

South Florida/Caribbean Network

National Park Service
Inventory and Monitoring Division



Standard Operating Procedure CNB02

Safety Requirements and Procedures to Fly in a Helicopter —Version 1.1

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Summary

The purpose of this SOP is to describe the safety requirements and procedures to fly in a helicopter for colonial bird monitoring in Biscayne National Park.

Revision Log

Revision Date	Author	Changes Made	Reason for Change	New Version #
3/19/2020	Judd Patterson & Robert Muxo	The SOP short name was changed from SOP B to SOP CNB02. The longer name was also changed from 'Safety Requirements and Procedures to Fly in a Helicopter for Colonial Bird Monitoring in Biscayne National Park' to 'Safety Requirements and Procedures to Fly in a Helicopter'. Some references and Appendix with safety forms was added.	The original protocol was published with bundled SOPs. When these were split out, the names were updated to reflect modern usage of numbers instead of letters. Previously cited references were deemed obsolete and Appendix names were converted from numbers to letters.	1.1

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Introduction

After reading this SOP, one should be familiar with the requirements needed in order to be eligible to fly in the helicopter for the colonial bird monitoring flights over Biscayne National Park, know the basic safety measures, and be familiar with specific procedures that need to be performed prior and during helicopter monitoring flights.

The monitoring of colonial nesting birds in Biscayne National Park requires access to remote sites across the waters of Biscayne Bay. Ninety-five percent of Biscayne National Park is comprised of submerged marine environments. There are approximately 42 islands protected within the park boundary consequently drawing birds to the bay year-round. Large colonies of double-crested cormorants and several species of egrets and herons nest seasonally in the protected refuge of the park keys. A helicopter is an efficient method to fly SFCN personnel and their field equipment (PPEs, camera, GPS, locator beacon, and radio) over the sites being monitored in a systematic way without the need to land. Helicopters offer the most practical and efficient means of sampling these monitoring sites as opposed to flying in a fixed-wing airplane. Helicopters also provide the best visual access of bird colonies on Biscayne National Park islands, as well as the ability to fly at a slower speed and hover when needed. The ability to vary the altitude of the aircraft allows for better pictures to be taken. Fixed-wing aircraft do not provide the precision available from a helicopter. A contracted or Park Service owned, and operated aircraft will be used whenever suitable for these missions. At the start of each field season, responsibilities for helicopter flying, sampling, and data collection will be delegated among the participating individuals.

Helicopter Procedures

Prior to any helicopter flight the required certifications must be obtained (see Personnel Requirements and Training section). NPS procedures for flight operations are described in more detail in the Standards for Helicopter Operations (SHO), the Park Aviation Safety Plan, NPS Aviation Reference Manual-60 (RM-60), and OAS Departmental Manual Index (DM 350-3534). Refer to these publications for more information on helicopter operations and procedures. Additionally, the most current Job Hazard Analysis is located on the SFCN server at Z:\SAFETY\SFCN_SOPs_with_JHAs\JHAs\Community_Group_JHA's\Job_Hazard_Analysis_Colonial_Birds. See Appendix A for an example of a JHA. The current JHA will be reviewed and signed by any SFCN team member flying in a helicopter for the colonial nesting bird monitoring.

In order to schedule a helicopter mission, an Aircraft Flight Request/Schedule form (see Appendix A for an example) is filled out, and a copy is e-mailed to the South Florida Aviation Program (SFLAP) which then sends it to the FICC (Florida Interagency Coordination Center) for flight following. Prior to departure, a Field Safety Sign-out sheet is filled out and left at the office (see Appendix A for an example). Prior to loading the aircraft, SFCN personnel and their equipment are weighed in the office or at the airport. The pilot and crew are responsible for decisions related to storage of gear on board, as well as decisions to proceed or cancel the mission based on aircraft, weather, or other

considerations. The Aviation Risk Assessment (352 DM 2.2 A) will be used to document this decision (see Appendix A for an example).

Weather conditions are an important consideration when deciding if to proceed with a flight. Factors such as wind speed, wind gusts, temperature, visibility, precipitation, and local weather anomalies are all part of determining whether or not to proceed with a mission. Mission participants, ground support crew and pilot are all responsible for flight safety. The mission participants will decide if the weather will permit safely accomplishing the mission and obtaining good data. We have determined that maximum wind speed (including gusts) of up to 15 miles per hour is acceptable for gathering data. We have also determined a wind gust variance of no more than 8 miles per hour is an acceptable limit to accomplish the mission successfully (these parameters are within NPS safety guidelines).

