ARTHROPOD CONTROL PLANS

Southwest District

Charlotte Harbor Region
Big Cypress Region
Terra Ceia Preserve State Park

Big Cypress Region

Collier-Seminole State Park

Arthropod Control Plan

Collier-Seminole State Park does not have an arthropod control plan. The park is outside of the jurisdiction of the Collier County Mosquito Control District such that a control plan is not necessary.

Florida Department of Agriculture and Consumer Services
Division of Agricultural Environmental Services

ARTHROPOD MANAGEMENT PLAN - PUBLIC LANDS

Section 388.4111, F.S.
Telephone: (850) 617-7995

NICOLE "NIKKI" FRIED
COMMISSIONER

Return to:
Mosquito Control Program
3125 Conner Blvd, Bldg 6,
Tallahassee, Florida 32399-1650

For use in documenting an Arthropod Control Pan for lands designated by the State of Florida or any political subdivision thereof as being environmentally sensitive and biologically highly productive therein. Fill this form out if control work is necessary or planned.

Name of Designated Land:

Delnor-Wiggins Pass State Park

Is Control Work Necessary: ☑ Yes ☐ No

Location:

Land Management Agency:

Florida State Parks (DEP)

Are Arthropod Surveillance Activities Necessary? ☑ Yes ☐ No
If "Yes", please explain:

Monitor adult mosquito population abundance and spatial dynamics at species level. Identify and survey for larval production sites. Aerial mapping of mosquito habitat. Mosquito-borne disease surveillance. Monitor for establishment of invasive mosquito species.

Which Surveillance Techniques Are Proposed?
Please Check All That Apply:

☑ Landing Rate Counts ☑ Light Traps ☐ Sentinel Chickens

☐ Citizen Complaints ☑ Larval Dips ☑ Other

If "Other", please explain:

Mosquito-borne disease surveillance (PCR testing of mosquito pools - West Nile virus, St. Louis Encephalitis virus, Eastern Equine Encephalitis virus).
Weather station for condition monitoring.

Arthropod Species for Which Control is Proposed:

Aedes taeniorhynchus
Culex nigripalpus

Proposed Larval Control:

Proposed larval monitoring procedure: Larval dips

Are post treatment counts being obtained: ☑ Yes ☐ No

Biological Control of Larvae:

Might predacious fish be stocked: ☐ Yes ☑ No

Other biological controls that might be used:

Material to be Used for Larvaciding Applications:

(Please Check All That Apply:)

☑ Bti

☐ Bs

☐ Methoprene

☐ Non-Petroleum Surface Film

☐ Other, please specify:

Please specify the following for each larvacide:

Chemical or Common name: Fourstar BTI CRG

☐ Ground ☑ Aerial

Rate of application: 7.5-10 lbs/acres

Method of application: Aerial granular larvicide

Proposed Adult Mosquito Control:

Aerial adulticiding ☐Yes ☑No

Ground adulticiding ☐ Yes ☑No

Please specify the following for each adulticide:

Chemical or common name:

Rate of application:

Method of application:

Proposed Modifications for Public Health Emergency Control: Arthropod control agency may request special exception to this plan during a threat to public or animal health declared by State Health Officer or Commissioner of Agriculture.

Proposed Notification Procedure for Control Activities:

Land manager will be notified before any aerial applications. Aerial applications will be completed before the park opens at 8:00 AM. A final report will be provided to DWPSP at the end of each calender year documenting treatment and surveillance results: date, method, material, application rate, acreage, and surveillance results.

Records:

Are records being kept in accordance with Chapter 388, F.S.:

☑ Yes ☐No

Records Location: Collier MCD headquarters

How long are records maintained: At least 3 years

Vegetation Modification:

What trimming or altering of vegetation to conduct surveillance or treatment is proposed?

No modifications needed.

Proposed Land Modifications:

Is any land modification, i.e., rotary ditching, proposed:

No modifications needed.

Include proposed operational schedules for water fluctuations:

List any periodic restrictions, as applicable, for example peak fish spawning times.

Proposed Modification of Aquatic Vegetation:

No modifications needed.

Land Manager Comments:

The Florida Park Service appreciates the partnership that has developed between CMCD and Delnor Wiggins State Park. We will continue to manage this land within its designation as being environmentally sensitive and biologically highly productive and look forward to assisting CMCD, whenever we can, to reach our mutual goals.

