Land Management Plan Compliance Checklist

Required for State–owned conservation lands over 160 acres (Updated July 2025)

Instructions for managers: Complete each item and fill in the applicable correlating page numbers and/or appendix where the item can be found within the land management plan (LMP). If an item does not apply to the subject property, please describe that fact on a correlating page number of the LMP. Do not mark an "N/A" for any items below. For more information, please visit the stewardship portion of the Division of State Lands' website at: http://floridadep.gov/lands/environmental–services/content/land–stewardship

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	Unit Management Plan– Introduction, Page 2
2	The land acquisition program, if any, under which the property was acquired.	18–2.018 & 18–2.021	Unit Management Plan– Introduction, Page 2
3	Degree of title interest held by the Board, including reservations and encumbrances such as leases.	18–2.021	Appendix – Land Acquisition History
4	The legal description and acreage of the property.	18–2.018 & 18–2.021	Appendix – Land Acquisition History
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	Unit Management Plan – Existing Facilities Map, Page 87
6	An **assessment** as to whether the property, or any portion, should be declared surplus. *Provide Information regarding **assessment and analysis** in the plan, and provide **corresponding map**.*	18–2.021	Statewide Philosophy and Framework – Surplus Lands, Page 8
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. *Please clearly indicate parcels on a map.*	18–2.021	Unit Management Plan – Optimum Boundary, Page 116
8	Identification of adjacent land uses that conflict with the planned use of the property, if any.	18–2.021	Unit Management Plan – Water Quantity Page 19
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	Statewide Philosophy and Framework – Management Authority and Responsibility, Page 5; Unit Management Plan – Introduction, Page 2
10	Proximity of property to other significant state, local or federal land or water resources.	18–2.021	Unit Management Plan – Land Use Component, Page 84

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	Unit Management Plan– Introduction, Page 2
12	A description of past and existing uses, including any unauthorized uses of the property.	18–2.018 & 18–2.021	Unit Management Plan– Introduction, Page 2
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	Unit Management Plan– Secondary and Incompatible Uses, Page 2
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	Statewide Philosophy and Framework – Management Coordination, Page 8
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	Statewide Philosophy and Framework – DHR Compliance Review, Page 17
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	Statewide Philosophy and Framework – Management Coordination and Contract Services, Page 8

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	Unit Management Plan– Introduction, Page 2
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	Statewide Philosophy and Framework – Management Authority and Responsibility. Page 5 Unit Management Plan – Introduction. Page 2
19	Letter of compliance from the local government stating that the LMP is in compliance with the Local Government Comprehensive Plan	BOT requirement	Appendix - Comprehensive Plan Compliance Review
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	Statewide Philosophy and Framework – Conservation of Soil Resources, Page 9; Unit Management Plan - Planned Natural Resource Conditions, Page 91
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 DRP, Lands are designated single use
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	Appendix- Timber Assessment
23	A statement regarding incompatible use in reference to Ch. 253.034(10).	253.034(10)	Unit Management Plan – Introduction - Secondary and Incompatible Uses, Page 2

*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	Statewide Philosophy and Framework – Stakeholder Engagement, Page 3
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	Appendix – Public and Inter–Agency Report
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. *Include the advisory group members and their affiliations, as well as the date and location of the advisory group meeting.*	259.032	Appendix – Public and Inter-Agency Report
27	Summary of comments and concerns expressed by the advisory group for parcels over 160 acres	18–2.021	Appendix – Public and Inter–Agency Report

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. *Include a copy of each County's advertisements and announcements (meeting minutes will suffice to indicate an announcement) in the management plan. Additionally, please include evidence the draft plan was provided to State Lands at least 30 days prior to the public meeting in order to allow the Department to post to it's website.*	253.034 & 259.032	Appendix – Public and Inter–Agency Report
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. *Include manager's replies to the team's findings and recommendations.*	259.036	Appendix – Land Management Review
30	Summary of comments and concerns expressed by the management review team, if required by Section 259.036, F.S.	18–2.021	Appendix – Land Management Review
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	Appendix – Land Management Review
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. *Use brief descriptions and include USDA maps when available.*	18–2.021	Unit Management Plan – Soils, Page 16
33	Insert FNAI based natural community maps when available.	ARC consensus	Unit Management Plan – Natural Communities, Page 23
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	Unit Management Plan – Existing Natural Resource Conditions, Page 5
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	Unit Management Plan – Existing Natural Resource Conditions, Page 23-25
36	Location and description of known and reasonably identifiable renewable and non–renewable resources of the property regarding beaches and dunes.	18–2.021	Unit Management Plan – Existing Natural Resource Conditions, Page 24-25 Regional Overview – Geology, Page 2
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	Unit Management Plan – Existing Natural Resource Conditions – Soils, Page 16 Regional Overview – Geology, Page 1
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	Unit Management Plan – Existing Natural Resource Conditions, Page 36
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	Unit Management Plan – Existing Natural Resource Conditions, Imperiled Species Page 36
40	The identification of resources on the property that are listed in the Natural Areas Inventory. *Include letter from FNAI or consultant where appropriate.*	18–2.021	Unit Management Plan – Natural Communities, Page 23
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	Statewide Philosophy and Framework – Management Authority and Responsibility, Page 5
42	**Habitat Restoration and Improvement**		

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.	259.032 & 253.034	Unit Management Plan – Planned Natural Resource Conditions, Page 91; Unit Management Plan – Planned Cultural Resource Conditions, Page 102
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.		Resource Management Implementation Table
42–C.	The associated measurable objectives to achieve the goals.		Unit Management Plan – Natural Communities Objectives, Page 91
42–D.	The related activities that are to be performed to meet the land management objectives and their associated measures. *Include fire management plans – they can be in plan body or an appendix*		Unit Management Plan – Natural Communities Objectives, Page 93
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.	259.032 & 253.034	Resource Management Implementation Table
43	***Quantitative data description of the land regarding an inventory of forest and other natural resources and associated acreage. *See footnote.*	253.034	Appendix – Timber Assessment
44	**Sustainable Forest Management, including implementation of prescribed fire management**		
44–A.	Management needs, problems and a desired outcome (see requirement for # 42–A).	18–2.021, 253.034 & 259.032	Statewide Philosophy and Framework – Prescribed Fire, Page 13; Appendix – Timber Assessment; Unit Management Plan – Natural Communities, Page 93
44–B.	Detailed description of both short and long–term management goals (see requirement for # 42–B).		Unit Management Plan – Natural Communities, Page 93; Statewide Philosophy and Framework– Natural Communities, Page 11
44–C.	Measurable objectives (see requirement for #42–C).		Unit Management Plan – Natural Communities Objectives, Page 93
44–D.	Related activities (see requirement for #42–D).		Unit Management Plan – Natural Communities Objectives, Page 93
44–E.	Budgets (see requirement for #42–E).		Resource Management Implementation Table
45	**Imperiled species, habitat maintenance, enhancement, restoration or population restoration**		
45–A.	Management needs, problems and a desired outcome (see requirement for # 42–A).	259.032 & 253.034	Unit Management Plan – Imperiled Species, Page 97
45–B.	Detailed description of both short and long–term management goals (see requirement for # 42–B).		Unit Management Plan – Imperiled Species Page 97; Statewide Philosophy and Framework – Imperiled Species, Page 14
45–C.	Measurable objectives (see requirement for #42–C).		Unit Management Plan – Imperiled Species, Page 97
45–D.	Related activities (see requirement for #42–D).		Unit Management Plan – Imperiled Species, Page 97
45–E.	Budgets (see requirement for #42–E).		Resource Management Implementation Table
45–F	Assess the feasibility of managing the lands > 40 contiguous acres as a recipient site for gopher tortoises consistent with rules of the Fish and Wildlife Conservation Commission, as prepared by the agency or cooperatively with a Fish and Wildlife Conservation Commission wildlife biologist.	259.105	Appendix – Gopher Tortoise Recipient Site Analysis

45–G	Economic feasibility of establishing a gopher tortoise recipient site, including the initial cost, recurring management costs and the revenue projections.	259.105	Appendix – Gopher Tortoise Recipient Site Analysis
46	***Quantitative data description of the land regarding an inventory of exotic and invasive plants and associated acreage. *See footnote.*	253.034	Statewide Philosophy and Framework– Invasive and Nuisance Species, Page 15
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	Statewide Philosophy and Framework – Arthropod Control Plan, Page 16; Appendix -- Arthropod Control Plans
48	**Exotic and invasive species maintenance and control**		
48–A.	Management needs, problems and a desired outcome (see requirement for # 42–A).	259.032 & 253.034	Unit Management Plan - Invasive Species. Page 99
48–B.	Detailed description of both short and long–term management goals (see requirement for # 42–B).		Unit Management Plan - Invasive Species. Page 99; Statewide Philosophy and Framework – Invasive and Nuisance Species Page 15
48–C.	Measurable objectives (see requirement for #42–C).		Unit Management Plan - Invasive Species. Page 99
48–D.	Related activities (see requirement for #42–D).		Unit Management Plan - Invasive Species. Page 99
48–E.	Budgets (see requirement for #42–E).		Resource Management Implementation Table
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. *If yes, provide a list of the appropriate managing agencies that have been notified of the proposed plan.*	18–2.018 & 18–2.021	Unit Management Plan – Introduction, Page 4
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	Unit Management Plan – Natural Communities, Page 23; Unit Management Plan – Introduction, Page 4 Regional Overview – Geology, Page 4
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	Unit Management Plan – Natural Communities, Page 23
52	***Quantitative description of the land regarding an inventory of hydrological features and associated acreage. *See footnote.*	253.034	Unit Management Plan – Natural Communities, Page 23; Unit Management Plan – Introduction, Page 4; Unit Management Plan – Hydrology, Page 16
53	**Hydrological Preservation and Restoration**		
53–A.	Management needs, problems and a desired outcome (see requirement for # 42–A).	259.032 & 253.034	Unit Management Plan – Hydrology Objectives, Page 91
53–B.	Detailed description of both short and long–term management goals (see requirement for # 42–B).		Unit Management Plan – Hydrology Objectives, Page 91
53–C.	Measurable objectives (see requirement for #42–C).		Unit Management Plan – Hydrology Objectives, Page 91
53–D.	Related activities (see requirement for #42–D).		Unit Management Plan – Hydrology Objectives, Page 91
53–E.	Budgets (see requirement for #42–E).		Resource Management Implementation Table
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. *Include maps of all cultural resources except Native American sites, unless such sites are major points of interest that are open to public visitation.*	18–2.018, 18–2.021 & per DHR's request	Unit Management Plan— Cultural Resources, Page 59
55	***Quantitative data description of the land regarding an inventory of significant land, cultural or historical features and associated acreage	253.034	Unit Management Plan— Cultural Resources, Page 59
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	Unit Management Plan – Cultural Resources, Page 103; Statewide Philosophy and Framework – Cultural Resources – Page 16
57	**Cultural and Historical Resources**		
57–A.	Management needs, problems and a desired outcome (see requirement for # 42–A).	259.032 & 253.034	Unit Management Plan – Cultural Resources, Page 102
57–B.	Detailed description of both short and long–term management goals (see requirement for # 42–B).		Unit Management Plan – Cultural Resources, Page 102
57–C.	Measurable objectives (see requirement for #42–C).		Unit Management Plan – Cultural Resources, Page 102
57–D.	Related activities (see requirement for #42–D).		Unit Management Plan – Cultural Resources, Page 102; Statewide Philosophy and Framework– Cultural Resources, Page 16
57–E.	Budgets (see requirement for #42–E).		Resource Management Implementation Table

**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. *See footnote.*	253.034	Unit Management Plan – Existing Facilities and Infrastructure, Page 83
59	**Capital Facilities and Infrastructure**		
59–A.	Management needs, problems and a desired outcome (see requirement for # 42–A).	259.032 & 253.034	Unit Management Plan – Conceptual Land Use Plan, Page 106
59–B.	Detailed description of both short and long–term management goals (see requirement for # 42–B).		Unit Management Plan – Conceptual Land Use Plan, Page 106; Statewide Philosophy and Framework – Facilities and Infrastructure, Page 18
59–C.	Measurable objectives (see requirement for #42–C).		Unit Management Plan – Conceptual Land Use Plan, Page 106
59–D.	Related activities (see requirement for #42–D).		Unit Management Plan – Conceptual Land Use Plan, Page 106
59–E.	Budgets (see requirement for #42–E).		Capital Facilities and Interpretation Implementation Table
60	*** Quantitative data description of the land regarding an inventory of recreational facilities and associated acreage	253.034	Unit Management Plan – Existing Facilities and Infrastructure, Page 83
61	**Public Access and Recreational Opportunities**		
61–A.	Management needs, problems and a desired outcome (see requirement for # 42–A).		Unit Management Plan – Conceptual Land Use Plan, Page 106
61–B.	Detailed description of both short and long–term management goals (see requirement for # 42–B).		Unit Management Plan – Conceptual Land Use Plan,

		259.032 & 253.034	Page 106; Statewide Philosophy and Framework – Facilities and Infrastructure, Page 18
61–C.	Measurable objectives (see requirement for #42–C).		Unit Management Plan – Conceptual Land Use Plan, Page 106
61–D.	Related activities (see requirement for #42–D).		Unit Management Plan – Conceptual Land Use Plan, Page 106
61–E.	Budgets (see requirement for #42–E).		Capital Facilities and Interpretation Implementation Table

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	Compliance Checklist
63	Place the Executive Summary at the front of the LMP. Include a physical description of the land.	ARC and 253.034	Unit Management Plan – Executive Summary
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	Unit Management Plan – Introduction, Page 4
65	Key management activities necessary to achieve the desired outcomes regarding other appropriate resource management	259.032	Unit Management Plan – Introduction, Page 6
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	Resource Management Implementation Table; Capital Facilities and Interpretation Implementation Table
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	RMC Implementation Table; Capital Facilities and Interpretation Implementation Table
68	A statement of gross income generated net income and expenses.	18–2.018	Unit Management Plan – Land Use Component, Page 83

*** = 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.

CHARLOTTE HARBOR PRESERVE STATE PARK
Unit Management Plan

CHARLOTTE HARBOR REGION

TABLE OF CONTENTS

Charlotte Harbor Preserve State Park

Unit Management Plan

Charlotte Harbor Preserve State Park

Planning Region: Charlotte Harbor

County: Lee and Charlotte

Lease/Management Agreement Number: 4085/4134

Overview: Charlotte Harbor Preserve State Park protects more than 100 miles of shoreline along Charlotte Harbor in Charlotte and Lee counties that buffer the five surrounding Aquatic Preserves: Pine Island Sound, Matlacha Pass, Gasparilla Sound–Charlotte Harbor, Cape Haze, and Lemon Bay. Additionally, the park provides access for passive resource-based recreation.

Total Acreage: 45,507.16

Natural Communities	Acres
Depression Marsh	57.25
Estuarine Tidal Swamp	26,676.66
Estuarine Unconsolidated Substrate	2,083.59
Hydric Hammock	2,102.52
Mesic Hammock	187.17
Mesic Flatwoods	4,123.82
Salt Marsh	8,149.49
Scrub	138.62
Scrubby Flatwoods	864.48
Shell Mound	19.21
Unmapped Natural Community	56.09
Wet Flatwoods	488.60
Wet Prairie	25.62

Altered Land Cover	Acres
Abandoned Field/Abandoned Pasture	82.13
Borrow Area	10.78
Canal/Ditch	134.91
Clearing/Regeneration	2.02
Developed	14.27
Pine Plantation	23.76
Spoil Area	186.24

Acquisition: Charlotte Harbor Preserve State Park was initially acquired on December 7, 1977, with Environmentally Endangered Lands Trust Fund (EELTF) funds.

Planned Natural Resource Conditions

Hydrology

- Continue to cooperate with other state and federal agencies and independent researchers regarding hydrological research, assessments, and monitoring programs.
- Continue to pursue and support hydrologic studies and water budget models for all areas of the park.
- Continue to cooperate with other local and state agencies to monitor potential impacts from Chiquita boat lock and Ceitus boat lift removals.
- Complete Phase III Coral Creek restoration project which includes creation of 11.5 acres of wetlands and 2.9 acres of fish nurseries.
- Install 18 low water crossings on Cape Haze Mine parcel.
- Identify additional needs for and install low water crossings, bridges and culverts parkwide.
- Identify an area along the Yucca Pens creek for a low water crossing, potentially partnering with Lee 20/20.

Natural Communities

- Develop/update annual burn plan for the preserve.
- Develop a comprehensive fire management plan for the preserve.
- Conduct prescribed fire on 2,153 – 6,503 acres annually.
- Develop/update a site-specific restoration plan converting 44 acres (27 acres in CP PG-11, and 17 acres in CP PG-12) of pine plantation and abandoned field/pasture back to the original mesic flatwoods.
- Implement restoration plan, including but not limited to:
    - Removal of excessive snag density due to hurricane, drought, and fire impacts.
    - Applying prescribed fire to sites and planting of native groundcovers species, including wiregrass.
    - Thinning or clearing of tall groundcover in areas of abandoned field/pasture to allow for pine seedling growth.
    - Re-establishment of slash pine as the dominant overstory tree in areas of abandoned field/pasture by planting 300-400 seedlings per acre.
- Biennially conduct groundcover surveys to assess the percentage of target condition reached.
- Develop a mechanical treatment plan and timber thinning plan for all areas of the preserve within the comprehensive fire management plan.
- Conduct mechanical treatment to reduce fuel loads within 1,400 acres in CHMA, 910 acres in PGMA, and 280 acres in CCMA.
- Remove six acres of debris from the northwest corner of management zone CH26F.
- Reduce cabbage palm density throughout the preserve to pre-1960s ditching levels.
- Reduce oak canopy to less than 10% total canopy in mesic flatwoods and scrubby flatwoods in management zones CP PG-09 and CP PG-10.

Imperiled Species

- Continue to inventory the park to update imperiled species inventory lists.
- Develop and implement monitoring protocols for two selected imperiled animal species including bald eagle and Florida burrowing owl.
- Continue to implement monitoring protocols for selected imperiled animal species including the Florida scrub-jay, Florida bonneted bat, and gopher tortoise.
- Develop monitoring protocols for two selected imperiled plant species including triangle cactus, and aboriginal prickly-apple cactus.
- Continue monitoring for three imperiled plant species including beautiful pawpaw.

Invasive and Nuisance Species

- Identify the major vectors and pathways for invasive plants at the park and reduce incoming propagules where possible.
- Regularly update surveys to reflect accurate infestation levels of each management zone.
- Develop an early detection rapid response protocol for new infestations.
- Develop a species-specific action plan for each management zone with a prioritization framework.
- Evaluate and update plan on an annual basis and adapt to changing conditions.
- Survey all maintenance areas yearly for new infestations.
- Treat areas where invasive plant spread is imminent (e.g., after prescribed fire, mechanical, or other disturbance).
- Document treatments and update surveys in NRTS.
- Survey and treat after prescribed fire for rapid spread of invasive species.
- Treat medium infestations with staff and volunteers where available.
- Reduce high infestations with additional labor sources (e.g., contract funding, strike teams) and plan for passive and active restoration methods.
- Document treatments and update surveys in NRTS.
- Continue with trapping and removal of feral hogs.
- Annually reassess and develop removal goals and incentives.
- Continue to advocate for USDA funding for feral hog removal.

Planned Cultural Resource Conditions

Cultural Resources

- Complete 20 assessments/evaluations of archaeological sites.
- Complete three Historic Structures Reports for historic buildings and cultural landscape.
- Ensure all known sites are recorded or updated in the Florida Master Site File.
- Conduct Level 1 archaeological surveys prior to major resource management or construction projects for any high probability areas identified by predictive model or other previous studies.
- Design and implement regular monitoring programs for five cultural sites.
- Create and implement a cyclical maintenance program for each selected cultural resource.

Planned Land Use and Infrastructural Conditions

Conceptual Land Use

Parkwide
- Improve orientation and interpretation at park trailheads.
- Continue to provide appropriate recreational infrastructure in the preserve.

Cape Haze Management Area: *Catfish Creek Use Area*
- Construct a pole barn with up to six-bay capacity.
- Construct a small maintenance building with administrative space.
- Establish at least one volunteer RV site and staff residence with connections to municipal utilities.
- Connect the volunteer RV sites to the municipal sewage system.
- Expand trail system.

Cape Haze Management Area: *Sargassum Scrub Use Area*
- Construct a small trailhead.
- Designate up to 1.5 miles of hiking trail with access to the adjacent naturalized water bodies.

Punta Gorda Management Area: *Garrod Lakes Use Area*
- Provide Trail Access to Garrod Lakes Area.
- Construct a small trailhead.
- Designate access trail.

Punta Gorda Management Area: *Staff Support Area*
- Replace the maintenance building.
- Stabilize equipment parking area and provide additional vehicle parking.
- Establish up to four volunteer RV sites with connection to municipal utilities.

Punta Gorda Management Area: *Old Datsun Trailhead*
- Expand the trailhead parking area.
- Collaborate with DOT and Charlotte County to provide a pedestrian crosswalk across Burnt Store Road.

Punta Gorda Management Area: *Charlotte Harbor Environmental Center (CHEC)*
- Install low water crossings or other on-grade stabilization measures as necessary and where appropriate along flood-prone segments of trail.
- Maintain access to any fire line segments that originate or anchor from CHEC.
- Expand the parking area at CHEC front entrance.

Cape Coral Management Area: *North Cape Flats Trailhead*
- Improve trailhead amenities and provide trail access.

Pine Island Management Area: *High Marsh Trailhead*

- Implement visitor use management protocols
- Monitor visitor use impacts.
- Close wetland access if indicated by observed impacts.

Pine Island Management Area: *Boggess Hole*

- Implement visitor use management protocols
- Monitor visitor use impacts.
- Close wetland access if indicated by observed impacts.

Optimum Boundary

- Small inholding parcels that fragment the preserve.
- Several larger parcels have been identified, particularly adjacent to the Punta Gorda Management Area.
- Consideration of adding the submerged lands of the abandoned CSX dock pilings to Gasparilla Island State Park's lease.
- Gauge Charlotte County's interest in management of the Schwarcom parcel. If county interest is lacking, consideration should be given to reassigning the parcel to the Don Pedro Island State Park lease.

CHARLOTTE HARBOR PRESERVE STATE PARK
Unit Foundations

CHARLOTTE HARBOR REGION

INTRODUCTION

LOCATION AND ACQUISITION HISTORY

Charlotte Harbor Preserve State Park is located in Lee and Charlotte counties. There is no central point of entry for the public, with access provided at a collection of trailheads and gates throughout the boundary of the preserve. The Charlotte Harbor Region map also reflects significant land and water resources existing near the park.

Charlotte Harbor Preserve State Park was initially acquired on December 7, 1977, with Environmentally Endangered Lands Trust Fund funds. The park's 45,507.16 acres primarily serve as a natural buffer that attenuates and improves surface and subsurface water quality prior to said waters reaching the five surrounding aquatic preserves. The Department of Environmental Protection's (DEP) Division of Recreation and Parks (DRP) currently manages Charlotte Harbor Preserve State Park under two leases: Lease No. 4085 and Lease No. 4134. Lease No. 4085 is between the Board of Trustees of the Internal Improvement Trust Fund (Trustees) and DRP, and it is for the portion of the park where the Trustees have 100% title ownership. This lease is for a period of 50 years, commencing on June 23, 1995, and ending on June 22, 2045.

Lease No. 4134, also a 50-year lease, is a three-party agreement between the Trustees and Southwest Florida Water Management District (SWFWMD) as co-lessors and DRP as lessee. This lease is for the portion of Charlotte Harbor Preserve State Park, approximately 7,708 acres, in which the Trustees and SWFWMD each have 50% title interest.

Charlotte Harbor Preserve State Park is designated single-use to provide public outdoor recreation and conservation. There are no legislative or executive directives that constrain the use of this property (see statewide section – management authority and responsibility). A legal description of the park property can be made available upon request to DEP.

SECONDARY AND INCOMPATIBLE USES

In accordance with section 253.034(5), Florida Statutes (F.S.), the potential of the park to accommodate secondary management purposes was analyzed. These secondary purposes were considered within the context of DRP's statutory responsibilities and resource values. This analysis considered the park's natural and cultural resources, management needs, aesthetic values, visitation and visitor experiences. It was determined that timber harvesting as part of the park's natural community restoration and management activities could be accommodated in a manner that would be compatible and not interfere with the primary purpose of resource-based outdoor recreation and conservation.

DRP has determined that uses such as water resource development projects, water supply projects, stormwater management projects, linear facilities and sustainable agriculture and forestry (other than those management activities specifically identified in this plan) would not be consistent with the management purposes of the park.

In accordance with section 253.034(5), F.S., the potential for generating revenue to enhance management was also analyzed. Visitor fees and charges are the principal source of revenue generated by the park. It was determined that harvesting timber for the express purpose of natural community restoration and management is appropriate as an additional source of revenue for land management since it is compatible with the park's primary purpose of outdoor recreation and conservation. Generating revenue from consumptive uses or from activities that are not expressly related to resource management and conservation is not under consideration.

PURPOSE AND SIGNIFICANCE OF THE PARK

Park Purpose

The purpose of Charlotte Harbor Preserve State Park is to protect more than 100 miles of shoreline along Charlotte Harbor in Charlotte and Lee counties that buffer the five surrounding aquatic preserves: Pine Island Sound, Matlacha Pass, Gasparilla Sound-Charlotte Harbor, Cape Haze and Lemon Bay. Additionally, the park provides access for passive resource-based recreation.

Park Significance

- The associated Charlotte Harbor Environmental Center (CHEC) provides visitors with information about the habitats and wildlife that depend on both the park and the adjacent aquatic preserve.
- The park's expansive estuarine habitats, including tidal creeks, offer outstanding opportunities for paddling adventures.
- Trails in the Punta Gorda Management Area (PGMA) provide exceptional opportunities for birding and are listed in the south section of the Great Florida Birding and Wildlife Trail.

Central Park Theme

Surrounding one of the most productive estuaries in all of Florida, Charlotte Harbor Preserve State Park serves as a natural buffer for five aquatic preserves and a refuge for native wildlife.

Internal Classification

Charlotte Harbor Preserve State Park is classified as a State Preserve in DRP's unit classification system. In the management of a state preserve, preservation and enhancement of natural conditions is the priority. Resource considerations are given priority over user considerations and development is restricted to the minimum necessary for ensuring its protection and maintenance, limited access, user safety and convenience and appropriate interpretation. Permitted uses are primarily of a passive nature, related to the aesthetic, interpretive/educational and recreational use of the preserve, although other compatible uses may be permitted within preservation-oriented limitations. Program emphasis is placed on interpretation of the natural and cultural attributes of the preserve.

OTHER DESIGNATIONS

The unit is not within an Area of Critical State Concern as defined in section 380.05, F.S., and it is not under study for such designation. The park is a component of the Florida Greenways and Trails System, administered by DRP's Office of Greenways and Trails. All waters within the park have been designated as Outstanding Florida Waters, pursuant to Chapter 62-302, Florida Administrative Code (F.A.C.). Surface waters in this park are also classified as a mix of Class II waters (shellfish propagation and harvesting area) and Class III waters (suitable for fish consumption and recreation) by DEP. The park is adjacent to Gasparilla Sound-Charlotte Harbor, Cape Haze, Pine Island Sound and Matlacha Pass aquatic preserves as designated under the Florida Aquatic Preserve Act of 1975 (section 258.35, F.S.).

PARK ACCOMPLISHMENTS

- Monitor and maintain an extensive network of fire line/resource management roads, many of which are open to the public as hiking trails at various points of access.
- Annually survey and/or treat an average of 1,000 acres of invasive plants.
- Coordinate with the U.S. Department of Agriculture (USDA) to actively monitor and remove 300 feral hogs in FY 2023-24.
- Annually conduct up to 700 acres of prescribed fire.
- Work with local geocaching enthusiasts to establish geocaches in the park. There are now 279 geocaches generating increased visitation.

CHARLOTTE HARBOR PRESERVE STATE PARK

Existing Natural Resource Conditions

CHARLOTTE HARBOR REGION

RESOURCE MANAGEMENT COMPONENT

Charlotte Harbor Preserve State Park Management Zones		
Management Zone	**Acreage**	**Managed with Prescribed Fire**
CP-CC01	20.40	Yes
CP-CC02A	21.24	Yes
CP-CC02B	39.96	Yes
CP-CC03	8.92	Yes
CP-CC04	4.34	Yes
CP-CC05	25.57	Yes
CP-CC06	25.28	Yes
CP-CC07	38.51	Yes
CP-CC08A	127.32	Yes
CP-CC08B	16.22	Yes
CP-CC09	13.94	Yes
CP-CC10A	49	Yes
CP-CC10B	8.86	Yes
CP-CC10C	15.26	Yes
CP-CC11AB	61.63	Yes
CP-CC11C	15	Yes
CP-CC11D	1.25	Yes
CP-CC12	203.26	Yes
CP-CC13B	13.33	Yes
CP-CC14A	13.08	Yes
CP-CC14B	62.88	Yes
CP-CC15	140.50	No
CP-CC16	30.82	No
CP-CC17	18.27	No
CP-CC18A	215.85	No
CP-CC18B	47.65	No
CP-CC18C	45.83	No
CP-CC19	26.08	No
CP-CC20	109.30	No
CP-CC21	86.69	No
CP-CC22	2.94	No
CP-CC23B	93.06	Yes
CP-CC23C	45.62	Yes
CP-CC23D	38.70	Yes
CP-CC23E	6.90	No
CP-CC23F	17.25	Yes
CP-CC24	206.17	Yes
CP-CC25	64.43	Yes

Charlotte Harbor Preserve State Park Management Zones		
Management Zone	**Acreage**	**Managed with Prescribed Fire**
CP-CC26	116.11	No
CP-CC27	311.96	No
CP-CC28	372.98	No
CP-CC29	1,487.00	No
CP-CC30	517.49	No
CP-CC31	1,171.18	No
CP-CC32	892.67	No
CP-CC33	1,238.29	No
CP-CC34	131.60	No
CP-CC35	856.81	No
CP-CH01A	102.28	Yes
CP-CH01B	27.41	Yes
CP-CH01C	112.93	Yes
CP-CH02	110.18	Yes
CP-CH03	42.85	Yes
CP-CH05	13.94	Yes
CP-CH07	165.33	Yes
CP-CH08	19.95	Yes
CP-CH09	2.45	No
CP-CH10	273.43	Yes
CP-CH11	63.49	Yes
CP-CH12	61.57	Yes
CP-CH13	83.43	Yes
CP-CH14	300.84	Yes
CP-CH15	169.39	Yes
CP-CH16B	21.14	Yes
CP-CH20	14.84	Yes
CP-CH21	144.19	Yes
CP-CH23A	9.76	Yes
CP-CH23B1	26.66	Yes
CP-CH23B2	22.76	Yes
CP-CH23C	33.53	Yes
CP-CH23D	7.61	Yes
CP-CH25	14.97	No
CP-CH26A	704.52	Yes
CP-CH26B	238.38	Yes
CP-CH26C	254.25	Yes
CP-CH26D1	75.36	Yes
CP-CH26D2	46.80	Yes
CP-CH26D3	128.11	Yes

Charlotte Harbor Preserve State Park Management Zones		
Management Zone	**Acreage**	**Managed with Prescribed Fire**
CP-CH26E	396.59	Yes
CP-CH26F	181.52	Yes
CP-CH26G	27.70	Yes
CP-CH26H	79.27	Yes
CP-CH26I	87.64	Yes
CP-CH26J	115.79	Yes
CP-CH26K	20.57	Yes
CP-CH26L	24.70	Yes
CP-CH26M	27.50	Yes
CP-CH26N	101.67	Yes
CP-CH2601	813.52	Yes
CP-CH2602	155.73	Yes
CP-CH26P1	227.31	Yes
CP-CH26P2	27.70	Yes
CP-CH26Q	341.75	Yes
CP-CH26R	85.46	Yes
CP-CH27	1,669.30	Yes
CP-CH27A	118.62	Yes
CP-CH27B	111.99	Yes
CP-CH27C	28.03	Yes
CP-CH27D	56.09	No
CP-CH28	304.6	Yes
CP-CH29	235.51	Yes
CP-CH30	179.70	Yes
CP-CH31A	8.29	Yes
CP-CH31B	4.75	Yes
CP-CH31C	14.48	Yes
CP-CH31D	5.08	Yes
CP-CH32	136.17	Yes
CP-CH33	149.11	Yes
CP-CH34	701.74	Yes
CP-CH35	745.37	No
CP-CH36	1,424.58	No
CP-CH37	2,583	No
CP-CH38	2,048.02	No
CP-CH39	265.98	No
CP-CH40	299.55	No
CP-CH41	546.96	No
CP-CH42	121.19	No
CP-CH43	839.60	No

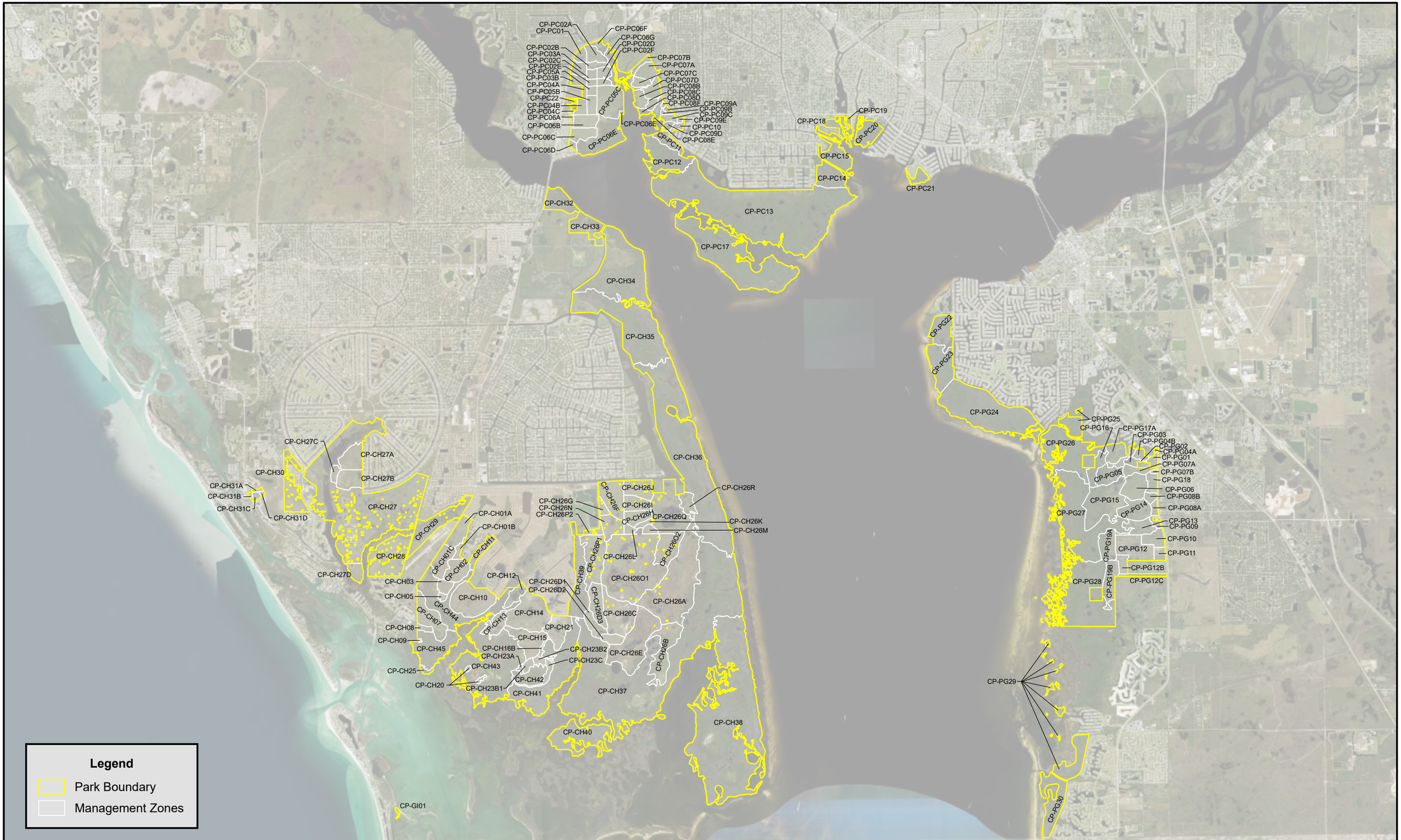
Charlotte Harbor Preserve State Park Management Zones		
Management Zone	**Acreage**	**Managed with Prescribed Fire**
CP-CH44	402.5	No
CP-CH45	255.49	No
CP-GI01	5.54	No
CP-GI02	100.95	No
CP-GI03	1.25	No
CP-PC01	35.50	Yes
CP-PC02A	63.53	Yes
CP-PC02B	31.76	Yes
CP-PC02C	24.06	Yes
CP-PC02D	37.39	Yes
CP-PC02E	17.17	Yes
CP-PC02F	22.32	Yes
CP-PC03A	48.87	Yes
CP-PC03B	37.59	Yes
CP-PC04A	15.09	Yes
CP-PC04B	40.83	Yes
CP-PC04C	2.93	Yes
CP-PC05A	22.04	Yes
CP-PC05B	45.58	Yes
CP-PC05C	188.38	Yes
CP-PC06A	7.37	Yes
CP-PC06B	74.90	Yes
CP-PC06C	72.95	Yes
CP-PC06D	13.38	Yes
CP-PC06E	257.11	Yes
CP-PC06F	34.11	Yes
CP-PC06G	83.28	Yes
CP-PC07A	71.89	Yes
CP-PC07B	26.95	Yes
CP-PC07C	37.33	Yes
CP-PC07D	22.71	Yes
CP-PC08A	64.06	Yes
CP-PC08B	50.78	Yes
CP-PC08C	26.31	Yes
CP-PC08D	16.90	Yes
CP-PC08E	38.2	Yes
CP-PC08F	5.12	Yes
CP-PC09A	12.98	Yes
CP-PC09B	5.69	Yes
CP-PC09C	26.63	Yes

Charlotte Harbor Preserve State Park Management Zones		
Management Zone	**Acreage**	**Managed with Prescribed Fire**
CP-PC09D	20.57	Yes
CP-PC09E	8.40	Yes
CP-PC10	17.02	Yes
CP-PC11	75.83	Yes
CP-PC12	246.78	No
CP-PC13	2,012.94	No
CP-PC14	144.82	No
CP-PC15	145.27	No
CP-PC17	857.22	No
CP-PC18	86.93	No
CP-PC19	23.19	No
CP-PC20	123.76	No
CP-PC21	45.03	No
CP-PC22	11.46	No
CP-PG01	27.31	Yes
CP-PG02	2.65	Yes
CP-PG03	24.94	Yes
CP-PG04A	4.44	Yes
CP-PG04B	29.78	Yes
CP-PG05	100.74	Yes
CP-PG06	132.46	Yes
CP-PG07A	53.09	Yes
CP-PG07B	6.13	Yes
CP-PG08A	23.55	Yes
CP-PG08B	27.43	Yes
CP-PG09	20.75	Yes
CP-PG10	75.63	Yes
CP-PG11	35.49	Yes
CP-PG12	189.22	Yes
CP-PG12B	43.32	Yes
CP-PG12C	31.53	No
CP-PG13	99.74	Yes
CP-PG14	136.9	Yes
CP-PG15	324.59	Yes
CP-PG16	75.58	No
CP-PG17A	93.31	Yes
CP-PG17B	25.46	Yes
CP-PG18	50.36	Yes
CP-PG19A	111.50	Yes
CP-PG19B	123.08	Yes

Charlotte Harbor Preserve State Park Management Zones		
Management Zone	**Acreage**	**Managed with Prescribed Fire**
CP-PG22	151.67	No
CP-PG23	215.9	No
CP-PG24	728.37	No
CP-PG25	90.43	No
CP-PG26	425.72	No
CP-PG27	742.96	No
CP-PG28	697.12	No
CP-PG29	211.06	No
CP-PG30	224.54	No
CP-PI34	1,669.05	Yes
CP-PI35	3,178.30	Yes
CP-PI36	162.82	No
CP-PI37	567.96	No
CP-PI38	57.66	No
CP-PI39	75.23	No
CP-PI40	70.79	No
CP-PI43	484.32	No
CP-PI44	32.80	No

To facilitate inventory and resource management activities, the 45,507.2-acre Charlotte Harbor Preserve State Park has been divided into five physiographic management areas. The boundaries of each management area are identified on the corresponding Management Zone Map. Although the management areas share many similar resources, they each have unique features and management needs that are discussed in this chapter. All the management areas contain cultural resource sites. All privately owned lands, other state or county properties and those owned and managed by the U.S. Fish and Wildlife Service (USFWS) within National Wildlife Refuges are excluded from these boundaries.

