, under and by virtue of the power and authority granted under Article IV, Section 9 of the Florida Constitution and rules and regulations of the Commission, hereby establishes Lakes Tohopekaliga, Cypress, Hatchineha and Kissimmee Fish Management Area in Osceola County by the following description:

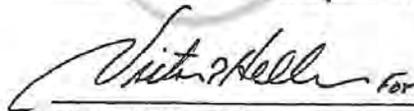
Water bodies known as: Lake Tohopekaliga, including Mill Slough to Oak Street, East Lake Canal to the East Lake water control structure, the outlet canal to the water control structure and Shingle Creek to the Old Tampa Highway bridge; Lake Cypress, including to the Lake Tohopekaliga water control structure, to the Lake Gentry water control structure just north of Highway 523, the outlet canal leading south to the mouth of Lake Hatchineha and Dead River to Reedy Creek; Lake Hatchineha, including the outlet canal leading south to the mouth of Lake Kissimmee; Lake Kissimmee to the Lake Jackson water control structure, to the Lake Kissimmee water control structure, 100 yards up the Tiger Lake Canal, and to the Lake Rosalie water control structure located in the Lake Kissimmee State Park. Lakes Tohopekaliga, Cypress, Hatchineha and Kissimmee Fish Management Area is located in Township 25N, 26N, 27N, 28S, 29S, 30S and 31S, Range 28E, 29E, 30E, and 31E and consists of Lake Tohopekaliga - 18,810 acres, Lake Cypress - 4,097 acres, Lake Hatchineha - 6,665 acres and Lake Kissimmee - 34,948 acres (Total 64,520 acres).

Specific Authority: Article IV, Section 9, Florida Constitution

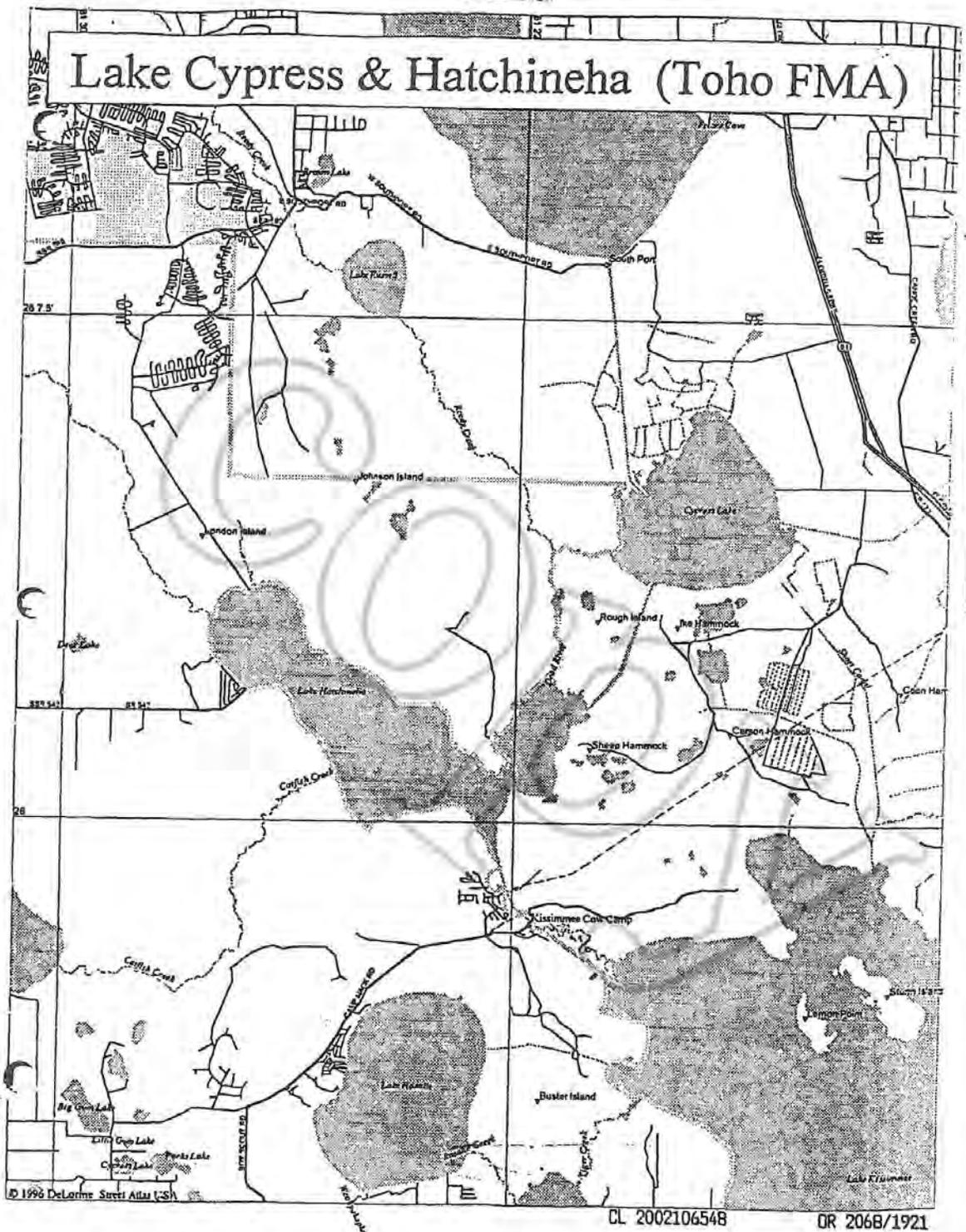
Law Implemented: Article IV, Section 9, Florida Constitution
& 120.81 (5), Florida Statutes

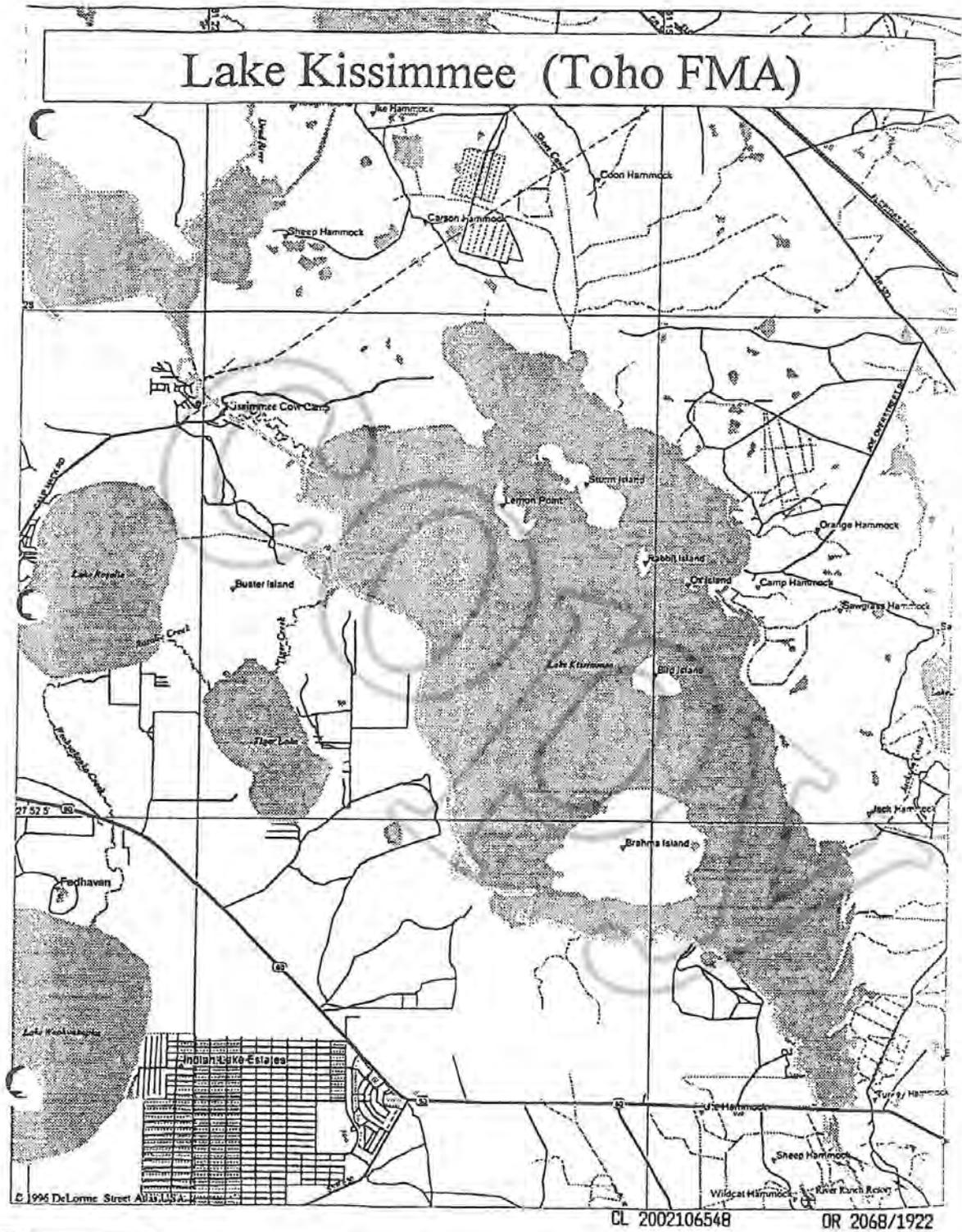
Effective Date: 9-18-98

GIVEN UNDER MY HAND AND SEAL
OF THE FLORIDA GAME AND FRESH
WATER FISH COMMISSION THIS
18th DAY OF Sept. 1998



Allan L. Egbert, Ph.D.
Executive Director





12.4 Definitions of Management Plan Terms

Management Plan Goals and Objectives

Terms and Definitions

Assessment: Assessment—when a historic resource professional determines the possible effects—positive or negative—that an action or inaction may have on a historical resource (e.g., site, building, object or structures) by analyzing its current condition and documenting any modifications and changes to its original state as well as identifying any potential human or natural threats to its existence.

Capital Improvement: Capital improvement" or "capital project expenditure" means those activities relating to the acquisition, restoration, public access, and recreational uses of such lands, water areas, and related resources deemed necessary to accomplish the purposes of this chapter. Eligible activities include, but are not limited to: the initial removal of invasive plants; the construction, improvement, enlargement or extension of facilities' signs, firelanes, access roads, and trails; or any other activities that serve to restore, conserve, protect, or provide public access, recreational opportunities, or necessary services for land or water areas. Such activities shall be identified prior to the acquisition of a parcel or the approval of a project. The continued expenditures necessary for a capital improvement approved under this subsection shall not be eligible for funding provided in this chapter.

Desired future condition: Desired Future Condition is a description of the land or resource conditions that are believed necessary if management goals and objectives are fully achieved. Desired Future Condition varies by specific habitat and ecosystem. It can also vary, based upon a specific agency's management goals.

Evaluation: Review by a professional in archaeology, history or architecture as to the integrity and significance of the site, building or structure. The criteria of the National Register of Historic Places will be applied.

Facility: all developed structures and improvements provided for a specific purpose or contained within a clearly defined area.

Fire management plan: An element of the land management plan or an independent document that outlines the goals and objectives of a fire management program (prescribed and wildfire) for a predetermined period of time.

Historic: An object, site or structure that is 50 years or older.

Hydrological assessment: A documented, systematic evaluation by a qualified professional of the existing and historical quantity, quality, movement and function of water resources (e.g., computer modeling).

Imperiled species: A species or subspecies that is listed by the U.S. Fish and Wildlife Service as Endangered or Threatened; Florida Fish and Wildlife Conservation Commission (FWC) as Endangered, Threatened, or Special Concern; Florida Department of Agriculture and Consumer Services (FDACS) as Endangered or Threatened; or is tracked by Florida Natural Areas Inventory (FNAI) as globally or state Critically Imperiled or Imperiled. Imperiled Species does NOT refer to species that are on the FDACS list of commercially exploited plants that are not Endangered or Threatened.

Improve: the enhancement or expansion of facilities, roads and trails.

Maintenance: the daily or regular work of keeping facilities, roads and trails in proper condition.

Monitoring: Periodic examination of the site, building or structure to determine the current condition and threats such as erosion, structural deterioration, vegetation intrusion, poaching or vandalism. An updated Florida Master Site File form is used to complete this assessment.

Natural community/habitat/ecological improvement: Similar to restoration but on a smaller less intense scale. Typically includes small scale vegetation management activities, spot treatments of exotic plants, or minor habitat manipulations. Any habitat alteration that increases the diversity of a habitat or increases the population of a particular species.

Natural community/habitat/ecological restoration: The process of assisting the recovery and natural functioning of degraded natural communities to desired future condition, including the re-establishment of biodiversity, ecological processes, vegetation structure, and physical characters. Activities may include vegetative treatments (e.g., hardwood removal, mechanical treatment, pine tree thinning, etc.), groundcover establishment, non-commercial tree plantings, erosion control, hydrological manipulation(filling ditches), and beach management.

Not in maintenance condition: Species composition and/or structure is outside the targeted range. The natural community is in need of more frequent or recurring management treatments that are beyond maintenance activities. Examples include natural communities with exotic plant or animal infestations that are at levels requiring significant treatment, natural communities that have exceeded maximum targeted fire return intervals, and natural communities in need of restoration treatments.

Poor, fair, good condition: Evaluating the condition of cultural resources is accomplished using a three part evaluative scale, expressed as good, fair and poor. These terms describe the present condition, rather than comparing what exists against the ideal. “Good” describes a condition of structural stability and physical wholeness, where no obvious deterioration other than normal occurs. “Fair” describes a condition in which there is a discernible decline in condition between inspections, and the wholeness or physical integrity is and continues to be threatened by factors other than normal wear. A “fair” assessment is cause for concern. “Poor” describes an unstable condition where there is palpable, accelerating decline, and physical integrity is being compromised quickly. A resource in poor condition suffers obvious declines in physical integrity from year to year. A poor condition suggests immediate action is needed to reestablish physical stability.

Population survey: Using broadly accepted methodologies to detect changes in population trends over time.

Public access: access by the general public to state lands and water, including vessel access made possible by boat ramps, docks, and associated support facilities, where compatible with conservation and recreation objectives.

Recorded: A Florida Master Site File form has been completed and filed with the Florida Department of State, Division of Historical Resources.

Recreational/visitor opportunity: measure of potential number of users based on existing resource conditions and developed facilities.

Repair (major): the restoration of facilities, road and trails to proper condition after damage or failure.

Restoration underway: restoration planning/design, executing, evaluating and reporting.

Restored/Maintenance condition: (refers to natural community) - within the range of target species composition and structure such that no significant, non-recurring alterations to structure or species composition are needed for ecological restoration. Invasive exotic plants or animals are absent or at levels requiring minimal recurring treatments, and prescribed fire rotations are within target intervals. Refers to Natural Communities. Includes NCs that meet DFC, and NCs that have received restoration action (such as thinning, clearcut and native species planting) and only require time and recurring maintenance actions such as prescribed fire, maintenance level exotics control, or sustainable forestry practices if applicable.

Road: a paved or unpaved motor vehicle route unless identified and managed as a trail.

Significant: Listed in or determined eligible for listing in the National Register of Historic Places as an individual property, element of a multiple listing or in an historic district. Cultural resource professionals are able to make the determination, but final determination rests with the Director of the Division of Historical Resources.

Sustainable forestry: The stewardship and harvest of forest products in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality, and potential to fulfill, now and in the future, relevant ecological, economic, and social functions at local, national and global levels, and that does not cause damage to other ecosystems.

Systematic survey: A sampling protocol designed to assess the occurrence or population status of a species or a suite of species (e.g., presence/absence, mark and recapture, transect survey, etc.).

Trail: a linear route or path which has been specifically prepared or designed for one or more recreational functions such as hiking, biking, horseback riding or multiple use. In many cases, unimproved service roads are also designated as trails.

Treatment: A mechanical, chemical, biological or manual action that changes the structure or composition of an area in order to facilitate restoration or improvement.

Visitor carrying capacity: An estimate of the number of users a recreation resource or facility can accommodate and still provide a high quality recreational experience and preserve the natural values of the site.

Wildlife activities: wildlife-associated recreation such as birdwatching, fishing, hunting, etc.

12.5 Public Input

12.5.1 Management Advisory Group Meeting Results

Lake Tohopekaliga Fish Management Area - Paradise Island and Makinson Island Management Advisory Group (MAG) Consensus Meeting Results

August 23, 2017 in Kissimmee, Florida

The intent of convening a consensus meeting is to involve a diverse group of stakeholders in assisting the Florida Fish and Wildlife Conservation Commission (FWC) in development of a rational management concept for lands within the agency's managed area system. FWC does this by asking spokespersons for these stakeholders to participate in a half-day meeting to provide ideas about how FWC-managed lands should be protected and managed.

The MAG consensus meeting was held on the morning of August 23, 2017, at Osceola County Administration Building in Kissimmee, Florida, in Osceola County. The ideas found below were provided by stakeholders for consideration in the 2017 - 2027 Management Plan (MP) with priority determined by vote. These ideas represent a valuable source of information to be used by biologists, planners, administrators, and others during the development of the MP. Upon approval by FWC, the Acquisition and Restoration Council (ARC), and the Board of Trustees of the Internal Improvement Trust Fund (Board of Trustees), the MP will guide the activities of FWC personnel over the ten-year duration of the management plan and will help meet agency, state, and federal planning requirements.

Numbers to the left of **bold-faced ideas** listed below represent the total number of votes and the score of each idea. Rank is first determined by the number of votes (vote cards received for each idea) and then by score. Score is used to break ties when two or more ideas have the same number of votes. A lower score indicates higher importance because each voter's most important idea (recorded on card #1) received a score of 1, and their fifth most important idea (recorded on card #5) received a score of 5. Ideas not receiving any votes are listed, and were considered during the development of the MP, but carry no judgment with regard to priority.

Statements following the bold-faced ideas represent a synopsis of the clarifying discussion of ideas as transcribed and interpreted by the FWC recorder at the meeting. As indicated above, the ideas below are presented in priority order:

<u>Rank</u>	<u># of Votes</u>	<u>Score</u>	<u>Idea</u>
1.	[6]	[7]	9. Implement prescribed fire and other vegetation management on both islands The islands should be assessed to create a prescribed fire plan with the intent of getting them on 2-3 year rotations while protecting structures and recreation opportunities, and taking account of smoke management issues.
2.	[5]	[9]	12. Native vegetation enhancement and restoration as well as invasive removal A large part of vegetation enhancement and invasive control is prescribed burning, as it allows the germination of seeds for native plants and enhances natural regrowth.
3.	[5]	[19]	3. Construct fishing pier on Makinson Island If you are staying on Makinson Island it is very difficult to access the shoreline to fish. On the northside of the island there is an opportunity to construct a pier.
4.	[4]	[12]	37. Ensure recreational opportunities are compatible with purpose for acquisition and management of the area
5.	[4]	[13]	2. Enforcement of rules and regulations on both islands Getting law enforcement and emergency services to the islands is difficult. Wildfires, poaching, trash dumping, and vandalism have occurred on the islands and it is an ongoing challenge to adequately limit such activities and enforce the current rules and regulations. These issues will become an increasing challenge as public access increases over time.

<u>Rank</u>	<u># of Votes</u>	<u>Score</u>	<u>Idea</u>
6.	[4]	[13]	20. Develop a budget plan for maintenance on both islands Short- and long-term budget plans are needed to maintain structures on the islands.
7.	[4]	[13]	32. Develop a marketing plan for the area Advertising the educational and recreational opportunities on the islands can help increase public awareness and access.
8.	[4]	[15]	23. Increase security and public safety Make sure the public knows what to do and who to call if accidents and/or emergencies happen. Security cameras could help increase public safety and curb illegal use. Having a dedicated emergency response plan or risk management plan is critical to promoting public safety on the islands.
9.	[3]	[6]	24. Develop an area carrying capacity Identifying the number of people who can utilize the area without damaging the natural resources or management of the islands is important. Public access is important but also must be limited.
10.	[3]	[7]	8. Habitat management to promote imperiled wildlife
11.	[3]	[7]	21. Develop public outreach The public needs to know about opportunities on the islands. Programs and opportunities are only good insofar as the public is aware of them.

<u>Rank</u>	<u># of Votes</u>	<u>Score</u>	<u>Idea</u>
12.	[3]	[8]	4. Developing birding and eco-tourism on both islands It is very difficult to get people out to the islands on non-motorized vessels, as it takes 3-4 hours, and the weather and lake conditions can pose difficulties and dangers. Birding events occur on the east and west coasts of the Lake and are huge events that draw people in from far and wide. Promoting birding and eco-tourism is a large opportunity for bringing people onto the area.
13.	[3]	[9]	14. Manage wildlife, native and non-native A first step is to implement prescribed burning on the area and then to survey and document what wildlife species are on the islands. Avian inventories have been conducted and other species have been documented and the area needs to be managed to benefit the native wildlife.
14.	[3]	[9]	29. Pursue public-private partnerships to support ecotourism and fishing There is an opportunity to help with funding and staffing issues by partnering with the private sector. Private partners could enhance camping opportunities and expand it beyond purely primitive camping. Long-term leases and investments by the private sector could provide amenities that would be otherwise unavailable.
15.	[3]	[9]	38. Develop a mission statement The areas' purpose and use is largely unclear, especially among the general public. A simplified purpose and mission statement would help clarify the reason for public management of the islands.