Arthropod Control Agency Comments:

Several condominiums, homes and public facilities are located in close proximity to the park and are adversely affected by salt marsh mosquitoes produced in the park. Personnel from CMCD and DWPSP should communicate frequently in order to maximize the benefits of this plan. Additionally, CMCD and DWPSP should meet annually to revisit and make modifications to plan before the beginning of salt marsh mosquito season.

3/11/2022

Signature of Lands Manager or Representative Date

3/11/2022

Signature of Mosquito Control Director / Manager Date

Estero Bay Preserve State Park

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, Florida Statutes. 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 (AMP), where one has been established.

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 AMP 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, Florida Statutes, 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, Florida Statutes.

Fakahatchee Strand Preserve State Park

Arthropod Control Plan

Fakahatchee Strand Preserve State Park is located in a remote area, disconnected from significant population centers, so an arthropod control plan has not been requested or developed.

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

Koreshan Historic State Park

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, Florida Statutes. 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 (AMP), where one has been established.

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 AMP 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, Florida Statutes, 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, Florida Statutes.

Division of Recreation and Parks
Florida Department of Environmental Protection

OBJECTION TO PROPOSED PUBLIC LANDS ARTHROPOD CONTROL PLAN

Mosquito Control District	Public Land	Parks District
Lee County	Carl Johnson/Lovers Key State Recreation Area	4

The activities listed below are included in a Proposed Arthropod Management Plan for the above public lands, which are determined to be environmentally sensitive and biologically highly productive, pursuant to §388.4111, Florida Statutes. However, only those checked below are determined by the Division of Recreation and Parks to be acceptable for those lands.

__✓__ Adult surveillance (landing rate counts, light traps, truck traps)
__✓__ Larval surveillance (larval dip count)

__✓__ Collection of environmental information (rainfall, tides, groundwater levels, wind speed)

PESTICIDE CONTROL OF LARVAE:

__✓__ Ground - slow-release; methoprene (Altocid)

__✓__ Aerial (rotary) - liquid; methoprene (Altocid)

_____ Aerial (rotary) - liquid; temephos (Abate)

PESTICIDE CONTROL OF PUPAE:

_____ Aerial (rotary) - liquid; Golden Bear (GB-1356)

PESTICIDE CONTROL OF ADULTS:

__✓*__ Ground - ULV; malathion

_____ Aerial (rotary and fixed wing) - ULV and thermal; malathion
_____ Aerial (rotary) - thermal; fenthion (Baytex)

_____ Ground - ULV; pyrethrins (not pyrethroids)

__✓*__ Ground - ULV; resmethrin

_____ Aerial (rotary and fixed wing) - ULV and thermal; resmethrin

* Only upon request of the park manager; also, application restricted to occupied public use, residence, and service areas.

Above in effect DB 11/05: Area covered in '98 Lee Co MOU (amended) plus →

Mound Key Archaeological State Park

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, Florida Statutes. 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 (AMP), where one has been established.

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 AMP 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, Florida Statutes, 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, Florida Statutes.

Central Gulf Region

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MANATEE CNTY

Florida Department of Agriculture and Consumer Services
Division of Agricultural Environmental Services

ADAM H. PUTNAM
COMMISSIONER

ARTHROPOD MANAGEMENT PLAN - PUBLIC LANDS

Section 388.4111, F.S.
Telephone: (850) 617-7997

For use in documenting an Arthropod Control Pan for lands designated by the State of Florida or any political subdivision thereof as being environmentally sensitive and biologically highly productive therein. Fill this form out if control work is necessary or planned.

Name of Designated Land:

TERRA CEIA PRESERVE STATE PARK

Is Control Work Necessary: ■ Yes ❑ No

Location:

MANATEE COUNTY – PRIMARILY NORTH OF I-275 AND WEST OF US 41 BORDERING ON BISHOP HARBOR AND TAMPA BAY

Land Management Agency:

Division of Recreation and Parks
Florida Department of Environmental Protection.

Are Arthropod Surveillance Activities Necessary? ■ Yes ❑ No
If "Yes", please explain:

The area is highly productive for several species of mosquitoes, particularly *Aedes taeniorhynchus* and *Culex nigripalpus*.