Once a flight is initiated, flight following is maintained between the pilot and flight following personnel at FICC flight following, in accordance with Department of Interior (DOI) and NPS South Florida Aviation Program (SFLAP) guidelines. Flight following communication entails a verbal check-in to include position and status update by the pilot, and verbal acknowledgment by FICC dispatch, to occur every 15 minutes. The SFCN crew carries a portable digital park radio for use when the helicopter has shut down or landed.

Helicopter altitude is maintained at approximately 300 feet (directed altitude due to flying near Homestead Airforce base) except when photographing a bird colony. Once at a location, the aircraft will hover/circle at approximately 150 feet. This allows SFCN personnel to make correct visual identifications, get accurate counts and estimates, and take photographs.

Biscayne National Park is adjacent to the Florida Power and Light Turkey Point Nuclear Power Plant, thus part of our pre-flight safety protocol is to notify the power plant security of scheduled flights near their airspace. Up to a week in advance we send security personnel an email with the flight time, date, and a description of the helicopter including color and tail number. The contact information for the helicopter contractor is included. Prior to take-off an SFCN crew member calls security personnel at the power plant to remind them of the mission. An SFCN crew member also calls the office to confirm that the mission will be taking place.

Safety: Special Equipment and Certified Operators

This plan is an extension of the general philosophy that safety comes first in the workplace. While helicopters have inherent risks, the proper use of personal protective equipment (Figure 1), proper planning for the transportation of personnel and gear, and the proper use of entry and exit techniques are all designed to minimize this risk. As mentioned above, NPS procedures for flight operations are described in more detail in the SHO, SFLAP, and Special Use Aircraft and Safety Plan Everglades National Park (Appendix A, NPS RM-60, and DM 350-3534. The SHO comprehensively covers required clothing and equipment (personal protective equipment and aviation live support system), training (A-100, A-110, A-200, S-271, and A-312), loading and unloading both passengers and cargo, flight routing, flight following, communications, landing zones, landing area safety, fueling

and special considerations for hazardous material transportation. Please refer to the SHO and the Special Use Aircraft and Safety Plan Everglades National Park or SFLAP for further information on helicopter safety and special equipment requirements.

All considerations of aircraft performance with regard to load capacity, fitness for flight, flight duration, and ability to operate in current weather conditions are the primary responsibility of the pilot and flight crew. Any member of the crew has the ability to postpone a flight if conditions are not satisfactory (e.g., weather, gear, pilot, flight crew). An operational risk assessment analysis, hazardous materials checklist, and the SFCN Go/No-Go list (Appendix A) will be used for each flight.

The pilot and certified helicopter crew members are responsible for completion of load calculations prior to the flight. The Flight Supervisor is responsible for passenger and load manifests.

Since flight operations take place over water, floats (pontoons) are required on the aircraft, and FAA-approved Personal Flotation Devices (PFDs) are required for all crewmembers. The port side doors of the aircraft are removed to facilitate observations and photography of nesting colonies. Additional consideration will be given to the safe loading and unloading of equipment to reduce the risk of losing gear during flight. If the aircraft is not outfitted as required, the flight will be postponed or cancelled until appropriate arrangements can be made.

In all cases, the pilot and crew will be thoroughly familiar with the hazards within Biscayne National Park and along flight routes. Flight following is conducted by FICC dispatch in accordance with DOI and SFLAP guidelines. Although this mission should not require landing, the SFCN crew carries a portable digital park radio for use when the helicopter has shut down or landed.

All aircraft incidents or accidents will be reported in accordance with DOI, NPS, and FAA regulations.



Figure 1. This photo shows the required personal protective equipment (PPE): approved helmet, Nomex flight suit, Nomex gloves, and over-the-ankle all-leather boots. Natural fibers such as cotton pants and shirt underneath the flight suit, and long cotton socks are recommended. The photo shows a locator beacon, two-way radio, Interagency Aviation User Pocket Guide, and a Helicopter Passenger Briefing Card (OAS-84 [06/06]). A manually deployed, FAA-approved personal flotation device (not shown) is required when flying over water.