<u>Rank</u>	<u># of Votes</u>	<u>Score</u>	<u>Idea</u>
16.	[3]	[11]	25. Explore funding opportunities for environmental education programs Pursuing funding and grants is necessary to implement the range of educational and youth outreach opportunities that are envisioned for the area.
17.	[2]	[4]	11. Promote educational opportunities There a range of possible educational programs that could be implemented on the islands and which could disseminate information regarding management and conservation programs. There are opportunities to attach education to eco-tourism.
18.	[2]	[4]	18. Construct an environmental lab on Paradise Island An environmental lab on Paradise Island would be critical for providing youth education opportunities. Paradise Island could become a hub for educational and research opportunities, as well as for youth outreach.
19.	[2]	[7]	22. Conduct historical resource survey It is important to find out if historical resources are located on the area and to document the history of the islands. The islands are said to have been hubs for Native American activity in the past and documenting that history and interpreting it for the public is important.
20.	[2]	[8]	15. Manage visitor impacts Make sure there are sufficient bins for trash management and enough staff to empty them. Limit the negative impacts of public use.
21.	[2]	[8]	27. Construct a boat docking facility on Paradise Island

<u>Rank</u>	<u># of Votes</u>	<u>Score</u>	<u>Idea</u>
22.	[2]	[8]	40. Acquire, replace, and maintain necessary management equipment A wide variety of equipment is necessary for effective management of the islands and that equipment needs to be maintained and eventually replaced over time. This is particularly complicated due to the number of entities involved in the management of the islands.
23.	[1]	[2]	16. Create a hiking trail with lakefront boardwalks on Paradise Island A hiking trail would create recreational opportunities on Paradise Island, and connecting it to the lakeside would create opportunities for fishing and lake viewing that are currently not available.
24.	[1]	[3]	17. Provide utilities, preferably green opportunities, on Paradise Island Utilities are needed for effective management of the Island. This could be solar or another alternative that doesn't require linear facilities that need to be maintained.
25.	[1]	[3]	19. Develop a retreat facility on Makinson Island A retreat facility would have to be tailored for management and programming necessities on the island, but such a facility to provide excellent public access opportunities and the feasibility of constructing one should be explored.
26.	[1]	[4]	10. Control the invasive and nuisance species on Makinson Island Feral hogs and raccoons are a major problem on the island.

<u>Rank</u>	<u># of Votes</u>	<u>Score</u>	<u>Idea</u>
27.	[1]	[4]	33. Explore partnerships for research opportunities It is important to get people out there who want to, and are able, to conduct research and surveys on the islands. Long-term scientific studies will enhance our knowledge of the islands and their natural resources.
28.	[1]	[5]	6. Promote recreation opportunities There are a lot of high-quality recreation opportunities on Lake Toho and the islands, but the public is generally unaware of these hidden gems.
29.	[1]	[5]	7. Limit and control commercial activities on both islands There is a history of commercial entities on the Lake that have limited public recreational opportunities and the Lake could become overcrowded.
30.	[1]	[5]	30. Construct observation structures Such structures would aid wildlife viewing and nature study.

The following item received no votes. All ideas represent valuable input, and are considered in development of the MP, but carry no rank with regard to the priority perceptions of the MAG.

31.	[]	[]	5. Blueway connectivity Create connectivity between both islands and the lakeside conservation areas. There is a county-wide system of trails and conservation areas that can be connected to these islands.
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<u>Rank</u>	<u># of Votes</u>	<u>Score</u>	<u>Idea</u>
32.	0	0	13. Improve public access to both islands How do you get to these islands? Anyone without a boat can't get out there and all of the public access and recreation plans amount to nothing if there is no way for the public to get out there. A ferry or some other motorized access is important, instead of just relying on private boats or canoes/kayaks.
33.	0	0	31. Improve camping opportunities The public would enjoy expanded camping opportunities which are otherwise limited in the county.
34.	0	0	34. Develop community service programs There are ample opportunities to provide community service and volunteer opportunities on the islands, which would benefit both the volunteers and the management staff.
35.	0	0	36. Develop visitor transportation to islands Could be a boat taxi or some other program. The public needs the ability to get to the islands in an economical and relatively easy way. School groups need to be able to get to the islands and currently lack an accessible system for doing so.

Lake Tohopekaliga Fish Management Area - Paradise Island and Makinson Island

MAG Meeting Participants

Name

Affiliation

Active Participants

Tim Coughlin	FWC Area Biologist
Martin Mann	FWC Area Biologist

Bryan Fugate	FWC Law Enforcement
Robert Mindick	Osceola County Public Lands Manager
Terry Seagraves	Central Florida Fishing Guide
John Jacobs	Paddling Center & The Docks on Shingle Creek
Ed Rysak	Department of Environmental Protection
Terry Torrens	Osceola County Board of County Commissioners
Mike Facente	Florida Forest Service
John Arend	Osceola County Planning Department
Steve Lackey	Kissimmee Parks and Recreation Department
Andrew Jeng	Florida Educational Alliance
Sandy Webb	Florida Native Plant Society & Audubon
Craig Carr	Osceola County School Board
Bill Graf	South Florida Water Management District
Cheryl Grieb	Osceola County Commissioner

Supportive Participants

Kathy Burke	FWC Public Access Services Office (PASO)
Tom M. Matthews	FWC PASO
Mark McBride	FWC Division of Hunting and Game Management
Ken Trusley	FWC Law Enforcement
Chris Kincaid	Osceola County Public Lands Specialist
Keith Pereira	Kissimmee Parks and Recreation Department
Eleanor Foerste	Florida Native Plant Society
Ben Chlanda	Kissimmee Parks and Recreation Department

Invited but Unable to Attend

Julie Duggins	Division of Historical Resources
Dan Hipes	Florida Natural Areas Inventory
Ricky Lackey	National Wild Turkey Federation

Florida Fish and Wildlife Conservation Commission | Lake Tohopekaliga Islands Complex Management Plan

Bill Turman

Florida Trail Association

Chuck O'Rourke

Natural Resources Conservation Service

FWC Planning Personnel

Tom Houston

Land Conservation and Planning Administrator

Dylan Imlah

Facilitator

Peter van de Burgt

Recorder

12.5.2 Public Hearing Notice, Advertisements, and Press Release

12.5.2.1 Public Hearing Notice

NOTICE

The Florida Fish and Wildlife Conservation Commission (FWC)
Announces a

PUBLIC HEARING

for the

Lake Tohopekaliga Islands Complex Management Plan

Osceola County, Florida

7:00 P.M. Thursday, October 26th, 2017
Osceola Board of County Commissioner Chambers
1 Courthouse Square #4700
Kissimmee, FL 34741

PURPOSE: To receive public comment regarding considerations for the FWC ten-year Land Management Plan for the Lake Tohopekaliga Islands Complex (LTIC).

This hearing is being held EXCLUSIVELY for discussion of the DRAFT Lake Tohopekaliga Islands Complex Management Plan. This meeting is not being held to discuss area hunting or fishing regulations. For more information on the process for FWC rule and regulation development go online to:

<http://myfwc.com/about/rules-regulations/>

or call (850) 487-7063.

A Management Prospectus for the Lake Tohopekaliga Islands Complex is available upon request. For a copy, please contact Dylan Imlah, Florida Fish and Wildlife Conservation Commission, Land Conservation and Planning, 620 South Meridian Street, Tallahassee, Florida 32399-1600. Telephone: (850) 487-9102.

12.5.2.2 Public Hearing Internal Press Release

For immediate release: Oct. 17, 2017

Contact: Diane Hirth, 850-410-5291, Greg Workman, 352-620-7335

Photos available on FWC's Flickr site: Go to <https://www.flickr.com/gp/myfwcmedia/U7337j>

Suggested Tweet: Help plan the future of Lake Tohopekaliga Islands Complex in Osceola County. [\[\[VIEW_THIS_URL\]\]](#) #Florida

Help plan the future of the Lake Tohopekaliga Islands Complex

A 10-year plan for the Lake Tohopekaliga Islands Complex will be presented at a public hearing in Osceola County on Thurs., Oct. 26.

People are invited to the 7 p.m. public hearing at the Osceola Board of County Commissioner Chambers at 1 Courthouse Square #4700, Kissimmee.

Florida Fish and Wildlife Conservation Commission (FWC) staff will present the draft land management plan for the Lake Tohopekaliga Islands Complex, and people will be encouraged to comment and ask questions.

The Lake Tohopekaliga Islands Complex consists of two islands, Makinson and Paradise, and two shoreline access parcels. Managed by both Osceola County and the FWC, the islands are located in the northern part of the lake within the Lake Tohopekaliga Fish Management Area.

Many imperiled bird species live on Makinson and Paradise islands, including the wood stork, roseate spoonbill, Everglade snail kite, Florida sandhill crane, crested caracara, little blue heron and tricolored heron. The islands also provide habitat for the eastern indigo snake, a threatened species.

To reach the islands, people will need a boat, but once they arrive there are opportunities for fishing, wildlife viewing and hiking. Lake Tohopekaliga is known for some of the best freshwater sport fishing in the U.S.

Another benefit for the public is the proximity of the complex and its peaceful natural landscape to the busier tourist attractions of central Florida. There also is Native American history tied to the area. Makinson Island is believed to be the birthplace of Seminole Indian Chief Coacoohee, who was removed from Florida and relocated to the Arkansas Indian Territory in 1841.

“The Lake Tohopekaliga Islands Complex was purchased to ensure the preservation of fish and wildlife resources, other natural and cultural resources, and for fish- and wildlife-based public outdoor recreation,” said Dylan Imlah, FWC land conservation planner. “This draft plan will specify how we intend to do that.”

All lands owned by the State of Florida that were donated or purchased with public funds for conservation must have a management plan that ensures the property will be managed in a manner consistent with the intended purposes of the donation or purchase. Hunting and fishing regulations, and matters specifically related to Lake Tohopekaliga itself, are not included in this plan or meeting; those are addressed through a separate public process.

To obtain the land management prospectus for the Lake Tohopekaliga Islands Complex, contact Dylan Imlah at 850-487-9102 or Dylan.Imlah@MyFWC.com. Additional information on the [upcoming local public hearing](#), [management plans](#) and their goals is available at MyFWC.com/Conservation, where you can select “Terrestrial Conservation Programs” and then “Management Plans.”

DH/DI/TH/HSC

12.5.2.3 Osceola News-Gazette Press Release

PROOF OF PUBLICATION

From



**STATE OF FLORIDA
COUNTY OF OSCEOLA**

Before me, the undersigned authority, personally appeared Keith Vorse, who on oath says that he is the Legal Clerk of the Osceola News-Gazette, a twice-weekly newspaper published at Kissimmee, in Osceola County, Florida; that the attached copy of the advertisement was published in the regular and entire edition of said newspaper in the following issues:

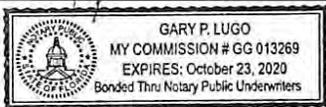
October 14, 2017

Affiant further says that the Osceola News-Gazette is a newspaper published in Kissimmee, in said Osceola County, Florida, and that the said newspaper has heretofore been continuously published in said Osceola County, Florida, each week and has been entered as periodicals postage matter at the post office in Kissimmee, in said Osceola County, Florida, for a period of one year preceding the first publication of the attached copy of advertisement; and affiant further says that he has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

Sworn and subscribed before me by Keith Vorse, who is personally known to me, this

16th day of October, 2017

Keith Vorse



Gary P. Lugo

**IN THE MATTER OF:
NOTICE OF PUBLIC HEARING**

FIRST PUBLICATION: Oct. 14, 2017

LAST PUBLICATION: Oct. 14, 2017

NOTICE OF PUBLIC HEARING

The Florida Fish and Wildlife Conservation Commission (FWC) announces a PUBLIC HEARING for the FWC Lead Managed Portions of Lake Tohopekaliga Islands Complex located in Osceola County, Florida.

7:00 P.M. Thursday, October 26th, 2017
Osceola Board of County Commissioner Chambers

1 Courthouse Square # 4700
Kissimmee, FL 34741

PURPOSE: To receive public comment regarding considerations for FWC's ten-year Management Plan for the FWC Lead Managed Portions of Lake Tohopekaliga Islands Complex (LTIC).

This hearing is being held EXCLUSIVELY for discussion of the DRAFT Lake Tohopekaliga Islands Complex Management Plan. This meeting is not being held to discuss area hunting or fishing regulations. For more information on the process for FWC rule and regulation development go online to: <http://myfwc.com/about/rules-regulations/changes/>

A Management Prospectus for Lake Tohopekaliga Islands Complex and copy of the agenda is available upon request from the Florida Fish and Wildlife Conservation Commission Land Conservation and Planning Group, 620 South Meridian Street, Tallahassee, Florida 32399-1600. Telephone: (850) 487-9102 or by email at Dylan.lmlah@MyFWC.com October 14, 2017



Make remittance to: Osceola News-Gazette, 108 Church Street, Kissimmee, FL 34741

Phone: (407) 846-7600 Fax: (321) 402-2946

Email: legalads@osceolanewsgazette.com

You can also view your Legal Advertising on

www.AroundOsceola.com or www.FloridaPublicNotices.com

12.5.2.4 FAR Notice

Notice of Meeting/Workshop Hearing

FISH AND WILDLIFE CONSERVATION COMMISSION

Freshwater Fish and Wildlife

The Fish and Wildlife Conservation Commission announces a public meeting to which all persons are invited.

DATE AND TIME: October 26, 2017, 7:00 p.m.

PLACE: Osceola Board of County Commissioner Chambers, 1 Courthouse Square, #4700, Kissimmee, FL 34741

GENERAL SUBJECT MATTER TO BE CONSIDERED: The Florida Fish and Wildlife Conservation Commission (FWC) announces a PUBLIC HEARING for the FWC Lead Managed Portions of Lake Tohopekaliga Islands Complex located in Osceola County, Florida.

7:00 P.M. Thursday, October 26th, 2017

Osceola Board of County Commissioner Chambers

1 Courthouse Square #4700

Kissimmee, FL 34741

PURPOSE: To receive public comment regarding considerations for FWC's ten-year Management Plan for the FWC Lead Managed Portions of Lake Tohopekaliga Islands Complex (LTIC).

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A Management Prospectus for Lake Tohopekaliga Islands Complex and copy of the agenda is available upon request from the Florida Fish and Wildlife Conservation Commission, Land Conservation and Planning Group, 620 South Meridian Street, Tallahassee, Florida 32399-1600, Telephone: (850)487-9102 or by email at Dylan.Imlah@MyFWC.com.

A copy of the agenda may be obtained by contacting: Florida Fish and Wildlife Conservation Commission, Land Conservation and Planning Group, 620 South Meridian Street, Tallahassee, Florida 32399-1600, Telephone: (850)487-9102 or by email at Dylan.Imlah@MyFWC.com

Pursuant to the provisions of the Americans with Disabilities Act, any person requiring special accommodations to participate in this workshop/meeting is asked to advise the agency at least 14 days before the workshop/meeting by contacting: Stephanie.Boggs@MyFWC.com (850)487-7063. If you are hearing or speech impaired, please contact the agency using the Florida Relay Service, 1(800)955-8771 (TDD) or 1(800)955-8770 (Voice).

For more information, you may contact: Stephanie.Boggs@MyFWC.com (850)487-7063.

Stephanie Boggs 10/23/17

12.5.3 Public Hearing Report

**PUBLIC HEARING REPORT
FOR
LAKE TOHOPEKALIGA ISLANDS COMPLEX
MANAGEMENT PLAN

HELD BY THE

LAKE TOHOPEKALIGA ISLANDS COMPLEX
MANAGEMENT ADVISORY GROUP

AND THE

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

OCTOBER 26, 2017 – OSCEOLA COUNTY, FLORIDA**

The following report documents the public input that was received at the Lake Tohopekaliga Islands Complex (LTIC) Management Advisory Group's (MAG) public hearing for the update to the Management Plan for LTIC that was held at 7:00-9:00 PM, on October 26, 2017, at the Osceola Board of County Commissioner Chambers in Kissimmee, Florida.

LTIC Management Advisory Group Introduction:

The meeting was introduced by Ms. Sandra Webb, a LTIC Management Advisory Group participant, who represented the LTIC MAG. Ms. Webb indicated that she was one of the 16 stakeholders that attended the Florida Fish and Wildlife Conservation Commission (FWC) facilitated LTIC MAG meeting held on August 23, 2017. Ms. Webb stated that the Draft Management Plan was being presented tonight by FWC staff, and that hardcopies of the draft plan and the LTIC MAG meeting report were available at the front door for the public's review. Ms. Webb thanked everyone for attending and then introduced Ms. Dylan Imlah, Land Conservation Planner, FWC, to facilitate and coordinate the presentation of an overview of LTIC, FWC's planning process, and the draft components of the LTIC Draft Management Plan.

Presentation on an Overview of LTIC and the FWC Planning Process:

FWC member Ms. Imlah welcomed everyone and thanked the public for their attendance. Ms. Imlah then went over an orientation of the material and explained that the purpose of the public hearing was to solicit public input regarding the Draft Management Plan for LTIC, and not hunting and fishing regulations, indicating there is a separate public input process for FWC rule and regulation development. Ms. Imlah then described the materials that were available at the door for public review, including the LTIC Draft Management Plan, the MAG Meeting Report and Accomplishment Report. Ms. Imlah then presented the agenda for the public hearing and facilitated the introduction of all FWC staff in attendance to the audience. Ms. Imlah then presented an overview and orientation of LTIC, including a description of the natural communities, data about LTIC visitation, revenue and economic benefits generated for the state and region by the area, wildlife species, recreational opportunities found on the area, surrounding conservation lands, surrounding Florida Forever Program Land Acquisition Projects, acquisition history, etc. She also explained FWC's planning process for the management of the public conservation land and asked if there were any questions regarding that process.

Questions, Answers and Discussion on the LTIC Overview and FWC's Planning Process:

Ms. Imlah facilitated an informal question and answers session where members of the public in attendance, without necessarily identifying themselves, could ask questions of the FWC staff, and discuss the answers. Ms. Imlah again emphasized that the exclusive purpose for the public hearing was to collect public input regarding the Draft Management Plan for LTIC, and not to discuss area hunting, fishing and use regulations since, as was noted earlier, FWC has a separate process for input on hunting and fishing regulations.

No (further) questions or comments were received at this stage of the LTIC public hearing meeting.

Presentation of the LTIC Draft Management Plan:

At this point, Mr. Martin Mann, the LTIC Area Biologist/Manager began the presentation of the LTIC Draft Management Plan. Mr. Mann then completed and concluded the presentation of the LTIC Draft Management Plan.

Questions and Comments on the LTIC Draft Management Plan Presentation:

Mr. Mann asked if there were any comments or questions from the public regarding the Draft Management Plan and encouraged everyone to fill out a speaker card for public testimony. He informed them that all comments, questions, and public testimony will be duly considered equally by FWC.

No further questions or comments were received at this stage of the LTIC public hearing meeting.

Public Testimony on the LTIC Draft Management Plan:

No member(s) of the public audience submitted speaker card(s) indicating their intention to provide formal public testimony. Ms. Imlah again emphasized that the public hearing was for taking input regarding the LTIC Draft Management Plan.

No speakers offered further comments.

Then Ms. Imlah declared the public hearing adjourned.

12.5.4 Management Prospectus

Management Prospectus Lake Tohopekaliga Islands Complex September 2017



Florida Fish and Wildlife Conservation Commission

1 Introduction

Believed to be the birthplace in 1807 of Coacoochee, the Seminole Indian Chief who was removed from Florida to the Arkansas Indian Territory in 1841, Makinson Island has a history not widely known by mainland Floridians. Both Makinson and Paradise Islands are situated in the northern third of Lake Tohopekaliga, in northwestern Osceola County near the city of Kissimmee, Florida. Makinson and Paradise Islands conserve approximately 236 acres of important habitat. Although the area is known for some of the best freshwater sport fishing in the United States, it has become better known, perhaps, for its close proximity to Disney World, Sea World, Cypress Gardens, Universal Studios, and similar tourist attractions. Set within an increasingly urbanized region, visitors to Makinson and Paradise Islands have opportunities to find solace from the nearby bustle and see a diverse assemblage of Florida's wildlife, rare plants, and landscape.

The Lake Tohopekaliga Islands Complex (LTIC) is managed by the Florida Fish and Wildlife Conservation Commission (FWC) and Osceola County. This area consists of Makinson Island, Paradise Island, and two shoreline access parcels. The LTIC is managed for the conservation of imperiled and more common wildlife, and for fish- and wildlife-based public outdoor recreation. The area is managed to conserve the important natural communities on site that provide habitats for a wide range of imperiled and more common wildlife species.

The LTIC is owned by the Board of Trustees of the Internal Improvement Trust Fund (Board of Trustees). The FWC holds the lease and has lead management authority for all resources within the 88.26-acre Paradise Island and the 9.49-acre shoreline access parcel established boundary. The FWC also holds the lease for all resources within the 131.59-acre Makinson Island and the 7.24-acre shoreline access parcel established boundary, however, through a cooperative agreement, the FWC has designated Osceola County as the lead management authority for Makinson Island. The LTIC is managed to conserve and restore natural wildlife habitats, and to provide high-quality opportunities for fishing, wildlife

viewing, environmental education, and other fish- and wildlife-based public outdoor recreation opportunities including boating and hiking.

This resource and management prospectus has been developed in conformance with the requirements of Section 259. 032, Florida Statutes, to provide the Management Advisory Group stakeholders and the general public with a general understanding of, and purpose for the LTIC, prior to the required public hearing to solicit public input on the LTIC management plan.

2 Nearby Conservation Lands and Florida Forever Projects

The LTIC is located in the vicinity of an extensive network of conservation lands, including lands managed by the South Florida Water Management District (SFWMD) and Osceola County. Several Florida Forever projects (Figure 4), are also located in the vicinity of the area.

Tables 1 and 2 list the Florida Forever projects and conservation lands within a 10-mile radius of the LTIC, including lands managed by public and private entities, that conserve cultural and natural resources within this region of Florida.

Most of the conservation lands listed in Table 2 are owned in full-fee by a public entity. However, some of these areas fall within a less-than-fee ownership classification where the land is owned and being managed by a private landowner while a public agency or not-for-profit organization holds a conservation easement on the land.

Table 1. Florida Forever Projects in the Vicinity

Project Name	GIS Acres
Lake Hatchineha Watershed	81.7
Lake Wales Ridge Ecosystem – Ridge Scrub	2,444.54
Lake Wales Ridge Ecosystem – Horse Creek Scrub	5,472.98

Table 2. Conservation Lands in the Vicinity

Water Management District	Managing Agency
Kissimmee Chain of Lake	SFWMD
Oak Street Extension Preserve	SFWMD
Shingle Creek	SFWMD
Upper Lakes Basin Watershed	SFWMD

County/City	Managing Agency
Candella Island	Osceola County

Cherokee Point Conservation Area	Osceola County
Hamilton Reserve	Osceola County
Lake Runnymede Conservation Area	Osceola County
Poinciana Scrub Conservation Area	Osceola County
Shingle Creek Regional Park	Osceola County
Southport Regional Park	Osceola County
Twin Oaks Conservation Area	Osceola County

Private/Public Conservation Organization	Managing Agency
Disney Wilderness Preserve	TNC
Florida Mitigation Bank	Florida Mitigation Bank, LLC
Reedy Creek Mitigation Bank	Mitigation Resources, LLC
Southport Ranch Mitigation Bank	Mitigation Resources, LLC

Acronym Key	Agency Name
SFWMD	South Florida Water Management District
TNC	The Nature Conservancy

3 Acquisition History

Makinson Island was purchased in 1999 by the Board of Trustees, then subsequently leased to the FWC on May 3, 2000 under Lease number 4270. The Board of Trustees, with the assistance of the FWC, acquired the property with Preservation 2000 (P-2000) monies with the help of the Trust for Public Land as an intermediary.