Which Surveillance Techniques Are Proposed?
Please Check All That Apply:

■ Landing Rate Counts ■ Light Traps ❑ Sentinel Chickens

❑ Citizen Complaints ■ Larval Dips ■ Other

If "Other", please explain:

Only landing rate counts and larval dips will be conducted on a routine basis. However, the district proposes to conduct occasional research projects particularly focusing on "non-target species" and this may require the use of other surveillance techniques such as light traps, malaise traps and drop traps. The use of these other surveillance devices will only be conducted after consultation with the land management agency staff/biologists.

Arthropod Species for Which Control is Proposed:

Several mosquito species, primarily *Aedes taeniorhynchus, Aedes sollicitans, Psorophora columbiae* and *Culex nigripalpus*

Proposed Larval Control:

Proposed larval monitoring procedure:

Are post treatment counts being obtained: ■ Yes ☐ No

Biological Control of Larvae:

Might predacious fish be stocked: ☐ Yes ■ No

Other biological controls that might be used:

Material to be Used for Larvaciding Applications:

(Please Check All That Apply:)

■ Bti

■ Bs

■ Methoprene

☐ Non-Petroleum Surface Film

☐ Other, please specify:

Please specify the following for each larvacide:

Chemical or Common name: Bti Liquid (Trade names: Aquabac-XT, Vectobac-12AS)

■ Ground ☐ Aerial

Rate of application: 32 oz (diluted in 12.5 gallons of water) per acre

Method of application: Hose-end sprayer from truck mounted formulation tank

Chemical or Common name: Bti Liquid (Trade names: Aquabac-XT, Vectobac-12AS)

☐ Ground ■ Aerial

Rate of application: 32 oz (diluted with 32 oz water) per acre

Method of application: Isolair liquid spray system with TurfJet nozzles on helicopter producing very coarse droplets.

Chemical or Common name: Bti granular formulation (Trade names: Aquabac 400 DG Lite or Vectobac CG)

■ Ground ☐ Aerial

Rate of application: 5-10 lbs per acre

Method of application: hand or backpack sprayer

Chemical or Common name: Bti granular formulation (Trade names: Aquabac 400 DG Lite or Vectobac CG)

☐ Ground ■ Aerial

Rate of application: 5-10 lbs per acre

Method of application: Isolair Granular Applicator system on Helicopter

Chemical or Common name: Methoprene (Trade name: Altosid-5% ALL)

■ Ground ☐ Aerial

Rate of application: 4 oz (diluted in 12.5 gallons water) per acre

Method of application: Hose-end sprayer from truck mounted formulation tank

Chemical or Common name: Methoprene (Trade name: Altosid-5% ALL)

☐ Ground ■ Aerial

Rate of application: 4 oz (diluted with 60 oz water) per acre

Method of application: : Isolair liquid spray system with TurfJet nozzles on helicopter producing very coarse droplets.

Chemical or Common name: Bs (Bacillus Sphaericus, Trade names: Vectolex WDG or Sphaerotex)

☐ Ground ■ Aerial

Rate of application: 1 lb diluted in half-a- gallon of water per acre

Method of application: Isolair liquid spray system with TurfJet nozzles on helicopter producing very coarse droplets

Proposed Adult Mosquito Control:

Aerial adulticiding ☐Yes ■ No

Ground adulticiding ☐ Yes ■ No

Please specify the following for each adulticide: **N/A**

Chemical or common name: **N/A**

Rate of application: **N/A**

Method of application: **N/A**

Proposed Modifications for Public Health Emergency Control: Arthropod control agency may request special exception to this plan during a threat to public or animal health declared by State Health Officer or Commissioner of Agriculture.

This may include the aerial application of adulticides (Dibrom, Anvil 10+10, Zenivex, Fyfanon) should the threat require this action. However, no adulticide applications will be made without first consulting with the relevant Land Management personnel.

Proposed Notification Procedure for Control Activities:

Larval surveillance and "Routine larviciding" with Bti or methoprene products will be conducted without specific notification to the Land Managers. Acceptance of this Arthropod Control Plan will be considered to be the necessary notification. Any other form of Control Activity on the Park property will require prior notification from Manatee County Mosquito Control to the relevant Land Management personnel. Land Management personnel will contact the mosquito control office when mosquito control personnel will be prohibited from entering the preserve due to hazardous activities being conducted.