Locating and Assessing the Sample Sites

Presently there are nine colony sites monitored on a monthly basis. Following the annual complete park survey, SFCN personnel will decide if new sites need to be added or if previous sites need to be

deleted. Colony locations and flight plans are pre-determined before the start of the mission. The annual complete surveys for new colonies include the monthly survey to maximize efficiency.

A GPS plotter or handheld GPS unit (e.g. Garmin GPSMAP 78) with colony locations and pre-loaded flight tracks is available to aid in navigation during the flight. When possible, sites are approached in a manner that minimizes disturbance to birds, but wind speed and direction must be considered. Ultimately, the pilot will decide the safest approach. Upon arrival at the sites, the photographer begins capturing images to visually document the entire colony. The observer conducts a visual census of the site and records observed data. Colony sites may be flown from one end to the other, circled, or flown over in a transect pattern. Each flight path is specific to the site, planned in advance, and is conducted at an approximate altitude of 150 feet (Appendix A). The exact flight path depends on weather conditions and is the pilot's decision.

Field Forms

Field Safety Sign-out Information Sheet

This form serves as a record for office personnel listing which crew members are conducting a field mission, the location and time of the mission, and other pertinent information.

This form can be found in z:\Safety\ 20181010_SFCN_Float_Plan.pdf

A printable version of this form is included in Appendix A.

Communications Center Aircraft Request Form (ENP Form 9400)

This form serves to request and schedule colonial bird monitoring flight with the flight agency and SFLAP, depending who is providing flight services for that particular date. This form must be completed and submitted to flight agency contracted for flight and EVER flight following prior to departure.

This form can be found in z:\Helicopter\Forms\ENP_Form_9400_blank.doc

A printable version of this form is included in Appendix A.

Biscayne National Park – Colonial Bird Survey – Helicopter Field Data Sheets

The Pre and Post-Flight Information form (Figure 2) records mission specific information. The field data sheets (Figures 3 and 4) are intended to aid in keeping a record of the species of birds observed at each location, approximate quantities of active nests, and conditions encountered while conducting the flight. The “observed data” side of the data sheet is completed by the SFCN crew member in the front seat (see Roles and Responsibilities under Personnel Requirements and Training). There is a specific data sheet for each of the colonies (each island) visited during the flight. Please note the exact number of active nests is obtained later, from the photographs taken at each active colony. This form is printed back to back with the photo processing data sheet (SOP CNB05). The “photo processing” side of the data sheet is completed after the photo analysis has occurred in the office. Keeping the data sheets together provides for more convenient and accurate data entry.

These forms can be found in:

Z:\SFCN\Vital_Signs\Colonial_Nesting_Birds\data\BISC\Data_sheets\20130213_data_sheet_BISC.xlsx

<u>Pre- and Post-Flight Information</u>						
Date: _____						
Project Name: _____						
Observer/ Photo: _____/ _____						
Pilot Name: _____						
Aircraft make/model: _____						
Beginning/ Ending Hobbs: _____/ _____						
Fuel amount: _____						
Weather conditions: _____						
Temperature: _____						
Wind direction/speed: _____						
Cruising speed/altitude: _____						
GPS Unit: _____						

Figure 2. Sample Pre-and Post-Flight Information Form. This form is used to record flight information including the date, flight crew, helicopter information, and weather conditions.

Biscayne National Park - Colonial Bird Survey Helicopter Field Data Sheet Mangrove Key Colony		For Qty. Obs. Box, specify number of individuals. For all other boxes, specify "Yes" or "No".			
Species Code	Qty. Obs.	Visible nests?	Visible chicks?	Visible eggs?	
DCCO					
ANHI					
CAEG					
GWHE					
GBHE					
GREG					
LBHE					
REEG					
SNEG					
TRHE					
ROSP					
WHIB					
BAEA					
OSPR					
Other (specify)					
Other (specify)					