Paradise Island was purchased in December 2000, using P-2000 funds with the help of the Trust for Public Land as an intermediary. In December 2001, the area was then leased to the FWC under Lease number 4323.

The FWC is directed via Lease numbers 4270 and 4323, from the Board of Trustees to “...manage the leased premises only for the conservation and protection of natural and historical resources and resource based public outdoor recreation...”

Subsequently, in January 2002 an agreement was entered into between the FWC, Osceola County, City of Kissimmee and Osceola County School Board for cooperative management and utilization of Makinson Island.

3.1 Purpose for Acquisition

Concern over the possibility of the Islands becoming developed led to the eventual purchase of the LTIC by the State of Florida. Acquisition of the Islands by the state primarily was to

prevent development that could stand in opposition to lake management techniques necessary for maintaining healthy habitats in Lake Tohopekaliga.

A number of development options were being considered by the owners of Makinson and Paradise Islands prior to their sale to the state. Such development could have resulted in deterioration of the Lake's water quality. In addition, the need for access to the property by owners and users would have presented a major obstacle to the proposed management of Lake Tohopekaliga which includes periodic drawdowns for habitat improvement.

Acquisition of the Islands have helped ensure the proper management of the LTIC by removing impediments to periodic drawdowns and habitat enhancement projects in the Lake.

The LTIC is managed by the FWC for the purpose of operating as a conservation and recreational area, providing ecological diversity, providing managed habitats for both common and imperiled wildlife, and providing the public with fish- and wildlife-oriented outdoor recreational opportunities.

4 Title and Encumbrances

The Board of Trustees holds the fee title interest to all lands within the LTIC. The FWC is the lead management authority on all lands established within the boundary of the LTIC. There are no known encumbrances or outstanding mineral rights or other interests within the established boundary.

Additional FWC management authority derives from Article IV, Section 9 of the Florida Constitution as well as the guidance and directives of Chapters 253, 259, 327, 370, 372, 375, 378, 379, 403, 487, 597, and 870 of the Florida Statutes. These laws establish the authority of the FWC with regard to protection and management of the State's fish and wildlife resources. The LTIC is documented as having an area of 236 acres.

According to the Land Management Uniform Accounting Council's biennial report, the LTIC is documented as having an area of approximately 236 acres. However, GIS-calculated acreage data for the area from the Florida Natural Areas Inventory (FNAI) maintained FLMA shapefiles and Osceola County Parcel data (April 2016), indicates the area has an acreage of approximately 310 acres. The FWC will continue to work with FNAI, Osceola County, and DEP to reconcile this apparent acreage discrepancy.

5 Natural Resources

The natural communities for the LTIC were mapped using the Florida Cooperative Land Cover Map (CLC). The CLC is a cooperative effort between the FWC and the FNAI to

develop ecologically-based statewide land cover from existing sources and expert review of aerial photography. The CLC describes nine natural and anthropogenic community types existing on the LTIC, (Table 3, and Figure 5). FWC biologists have also documented a variety of native plant species (Table 4) and 19 invasive exotic plant species (Table 5) as occurring on the LTIC. There are no known rare plant species occurring on the area.

Table 3. Natural Community Types on the LTIC

COMMUNITY TYPE	GIS ACRES	PERCENTAGE
CYPRESS/TUPELO	25.86	8.3
FRESHWATER MARSHES	26.85	8.7
MIXED HARDWOOD-CONIFEROUS	32.83	10.6
MIXED HARDWOOD WETLANDS	45.01	14.5
PRAIRIES AND BOGS	15.83	5.1
RUDERAL	10.26	3.3
RURAL	77.58	25
SUCCESSIONAL HARDWOOD FOREST	22.93	7.4
UPLAND HARDWOOD FOREST	53.25	17.2

TABLE 4. NATIVE PLANT SPECIES KNOWN OR EXPECTED TO OCCUR ON THE LTIC

COMMON NAME	Scientific Name
ALLIGATOR-WEED	<i>Alternanthera philoxeroides</i>
AMERICAN LOTUS	<i>Nelumbo lutea</i>
BALD CYPRESS	<i>Taxodium distichum</i>
BAHIAGRASS	<i>Paspalum notatum</i>
BAMBOO	<i>Phyllostachys sp.</i>
BEAUTYBERRY	<i>Callicarpa americana</i>
BROOMGRASS	<i>Andropogon spp.</i>
CABBAGE PALM	<i>Sabal palmetto</i>
CAROLINA WILLOW	<i>Salix caroliniana</i>
CATTAIL	<i>Typha spp.</i>
CITRUS	<i>Citrus sp.</i>
COMMON ARROWHEAD	<i>Sagittaria latifolia</i>
COMMON DUCKWEED	<i>Lemna minor</i>
COMMON SALVINIA	<i>Salvinia rotundifolia</i>
DUCK POTATO	<i>Sagittaria lancifolia</i>
EELGRASS	<i>Vallisneria americana</i>
EGYPTIAN PASPALIDIUM	<i>Paspalidium geminatum</i>
FLAT-TOP GOLDENROD	<i>Euthamia caroliniana</i>

FOXTAIL GRASS	<i>Setaria spp.</i>
FRAGRANT WATER-LILY	<i>Nymphaea odorata</i>
FROG'S-BIT	<i>Limnobium spongia</i>
GIANT BULRUSH	<i>Scirpus californicus</i>
LIVE OAK	<i>Quercus virginiana</i>
MAIDENCANE	<i>Panicum hemitomom</i>
PICKEREL WEED	<i>Pontederia lanceolata</i>
PIGNUT HICKORY	<i>Carya galabra</i>
RED MAPLE	<i>Acer rubrum</i>
SOUTHERN MAGNOLIA	<i>Magnolia grandiflora</i>
SOUTHERN NAIAD	<i>Najas guadalupensis</i>
SMARTWEED	<i>Polygonum spp.</i>
SPANISH MOSS	<i>Tillandsia usneoides</i>
SPATTERDOCK	<i>Nuphar luteum</i>
SWEETGUM	<i>Liquidambar styraciflua</i>
WATER PRIMROSE	<i>Ludwigia octovalis</i>
WATER-HYACINTH	<i>Eichhornia crassipes</i>
WATER-LETTUCE	<i>Pistia stratiotes</i>
WILLOW	<i>Salix spp.</i>

Table 5. Exotic Invasive Plant Species Known to Occur on the LTIC

COMMON NAME	SCIENTIFIC NAME	FLEPPC CATEGORY
AIR-POTATO	<i>Dioscorea bulbifera</i>	I
ALLIGATOR WEED	<i>Alternanthera philoxeroides</i>	II
BRAZILIAN PEPPERTREE	<i>Schinus terebinthifolius</i>	I
CAESAR'S WEED	<i>Urena lobata</i>	I
CAMPHOR TREE	<i>Cinnamomum camphora</i>	I
CHINABERRY	<i>Melia azederach</i>	I
CHINESE TALLOW TREE	<i>Sapium sebiferum</i>	I
COGON GRASS	<i>Imperata cylindrica</i>	I
GOLDEN BAMBOO	<i>Phyllostachys aurea</i>	II
GUAVA	<i>Psidium guajava</i>	I
HYDRILLA	<i>Hydrilla verticillata</i>	I
LANTANA, SHRUB	<i>Lantana camara</i>	I
VERBENA		
LIMPOGRASS	<i>Hemarthria altissima</i>	II
PERUVIAN PRIMROSE	<i>Ludwigia peruviana</i>	I
WILLOW		

POTHOS	<i>Epipremnum pinnatum</i>	II
TORPEDO GRASS	<i>Panicum repens</i>	I
TROPICAL SODA APPLE	<i>Solanum viarum</i>	I
WATER LETTUCE	<i>Pistia stratiotes</i>	I
WATER-HYACINTH	<i>Eichhornia crassipes</i>	I

5.1 Natural Community Descriptions

Cypress/Tupelo (~25.86 acres)

Cypress/Tupelo is associated with freshwater forested wetlands which are floodplains or depressions dominated by hydrophytic trees. Cypress/Tupelo is commonly dominated entirely by cypress or tupelo, and normally have a long hydroperiod. Depending on the hydrology and fire history, shrubs can be found throughout this community. Cypress/Tupelo can also have a high variability in size, shape, and species composition. This community typically occurs in any type of landscape depression such as old lake beds or river basins, or ancient coastal swales and lagoons that existed during higher sea levels. Cypress/Tupelo is primarily found on the western perimeter of Paradise Island. It is common for this community to occur around lakes and sometimes headwater sources for major rivers.

Freshwater Marshes (~26.85 acres)

Freshwater marshes are associated with freshwater non-forested wetlands which are herbaceous or shrubby palustrine communities in floodplains or depressions, and sometimes include canopy trees, but are often sparse and stunted. Freshwater marshes have a long hydroperiod and are dominated by grasses, sedges, broadleaf emergent, floating aquatics or shrubs. This community currently exists around both islands along the lakeshore of Lake Tohopekaliga and separates the lake from the more inland communities.

Mixed Hardwood – Coniferous (~32.83 acres)

Mixed hardwood can be classified within several natural community types such as successional hardwood forest, upland hardwood forest, mesic hammock, baygall, and others. Since there has not been any community mapping on the area, the natural communities are distinguished based on aerial data. This community is primarily found on Paradise Island. This type of area may occur on high ground within basin or floodplain wetlands, as patches of oak/palm forest in dry prairie or flatwoods communities, on river levees, or in ecotones between wetlands and upland communities. Historically, mesic hammocks were likely restricted to naturally fire-protected areas such as islands and peninsulas of lakes.

Other landscape positions that can provide protection from the spread of fire from one or more directions are thus likely places for this type of community development. These include edges of lakes, sinkholes, other depressional or basin wetlands, and river floodplains. Soils of this type of community are sands mixed with organic matter and may

have a thick layer of leaf litter. Rock outcrops are common in some hammocks, especially where limestone is near the surface, and occupy soils that, although well-drained, maintain high moisture by heavy shading of the ground layer and accumulation of litter.

Mixed Hardwood – Wetlands (~45.01 acres)

Mixed hardwood wetlands occur in broad, low flatlands, often in a mosaic with these communities. They are found in the ecotones between mesic flatwoods, shrub bogs, wet prairies, dome swamps, or strand swamps. Wet flatwoods are pine forests with a sparse or absent midstory and a dense groundcover of hydrophytic grasses, herbs, and low shrubs. The relative density of shrubs and herbs varies greatly in wet flatwoods. Shrubs tend to dominate where fire has been absent for a long period or where cool season fires predominate; herbs are more abundant in locations that are frequently burned. Soils and hydrology also influence the relative density of shrubs and herbs. Soils of shrubby wet flatwoods are generally poorly to very poorly drained sands. These soils generally have a mucky texture in the uppermost horizon. Loamy sands are typical of soils in grassy wet flatwoods.

At the LTIC, mixed hardwood wetlands make up almost 15% of the area and are located primarily on the outer boundary of Makinson Island. They are found in the ecotones between mesic flatwoods, shrub bogs, wet prairies, dome swamps, or strand swamps. Wet flatwoods are pine forests with a sparse or absent midstory and a dense groundcover of hydrophytic grasses, herbs, and low shrubs. The relative density of shrubs and herbs varies greatly in wet flatwoods. Shrubs tend to dominate where fire has been absent for a long period or where cool season fires predominate; herbs are more abundant in locations that are frequently burned. Soils and hydrology also influence the relative density of shrubs and herbs. Soils of shrubby wet flatwoods are generally poorly to very poorly drained sands. These soils generally have a mucky texture in the uppermost horizon. Loamy sands are typical of soils in grassy wet flatwoods. Wet flatwoods typically have an open pine canopy with an understory of hydrophytic herbs and shrubs. Wet flatwoods that burn frequently typically have a sparse understory and a dense complement of herbs and smaller shrubs. Conversely, thick, shrubby understory layers tend to suppress groundcover plants.

Prairies and Bogs

Prairie and Bog communities typically contain herbaceous or shrubby palustrine communities that occurs in floodplains or depressions. These areas are usually wet, but not inundated. Soils are somewhat flat or gentle slopes between lower lying depression marshes or dome swamps, and slightly higher wet or mesic flatwoods, or dry prairie. They have a short hydroperiod and are dominated by grasses, sedges, and/or titi. This community is primarily found on the eastern portion of Paradise Island.

Upland Hardwood Forest

Upland hardwood forest occurs on rolling mesic hills, slopes above river floodplains, in smaller areas on the sides of sinkholes, and occasionally on rises within floodplains. Limestone or phosphatic rock may be near the surface. Soils are generally sandy clays or clayey sands with substantial organic and sometimes calcareous components. These soils have higher nutrient levels than the sandy soils prevalent in most of Florida. The moisture retention properties of clays and layers of leaf mulch conserve soil moisture and create decidedly mesic conditions. The dense canopy and multiple layers of midstory vegetation restrict air movement and light penetration, which maintains high relative humidity within the community. The upland hardwood forest at the LTIC occurs on the upland portion of both Islands. Additional botanical survey may produce interesting findings.

Altered Community Descriptions

Ruderal

Ruderal can also be referred to as developed area. This can include check stations, parking lots, buildings, maintained lawns (as part of recreational, business, or residential areas), botanical or ornamental gardens, campgrounds, and recreational, industrial and residential areas. Ruderal communities are primarily found on the shoreline access parcels associated with the area, and include offices, parking lots, and maintained areas.

Rural

Rural refers to an area that has been predominantly stripped of a significant percentage of their native vegetation and seeded with grasses, but still retain some natural structure. On the LTIC, rural can also be classified as pasture or rangeland. This community predominantly is found on Makinson Island, and much of this area was cleared prior to acquisition. This community is now used as the recreational areas on the Island and is regularly maintained and mowed, with portions of the area being managed using prescribed burning techniques, as necessary and appropriate.

Successional Hardwood Forest

Successional hardwood forests are closed-canopied forest dominated by fast growing hardwoods, and often with remnant pines. These forests are either invaded natural habitat (i.e., mesic flatwoods, sandhill, upland pine, upland mixed woodland) due to lengthy fire-suppression or old fields that have succeeded to forest. The subcanopy and shrub layers of these forests are often dense and dominated by smaller individuals of the canopy species. Remnant species of the former natural community may also be present.

Successional hardwood forest at the LTIC have invaded or replaced the citrus grove on the area. Presently, successional hardwood forests occur on Paradise Island and are surround by mixed hardwood.

6 Fish and Wildlife

6.1 Integrated Wildlife Habitat Ranking System

The FWC has developed the Integrated Wildlife Habitat Ranking System (IWHRS) as a Geographic Information Systems (GIS)-based assessment tool that incorporates a wide variety of land cover and wildlife species data. The IWHRS evaluates the Florida landscape based upon the habitat needs of wildlife as a way to identify ecologically significant lands in the state, and to assess the potential impacts of management and land-use changes. The IWHRS was developed to provide technical assistance to various local, regional, state, and federal agencies, and entities interested in wildlife needs and conservation in order to: (1) determine ways to avoid or minimize project impacts by evaluating alternative placements, alignments, and transportation corridors during early planning stages, (2) assess direct, secondary, and cumulative impacts to habitat and wildlife resources, and (3) identify appropriate parcels for public land acquisition for wetland and upland habitat mitigation purposes. The IWHRS (2009) indicates that the LTIC has a mean wildlife value of 3.6. The FWC's IWHRS map for the LTIC is shown in Figure 8.

6.2 Rare and Imperiled Species

As described above, the LTIC has a variety of natural communities and habitat types that support a wide array of imperiled, rare, and more common wildlife species. Active wildlife management practices and the high quality of habitat make the LTIC an excellent place to view wildlife. The LTIC's mixed hardwood forests, marshes, prairies, and other communities provide critical habitat for resident and migratory wildlife.

Table 6 lists the focal and imperiled wildlife species that have been documented as occurring on or in the vicinity of the LTIC. Figure 6 displays FWC wildlife observations and FNAI element occurrences that have been documented within the LTIC. Ten imperiled animal species have been documented at the LTIC.

Additionally, the FWC maintains an inventory of fauna occurring on or near the LTIC listed in the following tables, including amphibians and reptiles (Table 7), birds (Table 8), mammals (Table 9), and fish (Table 10). Table 11 contains an inventory of the exotic wildlife species that have been documented on or near the LTIC.

At its November, 2016, Commission meeting, the FWC approved Florida's Imperiled Species Management Plan (<http://myfwc.com/wildlifehabitats/imperiled/plan/>), which included changes to the listing status for many wildlife species. Subsequent rule changes (68A-27.003 and 68A-27.005 FAC) reflecting changes came into effect in January, 2017. All federally listed species that occur in Florida are included in Florida's Endangered and Threatened Species list (<http://myfwc.com/media/1515251/threatened-endangered->

[species.pdf](#)) as federally-designated Endangered or federally-designated Threatened. Species that are not federally listed, but which have been identified by FWC as being at some level of risk of extinction, are listed as state-designated Threatened. Additionally, the FWC continues to maintain a separate Species of Special Concern category. This category was reviewed as part of Florida’s Imperiled Species Management Plan, with the majority of the species previously contained within the category either being removed from Florida’s Endangered and Threatened Species list due to conservation success, or had their status changed to state-designated Threatened.

TABLE 6. IMPERILED AND FOCAL WILDLIFE SPECIES OCCURRING ON OR NEAR THE LTIC

Common Name	Scientific Name	Status
American alligator	<i>Alligator mississippiensis</i>	FT (S/A)
Audubon's crested caracara	<i>Polyborus plancus audubonii</i>	FT
Bald eagle	<i>Haliaeetus leucocephalus</i>	NL
Eastern indigo snake	<i>Drymarchon corais couperi</i>	FT
Everglade snail kite	<i>Rostrhamus sociabilis plumbeus</i>	FE
Florida sandhill crane	<i>Antigone canadensis pratensis</i>	ST
Little blue heron	<i>Egretta caerulea</i>	ST
Roseate spoonbill	<i>Platalea ajaja</i>	ST
Southeastern American kestrel	<i>Falco sparverius paulus</i>	ST
Swallow-tailed kite	<i>Elanoides forficatus</i>	NL
Tricolored heron	<i>Egretta tricolor</i>	ST
Woodstork	<i>Mycteria americana</i>	FT

Abbreviation	Status
FE	Federal Endangered
FT	Federal Threatened
F(XN)	Federally Listed as an experimental population in Florida
FT(S/A)	Federally Threatened due to similarity of appearance
SSC	State Species of Special Concern
ST	State Threatened
NL	Not Listed

TABLE 7. NATIVE REPTILE AND AMPHIBIAN SPECIES KNOWN OR EXPECTED TO OCCUR ON THE LTIC

COMMON NAME	Scientific Name
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COMMON SNAPPING TURTLE	<i>Chelydra serpentina</i>
EASTERN MUD TURTLE	<i>Kinosternon subrubrum</i>
FLORIDA COTTONMOUTH	<i>Agkistrodon piscivorus conanti</i>
FLORIDA SOFT SHELL	<i>Apalone ferox</i>
FLORIDA WATER SNAKE	<i>Nerodia fasciata pictiventris</i>
GREEN ANOLE	<i>Anolis carolinensis</i>
GREEN TREEFROG	<i>Hyla cinerea</i>
GREY RAT SNAKE	<i>Elaphe obsoleta spiloides</i>
PENINSULA COOTER	<i>Pseudemys floridana spp.</i>
PIG FROG	<i>Rana grylio</i>
SIX-LINED RACERUNNER	<i>Cnemidophorus sexlineatus sexlineatus</i>
SLIDER	<i>Trachemys scripta</i>
SOUTHEASTERN FIVE-LINED SKINK	<i>Eumeces inexpectatus</i>
SOUTHERN LEOPARD FROG	<i>Rana sphenocephala utricularia</i>

TABLE 8. NATIVE BIRD SPECIES KNOWN OR EXPECTED TO OCCUR ON THE LTIC

COMMON NAME	Scientific Name
AMERICAN BITTERN	<i>Botaurus lentiginosus</i>
AMERICAN COOT	<i>Fulica americana</i>
AMERICAN CROW	<i>Corvus brachyrhynchos</i>
AMERICAN ROBIN	<i>Turdus migratorius</i>
AMERICAN WIGEON	<i>Anas americana</i>
ANHINGA	<i>Anhinga anhinga</i>
BALD EAGLE	<i>Haliaeetus leucocephalus</i>
BARN OWL	<i>Tyto alba</i>
BARRED OWL	<i>Strix varia</i>
BELTED KINGFISHER	<i>Megaceryle alcyon</i>
BLACK AND WHITE WARBLER	<i>Mniotilta varia</i>
BLACK-CROWNED NIGHT HERON	<i>Nycticorax nycticorax</i>
BLACK-NECKED STILT	<i>Himantopus mexicanus</i>
BLACK VULTURE	<i>Coragyps atratus</i>
BLUE JAY	<i>Cyanocitta cristata</i>
BLUE-HEADED VIREO	<i>Vireo solitarius</i>
BLUE-WINGED TEAL	<i>Anas discors</i>
BOAT-TAILED GRACKLE	<i>Quiscalus major</i>
BRANT	<i>Branta bernicla</i>
BROWN PELICAN	<i>Pelecanus occidentalis</i>
BROWN THRASHER	<i>Toxostoma rufum</i>