Records:

Are records being kept in accordance with Chapter 388, F.S.:

■ Yes ☐No

Records Location:

Manatee County Mosquito Control District, 2317 2nd Ave W, Palmetto, FL 34221

How long are records maintained:

Minimum of 10 years

Vegetation Modification:

What trimming or altering of vegetation to conduct surveillance or treatment is proposed?

NONE

Proposed Land Modifications:

Is any land modification, i.e., rotary ditching, proposed:

NO

Include proposed operational schedules for water fluctuations:

N/A

List any periodic restrictions, as applicable, for example peak fish spawning times.

N/A

Proposed Modification of Aquatic Vegetation:

N/A

Land Manager Comments:

To limit vehicular disturbance in the Preserve, and especially when the maintenance roads are wet or under water, the Manatee County Mosquito Inspector will access areas within the vicinity of Bishop Harbor Road, Hightower Road, and Stotz Road by foot only. In event that those inspections (in combination with rainfall and/or tide data) indicate a higher probability of significant mosquito hatching, the Manatee County Mosquito Inspector will use a helicopter to access and inspect potential mosquito breeding sites that are further into the Preserve from the public paved roads. In the event that vehicular traffic is necessary in standing water or mud, permission from the Park Manager must first be obtained.

Arthropod Control Agency Comments:

Signature of Lands Manager or Representative — Date 8/28/12

Signature of Mosquito Control Director / Manager — Date 8/28/12

FLORIDA DEPARTMENT OF Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, FL 32399

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Noah Valenstein
Secretary

March 2, 2020

Mr. Christopher Lessor
Assistant Director
Manatee County Mosquito Control
2317 Second Ave. W.
Palmetto, FL 34221

Dear Mr. Lessor:
Per the specifics noted below, the Department provides approval for aerial adulticide treatments of mosquitoes over Terra Ceia Preserve State Park.

Specifics:

1. The Department approves only Naled/Dibrom as the aerial adulticide to be used over Terra Ceia Preserve State Park.
2. No more than three aerial applications of mosquito adulticide treatments will be made to any specific portion of Terra Ceia Preserve State Park in any calendar year. Any aerial treatment taking place during emergency declaration will be counted towards the maximum of three aerial treatment total.
3. Aerial adulticide application will be made only when your current larvicide program is unable to keep pace with extraordinary hatching levels or when mosquito-transmitted disease is present within the mosquito or host populations.
4. The park threshold will be an adult mosquito landing rate of X per minute and inhabited areas threshold will be mosquito populations three times greater than the baseline mosquito activity published by Manatee Co. Mosquito Control.
5. All applications will be made in accordance with the United States Environmental Protection Agency label.
6. Notification of all applications will be made at least three hours prior to application by fax, phone or email. Application notification will include treatment map, treatment material, application rate and timeframe of application.
7. All applications will be made and recorded using Geographic Positioning System (GPS) technology and treatment paths to be provided to the park within two weeks post flight.
8. No treatment is to take place over open water or over sovereign submerged waters within this state park. Our approval for treatment over the state park does not extend to the adjacent Terra Ceia Aquatic Preserve or any other lands managed by the Department.
9. Manatee County in partnership with Florida State Parks will work together to complete final analysis of and share results of their non-target impact study.

10. This approval will expire on Dec. 31, 2023 at which time renewal, if desired, can be discussed.

Once we have determined the specific landing rate trigger noted in number four above, we will amend our joint Arthropod Management Plan. Should you have any questions, please feel free to contact me directly.

Mr. Matt Hodge will be on point for the Division to help determine the landing rate in item number four above and to receive the post-treatment data.

Park Manager Kevin Kiser will be the point of contact for the Division to receive notifications prior to aerial adulticide treatments.

Matthew Hodge, Environmental Specialist II
District 4 Administration
1843 S. Tamiami Trail
Osprey, FL 34229
941-882-7204
Matthew.hodge@FloridaDEP.gov

Kevin Kiser, Park Manager
Terra Ceia Preserve State Park
c/o Gamble Plantation State Park
3708 US Hwy 301
Ellenton, FL 34222
941-721-6747 (office)
941-737-0401 (cell)
Kevin.kiser@FloridaDEP.gov

Sincerely,

Parks Small
Assistant Director
Division of Recreation and Parks

C: Shawn Hamilton, Interim Deputy Secretary, Land and Recreation
Eric Draper, Director, Division of Recreation and Parks
Chuck Hatcher, Assistant Director, Division of Recreation and Parks
Brian Fugate, Chief, Bureau of Parks District Four
Matthew Hodge, Environmental Specialist
Kevin Kiser, Park Manager

Charlotte Harbor Region

Cayo Costa State Park

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, Florida Statutes. 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 (AMP), where one has been established.