Easting: 568810.602918233 **Northing:** 2808792.87449692

Date: _____ Time: _____

Mark start position on map below

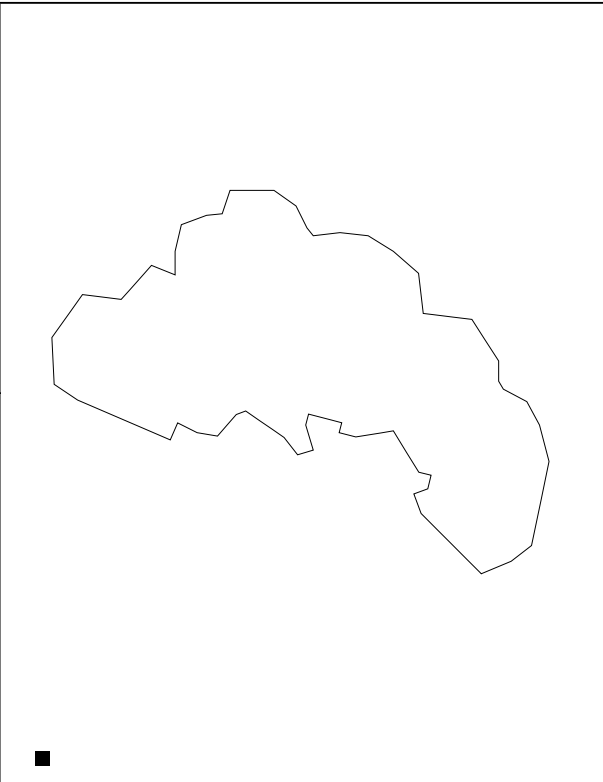


Figure 3. The above is an example of a Field Data Sheet for a known colony. This sheet is filled out by the SFCN observer during the flight when surveying an island.

Colonial Bird Vital Sign Helicopter Survey Field Data Sheet-New Colony

This form (Figure 4) is used once a year when we search for new colonies within Biscayne National Park. Each winter, flights are conducted to look for new nesting bird colonies in Biscayne National Park. The observed data recorded includes: active nests, their locations, visible chicks, visible eggs, species, their quantities, observers, and flight date and time.

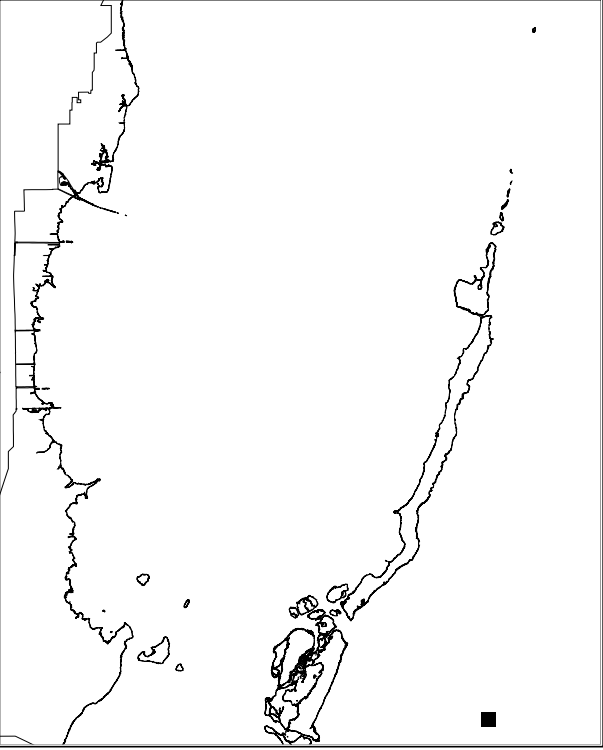
Biscayne National Park - Colonial Bird Survey Helicopter Field Data Sheet - New Colony																																																																																									
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Figure 4. The above is an example of a Field Data Sheet for a new colony. This sheet is filled out by the SFCN observer during the flight when surveying an island. The location of the new colony can be circled on the map for later reference.

Helicopter Associated Costs

The SFCN has contracted a local helicopter charter operator to perform monthly flights over the island bird colonies in Biscayne National Park. This has proven to be the best method of gathering data on nesting birds. Detailed costs and charges are listed in the Startup Costs and Budget Considerations under the Operational Requirements section of the protocol.

Appendix A. Examples of Flight Forms

THESE FORMS MAY BE UPDATED AFTER PUBLICATION AND THUS SHOULD BE SEEN ONLY AS EXAMPLES TO HELP PERSONNEL LOCATE THE CORRECT FORMS. The most recent versions of the forms are located in:

- Z:\Helicopter\Colonial_birds\Forms\

With backups in:

- Z:\SAFETY\Section 3A - SFCN Standard Operating Procedures - SOP's\Colonial_Birds\

SFCN Colonial Bird Helicopter Go / No Go Checklist

Items needed:

- Personal protective equipment; helmet, flight suit, gloves, leather boots. ____
- PFDs for personnel on flight ____
- GPS (handhelds, plotter), cameras, and any other electronics needed for the mission. ____
- Notebook with data sheets. ____
- Handheld communication (portable digital park radio). ____
- Personal locator beacon (PLB) 406MHz. ____
- Safety items such as survival packs, first aid, extra food, water, etc. ____

Pre-Flight procedures:

- Plan flight mission properly. Refer to the Aviation Safety Manual if necessary. ____
- Submit aircraft flight request form (ENP 9400) after confirming flight availability to: (EVER aircraft dispatcher) via e-mail; and to HMC Helicopter Services via email or fax to (305) 254-1407. ____
- Send e-mails notifying park managers & FPL of mission (dates, times, locations, etc). ____
- Prepare GPS, charge batteries, synchronize camera with *time.gov* for geosetting. ____
- Fill out SFCN office safety sheet with flight mission details.
- Call SFCN office (305) 252-0347 prior to take off. ____

Flight day procedures:

- Monitor weather conditions, and make sure they are appropriate for flying mission. ____
- Arrive at airport at least 30 minutes prior to scheduled flight. ____
- Ensure that pilot and personnel have proper qualifications to fly the mission. ____
- Brief pilot and personnel of mission, routes, stopping points, specifics, etc. Make sure pilot is rested and not pre-occupied. ____
 - Make sure pilot goes over pre-flight briefing on aircraft features and safety components. ____
 - Know where fuel gauge is located and amount of fuel needed to safely return. ____
 - Ask the pilot to set radio so you can also hear all air traffic communications. Be aware that once 5 miles from airport range flight following takes over monitoring of the aircraft. ____
 - Check with pilot to ensure that passenger-side control pedals are in the lock position. ____
 - Secure all loose equipment before flight; use precaution to prevent anything from falling out. ____
 - Communication is important! Ask, notify, listen, and be alert to everything that is going on. ____
 - Be aware of local airports and potential emergency landing spots. ____

During Flight:

- Ensure flight following is initiated and maintained throughout flight. ____
 - All crew members must keep alert for hazards (other aircrafts, birds, etc.) and notify the pilot. ____
- Check fuel gauge during flight. ____

Post-Flight procedures:

- Do not remove seatbelts or exit aircraft until propellers have stopped moving. ____
- Call SFCN office to notify staff the flight has landed. ____
- Make sure to get the completed and signed copy of the AMD-23E from the contractor. ____
- Update SFCN spreadsheets with fly times, costs, and any other important information. ____

Flight Manager Signature: _____ Date: _____

Field Safety Sign-out Sheet

Safety First!!! Field Safety Sign-out Information

Objective: To know where field personnel are, when they are overdue from returning from the field, when help should be sent, and to have enough information to give to searchers to make them easy to find.

Date(s):

List all crew members (crew leader first): _____

Time of departure:

Time expected to return:

Time to send help:

Location(s) (please attach a copy of any maps you make and give enough information to direct a search crew):

☐ BICY ☐ BISC ☐ EVER ☐ DRT0 ☐ WCA3A ☐ Other

Purpose: _____

Ramp

☐ Black Point Marina ☐ BISC Headquarters ☐ Flamingo
☐ Everglades City ☐ Other:

Contact info

Radio #: Cell phone #: Home phone #:
Will you be in cell phone range? Yes ☐ No ☐ Partial ☐ .

If overdue call

☐ EVERGLADES Dispatch: 305-242-7740 ☐ 911
☐ Dry Tortugas Site Manager (Acting): Glenn Simpson 305-242-7700
☐ U.S. Coast Guard: 305-535-4300, 305-535-4304, 305-535-4582
☐ EVER Flight Following: 305-242-7868
☐ BICY Mike O'leary 239-450-2278

Truck/Car

☐ Community Truck Ford F250 – 2012, green, 4x4, crew cab, long-bed, tag # I517061
☐ Community truck Ford F250 – 2008, white, 4x4, crew cab, long-bed, tag # I411795
☐ Marine truck Ford F250 – 2007, white, 4x4 crew cab, short-bed, tag # I411786
☐ EPMT Ford F250 – 2012, green, 4x4, crew cab, long-bed, tag # I517061

☐ Chrysler Grand Caravan minivan – 2005, dark blue, tag # **I410018**

Truck/Car (continued)

☐ Ford Expedition (XLT) – 2009, white, tag # **G62-0210F**-(Tony’s SUV)