CATTLE EGRET	<i>Bubulcus ibis</i>
CAROLINA WREN	<i>Thryothorus ludovicianus</i>
COMMON BOBWHITE	<i>Colinus virginianus</i>
COMMON GRACKLE	<i>Quiscalus quiscula</i>
COMMON GROUND DOVE	<i>Columbina passerina</i>
COMMON MOORHEN	<i>Gallinula chloropus</i>
COMMON SCREECH OWL	<i>Otus asio</i>
COMMON SNIPE	<i>Gallinago gallinago</i>
DOUBLE CRESTED CORMORANT	<i>Phalacrocorax auritus</i>
EASTERN BLUEBIRD	<i>Sialia sialis</i>
EASTERN MEADOWLARK	<i>Sturnella magna</i>
EASTERN TOWHEE	<i>Pipilo erythrophthalmus</i>
EUROPEAN STARLING	<i>Sturnus vulgaris</i>
FISH CROW	<i>Corvus ossifragus</i>
FULVOUS WHISTLING DUCK	<i>Dendrocygna bicolor</i>
GADWALL	<i>Anas strepera</i>
GLOSSY IBIS	<i>Plegadis falcinellus</i>
GREAT BLUE HERON	<i>Ardea herodias</i>
GREAT EGRET	<i>Ardea alba</i>
GREAT HORNED OWL	<i>Bubo virginianus</i>
GREATER YELLOWLEGS	<i>Tringa melanoleuca</i>
GREEN HERON	<i>Butorides striatus</i>
GREEN-WINGED TEAL	<i>Anas crecca</i>
HERRING GULL	<i>Larus argentatus</i>
HOODED MERGANSER	<i>Lophodytes cucullatus</i>
HOUSE SPARROW	<i>Passer domesticus</i>
KILLDEER	<i>Charadrius vociferus</i>
LAUGHING GULL	<i>Larus atricilla</i>
LEAST BITTERN	<i>Ixobrychus exilis</i>
LESSE SCAUP	<i>Aythya affinis</i>
LESSER YELLOWLEGS	<i>Tringa flavipes</i>
MOURNING DOVE	<i>Zenaida macroura</i>
MOTTLED DUCK	<i>Anas fulvigula</i>
NORTHERN CARDINAL	<i>Cardinalis cardinalis</i>
NORTHERN HARRIER	<i>Circus cyaneus</i>
NORTHERN MOCKINGBIRD	<i>Mimus polyglottos</i>
NORTHERN SHOVELER	<i>Anas clypeata</i>
OSPREY	<i>Pandion haliaetus</i>
PALM WARBLER	<i>Setophaga palmarum</i>
PURPLE GALLINULE	<i>Porphyryula martinica</i>
PURPLE MARTIN	<i>Progne subis</i>

RING-BILLED GULL	<i>Larus delawarensis</i>
RED-SHOULDERED HAWK	<i>Buteo lineatus</i>
RED-TAILED HAWK	<i>Buteo jamaicensis</i>
RED-WINGED BLACKBIRD	<i>Agelaius phoeniceus</i>
RING-NECKED DUCK	<i>Aythya collaris</i>
RUDDY DUCK	<i>Oxyura jamaicensis</i>
SORA	<i>Porzana carolina</i>
SWALLOW-TAILED KITE	<i>Elanoides forficatus</i>
TUFTED TITMOUSE	<i>Picoides bicolor</i>
TREE SWALLOW	<i>Iridoprocne bicolor</i>
TURKEY VULTURE	<i>Cathartes aura</i>
WHISTLING DUCK	<i>Dendrocygna autumnalis</i>
WHITE PELICAN	<i>Pelecanus erythrorhynchos</i>
WHITE-EYED VIREO	<i>Vireo griseus</i>
WILD TURKEY	<i>Meleagris gallopavo</i>
WOOD DUCK	<i>Aix sponsa</i>
YELLOW-CROWNED NIGHT HERON	<i>Nycticorax violacea</i>

Table 9. Native Mammal Species Known or Expected to Occur on the LTIC

Common Name	Scientific Name
Eastern grey squirrel	<i>Sciurus carolinensis</i>
Eastern mole	<i>Scalopus aquaticus</i>
Marsh rabbit	<i>Sylvilagus palustris</i>
Nine-banded armadillo	<i>Dasypus novemcinctus</i>
Opossum	<i>Didelphis virginiana</i>
Raccoon	<i>Procyon lotor</i>
River otter	<i>Lutra canadensis</i>
White-tailed deer	<i>Odocoileus virginianus</i>

Table 10. Native Fish Species Known or Expected to Occur on the LTIC

Common Name	Scientific Name
Black crappie	<i>Pomoxis nigromaculatus</i>
Bluegill	<i>Lepomis macrochirus</i>
Bowfin	<i>Amia calva</i>
Brown bullhead	<i>Ameiurus nebulosus</i>
Chain pickerel	<i>Esox niger</i>
Channel catfish	<i>Ictalurus punctatus</i>
Eastern mosquitofish	<i>Gambusia holbrooki</i>
Florida gar	<i>Lepisosteus platyrhincus</i>
Gizzard shad	<i>Dorosoma cepedianum</i>

Golden shiner	<i>Notemigonus crysoleucas</i>
Lake chubsucker	<i>Erimyzon sucetta</i>
Largemouth bass	<i>Micropterus salmoides floridanus</i>
Longnose gar	<i>Lepisosteus osseus</i>
Needlefish	<i>Strongylura spp.</i>
Redbreast sunfish	<i>Lepomis auritus</i>
Redear sunfish	<i>Lepomis microlophus</i>
Sailfin molly	<i>Poecilia latipinna</i>
Seminole killifish	<i>Fundulus seminolis</i>
Spotted gar	<i>Lepisosteus oculatus</i>
Spotted sunfish	<i>Lepomis punctatus</i>
Threadfin shad	<i>Dorosoma petenense</i>
Warmouth	<i>Lepomis gulosus</i>

Table 11. Exotic Animal Species Known or Expected to Occur on the LTIC

Common Name	Scientific Name
Cuban anole	<i>Anolis porcatius</i>
Cuban tree frog	<i>Osteopilus septentrionalis</i>
Feral hog	<i>Sus scrofa</i>
Mouflon sheep	<i>Ovis aries</i>

7 Management Intent

The LTIC is managed by the FWC and Osceola County in conformance with the original purpose for acquisition to conserve, protect, and restore cultural resources, landscapes, forests, watershed and water resources, and other elements important to ecosystem functions of the Islands, and encourage lake management techniques necessary for maintaining healthy habitats in Lake Tohopekaliga. Also, to provide recreational opportunities that are compatible with the primary purpose of conservation and management of the area’s natural resources. Management of wildlife on the LTIC includes efforts designed to perpetuate all species of wildlife native to the area. The FWC and Osceola County uses a comprehensive resource management approach to managing FWC-managed areas. Restoring the form and function of Florida’s natural communities is the foundation of this management philosophy. Management can be adapted to best accomplish the management objective for each natural community. Management objectives, which apply to several vegetation communities, or the entire management area, may also be developed through a similar process.

8 Conditions Affecting Intensity of Management

The natural and historical resources described in this management prospectus that occur at the LTIC exemplify varying conditions and composition that affect the ongoing intensity and frequency of management activities necessary to effectively manage the area. These include natural community types, topography and soils, surface and ground water conditions, extent of historic disturbance, and already existing improvements.

Environmentally sensitive areas, such as erosion-prone sites, important habitats, and outstanding natural areas and wetlands have been identified, and are being appropriately managed, and protected.

Ecological restoration of ground cover and control of invasive species will be used as determined appropriate, as such, resource management projects may be necessary to accomplish restoration objectives established to attain the desired future condition. This is especially important for conservation of habitats and populations of imperiled or rare species. Landscape ecology is also important. Land use changes in the vicinity of the LTIC may also affect the attainment of resource conservation goals for the area, and the application and overall effectiveness of necessary ongoing resource management projects such prescribed burning and exotic species treatments.

LTIC Management Plan

The LTIC management plan focuses on ecosystem management and the protection and management of focal species, species of special concern, and rare and imperiled species. The FWC shall continue to assess the condition of wildlife resources and provide planning support to enhance management of focal species and recovery of imperiled species on the LTIC. The use of prescribed fire and other resource management activities shall continue to be implemented in order to maintain and restore natural communities and vegetation types to benefit native wildlife resources. Hydrological restoration may also be implemented where it is appropriate and feasible.

9 Timetable for Implementing Management Provisions

A Habitat Management Plan was developed for Makinson Island in early 2001 and for Paradise Island in December, 2001. An updated management plan is being developed for the area that is projected to be approved and implemented in 2018, which will establish the management goals and objectives, along with short-term (2 years) and long-term (3-10 years) completion timelines, necessary to implement future resource and operational management actions on the LTIC. The management plan also establishes the current and future roles of cooperating entities including governmental agencies, non-governmental organizations, and other stakeholders.

10 Estimate of Economic Potential

An FWC economic analysis indicates that the LTIC could generate an estimated annual economic impact, primarily through visitation, of \$8,090,043 for the State and Northcentral Florida region if the visitation levels were to reach the carrying capacity of 111 visitors per day for Makinson Islands and 83 visitors per day for Paradise Island. If that level of visitation occurred, the estimated annual economic impact would aid in the creation of an estimated 141 jobs. However, it should be noted that the current visitation rates for the area are estimated to be far below the area's established carrying capacity.

Further potential of the LTIC will depend upon future uses to be approved in the management plan. Additional economic impact from environmental lands such as the LTIC might include sales of various permits and recreational user fees and ecotourism activities, if such projects could be economically developed. The annual area regulations can be consulted to clarify the necessary and required permits, fees, and regulations. The long-term values of ecosystem services to local and regional land and water resources, and to human health, through the protection of air and water quality are expected to be significant. The legislature appropriates funds for land management.

11 Recommendations as to Other Governmental Agency Involvement

The FWC and Osceola County will continue to cooperate with other state and local governmental agencies including the Department of Environmental Protection, the South Florida Water Management District, City of Kissimmee, and the Osceola County School Board in management of the property.

12 Estimate of Costs

The following is an estimate of costs to optimally operate and manage the LTIC under the LTIC Management Plan. Given the types of management activities required for the area and the total number of acres within the area, three full-time equivalent (FTE) positions would be necessary to optimally manage the LTIC. Salary requirements for this FTE position, as well as those of other needed FWC staff, and costs to operate and manage the LTIC are reflected in the cost estimates below. All land management funding is dependent upon annual legislative appropriations.

Lake Tohopekaliga Islands Complex Management Plan Cost Estimate
Maximum expected one year expenditure

<u>Resource Management</u>	<u>Expenditure</u>	<u>Priority</u>	Priority schedule:
Exotic Species Control	\$28,719	(1)	(1) Immediate (annual)
Prescribed Burning	\$42,280	(1)	(2) Intermediate (3-4 years)
Cultural Resource Management	\$314	(1)	(3) Other (5+ years)
Timber Management	\$0	(1)	
Hydrological Management	\$966	(1)	
Other (Restoration, Enhancement, Surveys, Monitoring, etc.)	\$24,376	(1)	
Subtotal	\$96,656		
<u>Administration</u>			
General administration	\$11,869	(1)	
<u>Support</u>			
Land Management Planning	\$16,338	(1)	
Land Management Reviews	\$8,362	(3)	
Training/Staff Development	\$1,569	(1)	
Vehicle Purchase	\$342,378	(2)	
Vehicle Operation and Maintenance	\$48,804	(1)	
Other (Technical Reports, Data Management, etc.)	\$10,598	(1)	
Subtotal	\$428,050		
<u>Capital Improvements</u>			
New Facility Construction	\$1,366,638	(2)	
Facility Maintenance	\$186,744	(1)	
Subtotal	\$1,553,383		
<u>Visitor Services/Recreation</u>			
Info./Education/Operations	\$8,111	(1)	
<u>Law Enforcement</u>			
Resource protection	\$209	(1)	
<u>Total</u>	\$2,098,277	*	

* Based on the characteristics and requirements of this area, {Number} FTE positions would be optimal to fully manage this area. All land management funding is dependent upon annual legislative appropriations.

Lake Tohopekaliga Islands Complex Management Plan

Cost Estimate

Ten-year projection

<u>Resource Management</u>	<u>Expenditure</u>	<u>Priority</u>	Priority schedule:
Exotic Species Control	\$252,331	(1)	(1) Immediate (annual)
Prescribed Burning	\$371,480	(1)	(2) Intermediate (3-4 years)
Cultural Resource Management	\$2,756	(1)	(3) Other (5+ years)
Timber Management	\$0	(1)	
Hydrological Management	\$8,488	(1)	
Other (Restoration, Enhancement, Surveys, Monitoring, etc.)	\$214,172	(1)	
Subtotal	\$849,228		
<u>Administration</u>			
General administration	\$104,279	(1)	
<u>Support</u>			
Land Management Planning	\$143,551	(1)	
Land Management Reviews	\$23,937	(3)	
Training/Staff Development	\$13,782	(1)	
Vehicle Purchase	\$1,204,844	(2)	
Vehicle Operation and Maintenance	\$428,800	(1)	
Other (Technical Reports, Data Management, etc.)	\$93,118	(1)	
Subtotal	\$1,908,031		
<u>Capital Improvements</u>			
New Facility Construction	\$3,947,517	(2)	
Facility Maintenance	\$1,640,757	(1)	
Subtotal	\$5,588,273		
<u>Visitor Services/Recreation</u>			
Info./Education/Operations	\$71,261	(1)	
<u>Law Enforcement</u>			
Resource protection	\$1,838	(1)	
<u>Total</u>	\$8,522,910	*	

* Based on the characteristics and requirements of this area, {Number} FTE positions would be optimal to fully manage this area. All land management funding is dependent upon annual legislative appropriations.

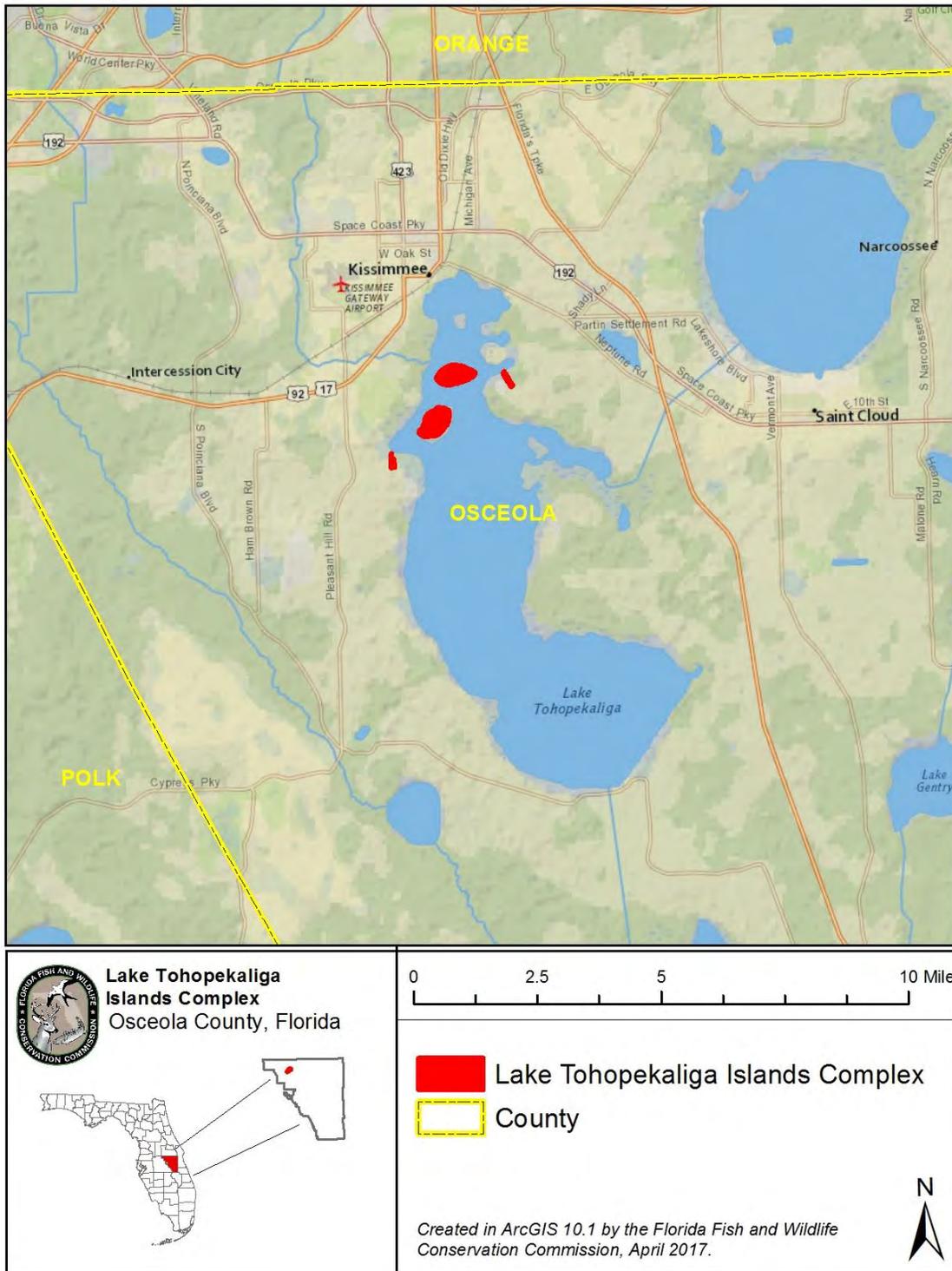


Figure 1. General Location of the LTIC

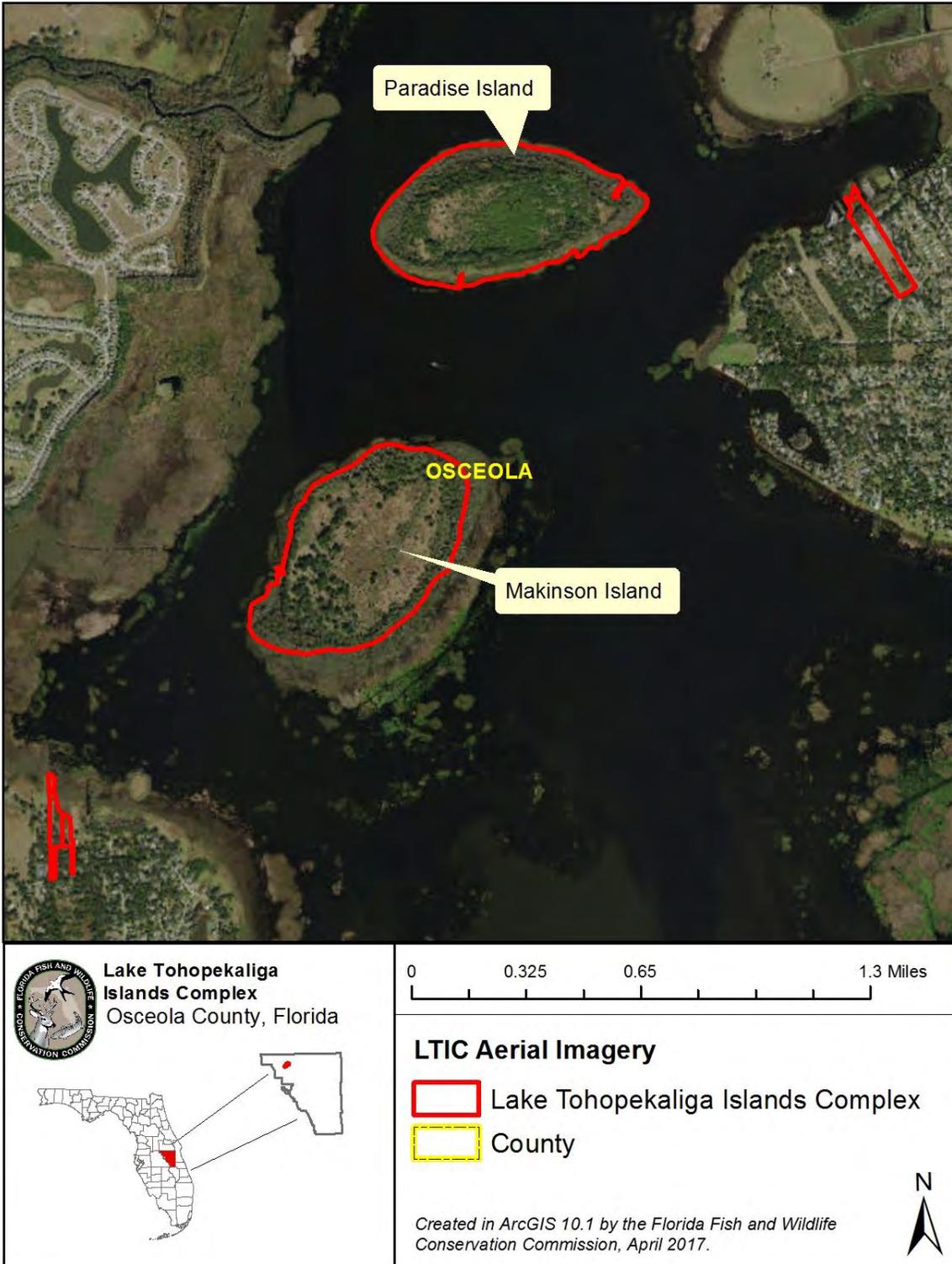


Figure 2. Aerial Boundary of the LTIC

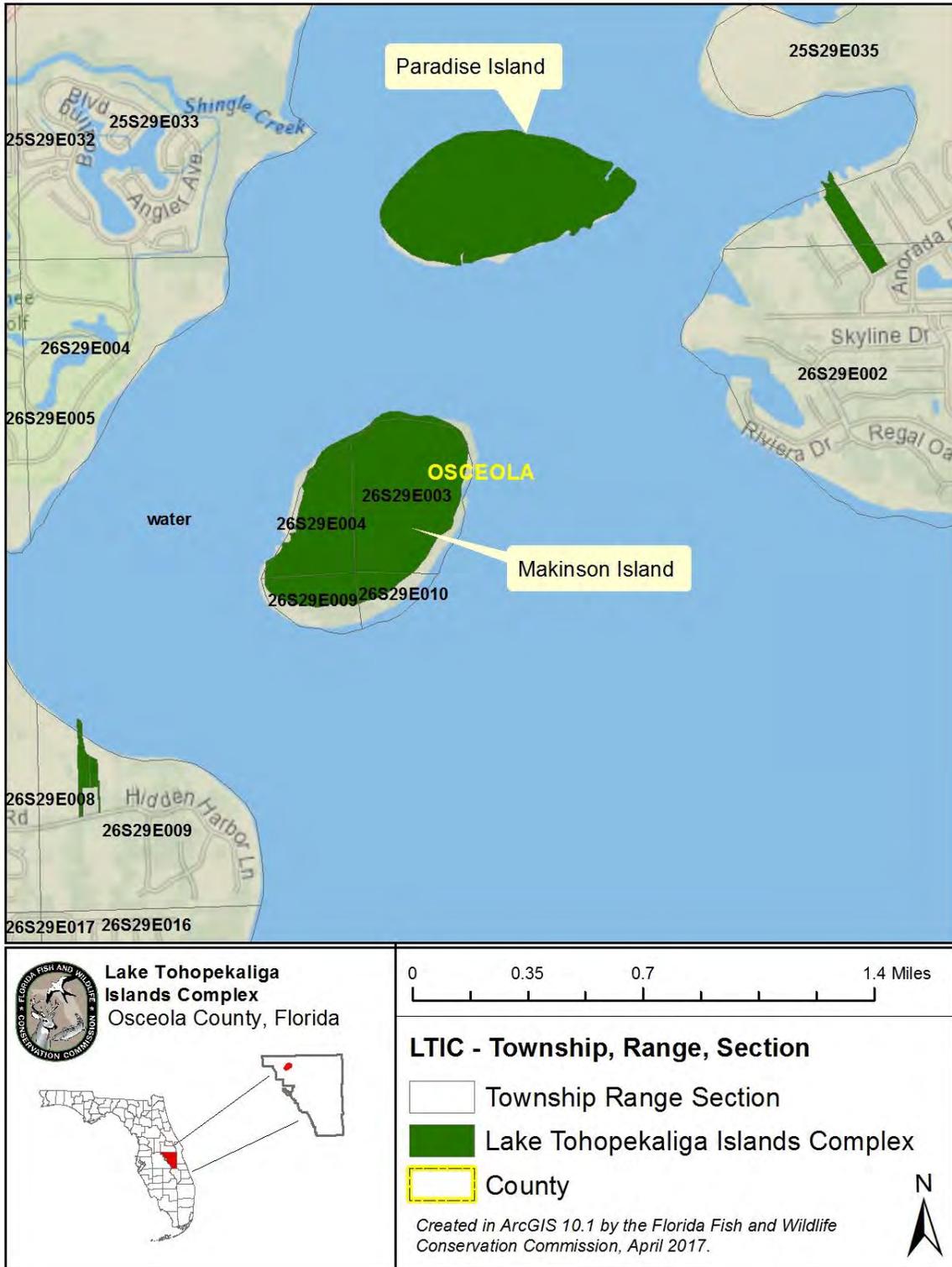


Figure 3. LTIC Proximity Map with Section, Township, and Range

Florida Fish and Wildlife Conservation Commission | Lake Tohopekaliga Islands Complex Management Plan