The Cape Haze Management Area (CHMA) is approximately 20,343 acres encompassing the entire southern and eastern shoreline of the Cape Haze peninsula from Placida and Coral Creek on the west to the Myakka River on the east and includes the new land additions in the Rotonda area. CHMA is comprised of mangrove swamp, salt marshes and flats, depression marshes, scrub, mesic and wet flatwoods, estuarine unconsolidated substrate and shell mound natural communities. This management area serves as a buffer to the Gasparilla Sound-Charlotte Harbor and Cape Haze aquatic preserves. Coral Creek (east and west branches) on the south side of Rotonda connects to the aquatic preserves in the northern portion of the Cape Haze peninsula. Catfish, Whidden and Sisters Ponds creeks connect to the aquatic preserves in the southern portion of the Cape Haze peninsula. Big Muddy and Trout creeks connect to the aquatic preserves and Myakka River south of Cattle Dock Point in the area locally referred to as the West Wall or McCall Sand Flats on the east. Public access to the management area is provided at a picnic and parking area on State Road 771, approximately 3 miles northeast of Placida and at designated pedestrian gates on Sargassum Road, Rotunda Boulevard South and York Road.



CHARLOTTE HARBOR PRESERVE STATE PARK
Management Zones - Page 1 of 2

N

0 1.5 3 Miles

Sources: ESRI; Florida Department of Environmental Protection
This graphical representation is provided for informational purposes and should not be considered authoritative for navigational, engineering, legal, and other uses.

CHARLOTTE HARBOR PRESERVE STATE PARK
Management Zones - Page 2 of 2

N

0 1.5 3 Miles

This graphical representation is provided for informational purposes and should not be considered authoritative for navigational, engineering, legal, and other uses.

The Port Charlotte Management Area (PCMA) includes 5,855 acres along the shoreline of the Gasparilla Sound-Charlotte Harbor Aquatic Preserve from near El Jobean on the Myakka River to the vicinity of Alligator Bay south of Port Charlotte. PCMA includes mangrove swamp, salt marshes and flats, mesic flatwoods, scrubby flatwoods and scrub natural communities. Tippecanoe, Sam Knight and Flopbuck creeks empty into Tippecanoe Bay at the north side of the harbor. Numerous unnamed tidal inlets and bays adjoin the Myakka Cutoff north of Hog Island and to the east flowing into the Peace River. This area also includes all of Hog Island and the mangrove swamp on Grassy Point, which is just east of Alligator Bay but separated from contiguous ownership by several privately owned and developed parcels. Several major canal systems bisect wetlands in the preserve and empty into the harbor via Alligator Bay. There are also several small out parcels in this management area in El Jobean, Port Charlotte and along the shoreline of Tippecanoe Bay. A large proportion of PCMA and part of CHMA were purchased jointly with the SWFWMD. Public pedestrian access is provided at the end of Watchchou Avenue in El Jobean. Access is also provided at the end of Tea Street in Port Charlotte via Charlotte County's Tippecanoe Environmental Park.

The PGMA is approximately 5,572 acres and borders the Gasparilla Sound-Charlotte Harbor Aquatic Preserve from the west side of the City of Punta Gorda and south to the Charlotte/Lee County line. This management area contains extensive areas of mangrove swamp, mesic and wet flatwoods, depression marshes, salt marshes and flats, hydric hammock and shell mound natural communities. Also included in this management area are several mangrove swamp islands on the Peace River near the Interstate 75 bridges and along the East Wall. There are also several freshwater and tidal creeks in this unit, including Alligator Creek, Winegourd Creek, Big Mound Creek, Whidden, Bear and Hog Branches, which empty into the harbor on the East Wall. Continuity of ownership in this management area is fragmented by private development in the Pirate Harbor area and a parcel proposed for the Tern Bay development to the north for a mile and a half. Ponce De Leon Park, which is owned by the City of Punta Gorda, is also excluded from the boundary. Numerous small islands are privately owned.

Charlotte Harbor Preserve State Park and the Charlotte Harbor Aquatic Preserves management offices and maintenance facilities are in the PGMA. There is also a public trail system at this location. A 15-acre parcel south of Alligator Creek and adjoining Burnt Store Road is leased to CHEC, a consortium of local and private agencies in partnership with DEP. CHEC was established in 1987 to "raise public awareness of the value of our natural and cultural resources by providing environmental education, recreation, research and management of conservation lands." CHEC provides the public with access to a visitor center, environmental education facility and 6 miles of hiking trails. CHEC is the primary public access point to PGMA.

The Cape Coral Management Area (CCMA) encompasses 7,951 acres along the shoreline of the East Wall of the Harbor from near the Charlotte/Lee County line south to and then a short distance up the north bank of the Caloosahatchee River in south Cape Coral. Yucca Pen Creek, Allen Creek, Annie's Creek, Big Dead Creek and Gator Slough bisect the northern part of this management area. Pontoon Bay, Underhill and Oyster creeks connect to Matlacha Pass. Punta Blanca Bay and Punta Blanca and Jewfish creeks connect to the Caloosahatchee River. CCMA is comprised of primarily of mangrove swamp and salt marsh natural communities with mesic flatwoods on the north end of the management area and occasional small stands of slash pines west of the spreader waterway and the Cape Coral development area. This management area adjoins both the Gasparilla Sound-Charlotte Harbor Aquatic Preserve on the north and Matlacha Pass Aquatic Preserve to the south. Public access is provided at several gates in the northwest Cape Coral area.

The Pine Island Management Area (PIMA) includes Little Pine Island as well as portions of the western and southern shoreline of Pine Island, and several adjacent smaller islands (Lanier, Deer, Bear, Bird Rookery, Little Dead Silver and Ben Coleman Keys) in the waters of the Matlacha Pass Aquatic Preserve. Of the larger islands, one half of McCardle Island in Matlacha Pass and all of Regla, Mason and Josslyn islands and Wood Key in Pine Island Sound are within the preserve boundary. Collectively, PIMA includes approximately 6,474 upland acres that buffer 66,687 acres of submerged land in the aquatic preserves. PIMA is comprised of mostly mangrove swamp, mangrove swamp islands, salt marshes and flats, mesic flatwoods and shell mound natural communities. PIMA is also rich in cultural resources sites and colonial water bird rookeries. Public hiking trails are accessible from Pine Island Road (State Road 78) on Little Pine Island.

The management area system outlined above is used for purposes of clarification and for the practical day-to-day planning of cultural and natural resource management activities. All the above management areas share similar physical, cultural and natural resource characteristics and the estuary which unites their widespread geographic locations. The following resource descriptions and resource management portions of this plan will generally apply to all the management areas unless otherwise noted.

TOPOGRAPHY

Charlotte Harbor Preserve State Park is in the Peace River District, specifically the Peninsular Coastal Lowlands Province. The major drainage systems in the area are the Myakka, Peace and Caloosahatchee rivers, which flow south and west through Charlotte Harbor and San Carlos Bay, and empty into the Gulf through the Boca Grande, Captiva, Redfish and Punta Rassa passes. The coastal barrier islands (Gasparilla, Cayo Costa, North Captiva, Captiva and Sanibel) lie between Charlotte Harbor and the Gulf. The preserve and the barrier islands rest on a foundation of limestone that originates from a Pleistocene series of sedimentary deposits called the Anastasia formation, mainly composed of coquinoidal limestone, sand and clay.

The Anastasia Formation is the predominant component lying below unconsolidated surface material throughout the Preserve. This formation appears as a light cream to light gray sandy limestone and tan, shelly, sandy marl. Sporadic outcrops are visible on salt barrens and in estuarine creek bottoms at several locations. The Anastasia Formation was formed as an offshore deposit when southwest and southern Florida were shallow marine environments during periods of higher sea level. The formation varies from very thin to 10 feet thick and occasionally reaches 15 feet in depth. It overlies the Caloosahatchee Marl and is an important component of the shallow aquifer (McCoy 1962 from Estevez 1984).

The preserve exhibits little natural topographic relief. Most of the preserve lands are periodically submerged or inundated, and most of the acreage lies within the landward extent of jurisdictional waters of the State as defined by Florida Statutes. The few non-estuarine areas possessing natural topography are generally less than 5 feet above mean sea level. Low elevation areas are typically barren salt flats or vegetated with mangroves, marsh or wet (hydric) pine flatwoods.

Topographic alteration by humans has occurred to some extent in all management areas of the preserve. The pre-Columbian peoples and their predecessors built extensive mounds, and some of the canals and ponds associated with these archaeological sites may have been built or altered by these earlier pioneers. Pre-Columbian Indian middens (or kitchen middens) and mounds may reach heights of 15 to 20 feet above mean sea level and are usually vegetated with tropical hardwood hammock or coastal hammock species.

Other, more recent, anthropogenic alterations to the topography of the preserve are numerous, including fire plow scars, mosquito ditches, dams, canals, drainage ditches, spoil piles and borrow pits. All management activities in the preserve are undertaken with due regard and consideration for the protection of cultural resources and with the intent, where practical, to restore more recently altered natural areas to their historic community type.

The estuarine wetlands of Charlotte Harbor began to form approximately 5,000 years ago when a rise in sea level flooded the mouths of the Myakka and Peace rivers. The flooding caused sediment to be deposited in a series of deltaic formations, which began the in-filling of the present estuary. These recently deposited sediments form the substrate of the estuary's wetlands.

SOILS

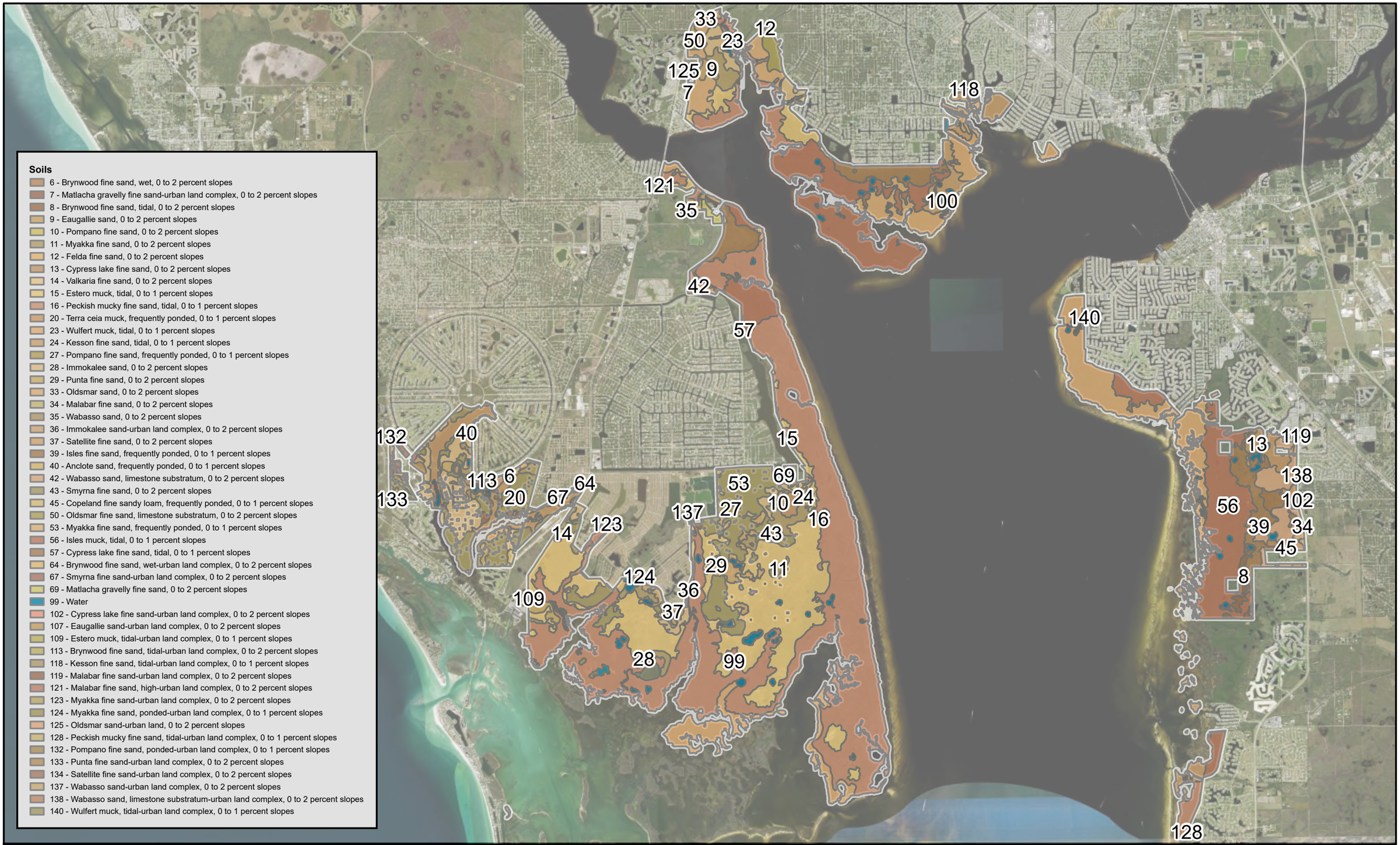
Most of the preserve is covered by low, poorly drained soil types. The USDA's Natural Resource Conservation Service characterizes soils of the preserve as extensive areas of poorly drained sandy and mucky soils of about 36 different types (see Soils Maps) (USDA 1984). The soils range from dry Satellite Fine Sands that support scrub oaks and lichen vegetation to wet Wulfert Muck that is dominated by mangroves and rushes. The dominate soils are hydric soils composed of Peckish Mucky Fine Sand, Estero Muck, Wulfert Muck, Isles Muck and Kesson Fine Sand, all of which are typical of coastal estuaries. The hydric soils make up approximately 82.4 percent of the preserve, or 35,995 acres. The remaining 17.6 percent are upland soils dominated by Smyrna Fine Sand, Myakka Fine Sand, Oldsmar Sand, Wabasso Sand limestone substratum and Immokalee sand. These soils support mesic pine flatwoods, most of the cabbage palm and oak hammocks, scrub and scrubby flatwoods communities. Most of the upland soils are distributed throughout the preserve, except for Smyrna fine sand; this soil is limited to the CHMA and appears to be associated with those areas where long leaf pine has been found. Detailed soil descriptions are provided in the Southwest District Soils Descriptions appendix.

Previous land uses, hydrologic alterations and fill removal/placement have affected portions of all the management areas of the preserve. In areas where large-scale disturbances have taken place, soil horizons may be intermixed and/or totally absent because of earth moving, erosion or oxidation processes. These disturbed areas frequently have altered salinities or chemical makeup, resulting in very different floral and faunal components than would typically occupy the same areas without disturbances. Any proposed activities in the preserve must consider these consequences and take appropriate management steps to prevent soil disturbance and erosion.

There are no known minerals of commercial value in the preserve; however, past shell mining in the CHMA has impacted pine flatwoods and salt marsh communities. Some of the alterations include deep borrow pits and test holes that may not be restorable because of soil and chemistry disturbances.

HYDROLOGY

All management areas of Charlotte Harbor Preserve State Park fall within the larger Charlotte Harbor Watershed, which also includes the Peace River and Myakka River. Charlotte Harbor is the second largest estuary in Florida. The preserve is predominantly tidal and supratidal in hydrologic regime. The shoreline varies from those dissected by tidal creeks to shorelines protected by un-breached sand and coastal berms, behind which lie basin mangrove and high marsh plant communities that are only periodically or seasonally flushed by extreme high tides or storms.



Soils

- 6 - Brynwood fine sand, wet, 0 to 2 percent slopes
- 7 - Matlacha gravelly fine sand-urban land complex, 0 to 2 percent slopes
- 8 - Brynwood fine sand, tidal, 0 to 2 percent slopes
- 9 - Eaugallie sand, 0 to 2 percent slopes
- 10 - Pompano fine sand, 0 to 2 percent slopes
- 11 - Myakka fine sand, 0 to 2 percent slopes
- 12 - Felda fine sand, 0 to 2 percent slopes
- 13 - Cypress lake fine sand, 0 to 2 percent slopes
- 14 - Valkaria fine sand, 0 to 2 percent slopes
- 15 - Estero muck, tidal, 0 to 1 percent slopes
- 16 - Peckish mucky fine sand, tidal, 0 to 1 percent slopes
- 20 - Terra ceia muck, frequently ponded, 0 to 1 percent slopes
- 23 - Wulfert muck, tidal, 0 to 1 percent slopes
- 24 - Kesson fine sand, tidal, 0 to 1 percent slopes
- 27 - Pompano fine sand, frequently ponded, 0 to 1 percent slopes
- 28 - Immokalee sand, 0 to 2 percent slopes
- 29 - Punta fine sand, 0 to 2 percent slopes
- 33 - Oldsmar sand, 0 to 2 percent slopes
- 34 - Malabar fine sand, 0 to 2 percent slopes
- 35 - Wabasso sand, 0 to 2 percent slopes
- 36 - Immokalee sand-urban land complex, 0 to 2 percent slopes
- 37 - Satellite fine sand, 0 to 2 percent slopes
- 39 - Isles fine sand, frequently ponded, 0 to 1 percent slopes
- 40 - Anclote sand, frequently ponded, 0 to 1 percent slopes
- 42 - Wabasso sand, limestone substratum, 0 to 2 percent slopes
- 43 - Smyrna fine sand, 0 to 2 percent slopes
- 45 - Copeland fine sandy loam, frequently ponded, 0 to 1 percent slopes
- 50 - Oldsmar fine sand, limestone substratum, 0 to 2 percent slopes
- 53 - Myakka fine sand, frequently ponded, 0 to 1 percent slopes
- 56 - Isles muck, tidal, 0 to 1 percent slopes
- 57 - Cypress lake fine sand, tidal, 0 to 1 percent slopes
- 64 - Brynwood fine sand, wet-urban land complex, 0 to 2 percent slopes
- 67 - Smyrna fine sand-urban land complex, 0 to 2 percent slopes
- 69 - Matlacha gravelly fine sand, 0 to 2 percent slopes
- 99 - Water
- 102 - Cypress lake fine sand-urban land complex, 0 to 2 percent slopes
- 107 - Eaugallie sand-urban land complex, 0 to 2 percent slopes
- 109 - Estero muck, tidal-urban land complex, 0 to 1 percent slopes
- 113 - Brynwood fine sand, tidal-urban land complex, 0 to 2 percent slopes
- 118 - Kesson fine sand, tidal-urban land complex, 0 to 1 percent slopes
- 119 - Malabar fine sand-urban land complex, 0 to 2 percent slopes
- 121 - Malabar fine sand, high-urban land complex, 0 to 2 percent slopes
- 123 - Myakka fine sand-urban land complex, 0 to 2 percent slopes
- 124 - Myakka fine sand, ponded-urban land complex, 0 to 1 percent slopes
- 125 - Oldsmar sand-urban land, 0 to 2 percent slopes
- 128 - Peckish mucky fine sand, tidal-urban land complex, 0 to 1 percent slopes
- 132 - Pompano fine sand, ponded-urban land complex, 0 to 1 percent slopes
- 133 - Punta fine sand-urban land complex, 0 to 2 percent slopes
- 134 - Satellite fine sand-urban land complex, 0 to 2 percent slopes
- 137 - Wabasso sand-urban land complex, 0 to 2 percent slopes
- 138 - Wabasso sand, limestone substratum-urban land complex, 0 to 2 percent slopes
- 140 - Wulfert muck, tidal-urban land complex, 0 to 1 percent slopes

CHARLOTTE HARBOR PRESERVE STATE PARK

Soils - Page 1 of 2

N

0 1.5 3 Miles

Sources: ESRI; Florida Department of Environmental Protection

This graphical representation is provided for informational purposes and should not be considered authoritative for navigational, engineering, legal, and other uses.

Soils

- 7 - Matlacha gravelly fine sand-urban land complex, 0 to 2 percent slopes
- 8 - Brynwood fine sand, tidal, 0 to 2 percent slopes
- 11 - Myakka fine sand, 0 to 2 percent slopes
- 13 - Cypress lake fine sand, 0 to 2 percent slopes
- 15 - Estero muck, tidal, 0 to 1 percent slopes
- 16 - Peckish mucky fine sand, tidal, 0 to 1 percent slopes
- 17 - Daytona sand, 0 to 5 percent slopes
- 23 - Wulfert muck, tidal, 0 to 1 percent slopes
- 24 - Kesson fine sand, tidal, 0 to 1 percent slopes
- 26 - Pineda-pineda, wet, fine sand, 0 to 2 percent slopes
- 28 - Immokalee sand, 0 to 2 percent slopes
- 33 - Oldsmar sand, 0 to 2 percent slopes
- 35 - Wabasso sand, 0 to 2 percent slopes
- 36 - Immokalee sand-urban land complex, 0 to 2 percent slopes
- 40 - Anclote sand, frequently ponded, 0 to 1 percent slopes
- 48 - St. augustine sand, 0 to 2 percent slopes
- 56 - Isles muck, tidal, 0 to 1 percent slopes
- 57 - Cypress lake fine sand, tidal, 0 to 1 percent slopes
- 69 - Matlacha gravelly fine sand, 0 to 2 percent slopes
- 99 - Water
- 103 - Cypress lake fine sand, tidal-urban land complex, 0 to 2 percent slopes
- 123 - Myakka fine sand-urban land complex, 0 to 2 percent slopes
- 128 - Peckish mucky fine sand, tidal-urban land complex, 0 to 1 percent slopes
- 129 - Pineda fine sand-urban land complex, 0 to 2 percent slopes
- 135 - St. augustine sand-urban land complex, 0 to 2 percent slopes
- 140 - Wulfert muck, tidal-urban land complex, 0 to 1 percent slopes

Park Boundary

CHARLOTTE HARBOR PRESERVE STATE PARK

Soils - Page 2 of 2

N

Miles

0 1.5 3

This graphical representation is provided for informational purposes and should not be considered authoritative for navigational, engineering, legal, and other uses.

The remaining streams and creeks that drain the preserve are primarily estuarine and tidally influenced. There are three rivers, the Peace, Myakka and Caloosahatchee, and several larger creeks that drain into Charlotte Harbor through portions of the preserve. The larger rivers and creeks have watersheds that are more extensive and include headwaters that are outside the preserve boundary. These watersheds drain portions of eight counties.

Alteration of natural drainage patterns and clearing for agriculture, navigation, commerce and development has impacted hundreds of thousands of acres in the region beginning in the 1940s. Capped shallow wells, drainage ditches, mosquito ditching, rock pits, shell mines, sump ponds, road fills, berms, dikes, impoundments, weirs, salinity control structures and other alterations exist on preserve lands. These alterations affect natural communities in several ways. Soil salinities, pH and nutrient availability change because of hydrologic alterations. Altered hydroperiods (wet/dry cycles) or dehydrated soils favor transitional "weedy" species (often invasive species), and indigenous plants and animals (including many of the reptiles and amphibians) are displaced with species more tolerant of drier conditions. On sites where substrates have been overturned or disturbed, conditions are created that favor the invasion of many of the more noxious invasive plants.

Multiple water features located in all five management areas at Charlotte Harbor Preserve State Park are designated at Class II Waters by DEP and generally maintain salinities that are indistinguishable from the average salinity of Charlotte Harbor. These include Boggess Hole (Management zone CP-CH42, WBID 2089), upper limits of Catfish Creek (management zones CP-CH44 and CP-CH45, WBID 2065C and 2080), upper limits of Coral Creek (management zones CP-CH27 and CP-CH29, WBID 2078B), upper limits of Whidden Creek (management zone CP-CH39 and CP-CH41, WBID 2079) and tidal creeks, ponds, ditches and canals throughout PGMA, CCMA and PIMA.

The Boggess Hole water feature is surrounded by a unique cultural site, Boggess Ridge, and a scrub community within salt marsh and mangrove swamp. Boggess Hole sees significant use by local fishermen which may cause damage to submerged lands due to shallow water access and poor boating practices. Boggess Ridge surrounding Boggess Hole has also seen negative impacts from treasure hunters, with impacts potentially reaching Boggess Hole.

Other noteworthy ponds within the park's boundaries include the 40-acre pond located in the CHMA in (management zone CP-CH26Q). This coastal pond is primarily freshwater but is impacted during significant high tide events such as king tides and storm surges. The impacts are mainly along the northern edge where small tidal creeks connect to the canal managed by the South Gulf Cove lock.

Water Quantity

There are no formal measurements being taken for water quantity. Based on staff experience, the park is seeing more extreme dry periods accompanied by more extreme wet periods. As the adjacent lands continue to develop from their previous agricultural uses into residential areas, the park expects to have increased sheet flow from stormwater runoff. This was evident during Hurricane Milton, where previously the maintenance area had never flooded, and the site received 4–5 inches of standing water. Florida Fish and Wildlife Conservation Commission (FWC) salinity tests of ponds surrounding the maintenance area found salinity to be low, indicating the flooding was from freshwater sheet flow and not storm surge.

Water Quality

Multiple water features located within the preserve are on the DEP Comprehensive Verified List of Impaired Waters for Total Maximum Daily Loads (TMDLs) for bacteria and/or nutrient levels including Charlotte Harbor (Middle Segment 2), which encompasses tidal waters along CHMA (WBID 2066 and WBID 2087), PGMA (WBID 2077 and WBID 2081), Catfish Creek Bayou (WBID 2080), Coral Creek – East Branch (WBID 2078B), Whidden Creek (WBID 2079) and Yucca Pen Creek (WBID 2082B2). The Coral Creek – East Branch (WBID 2078B) has a state adopted and Environmental Protection Agency approved TMDL to address low dissolved oxygen (Rule 62-304.805(1)(a-c), F.A.C.).

In 2013, DEP issued a statewide TMDL pollutant limit for mercury with all recreational marine waters in Florida considered impaired for mercury based on fish tissue assessments (DEP 2013). This includes all water features listed above that fall within park boundaries, including Boggess Hole (WBID 2089).

Water quality sampling and testing is not conducted by the park; however, water quality at the preserve is monitored by DEP's Charlotte Harbor Aquatic Preserves with the Charlotte Harbor Estuaries Volunteer Water Quality Monitoring Network and monthly grab samples through the Coastal and Heartland National Estuary Partnership's Coastal Charlotte Harbor Monitoring Network.

Hydrological Alterations

Hydrologic alteration of salt marsh habitats encourages encroachment by native and invasive non-native woody tree species. With heavier cover, habitat value declines for wading and ground nesting birds, rodents and the raptors that feed upon them, as well as other species that depend upon open grassy areas and the diverse fauna that thrive in the moist soils.

There are several "spreader" waterways and perimeter canals also about the preserve. These canal systems are navigable waterways constructed to retain and settle storm water runoff from the various subdivisions around Charlotte Harbor. They were designed to spread the discharge across salt marsh and mangrove estuaries for filtration with the idea that storm water treated in this fashion should be less degrading to water quality and estuarine productivity once it reaches open water. Because these waterways were designed as closed systems, boat lifts or locks were installed to maintain them (DEP 2007).

The Ceitus boat lift and berm in the north Cape Coral Spreader Waterway Canal near Matlacha were required to be put in place by a consent order in the 1970s to collect water from canals and developed areas and evenly distribute it as sheet flow into the mangrove wetlands to the west to promote treatment of water prior entering Matlacha Pass and the larger Charlotte Harbor ecosystem (Janicki 2009). The north spreader canal collects water from a large area that includes drainage from as far as U.S. Highway 41 in Charlotte County. Over time, the spreader canal developed several breaches along its west bank including a large breach near the western edge of the Ceitus boat lift that became large enough to navigate around. When mangroves began to die off around this area due to altered water flow, DEP authorized the removal of the boat lift in 2008. Since then, the City of Cape Coral, DEP, Lee County and numerous stakeholders have been evaluating the best course of action to remedy environmental concerns. Water quality concerns from these discharges can include rapid salinity changes, nutrient pulsing and turbidity (SFWMD 2008). Likewise, breaches in this and other spreader waterways around the Charlotte Harbor Aquatic Preserves can result in localized water quality concerns.

Removal of the Chiquita boat lock located at the south end of the South Spreader in Cape Coral was completed in 2025 as part of the South Spreader Waterway Enhancement Project. This lock has successfully limited the pollutants and saltwater entering the South side of the spreader area.

Removal of the lock may result in water quality impacts and greater flow of water into areas of the park, which could lead to erosion and further loss of mangroves leading to the potential opening of cuts in the park. These impacts will need to be monitored by the park as the project progresses given the significant storm events of recent years and the potential for future events in the area.

Opportunities to restore or reverse several hydrological alterations are complicated by the potential impacts (e.g., flooding, erosion, degraded water quality) to off-site properties, as well as the need for engineering and hydrological and biological studies prior to undertaking restoration efforts. Projects for both hydrologic restorations and invasive plant management have been successfully completed throughout the park including Little Pine Island mitigation bank, the Cattle Dock Point Florida Department of Transportation mitigation site and SWFWMD Surface Water Improvement and Management (SWIM) Program restoration projects at Alligator Creek and Coral Creek.

Little Pine Island is a restoration site that was set up as a mitigation bank in the 1990s through DEP under the management of Mariner Properties Inc. Over 2,000 infested acres of estuarine and freshwater wetlands and pine flatwoods treated for melaleuca (*Melaleuca quinquenervia*) and Brazilian pepper (*Schinus terebinthifolia*), and miles of unpaved roads were removed to restore sheet flow using funding from the bank, which is required by regulatory agencies to offset wetland impacts expected to result from projects under their review. This project has been a success.

The Cattle Dock Point Florida Department of Transportation mitigation site is a SWFWMD project completed in the mid-2000s as a restoration site to offset impacts associated with the widening of State Road 776. The project area is approximately 32 acres and includes invasive plant removal, wetland and upland enhancement and creation, and extensive hydrologic restoration to improve degraded wetlands by removing spoil mounds and reconnecting tidal flows. Additional estuarine habitat was created by filling portions of man-made basin to create habitat for ground nesting avifauna. Follow-up invasive treatment and culvert repairs were completed during FY 2015-16. SWFWMD has funded continuous invasive plant retreatments throughout the mitigation site for all Florida Invasive Species Council (FISC) Category I and II species, with upwards of four treatments a year or once per quarter. There is a noted decrease in infestation rates due to the success of these treatments and future treatments may be reduced to twice annually.

The Alligator Creek and Coral Creek projects are both multiphase SWFWMD SWIM Program initiatives consisting of hydrologic and habitat restoration of degraded wetlands. The Alligator Creek project area encompasses approximately 3,000 acres of the park along Alligator Creek west of Burnt Store Road in Punta Gorda. This multi-year three-phase project consisted of 19 projects that began in 2000, with the primary focus of reestablishing historic hydrological patterns and sheet flow to provide significant gains in native palustrine wetlands, salt flats and hydric hammocks, along with the improvement of fisheries habitats in several open water features on the site. Removal of invasive vegetation was also completed as part of this project to improve habitat for wildlife, including migratory birds that require specific habitats for foraging (SWFWMD, RFP 0513, 2009). Much of the hydrology had been impacted by mosquito and drainage ditching that occurred sometime in the 1970s, with extensive coverage of invasive vegetation. All three Alligator Creek project phases were completed in 2020 including restoration of approximately 12 miles of mosquito and drainage ditches, miles of berm removal and grading to restore natural sheet flows, installation of ditch blocks to allow one-way tidal inflows to

restore hydrologic patterns and sheet flow in wetlands adjacent to the creek, extensive berm removal to reestablish natural sheet flows and treatment of over 150 acres of Brazilian pepper.

The Coral Creek project area encompasses approximately 2,600 acres of joint SWFWMD and DEP owned lands located in the Rotonda area of Cape Haze south of Boundary Boulevard and west of Rotonda Boulevard South. This is a multi-year three-phase project that began in 2006 with the primary focus on restoration of degraded hydrology and habitat, along with treatment of stormwater discharges into Coral Creek. Proposed restoration includes restoration/enhancement of historic and man-made creek channels, intertidal, low-salinity and freshwater habitats, complimentary marshes and uplands, removal of invasive vegetation and construction of stormwater features to improve water quality for the Charlotte Harbor (SWFWMD, W553, 2009). Much of this site has been impacted by ditching and dredge-and-fill activities creating extensive isolated shallow canal systems affecting hydrology and natural sheet flows.