☐ Ford Fusion – 2010, white, tag # **I413445**

☐ 16-ft Green Cargo ATV Trailer, tag # **I413441**

Boat

☐ TwinVee Catamaran w/NPS logo, length 29 ft, tag # **I263404**

☐ “Tiburon” TwinVee Catamaran, length 19 ft, tag # **I413447**

☐ Airboat w/NPS logo, length 14 ft, tag # **I411792**

☐ “Sparky” Aluminum workboat, length 20 ft, tag # **I411792**

☐ M/V Fort Jefferson – Satellite Ph: 808-659-5146, Cell Ph: 305-215-4767

☐ Canoe, red, Osagian “Missourian”, length 17’

☐ Other:

If staying overnight

Lodging you are staying in:

Lodging phone number:

Name of field crew’s Nightly Call-in Contact:

Expected call-in time:

If going on a helicopter

Name of the company:

Name of the pilot:

Contact info for pilot & company:

Precise take-off point:

Take-off time:

Precise landing point:

Landing time:

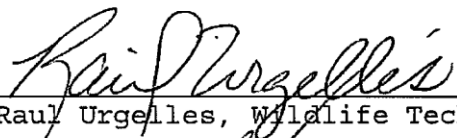
☒ Approval for permission to work 8 hours comp time per day.

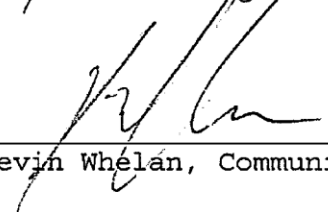
**SPECIAL USE AIRCRAFT AND SAFETY PLAN
EVERGLADES NATIONAL PARK**

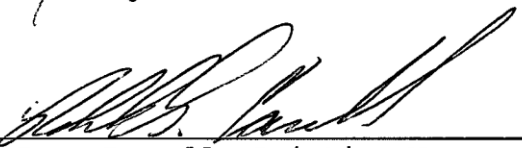
**Colonial Nesting Bird and
Vegetation Surveys
Biscayne National Park**

South Florida and Caribbean Network
National Park Service
Inventory and Monitoring

Updated July 2012

Prepared by: 
Raul Urgelles, Wildlife Technician, SFCN

Reviewed by: 
Kevin Whelan, Community Ecologist, SFCN

Approved by: 
Gary Carnall, Aviation Manager, EVER

Page 1 of 5

Figure A-1. Sample of Special Use Aircraft and Safety Plan for Everglades National Park, page 1 of 5.

SPECIAL USE AIRCRAFT AND SAFETY PLAN
EVERGLADES NATIONAL PARK

**Colonial Nesting Bird and Vegetation Surveys
Biscayne National Park**

OBJECTIVES: This plan's purpose is to provide guidance to personnel who direct, manage, and participate in helicopter-based aviation operations related to South Florida/Caribbean Network (SFCN) Vital Signs Monitoring Plan targeting the **Colonial Nesting Birds and Vegetation Communities Extent & Distribution** components of the program and conducted within Biscayne National Park (BISC).

SCHEDULE: Colonial bird surveys are conducted at least once a month at six sites: Mangrove Key, West Arsenicker, Arsenicker Key, Jones Lagoon, Ragged Key 5, and Soldier Key (see attached map). Vegetation surveys are conducted as needed (episodically) with no set schedule at this moment. Flight operations are scheduled in a manner that is appropriate to either project.

PROJECT DESCRIPTION: The monitoring of colonial nesting birds and vegetation communities in BISC requires access to remote sites across the waters of Biscayne Bay. A helicopter is needed to fly two, sometimes three, SFCN personnel and their field equipment (binoculars, cameras, and GPS) over these monitoring sites in a systematic way without the need to land. Data will be collected through visual census and photographs of colonial nesting birds and vegetation communities. Contracted park aircraft will be used whenever suitable for these missions.

JUSTIFICATION: A helicopter offers the most practical and efficient means of transportation to the monitoring sites in BISC. Motorboat transportation is the only other means of travel to these remote regions within the park. However, motorboats will disturb roosting and nesting birds and provide SFCN personnel with inaccurate counts due to restricted visual access to the colonies. Surveying vegetation communities from a motorboat will provide inaccurate land cover estimates and assessments as well as incomplete species inventory. Given the size of BISC, motorboat operations will create time limitations which will not allow for a

Figure A-2. Sample of Special Use Aircraft and Safety Plan for Everglades National Park, page 2 of 5.

complete assessment of the park's land habitats. As such, travel by helicopter is the only reasonable means of surveying colonial nesting birds and vegetation communities within the required time period. Helicopter use is further justified because it provides SFCN personnel with the best visual access of bird colonies and vegetation communities in order to get accurate counts and estimates.