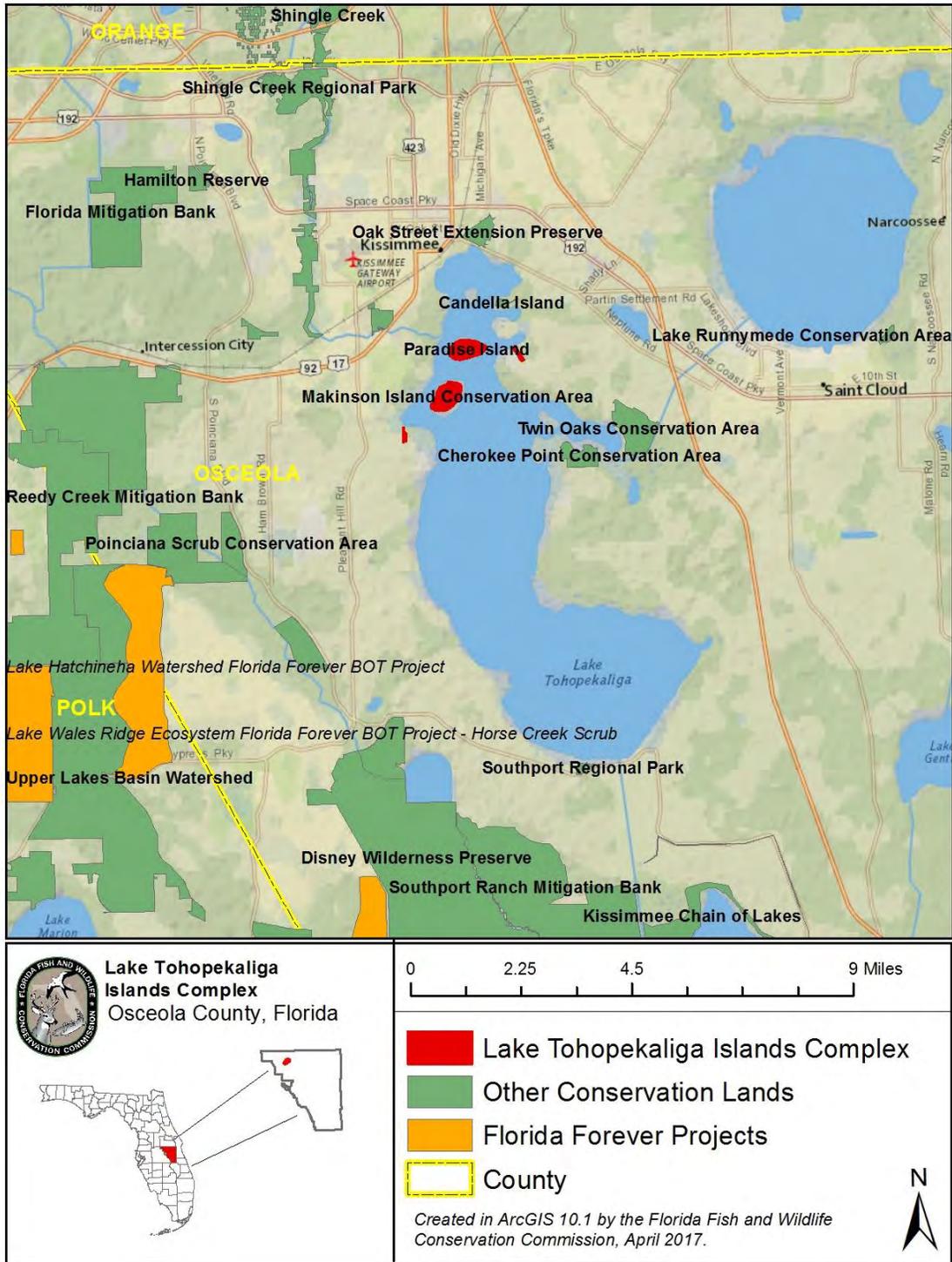


Figure 4. Nearby Conservation Land and Florida Forever Projects

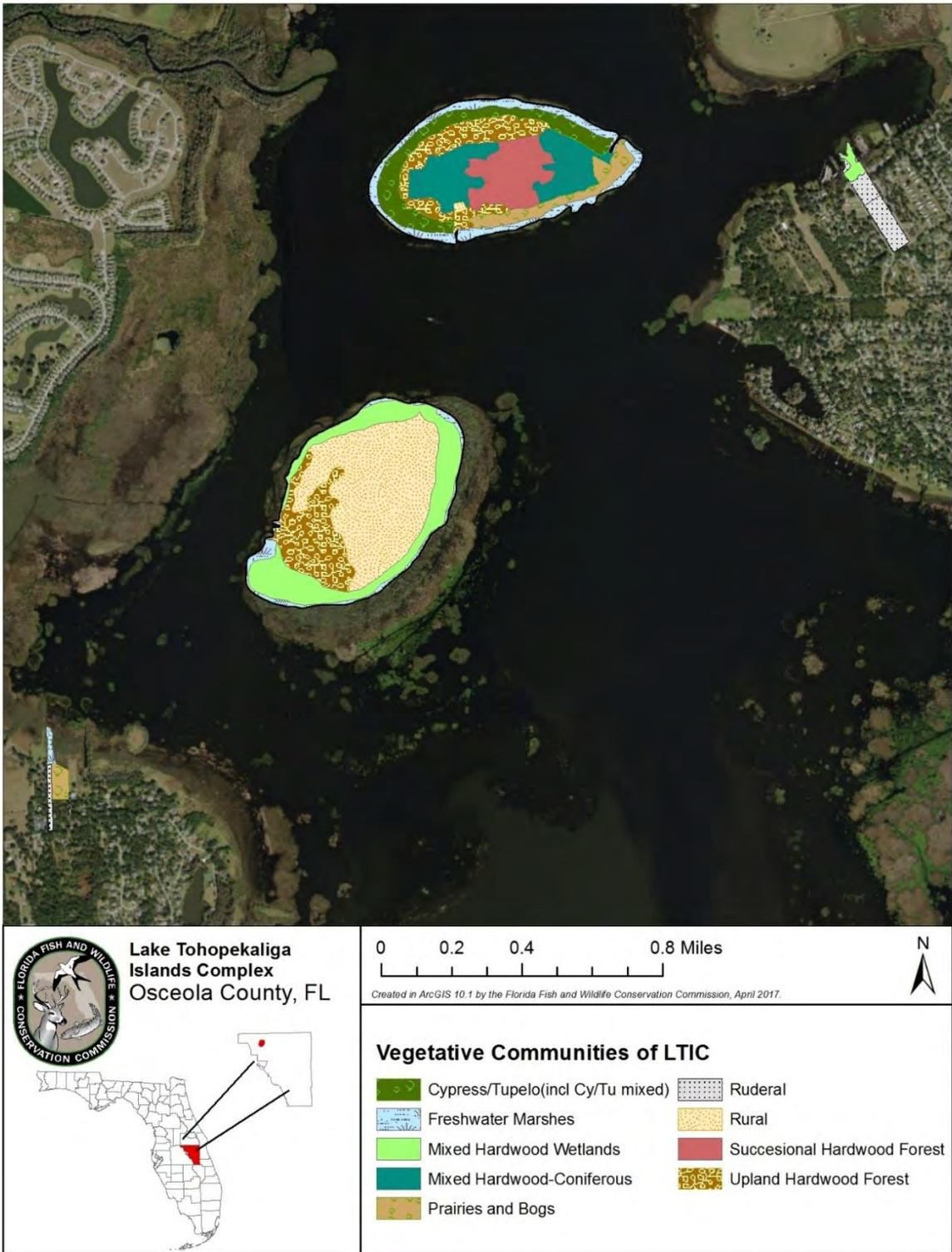


Figure 5. Natural Communities Found on the LTIC

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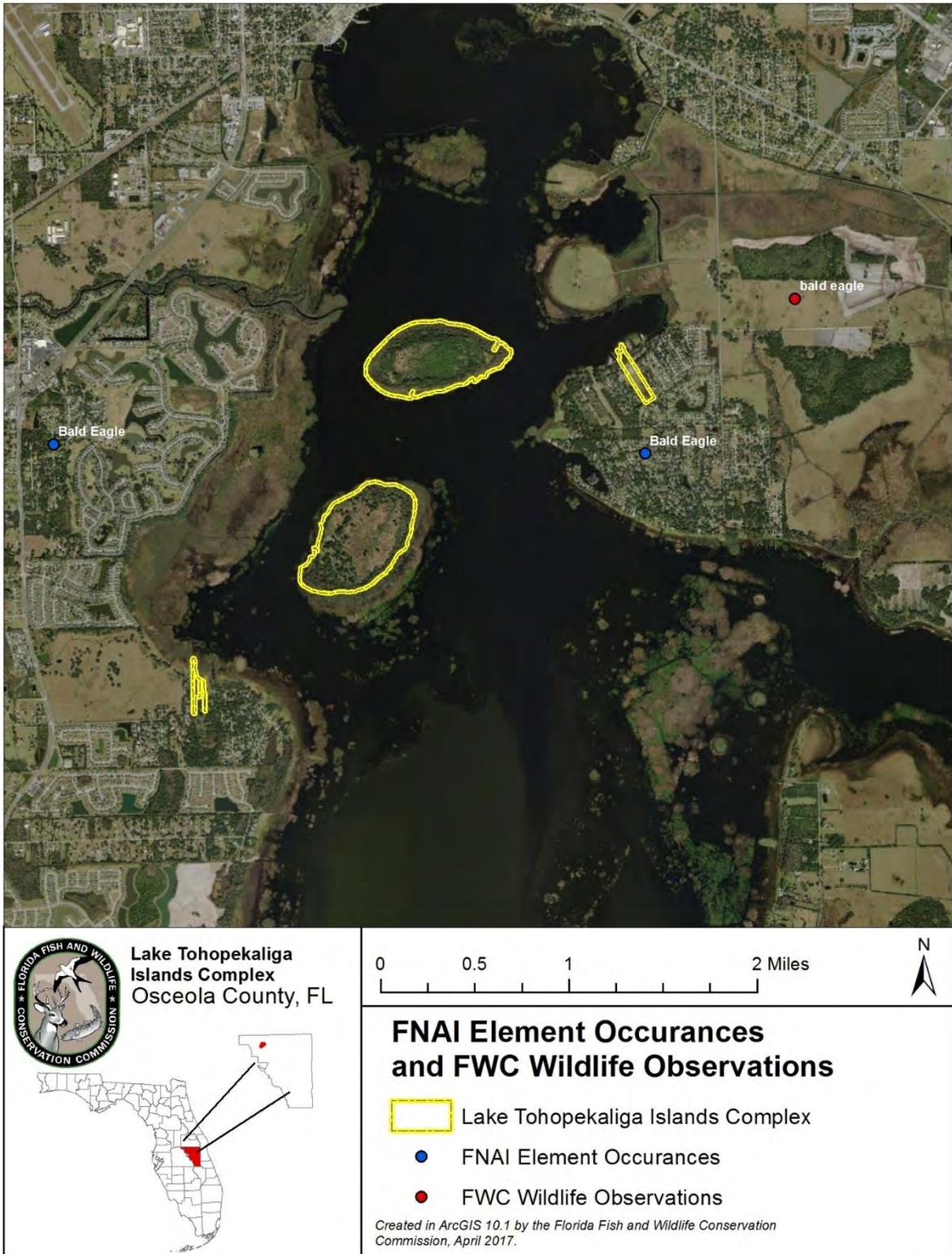


Figure 6. FWC Wildlife Observations and FNAI Element Occurances

Florida Fish and Wildlife Conservation Commission | Lake Tohopekaliga Islands Complex Management Plan

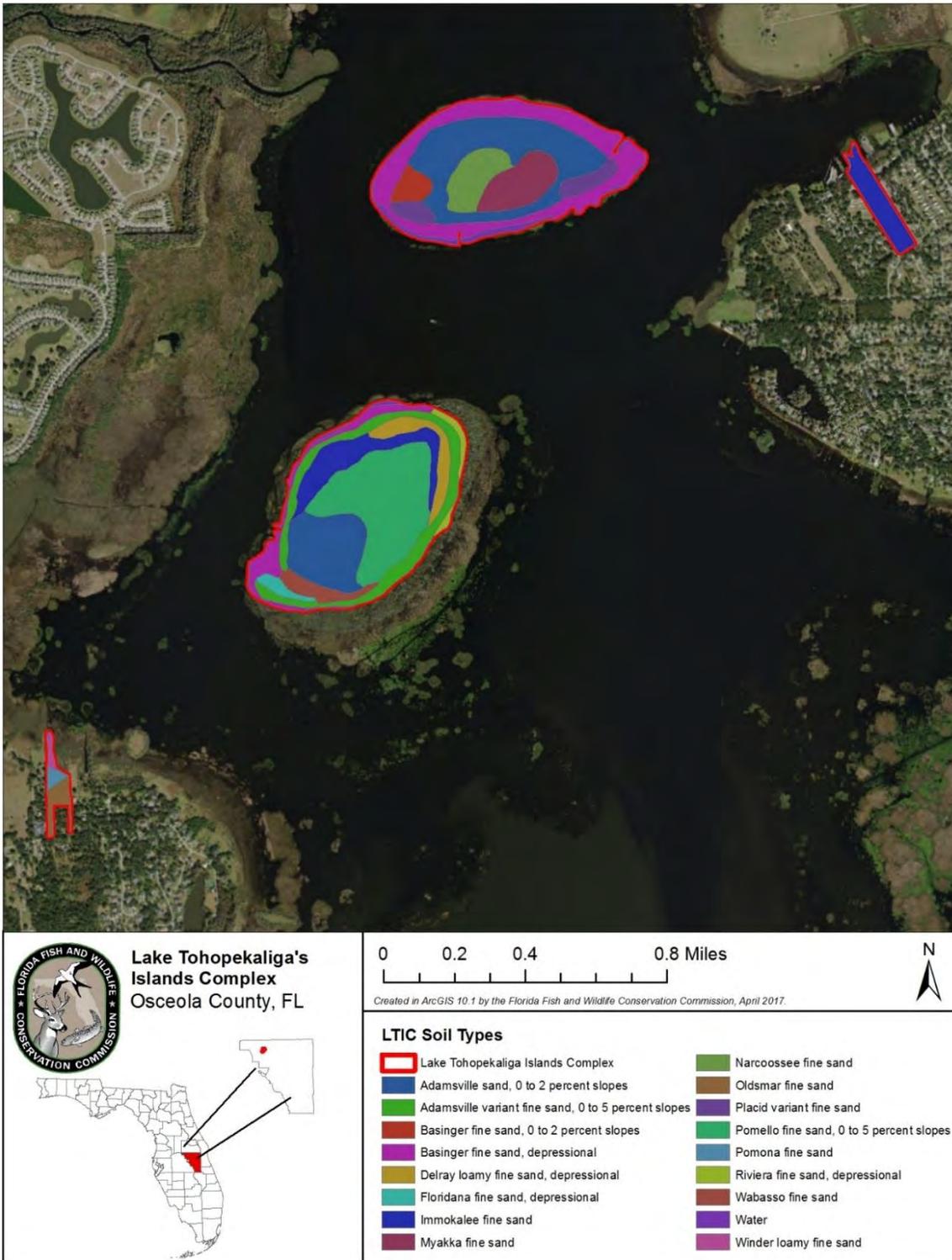


Figure 7. LTIC Soil Types



Figure 8. LTIC Integrated Wildlife Habitat Ranking

12.6 Soil Series Descriptions

Map Unit Description

Osceola County, Florida

[Minor map unit components are excluded from this report]

Map unit: 1 - Adamsville sand, 0 to 2 percent slopes

Component: Adamsville (92%)

The Adamsville component makes up 92 percent of the map unit. Slopes are 0 to 2 percent. This component is on knolls on flatwoods on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 34 inches during June, July, August, September, October, November. Organic matter content in the surface horizon is about 1 percent. This component is in the R155XY008FL Upland Hardwood Hammocks ecological site. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 2 - Adamsville variant fine sand, 0 to 5 percent slopes

Component: Adamsville variant (90%)

The Adamsville variant component makes up 90 percent of the map unit. Slopes are 0 to 5 percent. This component is on rises on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 33 inches during June, July, August, September, October, November. Organic matter content in the surface horizon is about 1 percent. This component is in the R155XY008FL Upland Hardwood Hammocks ecological site. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Map unit: 5 - Basinger fine sand, 0 to 2 percent slopes

Component: Basinger (90%)

The Basinger component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on drainageways on marine terraces. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during July, August. Organic matter content in the surface horizon is about 1 percent. This component is in the R155XY011FL Slough ecological site. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 6 - Basinger fine sand, depressional

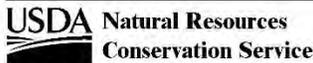
Component: Basinger, depressional (85%)

The Basinger, depressional component makes up 85 percent of the map unit. Slopes are 0 to 2 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is very high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 1 percent. This component is in the R155XY010FL Freshwater Marshes And Ponds ecological site. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 10 - Delray loamy fine sand, depressional

Component: Delray, depressional (90%)

The Delray, depressional component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately



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Map Unit Description

Osceola County, Florida

Map unit: 10 - Delray loamy fine sand, depressional

Component: Delray, depressional (90%)

high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 4 percent. This component is in the R155XY010FL Freshwater Marshes And Ponds ecological site. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 12 - Floridana fine sand, depressional

Component: Floridana, depressional (90%)

The Floridana, depressional component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 11 percent. This component is in the R155XY010FL Freshwater Marshes And Ponds ecological site. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 16 - Immokalee fine sand

Component: Immokalee (90%)

The Immokalee component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on flatwoods on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during June, July, August, September. Organic matter content in the surface horizon is about 2 percent. This component is in the R155XY003FL South Florida Flatwoods ecological site. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 22 - Myakka fine sand

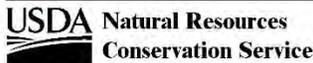
Component: Myakka (85%)

The Myakka component makes up 85 percent of the map unit. Slopes are 0 to 2 percent. This component is on flatwoods on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during June, July, August, September. Organic matter content in the surface horizon is about 5 percent. This component is in the R155XY003FL South Florida Flatwoods ecological site. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 24 - Narcoossee fine sand

Component: Narcoossee (90%)

The Narcoossee component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on rises on marine terraces on coastal plains, knolls on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 33 inches during June, July, August, September, October, November. Organic matter content in the surface horizon is about 2 percent. This component is in the R155XY008FL Upland Hardwood Hammocks ecological site. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.



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Map Unit Description

Osceola County, Florida

Map unit: 33 - Placid variant fine sand

Component: Placid variant (85%)

The Placid variant component makes up 85 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 23 inches during June, July, August, September, October, November. Organic matter content in the surface horizon is about 3 percent. This component is in the R155XY008FL Upland Hardwood Hammocks ecological site. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 34 - Pomello fine sand, 0 to 5 percent slopes

Component: Pomello (85%)

The Pomello component makes up 85 percent of the map unit. Slopes are 0 to 5 percent. This component is on ridges on marine terraces on coastal plains, knolls on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 33 inches during July, August, September, October, November. Organic matter content in the surface horizon is about 1 percent. This component is in the R155XY002FL Longleaf Pine-turkey Oak Hills ecological site. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 39 - Riviera fine sand, depressional

Component: Riviera, depressional (90%)

The Riviera, depressional component makes up 90 percent of the map unit. Slopes are 0 to 1 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 45 - Wabasso fine sand

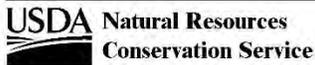
Component: Wabasso (88%)

The Wabasso component makes up 88 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during June, July, August, September. Organic matter content in the surface horizon is about 6 percent. This component is in the R155XY003FL South Florida Flatwoods ecological site. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 99 - Water

Component: Water (100%)

Generated brief soil descriptions are created for major soil components. The Water is a miscellaneous area.