The Vanderbilt Dam across the upper half of the West Branch of the creek eliminated the saltwater signature creating a 270-acre impoundment dominated by cattails (SWFWMD, W553, 2009). Phase I of the restoration project began in a 300-acre area west of Rotonda Boulevard. South with the treatment of invasive vegetation, removal of berms and backfilling of ditches, plugging and backfilling part of the Rotonda drainage canal and planting native wetland vegetation to create a freshwater filter marsh for water treatment, construction of a weir next to the filter marsh to assist in providing treatment for stormwater runoff (SWFWMD, W553, 2009) and creating littoral shelves augmented with native vegetation on part of a borrow pit to improve habitat.

Phase II of the Coral Creek restoration project was completed in 2018. This project saw the alteration to the man-made ditches in two forms. The northern canals were back filled, plugged and re-contoured to create a productive series of freshwater ponds, which included the planting of native vegetation. This process also saw the removal of large areas of invasive vegetation. The southern canals were found to act as a productive nursery for native fish species, such as snook, redfish and tarpon, by FWC and the Bonefish Tarpon Trust. To keep this level of productivity, the canals were re-contoured to allow for a more natural flow to Coral Creek, with salt tolerant vegetation such as red mangroves (*Rhizophora mangle*) and saltmarsh cordgrass (*Spartina alterniflora*) used as erosion control. Currently, Phase III is in the planning stage, with work planned for 2027. The targeted area is to the east of Phase II in the remaining man-made canal areas. The area covers the length of Boundary Boulevard and moves south along the county bike trail to the east branch of Coral Creek.

Ongoing fisheries research permitted through DRP is being completed by David Blewett from FWC in coastal ponds within CHMA and PGMA to assess the presence of juvenile tarpon or snook and acoustic tagging of juvenile tarpon to document movement. His previous research involved assessing the presence and abundance of sport fishes, the use of Coral Creek as nursery grounds, the comparison of productivity between natural ponds and created ponds, the tracking of emigration of juvenile Tarpon and examination of long-term trends at the park. A final report “Investigation of sport fish nurseries and forage fish abundance in association with restoration efforts in Charlotte County” was made available showcasing the results of these studies from 2018–2022 (Blewett et al. 2023).

Future restoration funding needs may also be realized through mitigation and other agency programs. Access to certain areas of Charlotte Harbor Preserve State Park is severely impeded by ditches, tributaries and flooded areas and an increase in development of surrounding private properties.

Currently, access to the east side of management zone CH-27 along Boundary Boulevard does not allow any access to preserve staff. Preserve staff must go through private parcels to gain access or utilize the county bike path, which has limits on equipment based on size and weight. Many of these impediments were caused by historic off-road vehicle use, such as swamp buggies, all-terrain vehicles (ATV), etc., and by mosquito control efforts. Because of these impediments, natural resource management, especially prescribed fire, cannot be conducted safely and effectively in many areas of Charlotte Harbor Preserve State Park. Preserve staff need to be able to move around the park and access the more remote areas safely. To help accomplish this, preserve staff have identified three locations to date, and more may be identified as projects are completed, that currently require low-water crossings. Other areas may be identified during the term of this management plan and funding will be sought to address current and future needs as opportunities become available.

Coastal Erosion/Sedimentation

The expansive shoreline of Charlotte Harbor Preserve State Park along the waterways of Charlotte Harbor experiences fluctuations in erosion and sedimentation like that experienced at any southwest Florida coastal location. Excessive erosion is not an issue as the park's shorelines are dominated by wide swaths of mangrove swamp. The most notable erosion event at the park followed Hurricane Ian, with numerous islands showing signs of erosion including archaeological sites with newly exposed artifacts.

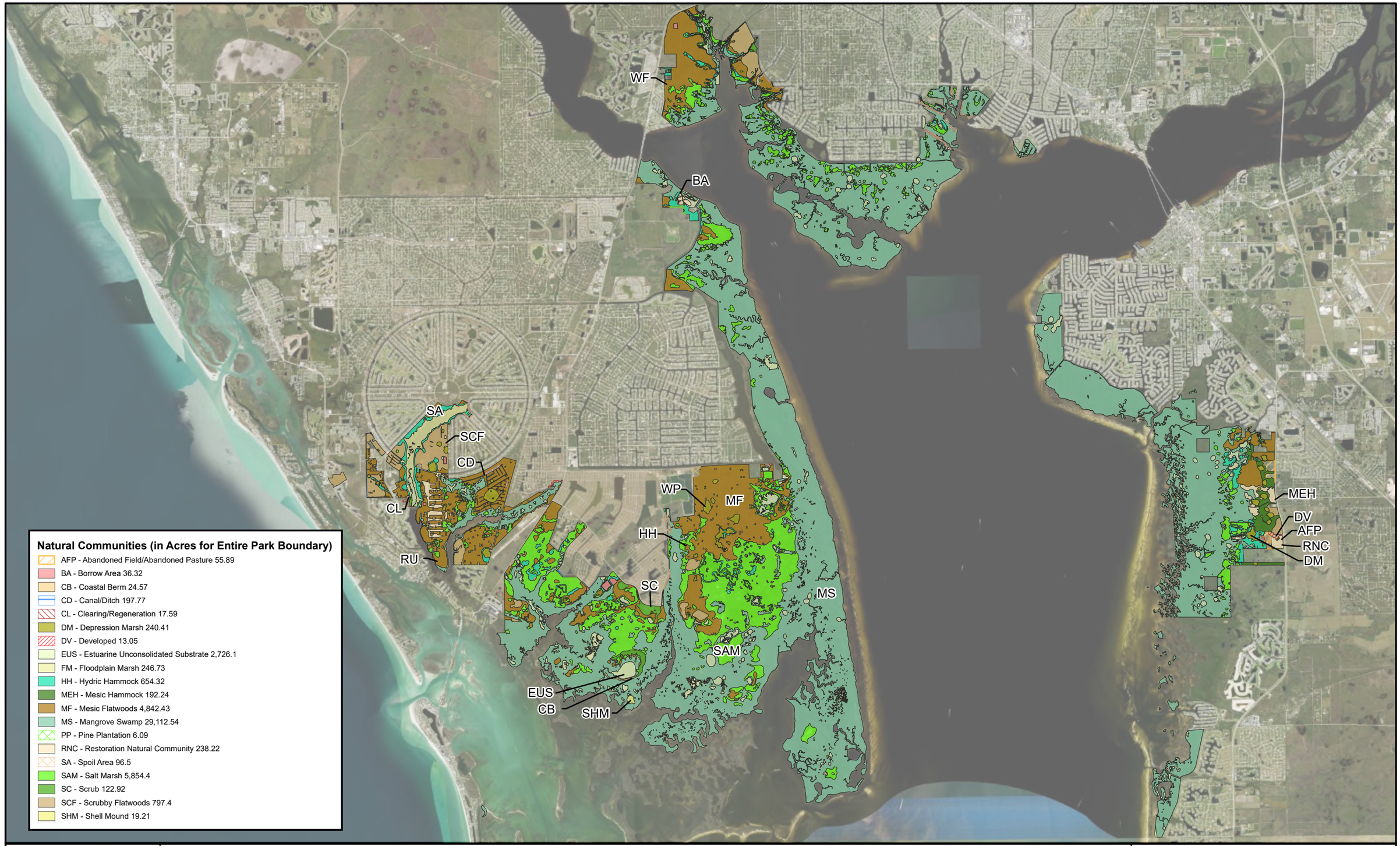
NATURAL COMMUNITIES

Charlotte Harbor Preserve State Park contains 13 distinct natural communities and six altered landcover types (see Natural Communities Maps). A list of known plants and animals occurring in the park is contained in the Southwest District Species Matrix appendix.

Coastal Berm

Coastal berm is found in scattered patches throughout Charlotte Harbor Preserve State Park along the low energy mangrove shorelines in CCMA and isolated mangrove islands in CHMA. Typical plants include cabbage palm (*Sabal palmetto*), sea grape (*Coccoloba uvifera*) and buttonwood (*Conocarpus erectus*) with lower shrubs such as gray nicker (*Guilandina bonduc*), seacoast marshelder (*Iva imbricata*), seashore dropseed (*Sporobolus virginicus*), Spanish bayonet (*Yucca aloifolia*), wax myrtle (*Myrica cerifera*), sea purslane (*Sesuvium portulacastrum*), bushy seaside oxeye (*Borrichia frutescens*) and snowberry (*Chiococca alba*). A small acreage along Boggess Ridge located in CHMA includes many species typically associated with maritime hammock such as live oaks (*Quercus virginica*), gumbo limbo (*Bursera simaruba*), white stopper (*Eugenia axillaris*) and wild coffee (*Psychotria nervosa*) along with saw palmetto (*Serenoa repens*) but without a consistent canopy. Either thin long ridges or small circular areas adjacent to unconsolidated substrate, salt marsh or mangrove swamp communities typically distinguish the coastal berm areas in the park. Imperiled plant and animal species found in this community include state threatened gopher tortoises (*Gopherus polyphemus*), federally endangered prickly-apple cactus (*Harrissia aboriginum*) and state threatened triangle cactus (*Acanthocereus tetragoneous*).

The coastal berm at the park is in fair condition. Multiple hurricanes in 2022 and 2024 have impacted the coastal berm located in CCMA, increasing sedimentation and overwash from the associated storm surge. Two FISC category I species, Portia tree (*Thespesia populnea)* and Brazilian pepper, have been identified at coastal berm areas within CCMA and CHMA. Many of these locations have been treated for invasive non-native plants and will need to be monitored in the future for new infestations.



Natural Communities (in Acres for Entire Park Boundary)

- AFP - Abandoned Field/Abandoned Pasture 55.89
- BA - Borrow Area 36.32
- CB - Coastal Berm 24.57
- CD - Canal/Ditch 197.77
- CL - Clearing/Regeneration 17.59
- DM - Depression Marsh 240.41
- DV - Developed 13.05
- EUS - Estuarine Unconsolidated Substrate 2,726.1
- FM - Floodplain Marsh 246.73
- HH - Hydric Hammock 654.32
- MEH - Mesic Hammock 192.24
- MF - Mesic Flatwoods 4,842.43
- MS - Mangrove Swamp 29,112.54
- PP - Pine Plantation 6.09
- RNC - Restoration Natural Community 238.22
- SA - Spoil Area 96.5
- SAM - Salt Marsh 5,854.4
- SC - Scrub 122.92
- SCF - Scrubby Flatwoods 797.4
- SHM - Shell Mound 19.21

CHARLOTTE HARBOR PRESERVE STATE PARK

Natural Communities - Existing Conditions Page 1 of 2

N

0 1.5 3 Miles

Sources: ESRI; Florida Department of Environmental Protection

EUS
SC
HH
SCF
CB
MF
CD
SA
SHM
AFP
DV
SAM
MS

Natural Communities (in Acres for entire Park Boundary)

- CB - Coastal Berm 24.57
- CD - Canal/Ditch 197.77
- DV - Developed 13.05
- EUS - Estuarine Unconsolidated Substrate 2,726.1
- HH - Hydric Hammock 654.32
- MAH - Maritime Hammock 1.92
- MF - Mesic Flatwoods 4,842.43
- MS - Mangrove Swamp 29,112.54
- SA - Spoil Area 96.5
- SAM - Salt Marsh 5,854.4
- SC - Scrub 122.92
- SCF - Scrubby Flatwoods 797.4
- SHM - Shell Mound 19.21

CHARLOTTE HARBOR PRESERVE STATE PARK
Natural Communities - Existing Conditions Page 2 of 2

N

0 1.5 3 Miles

Sources: ESRI; Florida Department of Environmental Protection
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Management of coastal berm at the preserve largely focuses on rare plant surveys, and invasive plant surveys and treatment efforts. DRP staff will continue periodic surveys for rare plants and invasive plant infestations to catch new infestations early.

Mesic Flatwoods

The mesic flatwoods at Charlotte Harbor Preserve State Park is characterized as an open canopy of slash pine (*Pinus elliottii*), with a mix of longleaf pine (*Pinus palustris*) and a dense low ground layer of low shrubs. Shrub species common at the park include gallberry (*Ilex glabra*), fetterbush (*Lyonia lucida*), tarflower (*Bejaria racemosa*), runner oak (*Quercus pumila*), dwarf live oak (*Quercus minima*) and shiny blueberry (*Vaccinium myrsinites*). The herbaceous layer is primarily grasses, including wiregrass (*Aristida stricta*) and bottlebrush threeawn (*Aristida spiciformis*), piney woods dropseed (*Sporobolus junceus*), panic grasses (*Dicanthelium* spp.) and broomsedge (*Andropogon* spp.). Additional species in the herbaceous layer include bog buttons (Lachnocaulon sp), bloodroot (*Lachnanthes caroliana*), false foxglove, (*Agalinus maritima*), yellow-eyed grass (Xyris sp.) and gopher apple (*Licania michauxii*). The optimal fire return interval for this community is 2–4 years.

This natural community comprises approximately 4,103 acres of the preserve and it can be found in all four management areas of the park. Its condition within the park ranges from poor to excellent. Imperiled plant species found within this community at the park include state threatened pine lily (*Lilium catesbaei*), and the federally endangered beautiful pawpaw (*Asimina pulchella*) found throughout the northwest portion of CCMA. Other imperiled animal species include gopher tortoises (*Gopherus polyphemus*).

This community has minimal topographic relief, and the soils contain a hardpan layer within a few feet of the surface that impedes percolation. These factors produce typical raining seasons with long wet periods of saturated or inundated soils, but lengthy droughts also commonly occur during the dry season. However, past practices of ditching and diking to improve drainage has degraded portions of the mesic flatwoods disrupting the natural duration and inundation of water. Low-lying roads from past off-road vehicle use and fire plow lines from wildfire suppression have also affected natural sheet flow and drainage in some areas.

Hydrologic restoration efforts are currently on-going and include backfilling ditches and low-lying roads where feasible and disking out fire plow lines to adjacent grade. Additional restoration efforts also include backfilling ditches and removing berms in natural communities adjacent to mesic flatwoods to improve hydroperiods of mesic flatwoods.

In addition to hydrologic factors, fire exclusion and invasion of invasive vegetation has also resulted in increased pine and palmetto densities, and increased hardwoods and shrubs in mesic flatwoods. Wildfires and prescribed fires also burn extremely hot in long-unburned areas resulting in greater pine mortality. Extensive mechanical treatment including roller-drum chopping and mowing has reduced palmetto densities considerably throughout the mesic flatwoods and has been beneficial in reducing heavy fuel loading while minimizing pine mortality from follow-up prescribed fire. Select timber thinning operations in Cape Coral, Port Charlotte and the Cape Haze management areas has also been conducted to reduce pine and palmetto densities.

Mesic flatwoods areas that have undergone invasive plant control work including melaleuca and Brazilian pepper, plus mechanical treatment using a roller-drum chopper are responding well after reintroduction of prescribed fire. Another factor impacting mesic flatwoods is feral hogs (*Sus scrofa*) with evidence of rooting throughout this community. Feral hogs can negatively impact rare plant species

such as the pine lily and beautiful pawpaw due to the rooting behavior. Removal efforts are ongoing in this community at the preserve.

Management of mesic flatwoods at Charlotte Harbor Preserve State Park largely focuses on rare plant surveys, invasive plant survey and treatment efforts, feral hog removal and prescribed fire. DRP staff will continue periodic surveys for rare plants and invasive plant infestations to catch new infestations early. Invasive animal removal work should continue to reduce damage to this community from rooting.

Remediation work should be continued, where feasible, to improve hydrology by removing barriers to sheet flow and backfilling of ditches and fire plow lines. Prescribed fire with an emphasis on growing season burns where practical should continue within the recommended fire return interval of two to four years. Mechanical treatment through roller-drum chopping or mowing should also continue to reduce densities of saw palmetto and overgrown shrubs and hardwoods to improve biodiversity.

Mesic Hammock

The mesic hammock at Charlotte Harbor Preserve State Park is mostly an evergreen hardwood or palm forest with a dense canopy dominated by live oak and cabbage palm. This natural community is mostly located in PGMA. The frequency of laurel oak (*Quercus laurifolia*) throughout the mesic hammock as well as the scattered patches of slash pine, Coastal plain staggerbush (*Lyonia fruticosa*), shiny blueberry and saw palmetto indicate that the hammock is relatively young and most likely the result of hardwood invasion due to fire suppression and hydrologic alteration. Additional canopy trees include sweetbay magnolia (*M. virginiana*), sugarberry (*Celtis laevigata*), sweetgum (*Liquidambar styraciflua*) and red cedar (*Juniperus virginiana*).

Imperiled species that utilize the mesic hammock include gopher tortoises, eastern indigo snake (*Drymarchon couperi*), short-tailed hawk (*Buteo brachyurus*), crested caracara (*Caracara cheriway*), swallow-tailed kite (*Elanoides forficatus*) and Florida long-tailed weasel (*Mustela frenata peninsulae*). While rare at the park, Florida panther (*Puma concolor coryi*) and Florida black bears (*Ursus americanus floridanus*) are known to utilize mesic hammock areas in the state.

The mesic hammock at Charlotte Harbor Preserve State Park is in good condition. Invasive plant coverage includes cogongrass (*Imperata cylindrica*), rosary pea (*Abrus precatorius*), Brazilian pepper and Caesar's weed (*Urena lobata*). Feral hogs are a common presence in the mesic hammock. Mesic hammock is not considered a pyric community, but it is situated adjacent to pyric systems and benefits from occasional fire.

Management of mesic hammock at Charlotte Harbor Preserve State Park largely focuses on rare plant surveys, feral hog removal and invasive plant survey and treatment efforts. DRP staff will continue periodic surveys for rare plants and invasive plant infestations to catch new infestations early. Firebreaks should not be placed along the ecotone between mesic hammock and pyric communities. Mesic hammock benefits from occasional fire that is allowed to burn into it and burn plans should accommodate this feature.

Scrub

Scrub occupies 139 acres of the preserve and is limited to CCMA, CHMA and PCMA. This community is typically associated with the larger scrubby flatwoods habitat except on Boggess Ridge in CHMA where salt marsh and mangroves surround most of this unique scrub community. Common species in the canopy include sand live oak (*Quercus geminata*), myrtle oak (*Quercus myrtifolia*), Chapman's oak (*Quercus chapmanii*), tarflower, saw palmetto (*Serenoa repens*), Florida rosemary (*Ceratiola ericoides*)

and Coastal plain staggerbush. The scrub includes scattered openings in the canopy with bare patches of sand that support many imperiled and/or endemic plant species; these species will be regularly flowering and replenishing their seed banks. Imperiled species commonly found in the scrub include Florida scrub-jays (*Aphelocoma coerulescens*), eastern indigo snakes, gopher tortoises, and imperiled plant species such as Curtiss' milkweed (*Asclepias curtissii*). Scrub is a pyric community with an optimal fire return interval of 5–20 years depending on site conditions and burn objectives.

Scrub in the preserve varies in condition from poor to excellent. There are two known Florida scrub-jay populations on the preserve, occupying scrub and scrubby flatwoods, with one in PCMA and one in CHMA totaling 5–6 family groups. The community is managed for optimum scrub-jay habitat conditions with prescribed fire on a five to 15-year fire return interval and limited to no more than a third of the scrub community on sites with known scrub-jay populations unless there are additional adjacent areas where the jays can disperse and forage. The scrub and scrubby flatwoods have been broken into zones to ensure that unburned areas will be available post-fire. Mechanical treatment of the scrub using roller-drum chopping prior to burning has been successful on Boggess Ridge with the dead chopped material creating a good fuel bed to help carry a hot fire through the scrub. Timing the mechanical treatment 2–6 weeks prior to burning and coinciding with the growing season can also provide optimal results. Invasive plants are not particularly a problem in this community, but the presence of feral hogs is evident throughout. Feral hogs will generally move into scrub communities searching for acorns, a favorite food source of Florida scrub-jays.

Management of scrub at Charlotte Harbor Preserve State Park largely focuses on rare plant surveys, feral hog removal, prescribed fire, imperiled species surveys and invasive plant surveys and treatment efforts. DRP staff will continue periodic surveys for rare plants and invasive plant infestations to catch new infestations early. The park will complete prescribed burn on a five to 15-year rotation and mechanically treat those areas with dense overgrown vegetation as needed. Scrub-jays will be monitored annually in accordance with JayWatch protocols to determine family groups, number of individuals and juveniles.

Scrubby Flatwoods

Charlotte Harbor Preserve State Park has 864 acres of scrubby flatwoods typically located adjacent to scrub and mesic flatwoods habitat. Typical plants in scrubby flatwoods include slash pine, sand live oak, myrtle oak, Chapman’s oak, saw palmetto, coastal plain staggerbush, tarflower and shiny blueberry. Imperiled species in this community include Florida scrub-jays, gopher tortoises and eastern indigo snakes. Scrubby flatwoods are similar in community structure to the mesic flatwoods but are better drained, which allows the oaks to proliferate. The oaks in this community are sparse to dense with an average height ranging from three to 10 feet. Occasional lightning-induced wildfires have occurred on portions of this community. The optimal fire return interval for this community is typically 5–15 years when aiming to achieve a mosaic of burned and unburned areas. This interval also allows for optimum scrub jay habitat conditions including maximal acorn production while preventing the oaks from attaining heights unfavorable to Florida scrub-jays. Within these upper and lower limits, variability in season and frequency of prescribed fires to produce a mosaic of burned and unburned patches would be most desirable for maintaining high biotic diversity in this community.

The scrubby flatwoods at Charlotte Harbor Preserve State Park are in good condition. Invasive plants, particularly Brazilian pepper and cogongrass, are a problem in some areas of this community in PCMA at Tippecanoe. Extensive invasive plant control efforts were undertaken in 2014 and 2015 with grants from FWC. Fire return intervals have typically coincided with adjacent mesic flatwoods at four years where scrubby flatwoods will typically not burn well until the second rotation at eight years.

Management of scrubby flatwoods at Charlotte Harbor Preserve State Park largely focuses on rare plant surveys, feral hog removal, prescribed fire, imperiled species surveys, and invasive plant surveys and treatment efforts. Prescribed fire must be used for management on the appropriate fire return interval for this type of flatwoods with mechanical treatment introduced as needed to reduce fuel loads.

Shell Mound

The shell mound communities at Charlotte Harbor Preserve State Park are identified as areas of elevated topography composed entirely of shells (clams, oysters, whelks) previously discarded by generations of Native Americans. Shell mound occupies over 19 acres at multiple management areas in the park. The community supports a diverse tropical hardwood vegetation including white stopper (*Eugenia axillaris*), false mastic (*Sideroxylon foetidissimum*), soapberry (*Sapindus saponaria*), wild lime (*Zanthoxylum fagara*), saffron plum (*Sideroxylon celastrinum*), Florida swamp privet (*Forestiera segregata*), strangler fig (*Ficus aurea*) and gumbo limbo.

Imperiled plant species found on shell mound communities at Charlotte Harbor Preserve State Park include federally endangered prickly apple-cactus (*Harrisia aboriginum*), iguana hackberry (*Celtis iguanaea*), spiny hackberry (*Celtis pallida*) and triangle cactus.

The shell mound community includes both shell middens and shell mounds, with the midden elevations typically less than 1 meter in height while the mound sites are typically greater than 1 meter in height. The (kitchen) shell middens are typically composed of discarded shells, animal bones, broken potshards and worn tools. Collectively, these artifacts represent the day-to-day life of the estuaries' earliest Native American residents before European contact. Mound-type sites are purposefully, perhaps ceremonially, constructed, and incrementally layered archaeological features that cover several acres and are up to ten meters in height. They appear to be composed of shell materials borrowed from middens but architecturally arranged in intricate tiers. They usually display a bifurcated or bilaterally symmetrical architecture.

The shell mounds at Charlotte Harbor Preserve State Park are in fair to poor condition. Big Mound Key, Josslyn Island, Acline Mound and Catfish Point contain most of the accumulated shell midden material, and all are state-listed archaeological sites, with Big Mound Key and Josslyn Island listed in the National Register of Historic Places (NRHP). These sites have experienced damage from artifact-seekers, unauthorized campers, invasive plant infestations, feral hogs and erosion. Invasive plant control efforts have targeted Brazilian pepper, Portia tree, bowstring hemp (*Dracaena hyacinthoides*), strawberry guava (*Psidium cattleianum*) and life plant (*Kalanchoe pinnata*).

In 2007, DEP secured the Big Mound Key Special Category Grant from the Division of Historical Resources (DHR) with Dr. George M. Luer as the Principal Investigator. The main goals of the grant were to remove invasive vegetation; conduct extensive mapping including mapping topographic features, man-made trenches and spoil areas, etc.; and conduct archaeological salvage work (Luer 2014). Upon completion of the research, many of the previously vandalized areas were stabilized and backfilled, stratigraphic profiles were recorded and a working database was created for the artifact field collections.

Management of shell mounds at Charlotte Harbor Preserve State Park largely focuses on rare plant surveys, invasive plant surveys and treatment efforts, feral hog removal efforts and protection from looting and erosion impacts. DRP staff will continue periodic surveys for rare plants and invasive plant infestations to catch new infestations early. Invasive plant treatment efforts should avoid subsurface disturbances. In addition, DRP staff will visit the shell mounds as frequently as possible to monitor vandalism and deter visitors from physically disturbing these sites.

Funding sources should be pursued to continue research on Big Mound Key and other significant cultural sites.

Wet Flatwoods

The wet flatwoods at Charlotte Harbor Preserve State Park occur in the ecotones between mesic flatwoods and salt marshes. These areas can be difficult to distinguish from mesic flatwoods due to hydrologic alterations and fire exclusion. This community encompasses approximately 489 acres and is in CHMA, PCMA and PGMA.

Common species include slash pine, saw palmetto, wiregrass, gallberry, and hydrophitic species such as toothache grass (*Ctenium aromaticum*), muhly (*Muhlenbergia* spp.), yellow-eyed grass (*Xyris ambigua*), Carolina redroot (*Lachnanthes carolina*) and beaksedges (*Rhynchospora chapmanii* and *latifolia*). The optimal fire return interval for this community is one to three years. Shrubs dominate where fire has been excluded for long periods or cool season burns predominate, and/or hydrology has been altered.

The wet flatwoods at Charlotte Harbor Preserve State Park are in fair condition. High densities of invasive plant species such as melaleuca can thrive in wet flatwoods communities, and multiple areas of the park including CHMA have been continuously treated for this species. Extensive invasive plant control efforts in the wet flatwoods have occurred with funding from FWC including efforts. The impact of invasive vegetation and fire exclusion has been severe in some areas and will take several years to recover after treatment. These areas will continue to be treated for invasive vegetation with follow-up prescribed fire introduction to augment restoration efforts and return this community to its optimal fire return interval.

Management of wet flatwoods at Charlotte Harbor Preserve State Park largely focuses on rare plant surveys, invasive plant surveys and treatment efforts, feral hog removal and prescribed fire. DRP staff will continue periodic surveys for rare plants and invasive plant infestations to catch new infestations early. Wet flatwoods are relatively resilient to canopy damage but recover poorly when the ground cover or hydrology has been disturbed. Additional ground truthing will be necessary to distinguish wet flatwoods from mesic flatwoods. Prescribed fire, hydrologic preservation and restoration and invasive plant and animal control are the most important activities used to manage wet flatwoods.

Depression Marsh

Depression marshes at Charlotte Harbor Preserve State Park are associated with and grade into wet prairie, wet flatwoods and mesic flatwoods. There are approximately 57 acres of depression marsh scattered throughout Charlotte Harbor Preserve State Park. Dominant vegetation within the depression marshes includes Jamaica swamp sawgrass (*Cladium jamaicense*), common reed (*Phragmites australis*), pickerelweed (*Pontederia cordata*), coastal plain willow (*Salix carolina*) and arrowheads (*Sagittaria* sp.), with the outer drier areas containing sand cordgrass (*Spartina bakeri*) and herbaceous vegetation such as longleaf threeawn (*Aristida palustris*), beaksedges (*Rhynchospora sp*.), yellow-eyed grass and myrtleleaf St. John's wort (*Hypericum myrtifolium*). The optimal fire return interval for this community is 2–10 years depending on fire frequency of adjacent communities.

Depression marshes at the preserve range from excellent to poor condition depending on fire frequency of adjacent fire-type natural communities. Invasive plant species such as Brazilian pepper, melaleuca and others are prevalent along the borders of this community, and feral hog damage is evident. Depression marshes where fire has been absent have significant shrub growth throughout. Most marshes at the preserve receive fire with the adjacent mesic flatwoods and wet flatwoods.

Management of depression marshes at the preserve largely focuses on invasive plant survey and treatment efforts, prescribed fire and feral hog removal. DRP staff will continue periodic surveys for invasive plant infestations to catch new infestations early. Hydrological restoration, protection of intact marshes and invasive plant control are key management tools. Fire should continue to be introduced within the depression marshes based on fire return intervals of adjacent fire-type natural communities.

Floodplain Marsh

The floodplain marsh community at Charlotte Harbor Preserve State Park is located in the west branch of Coral Creek above the impoundment dam in CHMA. The dominant vegetation within this freshwater coastal creek includes sand cordgrass, Jamaican swamp sawgrass, giant leather fern (*Acrostichum danaeifolium*), coastalplain willow and various graminoids and forbs. Cattails (*Typha domingensis*) line the borrow areas found near the former head of the creek between the engineered White Marsh Creek and Pine Valley Creeks of the Rotonda West community. It is possible that these borrow areas were designed for a stormwater function due to their location. The floodplain marsh provides important habitat for a variety of wading bird species.

The floodplain marsh community at Charlotte Harbor Preserve State Park is in fair condition due to altered hydrology from the Rotonda West neighborhood development and high levels of invasive plant coverage on the upland edges. The Rotonda West community was built by the Cavanaugh Leasing Corporation beginning in 1970. The circular community contains seven segments of individually named neighborhoods carved out by engineered canals with a larger canal encircling the entire community. The headwaters of the West Branch of Coral Creek were altered by this and other developments in the area with surface water flow now originating from the Rotonda West into the West Branch of Coral Creek. A dam is installed in the West Branch of Coral Creek a little over 2 miles from the center of Rotonda. This dam prevents saltwater below the dam from reaching the area above except during spring tide events from March through May when water moves upstream through the weir via a culvert with riser boards (Blewett personal communication).

Hydric Hammock

The hydric hammock community at Charlotte Harbor Preserve State Park is dominated by an oak and palm canopy cover with a variable understory of palms and ferns, occurring on moist soils. Hydric hammock comprises approximately 2,102 acres and is located mostly in CHMA and CCMA. Dominant understory includes wax myrtle, myrsine (*Myrsine cubana*), common persimmon (*Diospyros virginiana*), American beautyberry and swamp bay. Groundcover species include mostly graminoids and ferns.

The hydric hammock community at Charlotte Harbor Preserve State Park is in poor condition due to altered hydrology designed for improved drainage and mosquito control. The hammock also has large monocultures of invasive plants, such as Brazilian pepper and melaleuca. On-going hydrologic restoration that includes backfilling of ditches where feasible, and extensive invasive plant control will benefit hydric hammock and improve hydrology. While this community does not have an optimal fire return interval, hydric hammock should occasionally burn by allowing fires to naturally cross ecotones from adjacent upland pyric natural communities.

Management of hydric hammock at Charlotte Harbor Preserve State Park largely focuses on invasive plant survey and treatment efforts, prescribed fire and feral hog removal. DRP staff will continue periodic surveys for invasive plant infestations to catch new infestations early. Hydrological restoration efforts should continue through water management district projects. Hydric hammock natural communities should be reassessed after restoration to determine the full extent of hydric hammock.

Mangrove Swamp

Mangrove swamp communities at Charlotte Harbor Preserve State Park are either fringes or dense forests located along relatively flat, low wave energy, marine and estuarine shorelines. Mangrove swamp is the largest natural community in the preserve and comprises approximately 26,677 acres. Dominant overstory includes red mangrove, black mangrove (*Avicennia germinans*), white mangrove (*Laguncularia racemosa*) and buttonwood (*Conocarpus erectus*) in mixed stands or in differentiated, monospecific zones based on degrees of tidal influence, salinity levels and type of substrate.

Soils found in mangrove swamps at Charlotte Harbor Preserve State Park are typically anaerobic and saturated with brackish water at all times, becoming inundated at high tide. Red mangroves dominate the deepest water, followed by black mangroves in the intermediate zone, and white mangroves and buttonwood trees in the highest, least tidally influenced zone. Mangroves at Charlotte Harbor usually occur with little to no understory in the lower tidal zones; however, in upper tidal reaches, may have a shrub groundcover including seaside oxeye, gray nicker (*Guilandina bonduc*), coinvine (*Dalbergia ecastaphyllum*) and herbaceous species such as saltwort (*Batis maritima*), perennial glasswort (*Salicornia ambigua*) and giant leather fern. Mangrove swamps provide important habitat for birds, juvenile fish and crustaceans, and play an important role in the cycling of nutrients and breakdown of detritus.

The mangrove swamp at Charlotte Harbor Preserve State Park is in excellent to fair condition. In PGMA, CCMA and CHMA, relict mosquito ditches are present within the mangrove community. Invasive vegetation such as Brazilian pepper, Australian pine and portia tree can also be found on the spoil piles next to these ditches. Multi-phase hydrologic restoration projects through the SWFWMD SWIM program began in PGMA and CHMA to restore these ditches where feasible and remove berms that impede natural sheet flow in the mangroves. Both projects are on-going with over 9 miles of ditches backfilled, and with extensive areas of invasive plants treated.

Management of mangrove swamps at Charlotte Harbor Preserve State Park largely focuses on invasive plant survey and treatment efforts, and hydrological restoration efforts. DRP staff will continue periodic surveys for invasive plant infestations to catch new infestations early. Hydrologic restoration should continue at the preserve to remove berms and backfill ditches where it is feasible to help protect this natural community and restore natural hydrology. Prescribed fire should be allowed to push into the landward edge of mangrove swamp to control encroachment of mangroves into the adjacent salt marsh community.

Salt Marsh

The salt marsh community at Charlotte Harbor Preserve State Park is the second largest of the preserve's natural communities and comprises approximately 8,729 acres. Dominant plant species include black needle rush (*Juncus roemerianus*), saltmarsh cordgrass, sea oxeye daisy, bulrushes (*Scirpus sp*.), Florida seashore dropseed, saltwort, glasswort and seablight (*Suaeda linearis*). A landward border of salt-tolerant shrubs including groundsel tree (*Baccharis halimifolia*) and Christmas berry (*Lycium carolinianum*) exist. Salt flats at Charlotte Harbor Preserve include areas of salt marsh that are at slightly higher elevations and flooded only by storm surge and extreme high tides. This isolates them from sources of freshwater, and they become very saline and desiccated due to constant evaporation. Species that can tolerate extreme salinity dominate the groundcover including saltwort, annual glasswort (*Salicornia bigelovii*), perennial glasswort and short grasses, such as saltgrass (*Distichlis spicata*), seashore paspalum (*Paspalum vaginatum*) and keygrass (*Distichlis littoralis*). Imperiled species found in

the salt marsh community include golden leather fern (*Acrostichum aureum*) and nesting shorebird species such as Wilson's plovers (*Charadrius wilsonia*).

Salt marsh is considered a fire type natural community with a three to six-year fire return interval. It is believed that historical fires were sporadic either caused by direct lightning strikes or began in uplands occasionally burning into the salt marshes before extinguishing (Florida Natural Areas Inventory [FNAI] 2010). Periodic salt marsh fires help control fuel build-up minimizing catastrophic fires, as well as help control hardwood encroachment, particularly mangroves and buttonwood, before they become too tall to be affected by fire. Salt marshes at Charlotte Harbor Preserve State Park are managed with prescribed fire and have been burned alone or with the adjacent upland habitat.

Salt marshes at Charlotte Harbor Preserve State Park are in excellent to poor condition. Salt marshes are extremely important because of their ability to attenuate stormwater and their pollutant filtering actions. Past practices of ditching to either augment mosquito control efforts or improve residential drainage and agricultural storm water runoff are the primary factors affecting salt marshes at the preserve. Some drainage ditches terminate on or near the salt flats infusing greater amounts of freshwater into the area and reducing salinity levels needed to keep this community healthy. The removal of spoil and backfilling the ditches improves tidal flow to the salt marsh as evident in PGMA where 9 miles of mosquito ditches in the marsh and adjacent mangrove swamp were backfilled.

Invasive plants that can tolerate higher salinities, such as melaleuca and Brazilian pepper, have also infested large expanses of salt marsh. Extensive invasive plant control efforts were undertaken in 2014 and 2015 with grants from FWC and additional treatments are on-going. The impact of invasive species coverage has been severe in some areas and will take several years to recover after treatment.