DESCRIPTION OF METHODS TO BE USED: SFCN personnel and their equipment will be weighed-in prior to loading the aircraft at the flight office located at Kendall-Tamiami Executive Airport (HMC Helicopters) or Homestead General Aviation Airport. The pilot is primarily responsible for decisions related to the disposition of gear stored on board and/or decisions to go/no go based on aircraft, atmospheric conditions, or other considerations. Prior to flight, SFCN personnel will provide GPS coordinates for the locations to be surveyed and will work with the pilot to determine a flight plan. Once a flight is initiated, flight following will be maintained between dispatch and the helicopter by the pilot. Between point locations, flights are performed above 500'. Once at a location, the aircraft will hover/circle below 500' (at approximately 300' for bird surveys). This will allow SFCN personnel to make correct visual identifications, get accurate counts and land-cover estimates, and take photographs.

PROCEDURES: NPS procedures for flight operations are described in the SOP for Helicopter Use and are in the Park Aviation Plan, MPS 60, and DM 350-354. The SOPs cover required clothing and equipment (Personal Protective Equipment and Aviation Live Support System), training (B3 and/or S-271), loading and unloading both passengers and cargo, flight routing, flight following, communications, landing zones, landing area safety, fueling and special considerations for hazardous material transportation.

NECESSARY SPECIAL EQUIPMENT AND CERTIFIED OPERATORS: Since flight operations will take place over water, floats (pontoons or emergency pop-out) will be required on the aircraft and PFDs will be required for all crewmembers. If the site conditions do not match the aircraft's current setup, flight will be cancelled until appropriate arrangements can be made. Additional consideration will be given to the safe loading and unloading of small equipment cases to reduce the risk of loose gear during flight.

Figure A-3. Sample of Special Use Aircraft and Safety Plan for Everglades National Park, page 3 of 5.

SAFETY: This plan is an extension of the general philosophy of Safety First in the work place. While helicopter flight has inherent risks, the proper use of Personal Protective Equipment, proper planning for the transportation of personnel and gear, and the proper use of entry and exit techniques are all designed to minimize this risk.

In all cases, both the pilot and crew will be thoroughly familiar with the hazards within BISC and along flight routes. Flight following will be conducted by Everglades National Park Operations Center (dispatch) in accordance with AMD and NPS guidelines. "Everglades Flight Following" will utilize the following frequencies: 163.3875 TX (to transmit) and 169.7250 RX (to receive). The crew (SFCN personnel) will also have a portable digital park radio with spare battery pack for use when the helicopter is shut down. The pilot and certified helicopter crew member are responsible for completion of load calculations prior to flight. The Flight Supervisor is responsible for passenger and load manifests. All aircraft incidents or accidents will be reported in accordance with AMD, NPS, and FAA regulations.

CONSIDERATIONS OF AIRCRAFT PERFORMANCE CAPABILITY: All considerations of aircraft performance, be it with regard to load capacity, fitness for flight, flight duration, and ability to operate in the weather conditions at the time of flight, are the primary responsibility of the pilot.

ALTERNATIVES:

1. (PREFERRED) Continued use of helicopter for colonial nesting bird monitoring and vegetation community surveys. In this alternative, SFCN personnel will continue to be transported to remote work-related sites within BISC to collect data via helicopter. This alternative allows the efficient and timely completion of monitoring and assessment-related objectives with a minimum of loss of data within the network. This is the preferred alternative.
2. Eliminate use of helicopter operations to remote sites within BISC. In this alternative, no helicopter would be used for access to remote locations in the park. All activities would be accomplished via motorboats. Since BISC covers 181,500 acres, this would not be a practical option. This

Figure A-4. Sample of Special Use Aircraft and Safety Plan for Everglades National Park, page 4 of 5.

alternative is not considered a viable option for the SFCN.

* Aviation Risk Assessment, 352 DM 2.2A (exhibit 5) will be used and addressed with each flight.