Survey Area Version: 9
Survey Area Version Date: 12/17/2013

Page 3 of 4

Map Unit Description

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

The Map Unit Description (Brief, Generated) report displays a generated description of the major soils that occur in a map unit. Descriptions of non-soil (miscellaneous areas) and minor map unit components are not included. This description is generated from the underlying soil attribute data.

Additional information about the map units described in this report is available in other Soil Data Mart reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the Soil Data Mart reports define some of the properties included in the map unit descriptions.

12.7 FNAI Element Occurrence Data Usage Letter



1018 Thomasville Road
Suite 200-C
Tallahassee, FL 32303
850-224-8207
fax 850-681-9364
www.fnai.org

April 11, 2014

David Alden
Land Conservation & Planning
Florida Fish and Wildlife Conservation Commission
Tallahassee, FL

Dear David,

By virtue of this letter we are updating and continuing our agreement that it is unnecessary for your office to request FNAI element occurrence data for each land management plan you prepare, under the following conditions:

- FNAI will continue to provide our Florida Element Occurrence GIS database to FWC on a quarterly update basis;
- The FNAI GIS data will be available to FWC staff for reference and incorporation as required in management plan review and preparation.

Our database manager, Frank Price, currently provides this update via ftp to FWC staff on a quarterly basis. Current FWC contacts for the quarterly update are Beth Stys and Ted Hoehn. We are pleased to continue this beneficial collaboration with the Florida Fish and Wildlife Conservation Commission.

Sincerely,

Gary Knight
Director
Florida Natural Areas Inventory



Florida Resources
and Environmental
Analysis Center

Institute of Science
and Public Affairs

The Florida State University

Tracking Florida's Biodiversity

12.8 FWC Agency Strategic Plan

Florida Fish and Wildlife Conservation Commission Agency Strategic Plan 2014 – 2019

Theme One – Florida’s Fish and Wildlife Populations and Their Habitats

Goal 1: Ensure the sustainability of Florida’s fish and wildlife populations.

Strategies:

1. Manage listed species so they no longer meet Florida’s endangered and threatened listing criteria.
2. Manage species to keep them from meeting Florida’s endangered and threatened listing criteria.
3. Anticipate and address fish and wildlife species’ conservation needs in light of adaptation to long-term environmental changes.
4. Develop, acquire and apply the appropriate biological and sociological science to inform fish and wildlife conservation decisions.
5. Inform and guide partners regarding how their regulations, policies, procedures and other actions affect fish and wildlife conservation.
6. Protect fish and wildlife species through effective outreach and enforcement.

Goal 2: Ensure sufficient habitats exist to support healthy and diverse fish and wildlife populations.

Strategies:

1. Use science to determine quantity, quality and location of the habitats most critical to sustain healthy and diverse fish and wildlife populations.
2. Protect lands and waters critical to sustaining healthy and diverse fish and wildlife populations through diverse incentive programs.
3. Manage habitats to sustain healthy and diverse fish and wildlife populations.

Theme Two – Interactions with Fish and Wildlife, including Fishing, Hunting, Boating and Wildlife Viewing Opportunities

Goal 1: Provide residents and visitors with quality fishing, hunting, boating and wildlife viewing opportunities that meet their needs and expectations while providing for the sustainability of those natural resources.

Strategies:

1. Develop, acquire and use the appropriate biological and sociological science necessary to provide sustainable fishing, hunting, boating and wildlife viewing opportunities that meet the needs and expectations of user groups while providing for the sustainability of those resources.
2. Manage fish and wildlife populations to provide sustainable fishing, hunting, and wildlife viewing opportunities.
3. Develop and maintain widely available, diverse and accessible fishing, hunting, boating and wildlife viewing opportunities that meet the needs and expectations of residents and visitors while providing for the sustainability of those resources and emphasizing partnerships with both public and private landowners.
4. Recruit and manage sustainable levels of resident and visitor participation in fishing, hunting, boating and wildlife viewing.
5. Provide targeted fishing, hunting, boating and wildlife viewing programs for youth, the disabled and veterans.

Goal 2: Enhance the safety and outdoor experience of those who hunt, fish, boat and view wildlife.

Strategies:

1. Provide and promote opportunities for residents, and visitors to learn safety practices for fishing, hunting, boating and wildlife viewing.
2. Enhance the boating safety and waterway experience of residents and visitors through improved access, management, education and enforcement.
3. Promote Florida's outdoor environment as a safe and healthy recreational option for residents and visitors.

4. Address the growing disconnect between people and nature by marketing and providing opportunities and education for diverse age, race, gender, ethnic and other demographic sectors.

Goal 3: Use minimal regulations to manage sustainable fish and wildlife populations, manage access to fish and wildlife resources, and protect public safety.

Strategies:

1. Continually evaluate proposed and existing regulations, based on resource management benefits, public safety concerns, and economic and social impacts, to improve or eliminate regulations as warranted.
2. Coordinate with partners and stakeholders to ensure that appropriate authorities and regulations exist to maintain sustainable fish and wildlife populations.
3. Implement and enforce regulations in an informative, proactive and influential manner to enrich resident and visitors' outdoor experience while safeguarding the natural resources.

Goal 4: Minimize adverse environmental, social, economic and health and safety impacts from fish, wildlife and plants that are known, or have a potential, to cause adverse impacts.

Strategies:

1. Manage species and their habitats, as well as species and human interactions, to eliminate or reduce the adverse environmental, social, economic and health and safety impacts from native and non-native fish, wildlife and plants.
2. Effectively communicate to residents, visitors and businesses how to be safe and act responsibly when interacting with or possessing fish, wildlife and plants.
3. Manage captive and non-native wildlife movement and trade through proactive and responsive enforcement, regulation and education, with an emphasis on species that pose a high risk to our native fish and wildlife.
4. Enhance partnerships to address adverse environmental, social, economic and health and safety impacts from fish, wildlife and plants and ensure a consistent and integrated approach with FWC.

Theme Three – Sharing Responsibility for Fish and Wildlife Conservation and Management with an emphasis on developing conservation values in our youth

Goal 1: Ensure current and future generations support fish and wildlife conservation.

Strategies:

1. Expand and promote the Florida Youth Conservation Centers Network through leveraging FWC programs and staff, and developing public and private partnerships and sponsorships.
2. Develop and deliver standardized youth conservation curricula and fishing, hunting, boating and wildlife viewing outdoor activity programs, and assist with adapting programs and curricula to meet the needs of diverse communities.
3. Foster stewardship and shared responsibility for fish and wildlife conservation through conservation education programs.
4. Expand marketing and outreach to reach diverse audiences and engage all staff in priority outreach initiatives.

Goal 2: Ensure residents, visitors, stakeholders and partners are engaged in the processes of developing and implementing conservation programs.

Strategies:

1. Foster a common vision among partners and the FWC to maintain and enhance fish and wildlife populations and their habitats through interagency coordination, mutually beneficial goals and initiatives.
2. Engage residents, visitors, stakeholders and partners to understand their perspectives, develop and implement conservation programs, and implement fishing, hunting, boating and wildlife viewing management activities.
3. Use citizen science to enhance conservation programs.

Goal 3: Increase opportunities for residents and visitors, especially youth, to actively support and practice fish and wildlife conservation stewardship.

Strategies:

1. Inform residents and visitors about conservation stewardship and encourage their active involvement in achieving conservation of fish and wildlife.
2. Provide and promote opportunities for residents and visitors, especially youth, to participate in conservation stewardship activities, including FWC volunteer opportunities.

Goal 4: Encourage communities to conserve lands and waters critical to sustaining healthy and diverse fish and wildlife populations.

Strategies:

1. Provide communities with the necessary assistance to help them obtain the social and economic benefits of local conservation lands.
2. Provide residents and visitors with relevant information on the social and economic benefits of conservation, fishing, hunting, boating, and wildlife viewing.
3. Support community events and programs that promote fish and wildlife conservation.

Theme Four – Responsive Organization and Quality Operations

Goal 1: Integrate our commitment to benefit the community and enhance the economy through our conservation efforts and public service.

Strategies:

1. Identify and implement ways to support Florida businesses and job growth while managing fish and wildlife.
2. Identify and promote opportunities for staff to benefit local communities through participation in approved activities where FWC resources can be used (for example, the Florida State Employees' Charitable Campaign, the Guardian ad Litem Program, mentoring programs, FWC Disaster Response Teams, and American Red Cross Disaster Services).
3. Provide residents and visitors with reliable and current information on Florida's fish and wildlife.
4. Continue to attract visitors by providing top-quality fishing, hunting, boating and wildlife viewing opportunities.

Goal 2: Provide resources and support for the safety and protection of residents and visitors, our natural and cultural resources, and for emergency responses to critical incidents and environmental disasters.

Strategies:

1. Identify existing and emerging risks to the safety of residents and visitors and foster internal collaboration and external partnerships necessary to effectively manage, reduce or eliminate those risks.
2. Provide immediate and effective disaster response and recovery through mutual-aid efforts with local, state and federal partners.
3. Provide search, rescue, and recovery services in coordination with local, state and federal entities to ensure the safety of residents and visitors.
4. Protect natural and cultural resources through proactive and responsive enforcement efforts.

Goal 3: Ensure the FWC has highly effective and adaptive business practices.

Strategies:

1. Address emerging biological, social and economic trends, anticipate impacts and take advantage of opportunities to accomplish FWC's mission.
2. Expect each employee to be an ambassador for FWC and its mission to Florida's diverse residents and visitors.
3. Provide efficient and effective service to Florida's diverse residents, visitors, and FWC staff.
4. Foster a diverse, accountable, responsive and skilled workforce who effectively serves Florida's residents and visitors.
5. Manage existing and secure additional resources necessary to achieve fish and wildlife conservation and meet residents, visitor and stakeholder needs.
6. Create and maintain an effective business model that supports the FWC's mission by using continuous improvement approaches that foster a collaborative and professional culture.

12.9 FWC Apiary Policy

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

Apiary Policy

Division of Habitat and Species Conservation

Issued by:
Terrestrial Habitat Conservation and Restoration Section
9/1/2010

Florida Fish and Wildlife Conservation Commission, Lake Wales Ridge State Park, and the Lake Wales Ridge State Park's
Enclosed is the HCC/FLC Apisary Policy for the Florida Fish and Wildlife Conservation Commission's
Management Plan

Wildlife Management Areas and Wildlife and Environmental Areas.

DIVISION OF HABITAT AND SPECIES CONSERVATION POLICY

Issued September 2010

**SUBJECT: APIARY SITES ON FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION
 WILDLIFE MANAGEMENT AREAS AND WILDLIFE AND ENVIRONMENTAL AREAS**

STATEMENT OF PURPOSE: It is the intent of this policy to determine which Florida Fish and Wildlife Conservation Commission (FWC) Wildlife Management Areas or Wildlife and Environmental Areas (WMA/WEA) may have apiary sites, and provides direction on site location, management and administration of said apiaries.

Definitions

Apiary – A place where bees and beehives are kept, especially a place where bees are raised for their honey.

Apiary Site – An area set aside on a WMA/WEA for the purpose of allowing a beekeeper to locate beehives in exchange for a fee as established by contract between the beekeeper and FWC.

Apiary Wait List – An apiary wait list will be maintained by the Terrestrial Habitat Conservation and Restoration (THCR) Section Leader’s Office based on applications received from interested beekeepers. Only qualified apiarists will be added to the list. To become qualified the new apiarist must submit an application form and meet the criteria below under the section titled “Apiary Wait List and Apiary Application.”

Beekeeper/Apiarist – A person who keeps honey bees for the purposes of securing commodities such as honey, beeswax, pollen; pollinating fruits and vegetables; raising queens and bees for sale to other farmers and/or for purposes satisfying natural scientific curiosity.

Best Management Practices – The Florida Department of Agriculture & Consumer Services (FDACS; Division of Plant Industry (DPI), Apiary Inspection Section, P.O. Box 147100, Gainesville, FL 332614-1416) provides Best Management Practices (BMP) for maintaining European Honey Bee colonies and FWC expects apiarists to follow the BMP.

Hive/Colony – Means any Langstroth-type structure with movable frames intended for the housing of a bee colony. A hive typically consists of a high body hive box with cover, honey frames, brood chambers and a bottom board and may have smaller super hive boxes stacked on top for the excess honey storage. A hive/colony includes one queen, bees, combs, honey, pollen and brood and may have additional supers stacked on top of a high body hive box.

Establishment of Apiary Sites on WMA/WEA

During the development of an individual WMA/WEA Management Plan, apiaries will be considered under the multiple-use concept as a possible use to be allowed on the area. “Approved” uses are deemed to be in concert with the purposes for state acquisition, with the Conceptual State Lands Management Plan, and with the FWC agency mission, goals, and objectives as expressed in the agency strategic plan and priorities documents. Items to consider when making this determination can also include:

- Were apiaries present on the area prior to acquisition?
- Are there suitable available sites on the WMA/WEA?
- Will the apiary assist in pollination of an onsite FWC or offsite (adjacent landowner) citrus grove or other agricultural operation?

For those WMA/WEAs that have not considered apiaries in their Management Plan, upon approval of this policy Regional Staff will work with the Conservation Acquisition and Planning (CAP) staff and THCR Section leadership to determine if apiaries are an approved use on the area. If apiaries are considered an approved use then a request will be made to the Division of State Lands to allow this use as part of an amended Management Plan. This request will be made through the THCR’s Section Leader’s office and coordinated by the CAP.

Determination of apiary site locations on WMA/WEAs should be done using the following guidelines:

- Apiary sites should be situated so as to be at least one-half mile from WMA/WEA property boundary lines, and at least one mile from any other known apiary site. Exceptions to this requirement must be reviewed by the Area Biologist and presented to the THCR Section Leader for approval.
- Site should be relatively level, fairly dry, and not be prone to flooding when bees would normally be present.
- Site should be accessible by roads which allow reasonable transfer of hives to the site by vehicle.
- If a site is to be located near human activity, such as, an agricultural field, food plot, wildlife opening, campsites, etc., or if the site may be manipulated by machinery at a time when bees would be present, then the apiary site should be located at a minimum

of 150 to 200 yards from the edge of that activity. This will ensure minimal disturbance to the bees and minimize incidents with anyone working in the area.

- It is preferable to have apiary sites located adjacent to or off roads whenever possible. If traditional apiary sites were located on roads and the Area Biologist determines that the site will not impact use of the road by visitors then it will be allowed.
- FWC Area Biologist shall select apiary site(s) and the site(s) selected should not require excessive vegetation clearing (numerous large trees, dense shrubs) or ground disturbance (including fill).

WMA/WEA Staff Responsibilities

Area Biologist on WMAs/WEAs with approved apiary sites will forward a GIS shapefile depicting all the apiary site polygon(s), including a name or number with coordinates for each apiary site, to the THCR Contract Manager.

Area Biologist will monitor each apiary site no less than once a year to determine if the beekeeper is abiding by the contract requirements. If violations are noted, staff should bring them to the attention of the beekeeper for correction. If violations continue staff should notify the THCR Contract Manager who will determine if or what additional action is warranted.

Area Biologist will establish and maintain firelines around the apiary site to ensure the apiary site is ready when a planned burn is scheduled.

Area Biologist will advise the beekeeper of burn plans, road work, gate closures, or other site conditions and management activities that may affect the beekeeper's ability to manage or access the apiary site.

Area Biologist is not responsible to ensure access roads are in condition suitable for beekeepers to access their hives with anything other than a four wheeled drive vehicle. (The site of the apiary may be high and dry, but the roads accessing them may be difficult to impossible to get a two wheeled drive vehicle into during extreme weather, e.g., heavy rainfall events.)

Apiary Wait List and Apiary Application

An electronic waiting list for apiary sites will be maintained by the THCR's Contract Manager for each WMA/WEA. To be placed on the waiting list an interested beekeeper must submit an apiary application form to the contract manager (See Enclosed Application Form). Each applicant will be considered based on the following criteria:

- Proof of a valid registration with the FDACS/DPI.
- Proof of payment of outstanding special inspection fees for existing sites.
- A validated history of being an apiary manager.
- Three references that can attest to the applicant's beekeeping experience.

If an apiary site becomes available on a WMA/WEA and there are beekeepers on the waiting list interested in that particular area, those individuals meeting the criteria above will be given preference. If there is more than one beekeeper meeting the criteria with their name on the list then a random drawing will be held by the THCR Contract Manager to determine who will receive the site. Beekeepers on the waiting list will be notified in writing of the random drawing's date/location and will be invited to attend. The individual's name selected during this drawing will be awarded the contract.

Apiary agreements are non-transferable. Each agreement serves as a contract between a specific individual or company and FWC, and the rights and responsibilities covered by an individual agreement cannot be transferred.

Contracts

Apiary contracts are for five (5) years and renewals are contingent upon a satisfactory performance evaluation by Area Biologist and concurrence of the THCR Section Leader. Approval is based on apiarist performance, adherence to rules and regulations and general cooperation. If an Area Biologist decides an apiarist whose contract is expiring is unacceptable he may recommend not approving the new contract. If this transpires then the wait list process using random selection will be used. If there is no apiarist on a current wait list then the apiarists who are in good standing with existing contracts will be notified to see if any want to be put on the wait list for the drawing. If none are interested then the site will be put on hold pending a valid request.

Pricing of Apiary Site(s)

Cost of each apiary site will be \$40 annually which will include up to 50 beehives. Additional beehives will be charged at the rate of \$40 per 50 beehives.

Pricing examples:

- A beekeeper is leasing 2 apiary sites with up to 100 beehives - the fee per year is \$80.
- A beekeeper is leasing 3 apiary sites with up to 200 beehives - the fee per year is \$160.

Note: The maximum number of hives/colonies allowed on an apiary site will be at the discretion of the apiarist. However, the apiarist is strongly recommended to follow the BMP as recommended by the FDACS/DPI. In addition to providing the BMP, FDACS/DPI's management has recommended 50 hives per site in pineland communities and no more than 100 hives per

site in areas with bountiful resources. However, FWC will not dictate the number of hives on a site unless they create land management issues.

Bear Depredation Control at Apiary Site(s)

Beekeepers are required to consult with the WMA/WEA Area Biologist to see if electric fencing is required for their apiary sites. If the Area Biologist requires electric fencing then the Beekeeper shall construct and maintain electric fences for each apiary site. Numerous electric fence designs have been used to varying success and FWC as a courtesy provides an electric fence technical information bulletin with each Agreement. This bulletin is attached in order to assist the Beekeeper and/or provide a design that has been proven to be reasonable effective.

SUBJECT MATTER REFERENCES

Apiary Inspection Law - Chapter 586, Florida Statutes (see <http://www.leg.state.fl.us/Statutes/>), Rule Chapter 5B-54, Florida Administrative Code (see www.flrules.org).

The Board of Trustees of the Internal Improvement Trust Fund – Recommended Apiary Agreement Guidelines For Apiaries & Revisions to an Agreement for Apiary Activities on State Lands on September 23, 1986

S:\HSC\THCR\APIARY.BACKUP.POLICY\dlissupport@dos.state.fl.us_20100903_111446.pdf

Senate Resolution 580, September 21, 2006: http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=109_cong_bills&docid=f:sr580ats.txt.pdf

Attachments

Sample Apiary Agreement W/Attachments (Map Placeholder & Electric Fence Bulletin)

Sample Apiary Site Application Form W/Mission Statement

Best Management Practices for Maintaining European Honey Bee Colonies

Sample of Random Selection Process Procedure

APPROVED:

Division Director or Designee

Florida Fish and Wildlife Conservation Commission | Lake Tohopekaliga Islands Complex
Management Plan

DATE: _____

APIARY AGREEMENT

AGREEMENT FOR APIARY ACTIVITIES ON STATE LANDS

THIS AGREEMENT is made by and between the Florida Fish and Wildlife Conservation Commission, 620 South Meridian Street, Tallahassee, FL 32399-1600, hereinafter known as “the COMMISSION,” and (Insert Name and Address of Apiarist Here), telephone number (Insert Phone Number of Apiarist Here), hereinafter known as “the USER.”

WITNESSETH

In consideration of the mutual promises to be kept by each and the payments to be made by the USER, the parties agree as follows:

1. TERM: This Agreement will begin (Insert date here) or the date signed by both parties, whichever is later, and will end five (5) years from the date of execution. Issuance of a new five (5) year Agreement is contingent upon satisfactory performance evaluation by the Area Biologist and approval of the THCR Section Leader.
2. The COMMISSION Agrees:
 - a. To provide apiary sites on state lands, which will be identified by the COMMISSION staff and located on the property identified in (4)(f) below.
 - b. To provide technical assistance for bear-proofing, if required by Area Biologist, of sites made available under this Agreement.

- c. To allow the USER to place a total number of (insert number of hive boxes here) hive boxes on the COMMISSION-managed property at the apiary site(s).
3. The USER Agrees:
- a. To pay (Insert Total Dollars Here) on or before the execution date of this Agreement and each year thereafter on or before anniversary date of the original contract execution date, with check or money order payable to the Florida Fish and Wildlife Conservation Commission. All payments shall be remitted to The Florida Fish and Wildlife Conservation Commission, Finance and Budgeting, Accounting Section, PO Box 6150, Tallahassee, FL 32399-6150, and a copy of the check to The Florida Fish and Wildlife Conservation Commission, Terrestrial Habit Conservation and Restoration Section, Attn: Section Leader, 620 South Meridian Street, Tallahassee, Florida 32399-1600.
 - b. To have no more than (Insert Number of Hive boxes here) hive boxes on the property at one time.
 - c. To comply with the Florida Honey Certification and Honeybee Law, Chapter 586, Florida Statutes, and Rule 5B-54, Florida Administrative Code, and all other applicable federal, state, or local laws, rules or ordinances.
 - d. To not damage, cut or remove any trees in the course of preparing for or conducting operations under this Agreement.
 - e. To repair within 30 days of occurrence any damage to roads, trails, fences, bridges, ditches, or other public property caused by USER'S operations under this Agreement based on discretion of the COMMISSION to ensure the WMA/WEA management goals are met. All repairs will be coordinated with the Area Biologist to ensure management goals are met. If USER does not comply within the 30 day requirement, then the COMMISSION may use a third party to perform the repairs and charge the USER accordingly.
 - f. To report any forest fires observed and to prevent forest fires during the course of operations under this Agreement.
 - g. To abide by all WMA/WEA rules and regulations in addition to items in this Agreement.