Another factor impacting the marsh is feral hog damage, which includes sub-surface ground disturbance from rooting. This is a constant problem and particularly evident in CHMA where hundreds of acres of salt marsh have been impacted by feral hog rooting. Feral hog removal efforts are on-going in this area.

Management of salt marsh at Charlotte Harbor Preserve State Park largely focuses on invasive plant survey and treatment efforts, feral hog removal efforts, prescribed fire and hydrological restoration efforts. DRP staff will continue periodic surveys for rare plant species and invasive plant infestations to catch new infestations early. Hydrologic restoration should continue at Charlotte Harbor Preserve to remove berms and backfill ditches where feasible to help protect this natural community and restore natural hydrology. Prescribed fire should be applied sporadically and with adjacent pyric communities as conditions allow. Prescribed fire should be allowed to push towards the landward edge of mangrove swamp to control the encroachment of mangroves into the adjacent salt marsh community. Additionally, salt flats should be monitored for ground nesting birds, such as Wilson's plovers. Disturbance to vegetation and hydrology should be prevented by minimizing vehicle use in the salt marsh and salt flats.

Estuarine Unconsolidated Substrate

Estuarine unconsolidated substrate at Charlotte Harbor Preserve State Park encompasses unvegetated, mineral-based estuarine communities that typically fall in subtidal, intertidal and supratidal locations typically adjacent to mangrove swamps or salt marshes. In most areas, the estuarine unconsolidated substrate encompasses mud flats, tidal creeks and shallow canals within the larger mangrove swamp communities.

This community attracts considerable numbers of wading birds, shore birds and waterfowl at low tide. These areas provide habitat for fiddler crabs, marsh crabs and other crustaceans and mollusks. Mud flats are also important feeding grounds for many bottom feeding fish, such as red drum (*Sciaenops ocellatus*) and Gulf flounder (*Paralichthys albigutta*), and may also be important to the federally threatened smalltooth sawfish (*Pristis pectinata*).

Management of estuarine unconsolidated substrate at Charlotte Harbor Preserve State Park largely focuses on continued hydrologic restoration in areas where ditching has occurred, typically adjacent to mangrove communities. Additionally, vehicular access should be minimized to prevent rutting or compaction.

Altered Land Cover Types

Abandoned Field/Pasture

Charlotte Harbor Preserve State Park has over 82 acres mapped in the preserve as abandoned field/pasture, 14 acres of which are now considered to be a restored natural community. The remaining 68 acres are in Punta Gorda near the office area off Burnt Store Road and include an abandoned pasture in management zones CP-PG11 and CP-PG12 and two abandoned citrus fields in management zone CP-PG18. All areas need a more refined assessment to determine their historical community type, and most are expected to become mesic flatwoods.

Management of abandoned field/pasture at Charlotte Harbor Preserve State Park largely focuses on invasive plant survey and treatment efforts, feral hog removal efforts and prescribed fire. As these areas are restored, natural communities maps will need to be refined to better delineate the altered community subtypes. The park should develop a priority schedule for the feasibility of restoration of all altered communities.

Canal/Ditch

The canals and ditches within Charlotte Harbor Preserve State Park are remnants of past human disturbances, which in the case of the mosquito ditches in the mangrove swamps in Punta Gorda, Port Charlotte and Cape Haze management areas, continue to alter the hydrologic function and possibly the water quality in adjacent natural communities. Twelve miles of these ditches have been filled to date, but many more still exist throughout the preserve.

Although the canals and ditches negatively impact the adjacent natural communities, the canals can also provide greater diversity of habitats with variations in topography and hydroperiods. This diversity in habitat can allow a larger biomass of aquatic organisms to survive over a longer period of water level drawdown. Canals can provide deep water habitat for various types of wildlife including the American alligator (*Alligator mississippiensis*), various turtle and snake species, wading birds and many freshwater fish species.

Management of canals and ditches at Charlotte Harbor Preserve State Park largely focuses on invasive plant survey and treatment efforts and working with other resource management agencies to pursue hydrological restoration projects. These projects will minimize the negative impacts to adjacent natural communities while maintaining some of the benefits to wildlife. The park will continue to allow prescribed fire to burn into the edges of the canals and ditches to minimize unwanted hardwood encroachment along the banks. The park will also continue with invasive plant removal activities to prevent spreading into nearby natural communities.

Developed

Developed areas consist of natural communities that have been replaced or nearly replaced by structures of permanently cleared areas. Developed areas at Charlotte Harbor Preserve State Park include the main park office, meeting room, Charlotte Harbor Aquatic Preserves' office and laboratory, maintenance area, support buildings, manager residence, parking lot, roads and picnic areas.

Management of developed areas largely focuses on invasive plant surveys and treatment efforts. DRP staff will continue periodic surveys for rare plants and invasive plant infestations to catch new infestations early.

Other management measures include ensuring vegetation around developed areas follow wildland urban interface protocols for structure protection during prescribed fire management in adjacent natural areas. The developed areas within the park will be managed to minimize the effect of the developed areas on adjacent natural areas. Proposed landscaping within developed areas of the park should include only native plant materials sourced by ecoregion to preserve local genetic integrity, except where sufficient research suggests other strategies are appropriate for a given species. Native plants that have been documented within the county but have not been historically documented in the park should be avoided entirely. Additionally, special care should be taken with native plant species that are known to hybridize between ecoregions. For example, the east coast dune sunflower (*Helianthus debilis* subsp. *debilis*) readily hybridizes with the west coast variety (*Helianthus debilis* subsp. *vestitus*), with the latter variety being the only subspecies appropriate to plant in parks along the west coast of Florida. Proposed planting or landscaping efforts must be approved by DRP district staff prior to installation on site.

The park will continue to monitor shell drives and parking areas for erosion and take corrective action as necessary. Where mowing is used, the park will establish clear areas, minimize disturbance to adjacent natural areas, and establish patterns that encourage native plant diversity within the developed areas.

Pine Plantation

The pine plantation natural community only exists near the office area in PGMA management zone CP-PG-11. Approximately 15 acres of Florida slash pines were planted in 2002 to restore the area back to mesic flatwoods. The canopy consists of pines approximately 20–25 feet tall and wax myrtle up to 20 feet. The pine trees were planted on six-to-10-foot centers to shade out pasture grasses. The groundcover currently is composed of patchy *Paspalum* spp. with a light layer of pine straw. Blackberries (*Rubus* spp.) are also evident along the perimeter in several areas as well as grape (*Vitus* spp.) and dog fennel (*Eupatorium* spp.). The densely shaded canopy has attracted a variety of wildlife species including Bobwhite quail (*Colinus virginianus floridanus)* and turkey (*Meleagris* spp.). There is also evidence of feral hogs where the rooted areas have become the primary source for invasive plant introduction, typically Caesarweed, Brazilian pepper and cogongrass.

Management of pine plantation in the preserve largely focuses on invasive plant surveys and treatment efforts and prescribed fire. A low temperature burn during the dormant period is recommended as an initial prescription. Prior to burning, overgrown shrubs like wax myrtle may need to be mowed to minimize flames from reaching the pine canopy. Select timber thinning is also recommended in 8–15 years to create a pine canopy that would closely represent a more open natural mesic flatwoods community.

Spoil Area

Spoil areas at Charlotte Harbor Preserve State Park include over 186 acres of mosquito or drainage ditching, canal construction, maintenance dredging of navigable waterways and some mining activities. Some native plants are reclaiming the areas, such as saw palmetto, oaks and slash pines, but most of these areas favor the recruitment of invasive plant species including Australian pine and Brazilian pepper.

Management of spoil areas largely focuses on invasive plant survey and treatment efforts. DRP staff will continue periodic surveys for rare plant species and invasive plant infestations to catch new infestations early. DRP will continue to work with SWFWMD's SWIM program on habitat and hydrologic restoration. DRP will try to acquire post-mining 5-foot topographic data on previously mined areas if available.

Utility Corridor

Utility corridors at Charlotte Harbor Preserve State Park include easements where powerlines and water mains are located on the park. Most of the corridors are limited to Cape Coral where the Lee County Electric Co-Op has a power line crossing the park and Matlacha Pass Aquatic Preserve, terminating on Pine Island, and the Rotonda area of Cape Haze, where power lines and water mains with lift stations are located.

The rights-of-way are generally maintained once each year by the utility company and invasive plants often have greater than 50% coverage. One notable issue with the utility corridor is the clean-up associated with hurricane damage. After Hurricane Ian, damaged utility poles and cables have remained in situ, requiring coordination with service providers for removal and repair.

Management of utility corridors largely focuses on invasive plant surveys and treatment efforts. The park will continue working with the utility companies to devise improvement and restoration work on the corridors so they fit in more naturally with each community they transect. Improvement and restoration plans are needed for all utility corridors and should be completed over the 10-year planning period.

IMPERILED SPECIES

Charlotte Harbor Preserve State Park has a rich diversity of plant and animal life, including a variety of imperiled species that utilize the preserve for breeding, nesting, resting and feeding grounds. For most of the species on the Imperiled Species Table below, primary threats have been habitat loss from development, fire suppression and invasive plant invasions, or all three combined. Endemic species are particularly vulnerable. Another threat comes in the form of pests or pathogens; this is particularly true for Giant airplant (*Tillandsia utriculata*), whose populations are being threatened by the Mexican bromeliad weevil (*Metamasius callizona).*

Generally, the plants listed in the park are maintaining status quo, with some presence expanding in response to increased prescribed fire and invasive plant management such as the beautiful pawpaw. Some require further monitoring and surveying to determine accurate status of the populations, such as the Prickly apple cactus.

Of the 24 listed plants, beautiful pawpaw and prickly apple cactus are the most notable as they are federally endangered with USFWS species recovery plans or critical habitat designations in place. There are only 28 known populations of this pawpaw, with 5,000 individual plants altogether, known to exist in the world (FNAI 2008). Five of the populations exist in the preserve. Beautiful pawpaw requires fire to flower, less than 50% pine canopy and a mix of low shrubs and grasses. Development and fire exclusion

and suppression have severely stressed or extirpated the species throughout its former range. Maintenance of suitable habitat for this and other rare species requires periodic prescribed burning to reduce hardwood shading and competition.

In 2016, a final rule was issued by USFWS designating critical habitat for the federally protected prickly apple-cactus (USFWS 2016). This rule identifies potential habitat for the endangered cactus, which is only known to occur in four counties (i.e., Lee, Charlotte, Manatee and Sarasota), along with areas to be surveyed and potential sites for relocation. At Charlotte Harbor Preserve State Park, several areas of the park have been designated as critical habitat. There are only 13 known populations left, with 300–500 individuals total (Chambers et al. 2021). The populations in Lee and Manatee counties are believed to be extirpated due to storm surge and disease or, as in Manatee County, habitat loss due to development. Other threats to aboriginal prickly-apple cactus include poaching, disease, predation and climate (USFWS 2015).

Staff from Marie Selby Botanical Gardens have completed multiple surveys at Charlotte Harbor Preserve under permits issued by DRP to locate any existing populations as part of their research efforts in assessing genetic variability throughout its known range along the southwest coast. A portion of their research involves working with the federal government to identify potential reintroduction locations in areas like Cayo Costa State Park where the species has become extirpated. Their research also found that populations were in active decline due to invasive species such as Brazilian pepper, which altered the canopy environment (Chambers et al. 2021). Maintenance of suitable habitat has required extensive invasive plant and nuisance animal control, particularly Brazilian pepper and feral hogs. Additional monitoring of potential habitat loss due to reduced canopy cover, rises in tidal elevations and tropical storms would benefit the prickly-apple cactus and provide key information for additional resource management actions.

Notable imperiled animal species include the Florida manatee (*Trichechus manatus latirostris*), Eastern indigo snake, eastern diamondback rattlesnake, gopher tortoise, Florida scrub-jay, Snail kite (*Rostrhamus sociabilis*), Florida sandhill crane (*Grus canadensis pratensis*), Bald Eagle, Florida bonneted bat (*Eumops floridanus*), Florida long-tailed weasel (*Mustela frenata peninsulae*), Southern mink (*Neovison vison pop. 1*), Pine Island rice rat (*Oryzomys palustris pop.1*), insular cotton rat (*Sigmodon hispidus insulicola*), and a suite of shorebirds, wading birds and occasional transient or migrant species.

Lee County and Charlotte County are among the most important counties for Florida manatees on the west coast of Florida. The waterways of Charlotte Harbor provide important feeding, resting and mating habitat for manatees and are currently proposed for critical habitat designation by USFWS. Park staff are directed to contact FWC for important manatee sightings and for any hurt, sick or imperiled individuals seen within or adjacent to park boundaries.

Eastern indigo snakes and eastern diamondback rattlesnakes are becoming increasingly rare in Florida due to destruction of habitat and persecution by humans. Both snakes are important predators of small mammals, helping to keep their populations in balance. These snakes are also closely associated with gopher tortoises, using the burrows for refugia and thermoregulation.

Gopher tortoises are threatened by habitat destruction; they are important keystone species, with over 300 commensal species that use their burrows, including the Gopher frog (*Lithobates capito*) (FWC 2016). Line transects distance sampling (LTDS) is the recommended method for determining gopher tortoise population sizes and density (Buckland et al. 2001) with multiple pilot surveys completed at state parks in DRP's Southwest District over the past 12 years. Surveys conducted in the state parks were completed by FWC staff or consultants hired by FWC. A pilot survey has not been completed at

Charlotte Harbor Preserve State Park to date but should be considered in the future if data supports a full LTDS survey, with follow-up surveys completed within 10 years in accordance with the Gopher Tortoise Survey Handbook (Smith et al. 2009) published by the U.S. Army Corps of Engineers (ERDC/CERL TR-09-7). Continued habitat management of mesic and scrubby flatwoods with prescribed fire should optimize the carrying capacity of the park's gopher tortoises. Charlotte Harbor Preserve State Park is home to a greater number of imperiled bird species (37) than any other class of vertebrates. The park is an important stopover point for many migrant birds, and its diverse wetlands provide suitable nesting habitat for imperiled residents such as the Little blue heron (*Egretta caerula*) and Tricolored heron (*Egretta tricolor*).

Florida scrub-jays are endemic birds that are state and federally listed as threatened. Scrub-jays have very specific habitat requirements, as previously described. Scrub habitats throughout Florida have been degraded by development or fire exclusion. The population of scrub-jays located on Boggess Ridge and in the Tippecanoe area contributes to an important component of the metapopulation of scrub-jays in Charlotte County. Approximately 11 jays in 2–3 family groups have been counted on Boggess Ridge, and four jays in two family groups with two additional wandering females in Tippecanoe. Recent roller-drum chopping and prescribed fire have enhanced several burn units adjacent to these areas and may prove beneficial to those populations. Other jays occasionally sited in Rotonda in CHMA and Tippecanoe are nesting on private or county-owned lands adjacent to the preserve. A scrub/scrub-jay management plan has been developed to enable appropriate land and species management practices. This includes comprehensive surveys and habitat mapping, as well as coordination of activities with Charlotte County and FWC and continued prescribed fire and mechanical treatments where needed.

Though no longer listed as imperiled, bald eagles are noted here because of the FWC guidelines for activities near eagle nests during the October 1 through May 15 nesting season (FWC 2008). Bald eagles have over two dozen nests located on the preserve and contribute substantially to the southwest Florida and national populations. Bald eagles have been monitored through passive observation annually to determine activity prior to and during prescribed fire operations. Preserve staff take great care in considering the proximity of nests and nesting season when developing prescribed fire or other resource management plans and regulating public access during this time. Clearing around eagle nest trees outside of nesting season is also conducted where feasible to minimize impacts from prescribe fire and wildfire.

Snail kites are state and federally listed as endangered. Snail kites are an uncommon visitor to the preserve. This area is well outside of their normal range. The kite feeds on aquatic snails and requires expanses of open freshwater marshes and cypress strand for sustenance. One sighting at the preserve was during the extreme drought of 2001 when many peninsular wetlands dried up, becoming unsuitable for foraging. The most recent sighting was a single bird in 2005.

The Florida sandhill crane (*Grus canadensis pratensis*), a state-listed threatened species, is a sub-population of sandhill cranes that are year-round residents in Florida and does not migrate. Low vegetation near seasonal ponds and marshes provides favored areas for sandhill foraging and nesting.

Southeastern American kestrels, a subspecies of the American kestrel, are also seen in the park, most often in CHMA. These year-round residents hunt small prey from high vantage points like powerlines. It is not known if there are any nesting pairs in the park, but it seems likely. Sightings between April and early September should be treated as the resident (Threatened) species (FWC). Key threats are habitat loss and a marked increase in Cooper's hawks.

Peregrine falcons and merlins are not listed but are tracked by FNAI. Both migrate through the park along the coastal flyways. Peregrine falcons often target migratory ducks; merlins often prey on sandpipers. Neither are permanent residents but may linger in the area for a week or so.

Short-tailed hawks are occasionally observed. There are nearly 400 birds in the state; most of these are in the southern portion (FNAI). They are typically seen in flight and there are no known nests in the park.

The federally endangered Florida bonneted bat is one of the designated mammals at the park that has only recently been discovered. In 2014, after an extensive monitoring effort using song meters and Anabat acoustic recording equipment, the Florida bonneted bat was recorded in two locations of the preserve: the northwest portion of CCMA and a remote area in CHMA. Endemic to Florida, the Florida bonneted bat has one of the most restricted distributions of any bat species, inhabiting the areas south of Orlando to Miami along both the east and west coasts. It was listed as Endangered by USFWS in 2013. Charlotte Harbor Preserve State Park was thought to be a potential site for Florida bonneted bat occurrence based on acoustic recordings near the preserve and known colonies existing within 6–11 miles located on FWC's Babcock/Webb Wildlife Management Area and on private owned lands. Preserve staff secured several grants through the Lubee Bat Conservancy and the National Estuary Program to construct and install a number of bat houses designed specifically for the bonneted bat and installed them in locations where they had previously been recorded. Nearly all of these houses have been destroyed by subsequent tropical storms and there are no records of them being used by Florida bonneted bats. Staff will continue to work with FWC and USFWS on opportunities to monitor for the continued presence of Florida bonneted bat at the preserve.

Long-tailed weasels and Southern minks have both been previously documented in the park but are rarely seen. Both species are nocturnal, secretive animals that inhabit hard-to access areas, such as salt marshes.

The Smalltooth sawfish was added to the Federal Endangered Species list in 2003. Its natural range has diminished with Charlotte Harbor being at the northern end. Critical habitat areas within the preserve include red mangrove in shallow waters less than three feet mean lower low water (MLLW), an important feature of the protected mangrove coastline. Low population levels are attributed to entanglement in fishing nets, loss of suitable habitat and low birth rates. Smalltooth sawfish critical habitat within the Charlotte Harbor area includes red mangrove dominated coastlines and waters less than 3 feet MLLW.

The extensive areas of remote pinelands and swamps within the preserve may also be marginally important to the Florida black bear and Florida panther. Although there is not enough suitable habitat to support a resident population of either species, the wooded corridors provide cover and subsistence as the large animals move to and from other larger tracts of habitat. The linear wildlife corridors become increasingly important as urban development continues to consume and encroach upon remaining bear and panther habitats. This was particularly evident in 2011 when a Florida black bear was observed in a wooded corridor in PGMA for approximately seven days before moving on.

The most significant management tools for designated species are conducting comprehensive wildlife surveys identifying imperiled species, initiating or continuing with ecological fire regimes in fire dependent communities, continuing hydrologic restoration of wetlands and controlling invasive plant and animal species.

The Imperiled Species Inventory table below contains a list of all known imperiled species within the park and identifies their status as defined by various entities. It also identifies the types of management actions that are currently being taken by DRP staff or others and identifies the current level of monitoring effort. The codes used under the column headings for management actions and monitoring level are defined following the table. Explanations for federal and state status as well as FNAI global and state rank are provided in the Southwest District FNAI Element Tracking Codes appendix.

Imperiled Species Inventory						
Common and Scientific Name	**Imperiled Species Status**				**Management Actions**	**Monitoring Level**
	FWC	**USFWS**	**FDACS**	**FNAI**		
PLANTS						
Triangle cactus *Acanthocereus tetragonus*			T		2	Tier 1
Golden leather fern *Acrostichum aureum*			T	G5, S3	2,4	Tier 1
Curtiss' milkweed *Asclepias curtissii*			E		1,2	Tier 1
Beautiful pawpaw *Asimina pulchella*		E	E	G5, S2	1,2	Tier 3
Iguana hackberry *Celtis iguanaea*			E	G5, S1	2	Tier 2
Spiny hackberry *Celtis pallida*			E	G4TNR, S1	2	Tier 2
Florida scalystem *Elytraria caroliniensis var. angustifolia*			E	G4T2, S2	2	Tier 1
Wild cotton *Gossypium hirsutum*			T		2	Tier 1
Prickly applecactus *Harrisia aboriginum*		E	E	G1, S1	2,3	Tier 2
West coast dune sunflower *Helianthus debilis subsp vestitus*				G5T2, S2	2	Tier 1
Joewood *Jacquinia keyensis*			T		2	Tier 1
Nodding pinweed *Lechea cernua*			T	G3, S3	1,2	Tier 1

Imperiled Species Inventory						
Common and Scientific Name	**Imperiled Species Status**				**Management Actions**	**Monitoring Level**
	FWC	**USFWS**	**FDACS**	**FNAI**		
Drysand pinweed *Lechea divaricata*			E	G2, S2	1,2	Tier 1
Pine Lily *Lilium catesbaei*			T		1,2	Tier 1
Lowland loosestrife *Lythrum flagellare*			E	G3, S3	2	Tier 1
Simpson's stopper *Myrcianthes fragrans*			T		2	Tier 1
Southern lip fern *Myriopteris microphylla*			E	G5, S3	2	Tier 1
Florida beargrass *Nolina atopocarpa*			T	G3/S3	1, 2	Tier 1
Hand fern *Ophioglossum palmatum*			E	G4, S3	2	Tier 1
Shell-mound prickly pear *Opuntia stricta*			T		2	Tier 1
Beachberry; Inkberry *Scaevola plumieri*			T		2	Tier 1
Texas ladies'-tresses *Spiranthes brevilabris*			E	G1G2, S1	2	Tier 1
Showy dawnflower *Stylisma abdita*			E	G3, S3	2	Tier 1
West Indian mahogany *Swietenia mahagoni*			T	G3G4, S3	2	Tier 1
Northern needleleaf *Tillandsia balbisiana*			T		2	Tier 1
Cardinal airplant; Common wild pine *Tillandsia fasciculata*			E		2	Tier 1
Twisted airplant; Banded wild pine *Tillandsia flexuosa*			T	G5, S3	2	Tier 1

Imperiled Species Inventory						
Common and Scientific Name	**Imperiled Species Status**				**Management Actions**	**Monitoring Level**
	FWC	**USFWS**	**FDACS**	**FNAI**		
Giant airplant; Giant wild pine *Tillandsia utriculata*			E		2	Tier 1
Florida mayten *Tricerma phyllanthoides*			T		2	Tier 1
FISH						
Gulf sturgeon *Acipenser oxyrinchus desotoi*	FT	T		G2G3, S2?	13	Tier 1
Smalltooth sawfish *Pristis pectinata*	FE	E		G1G3, S1S2	13	Tier 1
REPTILES						
American alligator *Alligator mississippiensis*	FT (S/A)	SAT		G5 ,S4	4, 13	Tier 1
Loggerhead sea turtle *Caretta caretta*	FT	T		G2G4, S3	13	Tier 1
Green sea turtle *Chelonia mydas*	FT	T		G3, S2S3	13	Tier 1
American crocodile *Crocodylus acutus*	FT	T		G2, S2	4, 13	Tier 1
Eastern indigo snake *Drymarchon couperi*	FT	T		G2G3, S2?	1,2, 8, 10, 13	Tier 1
Gopher tortoise *Gopherus polyphemus*	ST			G3, S3	1,2,6,7, 10,13	Tier 2
BIRDS						
Florida scrub-jay *Aphelocoma coerulescens*	FT	T		G2, S2	1,2,7, 13	Tier 3
Florida burrowing owl *Athene cunicularia floridana*	ST			G4T3, S3	1,2, 10, 13	Tier 2
Short-tailed hawk *Buteo brachyurus*				G4G5, S1	13	Tier 1
Red knot *Calidris canutus rufa*	FT	T		G4T2, S2N	13	Tier 1

Imperiled Species Inventory						
Common and Scientific Name	**Imperiled Species Status**				**Management Actions**	**Monitoring Level**
	FWC	**USFWS**	**FDACS**	**FNAI**		
Crested caracara *Caracara plancus*	FT	T		G5, S2	13	Tier 1
Piping plover *Charadrius melodus*	FT	T		G3, S2	13	Tier 1
Snowy plover *Charadrius nivosus*	ST			G3, S1	13	Tier 1
Wilson's plover *Charadrius wilsonia*				G5, S2	2, 4, 13	Tier 1
Little blue heron *Egretta caerulea*	ST			G5, S4	2, 4, 13	Tier 1
Reddish egret *Egretta rufescens*	ST			G4, S2	2, 4, 13	Tier 1
Tricolored heron *Egretta tricolor*	ST			G5, S4	2, 4, 13	Tier 1
Swallow-tailed kite *Elanoides forficatus*				G5, S2	13	Tier 1
Merlin *Falco columbarius*				G5, S2	13	Tier 1
Peregrine falcon *Falco peregrinus*				G4, S2	13	Tier 1
Florida sandhill crane *Grus canadensis pratensis*	ST			G5T2, S2	1,2,4, 10, 13	Tier 1
American oystercatcher *Haematopus palliates*	ST			G5, S2	13	Tier 1
Wood stork *Mycteria americana*				G4, S2	2, 4, 13	Tier 1
Roseate spoonbill *Platalea ajaja*	ST			G5, S2	2, 4, 13	Tier 1
Black skimmer *Rhynchops niger*	ST			G5, S3	13	Tier 1
American redstart *Setophaga ruticilla*				G5, S2	13	Tier 1
Least tern *Sternula antillarum*	ST			G4, S3	13	Tier 1

Imperiled Species Inventory						
Common and Scientific Name	**Imperiled Species Status**				**Management Actions**	**Monitoring Level**
	FWC	**USFWS**	**FDACS**	**FNAI**		
Sandwich tern *Thalasseus sandvicensis*				G5, S2	13	Tier 1
MAMMALS						
Florida bonneted bat *Eumops floridanus*	FE	E		G1, S1	1,2,10,13	Tier 2
Round-tailed muskrat *Neofiber alleni*				G2, S2	1,2,4,10	Tier 1
Florida panther *Puma concolor cougar*	FE	E		G5T1, S1	1,2	Tier 1
Florida manatee *Trichechus manatus latirostris*	FT	T		G2G3T2, S2S3	4, 10, 13	Tier 1

Management Actions:

1. Prescribed Fire
2. Invasive Plant Removal
3. Translocation/Augmentation
4. Hydrological Maintenance/Restoration
5. Nest Boxes/Artificial Cavities
6. Hardwood Control
7. Mechanical Treatment
8. Predator Control
9. Erosion Control
10. Protection from Visitor Impacts
11. Decoys (Shorebirds)
12. Vegetation Planting
13. Outreach/Education
14. Other

Monitoring Level:

Tier 1. Non-Targeted Observation/Documentation: includes documentation of species presence through casual/passive observation during routine park activities (i.e., not conducting species-specific searches). Documentation may be in the form of Wildlife Observation Forms or other district specific methods used to communicate observations.

Tier 2. Targeted Presence/Absence: includes monitoring methods/activities that are specifically intended to document presence/absence of a particular species or suite of species.

Tier 3. Population Estimate/Index: an approximation of the true population size or population index based on a widely accepted method of sampling.

Tier 4. Population Census: A complete count of an entire population with demographic analysis, including mortality, reproduction, emigration and immigration.

Tier 5. Other: may include habitat assessments for a particular species or suite of species or any other specific methods used as indicators to gather information about a particular species. [If referenced in table, provide discussion in narrative]

INVASIVE SPECIES

Charlotte Harbor Preserve State Park contains a variety of invasive plant species throughout the park management units. Regarding invasive plants, of the 45,000 acres contained within the park boundaries, at least 26,200 of them have infestations to some degree. Based on the DRP database's Current Conditions Report, which uses recorded park survey data, the overall infestation cover is around three percent. This reported percentage understates reality. The difficulty and lack of resources to access so many areas of the park means that complete, accurate and current surveys are difficult to achieve. Over 35 species of invasive plants are known to be at the park, and of the reported infestations, if all could be

squeezed into contiguous acres there would be at least 960 acres of invasive monocultures. The goal is to treat 3–5% of these infested areas per year.

The same access issues that make surveys difficult also impede control and treatment work. Nevertheless, Charlotte Harbor Preserve State Park has managed to treat roughly 100 to 900 gross acres annually since the last management plan. Much of this treatment work has been possible due to the assistance of FWC's Uplands Invasive Plant Management section.

Brazilian pepper is common throughout the park due to its ability to thrive in a wide range of ecosystems including maritime forest, which makes it difficult to manage. It forms dense thickets that are devoid of native plant growth due to the acidity of its leaves. It has been the focus of recent contracts and there has been some success in several areas, especially in PGMA. Melaleuca is another dominant invasive species at the park inhabiting both upland and wetland locations, forming dense monocultures.

Species of particular concern in the uplands are cogongrass, small-leaf climbing fern (*Lygodium microphyllum*) and earleaf acaia (*Acacia auriculiformis*). Cogongrass is found throughout the preserve and forms dense monocultures in a short period of time. It prefers dry upland areas but can tolerate many different conditions and requires multiple treatments to effectively eliminate. It is allelopathic, producing chemicals that inhibit the growth of other plant species. Paragrass (*Urocloa mutica*) has spread rapidly in some of the wetter freshwater areas of Charlotte Harbor Preserve.

Like cogongrass, paragrass is also allelopathic and can form dense monocultures. During the rainy season it enters the park by ditches and canals which makes it hard to control. Guineagrass (*Urochloa maxima*), a tall thick plant that reproduces in a very short time makes it extremely hard to break its life cycle, is also found in large colonies in PGMA and PCMA. Earleaf acacia, a large shrub or small tree from South America, grows extensively in the southern portions of the park mostly in the CCMA. Some other heavy hitters that are present in a specific area or two include Java plum (*Syzgium cumini*), West Indian almond (*Terminalia catappa),* Chinese ladder-brake (*Pteris vittata*), shoebutton ardisia (*Ardisia elliptica*) and white leadtree (*Leucaena leucocephala*).

Biological controls for two invasive plants were introduced in Charlotte Harbor Preserve State Park. For controlling melaleuca, the melaleuca weevil (*Oxyops vitiosa*) was introduced in 2001–2002 in CCMA and CHMA, and a psyllid (*Boreioglycaspis melaleucae)* was introduced in 2003 in CCMA but ultimately migrated to CHMA. The air potato beetle (*Lilioceris cheni*) was introduced in 2012 or 2013 in PCMA by USDA. To date, the introductions are faring well, in replication and spread, assisting with the target plant species' suppression. Melaleuca was also targeted in a University of Florida research study permitted by DRP in 2022. They successfully treated a 22-acre monoculture in CHMA.

The most serious animal threats at Charlotte Harbor Preserve State Park are from the feral hog populations, the Nile monitor lizard (*Varanus niloticus*) and the invasive non-native fish populations, tilapia (*Oreochromis* sp.) and Mayan cichlid (*Cichlasoma urophthalmus)*.

Feral hogs are omnivorous, eating mostly plant material, but also insects, fish, small birds and the eggs of ground-nesting birds, small mammals and a variety of herpetofauna. They compete for food with native wildlife, including deer, turkey and wood ducks. Pig rooting and wallowing create severe ground disturbance that negatively impacts native plant species diversity and local hydrology, in public use areas as well as in natural areas. Hog traffic is a vector for invasive species and numerous diseases

including brucellosis and hepatitis. These pathogens are a threat to both domestic hog populations and to humans.

At Charlotte Harbor Preserve State Park, feral hogs are found in every management area, devastating the marshes, and are particularly visible in CHMA and PGMA. According to FWC, feral hog densities are about one per 32 acres (FWC 2012), and overall feral hog numbers are likely to triple in Florida every five years (Main 2013). Prior to 2016, removal efforts were made in house by park staff; however, this was not sufficient in addressing the issue. Since 2016, a DRP funded USDA trapper has also worked 40 hours a week on nuisance animal removal efforts. This has included aerial flights by USDA for hard-to-reach areas of the preserve.

The removal efforts have been apparent with the noticeable increase in ground-nesting birds, such as the common nighthawk (*Chordeiles minor*), most notably in the Cape Haze Mine area. Over the past 10 years, park staff and USDA staff have removed 3,078 feral hogs across all management areas of Charlotte Harbor Preserve. The feral hog removal efforts have also aided in neighbor relations, as USDA is able to trap adjacent to neighborhoods and other areas where park staff did not have the time or resources to focus on nuisance animal removal.

Nile monitors lizards are large (up to six feet) semi-aquatic lizards. They are aggressive opportunistic predators, preying on shellfish, fish, amphibians, reptiles, birds, bird eggs and mammals. Nile monitors are excellent swimmers and climbers, and they lay up to 60 eggs per year. They have been found in the southern portion of CCMA and if their populations continue to expand unimpeded, it may have serious implications for native wildlife, especially wading bird rookeries.

The University of Tampa is conducting an intensive research project at the preserve to eradicate Nile monitors and determine their impact on habitats and native species. The preserve will continue to support that research and the efforts of others to eradicate this species. Several other large non-native reptiles have been observed in the park including green iguanas (*Iguana iguana*) and Curly-tailed lizards (*Leiocephalus carinatus*). Though they are not nearly as threatening as the Nile monitor, they still have the potential to disrupt the ecosystem.

Invasive fish are also common in the preserve, having entered through intentional release or movement through the various freshwater waterways, such as canals and ditches. These include species such as tilapia that were intentionally introduced by previous landowners and fishermen to populate ponds and borrow pits for sport fishing. The Mayan cichlid has invaded freshwater creeks, streams, rivers and ponds, most probably from pet trade releases. The cichlid is a predator fish that has taken its toll on native fish populations. The preserve will continue to consult with researchers and wildlife agencies regarding the feasibility of controlling or eradicating these species.

Other invasive wildlife includes black spiny-tail iguana (*Ctenosaura similis*), domestic/feral cats (*Felis catus*), nine-banded armadillo (*Dasypus novemcinctus*), greenhouse frog (*Eleutherodactylus planirostris*), Cuban treefrog (*Osteopilus septentrionalis*), brown anole (*Norops sagrei*) and fish such as walking catfish (*Clarias batrachus*), brown hoplo (*Hoplosternum littorale*) and jewel cichlid (*Hemichromis bimaculatus*). Invasive bird species include the Nanday Parakeet (*Aratinga nenday)* and the Eurasian collared dove (*Streptopelia decaocto*). An additional reptile species, the Burmese python (*Python bivittatus*), whose range has been expanding northward has been observed by preserve staff in the Rotonda of CHMA.

Invasive pests and pathogens are also a concern at Charlotte Harbor Preserve State Park. The Mexican bromeliad weevil is attacking *Tillandsia* species in the park. As noted in the Imperiled Species discussion, park management is expected to be watchful of damages and be prepared for conservation efforts to protect seeding and recruitment. The cactus moth (*Cactoblastis* spp.), redbay ambrosia beetle

(*Xyleborus glabratus*) and laurel wilt (*Raffaelea lauricola*) are also a concern and though their detection has not been observed early detection and rapid response efforts will be a benefit.