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 AMP 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, Florida Statutes, 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, Florida Statutes.

D4
CHARLOTTE CNTY

CHARLES H. BRONSON
COMMISSIONER

Florida Department of Agriculture and Consumer Services
Division of Agricultural Environmental Services

ARTHROPOD MANAGEMENT PLAN - PUBLIC LANDS

Chapters 388.4111, F.S. and 5E-13.042(4)(b), F.A.C.
Telephone: (850) 922-7011

For use in documenting an Arthropod control plan for lands designated by the State of Florida or any political subdivision thereof as being environmentally sensitive and biologically highly productive therein.

Name of Designated Land:
Charlotte Harbor Preserve State Park

Is Control Work Necessary: ☒ Yes ☐ No

Location:
Approximately 26,000 acres of state lands managed as the Charlotte Harbor Preserve State Park

Land Management Agency:
Department of Environmental Protection - Division of Recreation and Parks - Charlotte Harbor Preserve State Park

Are Arthropod Surveillance Activities Necessary? ☒ Yes ☐ No
If "Yes", please explain:
Pre and post treatment surveillance for larval breeding at various sites within the State lands

Which Surveillance Techniques Are Proposed?
Please Check All That Apply:

☐ Landing Rate Counts ☐ Light Traps ☐ Sentinel Chickens

☐ Citizen Complaints ☒ Larval Dips ☐ Other

If "Other", please explain:

Arthropod Species for Which Control is Proposed:
Aedes taeniorhynchus and Aedes sollicitans

Proposed Larval Control:

Proposed larval monitoring procedure: Helicopter inspections with dipping to occur at various locations to determin extent of breeding

Are post treatment counts being obtained: ☒ Yes ☐ No

Biological Control of Larvae:

Might predacious fish be stocked: ☐ Yes ☒ No

Other biological controls that might be used:

Material to be Used for Larvaciding Applications:

(Please Check All That Apply:)

☒ Bti

☐ Bs

☒ Methoprene

☐ Non-Petroleum Surface Film

☐ Other, please specify:

Please specify the following for each larvacide:

Chemical or Common name:

☐ Ground ☒ Aerial

Rate of application: 8-16 ounces ai per acre (Bti); 4 ounces ai per acre (methoprene)

Method of application: Helicopter, liquid mixture

Proposed Adult Mosquito Control:

Aerial adulticiding	☐ Yes	☒ No
Ground adulticiding	☒ Yes	☐ No

Please specify the following for each adulticide:

Chemical or common name: Current insecticide of choice is synthetic

permethrin

Rate of application: .0035 lbs. ai per acre

Method of application: The Park Manager may request fogging (ULV) ground application) in occupied use areas, residential, and service areas.

Proposed Modifications for Public Health Emergency Control: Arthropod control agency may request special exception to this plan during a threat to public or animal health declared by State Health Officer or Commissioner of Agriculture.

Proposed Notification Procedure for Control Activities:

Charlotte County Environmental & Extension Services will notify the Charlotte Harbor Preserve State Park by phone at 941-575-5861 office prior to each larvicide application. A monthly summary of larviciding and surveillance activities within the boundaries of the park shall be submitted to the Park Manager.

Records:

Are records being kept in accordance with Chapter 388, F.S.:

☒ Yes ☐ No

Records Location: Environmental & Extension Office 25550 Harbor View Rd. Port Charlotte, Fl. 33980

How long are records maintained:
Three Years

Vegetation Modification:

What trimming or altering of vegetation to conduct surveillance or treatment is proposed?
None

Proposed Land Modifications:

Is any land modification, i.e., rotary ditching, proposed:
No new land modification planned, Rotary Ditches were placed on a portion of the lands in the late 1980's

Include proposed operational schedules for water fluctuations:
None

List any periodic restrictions, as applicable, for example peak fish spawning times.
None

Proposed Modification of Aquatic Vegetation:
None

Land Manager Comments:
This Plan does not address or authorize treatment within the Gasparilla Sound/Charlotte Harbor Aquatic Preserve, Cape Haze Aquatic Preserve, or Lemon Bay Aquatic Preserve.