- h. To notify the Area Biologist within 24 hours when a bear depredation event occurs.
- i. To post their name in an agreed upon location at each site covered by this Agreement or otherwise use an identifying system that is approved by the Area Biologist.
- j. To furnish proof of general liability insurance prior to starting apiary activities on state property or within 30 days of execution of this Agreement, whichever is earlier, and proof of annual renewal of the general liability insurance policy prior to or upon expiration date of the policy. The USER shall maintain continuous general liability insurance throughout the term of this Agreement for no less than \$300,000 for bodily injury and \$100,000 for property damage for each occurrence. Such a policy shall name the COMMISSION as the Certificate Holder. The USER's current certificate of insurance shall contain a provision that the insurance will not be canceled for any reason during the term of this Agreement except after thirty (30) days written notice to the COMMISSION.
- k. To be liable for all damage to persons or property resulting from operations under this Agreement, and to release, acquit, indemnify, save and hold harmless the COMMISSION, its officers, agents, employees and representatives from any and all claims, losses, damages, injuries and liabilities whatsoever, whether for personal injury or otherwise, resulting from, arising out of or in any way connected with activities under this Agreement or activities occurring from any other source not under this Agreement and the USER further agrees to assume all risks of loss and liabilities incidental to any natural or artificial condition occurring on state lands cover by this Agreement.
- l. To construct and maintain electric fences, if required by the Area Biologist at the Area Biologist's discretion, to provide protection of apiaries from black bear depredation consistent with the technical information bulletin attached to this agreement, and, if so required, to maintain an open buffer around the fencing of five (5) feet or more. (See Attachment 1)
- m. To remove all personal property from the site within thirty (30) days of termination or expiration of this Agreement. The USER understands that after this time, all the USER'S personal property remaining on the WMA/WEA shall be deemed abandoned and become the property of the COMMISSION, which will

be utilized or disposed of at the sole discretion of the COMMISSION, and that reasonable storage and/or disposal fees and/or costs may be charged to the USER.

4. The parties mutually agree:
 - a. This Agreement is not transferable.
 - b. The USER's failure to submit payment by the due date established herein may result in cancellation of the Agreement by the COMMISSION.
 - c. The USER's failure to submit proof of general liability insurance or proof of annual renewal in compliance with (3) (j) above may result in cancellation of this Agreement by the COMMISSION.
 - d. This Agreement shall be in effect for a period of five (5) years and issuance of a new agreement will be contingent upon a satisfactory performance evaluation and approval of the Area Biologist and THCR Section Leader.
 - e. Each apiary site shall be situated so as to be at least one-half (1/2) mile inward from state property lines and there shall be at least one (1) mile separation between sites. Exceptions to this rule must be reviewed by Area Biologist presented to and approved by the Terrestrial Habitat Conservation and Restoration Section Leader.
 - f. The property covered by this Agreement is described as follows: That the property sites (Insert Area Name) Wildlife Management Area are represented by Attachment 2.
 - g. In accordance with Section 287.134, Florida Statutes, an entity or affiliate who has been placed on the discriminatory vendor list may not submit a bid, proposal or reply on a contract to provide goods or services to any public entity; may not submit a bid, proposal or reply on a contract with a public entity for the construction or repair of a public building or public work; may not submit bids, proposals or replies on leases of real property to a public entity; may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant with any public entity; and may not transact business with a public entity.
 - h. As part of the consideration of this Agreement, the parties hereby waive trial by jury in action brought by either party pertaining to any matter whatsoever

arising out of or in any way connected with this Agreement. Exclusive venue for all judicial actions pertaining to this Agreement is in Leon County, Florida.

- i. This Agreement may be terminated by the COMMISSION upon thirty (30) days written notice to the USER in the event the continuation of the apiary activities are found to be incompatible with the COMMISSION'S management plans or for any other reason at the sole discretion of the COMMISSION.

This Area Intentionally Left Blank

IN WITNESS WHEREOF, the parties have executed this Agreement on the day and year last below written.

USER SIGNATURE

Date: _____

Witness

Witness

FLORIDA FISH AND WILDLIFE
CONSERVATION COMMISSION

Mike Brooks, Section Leader
Terrestrial Habitat Conservation and
Restoration

Date: _____

Approved as to form and legality

Florida Fish and Wildlife Conservation Commission | Lake Tohopekaliga Islands Complex
Management Plan

Commission Attorney

Date: _____

AGREEMENT

ATTACHMENT 1

Use of Electric Fencing to Exclude Bears And Prevent Property Damage

Florida Fish and Wildlife Conservation Commission
Technical Information Bulletin (2001)

Electric fencing has proven effective in deterring bears from entering landfills, apiaries (beehives), livestock pens, gardens, orchards, and other high-value properties. Numerous electrical fence designs have been used with varying degrees of success. Design, quality of construction, and proper maintenance determine the effectiveness of an electric fence. The purpose of this technical bulletin is to assist the property owner in understanding and implementing electrical fencing as a tool to exclude and prevent damage caused by black bears.

Understanding Electric Fencing

Electric fencing provides an electrical shock when an animal comes into contact with the electrically charged wires of the fence. People unfamiliar with electric fencing often are afraid that it will injure, permanently damage, or kill an individual or pet that contacts the fence. **This is not true!** A properly constructed electric fence is safe to people, pets, and bears.

Components of Electric Fencing

An electric fence is composed of four main elements: a charger, fence posts, wire, and the ground rod.

Fence Charger. On a small scale electric fence (like that typically needed for bear exclusion), the largest cost is normally the fence charger. A fence charger's job is to send an electrical pulse into the wire of the fence. Contrary to popular belief, there is not a continuous charge of electricity running through the fence. Instead the charger emits a short pulse or burst of electricity through the fence. The intensity and duration of the electrical pulse varies with the type of charger or controller unit. Chargers with a high-voltage, short duration burst capacity are the best because they are harder to ground out by tall grass and weeds. These types are also the safest, because, even

though the voltage is high (5 kilovolts) the duration of the burst is very short (2/10,000 of a second) (FitzGerald, 1984).

Two basic energy sources for chargers are batteries (12-volt automotive type) and household current (110 volt). Battery-type chargers are typically cheaper to purchase but require more maintenance because of the necessity of charging the battery. The advantage of a battery powered charger is that it can be used in a remote location where 110-volt current is not available. Most units that are powered by a fully charged 12-volt deep-cycle batteries can last three weeks before needing a charge. Addition of a solar trickle charger will help prolong the duration of effective charge in 12-volt batteries.

Fence Posts. On small scale fences, the posts are normally the second largest expense involved in construction. Therefore, when planning an electric fence it is a good idea to utilize existing fencing in order to save money. If no existing fence is available, posts will need to be placed around the area needing protection. Posts may be wood, metal, plastic, or fiberglass. Wood and metal posts will need to have plastic insulators attached to them which prevent the electric wire from touching the post causing it to ground out. Plastic and fiberglass posts do not need insulators, the wire may be affixed directly to these posts. Wood and metal posts are typically more expensive and require the added expense of insulators, however, they are more durable and generally require less maintenance.

Wire. Fourteen to seventeen gauge wire is the most common size range used in electric fencing. Heavier wire (a lower gauge number) is more expensive but carries current with less resistance and is more durable (FitzGerald, 1984).

The two most common types of wire are galvanized and aluminum. Galvanized wire is simply a steel wire with a zinc coating to prevent rust, which makes the wire last longer. Some wire is more galvanized than others. The degree or amount of zinc coating that is around the core steel wire is measured in three classes. A class I galvanization means the wire has a thinner coating of zinc than a class II galvanization. Class III galvanized wire has the heaviest zinc coating and will last longer than the class I and class II wire (FitzGerald, 1984). In general, the cost of galvanized wire increases as the class or amount of galvanization increases.

Aluminum wire is typically more expensive than the galvanized wire. Some advantages of aluminum wire are: it will not rust, it conducts electricity four times better, and it weighs one-third less than steel wire.

The Ground Rod. The ground is an often overlooked, but critical part of an

electric fence. Without a good ground, electricity will not flow through the wire. When an animal touches a charged wire, the body of the animal completes the electrical circuit and the animal feels the “shock”. The current must travel from the charger through the wire to the animal and then back through the ground to the charger if the animal is to feel the shock. The soil acts as the return “wire” (ground) in the circuit. However, if a bird was to land on a charged wire without touching the soil the bird would not complete the circuit and would be unaffected (FitzGerald, 1984). Some fence configurations use actual grounded wires within the fence to enhance the grounding system.

The ground may be a commercial ground rod or a copper tube or pipe driven six to eight feet in moist soil. Copper is expensive, so a copper coated steel pipe or any other good conducting metal pipe will work also. Very dry soil can effect the ability to create a good ground and has sometimes been a problem during drought conditions. Pipe may be a better choice than a solid rod during drought conditions, because water may be poured down the ground pipe to improve the ground. Some fence configurations use wires as the grounding system, rather than relying solely on the soil as a ground.

Recommended Electric Fence to Deter Black Bears

Conditions at fence sites will vary and will determine what the most effective fence configuration will be. Commission biologists welcome the opportunity to visit sites and provide custom tailored advice on constructing an effective electric fence. The following recommendation will cover most situations with low to moderate pressure from black bears. Use a five strand aluminum wire fence that is 40 inches high with wire spacing every eight inches apart using the previously mentioned wired grounding system (see Figure 1). The wire closest to the ground level (the lowest wire) should be a charged or “hot” wire. The second wire should be grounded. The third wire should be hot. The fourth wire should be grounded and the fifth wire should be hot. If using metal or wood posts, insulators must be used to keep the hot wires from grounding out. The cost of this type of electric fence utilizing fiberglass posts and a 110 volt fence charger is approximately \$200 for a 40' x 40' area (160 linear feet of fence).

Materials:

- 1 - 1, 312 foot roll (1/4 mile) 14 gauge aluminum electric fence wire
- 1 - 50 foot roll 12 gauge insulated wire
- 20 - 5 foot 5/8 inch dia fiberglass fence posts
- 5 - plastic gate handles
- 1 - 110 volt fence charger
- 1 - 10 foot ground pipe
- 4 - plastic electric fence signs

Installation. These instructions are for a square shape fence exclusion, but the

process would be very similar for other applications. Drive 4 corner posts 1-foot deep into ground and stake with guy wires. Clip, rake, and keep clear any vegetation in a 15-inch wide strip under the fence and apply herbicide. Attach and stretch the aluminum wire at 8-inch increments starting 8 inches from ground level. A loop of wire should be left on each wire at the first corner post. Once the wire has been stretched around the outside of all the corner posts back to the first post a plastic gate handle should be attached to each wire and the gate handles should be attached to each corresponding loop on the first corner post. Drive in the remaining 16 posts to the same depth at 8-foot intervals between corner posts. Secure each of the five wires to each of the posts with additional wire. Attach four plastic electric fence signs (one on each side) to the top wire of the fence. Attach a 12-gauge strand of insulated wire to the positive terminal of the fence charger and attach it to the first, third, and fifth wires of the fence. Attach another 12 gauge insulated wire to the negative terminal of the charger and attach this wire to the ground pipe which has been driven into the ground 6 to 8-feet deep. Attach another 12 gauge insulated wire from the negative terminal of the charger to the second and fourth wires on the fence. Plug the charger into a 110 volt power supply and the fence is in operation.

Tips to improve the effectiveness of your electric fence to deter black bears:

1. If using a 12-volt fence charger, ensure that the battery is charged; check every two weeks.
2. Make sure terminals on the charger and battery are free of corrosion.
3. Make sure hot wires are not being grounded out by tall weeds, fallen tree branches, broken insulators, etc.
4. If fence wires have been broken and repaired, make sure wires are corrosion free where they have been spliced together. Also, tighten the fence at each corner post as wires that have been spliced and are loose make poor connections.
5. Be sure to rake vegetation from under and around the outside of the fence as this may act as an insulator.
6. To improve the ground around the perimeter of the fence add a piece of 24 inch chicken wire laying on the ground around the outside of the fence. This should be connected to ground.
7. During periods of drought pour water down the ground pipe and around the ground pipe to improve the ground. Digging a 6 inch deep 6 inch diameter hole around the ground pipe and back filling with rock salt will also improve the ground. Additional ground pipes may also be added to portions of the fence farthest from the charger.
8. To ensure that the bear solidly contacts the charged portion of the fence, a bait like bacon strips, a can of sardines, or tin foil with peanut butter may be attached

to one of the top hot wires. Make sure these do not contact the ground, thus shorting out the fence.

9. When protecting a specific structure (like a shed or rabbit hutch), the fence should be placed 3 to 5 feet away from the structure (rather than on it) so that the bear encounters the fence before reaching the attractant.

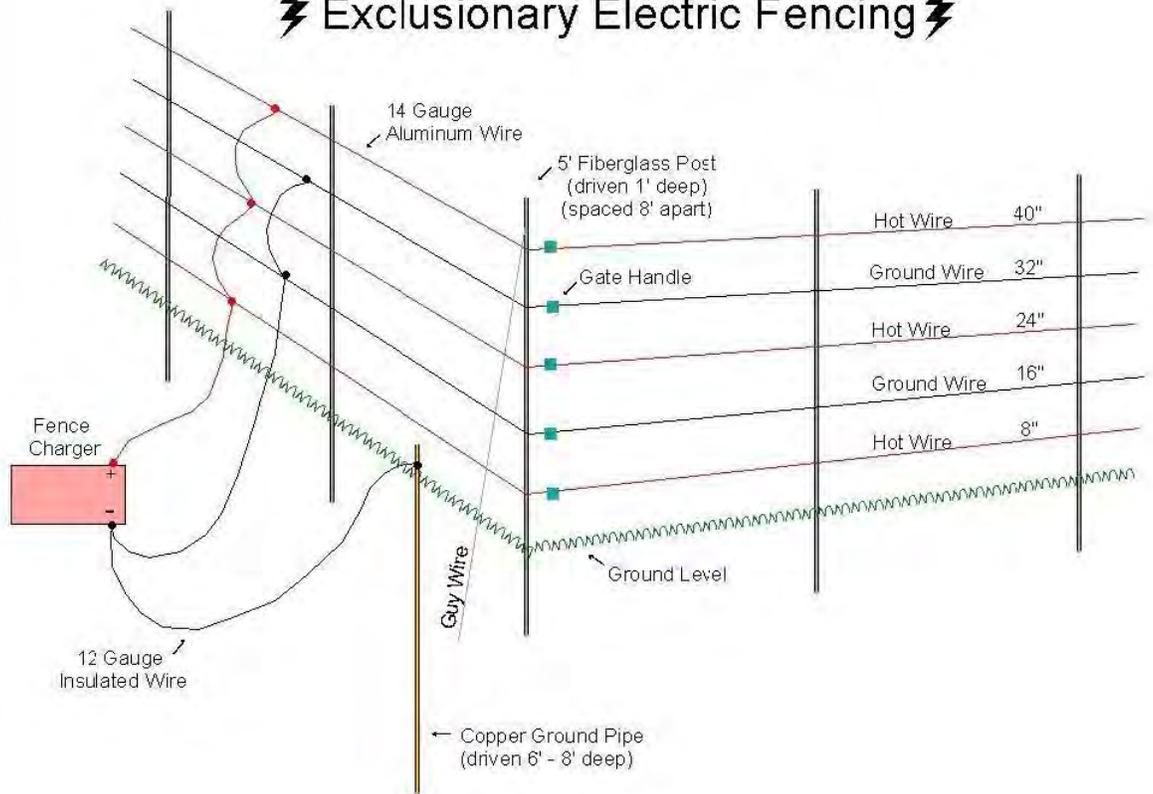
10. Protect the fence charger from the elements by covering it with a plastic bucket or a wooden box.

11. Place plastic electric fence signs around the perimeter of your fence to improve visibility and to warn other people.

LITERATURE CITED

FitzGerald, James (1984), *The Best Fences*. Storey Publishing Bulletin A-92, Pownal, Vermont. p. 14-16.

⚡ Exclusionary Electric Fencing ⚡



AGREEMENT ATTACHMENT 2

Place Holder for Map

Of

Apiary Locations

At

WMA/WEA

APIARY SITE APPLICATION FORM

**Florida Fish and Wildlife
Conservation Commission**

RETURN TO: The Florida Fish and Wildlife Conservation Commission, 620 South Meridian Street,
Tallahassee, FL 32399-1600. Please print or type all information. Attach additional sheets if necessary.

Florida Fish and Wildlife Conservation Commission | Lake Tohopekaliga Islands Complex
Management Plan

Name _____ Telephone Number _____

Mailing Address _____

City or Town _____ County _____ Zip Code _____

Physical Address (If Different from Mailing Address)

Company Name:

Email Address

Requested Wildlife Management or Wildlife and Environmental Area(s)(see attached list of WMA/WEAs with apiary sites):

WMA/WEA _____ County _____ # of Sites _____

WMA/WEA _____ County _____ # of Sites _____

WMA /WEA _____ County _____ # of Sites _____

WMA /WEA _____ County _____ # of Sites _____

Planned Number of Hives Per Site: _____ Permanent: ____ Seasonal: _____

Member of Beekeepers Association: Yes ____ No ____

Number of Years a Member _____

Name of Beekeepers Association: _____

Are you registered with Florida Department of Agriculture and Consumer Services/Division of Plant Industry (FDACS/DPI): _____ Yes _____ No _____ N/A If yes, please provide proof.

Are you current with any and all special inspection fees: _____ Yes _____ No _____ N/A. If yes, please provide proof.

Do you follow all recommended Best Management Practices from FDACS/DPI?: _____ Yes _____ No

If no, then please explain on a separate piece of paper.

Please provide below a chronological history of your beekeeping experience. If you need more space, please provide additional sheets:

References: If a new apiary contractor, please provide on a separate piece of paper at least 3 references who can verify your apiary experience. Provide each reference's name, address, phone number and email address (if applicable). Please attach reference sheet to this document and submit.

MISSION STATEMENT

Management

Of

Florida Fish and Wildlife Conservation Commission's

Wildlife Management Areas

And

Wildlife and Environmental Areas

The mission of the Florida Fish and Wildlife Conservation Commission (FWC) is to manage fish and wildlife resources for their long-term well-being and the benefit of the people. To aid in accomplishing this mission, one of FWC's management goals is to manage fire-adapted natural communities on our Wildlife Management and Environmental Areas (WMA/WEA) to support healthy populations of the plants and animal's characteristic of each natural community. In order to achieve this goal various habitat management techniques are used. These include prescribed burning, applications of herbicides and mechanical treatment of vegetation. These management efforts will take place at various times and locations on each of the FWC's WMA/WEAs. Staff on each WMA/WEA will work with and make users aware of these activities when necessary. Users must be aware and accept that these activities are necessary for the proper management of the area.

Note: This document is included as an attachment with each Application and executed Contract.

FDACS/DPI's BMP

Florida Department of Agriculture & Consumer Services

BEST MANAGEMENT PRACTICES FOR

MAINTAINING EUROPEAN HONEY BEE COLONIES

1. Beekeepers will maintain a valid registration with the Florida Department of Agriculture and Consumer Services/Division of Plant Industry (FDACS/DPI), and be current with any and all special inspection fees.
2. A Florida apiary may be deemed as European Honey Bee with a minimum 10% random survey of colonies using the FABIS (Fast African Bee Identification System) and/or the computer-assisted morphometric procedure (i.e., Universal system for the detection of Africanized Honey Bees (AHB) (USDA-ID) or other approved methods by FDACS on a yearly basis or as requested.
3. Honey bee colony divisions or splits should be queened with production queens or queen cells from EHB breeder queens following Florida's Best Management Practices.
4. Florida beekeepers are discouraged from collecting swarms that cannot be immediately re-queened from EHB queen producers.
5. Florida Beekeepers should practice good swarm-prevention techniques to prevent an abundance of virgin queens and their ready mating with available AHB drones that carry the defensive trait.
6. Maintain all EHB colonies in a strong, healthy, populous condition to discourage usurpation (take over) swarms of AHB.
7. Do not allow any weak or empty colonies to exist in an Apiary, as they may be attractive to AHB swarms.
8. Recommend re-queening with European stock every six months unless using marked or clipped queens and having in possession a bill of sale from an EHB Queen Producer.
9. Immediately re-queen with a European Queen if previously installed clipped or marked queen is found missing.
10. Maintain one European drone source colony (250 square inches of drone comb) for every 10 colonies in order to reduce supercedure queens mating with AHB drones.
11. To protect public safety and reduce beekeeping liability, do not site apiaries in proximity of tethered or confined animals, students, the elderly, general public, drivers on public roadways, or visitors where this may have a higher likelihood of occurring.

12. Treat all honey bees with respect.

RANDOM
SELECTION PROCESS
FOR VACANT APIARY SITE

When an apiary site becomes available the following procedure is used to randomly select the next apiarist (beekeeper) for an available apiary site on a WMA or WEA. Only those who have been evaluated and deemed qualified to be an apiarist on a WMA/WEA through the Apiary Application process will be eligible for this selection process. The steps below will be followed by the THCR Contract Manager when a site becomes available to be filled by a qualified apiarist:

1. The THCR Contract Manager will maintain an “Apiary Wait List Folder” on the THCR SharePoint for each WMA/WEA with apiary sites.
2. A wait list is either created or updated when an Apiary Application(s) is received by the THCR Contract Manager from a qualified apiarist.
3. Upon receipt of an apiary site application, the THCR Contract Manager will review the WMA/WEA folder to see if there is an “Apiary Wait List”.
4. If a list exists then the qualified applicant will be added to the list.
5. When an apiary site becomes available if there are more than one qualified apiarist then these apiarists will be contacted by certified letter to determine their interest.
6. The letter will request a response within 10 working days to make them eligible for the random drawing.
7. If there is no response or is negative then that apiarist will not be included in the random drawing and the name will be removed from the waiting list*.
8. If only one apiarist responds positively to the certified letter then the available site will be awarded to that interested apiarist.