Invasive Plant Species			
Species Name ***Scientific Name* - Common Name**	**FISC Category**	**Distribution**	**Zone ID**
Rosary pea *Abrus precatorius*	I	Single Plant or Clump	CP-CC01, CP-CC07
		Scattered Plants or Clumps	CP-CC02A, CP-PC07A, CP-PG01, CP-PG06, CP-PG07A, CP-PG07B, CP-PG08A, CP-PG09, CP-PG10, CP-PG11, CP-PG12, CP-PG13, CP-PG14
		Scattered Dense Patches	CP-PC07B, CP-PG17A
Earleaf acacia *Acacia auriculiformis*	I	Single Plant or Clump	CP-CC13B, CP-PC09E, CP-PG09, CP-PG13
		Scattered plants or clumps	CP-CC01, CP-CC02A, CP-CC02B, CP-CC04, CP-CC05, CP-CC06, CP-CC07, CP-CC08A, CP-CC08B, CP-CC10A, CP-CC10B, CP-CC10C, CP-CC11AB, CP-CC11D, CP-CC21, CP-CC24, CP-CC34, CP-CC35, CP-PG01, CP-PG04B, CP-PG06, CP-PG11, CP-PG29, CP-PG30
		Scattered Dense Patches	CP-CC09
		Linearly Scattered	CP-CC31
Woman's tongue *Albizia lebbeck*	I	Single Plant or Clump	CP-CC02B, CP-CC04
		Scattered Plants or Clumps	CP-PG04B
Shoebutton ardisia *Ardisia elliptica*	I	Scattered Plants or Clumps	CP-PG07A, CP-PG09, CP-PG10, CP-PG11, CP-PG14, CP-PG18
		Scattered Dense Patches	CP-PG13
Australian pine *Casuarina equisetifolia*	I	Single Plant or Clump	CP-CH26Q
		Scattered Plants or Clumps	CP-CC14A, CP-CC14B, CP-CC18A,

Invasive Plant Species			
Species Name ***Scientific Name* - Common Name**	**FISC Category**	**Distribution**	**Zone ID**
			CP-CC18C, CP-CC23B, CP-CC23C, CP-CC23D, CP-CC23F, CP-CC30, CP-CC32, CP-CC33, CP-CC34, CP-CH25, CP-CH26C, CP-CH26F, CP-CH26J, CP-CH26M, CP-CH26R, CP-CH39, CP-PC06E, CP-PG24, CP-PI36
		Scattered Dense Patches	CP-CC15, CP-CC28, CP-CH33
		Linearly Scattered	CP-CC24, CP-CC29
Carrotwood *Cupaniopsis anacardioides*	I	Single Plant or Clump	CP-CC08B, CP-PG14, CP-PG24
		Scattered Plants or Clumps	CP-PC09E, CP-PG04B, CP-PG08A
Durban crowfootgrass *Dactyloctenium aegyptium*	II	Scattered Dense Patches	CP-CC11AB, CP-PG12
Indian rosewood *Dalbergia sissoo*	II	Single Plant or Clump	CP-PC06A
		Scattered Plants or Clumps	CP-CC02A
Air potato *Dioscorea bulbifera*	I	Single Plant or Clump	CP-PC06A
		Scattered Plants or Clumps	CP-CC02A, CP-CH27, CP-CH27A
Laurel fig *Ficus microcarpa*	I	Scattered plants or clumps	CP-PG10, CP-PG13
Australian umbrella tree *Heptapleurum actinophyllum*	I	Single Plant or Clump	CP-CC04, CP-PG09
West Indian marsh grass *Hymenachne amplexicaulis*	I	Scattered Plants or Clumps	CP-CH26K
		Linearly Scattered	CP-PG11
Cogongrass *Imperata cylindrica*	I	Single Plant or Clumps	CP-CC02A, CP-PC07C, CP-PG18
		Scattered Plants or Clumps	CP-CC08B, CP-CH01A, CP-CH10, CP-CH21, CP-CH26F, CP-CH26J, CP-CH26K, CP-CH39, CP-PC05C, CP-

Invasive Plant Species			
Species Name ***Scientific Name* - Common Name**	**FISC Category**	**Distribution**	**Zone ID**
			PC07A, CP-PC08A, CP-PG07A, CP-PG08A, CP-PG10, CP-PG11, CP-PG14, CP-PG17A, CP-PG19A
		Scattered Dense Patches	CP-CC01, CP-CC02B, CP-CC04, CP-CC08A, CP-CC09, CP-CC11AB, CP-CC12, CP-CH26G, CP-CH26N, CP-CH26P2, CP-CH31A, CP-CH31B, CP-CH33, CP-PC07B, CP-PC08E, CP-PC08F, CP-PC09A, CP-PG01, CP-PG04B, CP-PG09, CP-PG12, CP-PG13
Lantana *Lantana strigocamara*	I	Scattered Plants or Clumps	CP-PG12
Lead tree *Leucaena leucocephala*	II	Single Plant or Clump	CP-PG14, CP-PG18
		Scattered Plants or Clumps	CP-CH26F, CP-CH26J, CP-CH26K, CP-CH26M, CP-CH26N, CP-CH33, CP-PG02, CP-PG04B, CP-PG08A, CP-PG08B
Peruvian primrose willow *Ludwigia peruviana*	I	Single Plant or Clump	CP-PG06
		Scattered Plants or Clumps	CP-PG04B, CP-PG08A, CP-PG10, CP-PG11, CP-PG12
		Scattered Dense Patches	CP-CH27
Japanese climbing fern *Lygodium japonicum*	I	Scattered Plants or Clumps	CP-CC02B, CP-CC03, CP-CC05, CP-CC10C, CP-CH30, CP-PC07B
		Scattered Dense Patches	CP-CC04
Old World climbing fern *Lygodium microphyllum*	I	Single Plant or Clump	CP-CC12, CP-PC09E
		Scattered Plants or Clumps	CP-CC06, CP-CC09, CP-CC21, CP-CH14,

Invasive Plant Species			
Species Name ***Scientific Name* - Common Name**	**FISC Category**	**Distribution**	**Zone ID**
			CP-CH15, CP-CH26G, CP-CH26J, CP-CH26K, CP-CH26O2, CP-CH26Q, CP-CH27A, CP-CH42, CP-PC05C, CP-PG04B, CP-PG10, CP-PG13, CP-PG14, CP-PG15
		Scattered Dense Patches	CP-CC11C, CP-PG06
Wild bushbean *Macroptilium lathyroides*	II	Single Plant or Clump	CP-PG10
		Scattered Plants or Clumps	CP-CC02A, CP-CC04, CP-PC07B
Melaleuca *Melaleuca quinquenervia*	I	Single Plant or Clump	CP-CC02A, CP-PG06, CP-PG09, CP-PG10, CP-PG13
		Scattered Plants or Clumps	CP-CC02B, CP-CC04, CP-CC05, CP-CC06, CP-CC07, CP-CC08A, CP-CC08B, CP-CC09, CP-CC10A, CP-CC10B, CP-CC10C, CP-CC11AB, CP-CC11C, CP-CC11D, CP-CC12, CP-CC13B, CP-CC14A, CP-CC21, CP-CC23B, CP-CC23F, CP-CC35, CP-CH01A, CP-CH01B, CP-CH01C, CP-CH02, CP-CH03, CP-CH05, CP-CH07, CP-CH08, CP-CH09, CP-CH11, CP-CH12, CP-CH13, CP-CH14, CP-CH15, CP-CH20, CP-CH21, CP-CH23B1, CP-CH23B2, CP-CH26B, CP-CH26C, CP-CH26E, CP-CH26G, CP-CH26H, CP-CH26I, CP-CH26J, CP-CH26K, CP-

Invasive Plant Species			
Species Name ***Scientific Name* - Common Name**	**FISC Category**	**Distribution**	**Zone ID**
			CH26M, CP-CH26P2, CP-CH27B, CP-CH27C, CP-CH29, CP-CH32, CP-CH42, CP-CH45, CP-PC01, CP-PC02A, CP-PC03A, CP-PC03B, CP-PC04B, CP-PC05A, CP-PC07D, CP-PC08A, CP-PC08B, CP-PC08C, CP-PC08F, CP-PC09A, CP-PC09B, CP-PC09E, CP-PC18, CP-PG11, CP-PG15, CP-PG24, CP-PG29, CP-PG30
		Scattered Dense Patches	CP-CC14B, CP-CC15, CP-CC18A, CP-CC18C, CP-CC20, CP-CH10, CP-CH23A, CP-CH26A, CP-CH26D1, CP-CH26D2, CP-CH26D3, CP-CH26F, CP-CH26N, CP-CH26O1, CP-CH26O2, CP-CH26P1, CP-CH26Q, CP-CH26R, CP-CH27, CP-CH27D, CP-CH28, CP-CH30, CP-CH33, CP-CH34, CP-CH35, CP-CH39, CP-CH44, CP-PC05B, CP-PC05C, CP-PC06B, CP-PC06C, CP-PC06F, CP-PC07C, CP-PC09C, CP-PC13
		Linearly Scattered	CP-CH26L
Chinaberry *Melia azedarach*	II	Scattered Plants or Clumps	CP-CH41
Rose natal grass *Melinis repens*	I	Scattered plants or clumps	CP-CC12, CP-CH31B, CP-CH31D, CP-

Invasive Plant Species			
Species Name ***Scientific Name* - Common Name**	**FISC Category**	**Distribution**	**Zone ID**
			PC07A, CP-PC07B, CP-PC08A
		Scattered Dense Patches	CP-CC01, CP-CH31A, CP-CH31C
Balsampear *Momordica charantia*	II	Scattered Plants or Clumps	CP-CH26N, CP-CH31A
		Linearly Scattered	CP-PG11
Guinea grass *Urochloa maximum*	II	Single Plant or Clump	CP-PG12B
		Scattered Plants or Clumps	CP-CC01, CP-PG01, CP-PG06, CP-PG07B, CP-PG09, CP-PG14
		Scattered Dense Patches	CP-CH27, CP-PG08A, CP-PG08B, CP-PG18
		Dominant Cover	CP-PG11, CP-PG12
Torpedo grass *Panicum repens*	I	Scattered plants or clumps	CP-CC12, CP-PC08A
		Scattered Dense Patches	CP-CC02A, CP-CC07, CP-CC08B, CP-CC09, CP-CC10A, CP-CC10B, CP-CC11AB, CP-PC02C, CP-PC02D, CP-PC03A, CP-PG11
		Dominant Cover	CP-PG12
		Linearly Scattered	CP-CC02B, CP-CC03, CP-CC04, CP-CC05, CP-CC06, CP-CC10C, CP-CC11AB, CP-PC07D, CP-PC08B, CP-PC08C
Water-lettuce *Pistia stratiotes*	I	Single Plant or Clump	CP-PG10
Downy rosemyrtle *Rhodomyrtus tomentosa*	I	Scattered Plants or Clumps	CP-PG04A, CP-PG04B, CP-PG06
		Scattered Dense Patches	CP-PG01
Largeflower Mexican clover *Richardia grandiflora*	II	Scattered Plants or Clumps	CP-CC02A, CP-CC09
		Scattered Dense Patches	CP-CC01, CP-PG11
Castor bean *Ricinus communis*	II	Scattered Plants or Clumps	CP-CH31C, CP-CH41
Chinese tallow tree	I	Single Plant or Clumps	CP-PG09, CP-PG10

Invasive Plant Species			
Species Name ***Scientific Name* - Common Name**	**FISC Category**	**Distribution**	**Zone ID**
Sapium sebiferum		Scattered Plants or Clumps	CP-PG04B, CP-PG12
Brazilian pepper *Schinus terebinthifolia*	I	Single Plant or Clump	CP-CC11C, CP-CH31B
		Scattered Plants or Clumps	CP-CC02A, CP-CC02B, CP-CC04, CP-CC06, CP-CC07, CP-CC08B, CP-CC09, CP-CC10B, CP-CC10C, CP-CC11AB, CP-CC13B, CP-CC14A, CP-CC21, CP-CC23E, CP-CC25, CP-CC30, CP-CC32, CP-CC34, CP-CC35, CP-CH01C, CP-CH03, CP-CH05, CP-CH14, CP-CH15, CP-CH16B, CP-CH23B1, CP-CH23B2, CP-CH23C, CP-CH23D, CP-CH26B, CP-CH26D1, CP-CH26D2, CP-CH26D3, CP-CH26E, CP-CH26G, CP-CH26H, CP-CH26I, CP-CH26J, CP-CH26K, CP-CH26L, CP-CH26M, CP-CH26O2, CP-CH27A, CP-CH27D, CP-CH28, CP-CH31A, CP-CH31C, CP-CH31D, CP-CH34, CP-CH36, CP-CH37, CP-CH41, CP-CH42, CP-CH43, CP-PC01, CP-PC04B, CP-PC05A, CP-PC07C, CP-PC07D, CP-PC08A, CP-PC08C, CP-PC08F, CP-PC19, CP-PG02, CP-PG06, CP-PG07A, CP-PG08A, CP-PG08B, CP-PG09,

Invasive Plant Species			
Species Name ***Scientific Name*** **- Common Name**	**FISC Category**	**Distribution**	**Zone ID**
			CP-PG10, CP-PG12, CP-PG12B, CP-PG13, CP-PG14, CP-PG18, CP-PG29, CP-PG30, CP-PI36, CP-PI37, CP-PI38, CP-PI39, CP-PI40, CP-PI41, CP-PI42, CP-PI43, CP-PI44
		Scattered Dense Patches	CP-CC08A, CP-CC11D, CP-CC12, CP-CC14B, CP-CC18A, CP-CC18C, CP-CC20, CP-CC23D, CP-CC26, CP-CC29, CP-CC34, CP-CH01A, CP-CH01B, CP-CH02, CP-CH05, CP-CH07, CP-CH08, CP-CH09, CPCH10, CP-CH11, CP-CH12, CP-CH13, CP-CH20, CP-CH21, CP-CH23A, CP-CH25, CP-CH26A, CP-CH26C, CP-CH26F, CP-CH26N, CP-CH26O1, CP-CH26P1, CP-CH26P2, CP-CH26Q, CP-CH26R, CP-CH27, CP-CH27B, CP-CH27C, CP-CH29, CP-CH30, CP-CH32, CP-CH33, CP-CH35, CP-CH39, CP-PC02D, CP-PC05B, CP-PC05C, CP-PC06B, CP-PC06C, CP-PC06D, CP-PC06F, CP-PC08B, CP-PC08E, CP-PC09B, CP-PC10, CP-PC11, CP-PC13, CP-PC15, CP-PC22, CP-PG01, CP-PG03, CP-PG04B,

Invasive Plant Species			
Species Name ***Scientific Name* - Common Name**	**FISC Category**	**Distribution**	**Zone ID**
			CP-PG05, CP-PG11, CP-PG12C, CP-PG15, CP-PG17A, CP-PG17B, CP-PG19A, CP-PG24, CP-PG28
		Linearly Scattered	CP-CC23B, CP-CC29, CP-CC31, CP-CH44, CP-CH45, CP-PC02A, CP-PC02B, CP-PC02F, CP-PC03A, CP-PC04A, CP-PC06A, CP-PC06E, CP-PC06G, CP-PC07A, CP-PC07B, CP-PC08D, CP-PC09A, CP-PC09E, CP-PC12, CP-PC14, CP-PC18, CP-PC20, CP-PC21, CP-PG16, CP-PG19B, CP-PG22, CP-PG23, CP-PG25, CP-PG26, CP-PG27, CP-PG28
Aquatic soda apple *Solanum tampicense*	I	Scattered plants or clumps	CP-PG12
Tropical soda apple *Solanum viarum*	I	Scattered dense patches	CP-PG13
Java plum *Syzygium cumini*	I	Single Plant or Clump	CP-CC02B, CP-PG10, CP-PG11
		Scattered Plants or Clumps	CP-CH33, CP-PG04B, CP-PG12, CP-PG15
Mahoe *Talipariti tiliaceum*	II	Scattered Plants or Clumps	CP-CC12, CP-CC29, CP-CH43, CP-CH45
		Linearly Scattered	CP-CC11AB, CP-CC25, CP-CC26, CP-PG28
West Indian almond *Terminalia catappa*	II	Scattered Plants or Clumps	CP-CH26J, CP-CH26Q
Portia tree; seaside mahoe *Thespesia populnea*	I	Scattered plants or clumps	CP-CH43, CP-CH45, CPPI39, CP-PI40
		Scattered Dense Patches	CP-PG28
		Linearly Scattered	CP-CC11AB, CP-CC25, CP-CC26, CP-PG28

Invasive Plant Species			
Species Name ***Scientific Name*** **- Common Name**	**FISC Category**	**Distribution**	**Zone ID**
Caesar's weed *Urena lobata*	I	Scattered Plants or Clumps	CP-CC01, CP-CC02A, CP-CC02B, CP-CC05, CP-CC06, CP-CC07, CP-CC08A, CP-CC08B, CP-CC09, CP-CC10B, CP-CC10C, CP-CH01C, CP-PG01, CP-PG07A, CP-PG11, CP-PG13, CP-PG17A, CP-PG18
		Scattered Dense Patches	CP-CC12, CP-CH01A, CP-CH27A, CP-CH27C, CP-PG09, CP-PG10, CP-PG12, CP-PG17B
Para grass *Urochloa mutica*	I	Scattered Plants or Clumps	CP-PG01
		Scattered Dense Patches	CP-CC08A, CP-PG12
		Dominant Cover	CP-PG11

SPECIAL MANAGEMENT CONSIDERATIONS

Marine Seagrass Bed

The seagrass bed community is extensive along the shorelines of Charlotte Harbor Preserve State Park and throughout Charlotte Harbor. These seagrass beds are part of the Charlotte Harbor Aquatic Preserve managed and monitored by DEP staff. Even though the seagrass bed community is outside of state park boundaries, these areas are no less important to the state park and its natural and imperiled resources. Seagrass is a photosynthesizing plant requiring sunlight to reach through the water column and has rhizomes anchoring it into the sediment. These expansive stands of vascular plants occur in subtidal or coastal waters where wave energy is moderate. Seagrass is a critical habitat and nursery area providing food and shelter for many commercial and recreational fisheries, including threatened and endangered species. Imperiled species that frequent seagrass beds for foraging include sea turtles, manatees and smalltooth sawfish. Seagrass provides many environmental benefits including sediment stabilization, increasing water clarity by trapping particulates, absorbing nutrients and carbon dioxide and producing oxygen. The monetary value of seagrasses has been estimated to be worth up to $19,000 per hectare and year (Costanza et al. 1997), with a local study in Pine Island Sound assessing the sea grass bed total economic value as approximately $93,490 per acre (Beever et al. 2012). Species found in Charlotte Harbor seagrass beds include turtle grass (*Thalassia testudinum*), manatee grass (*Syringodium filiforme*) and shoal grass (*Halodule wrightii*).

The seagrass bed health has been declining in Charlotte Harbor in recent years due to multiple factors including increased sedimentation from storms, propellor scarring and water quality. Aerial imagery captured bi-annually by the South Florida Water Management District (SFWMD) is used to determine the geographic extent of seagrass beds and assess changes over time. These coverage maps show signs of some seagrass bed loss from 2014 to 2021 throughout Charlotte Harbor.

Staff will continue to operate all vessels within designated channels and at speeds consistent with posted markers or observed conditions. The state park will display educational signage and provide educational materials to recreational boaters that visit the main park entrance. DRP staff will continue to coordinate with the Charlotte Harbor Aquatic Preserve on any proposed activities at the preserve that might have an impact within the adjacent aquatic preserve.

Arthropod Control Plan

All lands managed by the Division of Recreation and Parks (DRP) are designated as "environmentally sensitive and biologically highly productive" pursuant to Chapter 388, F.S. Mosquito control on DRP-managed lands shall be conducted in coordination with the applicable mosquito control district and in accordance with an approved Arthropod Management Plan, where one has been established. Charlotte Harbor Preserve State Park falls within two counties: Charlotte County and Lee County. In Charlotte County, an approved plan was finalized in 2021 and is available in the Southwest District Arthropod Control Plan appendix. The Lee County portion of Charlotte Harbor Preserve State Park falls under a generalized Lee County Mosquito Control District (LCMCD) mosquito control plan.

In Lee County, the LCMCD-DEP agreement provides a coordinated framework for mosquito control across multiple state park units and has been amended over time to incorporate treatment methods, restrictions and designated treatment areas. The agreement originated with the 1995 authorization for experimental use of Abate, which was subsequently approved following monitoring by Mote Marine Laboratory and incorporated into the 1999 Arthropod Management Plan Amendment. The 1999 Amendment also retained provisions for methoprene, Bti, and monomolecular films and established treatment and non-treatment areas. In 2017, DEP authorized limited aerial adulticiding within designated state parks, excluding Cayo Costa State Park, and in 2019 authorized the use of spinosad within designated areas. Authorization for spinosad use is valid for five years, after which LCMCD must reapply for authorization to continue its use. These provisions have been subsequently updated and are reflected in the current LCMCD-DEP agreement and applicable AMP, which establish authorized treatment areas, methods, restrictions, and coordination requirements.

Pursuant to section 388.45, F.S., if the State Health Officer or Commissioner of Agriculture declares a threat to human or animal health, respectively, ameliorative mosquito control necessary to prevent the spread of disease may be implemented notwithstanding otherwise applicable provisions governing arthropod control on public lands under section 388.4111, F.S.

See the Florida State Park System – Statewide Philosophy and Framework for additional information.

CHARLOTTE HARBOR PRESERVE STATE PARK

Existing Cultural Resource Conditions

CHARLOTTE HARBOR REGION

CULTURAL RESOURCES

Prehistoric and Historic Archaeological Sites

Charlotte Harbor Preserve State Park contains 137 cultural sites recorded in the Florida Master Site File (FMSF) within the boundaries of the Charlotte Harbor Preserve State Park. Charlotte Harbor Preserve State Park includes the intact remains of a unique and internationally recognized progression of human cultures who survived in an estuarine environment. Artifacts evaluated for the FMSF attest to more than 20 cultures and 13 site types represented in the preserve. Cultures represented include 20th-century American, 19th-century American, Spanish Period, Late Archaic, Caloosahatchee, Glades, Safety Harbor, St. Johns and Weeden Island. Site types include aboriginal boat, burials, prehistoric shell middens, prehistoric midden, prehistoric mound, historic refuse, artifact and ceramic scatters and prehistoric shell works. Most currently known cultural sites in the harbor were occupied by various human societies from 3000 B.C.E. to 300 C.E.

Catfish Point (8CH9): This is a large, crescent-shaped, shell midden on the west side of Catfish Creek near the town of Placida in the Cape Haze Management Unit. It has evidence of use dating from prehistoric times to the 1970s. There are remains of a 20th-century house and a substantially intact cistern remaining on the site. Twentieth-century farm implements remaining at the site suggest some past agricultural use.

Big Mound Key (8CH10): This is one of the largest and archaeologically complex sites in northern Charlotte Harbor. It is on the west side of Whidden Creek, in the Cape Haze Management Unit. It has evidence of use from prehistoric times to the 20th century. This site and the nearby Boggess Ridge sites (8CH16, 8CH19 and 8CH34) are listed in the NRHP as "The Big Mound Key – Boggess Ridge Archaeological District." The size and height of this site suggest that this was an important place to prehistoric people. It was used as a fruit grove as recently as the 1930s with residents documented until that time. It has also been the site of tremendous destruction by heavy equipment and shovel-wielding treasure hunters as recently as 1991.

Smith's Gap (8CH13): This is a midden site on a mangrove island in the Cape Haze Management Unit. It has evidence of prehistoric use by Native Americans.

Boggess Ridge (8CH16): This site is the westernmost of three sites located on Boggess Ridge. It is located north of Big Mound Key in the Cape Haze Management Unit. It has evidence of prehistoric use by Native Americans. This site, two other sites on Boggess Ridge (8CH19 and 8CH34) and Big Mound Key (8CH10) are listed in the NRHP as "The Big Mound Key – Boggess Ridge Archaeological District."

Hollenbeck (8CH17): This is a midden site on a mangrove island in the Cape Haze Management Unit. It has evidence of prehistoric use by Native Americans.

No Name (8CH19): This site is one of three sites located on Boggess Ridge. It is located north of Big Mound Key in the Cape Haze Management Unit. It has evidence of prehistoric use by Native Americans and during the Spanish colonial period. This site, two other sites on Boggess Ridge (8CH16 and 8CH34) and Big Mound Key (8CH10) are listed in the NRHP as "The Big Mound Key – Boggess Ridge Archaeological District."

Turtle Bay Point (8CH20): This is a midden site on the shoreline of Turtle Bay in the Cape Haze Management Unit. It has evidence of prehistoric use by Native Americans and use during the 20th century.

Fish Camp (8CH23): This is a midden site in the interior portion of the Cape Haze Management Unit, northwest of Cash Mound. It has evidence of prehistoric use by Native Americans and use during the 20th century.

Well Site (8CH24): This is a midden site in the interior portion of the Cape Haze Management Unit, northwest of Cash Mound. It has evidence of prehistoric use by Native Americans and use during the 20th century.

No Name (8CH34): This site is one of three sites located on Boggess Ridge. It is located north of Big Mound Key in the Cape Haze Management Unit. It has evidence of use during the historic period sometime since Florida became an American territory in 1821. This site, two other sites on Boggess Ridge (8CH16 and 8CH19) and Big Mound Key (8CH10) are listed in the NRHP as "The Big Mound Key – Boggess Ridge Archaeological District."

Between Site (8CH35): This is a midden site on a mangrove island in the Cape Haze Management Unit. It has evidence of prehistoric use by Native Americans.

Turtle Bay 1 (8CH36): This is a midden site on the shoreline of Turtle Bay in the Cape Haze Management Unit. It has evidence of prehistoric use by Native Americans.

Turtle Bay 2 (8CH37): This is a midden site on the shoreline of Turtle Bay in the Cape Haze Management Unit. It has evidence of prehistoric use by Native Americans and use during the 20th century. A historic fish house (8CH381, built in 1924) is located on the south side of the site. The fish house is not park property.

Turtle Bay 3 (8CH39): This is a midden site on the shoreline of Turtle Bay in the Cape Haze Management Unit. It has evidence of prehistoric use by Native Americans.

Sister Ponds Creek South (8CH40): This is a midden site on the shoreline of Turtle Bay in the Cape Haze Management Unit. It has evidence of prehistoric use by Native Americans.

The Cape (8CH44): This is a midden site on the shoreline of Turtle Bay in the Cape Haze Management Unit. It has evidence of prehistoric use by Native Americans and use during the historic period sometime since Florida became an American territory (1821).

Cape Haze (8CH48): This is a midden site on the shoreline southeast of Turtle Bay in the Cape Haze Management Unit. It has evidence of prehistoric use by Native Americans and use during the time when Florida was a Spanish Territory.

Halfway Site (8CH49): This is a midden site on the eastern shoreline of the Cape Haze Management Unit. It has evidence of prehistoric use by Native Americans.

Cattle Dock Point (8CH51): This is a midden site on the shoreline of Turtle Bay in the Cape Haze Management Unit. It has evidence of prehistoric use by Native Americans and use during the 20th century.

Sister Ponds Creek North (8CH58): This is a midden site on the shoreline of Turtle Bay in the Cape Haze Management Unit. It has evidence of prehistoric use by Native Americans.

Hog Island 1 (8CH60): This is a midden site on the shoreline of Hog Island in the Port Charlotte Management Unit. It has evidence of prehistoric use by Native Americans.

Acline Mound (8CH69): This is a shell mound on the shoreline of Alligator Creek in the Punta Gorda Management Unit. It has evidence of prehistoric use by Native Americans.

Huckaby Creek (8CH70): This is a sand mound on the shoreline of Huckaby Creek in the Port Charlotte Management Unit. It has evidence of prehistoric use by Native Americans.

Muddy Cove 1 (8CH71): This is a midden site on the southwest shoreline of Tippecanoe Bay in the Port Charlotte Management Unit. It has evidence of prehistoric use by Native Americans.

Muddy Cove Two (8CH72): This is a midden site on the southwest shoreline of Tippecanoe Bay in the Port Charlotte Management Unit. It has evidence of prehistoric use by Native Americans.

West Coral Creek Site (8CH74): This is a Paleo lithic scatter site unearthed during the excavation of nearby canals. The site extends outside of the park boundaries into the Rotonda West subdivision. It is in the Cape Haze Management Unit.

Tippecanoe Bay Midden (8CH87): This is a midden site on the shoreline of Tippecanoe Bay in the Port Charlotte Management Unit. It has evidence of prehistoric use by Native Americans.

Cockle Cache Site (8CH89): This is a midden site on the shoreline of Turtle Bay in the Cape Haze Management Unit. It has evidence of prehistoric use by Native Americans.

Open Sky Site (8CH90): This is a midden site on the shoreline of Turtle Bay in the Cape Haze Management Unit. It has evidence of prehistoric use by Native Americans.

Turtle Bay East (8CH91): This is a midden site on the shoreline of Turtle Bay in the Cape Haze Management Unit. It has evidence of prehistoric use by Native Americans.

Turtle Bay Cove (8CH92): This is a midden site on the shoreline of Turtle Bay in the Cape Haze Management Unit. It has evidence of prehistoric use by Native Americans.

Last Chance (8CH93): This is a midden site on the shoreline of Turtle Bay in the Cape Haze Management Unit. It has evidence of prehistoric use by Native Americans.

Cape Haze Mound (8CH347): This is a sand and shell mound in the interior of the peninsula on the east side of Turtle Bay in the Cape Haze Management Unit. It has evidence of prehistoric use by Native Americans.

Bird Dog Key (8CH348): This is a midden site on a mangrove island in the Cape Haze Management Unit. It has evidence of prehistoric use by Native Americans.

No Name (8CH349): This is a midden site on the shoreline of the Port Charlotte Management Unit. It has evidence of prehistoric use by Native Americans and historic use since the arrival of Europeans.

Grassy Point (8CH350): This is a midden site on the shoreline of the Port Charlotte Management Unit. It has evidence of prehistoric use by Native Americans and historic use since the arrival of Europeans.

Fish Hook (8CH351): This is a shell midden on the shoreline of Alligator Creek in the Punta Gorda Management Unit. It has evidence of prehistoric use by Native Americans.

Negash (8CH352): This is a shell midden about a quarter mile south of the shoreline of Alligator Creek in the Punta Gorda Management Unit. It has evidence of prehistoric use by Native Americans.

Dubois (8CH353): This is a shell midden about a quarter mile south of the shoreline of Alligator Creek in the Punta Gorda Management Unit. It has evidence of prehistoric use by Native Americans.

Alligator Creek Mound (8CH354): This is a shell midden about a quarter mile south of the shoreline of Alligator Creek in the Punta Gorda Management Unit. It has evidence of prehistoric use by Native Americans.

Cockroach (8CH355): This is a shell midden on the western shoreline of the Punta Gorda Management Unit. It has evidence of prehistoric use by Native Americans.

Whidden Branch (8CH356): This is a shell midden on Whidden Branch Creek in the Punta Gorda Management Unit. It has evidence of prehistoric use by Native Americans.

Black's Island (8CH359): This is a shell midden on the western shoreline of the Punta Gorda Management Unit. It has evidence of prehistoric use by Native Americans.

Lime Key (8CH360): This is a shell midden on an island in the Punta Gorda Management Unit. It has evidence of prehistoric use by Native Americans and use during the 20th century.

Fine's Key (8CH361): This is a shell midden on an island in the Punta Gorda Management Unit. It has evidence of prehistoric use by Native Americans and use during the 20th century.

Cotton Key (8CH362): This is a shell midden on an island in the Punta Gorda Management Unit. It has evidence of prehistoric use by Native Americans.

Little Lake (8CH450): This is a shell midden on the shoreline of a small pond in the Punta Gorda Management Unit. It has evidence of prehistoric use by Native Americans.

Sam Knight Creek #1 (8CH463): This site was designated because of an isolated find of a single lithic flake. It was unearthed by archaeologists during pre-construction testing done in advance of nearby development. This is evidence of prehistoric use by Native Americans. The site was along State Road 776 in the Port Charlotte Management Unit.

Acline Village (8CH479): This is a shell midden adjacent to Acline Mound (8CH69) in the Punta Gorda Management Unit. It has evidence of prehistoric use by Native Americans and use during the 20th century.

Gar Tree (8CH480): This is a shell midden in the interior of the Punta Gorda Management Unit. It has evidence of prehistoric use by Native Americans.

Black Cow (8CH481): This is a shell midden in the interior of the Punta Gorda Management Unit near the shoreline of a small wetland or pond. It has evidence of prehistoric use by Native Americans and use during the historic period sometime since Florida became an American territory in 1821.

Kessel Run (8CH482): This is a shell midden in the interior of the Punta Gorda Management Unit near the shoreline of a small wetland or pond. It has evidence of prehistoric use by Native Americans.

Mid-Lake (8CH483): This is a shell midden in the interior of the Punta Gorda Management Unit near the shoreline of a small wetland or pond. It has evidence of prehistoric use by Native Americans.

Cicada Lake (8CH484): This is a shell midden in the interior of the Punta Gorda Management Unit near the shoreline of a small wetland or pond. It has evidence of prehistoric use by Native Americans.

Cicada Point (8CH485): This is a shell midden in the interior of the Punta Gorda Management Unit near the shoreline of a small wetland or pond. It has evidence of prehistoric use by Native Americans.

Creek-Bend (8CH486): This is a shell midden on a small cove along Alligator Creek in the Punta Gorda Management Unit. It has evidence of prehistoric use by Native Americans and use during the historic period sometime since Florida became an American territory (1821) and use during the 20th century.

Bumblebee (8CH487): This is a shell midden on the shoreline of Charlotte Harbor in the Punta Gorda Management Unit. It has evidence of prehistoric use by Native Americans.

Prop-Wash (8CH488): This is a shell midden on the shoreline of Alligator Creek in the Punta Gorda Management Unit. It has evidence of prehistoric use by Native Americans.

No Name (8CH489): This is a 20th-century building foundation in the Punta Gorda Management Unit.

Powell Home (8CH490): This is a shell midden and historic debris related to a historic homestead on the shoreline of Alligator Creek in the Punta Gorda Management Unit. It has evidence of prehistoric use by Native Americans and use during the 20th century.

No Name (8CH491): This is a historic homestead site with debris and a capped well. It is located near Burnt Store Road in the Punta Gorda Management unit. It has evidence of 20th century use.

No Name (8CH492): This is a historic homestead site with miscellaneous historic debris. It is located near Burnt Store Road in the Punta Gorda Management unit. It has evidence of 20th century use.

Allapatchee Lodge Dump (8CH496): This area is reportedly a dump site for trash from a hunting and fishing lodge that was located on the north bank of Alligator Creek. It is in the Punta Gorda Management unit near the CHEC. It has evidence of 20th century use.

Christopher Waterway Midden (8CH487): This is a shell midden site on the shoreline of a small waterway in the Port Charlotte Management Unit with evidence of prehistoric use by Native Americans.

Amberjack Scrub (8CH504): This is a midden site in the interior of the Cape Haze Management Unit, near County-owned Amberjack Slough Preserve. It has evidence of prehistoric use by Native Americans.

Buckthorn (8CH506): This is a shell midden in the interior of the Punta Gorda Management Unit near the shoreline of a small wetland or pond. It has evidence of prehistoric use by Native Americans.

Cape Haze Stump Still #1 (8CH647): This site is a historic site in the interior of the Cape Haze Management Unit near Quality Mine. It has evidence of use during the 20th century.

Penny's Mound (8CH2160): This is a shell midden/mound on the shoreline of a small creek near Alligator Creek in the Punta Gorda Management Unit. It has evidence of prehistoric use by Native Americans.

Kristian's Midden (8CH2161): This is a shell midden in the interior of the Punta Gorda Management Unit near the shoreline of a small wetland or pond. It has evidence of prehistoric use by Native Americans.

Cotty – Loger Site (8CH2166): This is a shell midden site on the mangrove shoreline in the Cape Haze Management Unit. It has evidence of prehistoric use by Native Americans.

Washover (8CH2167): This is a shell midden site on the mangrove shoreline in the Cape Haze Management Unit. It has evidence of prehistoric use by Native Americans.

Two Bumps Site (8CH2170): This is a shell midden site on the mangrove shoreline in the Cape Haze Management Unit. It has evidence of prehistoric use by Native Americans.

Exclamation Site (8CH2171): This is a shell midden site on the mangrove shoreline in the Cape Haze Management Unit. It has evidence of prehistoric use by Native Americans.

Cape Haze Bay Site (8CH2172): This is a shell midden site on the mangrove shoreline in the Cape Haze Management Unit. It has evidence of prehistoric use by Native Americans.

Sea Daisy Site (8CH2173): This is a shell midden site on the mangrove shoreline in the Cape Haze Management Unit. It has evidence of prehistoric use by Native Americans.

Terrapin Site (8CH2174): This is a shell midden site on the mangrove shoreline in the Cape Haze Management Unit. It has evidence of prehistoric use by Native Americans.

Big Cutoff Site (8CH2176): This is a shell midden site on the mangrove shoreline in the Cape Haze Management Unit. It has evidence of prehistoric use by Native Americans.

Woolverton Site (8CH2179): This is a shell midden site on the mangrove shoreline in the Cape Haze Management Unit. It has evidence of prehistoric use by Native Americans.