The Charlotte Harbor Preserve State Park would be happy to assist and/or conduct prescribed burning in coastal marshes with the application of aerial devices from Charlotte County helicopters to reduce fuels in mosquito breeding areas. The reduction of fuels in the marshes has greatly reduced mosquito populations in Lee County thereby saving taxpayer funds.

Arthropod Control Agency Comments:
Charlotte County Envieonmental & Extension Services may request to control adult mosquito populations in the event a health emergency is declared in Charlotte County.

Signature of Lands Manager or Representative — Date 1-12-09

Signature of Mosquito Control Director / Manager — Date 2/5/09

Florida Department of Environmental Protection

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

Rick Scott
Governor

Carlos Lopez-Cantera
Lt. Governor

Noah Valenstein
Secretary

July 31, 2017

Mr. Scott Schermerhorn, Manager
Charlotte County Mosquito and Aquatic Weed Control
25550 Harbor View Road, Suite 2
Port Charlotte, Florida 33980-2503

Dear Mr. Schermerhorn:

With the exceptions noted below, the Department approves your proposed amendment to the Arthropod Management Plan for Charlotte Harbor Preserve State Park.

Exceptions:

- Naled/Dibrom shall be the only aerial adulticide to be used over the park.
- A maximum number of three treatments per year will be conducted over this park.
- Aerial adulticiding will only occur when your current larviciding program is unable to keep pace with extraordinary hatchling levels, such as when surveillance determines mosquito abundance at levels at least three times above baseline.
- Any treatment taking place during emergency declaration will be counted towards the maximum of three aerial treatment total.
- No treatment is to take place over open water or over sovereign submerged waters within this state park. Our approval over the state park does not extend to the adjacent Charlotte Harbor Aquatic Preserve or any other lands managed by the Department.

This letter serves as your notice to proceed. Should you have any questions, please feel free to contact me directly.

Sincerely,

Parks Small, Chief
Bureau of Natural and Cultural Resources
Division of Recreation and Parks

c: Gary Clark, Deputy Secretary, Land and Recreation
Matt Mitchell, Assistant Director, Division of Recreation and Parks
Chuck Hatcher, Assistant Director, Division of Recreation and Parks
Valinda Subic, Bureau Chief, Bureau of Parks District Four

FLORIDA DEPARTMENT OF Environmental Protection

Bureau of Parks District 4
1843 South Tamiami Trail
Osprey, Florida 34229

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Shawn Hamilton
Interim Secretary

8/20/2021

Mr. Scott Schermerhorn,
Director Charlotte County Mosquito Control
Charlotte County Department of Public Works
Division of Mosquito and Aquatic Weed Management
25550 Harbor View Road Suite 2
Port Charlotte, FL 33980

RE: Response to Arthropod Control Plan Modification Request

Dear Mr. Schermerhorn,

Thank you for your recent request to modify the existing Arthropod Management Plan (AMP) for State Parks in Charlotte County managed by the Division of Recreation and Parks (DRP). We understand that you are requesting to use spinosad products in limited and specified areas of Charlotte Harbor Preserve State Park (application attached as Addendum I). We appreciate your efforts to minimize the potential treatment areas in the proposal. The DRP endeavors to preserve and enhance the natural condition and biodiversity of the finite conservation lands in Florida in perpetuity. In recent years, this has become increasingly challenging in coastal regions due to climate change and severe weather events, habitat loss, and water quality impacts from red tide and other algal events.

The scientific literature indicates that Bti is the most environmentally sensitive mosquito control product and remains our preference (to be rotated periodically with methoprene products) in a manner that imposes the least hazard to environmentally sensitive and biologically highly productive lands. Additionally, the available literature indicates that spinosad products have the potential for greater non-target impacts to the biota of coastal Florida compared to Bti and methoprene. We encourage Charlotte County Mosquito Control District (CCMC) to continue to explore the extended use Bti formulations (like Sustain MBG) and newer Duplex-G (a combined AI product) as well as Bti with methoprene.