9. If there are no apiarists on a wait list or all responses are negative then apiarists who currently have site(s) under Agreement and where not on the waiting list will be contacted to see if any have interest in the available site. If more than one responds then the random drawing process will be used to determine who will be awarded the site.
10. Steps to be performed by the THCR Contract Manager to execute the random selection for an available apiary site are listed below:
 - a. The names of each interested apiarist will be noted on a 1" X 2" piece of paper and folded in half.
 - b. The pieces of paper will be inserted into a "black film canister" which has a snap top and placed into a container and stirred up prior to the selection.
 - c. A non-biased person will be selected to reach into the bowl (which will be held above the selection person's eyesight) and randomly select one of the canisters.
 - d. The canister will be opened by the person performing the selection and the name is read aloud for those in attendance. Everyone in attendance will sign a witness sheet.
 - e. The apiarist whose name is selected will be awarded the available site.
 - f. A new Agreement will be developed by the THCR Contract Manager.

*A new apiary application must be submitted once requestor's name is removed from a waiting list.

12.10 Management Procedures Guidelines - Management of Archaeological and Historical Resources

Management Procedures for Archaeological and Historical Sites and Properties on State-Owned or Controlled Properties (revised March 2013)

These procedures apply to state agencies, local governments, and non-profits that manage state-owned properties.

A. General Discussion

Historic resources are both archaeological sites and historic structures. Per Chapter 267, Florida Statutes, *'Historic property' or 'historic resource' means any prehistoric district, site, building, object, or other real or personal property of historical, architectural, or archaeological value, and folklife resources. These properties or resources may include, but are not limited to, monuments, memorials, Indian habitations, ceremonial sites, abandoned settlements, sunken or abandoned ships, engineering works, treasure trove, artifacts, or other objects with intrinsic historical or archaeological value, or any part thereof, relating to the history, government, and culture of the state.'*

B. Agency Responsibilities

Per State Policy relative to historic properties, state agencies of the executive branch must allow the Division of Historical Resources (Division) the opportunity to comment on any undertakings, whether these undertakings directly involve the state agency, i.e., land management responsibilities, or the state agency has indirect jurisdiction, i.e. permitting authority, grants, etc. No state funds should be expended on the undertaking until the Division has the opportunity to review and comment on the project, permit, grant, etc.

State agencies shall preserve the historic resources which are owned or controlled by the agency.

Regarding proposed demolition or substantial alterations of historic properties, consultation with the Division must occur, and alternatives to demolition must be considered.

State agencies must consult with Division to establish a program to location, inventory and evaluate all historic properties under ownership or controlled by the agency.

C. Statutory Authority

Statutory Authority and more in depth information can be found at:

<http://www.flheritage.com/preservation/compliance/guidelines.cfm>

D. Management Implementation

Even though the Division sits on the Acquisition and Restoration Council and approves land management plans, these plans are conceptual. Specific information regarding individual projects must be submitted to the Division for review and recommendations.

Managers of state lands must coordinate any land clearing or ground disturbing activities with the Division to allow for review and comment on the proposed project. Recommendations may include, but are not limited to: approval of the project as submitted, cultural resource assessment survey by a qualified professional archaeologist, modifications to the proposed project to avoid or mitigate potential adverse effects.

Projects such as additions, exterior alteration, or related new construction regarding historic structures must also be submitted to the Division of Historical Resources for review and comment by the Division's architects. Projects involving structures fifty years of age or older, must be submitted to this agency for a significance determination. In rare cases, structures under fifty years of age may be deemed historically significant. These must be evaluated on a case by case basis.

Adverse impacts to significant sites, either archaeological sites or historic buildings, must be avoided. Furthermore, managers of state property should make preparations for locating and evaluating historic resources, both archaeological sites and historic structures.

E. Minimum Review Documentation Requirements

In order to have a proposed project reviewed by the Division, certain information must be submitted for comments and recommendations. The minimum review documentation requirements can be found at: http://www.flheritage.com/preservation/compliance/docs/minimum_review_documentation_requirements.pdf.

* * *

Questions relating to the treatment of archaeological and historic resources on state lands should be directed to:

Deena S. Woodward

Division of Historical Resources

Bureau of Historic Preservation

Compliance and Review Section

R. A. Gray Building

500 South Bronough Street

Tallahassee, FL 32399-0250

Phone: (850) 245-6425

Toll Free: (800) 847-7278

Fax: (850) 245-6435

12.11 Land Management Uniform Accounting Council Categories

Land Management Uniform Cost Accounting Council

Uniform Land Management Cost Categories and Subcategories

1. Resource Management

- a. Exotic Species Control. -- Invasive exotic plant and animal removal activities and costs for inventorying, planning, preparing, executing, evaluating, monitoring and reporting. Also includes equipment, chemicals, protective clothing and supplies. Includes nuisance native feral animal and plant control.
- b. Prescribed Burning. -- Prescribed burning activities and costs for assessing, planning, preparing, executing, evaluating and reporting. Also includes equipment, protective clothing and supplies.
- c. Cultural Resource Management. -- Management activities and costs for assessing, planning, executing, evaluating and reporting, and for all maintenance, restoration or monitoring activities for prehistoric and historic sites, features and collection objects.
- d. Timber Management. -- Activities and costs related to the establishment of a stand of potentially merchantable timber, harvest of merchantable timber, and cultural treatments intended primarily to improve the growth and overall health of a stand of merchantable timber. Also includes activities and costs related to the cutting of merchantable timber in natural community and habitat restoration projects.
- e. Hydrological Management. -- Hydrological management and restoration activities and costs for assessing, monitoring, planning, preparing, executing, evaluating and reporting. Includes water level management, repair, removal or back-filling of ditches, canals, berms and dams. Also includes water quality and water quantity monitoring.
- f. Other. -- All other resource management activities and costs not captured in other specific subcategories. Examples include natural community and habitat restoration through other techniques; plant, animal or biological community survey, monitoring and research; listed species management; technical assistance; and evaluating and commenting on resource impacts to parks.

2. Administration

- a. Central Office/Headquarters. -- Headquarters units conducting general administration of land under management by the agency. Includes upper management direction, administration and fiscal, budget, personnel, purchasing and record keeping required for operations oversight and specific programs. Includes all duties unless they specifically relate to other categories or subcategories.
- b. Districts/Regions. -- Sub-state administrative districts or regions conducting general administration of the properties under their management. Includes all duties, unless they specifically relate to other categories or subcategories. General operating costs of district or region administrative facilities are included.
- c. Units/Projects. -- Conducting general administration duties at a specific management unit (state park, state forest, state wildlife management area, etc.). Includes supervisory duties, fiscal and record keeping duties, and any other duties that do not specifically relate to other categories or subcategories. General operating costs for the property, such as utilities, telephones and garbage collection, are included.

3. Support

- a. Land Management Planning. -- Developing land management plans required by Sec. 253.034, F.S. Includes researching and compiling plan information, materials and maps, coordinating planning activities, conducting review activities (internal reviews, public meetings, advisory group meetings, ARC, etc.), and promulgating draft plans and final plans.
- b. Land Management Reviews. -- Planning, organizing and conducting land management reviews by teams created under Sec. 259.036, F.S. Includes preparing and responding to land management review reports. Also includes similar work conducted as part of internal agency land management reviews.
- c. Training/Staff Development. -- Staff training and development costs incurred in any facet of the agency's land management activities.
- d. Vehicle Purchase. -- Acquisition of any vehicle purchased primarily for land management purposes or to support any category of land management activity by the agency.
- e. Vehicle Operation and Maintenance. -- Costs of operating and upkeep of any vehicle used by the agency to support any category of land management activity.
- f. Other. -- Any other support activity or cost not captured by other categories or subcategories.

4. Capital Improvements

- a. New Facility Construction. -- Use of Fixed Capital Outlay (FCO) or other budget authority for all new facility design and construction activities. Includes new roads, parking and all other infrastructure.
- b. Facility Maintenance. -- Use of Fixed Capital Outlay (FCO) or other budget authority for all repairs or renovations to existing facilities, roads or other infrastructure. Also includes ADA accessibility improvements and renovations.

5. Visitor Services/Recreation

- a. Information/Education Programs. -- Interpretive, environmental education and marketing programs that explain or promote the agency's mission or instill in visitors an understanding and appreciation for Florida's natural and cultural resources and their proper use and care. Includes signs, brochures, maps and other public information materials that are produced or disseminated.
- b. Operations. -- Includes the non-administrative and non-support costs involved in providing public access to lands. Includes all actions required to manage visitor activities in a way to ensure safe and enjoyable use by the public. Includes routine maintenance, cleaning and other work required to provide safe and efficient utilization of facilities and resources that support visitor use and recreation. Includes protection activities required by staff to safeguard natural and cultural resources, facilities, material, staff and visitors.

6. Law Enforcement

The provision of all activities for enforcing criminal, conservation and boating laws on land, freshwater and marine environments and all costs associated with these services. Includes the provision of uniform patrol. Includes overt and covert criminal investigations. Includes regulation of commercial wildlife trade. Also includes the direction and administration of all law enforcement programs and activities, and all associated costs.

Land Management Uniform Accounting Council and FWC Activity Code Groupings

Resource Management

Exotic Species Control

- 210 Exotic species control
- 211 Exotic plant control (mechanical)
- 212 Exotic plant control (chemical)

Prescribed Burning

- 205 Prescribed burning
- 206 Prescribed burning C growing season (April 1 to September 30)
- 207 Prescribed burning C dormant season (October 1 to March 31)
- 208 Firebreaks

Cultural Resource Management

- 201 Cultural resource management

Timber Management

- 202 Timber management

Hydrological Management

- 215 Hydrology management
- 216 Dams, dikes, levees
- 217 Canals
- 218 Water level management
- 194 Lake restoration

Other

- 185 GIS
- 186 Biometrics
- 200 RESOURCE MANAGEMENT
- 203 Tree and shrub planting
- 213 Wildlife management
- 214 Listed Species management
- 219 Upland restoration
- 282 Herbaceous seeding
- 283 Clearings
- 289 Native vegetation management (mechanical)
- 290 Native vegetation management (chemical)
- 221 Animal surveys
- 228 Inland aerial surveys
- 235 Vegetation and plant surveys
- 250 MONITORING AND ASSESSMENTS
- 252 Biomedical monitoring
- 253 Ecological monitoring
- 256 Habitat monitoring analysis
- 263 Nest box monitoring
- 264 Population demographics

- 295 Biological data collection, analysis, and reporting
- 275 Permits and authorizations
- 276 Commission rule development and review
- 277 Relocation
- 278 CITES tags
- 281 Other resource management
- 284 Feeding/watering
- 285 Nest structures
- 286 Population control
- 287 Stocking enhancements/population augmentation
- 288 Nuisance animal complaints
- 293 Mortality investigations
- 294 Program coordination and implementation C inter- and intra-agency coordination and program implementation at the section, bureau, or division level
- 296 Habitat protection technical assistance
- 750 URTD assessment
- 789 Site Preparation – GCR
- 790 Irrigation – GCR
- 791 Seed Collection – Hand
- 792 Seed Collection – Mechanical
- 793 Herbicide Maintenance Treatment

Administration

Central Office/Headquarters

- 100 ADMINISTRATION C administrative tasks, including preparation of forms, word processing, photocopying, filing, and other clerical/secretarial duties.
- 104 Budget/purchasing/accounting

Districts/Regions

See Location code

Units/Projects

See Location code

Support

Land Management Planning

- 103 Meetings C includes workshops, conferences, staff, and other meetings.
- 204 Resource planning

Land Management Reviews

- 209 Land Management Reviews
- 101 Project inspection C field inspections of projects.

Training/Staff Development

150 PERSONNEL MANAGEMENT C recruitment, hiring, training, counseling, and supervising.

Vehicle Purchase

128 New Vehicle and Equipment Purchase
Vehicle Operation and Maintenance

923 FEM C vehicles/equipment

Other

140 REPORT WRITING/EDITING/MANUSCRIPT PREPARATION
141 Grant applications
180 SYSTEMS ADMINISTRATION AND MANAGEMENT
182 Data management
184 Metadata development and management
187 IT
188 Web development
721 Geospatial analysis techniques
191 Stamp design coordination
226 Human dimensions surveys

Capital Improvements

New Facility Construction

910 New facility construction C buildings/structures
912 New construction C roads/bridges
913 New construction C trails
914 New construction C fences

Facility Maintenance

920 Facility and equipment maintenance (FEM) C buildings/structures
921 FEM C utilities
922 FEM C custodial functions
925 FEM C boating access
926 FEM C roads/bridges
927 FEM C trails
928 FEM C fences

Visitor Services/Recreation

Information/Education Programs

145 Technical bulletin

Operations

311 Boundary signs
312 Informational signs
320 Outreach and education C attending or developing educational or informational materials or events for the public
327 Becoming an Outdoor Woman C enhancement
331 Wings Over Florida
339 Range safety operations
341 Public use administration (hunting)
342 Public use administration (non-hunting)

- 350 Customer service support C disseminating written or verbal information or assistance to the public
- 700 STUDIES
- 740 EVALUATIONS AND ASSESSMENTS

Law Enforcement

FWC Activity Code Numeric Listing

- 100 ADMINISTRATION C administrative tasks, including preparation of forms, word processing, photocopying, filing, and other clerical/secretarial duties.
- 101 Project inspection C field inspections of projects.
- 103 Meetings C includes workshops, conferences, staff, and other meetings.
- 104 Budget/purchasing/accounting
- 128 New Vehicle and Equipment Purchase
- 140 REPORT WRITING/EDITING/MANUSCRIPT PREPARATION
- 141 Grant applications
- 145 Technical bulletin
- 150 PERSONNEL MANAGEMENT C recruitment, hiring, training, counseling, and supervising.
- 180 SYSTEMS ADMINISTRATION AND MANAGEMENT
- 182 Data management
- 184 Metadata development and management
- 185 GIS
- 186 Biometrics
- 187 IT
- 188 Web development
- 191 Stamp design coordination
- 194 Lake restoration
- 200 RESOURCE MANAGEMENT
- 201 Cultural resource management
- 202 Timber management
- 203 Tree and shrub planting
- 204 Resource planning
- 205 Prescribed burning
- 206 Prescribed burning C growing season (April 1 to September 30)
- 207 Prescribed burning C dormant season (October 1 to March 31)
- 208 Firebreaks
- 209 Land Management Reviews
- 210 Exotic species control
- 211 Exotic plant control (mechanical)
- 212 Exotic plant control (chemical)

213	Wildlife management
214	Listed Species management
215	Hydrology management
216	Dams, dikes, levees
217	Canals
218	Water level management
219	Upland restoration
221	Animal surveys
226	Human dimensions surveys
228	Inland aerial surveys
235	Vegetation and plant surveys
250	MONITORING AND ASSESSMENTS
252	Biomedical monitoring
253	Ecological monitoring
256	Habitat monitoring analysis
263	Nest box monitoring
264	Population demographics
275	Permits and authorizations
276	Commission rule development and review
277	Relocation
278	CITES tags
281	Other resource management
282	Herbaceous seeding
283	Clearings
284	Feeding/watering
285	Nest structures
286	Population control
287	Stocking enhancements/population augmentation
288	Nuisance animal complaints
289	Native vegetation management (mechanical)
290	Native vegetation management (chemical)
293	Mortality investigations
294	Program coordination and implementation C inter- and intra-agency coordination and program implementation at the section, bureau, or division level
295	Biological data collection, analysis, and reporting
296	Habitat protection technical assistance
311	Boundary signs
312	Informational signs
320	Outreach and education C attending or developing educational or informational materials or events for the public
327	Becoming an Outdoor Woman C enhancement
331	Wings Over Florida
339	Range safety operations
341	Public use administration (hunting)

- 342 Public use administration (non-hunting)
- 350 Customer service support C disseminating written or verbal information or assistance to the public
- 700 STUDIES
- 721 Geospatial analysis techniques 740 EVALUATIONS AND ASSESSMENTS
- 750 URTD assessment
- 789 Site Preparation – GCR
- 790 Irrigation – GCR
- 791 Seed Collection – Hand
- 792 Seed Collection – Mechanical
- 793 Herbicide Maintenance Treatment
- 910 New facility construction C buildings/structures
- 912 New construction C roads/bridges
- 913 New construction C trails
- 914 New construction C fences
- 920 Facility and equipment maintenance (FEM) C buildings/structures
- 921 FEM C utilities
- 922 FEM C custodial functions
- 923 FEM C vehicles/equipment
- 925 FEM C boating access
- 926 FEM C roads/bridges
- 927 FEM C trails
- 928 FEM C fences

12.12 Arthropod Control Plan



ADAM H. PUTNAM
COMMISSIONER

Florida Department of Agriculture and Consumer Services
Division of Agricultural Environmental Services

ARTHROPOD MANAGEMENT PLAN - PUBLIC LANDS

Section 388.4111, F.S.
Telephone: (850) 617-7995

Return to:

Mosquito Control Program
3125 Conner Blvd, Bldg 6,
Tallahassee, Florida 32399-1650

For use in documenting an Arthropod Control Plan for lands designated by the State of Florida or any political subdivision thereof as being environmentally sensitive and biologically highly productive therein. Fill this form out if control work is necessary or planned.

Name of Designated Land: Lake Tohopekaliga Islands Complex including Makinson and Paradise Island

Is Control Work Necessary: Yes No

Location: Osceola County

Land Management Agency: Florida Fish and Wildlife Conservation Commission

Are Arthropod Surveillance Activities Necessary? Yes No
If "Yes", please explain:

Which Surveillance Techniques Are Proposed?
Please Check All That Apply: N/A

- Landing Rate Counts
- Light Traps
- Sentinel Chickens
- Citizen Complaints
- Larval Dips
- Other

If "Other", please explain: N/A

Arthropod Species for Which Control is Proposed: N/A

Proposed Larval Control: N/A

Proposed larval monitoring procedure:

Are post treatment counts being obtained: Yes No

Biological Control of Larvae:

Might predacious fish be stocked: Yes No

Other biological controls that might be used: N/A

Material to be Used for Larvaciding Applications: N/A

(Please Check All That Apply:) N/A

Bti

Bs

Methoprene

Non-Petroleum Surface Film

Other, please specify:

Please specify the following for each larvacide: N/A

Chemical or Common name: N/A

Ground Aerial

Rate of application: N/A

Method of application: N/A

Proposed Adult Mosquito Control:

- Aerial adulticiding Yes No
- Ground adulticiding Yes No

Please specify the following for each adulticide: N / A

Chemical or common name:

Rate of application:

Method of application:

Proposed Modifications for Public Health Emergency Control: In the event of a declared public health emergency, control may be performed by the arthropod control agency, as part of a larger treatment plan to safeguard public health. Land managers of the area will be notified prior to treatment.

Proposed Notification Procedure for Control Activities:

Manager of the area will be notified by e-mail when treatment of the area will occur. The notice should include a map of the area being treated, the material to be used and the general time of day the treatment will occur.

Records:

Are records being kept in accordance with Chapter 388, F.S.:

- Yes No

Records Location:

How long are records maintained:

Vegetation Modification:

What trimming or altering of vegetation to conduct surveillance or treatment is proposed?

None

Proposed Land Modifications:

Is any land modification, i.e., rotary ditching, proposed:

None

Include proposed operational schedules for water fluctuations:

None

List any periodic restrictions, as applicable, for example peak fish spawning times.

None

Proposed Modification of Aquatic Vegetation:

None

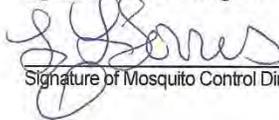
Land Manager Comments:

Arthropod Control Agency Comments:

David B.
Johnson

Digitally signed by David B. Johnson
DN: cn=David B. Johnson, o, ou,
email=David.Johnson@MyFWC.com,
c=US
Date: 2017.11.09 16:09:47 -05'00'

Signature of Lands Manager or Representative Date

 11-7-2017

Signature of Mosquito Control Director / Manager Date

12.13 Osceola County Letter of Compliance with Local Government Comprehensive Plan



**DEPARTMENT OF
COMMUNITY
DEVELOPMENT**

Dave Tomek
Administrator

Joe Johnston
Deputy Administrator

Susan E. Caswell, AICP
Assistant Administrator

Robert Deatherage
Building Official

Ken Brown
Customer Care Director

Mahmoud Najda P.E.
Development Review
Director

Kerry Godwin, AICP
Planning & Design
Director

Kelly Haddock
Current Planning Director

**Osceola
County**

1 Courthouse Square
Suite 1100
Kissimmee, FL 34741
PH: (407) 742-0200
Fax: (407) 742-0206
www.osceola.org

January 5, 2018

David Alden
Florida Fish and Wildlife Conservation Commission
Bryant Building
620 South Meridian Street
Tallahassee, FL 32399-1600

Re: Lake Tohopekaliga Islands Complex Management Plan

Dear Mr. Alden:

This will confirm the receipt of your request to review the Lake Tohopekaliga Islands Complex Management Plan. Staff has reviewed the property use as a Wildlife Management Area for consistency with our Comprehensive Plan, Future Land Use designation, and Land Development Code as identified below.

Makinson Island parcel (032629000000100000)

Future Land Use: Conservation

Zoning: Agricultural Development and Conservation (AC)

Paradise Island parcel (342529464000010010)

Future Land Use: Conservation

Zoning: Agricultural Development and Conservation (AC)

Eastern shoreline parcel (262529314000050180)

Future Land Use: Institutional

Zoning: Institutional

Southwestern shoreline parcels
(092629551100010020, 092629551100010010)

Future Land Use: Low Density Residential

Zoning: E-1A (Low Density Residential preceding zoning designation)

As a Wildlife Management Area, the identified parcels are consistent with the Future Land Use Map (FLUM) designation and Zoning designation of the corresponding parcel.

We appreciate the opportunity to be of service. If you need further assistance, please contact me at 407-742-0200.

Sincerely,



Kerry Godwin, RLA, AICP
Planning & Design Director

KG/CH

Cc:

Bob Mindick, Public Lands Manager (via email)

Cori Carpenter, Principal Planner (via email)

Melissa Dunklin, Senior Planner (via email)

Caroline Horton, Planner II (via email)