Buttonwood (Ridges) (8CH2180): This is a shell midden site on the mangrove shoreline in the Cape Haze Management Unit. It has evidence of prehistoric use by Native Americans.

Cape Haze Tar Kiln#2 (8CH2182): This is a historic site in the interior of the Cape Haze Management Unit near Quality Mine. It has evidence of use during the 20th century.

Kings Crown Shell Scatter (8CH2183): This is a historic site and possibly a shell scatter type site in the interior of the Cape Haze Management Unit near Quality Mine. It has evidence of use during the 20th century and possibly prehistoric use.

Coral Creek Tar Kiln #1 (8CH2184): This is a historic site in the interior of the Cape Haze Management Unit near West Coral Creek. It has evidence of use during the 20th century.

Coral Creek Tar Kiln #2 (8CH2185): This is a historic site in the interior of the Cape Haze Management Unit near West Coral Creek. It has evidence of use during the 20th century.

Herty Cup Fragment Scatter (8CH2186): This is a historic site in the interior of the Cape Haze Management Unit near West Coral Creek. It has evidence of use during the 20th century.

Coral Creek Tar Kiln #3 (8CH2187): This is a historic site in the interior of the Cape Haze Management Unit near West Coral Creek. It has evidence of use during the 20th century.

Herty Cup Scatter (8CH2188): This is a historic site in the interior of the Cape Haze Management Unit near West Coral Creek. It has evidence of use during the 20th century.

Cape Haze Mound Too (8CH2189): This is a shell midden in the interior portion of the Cape Haze Management Unit, adjacent to the Cape Haze Mound (8CH347). It has evidence of prehistoric use by Native Americans and use during the 20th century.

Catfish West (8CH2190): This is a shell midden adjacent to Catfish Point (8CH9) on the mangrove shoreline in the Cape Haze Management Unit. It has evidence of prehistoric use by Native Americans.

Cape Haze Midden East (8CH2191): This is a shell midden site on the mangrove shoreline in the Cape Haze Management Unit. It has evidence of prehistoric use by Native Americans.

Catfish Lagoon Wooden Platform (8CH2192): This is a historic site associated with Catfish Point (8CH9). It has evidence of use during the 20th century.

Near Gate 5 (8CH2194): This was an isolated find of a single Lightning whelk in the scrub habitat near Gate 5, on Rotonda Trace, in the Cape Haze Management Unit.

The Angry Fisherman Site (8CH2705): This is a shell midden site on the mangrove shoreline in the Cape Haze Management Unit. It has evidence of prehistoric use by Native Americans.

The Fractured Site (8CH2706): This is a shell midden site on the mangrove shoreline in the Cape Haze Management Unit. It has evidence of prehistoric use by Native Americans.

Cattle Dock Point Road (8CH2715): This is a historic road/causeway in the Cape Haze Management Unit. It has evidence of use during the historic period sometime since Florida became an American territory (1821) and use during the 20th century.

Cormorant Key Site (8CH2716): This is a midden site on a mangrove island along the shoreline of the Punta Gorda Management Unit. It has evidence of prehistoric use by Native Americans and use during the historic period sometime since Florida became an American territory (1821) and use during the 20th century.

Lee County Sites

Sword Point (8LL9): This is a shell midden site on the mangrove shoreline of the Caloosahatchee in the Cape Coral Management Unit. It has evidence of prehistoric use by Native Americans. It is grouped with several other sites as a cultural resource group named "The Sword Point Complex" (8LL2540).

Pine Island II (8LL26): This is a shell midden in the mangrove swamps near the southeastern point of Pine Island which is part of the Pine Island Management Unit. It has evidence of prehistoric use by Native Americans. It is grouped with several other sites as a cultural resource group named "The Pine Island II Complex" (8LL2547).

Regla Island (8LL28): This is a shell midden site on the mangrove shoreline in the Cape Haze Management Unit. It has evidence of prehistoric use by Native Americans.

Coral Key (8LL29): This is a shell midden site on the mangrove shoreline in the Cape Haze Management Unit. It has evidence of prehistoric use by Native Americans.

Hooker Key (8LL30): This is a shell midden and homestead site on an island in Pine Island Sound which is part of the Pine Island Management Unit. It has evidence of prehistoric use by Native Americans and use during the 20th century. This site still has a substantially intact cistern.

Josslyn Island (8LL32): This is a National Register Historic Site on an island in Pine Island Sound which is part of the Pine Island Management Unit. It is a large shell mound with numerous significant architectural features related to prehistoric use by Native Americans. It also has an intact cistern which dates to the late 19th century and is related to a homestead and farm and/or fruit grove which operated at the site.

Bird Rookery Keys (8LL64): This is a shell midden on an island in Matlacha Pass which is part of the Cape Coral Management Unit. It has evidence of prehistoric use by Native Americans and use during the 20th century.

Mason Island (8LL65): This is a shell midden and homestead site on an island in Pine Island Sound which is part of the Pine Island Management Unit. It has evidence of prehistoric use by Native Americans and use during the 20th century.

Cape Coral (8LL88): This is a shell midden site on the mangrove shoreline of the Caloosahatchee in the Cape Coral Management Unit. It has evidence of prehistoric and historic use by Native Americans.

Glovers Bight (8LL89): This is a shell midden site on the mangrove shoreline of the Caloosahatchee in the Cape Coral Management Unit. It has evidence of prehistoric use by Native Americans.

No Name (8LL90): This is a shell midden site on the mangrove shoreline of the Caloosahatchee in the Cape Coral Management Unit. It has evidence of prehistoric use by Native Americans.

No Name (8LL91): This is a shell midden site on the mangrove shoreline of the Caloosahatchee in the Cape Coral Management Unit. It has evidence of prehistoric and historic use by Native Americans. It is grouped with several other sites as a cultural resource group named "The Pine Island II Complex" (8LL2547).

McCardle Island (8LL773): This is a shell midden on an island in Matlacha Pass which is part of the Cape Coral Management Unit. It has evidence of prehistoric use by Native Americans.

Reckem's Point (8LL774): This is a shell midden on the shoreline of Matlacha Pass which is part of the Cape Coral Management Unit. It has evidence of prehistoric use by Native Americans.

Three Canoe (8LL776): This site was recorded as the location of aboriginal watercraft. Frequent visits by FPS staff and visits by DHR staff have failed to locate any evidence of these watercraft in the location specified.

Underhill Point (8LL1412): This is a shell midden on the shoreline of Matlacha Pass which is part of the Cape Coral Management Unit. It has evidence of prehistoric use by Native Americans.

Matlacha Pass 1 (8LL1913): This is a shell midden on an island in Matlacha Pass which is part of the Cape Coral Management Unit. It has evidence of prehistoric use by Native Americans.

Boca Grande #1 (8LL1946): This is a shell midden on Gasparilla Island. Most of the site is located on private uplands, but a portion of the site is submerged on land that is part of the state lands that are included in the Charlotte Harbor Preserve State Park/DRP Lease No. 4085. It is in the Cape Haze Management Unit. It has evidence of prehistoric use by Native Americans.

Laakonen Site (8LL2023): This is a shell midden on an island in Pine Island Sound which is part of the Cape Coral Management Unit. It has evidence of prehistoric use by Native Americans and use during the 20th century.

Hidden Cove (8LL2486): This is a shell midden on the shoreline of the Caloosahatchee which is part of the Cape Coral Management Unit. It has evidence of prehistoric use by Native Americans. It is grouped with several other sites as a cultural resource group named "The Sword Point Complex" (8LL2540).

Boomerang (8LL2487): This is a shell midden on the shoreline of the Caloosahatchee which is part of the Cape Coral Management Unit. It has evidence of prehistoric use by Native Americans. It is grouped with several other sites as a cultural resource group named "The Sword Point Complex" (8LL2540).

Mapache Muerto (8LL2488): This is a shell midden in the mangrove swamps near Sword Point which is part of the Cape Coral Management Unit. It has evidence of prehistoric use by Native Americans. It is grouped with several other sites as a cultural resource group named "The Sword Point Complex" (8LL2540).

Aspiolea (8LL2489): This is a shell midden in the mangrove swamps near Sword Point which is part of the Cape Coral Management Unit. It has evidence of prehistoric use by Native Americans. It is grouped with several other sites as a cultural resource group named “The Sword Point Complex” (8LL2540).

The Blanchard Site (8LL2490): This is a shell midden on the shoreline of the Caloosahatchee which is part of the Cape Coral Management Unit. It has evidence of prehistoric use by Native Americans. It is grouped with several other sites as a cultural resource group named “The Sword Point Complex” (8LL2540).

Fish Weir (8LL2491): This is a site that is submerged in Punta Blanca Creek just north of the Caloosahatchee which is part of the Cape Coral Management Unit. It has evidence of prehistoric use by Native Americans. It is grouped with several other sites as a cultural resource group named “The Sword Point Complex” (8LL2540).

Sword Point Pond (8LL2492): This is a submerged site that flows into Punta Blanca Creek north of the Caloosahatchee, which is part of the Cape Coral Management Unit. It has evidence of prehistoric use by Native Americans. It is grouped with several other sites as a cultural resource group named “The Sword Point Complex” (8LL2540).

Blocker Site (8LL2493): This is a shell midden on an island in Matlacha Pass which is part of the Cape Coral Management Unit. It has evidence of prehistoric use by Native Americans.

Mapache Rubio (8LL2523): This is a shell midden on the shoreline of Matlacha Pass which is part of the Cape Coral Management Unit. It has evidence of prehistoric use by Native Americans.

Midden B (8LL2533): This is a shell midden in the mangrove swamps near the southeastern point of Pine Island which is part of the Pine Island Management Unit. It has evidence of prehistoric use by Native Americans. It is grouped with several other sites as a cultural resource group named “The Pine Island II Complex” (8LL2547).

Midden C (8LL2534): This is a shell midden in the mangrove swamps near the southeastern point of Pine Island which is part of the Pine Island Management Unit. It has evidence of prehistoric use by Native Americans. It is grouped with several other sites as a cultural resource group named “The Pine Island II Complex” (8LL2547).

Midden D (8LL2535): This is a shell midden in the mangrove swamps near the southeastern point of Pine Island which is part of the Pine Island Management Unit. It has evidence of prehistoric use by Native Americans. It is grouped with several other sites as a cultural resource group named “The Pine Island II Complex” (8LL2547).

Midden E (8LL2536): This is a shell midden in the mangrove swamps near the southeastern point of Pine Island which is part of the Pine Island Management Unit. It has evidence of prehistoric use by Native Americans. It is grouped with several other sites as a cultural resource group named “The Pine Island II Complex” (8LL2547).

Midden F (8LL2537): This is a shell midden in the mangrove swamps near the southeastern point of Pine Island which is part of the Pine Island Management Unit. It has evidence of prehistoric use by Native Americans. It is grouped with several other sites as a cultural resource group named “The Pine Island II Complex” (8LL2547).

Midden G (8LL2538): This is a shell midden in the mangrove swamps near the southeastern point of Pine Island which is part of the Pine Island Management Unit. It has evidence of prehistoric use by Native Americans. It is grouped with several other sites as a cultural resource group named "The Pine Island II Complex" (8LL2547).

Midden H (8LL2539): This is a shell midden in the mangrove swamps near the southeastern point of Pine Island which is part of the Pine Island Management Unit. It has evidence of prehistoric use by Native Americans. It is grouped with several other sites as a cultural resource group named "The Pine Island II Complex" (8LL2547).

Last Day (8LL2544): This is a shell midden in the mangrove swamps near Sword Point which is part of the Cape Coral Management Unit. It has evidence of prehistoric use by Native Americans.

Richmond (8LL2545): This is a shell midden in the mangrove swamps near Sword Point which is part of the Cape Coral Management Unit. It has evidence of prehistoric use by Native Americans.

Stand Alone (8LL2546): This is a shell midden in the mangrove swamps near Sword Point which is part of the Cape Coral Management Unit. It has evidence of prehistoric use by Native Americans.

Carr's Cape Coral Barge (8LL2631): This is a sunken watercraft dated to the late 19th or early 20th century. It is located near Glover Bight on the Caloosahatchee in the Cape Coral Management Unit.

In 2014, a predictive model for cultural resources was published. The research that led to this publication was commissioned by DRP and was completed by the University of South Florida. "Archaeological Resource Sensitivity Modeling in Florida State Parks Districts 4 and 5: The Southwest and Southeast Florida Regions" is the first comprehensive predictive model developed for the Charlotte Harbor Preserve State Park. This predictive model will be a useful tool when considering ground disturbances in conjunction with hydrological restoration and future park development. The model predicts the presence or absence of cultural resources throughout the park. It designates 104.52 acres as having a high probability for the presence of cultural resources; 1,051.35 acres has a medium probability for presence of cultural resources; and 42,932.41 acres having a low probability for presence of cultural resources.

Of the 137 sites in the park, 91 sites are in good condition, 41 sites have been evaluated to be in fair condition and five are in poor condition. All sites listed in poor condition are listed as such due to erosion. All but three of the sites listed in fair condition are listed as such due to erosion. Two sites, Big Mound Key (8CH10) and Josslyn Island (8LL32) have both been the targets of illegal activity including the digging of large pits and/or trenches. Bringing these sites into good condition will require professional evaluation of any features that may be endangered and stabilizing them to prevent further degradation.

While several surveys, assessments and stabilization of sites have been conducted, not all the archaeological sites in the preserve have been assessed in recent years. Over time, these sites have suffered significant damage from misinformed treasure hunters, avocational archaeologists and natural events. In addition to human vandalism and disturbance, natural forces are instrumental in the damage or potential destruction of many of these valuable cultural resources.

Since 1998, Charlotte Harbor Preserve has been systematically searched for cultural resources with new sites recorded and old sites reviewed and updated for the FMSF. It is likely that additional cultural resources are present on the preserve, and they will continue to be identified and recorded. This work is being done by preserve staff in cooperation with and with the guidance of DHR staff. All cultural resource activities will be permitted through the DHR accordingly. Preserve staff works closely with FWC

and DHR to manage and protect these cultural sites. During the past 17 years, arrests and convictions have been obtained for site looters, and several areas have been restored to their original contours. The preserve has supported and funded several archaeological surveys and restoration efforts in the past.

There are five sites in Charlotte Harbor Preserve currently listed in the NRHP. An additional 132 sites need to be evaluated to determine their level of significance. Of the 137 sites in the park, three sites are currently identified as needing restoration work. Catfish Point (8CH9), Big Mound Key (8CH10) and Josslyn Island (8LL32) all have significant damage caused by site looting. The restoration work will require the movement of spoil back into the pits from which it was removed. Typically, this is done in conjunction with "mitigation" work. Whereby, investigators can examine the deepest parts of the already disturbed pit, extract suitable material for radiocarbon dating and document the stratigraphy of the site. Any restoration will be closely coordinated with the DHR to ensure compliance with all applicable rules and regulations.

No historic structures or landscapes within the park are listed in the FMSF. However, three historic cisterns have been documented at Catfish Point (8CH9), Josslyn Island (8LL32) and Hooker Key (8LL30). A professional evaluation of these historic structures will be needed prior to taking any action.

Cultural Sites Listed in the Florida Master Site File					
Site Name and FMSF #	**Culture/Period**	**Description**	**Significance**	**Condition**	**Treatment**
CH9 Catfish Point	American, 1821–Present American, 20th Century Caloosahatchee IIA Caloosahatchee IIB Caloosahatchee III Glades, 1000 B.C.E.–C.E. 1700 Manasota, 700 B.C.E.–C.E. 700 Perico Island Prehistoric - Ceramic Prehistoric - Unspecified	Archaeological Site/Historic Structure	NR	F	RS
CH10 Big Mound Key	American, 1821–present American, 20th Century Archaic, Unspecified First Spanish Period, 1513–1763 Glades, 1000 B.C.E.–C.E. 1700 Manasota, 700 B.C.E.–C.E. 700 Perico Island Prehistoric - Unspecified Safety Harbor, C.E. 1000–1500 Spanish, First or Second Period St. Johns II, C.E. 800–1500 Weeden Island, C.E. 450–1000	Archaeological Site	NRL	F	RS
CH13 Smith's Gap	Glades, 1000 B.C.E.–C.E. 1700 Perico Island Prehistoric – Ceramic	Archaeological Site	NE	G	P
CH16 Boggess Ridge	Weeden Island, C.E. 450–1000 Weeden Island II	Archaeological Site	NRL	G	P
CH17 Hollenbeck	Caloosahatchee IIB Caloosahatchee III Glades, 1000 B.C.E.–C.E. 1700 Perico Island Prehistoric – Ceramic Prehistoric – Unspecified	Archaeological Site	NE	G	P
CH19 No Name	Spanish, First or Second Period Weeden Island, C.E. 450–1000 Weeden Island II	Archaeological Site	NRL	G	P
CH20 Turtle Bay Point	American, 20th Century Glades, 1000 B.C.E.–C.E. 1700 Perico Island Prehistoric – Ceramic St. Johns II, C.E. 800–1500	Archaeological Site	NE	F	P

Cultural Sites Listed in the Florida Master Site File					
Site Name and FMSF #	**Culture/Period**	**Description**	**Significance**	**Condition**	**Treatment**
CH23 Fish Camp	American, 1821–Present Indeterminate Prehistoric – Unspecified	Archaeological Site	NE	G	P
CH24 Well Site	American, 1821–Present Indeterminate	Archaeological Site	NE	G	P
CH34 No Name	American, 1821–Present	Archaeological Site	NRL	G	P
CH35 Between Site	Glades, 1000 B.C.E.–C.E. 1700 Perico Island Prehistoric - Ceramic	Archaeological Site	NE	G	P
CH36 Turtle Bay 1	Caloosahatchee IIA Glades, 1000 B.C.E.–C.E. 1700 Perico Island Prehistoric – Ceramic Prehistoric – Unspecified	Archaeological Site	NE	F	P
CH37 Turtle Bay 2	American, 20th Century Caloosahatchee 500 B.C.E.–1700 C.E. Caloosahatchee I Caloosahatchee IIA Caloosahatchee IIB Glades, 1000 B.C.E.–C.E. 1700 Late Archaic Perico Island Prehistoric – Ceramic	Archaeological Site	NE	F	P
CH39 Turtle Bay 3	Glades, 1000 B.C.E.–C.E. 1700 Perico Island Prehistoric – Ceramic	Archaeological Site	NE	F	P
CH40 Sister Ponds Creek South	Glades, 1000 B.C.E.–C.E. 1700 Perico Island Prehistoric – Ceramic	Archaeological Site	NE	F	P
CH44 The Cape	American, 1821–Present Glades, 1000 B.C.E.–C.E. 1700 Prehistoric – Ceramic St. Johns II, C.E. 800–1500 St. Johns, 700 B.C.E.–C.E. 1500	Archaeological Site	NE	G	P
CH45 John Quiet Mound	Glades, 1000 B.C.E.–C.E. 1700 Perico Island Safety Harbor, C.E. 1000–1500 St. Johns II, C.E. 800–1500 Transitional, 1000 B.C.E.–700 B.C.E.	Archaeological Site	NR	F	P

Cultural Sites Listed in the Florida Master Site File					
Site Name and FMSF #	**Culture/Period**	**Description**	**Significance**	**Condition**	**Treatment**
CH48 Cape Haze	Glades II, C.E. 750–1200 Glades III, C.E. 1000–1700 Perico Island Prehistoric – Ceramic Safety Harbor, C.E. 1000–1500 Spanish, First or Second Period St. Johns II, C.E. 800–1500	Archaeological Site	NE	P	P
CH49 Halfway Site	Indeterminate	Archaeological Site	NE	P	P
CH51 Cattle Dock Point	Glades, 1000 B.C.E.–C.E. 1700 Perico Island Safety Harbor, C.E. 1000–1500	Archaeological Site	NE	F	P
CH58 Sister Ponds Creek North	Caloosahatchee I Caloosahatchee IIA Glades, 1000 B.C.E.–C.E. 1700 Perico Island Prehistoric – Ceramic	Archaeological Site	NE	F	P
CH60 Hog Island 1	Glades, 1000 B.C.E.–C.E. 1700 Perico Island	Archaeological Site	NE	P	P
CH69 Acline Mound	Caloosahatchee IIA Caloosahatchee IIB Glades, 1000 B.C.E.–C.E. 1700 Indeterminate	Archaeological Site	NR	G	P
CH70 Huckaby Creek	Indeterminate	Archaeological Site	NE	G	P
CH71 Muddy Cove 1	Glades II, C.E. 750–1200 Glades, 1000 B.C.E.–C.E. 1700	Archaeological Site	NE	G	P
CH72 Muddy Cove Two	Caloosahatchee IIB Caloosahatchee III Glades II, C.E. 750–1200 Glades, 1000 B.C.E.–C.E. 1700	Archaeological Site	NE	G	P
CH74 West Coral Creek Site	Archaic – Unspecified Early Archaic	Archaeological Site	NE	NE	N/A
CH87 Tippecanoe Bay Midden	Glades II, C.E. 750 – 1200 Safety Harbor, C.E. 1000 – 1500 Weeden Island 2	Archaeological Site	NE	G	P
CH89 Cockle Cache Site	Prehistoric – Ceramic Prehistoric – Unspecified	Archaeological Site	NE	G	P
CH90 Open Sky Site	Prehistoric – Ceramic Prehistoric – Unspecified	Archaeological Site	NE	G	P

Cultural Sites Listed in the Florida Master Site File					
Site Name and FMSF #	**Culture/Period**	**Description**	**Significance**	**Condition**	**Treatment**
CH91 Turtle Bay East	Prehistoric – Ceramic	Archaeological Site	NE	F	P
CH92 Turtle Bay Cove	Prehistoric – Ceramic Prehistoric – Unspecified	Archaeological Site	NE	F	P
CH93 Last Chance	Prehistoric – Ceramic	Archaeological Site	NE	G	P
CH347 Cape Haze Mound	Caloosahatchee IIA Prehistoric – Ceramic Prehistoric – Unspecified	Archaeological Site	NE	G	P
CH348 Bird Dog Key	Caloosahatchee IIA Prehistoric – Ceramic	Archaeological Site	NE	G	P
CH349 No Name	Caloosahatchee I Caloosahatchee IV Historic – Unspecified Prehistoric – Ceramic	Archaeological Site	NE	G	P
CH350 Grassy Point	Historic – Unspecified Prehistoric – Ceramic Prehistoric – Unspecified	Archaeological Site	NE	G	P
CH351 Fish Hook	Caloosahatchee IIA Glades, 1000 B.C.E.–C.E. 1700 Prehistoric – Ceramic	Archaeological Site	NE	G	P
CH352 Negash	Caloosahatchee IIB Glades, 1000 B.C.E.–C.E. 1700 Prehistoric – Ceramic	Archaeological Site	NE	G	P
CH353 Dubois	Caloosahatchee 500 B.C.E.– C.E. 1700 Caloosahatchee IIA Glades I, 1000 B.C.E.–C.E. 750 Glades, 1000 B.C.E.–C.E. 1700 Prehistoric – Ceramic	Archaeological Site	NE	G	P
CH354 Alligator Creek Mound	Caloosahatchee 500 B.C.E.– C.E. 1700 Caloosahatchee IIA Glades I, 1000 B.C.E.–C.E. 750 Caloosahatchee IIB Prehistoric – Ceramic	Archaeological Site	NE	G	P
CH355 Cockroach	American, 20th Century Caloosahatchee IIB Glades, 1000 B.C.E.–C.E. 1700 Prehistoric – Ceramic	Archaeological Site	NE	P	P

Cultural Sites Listed in the Florida Master Site File					
Site Name and FMSF #	**Culture/Period**	**Description**	**Significance**	**Condition**	**Treatment**
CH356 Whidden Branch	Caloosahatchee I Caloosahatchee IIA Caloosahatchee IIB Glades, 1000 B.C.E.–C.E. 1700 Late Archaic Prehistoric – Ceramic	Archaeological Site	NE	G	P
CH359 Black's Island	Caloosahatchee IIB Prehistoric – Ceramic	Archaeological Site	NE	P	P
CH360 Lime Key	American, 20th Century Caloosahatchee IIB Historic – Unspecified Prehistoric – Ceramic	Archaeological Site	NE	G	P
CH361 Fine's Key	Caloosahatchee IIA Caloosahatchee IIB Caloosahatchee III Historic – Unspecified Prehistoric – Ceramic Prehistoric – Unspecified	Archaeological Site	NE	G	P
CH362 Cotton Key	Caloosahatchee III Caloosahatchee IV Prehistoric – Ceramic	Archaeological Site		G	
CH450 Little Lake	Caloosahatchee 500 B.C.E.– C.E. 1700 Caloosahatchee I Caloosahatchee IIA Glades I, 1000 B.C.E.–C.E. 750 Glades, 1000 B.C.E.–C.E. 1700 Prehistoric – Unspecified Weeden Island, C.E. 450–1000	Archaeological Site	NE	G	P
CH463 Sam Knight Creek #1	Prehistoric – Aceramic	Archaeological Site	NS	G	P
CH479 Acline Village	American, 20th Century Caloosahatchee 500 B.C.E.– C.E. 1700 Caloosahatchee IIA Caloosahatchee IIB Glades I, 1000 B.C.E.–C.E. 750 Glades, 1000 B.C.E.–C.E. 1700	Archaeological Site	NE	G	P
CH480 Gar Tree	Glades I, 1000 B.C.E.–C.E. 750 Glades, 1000 B.C.E.–C.E. 1700 Prehistoric – Unspecified	Archaeological Site	NE	G	P

Cultural Sites Listed in the Florida Master Site File					
Site Name and FMSF #	**Culture/Period**	**Description**	**Significance**	**Condition**	**Treatment**
CH481 Black Cow	American, 1821–Present Caloosahatchee 500 B.C.E.– C.E. 1700 Caloosahatchee IIB Glades, 1000 B.C.E.–C.E. 1700 Prehistoric – Ceramic Weeden Island II	Archaeological Site	NE	G	P
CH482 Kessel Run	Glades, 1000 B.C.E.–C.E. 1700 Late Archaic	Archaeological Site	NE	G	P
CH483 Mid-Lake	Caloosahatchee I Glades, 1000 B.C.E.–C.E. 1700	Archaeological Site	NE	G	P
CH484 Cicada Lake	Caloosahatchee I Caloosahatchee IIA Glades, 1000 B.C.E.–C.E. 1700 Late Archaic	Archaeological Site	NE	G	P
CH485 Cicada Point	Caloosahatchee IIA Glades, 1000 B.C.E.–C.E. 1700	Archaeological Site	NE	G	P
CH486 Creek-Bend	American, 1821–Present American, 20th Century Caloosahatchee 500 B.C.E.– C.E. 1700 Caloosahatchee IIA Glades I, 1000 B.C.E.–C.E. 750 Glades, 1000 B.C.E.–C.E. 1700 Prehistoric – Ceramic	Archaeological Site	NE	F	P
CH487 Bumblebee	Caloosahatchee IIA Glades, 1000 B.C.E.–C.E. 1700 Historic – Unspecified Prehistoric – Ceramic	Archaeological Site	NE	G	P
CH488 Prop-Wash	Caloosahatchee IIA Caloosahatchee IIB Glades, 1000 B.C.E.–C.E. 1700	Archaeological Site	NE	F	P
CH489	American, 20th Century Prehistoric – Ceramic	Archaeological Site	NE	G	P
CH490 Powell Home	American, 20th Century Prehistoric – Ceramic	Archaeological Site/Historic Debris	NE	F	P
CH491 No Name	American, 20th Century	Archaeological Site	NS	G	P
CH492 No Name	American, 20th Century	Archaeological Site	NS	G	P

Cultural Sites Listed in the Florida Master Site File					
Site Name and FMSF #	**Culture/Period**	**Description**	**Significance**	**Condition**	**Treatment**
CH496 Allapatchee Lodge Dump	American, 20th Century	Archaeological Site	NS	G	P
CH497 Christopher Waterway Midden	Glades, 1000 B.C.E.–C.E. 1700 Prehistoric – Ceramic	Archaeological Site	NE	F	P
CH504 Amberjack Scrub	Other Prehistoric – Ceramic Aboriginal Ceramic – Uncertain Dates	Archaeological Site	NS	G	P
CH506 Buckthorn	Caloosahatchee I Caloosahatchee IIA	Archaeological Site	NE	G	P
CH647 Cape Haze Stump Still #1	American, 20th Century	Archaeological Site	NE	G	P
CH2160 Penny's Mound	Prehistoric – Ceramic	Archaeological Site	NE	G	P
CH2161 Kristian's Midden	Prehistoric – Ceramic	Archaeological Site	NE	G	P
CH2167 Washover	Prehistoric – Ceramic	Archaeological Site	NE	G	P
CH2170 Two Bumps Site	Prehistoric – Ceramic	Archaeological Site	NE	G	P
CH2171 Exclamation Site	Prehistoric – Ceramic	Archaeological Site	NE	G	P
CH2172 Cape Haze Bay Site	Prehistoric – Ceramic	Archaeological Site	NE	F	P
CH2173 Sea Daisy Site	Prehistoric – Ceramic	Archaeological Site	NE	G	P
CH2174 Terrapin Site	Prehistoric – Ceramic	Archaeological Site	NE	G	P
CH2176 Big Cutoff Site	Prehistoric – Ceramic	Archaeological Site	NE	G	P
CH2179 Woolverton Site	Prehistoric – Ceramic	Archaeological Site	NE	G	P
CH2180 Buttonwood (Ridges)	Prehistoric – Ceramic	Archaeological Site	NE	G	P

Cultural Sites Listed in the Florida Master Site File					
Site Name and FMSF #	**Culture/Period**	**Description**	**Significance**	**Condition**	**Treatment**
CH2182 Cape Haze Tar Kiln#2	American, 20th Century	Archaeological Site	NE	G	P
CH2183 Kings Crown Shell Scatter	American, 20th Century Prehistoric – Unspecified	Archaeological Site	NE	G	P
CH2184 Coral Creek Tar Kiln #1	American, 20th Century	Archaeological Site	NE	F	P
CH2185 Coral Creek Tar Kiln #2	American, 20th Century	Archaeological Site	NE	F	P
CH2186 Herty Cup Fragment Scatter	American, 20th Century	Archaeological Site	NE	G	P
CH2187 Coral Creek Tar Kiln #3	American, 20th Century	Archaeological Site	NE	F	P
CH2188 Herty Cup Scatter	American, 20th Century	Archaeological Site	NE	G	P
CH2189 Cape Haze Mound Too	American, 20th Century	Archaeological Site	NE	G	P
CH2190 Catfish West	Prehistoric – Ceramic	Archaeological Site	NE	F	P
CH2191 Cape Haze Midden East	Prehistoric – Ceramic	Archaeological Site	NE	F	P
CH2192 Catfish Lagoon Wooden Platform	American, 20th Century	Archaeological Site	NE	F	P
CH2194 Near Gate 5	American, 1821–Present	Archaeological Site	NE	G	P
CH2705 The Angry Fisherman Site	Caloosahatchee 500 B.C.E.– C.E. 1700	Archaeological Site	NE	F	P

Cultural Sites Listed in the Florida Master Site File					
Site Name and FMSF #	**Culture/Period**	**Description**	**Significance**	**Condition**	**Treatment**
CH2706 The Fractured Site	Caloosahatchee 500 B.C.E.– C.E. 1700	Archaeological Site	NE	F	P
CH2715 Cattle Dock Point Road	American, 1821–Present	Archaeological Site	NE	G	P
CH2716 Cormorant Key Site	American, 1821–Present Prehistoric – Ceramic	Archaeological Site	NE	F	P
LL9 Sword Point	Caloosahatchee 500 B.C.E.– C.E. 1700 Mississippian Prehistoric – Unspecified Safety Harbor, C.E. 1000–1500 Weeden Island C.E. 450–1000	Archaeological Site	NE	F	P
LL26 Pine Island 2	Caloosahatchee 500 B.C.E.– C.E. 1700 Prehistoric – Unspecified	Archaeological Site	NE	G	P
LL28 Regla Island	Prehistoric – Unspecified	Archaeological Site	NE	G	P
LL29 Coral Key	Prehistoric – Unspecified	Archaeological Site	NE	NE	N/A
LL30 Hooker Key	American, 20th Century Caloosahatchee 500 B.C.E.– C.E. 1700 Caloosahatchee IIA Caloosahatchee IIB Caloosahatchee III European Miscellaneous Glades I, 1000 B.C.E.–C.E. 750 Prehistoric – Ceramic Early to Middle Caloosahatchee I	Archaeological Site/Historic Structure	NE	G	P

Cultural Sites Listed in the Florida Master Site File					
Site Name and FMSF #	**Culture/Period**	**Description**	**Significance**	**Condition**	**Treatment**
LL32 Josslyn Island	American, 19th Century 1821–1899 American, 20th Century Caloosahatchee 500 B.C.E.– C.E. 1700 Caloosahatchee I Caloosahatchee IIA Caloosahatchee IIB Caloosahatchee III Caloosahatchee V First Spanish Period 1513–1763 Glades I, 1000 B.C.E.–C.E. 750 Glades II, C.E. 750–1200 Glades III, C.E. 1000–1700 Other	Archaeological Site/Historic Structure	NRL	F	RS
LL64 Bird Rookery Keys	American, 20th Century Caloosahatchee I Caloosahatchee IIA Prehistoric – Unspecified	Archaeological Site	NE	F	P
LL65 Mason Island	American, 20th Century Caloosahatchee 500 B.C.E.– C.E. 1700 Caloosahatchee I Caloosahatchee IIA Caloosahatchee IIB Caloosahatchee III Caloosahatchee IV Glades II, C.E. 750–1200 Glades, 1000 B.C.E.–C.E. 1700 Historic – Unspecified Prehistoric – Unspecified	Archaeological Site	NE	G	P
LL88 Cape Coral	Belle Glade, 700 B.C.E.–C.E. 1700 Glades III, C.E. 1000–1700 Leon – Jefferson Other Sand Tempered Plain	Archaeological Site	NE	F	P
LL89 Glovers Bight	Caloosahatchee 500 B.C.E.– C.E. 1700 Other Weeden Island C.E. 450–1000 Sand Tempered Plain	Archaeological Site	NE	F	P
LL90 No Name	Prehistoric – Ceramic	Archaeological Site	NE	F	P

Cultural Sites Listed in the Florida Master Site File					
Site Name and FMSF #	**Culture/Period**	**Description**	**Significance**	**Condition**	**Treatment**
LL91 No Name	Glades, 1000 B.C.E.–C.E. 1700 Leon – Jefferson Mississippian Weeden Island C.E. 450–1000	Archaeological Site	NE	F	P
LL773 McCardle Island	Glades, 1000 B.C.E.–C.E. 1700	Archaeological Site	NE	G	P
LL774 Reckems Point	Glades, 1000 B.C.E.–C.E. 1700	Archaeological Site	NE	F	P
LL776 Three Canoe	Prehistoric – Unspecified	Archaeological Site	NE	NE	N/A
LL1412 Underhill Point	Mississippian Weeden Island C.E. 450–1000	Archaeological Site	NE	NE	N/A
LL1913 Matlacha Pass 1	Weeden Island C.E. 450–1000	Archaeological Site	NE	G	P
LL1946 Boca Grande #1	Caloosahatchee IIA Caloosahatchee IIB Caloosahatchee III CA. C.E. 500–1500	Archaeological Site	NE	F	P
LL2023 Laakonen Site	Prehistoric – Unspecified	Archaeological Site	NE	G	P
LL2486 Hidden Cove	Mississippian	Archaeological Site	NE	F	P
LL2487 Boomerang	Mississippian	Archaeological Site	NE	F	P
LL2488 Mapache Muerto	Caloosahatchee 500 B.C.E.–C.E. 1700 Mississippian	Archaeological Site	NE	F	P
LL2489 Aspiolea	Mississippian	Archaeological Site	NE	F	P
LL2490 The Blanchard Site	Caloosahatchee 500 B.C.E.–C.E. 1700 Mississippian Prehistoric – Unspecified	Archaeological Site	NE	F	P
LL2491 Fish Weir	Mississippian	Archaeological Site	NE	G	P
LL2492 Sword Point Pond	Mississippian	Archaeological Site	NE	G	P
LL2493 Blocker Site	Prehistoric – Unspecified	Archaeological Site	NE	G	P

Cultural Sites Listed in the Florida Master Site File					
Site Name and FMSF #	**Culture/Period**	**Description**	**Significance**	**Condition**	**Treatment**
LL2523 Mapache Rubio	Caloosahatchee 500 B.C.E.–C.E. 1700 Other Unspecified American	Archaeological Site	NE	F	P
LL2533 Midden B	Caloosahatchee 500 B.C.E.–C.E. 1700	Archaeological Site	NE	G	P
LL2534 Midden C	Caloosahatchee 500 B.C.E.–C.E. 1700	Archaeological Site	NE	G	P
LL2535 Midden D	Caloosahatchee 500 B.C.E.–C.E. 1700	Archaeological Site	NE	G	P
LL2536 Midden E	Caloosahatchee 500 B.C.E.–C.E. 1700	Archaeological Site	NE	G	P
LL2537 Midden F	Caloosahatchee 500 B.C.E.–C.E. 1700	Archaeological Site	NE	G	P
LL2538 Midden G	Caloosahatchee 500 B.C.E.–C.E. 1700	Archaeological Site	NE	G	P
LL2539 Midden H	Caloosahatchee 500 B.C.E.–C.E. 1700	Archaeological Site	NE	G	P
LL2544 Last Day	Mississippian	Archaeological Site	NE	G	P
LL2545 Richmond	Mississippian	Archaeological Site	NE	G	P
LL2546 Stand Alone	Mississippian	Archaeological Site	NE	G	P
LL2631 Carr's Cape Coral Barge	CA. 1900	Archaeological Site	NS	F	P

Significance:
NRL - National Register Listed
NRE - National Register Eligible
LS - Locally Significant
NE - Not Evaluated
NS - Not Significant

Condition:
G - Good
F - Fair
P - Poor

Recommended Treatment:
RS - Restoration
RH - Rehabilitation
ST - Stabilization
P - Preservation
R – Removal

CHARLOTTE HARBOR PRESERVE STATE PARK

Existing Land Use and Infrastructural Conditions

CHARLOTTE HARBOR REGION

LAND USE COMPONENT

VISITATION

Charlotte Harbor Preserve State Park serves as a natural buffer from urban areas and agricultural lands to help protect the largest and most productive estuary in Florida. The preserve lines over 100 miles of shoreline for the five surrounding aquatic preserves: Pine Island Sound, Matlacha Pass, Gasparilla Sound-Charlotte Harbor, Cape Haze and Lemon Bay. Spanning over 45,000 acres, it is Florida's third largest state park. Recreational opportunities include fishing, paddling, hiking, biking and wildlife observation. The park's miles of shoreline provide opportunities to encounter wading birds, manatees, dolphins and other wildlife. The park is best experienced by boat or paddlecraft from one of the many public launch sites in the local area. Portions of two paddling trails, including Segment 11 of the Florida Circumnavigational Saltwater Paddling Trail, are located within the adjacent aquatic preserves.