District 4 of the DRP will allow the use of spinosad (Natular G and Natular G30) in the areas outlined in CCMCD revised application submitted (attached). These applications will be limited to two (2) applications per year with a 60-day window between application dates, allowing the product to degrade before reapplication and avoid back to back treatments. Natular G / Censor 8lbs/Acre Aerial application via helicopter granular dispersion tank. Natular G30 8-10lbs/Acre Aerial application via helicopter granular dispersion. This authorization will expire August 01, 2025.

DRP District 4 recognizes the need for studies to be done with respect to Spinosad's effect on DRP managed natural resources and will continue the process of reaching out to potential partners, including CCMC, in order to achieve this. We would like to:

- determine if any non-mosquito species are present within the proposed treatment areas (flooded water column, connected soils and vegetation, adjacent sites, and controls). Identify,

characterize the life cycle, and potential for impacts including; but not limited to, relative abundance, and any predator-prey relationships.

- determine if any species are identified, initiate investigation including post spinosad (Natular G and Natular G30) application population changes and recovery periods.
- Conduct mosquito larval habitat analysis to include habitat description, elevation and hydrologic evaluation to determine if:

    - any reduction to gross area of treatment polygons can be refined in order minimize application but maintain adequate levels of mosquito control.
    - any man-made structures (ditches, berms, roads) are associated with enhancing mosquito production and what efforts, on our behalf, might reduce such a condition.

The DRP reserves the right to discontinue the use of spinosad products, if during this period any negative impacts are observed.

The areas described as overabundance of marsh vegetation and thus leading to limited efficacy from aerially applied larvicides are well documented. The Florida Park Service is always striving to bring their fire type communities within their desired fire return interval. These areas outlined in the proposal as many other areas within our management areas are extremely difficult to burn. The complexities involved include lack of fire break infrastructure, urban interface which include high density populations and smoke sensitive areas (hospitals, airports, schools and public roads). We will look at the parcels described in the application and develop a plan to reduce the vegetation to help improve the efficacy of the aerially applied larvicides, therefore limiting spinosad (Natular G and Natular G30) applications in the future.

We appreciate the partnership that has developed between the Division of Recreation and Parks and the CCMC. We look forward to continuing this partnership and assisting whenever we can to reach our mutual goals.