Florida Circumnavigational Saltwater Paddling Trail (CT)

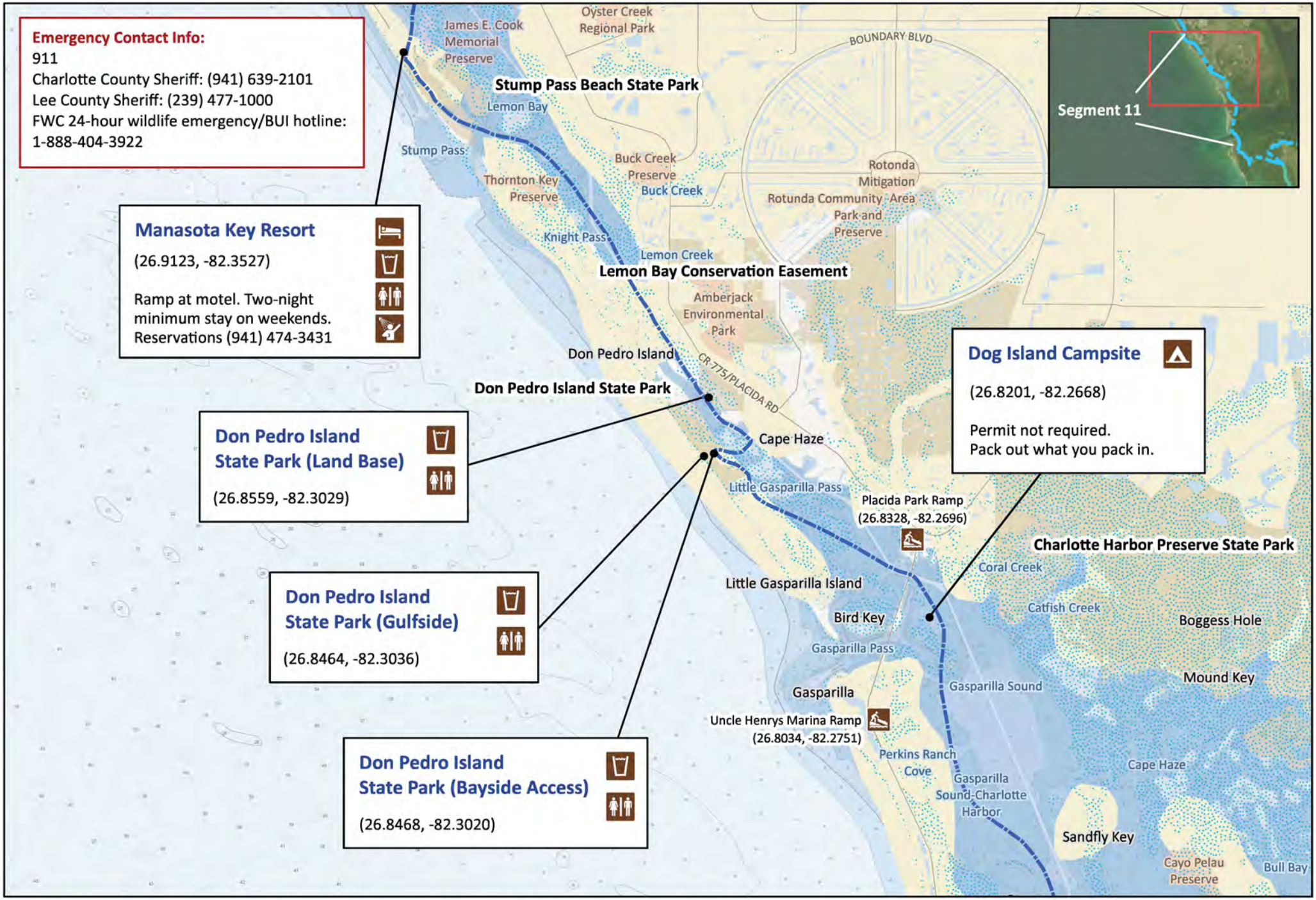
Segment 11 is an 18.5-mile portion of the CT beginning at Stump Pass Beach State Park and concluding at Cayo Costa State Park. While this segment does not provide direct access to Charlotte Harbor Preserve State Park, paddlers pass the park via the Gasparilla Sound-Charlotte Harbor Aquatic Preserve, a valuable nursery ground for both recreational and commercial species of fish, crab and shrimp.

Trends

Visitation at Charlotte Harbor Preserve State Park tends to remain relatively constant throughout the year, with lower numbers trending in September and October. Annually, the park receives approximately 165,000 visitors. With most of the shoreline fringed by mangroves and salt marsh, the park is best accessed and enjoyed via paddlecraft. As such, visitation tends to follow seasonal fishing trends. Birdwatchers and other wildlife enthusiasts can visit these species rich coastal habitats year-round, with particular focus on the wide-open spaces of the salt marsh.

Economic Impact

Charlotte Harbor Preserve State Park recorded 158,625 visitors in FY 2023/2024. By DRP estimates, the FY 2023/2024 visitors contributed $19,270,391 in direct economic impact, the equivalent of adding 270 jobs to the local economy (FDEP 2024).



Florida Circumnavigational Saltwater Paddling Trail

Segment 11: Charlotte Harbor (Map 1 of 2)

Begin: Manasota Key Resort
End: Cayo Costa State Park

Distance: 18.5 miles
Duration: 2 days

0 0.75 1.5 3 Miles

Disclaimer: This guide is intended as an aid to navigation only. A Global Positioning System (GPS) unit is required and persons are encouraged to supplement these maps with NOAA charts or other maps.
Updated: 12/6/2024

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EXISTING FACILITIES AND INFRASTRUCTURE

Cape Haze Management Area: The Catfish Creek Trailhead, located off County Road 771, provides access to a 1-mile hiking trail. Facilities are limited to a paved parking area and a picnic pavilion. The Amberjack Scrub Trailhead, located at the end of York Street off Placida Road, includes a 0.75-mile hiking trail through scrub habitat. Transfer of this portion of the management area to Don Pedro Island State Park is under consideration (see Conceptual Land Use section). Additional hiking access to several miles of unmarked trails is provided at walk-throughs located at seven gates along Rotonda Boulevard and Rotonda Trace.

Port Charlotte Management Area: There are no facilities located within this management area. However, walk-in access is provided at the terminus of Watchchou Avenue and through the adjacent Tippecanoe Environmental Park.

Punta Gorda Management Area: PGMA contains the administrative complex for the preserve. Park and aquatic preserve offices as well as maintenance and storage facilities are located off Burnt Store Road. Public facilities are limited to the Old Datsun Trailhead with a small, paved parking area and hiking trail.

CHEC was established in 1987. Their headquarters are located about 1.5 miles north of the administrative complex on land leased directly from the Trustees. CHEC is a private, non-profit 501(c)(3) corporation managed by Charlotte County, Charlotte County School District, the City of Punta Gorda and the Peace River Audubon Society. CHEC has been providing environmental education, recreation, environmental research and conservation lands management services to the citizens and visitors of the greater Charlotte Harbor area since 1987. Several trails originate from CHEC property and extend into the preserve.

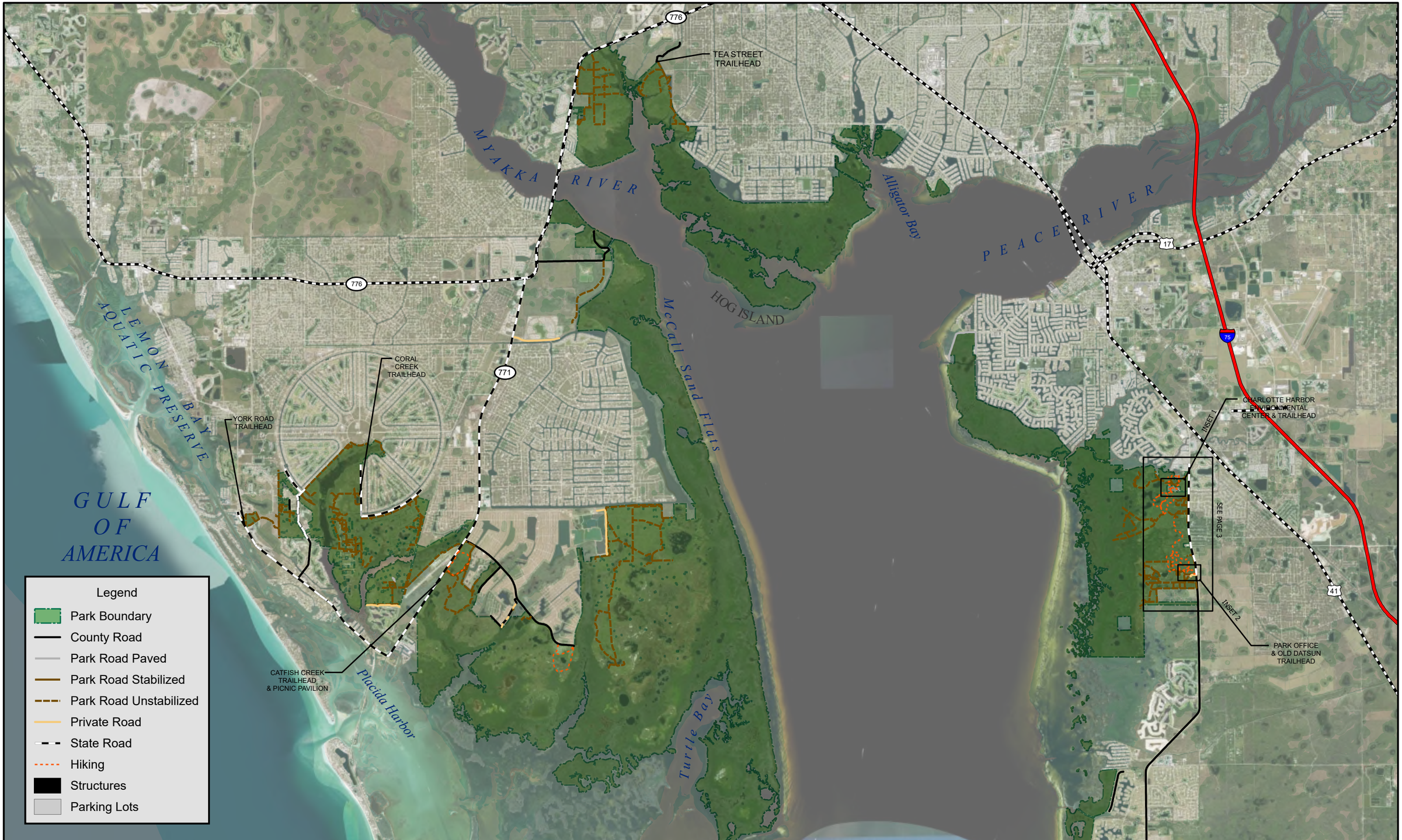
Cape Coral Management Area: Public access is provided at walk-throughs located at eight gates along the boundary of the north unit of the management area. Gates 1, 4 and 7 provide access to the Charlotte Harbor shoreline via resource management roads. The route from Gate 7 is known as the North Cape Flats Trail; it provides a trailhead with a paved parking area and interpretive kiosk. Wetlands and relict canal features preclude public access to the southern portion of this management area.

Pine Island Management Area: Facilities at this management area are limited to the Little Pine Island High Marsh Trailhead off State Road 78. An unimproved parking area provides access to a hiking trail that explores tidal marsh communities. This area is the site of a large-scale mitigation project that is removing invasive non-native plants, primarily melaleuca. A mitigation bank office is also located here but is not operated as a preserve facility.

Facilities Inventory

Cape Haze Management Area	
Catfish Creek Trailhead	
Hiking Trail (mileage)	1
Picnic Pavilion	1
Paved Parking Area (10 spaces)	1
Amberjack Scrub Trailhead	
Unmarked Trail (mileage)	0.75
Unimproved Parking Area (approximately 5 vehicles)	1
Coral Creek Trailhead (Gate 3)	
Unmarked Trail (mileage)	5

Sargassum Scrub Area (Gate 5)	
Unmarked Trail (mileage)	1.5
Punta Gorda Management Area	
Administrative Complex	
Park Office	1
Aquatic Preserves Office	1
Aquatic Preserves Field Support Building/Laboratory	1
Staff Residence	1
Conference Room	1
Pole Barn	2
Maintenance Barn	1
Storage Structure	9
Paved Parking Area (approximately 10 spaces)	1
Old Datsun Trailhead	
Paved Parking Area (approximately 4 spaces)	1
Hiking Trail (mileage)	1.75
Charlotte Harbor Environmental Center Trails (maintained by Charlotte Harbor Preserve State Park staff)	
Eagle Point Hiking Trail (mileage)	0.9
Pine Flatwoods Trail (mileage)	1.3
Three Lakes Trail (mileage)	0.7
Hidden Hammock Trail (mileage)	1.1
Cape Coral Management Area	
North Cape Flats Trailhead	
North Cape Flats Trail (mileage)	1
Paved Parking Area (approximately 10 spaces)	1
Interpretive Kiosk	1
Pine Island Management Area	
High Marsh Trailhead	
Little Pine Island High Marsh Hiking Trail/Unmarked (mileage)	2
Unimproved Parking Area (approximately 10 spaces)	1



CHARLOTTE HARBOR PRESERVE STATE PARK

Existing Facilities - Page 1 of 3

N

0 1.5 3 Miles

Sources: ESRI; Florida Department of Environmental Protection

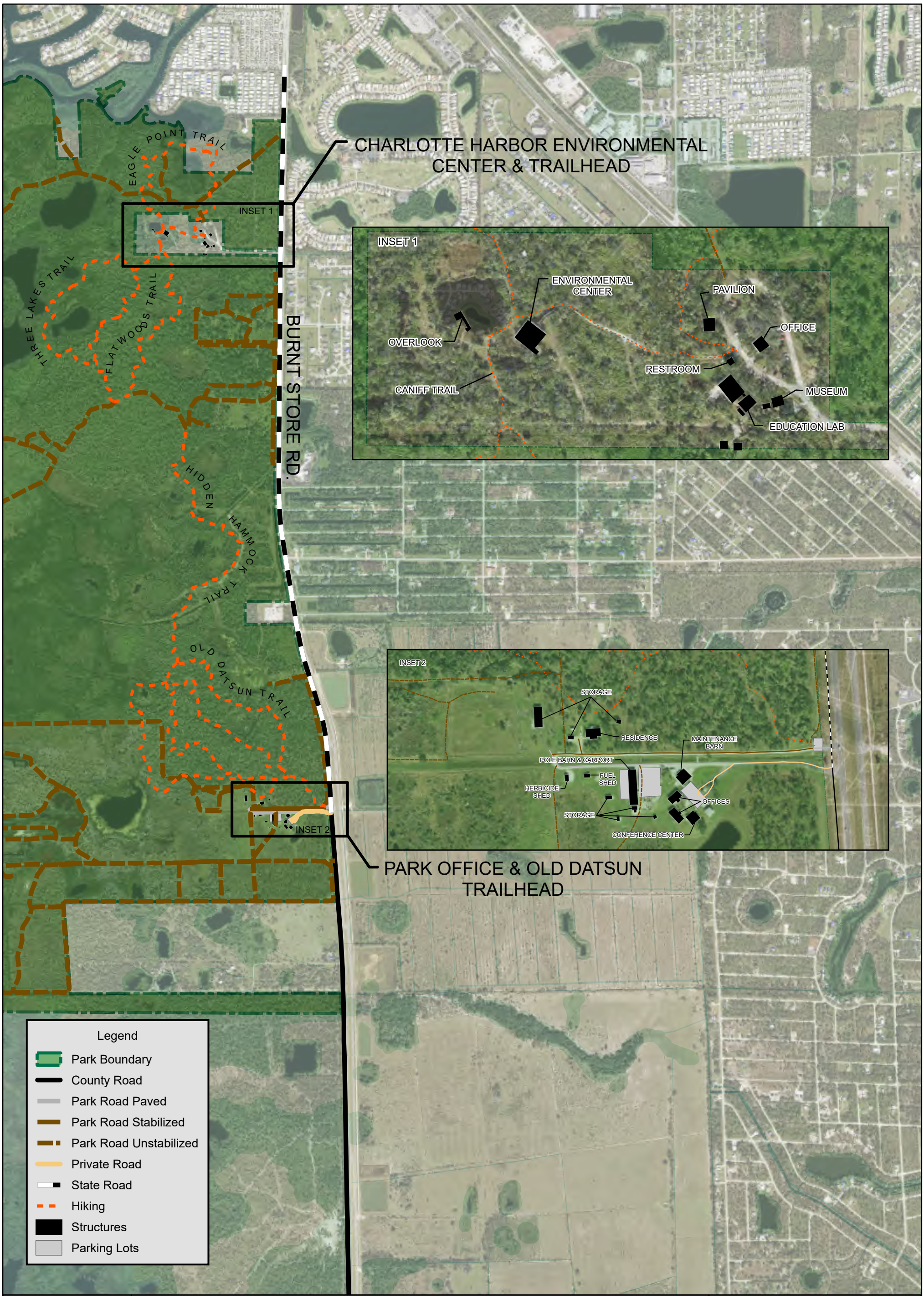
CHARLOTTE HARBOR PRESERVE STATE PARK
Existing Facilities - Page 2 of 3

N

Miles

0 1.5 3

This graphical representation is provided for informational purposes and should not be considered authoritative for navigational, engineering, legal, and other uses.



CHARLOTTE HARBOR PRESERVE STATE PARK
Existing Facilities - Page 3 of 3

N

0 0.25 0.5 Miles

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CHARLOTTE HARBOR PRESERVE STATE PARK

Planned Natural Resource Conditions

CHARLOTTE HARBOR REGION

HYDROLOGY

Monitoring and Assessment

Objective: Assess the park's hydrological restoration needs.

Actions:

- Continue to cooperate with other state and federal agencies and independent researchers regarding hydrological studies, assessments and monitoring programs.
- Continue to pursue and support hydrologic studies and water budget models for all areas of the park.
- Continue to cooperate with other local and state agencies to monitor potential impacts from Chiquita boat lock and Ceitus boat lift removals.

Hydrologic mapping, analysis, modeling and restoration are identified needs throughout the preserve. Previous activities such as dredging, filling and the development of mosquito ditches and drainage canals have significantly changed the freshwater inflows into the Charlotte Harbor estuary and altered the hydrology of the area. Alteration of volumes, velocity and quality degrade estuarine resources, and many upland areas are impounded with too much water or excessively drained which encourages invasive species invasions. More recent alterations involve the increased storm water inputs from 'up stream' development and altered conveyance networks. Hydrologic issues such as water quantity and water quality need to be addressed as part of the plan to restore these altered areas.

Additionally, proposed restoration activities must be coordinated with the water management districts and local governments to ensure that restorations do not exacerbate upstream flooding. The preserve continues to coordinate with its partners to resolve many of these issues. Staff have been successful in acquiring funding through various SWFWMD programs to conduct hydrologic assessments and implement restoration projects in the Alligator Creek site in PGMA, and in the Coral Creek site in CHMA. Both projects are multiphase and on-going with Cape Haze entering Phase III in 2024.

Additional assessments are being developed by SFWMD with the main goal of restoring sheet flow in the Yucca Pens Unit of FWC's Babcock/Web Wildlife Management Area. This project will also include assessing the potential for hydrologic restoration of Yucca Pen Creek, Durden Creek, Greenwell Branch, Longview Run and Gator Slough in the northwest Cape Coral area of the park. Hydrologic studies will need to continue and water budget models developed for the Punta Gorda, Cape Haze, Port Charlotte and Cape Coral management areas.

To address multiple breaches forming along the west side of the Cape Coral northern spreader waterway, an environmental resource permit was pursued through DEP to allow for the permanent removal of the Ceitus boat lift. Since then, the City of Cape Coral, DEP, Lee County and numerous stakeholders have been evaluating the best course of action to remedy environmental concerns (DEP, 2016). Water quality concerns from these discharges can include rapid salinity changes, nutrient pulsing and turbidity (SFWMD, 2008). Likewise, breaches in this and other spreader waterways around the Charlotte Harbor Aquatic Preserves can result in localized water quality concerns (DEP, 2016). The park should continue to work with the City of Cape Coral, DEP, Lee County and other stakeholders to monitor the impacts from the removal of the Ceitus boat lift and restorative actions that may be beneficial in the preserve.

The Chiquita lock along the South Spreader of Coral Creek was removed in 2025, which may shift the salinity and water quantity within the Spreader. DRP should work with the City of Cape Coral, DEP, Lee County and other stakeholders to monitor and quantify any impacts from the removal and identify any future restoration efforts that may be beneficial in the preserve.

Restoration

Objective: Restore natural hydrological conditions and functions to approximately 400 acres of mangrove swamp, salt marsh and mesic flatwoods natural communities.

Action:

- Complete Phase III Coral Creek restoration project which includes creation of 11.5 acres of wetlands and 2.9 acres of fish nurseries.

As previously noted, several restoration projects have been completed at the preserve that would not have been possible through the conventional budgetary process, such as the Alligator Creek Restoration Project completed in 2020. Currently, the final phase of the Coral Creek project at Charlotte Harbor Preserve State Park funded through the SWFWMD SWIM program is slated to break ground in late 2026 or early 2027. This restoration project located in the CHMA has been underway for over 10 years and includes over 2,600 acres of SWFWMD and DEP jointly owned land. The final phase of the project (Phase III) involves restoration of over 400 acres. Phase III will include the continued mitigation of man-made ditches through back filling, plugging and recontouring, as well as revegetation of shorelines to create a productive series of freshwater and tidal ponds.

Objective: Install low water crossings, bridges and culverts to improve access within the park.

Actions:

- Install 18 low water crossings in Cape Haze Mine parcel.
- Identify additional needs for and install low water crossings, bridges and culverts parkwide.
- Identify an area along the Yucca Pens creek for a low water crossing, potentially partnering with Lee 20/20.

Access to certain areas of Charlotte Harbor Preserve State Park is severely impeded by ditches, tributaries and flooded areas. Many of these impediments were caused by historic off-road vehicle use and by mosquito control efforts. For effective management, staff need to be able to move throughout the park and safely access remote areas. Three locations have been identified that currently need low water crossings. Other areas may be identified during the term of this management plan and funding will be sought to address current and future needs as opportunities become available.

As with many conservation lands, the Yucca Pens creek area had a long history of fire exclusion prior to being acquired by the state. Currently the area in which the Yucca Pens Creek occupies starts on Charlotte Harbor Preserve State Park and crosses over into the adjacent property managed by Lee County's Conservation 20/20. The inability to cross the creek with crew and equipment has prevented prescribed fire application, which would be resolved with the installation of a low water crossing.

NATURAL COMMUNITIES

Prescribed Fire

Objective: Within 10 years, have approximately 10,000 acres of the park maintained within the optimum fire return interval.

Actions:

- Develop/update annual burn plan for the preserve.
- Develop a comprehensive fire management plan for the preserve.
- Conduct prescribed fire on 2,153–6,503 acres annually.

The table below lists all fire-dependent natural communities found within Charlotte Harbor Preserve, their associated acreage and optimal fire return interval, and the annual average target for acres to be burned.

Prescribed Fire Management		
Natural Community	**Acres**	**Optimal Fire Return Interval (Years)**
Mesic Flatwoods	4,842	1-4
Scrub	122	5-15
Scrubby Flatwoods	797.	6-14
Depression Marsh	240.41	1-4
Salt Marsh	3,639.4	Occasional fire 3-6
Annual Target Acreage	1,942 -6,452	

The landscapes at Charlotte Harbor Preserve State Park are dominated by natural communities that require fire to maintain their ecological integrity, making prescribed fire the park's most important resource management tool. There are 11,855 acres of fire adapted natural communities at Charlotte Harbor Preserve State Park, with the greatest acreages represented by mesic flatwoods and salt marsh. The park is partitioned into 230 management zones including 149 management zones with fire type natural communities designated as burn zones. Prescribed fire is planned for each burn zone on the appropriate interval and reviewed and updated annually. To provide adaptive responses to changing conditions, fire management requires careful planning based on annual and very specific burn objectives. Each annual burn plan is developed to support and implement the broader objectives and actions outlined in this 10-year management plan.

Additionally, a comprehensive fire management plan will be developed for the preserve that details all components needed in each of the five management areas to safely apply prescribed fire within the management zones listed on the annual burn plan. This comprehensive plan will detail specific information about the various burn zones in the preserve including access points, low water crossing needs, fire line width specifications and needs, areas that require vegetation thinning or removal, mechanical treatment specifications, timber harvest needs, appropriate weather and wind conditions and firing techniques, wildfire prevention measures and public education regarding prescribed fire and smoke.

Fire-dependent natural communities at Charlotte Harbor Preserve State Park include mesic flatwoods, wet flatwoods, scrubby flatwoods, depression marshes and salt marshes. Based on the fire return intervals and acreage figures for the natural communities within the preserve, optimally at least 1,942

acres should be burned each year to maintain the natural communities within their target fire return intervals. Staffing, equipment, fuel loads, weather conditions and other resources will influence the ability of the park to keep natural communities within their optimal fire return intervals.

Additional challenges associated with the implementation of fire in many areas throughout the park include numerous smoke sensitive areas adjacent to the park. These areas include but are not limited to airports, hospitals, schools and major roadways.

An additional compounding factor to maintaining fire return intervals is the westerly sea breeze that develops at varying times during the day throughout the winter months, which makes smoke management particularly difficult. Wind shifts are common during the daily convergence of sea breeze and land breeze.

Further complicating the prescribed fire program at the preserve is the network of wetlands adjacent to the flatwoods that can limit all-weather access. Heavy rains can make many fire lines impassable in the wet flatwoods and in natural drainage areas. DRP has placed a high priority on improving the system of fire lines including the addition of low water crossings where necessary.

Fire season and fire return intervals are critical components of a fire regime. In most cases, the goal is for fires to be conducted during the natural lightning season. However, dormant season fires are favorable for initial fuel reduction, when values at risk require highly specific wind directions, and as a last resort to prevent a zone from going into backlog status. Due to the effects of sea breeze in the winter months and air quality concerns associated with surrounding urban areas, burn windows are limited. Excessive fuel loading in areas with little to no burn history coupled with these limitations adds significant complications. DRP fire managers need to remain flexible and vigilant, with the goal of not missing opportunities to burn in areas with constraining factors.

There are approximately 84 miles of existing fire lines throughout the preserve including perimeter or boundary lines. Interior fire lines and boundary lines are maintained year-round to not only ensure another level of fire containment within the park, but to provide a line of defense for approaching off-site fires. The use of existing roads, trails, natural barriers (e.g., streams, creeks, etc.) or other man-made barriers should be considered when possible, to minimize construction of any new fire break. Specific information about the width of fire lines and width of mowing adjacent to the fire lines will be discussed in detail within the comprehensive fire management plan for the preserve. Any new fire lines or ground disturbing activity including expansion of existing fire lines, will require prior review by DHR, and planned in consultation with the Archaeologist in DRP's Bureau of Natural and Cultural Resources.

Preparation and planning for wildfires or escaped prescribed fires within the preserve is a component of the park's annual burn plan and will also be detailed in the comprehensive fire management plan. Preferred fire suppression techniques and guidelines should be identified and discussed with local Florida Forest Service (FFS) staff as a component of pre-planning. Sensitive resources such as wetlands, imperiled species and cultural sites should be identified and mapped, and that information should be conveyed to FFS prior to any suppression activities. In areas where the park is unable to apply fire on a regular basis, efforts have been made to install and maintain control lines that can be utilized in a wildfire event and that are prioritized based on proximity to the neighboring communities. These lines have been shared with the local Forest Service and successfully utilized to protect adjacent homes by keeping wildfires within the park boundaries.

Scrubby flatwoods are found along small ridges throughout the preserve and in most cases grades into mesic flatwoods. The fire frequency of this community is typically 8–15 years; however, in areas that

support scrub-jay populations like Tippecanoe east in PCMA and Boggess Ridge in CHMA, fire return intervals of greater than five years and less than 15 years are suggested to provide maximum acorn production. Suitable habitat for scrub-jays includes a canopy of oak species between 1–3 meters in height with scattered areas of exposed soil for catching acorns. Scrub oaks typically require at least 3–5 years after prescribed fire for the next acorn production (FNAI 2010). It is critical, therefore, that no more than one third of scrub-jay habitat be burned at any given time on a site supporting scrub-jays unless there is suitable unburned adjacent habitat available.

The Boggess Ridge area located in CHMA is a prime example of the successful reintroduction of fire in an area with no burn history that directly benefited state threatened scrub-jays. In 2021, a strong head fire was used to apply fire to the scrubby flatwoods community at Boggess Ridge with no mechanical treatment besides the preparation along the fire breaks. The consumption rate and impacts of the burn were highly desirable with overall reduction of vegetation height to less than 3 meters. Scrub-jay surveys had been completed prior to the burn with few juveniles observed. In 2024, a new family group was documented as having immigrated into the park along the western side of Boggess Ridge. That same year a second family group in the eastern portion was observed with three juveniles, which was the most documented on site to date. The benefits of high intensity fire on the scrub-jay population has led to further planning of addition segmentation of burn zones and targeting high fire behavior conditions along Boggess Ridge. Additional discussions will be included in the comprehensive fire management plan for the preserve.

Fire-dependent wildlife species in the park include the state threatened gopher tortoise, scrub-jays, eastern diamondback rattlesnake, federally threatened eastern indigo snake, Northern Bobwhite (*Colinus virginianus*) and Wild Turkey (*Meleagris gallopavo*). These species favor areas where regular fire has enhanced their preferred habitat, which is essentially an open-canopied woodland with an abundant and diverse groundcover consisting of mixed herbaceous and woody species. Beautiful pawpaw (*Asimina pulchella*), a federally endangered plant species found throughout the northwest Cape Coral area, has been flourishing since prescribed fire and mechanical treatments were introduced into areas with unknown burn history. To improve all flatwoods areas in the park to the point that they once again become attractive to fire-dependent wildlife, it will be necessary to modify habitat structure in the remaining overgrown areas using a combination of mechanical treatment and fire. The requirements of animal species, particularly imperiled species, should be considered when developing prescribed fire plans.

Restoration

Objective: Conduct habitat/natural community restoration on 44 acres of abandoned pasture and pine plantation to facilitate conversion to mesic flatwoods.

Actions:

- Develop/update a site-specific restoration plan converting 44 acres (27 acres in management zone CP-PG11 and 17 acres in CP-PG12) of pine plantation and abandoned field/pasture back to the original mesic flatwoods.
- Implement restoration plan, including but not limited to:
  - Removal of excessive snag density due to hurricane, drought and fire impacts.
  - Applying prescribed fire to sites and planting of native groundcovers species, including wiregrass.

- Thinning or clearing of tall groundcover in areas of abandoned field/pasture to allow for pine seedling growth.
- Re-establishment of slash pine as the dominant overstory tree in areas of abandoned field/pasture by planting 300–400 seedlings per acre.

- Biennially conduct groundcover surveys to assess the percentage of target condition reached.

Staff will initiate habitat restoration measures for natural systems in the park wherever natural communities have been artificially impacted and where ecological functions have been disrupted.

Improvement

Objective: Conduct natural community/habitat improvement activities on 2,596 acres of mesic flatwoods to prepare zones for the safe application of prescribed fire.

Actions:

- Develop a mechanical treatment plan and timber thinning plan for all areas of the preserve within the comprehensive fire management plan.
- Conduct mechanical treatment to reduce fuel loads within 1,400 acres in CHMA, 910 acres in PCMA and 280 acres in CCMA.
- Remove six acres of debris from the northwest corner of management zone CH-26F.

The comprehensive fire management plan that will be developed for the preserve will include a mechanical treatment section that details all mechanical treatment needs throughout the preserve as well as areas of the preserve that should be prioritized for timber harvesting based on the timber assessment completed for the park.

Due to previous mining uses prior to the acquisition by the state, a roughly six-acre debris area exists in the northwestern corner of management zone CH-26F that should be removed prior to the application of prescribed fire.

Objective: Conduct natural community/habitat improvement activities throughout the preserve on mesic flatwoods, scrubby flatwoods and wet flatwoods to prepare zones for the safe application of prescribed fire.

Action:

- Reduce cabbage palm density throughout the preserve to pre-1960s ditching levels.

Historic ditching throughout the preserve changed the water flow throughout the preserve and created more upland areas and opportunities for cabbage palms to encroach into areas where they were not previously present. Reduction of cabbage palms through prescribed fire application is not efficient or a successful means of reduction. Reduction of cabbage palms through mechanical or chemical application will be necessary.

Objective: Conduct natural community/habitat improvement activities on 95 acres of mesic flatwoods and scrubby flatwoods.

Action:

- Reduce oak canopy to less than 10% total canopy in mesic flatwoods and scrubby flatwoods in management zones CP-PG09 and CP-PG10.

PGMA has a history of agricultural practices prior to being acquired by the state, including cattle ranching and citrus farming as evidenced by the citrus trees scattered throughout the property and the density of large oak species in the flatwoods. Large oaks were left in place to provide shade for animals while other areas would be cleared to provide foraging acreage.

IMPERILED SPECIES

Inventory

Objective: Update baseline imperiled species occurrence inventory lists for plants and animals.

Action:

- Continue to inventory the park to update imperiled species inventory lists.

Update imperiled species list as necessary to add or remove species in compliance with current FWC or USFWS listing status and update any accepted nomenclature changes.

Fauna

Objective: Continue existing monitoring protocols for four selected imperiled animal species.

Actions:

- Develop and implement monitoring protocols for one selected imperiled animal species, Florida burrowing owl.
- Continue to implement monitoring protocols for selected imperiled animal species including the Florida scrub-jay, Florida bonneted bat and gopher tortoise.

Burrowing owls were observed during mechanical treatment activities in CCMA management zone PC-CC08 in 2012. This is the only area of the park where burrowing owls are known to exist. Additional monitoring will continue to determine its presence and nesting success.

There are two known Florida scrub-jay populations in the park. The Tippecanoe area off Tea Street behind the Charlotte County Sports Park and Boggess Hole south of gate 27 off Rotonda Trace/Sargassum in CHMA. These jays are being monitored using FWC protocols annually in June/July just after nesting season to determine population size, territory and nesting success rate. These survey sites are very remote with access typically requiring four-wheeled vehicles and ATV use limiting independent volunteer support. Volunteers, when available, are used to support staff during monitoring, and one volunteer canoes across the Flamingo Waterway to Tippecanoe to provide additional independent data on the scrub-jays. Monitoring will continue at both sites and will include any additional sites as scrub habitat restoration efforts continue.

Florida bonneted bats were recorded in two locations in 2013–2014 after an extensive monitoring program was set-up using acoustic equipment supplied by George and Cindi Marks. Under a grant from George and Cyndi Marks, Anabat and song meter surveying equipment were used to determine if

bonneted bats were utilizing the Preserve. The equipment recorded bonneted bats in the northwest Cape Coral area of Lee County and the Cape Haze area in Charlotte County. Unable to determine whether the bats were roosting somewhere on site or foraging from an off-site location, three additional grants were received in 2014–2015. The grants, received from Charlotte Harbor National Estuary Program and Lubee Bat Conservancy, were used to purchase bat houses and install them in key locations. If the houses become occupied by bonneted bats, a better understanding of their preferences and habits could provide valuable information to resource managers, leading to better management practices that would favor this species. Monitoring will continue on a regular basis to determine presence, and once the houses are occupied by bonneted bats monitoring will continue using FWC protocols.

If data supports a full LS survey, a pilot gopher tortoise LTDS survey should be considered to gain a baseline understanding of the gopher tortoise population size and density at Charlotte Harbor Preserve State Park. Follow-up surveys completed 10 years after the pilot survey will assist in assessing population health and potential changes in population size.

Flora

Objective: Monitor and document three selected imperiled plant species in the park.

Actions:

- Develop monitoring protocols for two selected imperiled plant species including triangle cactus and aboriginal prickly-apple cactus.
- Continue monitoring for three imperiled plant species including beautiful pawpaw.

Triangle cactus and prickly-apple cactus occur on or in close proximity to cultural sites located on shell mounds and coastal hammocks. Access to these sites is extremely remote and includes use of four-wheeled vehicles, ATVs and watercraft. Monitoring should be conducted at least five times over the next 10 years to evaluate the condition of the site including sunlight penetration through the canopy, and the number and condition of each individual plant. As previously discussed in the Resource Management Component of this plan, these plants are susceptible to increased canopy cover and extreme environmental changes from major storm events. Monitor events will also include evaluation of invasive plant encroachment and include follow-up treatment as needed.

Beautiful pawpaw occurs in almost every upland management zone in the northwest Cape Coral area and has been increasing in numbers since the implementation of prescribed fire and mechanical treatments using a roller-drum chopper. Beautiful pawpaw is also currently being monitored after prescribed and wildfire activity when the plants typically sprout and flower shortly after. Flowering, however, has not always guaranteed fruit yield which could be caused by several factors including the timing of the burn or a decline of pollinators. Additional research would be beneficial in determining these causes and may provide a better understanding of the factors necessary for the propagation of this species.

INVASIVE SPECIES

Invasive Plant Treatment

Objective: Update the long-term invasive plant management plan for the park.

Actions:

- Identify the major vectors and pathways for invasive plants at the park and reduce incoming propagules where possible.
- Regularly update surveys to reflect accurate infestation levels of each management zone.
- Develop an early detection rapid response protocol for new infestations.
- Develop a species-specific action plan for each management zone with a prioritization framework.
- Evaluate and update plan on an annual basis and adapt to changing conditions.

Objective: Monitor and maintain 11,989 gross acres of habitat already in maintenance condition.

Actions:

- Survey all maintenance areas yearly for new infestations.
- Treat areas where invasive plant spread is imminent (e.g., after prescribed fire, mechanical or other disturbance).
- Document treatments and update surveys in the Natural Resource Tracking System (NRTS).

Objective: Reduce or maintain cover class on 33,348 acres not in maintenance.

Actions:

- Survey and treat after prescribed fire for rapid spread of invasive species.
- Treat medium infestations with staff and volunteers where available.
- Reduce high infestations with additional labor sources (e.g., contract funding, strike teams) and plan for passive and active restoration.
- Document treatments and update surveys in NRTS.

Invasive and Nuisance Animal Control

Objective: Implement control measures on one non-indigenous/nuisance animals to protect native species and habitats.

Actions:

- Continue with trapping and removal of feral hogs.
- Annually reassess and develop removal goals and incentives.
- Continue to encourage USDA funding for feral hog removal.

Feral hogs are a major concern in the park, especially within the salt marsh and transitional wetland areas where melaleuca and Brazilian pepper have invaded extensive portions following hog damage. Feral hog removal at the preserve is an on-going program that involves both park staff and USDA staff. Over the last four years, DRP has funded a full-time USDA trapper to remove hogs parkwide. Park staff and USDA staff have successfully removed over 3,078 hogs from the preserve over the last 10 years.

The park has witnessed positive impacts from these efforts including but not limited to increased ground nesting bird populations, lower spread of invasives in areas listed above, and significantly less ground disturbance in sensitive areas.

CHARLOTTE HARBOR PRESERVE STATE PARK

Planned Cultural Resource Conditions

CHARLOTTE HARBOR REGION

PREHISTORIC HISTORIC AND ARCHAEOLOGICAL SITES

Condition Assessment

Objective: Monitor and assess 20 of 137 recorded cultural resources.

Actions:

- Complete 20 assessments/evaluations of archaeological sites.
- Complete three Historic Structures Reports for historic buildings and cultural landscape.

These archaeological sites, or portions of them, have been identified as the most vulnerable sites to erosion or illegal activities. Many other sites need at least some type of further evaluation/assessment, but these sites are selected because they are in immediate danger. Upon completion of these assessment/evaluations, it will be necessary to prioritize preservation and stabilization projects.

1. Catfish Point (8CH9)
2. Turtle Bay 2 (8CH37)
3. Turtle Bay 1 (8CH36)
4. Hog Island 1 (8CH60)
5. Last Chance (8CH93)
6. No Name (8CH349)
7. Glover Bight (8LL89)
8. Fractured Site (8CH2706)
9. Halfway (8CH49)
10. Cormorant Key (8CH2716)
11. The Angry Fisherman Site (8CH2705)
12. Fines Key (8CH361)
13. Cockroach (8CH355)
14. Blacks Island (8CH359)
15. Creek Bend (8CH486)
16. Prop-Wash (8CH488)
17. Christopher Waterway Midden (8CH497)
18. Cape Haze (8CH48)
19. The Cape (8CH44)
20. Muddy Cove 1 (8CH71)

Historic Structures Reports

1. Catfish Point (8CH9)
2. Josslyn Island (8LL32)
3. Hooker Key (8LL30)

These historical structures include three cisterns that were previously documented as being in good condition.

Documentation of Recorded Sites

Objective: Compile reliable documentation for all recorded historic and archaeological resources.

Actions:

- Ensure all known sites are recorded or updated in the FMSF.
- Conduct Level 1 archaeological surveys prior to major resource management or construction projects for any high probability areas identified by predictive model or other previous studies.

The park has compiled an extensive library and files pertaining to archaeological work that has been conducted within the park dating back to writings about the 19th century excavations of Frank Hamilton Cushing, *Exploration of Ancient Key-Dweller Remains on the Gulf Coast of Florida*. Almost all the park's 137 sites have had an FMSF update within the past 10 years. Any sites that have not had an update will be evaluated to determine the need for submission of an updated FMSF update form.

Partnerships with professional archaeological institutions, individuals and agencies should continue to be the primary focus for continuing research and other cultural resource management needs at the park. Grants and legislative funding should be requested to address needs for restoration, interpretation and a greater scientific knowledge of the prehistoric and historic resources of the park and Florida. Existing staff and resources should continue to be utilized to address these needs as well.

Some areas of the park have been the subject of limited archaeological research, including some thorough investigations of anomalous terrain features, while other areas have never been systematically investigated. Phase I surveys would locate additional archaeological sites in the park in each management unit. Knowledge of these sites would allow park staff to evaluate additional protective measures and/or restoration needs of these resources. It would also enhance the scientific knowledge of the prehistoric and historic use of Charlotte Harbor.

Preservation Measures

Objective: Bring 46 of 137 recorded cultural resources into good condition.

Actions:

- Design and implement regular monitoring programs for five cultural sites.
- Create and implement a cyclical maintenance program for each selected cultural resource.

Of the 137 sites in the park, 41 have been evaluated to be in fair condition and five are in poor condition. All the sites listed in poor condition are listed as such due to erosion. All but three of the sites listed in fair condition are listed as such due to erosion. Two sites, Big Mound Key (8CH10) and Josslyn Island (8LL32), have both been the targets of illegal activity including the digging of large pits and/or trenches. Bringing these sites into good condition will require professional evaluation of any features that may be endangered and stabilizing them to prevent further degradation.

Big Mound Key (8CH10), Boggess Ridge (8CH16), Catfish Point (8CH9), Acline Mound (8CH69) and Josslyn Island (8LL32) have all been the targets of illegal activity and resource destruction in the past. Resource monitoring should include regular visits by park staff and partnerships with law enforcement agencies for protection of the resources.

Evaluate sites with historic structures for maintenance needs. Three historic cisterns have been documented at Catfish Point (8CH9), Josslyn Island (8LL32) and Hooker Key (8LL30). A professional evaluation of these historic structures will be needed prior to taking any action.

CHARLOTTE HARBOR PRESERVE STATE PARK

Planned Land Use and Infrastructural Conditions

CHARLOTTE HARBOR REGION

CONCEPTUAL LAND USE PLAN

Parkwide

Objective: Improve orientation and interpretation at park trailheads.

Action:

- Develop and implement an interpretive sign plan.

Determine the most effective way to connect visitors to the park's significance and relevant themes at the trail hubs for Catfish Creek, Sargassum Scrub and Garrod Lakes Use Areas. The type, design, quantity and placement of interpretive elements to deepen understanding and improve orientation will be specified during this planning process. Appropriateness in this dynamic coastal area will be considered.

Objective: Continue to provide appropriate recreational infrastructure in the preserve.

Constructing a paddlecraft launch/landing site in the preserve was evaluated this planning cycle and proposed in the last management plan update in 2007. It was determined that providing this facility is not warranted given that there's numerous options in the vicinity. Although Allens Creek was identified as a potential location in the previous management plan and in this planning cycle, the creek is typically too shallow and unnavigable to provide continuous use. Furthermore, given the park's preserve status, the preservation of natural resource conditions are given priority over user considerations and development is restricted to the minimum necessary for ensuring its protection.

Cape Haze Management Area

Catfish Creek Use Area

Objective: Construct staff support facilities.

Actions:

- Construct a pole barn with up to six-bay capacity.
- Construct a small maintenance building with administrative space.
- Establish at least one volunteer RV site and staff residence with connections to municipal utilities.
- Connect the volunteer RV sites to the municipal sewage system.

The existing staff support area is located off Burnt Store Road within PGMA. Due to the size and disjunct distribution of the multiple parcels that comprise the preserve, there is a need to establish a second staff support area on the western side of Charlotte Harbor in CHMA. A favorable location regarding road access and proximity to utilities is just north of the Catfish Creek Trail adjacent to Rotunda Trace (east side of County Road 771), at the north end of management zone CP-CH01A. At a minimum, infrastructure and facilities should include open-air equipment storage, a small maintenance building with administrative space and restroom (with shower), as well as at least one volunteer RV site and staff residence with municipal utilities connected. Other infrastructure will include an appropriately sized driveway and stabilized parking. Adherence to local zoning ordinances and other community restrictions may limit the type and intensity of operational support facilities. Other limiting factors may include the extent of hydric hammock. The prevalence of mesic hammock is located south of the hydric hammock.

Objective: Provide expanded trail access.

Actions:

- Expand trail system.

The current Catfish Creek Trail consists of a 1-mile loop through the flatwoods. Recurrent unauthorized and impactful public entry by motorized vehicles has been observed. This trail primarily receives local use, with low to moderate frequency but as the regional population increases, use of the trail is expected to increase. If public interest in the trail and associated use increases, DRP will expand the trail mileage bearing south through the acreage of flatwoods and hydric hammock. Factors such as sensitive natural communities, soils, hydroperiods, as well as operational constraints, may be limiting factors. Like the existing loop trail, some segments of an expanded trail system may only be passable during the dry season.

Sargassum Scrub Area

Objective: Provide trail access through the Sargassum Scrub Area.

Actions:

- Construct a small trailhead.
- Designate up to 1.5 miles of hiking trail with access to the adjacent naturalized water bodies.

The Sargassum Scrub Area has been habitually traversed by an informal trail. Visitors currently utilize 1.5 miles of resource management road through scrub and mesic flatwoods natural communities to access the naturalized water features for wildlife viewing and shoreline fishing.
To establish a formal trailhead, a small, stabilized parking area should be constructed with vehicular access from Rotunda Trace with up to 10 delineated parking spaces and basic interpretation to convey information about the distinct flora and fauna of the site and resource-based recreational opportunities offered.

Punta Gorda Management Area

Garrod Lakes Area

Objective: Provide trail access to Garrod Lakes Area.

Actions:

- Construct a small trailhead.
- Designate hiking trail.

The Garrod Lakes area refers to a complex of impounded but naturalized water features approximately 0.5 miles west of the preserve office and maintenance complex that have potential to provide fishing and wildlife viewing opportunities. Contingent on additional evaluation, the site may be designated as a use area. A trailhead at or near an existing aproned entrance along Burnt Store Road could be formalized with a trailhead parking area. From here, visitors would hike to the destination lakes along an existing 0.75-mile segment of resource management road. Basic interpretation at the trailhead would provide an overview of recreational opportunities and wayfinding.

If realized as a recreation site, the marsh-like perimeter of the eastern lake may require some level of facilitated access such as a short span of boardwalk.

Staff Support Area

Objective: Provide necessary maintenance, administrative and storage space to support park operations.

Actions:

- Replace the maintenance building.
- Stabilize equipment parking area and provide additional vehicle parking.
- Establish up to four volunteer RV sites with connection to municipal utilities.

The park's main staff support area consists of a three-bay maintenance building, a large open-air equipment storage shelter, administrative offices, a small conference building, a staff residence and other smaller storage buildings. The maintenance building was heavily damaged by Hurricane Ian in 2022 and needs replacement. Construction plans are moving forward for a new maintenance area to be built within the original footprint during this planning cycle. There is a need to stabilize secondary parking space for vehicles and other equipment storage beneath and in vicinity of the pole barn. Additional parking is also needed in the support area.

Old Datsun Trailhead

Objective: Improve trailhead.

Action:

- Expand the trailhead parking area.
- Collaborate with the Florida Department of Transportation and Charlotte County to provide a pedestrian crosswalk across Burnt Store Road.

The Old Datsun Trail is one of two trails in the park that is designated as part of the Great Florida Birding and Wildlife Trail in the south region. It is a popular 2-mile loop through scrubby flatwoods and hydric hammock. The current trailhead, located adjacent to the support area entrance along Burnt Store Road, only provides four parking spaces. As such, parking is often exceeded, with vehicles having to park along adjacent roadways. This parking area should be expanded west into the initial segment of the trail in order to provide greater capacity and separate the trailhead from anticipated road widening. Standard trailhead elements of surface stabilization or paving, fencing and interpretive kiosk are indicated.

The Florida Gulf Coast Trail is a developing network of interconnected trails spanning Southwest Florida. A segment of the trail provides direct access to the Old Datsun Trailhead but is on the opposite side of Burnt Store Road. Since there is no traffic control measure (e.g., traffic signal) present, a pedestrian crosswalk will be necessary to facilitate safe crossing of Burnt Store Road.

Charlotte Harbor Environmental Center

Objective: Maintain a cohesive working relationship between the park and CHEC.

Action:

- Establish clear communication channels and define common goals.

It would be beneficial for Charlotte Harbor Preserve State Park and CHEC to set up regular meetings or communication updates to discuss ongoing projects, initiatives and concerns. Designating key contacts within both organizations would allow for seamless information flow. Common goals could be met by aligning objectives related to the conservation of the Charlotte Harbor ecosystem. Emphasis should be placed on overlapping mission objectives, such as habitat management and restoration, public education and outreach, as well as environmental preservation. Collaboration on larger, long-term environmental goals to create a unified approach is also recommended.

Objective: Implement collaborative trail management.

Actions:

- Install low water crossings or other on-grade stabilization measures as necessary and where appropriate along flood-prone segments of trail.
- Maintain access to any fire line segments that originate or anchor from CHEC.

The trail system in this area of the preserve is accessible from several points within CHEC boundaries, therefore lending to collaborative management. DRP and CHEC will coordinate on any necessary improvements and maintenance of the trails within this vicinity, especially stabilizations or minor infrastructural enhancements. Segments of low-profile boardwalk or on-grade armoring/stabilization in frequently inundated areas would improve access while minimizing flood damage, mitigating the need for extensive trail rehabilitation after heavy rain events.

The fire lines within CHEC need to be regularly maintained for multiple reasons, including wildfire containment, prescribed burning and access for routine patrolling/monitoring of the preserve.

Objective: Expand parking at the Charlotte Harbor Environmental Center.

Action:

- Expand the parking area at CHEC front entrance.

Road and parking modifications at the front gate entrance of CHEC have impeded access to a service road/fire line. Reconfiguration is necessary to optimize resource management in this portion of the park. The small, stabilized parking area along Burnt Store Road serves as an annex to the formal CHEC facility parking and trailhead that is situated 0.2 miles down the road. This annex parking popularly serves hikers who arrive and/or depart by vehicle outside of standard CHEC operating hours. Given the extensive acreage and trail milage of Charlotte Harbor Preserve, such accommodation is considered necessary.

Cape Coral Management Area

North Cape Flats Trailhead

Objective: Improve trailhead amenities and provide trail access.

Actions:

- Improve trailhead parking and associated interpretation/wayfinding.
- Maintain existing facilities in good condition.
- Expand parking according to anticipated demand.

The second designated section of the Great Florida Birding and Wildlife Trail in the preserve, the North Cape Flats Trail offers a 0.5-mile (1 mile round trip) hike through pine flatwoods and high marsh before reaching the coastal berm along the mangrove-fringed shoreline. The North Cape Flats Trail is the only trail that provides access to the open waters of Charlotte Harbor Aquatic Preserves. The current parking area provides 10 parking spaces. Recognizing increasing tourism and regional populations, parking expansion for up to 10 additional spaces is approved if capacity is routinely exceeded.

CHARLOTTE HARBOR PRESERVE STATE PARK
Cape Coral Management Area
Conceptual Land Use Plan

N

0 600 1,200 Feet

This graphical representation is provided for informational purposes and should not be considered authoritative for navigational, engineering, legal, and other uses.

1. Catfish Creek Use Area - Construct staff support facilities. Expand trail system.

2. Sargassum Scrub Use Area - Construct a small trailhead. Designate hiking trail.

1

2

CHARLOTTE HARBOR PRESERVE STATE PARK
Cape Haze Management Area
Conceptual Land Use Plan

N

0 875 1,750 Feet

This graphical representation is provided for informational purposes and should not be considered authoritative for navigational, engineering, legal, and other uses.

1. Garrod Lakes Use Area - Construct a small trailhead. Designate hiking trail.
2. Staff Support Area - Improve and add operations facilities.
3. Old Datsun Trailhead - Expand trailhead. Install a crosswalk across Burnt Store Road.
4. Charlotte Harbor Environmental Center - Install boardwalks or on-grade stabilization measures. Expand parking area.

CHARLOTTE HARBOR PRESERVE STATE PARK
Punta Gorda Management Area
Conceptual Land Use Plan

N

0 0.5 1 Miles

This graphical representation is provided for informational purposes and should not be considered authoritative for navigational, engineering, legal, and other uses.

VISITOR USE MANAGEMENT

Pine Island Management Area

High Marsh Trailhead

Objective: Implement visitor use management protocols.

Action:

- Monitor visitor use impacts.
- Close wetland access if indicated by observed impacts.

PIMA, situated at the southern end of the preserve, consists of a mosaic of low-lying, tidally influenced wetlands. While this area provides essential environmental buffering to the adjacent aquatic preserve, conditions here generally limit recreational access to all but the most adventurous. While public access is not precluded, there are no formalized use areas. Nonetheless, the watershed protection and wildlife habitat preservation attributes of PIMA are an integral part of Charlotte Harbor Preserve State Park's intent and purpose. Monitoring is needed to ensure that visitor use impacts are contained with designated trail corridors and occurring within acceptable limits. If the implemented monitoring regimen identifies impacts, closure of trail is indicated, such that passive interpretive access to the upland area may become the only designated use of the site.

Boggess Hole

Objective: Implement visitor use management protocols.

Action:

- Monitor visitor use impacts.
- Close wetland access if indicated by observed impacts.

Boggess Hole is a lagoon-like estuarine backwater largely encircled by a unique cultural site known as Boggess Ridge—an anomalous arc of scrub within the otherwise salt marsh and mangrove swamp dominated landscape. Boggess Hole is accessed via a 0.75-mile-long salt creek. Collectively, this shallow salt creek and expansive lagoon provide important habitat for a variety of aquatic species, as well as ducks, wading birds and other wildlife. The natural and cultural resource sensitivity of this area warrants periodic monitoring of both the bayou and the adjacent scrub ridge, with access modifications indicated if impacts are observed outside of acceptable limits.

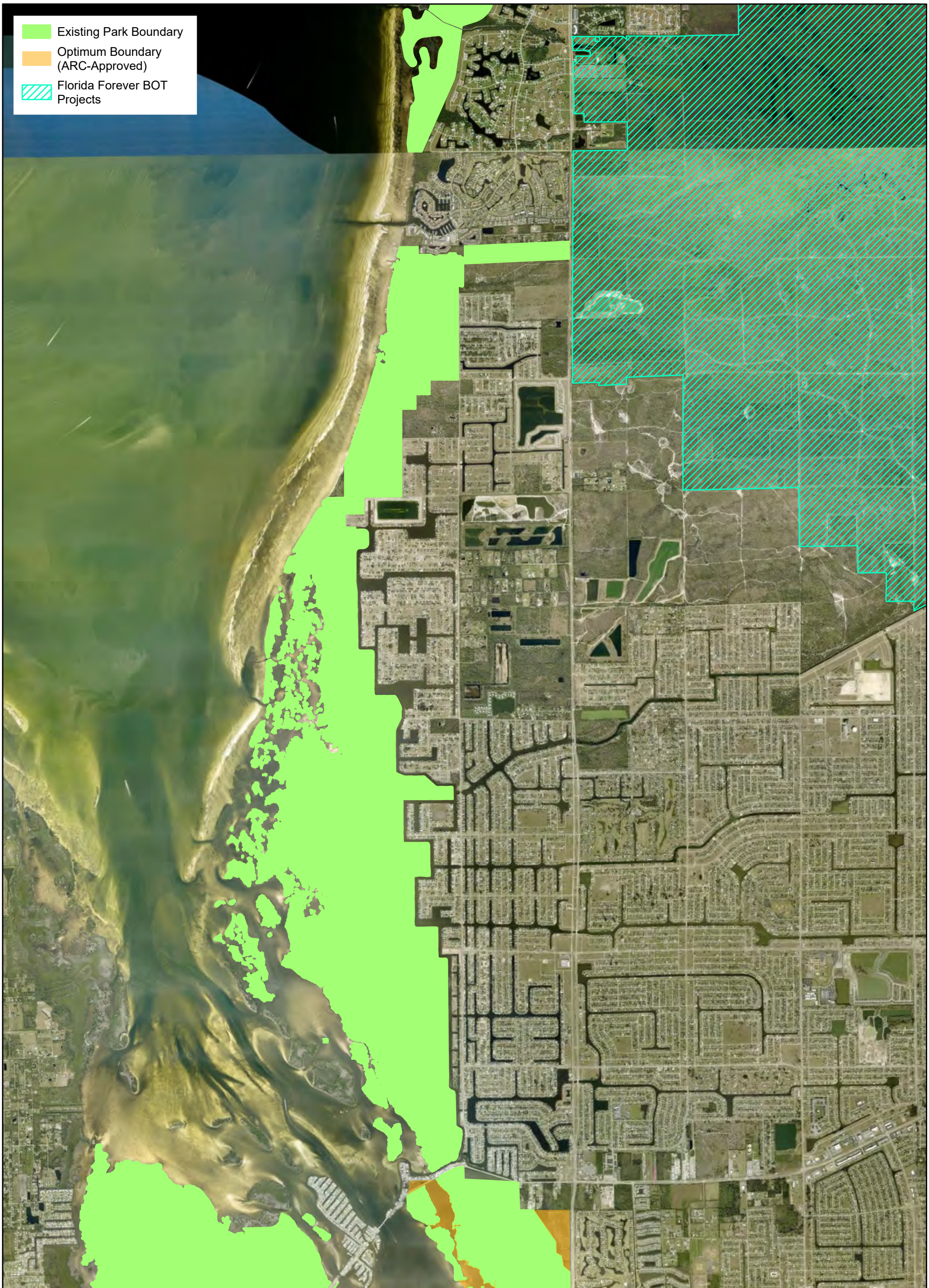
OPTIMUM BOUNDARY

A substantial amount of new acreage has been identified as desirable for acquisition to the preserve. These lands include many separate parcels with multiple owners and reflect the historic land subdivision of the area. Many of these parcels are small inholdings that fragment the preserve and, if developed, would complicate resource management and diminish the original function of the preserve in buffering the aquatic preserves from ecologically damaging land uses. Several larger parcels have been identified

as well, particularly adjacent to the PGMA. These parcels would bring significant cultural resources under DRP management that are currently in jeopardy of being developed for residential use.

The preserve lease was amended in 2001 to include the submerged lands of the abandoned CSX phosphate dock pilings at the south end of Gasparilla Island. This action was taken to return the once disputed submerged lands to public ownership and protection from any future marina development on the site. Incorporation with the Charlotte Harbor Preserve State Park lease, rather than the Gasparilla Island State Park lease is an oddity of the lease configurations. The dock was partly demolished to discourage trespass on the structure and continues to collapse as old timbers and pilings deteriorate. The submerged structure provides habitat for numerous invertebrate and fish species, including the Goliath grouper (*Epinephelus itahara*), a state protected species. Given the nearly adjacent proximity to Gasparilla Island State Park, transferring the CSX dock submerged lands to Gasparilla Island State Park's lease is deemed appropriate. Regardless of which DRP unit the submerged land parcel is assigned, managing the structure as an artificial reef site, including maintaining appropriate navigational aids, should be considered for a marine ecological benefit. This concept should be explored further with both DRP and Gasparilla Sound-Charlotte Harbor Aquatic Preserve.

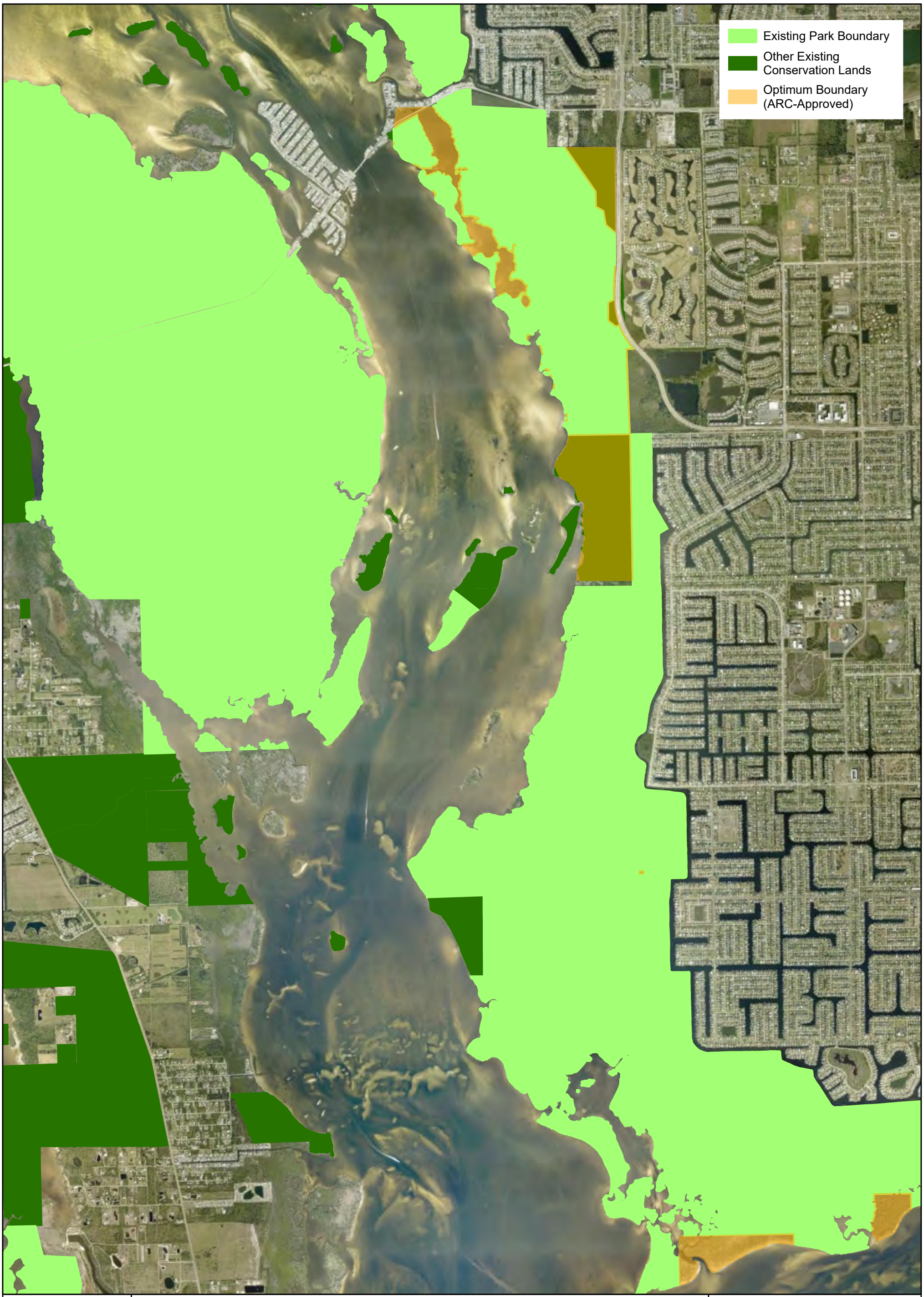
The Charlotte Harbor Preserve State Park lease was also amended in the early 2000s to include the Schwarcom parcel (management zones CH31A-D) that was purchased to protect approximately 32 acres of flatwoods from future development. While this undeveloped parcel contributes to natural areas buffering of the greater aquatic preserve, it is locally landlocked and disjunct from other Charlotte Harbor Preserve parcels. As this parcel is located only .05 miles north of Don Pedro Island State Park, the parcel should be reassigned to the Don Pedro Island State Park lease to provide additional space for park staff residences.



CHARLOTTE HARBOR PRESERVE STATE PARK
Cape Coral Management Area (North)
Optimum Boundary

N
0 3,000 6,000 Feet

This graphical representation is provided for informational purposes and should not be considered authoritative for navigational, engineering, legal, and other uses.



CHARLOTTE HARBOR PRESERVE STATE PARK
Cape Coral Management Area (South)
Optimum Boundary

N
0 2,000 4,000 Feet

This graphical representation is provided for informational purposes and should not be considered authoritative for navigational, engineering, legal, and other uses.

Existing Park Boundary
Optimum Boundary (ARC-Approved)
Optimum Boundary (Proposed Additions)

CHARLOTTE HARBOR PRESERVE STATE PARK
Cape Haze Management Area (East)
Optimum Boundary

N

0 1,000 2,000 Feet

This graphical representation is provided for informational purposes and should not be considered authoritative for navigational, engineering, legal, and other uses.

Existing Park Boundary

Other Existing Conservation Lands

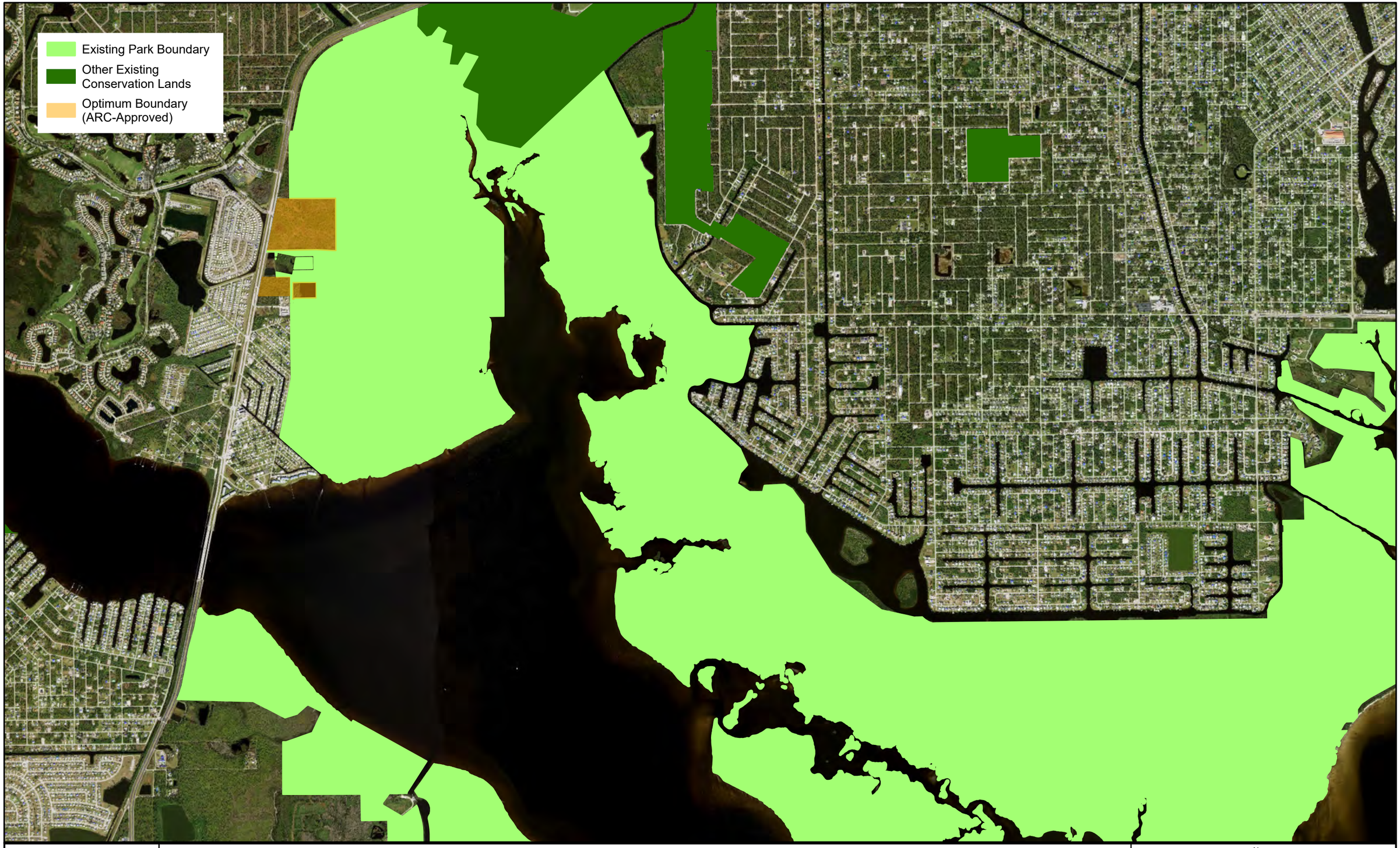
Optimum Boundary (ARC-Approved)

CHARLOTTE HARBOR PRESERVE STATE PARK
Cape Haze Management Area (West)
Optimum Boundary

N

0 2,500 5,000 Feet

Sources: ESRI; Florida Department of Environmental Protection
This graphical representation is provided for informational purposes and should not be considered authoritative for navigational, engineering, legal, and other uses.



CHARLOTTE HARBOR PRESERVE STATE PARK
Port Charlotte Management Area
Optimum Boundary

N

Mile
0 0.5 1

Sources: ESRI; Florida Department of Environmental Protection
This graphical representation is provided for informational purposes and should not be considered authoritative for navigational, engineering, legal, and other uses.

Existing Park Boundary

Other Existing Conservation Lands

Florida Forever BOT Projects

Optimum Boundary (ARC-Approved)

CHARLOTTE HARBOR PRESERVE STATE PARK
Punta Gorda Management Area
Optimum Boundary

N

0 2,500 5,000 Feet

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