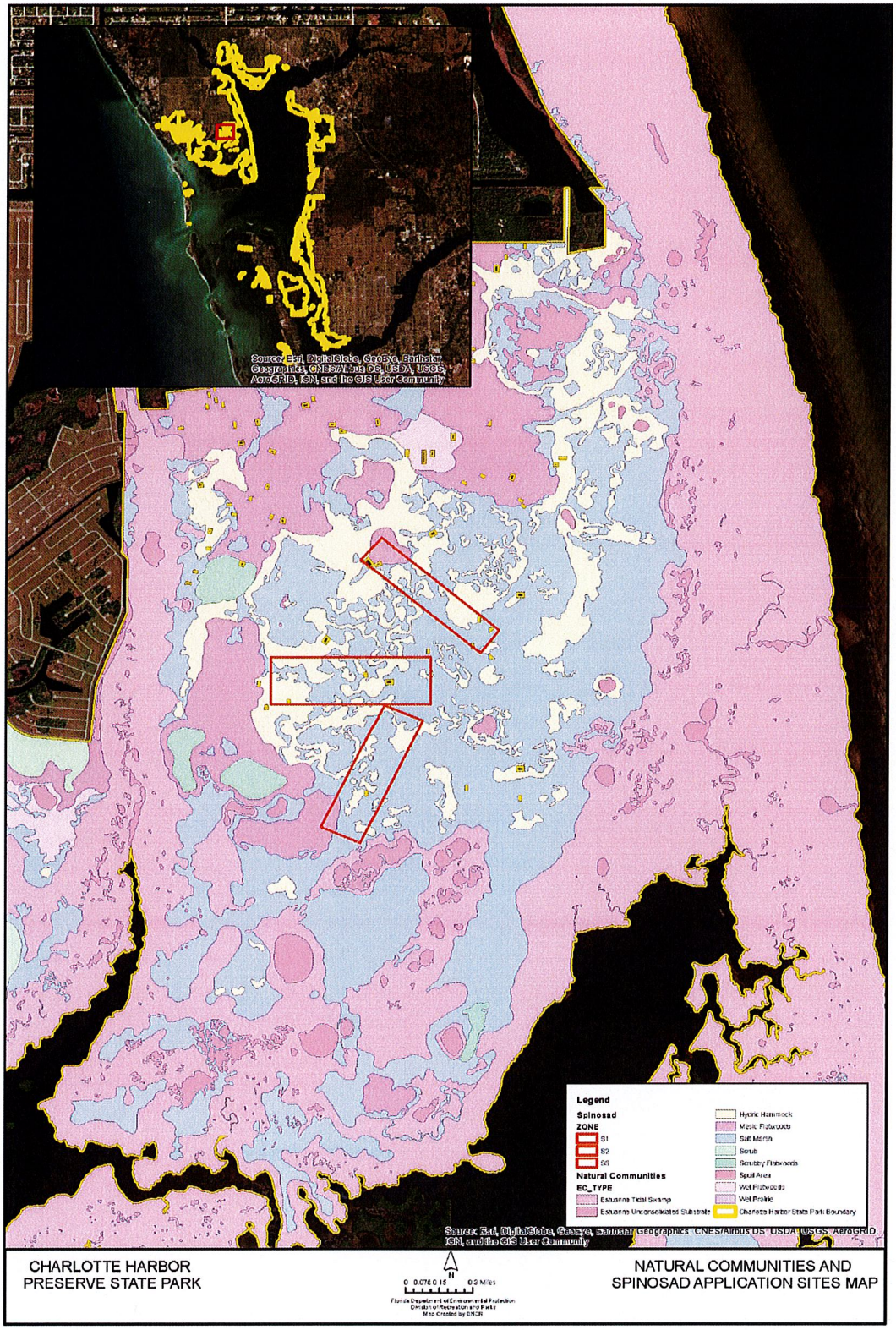
Sincerely

Brian Fugate

Digitally signed by Brian Fugate
Date: 2021.08.20 09:59:57 -04'00'

Brian Fugate, Bureau Chief
Bureau of Parks District 4

Addendum I


Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Legend
Spinosad
ZONE
S1
S2
S3
Natural Communities
EC_TYPE
Estuarine Tidal Swamp
Estuarine Unconsolidated Substrate
Hydric Hammock
Mesic Flatwoods
Salt Marsh
Scrub
Scrubby Flatwoods
Spoil Area
Wet Flatwoods
Wet Prairie
Charlotte Harbor State Park Boundary
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
CHARLOTTE HARBOR
PRESERVE STATE PARK
N
0 0.075 0.15 0.3 Miles
Florida Department of Environmental Protection
Division of Recreation and Parks
Map Created by ENCR
NATURAL COMMUNITIES AND
SPINOSAD APPLICATION SITES MAP

OBJECTION

State Parks

APPROVED 7/20/87
GARDNER LETTER

Unit(s)

Don Pedro Island SRA
Port Charlotte Beach SRA

District

Charlotte County

The activities listed below, if checked, are proposed in the plan submitted for arthropod control on environmentally sensitive and biologically highly productive lands. They are unacceptable for subject properties.

Unacceptable Activities

___X___ Aerial adulticiding, including incidental deposition.

___X___ Application of larvicides or pupacides except for Bacillus thuringiensis israelensis (BTI).

___X___ Any physical alterations such as, but not limited to: ditches, ponds, dikes, impoundments, or the maintenance of such alterations.

_____ Trimming or removal of vegetation.

_____ Insufficient survelliance prior to proposed activity.

_____ Described activity so general we cannot tell how parcel would be affected.

_____ No plan received.

The activities listed below would be acceptable:

___X___ Use of Bacillus thuringiensis israelensis (BTI).

___X___ Upon request of park manager, ground adulticiding in occupied public use and service areas.

___X___ Placement of larvae eating native fishes such as Gambusia.

Gasparilla Island State Park

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, Florida Statutes. 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 (AMP), where one has been established.

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 AMP 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, Florida Statutes, 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, Florida Statutes.

Stump Pass Beach State Park

Arthropod Control Plan

Mosquito control plans (i.e., Arthropod Control Plans) are typically proposed by county mosquito control districts when they desire to treat on public lands that are protected by section 388.4111, F.S. (Charlotte County Mosquito Control District 2012; FDACS 2012). The current plan for Stump Pass Beach State Park was finalized in 1987 and is available in the Southwest District Arthropod Control Plan Appendix. Mosquito control plans temporarily may be set aside under declared threats to public or animal health, or during a declared state of emergency.

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