Page 5 of 5

Figure A-5. Sample of Special Use Aircraft and Safety Plan for Everglades National Park, page 5 of 5.

SFCN Helicopter GAR

Table A-1. Rate 1–10; any category rated >5 should receive specific mitigation.

Category	Score	Comments/Sources
Supervision: These monitoring events will take place under the supervision of EVER Flight Following, the Pilot, Helicopter Manager, Flight Manager, and Helicopter Crew Member. Each person involved in the mission has the responsibility to minimize risk.		
Planning: Prior to each mission, flight requests and notifications will be sent to EVER Flight Following, HMC Helicopter, BISC management & resource personnel, and FPL Security at Turkey Point. Weather conditions are monitored prior to scheduling each flight until the time of the flight. Prior to each flight, an Aviation Risk Assessment form, Hazardous Materials Manifest, and a Go/No-Go checklist will be completed. The flight crew will brief the pilot on the mission objectives and requirements and a safety briefing will be performed by a qualified individual.		
Communication: As previously stated, flight notifications and requests will be sent to the appropriate individuals. These flights will be performed using EVER Flight Following procedures (status checks performed at 15 minute intervals). It is important to maintain communications of personnel within the aircraft as well and foster good communications between everyone involved.		
Team Selection: Personnel performing the monitoring will remain current in required flight training: A-107/ Aviation Policy and Regulations, B-3/ Combination Helicopter/ Airplane Safety Certificate, S-271/ Helicopter Crewmember Certificate, and A-312 Water Ditching and Survival.		
Team Fitness: In the event a team member or the pilot is considered unfit to perform their assigned tasks, (as determined by the pilot, flight crew member, or other personnel involved with the mission) the mission can be rescheduled or cancelled. Team members' physical and mental fitness need to be considered before each mission.		
Environment: Weather conditions will be monitored before and during the mission to ensure we stay within NPS guidelines and do not exceed limits of the aircraft or personnel. Our data collection environmental limits are more stringent than IHOG guidance allows.		
Mission Complexity: Efforts should be made to minimize complexity. Planning, communication, and simplifying tasks will aid to minimize complexity. Weather considerations are another major concern to lessen complexity. Safely minimizing the mission time also reduces exposure to risk.		
Total Risk Green = 0 – 35 (Go, Low Risk) Amber = 36 – 60 (Use Extra Caution) Red = 61-80 (Stop, High Risk)		

Prepared By: _____

Signature _____ Date_____

* There is a separate GAR (Operational Risk Management Analysis) to be filled out for helicopter operations.

This document and the GAR for helicopter operations are found on the SFCN server at:
Z:\SAFETY\Float_Plan

AVIATION RISK ASSESSMENT

352 DM 2.2 A. Risk assessment is the subjective analysis of physical hazards and operational procedures to arrive at a Go-No Go decision. Risk assessments support informed GO-NO GO decisions which are the responsibility of management. The pilot retains the final authority for the NO-GO decision when safe operations of the aircraft are a factor. The following is designed to provide the aircraft user or manager a checklist to help determine a GO-NO GO decision. If you answer no to any of the elements, stop and re-evaluate.

Table A-2. Example of Go-No Go Checklist.

GO-NO GO CHECKLIST	Yes	No
1. Aircraft data card, checked and mission approved.		
2. Pilot qualification card, checked, mission approved		
3. Pilot flight/ duty limitation checked.		
4. Official/ unofficial passengers authorized. Release form completed if needed.		
5. Manifest completed and left at departure point.		
6. Weight and balance completed by pilot.		
7. Mission approved by management. Proper PPE being worn. (Flight suit, gloves, leather boots, flight helmet.)		
8. Pilot briefed by personnel on intended missions and hazards.		
9. Aircraft safety briefing being provided to passengers.		
10. Personnel trained and qualified for mission. B3 must be current. (Within three years.)		
11. Flight plan completed, flight following procedures established and operational.		
12. Hazard map reviewed for low level flights.		
13. Weather forecast received, winds within prescribed limits.		
14. Cargo checked and secured.		
15. Survival equipment available if required.		
16. Special Use Plan current and on file (LE, SAR, Fire, Hydro, Exotics, Biological Monitoring).		

Comments:

Pilot Signature: _____

Chief of Party Signature: _____ Date _____

Helicopter Crew Member JHA Sample

- **Title of Job/Operation:** Helicopter Crew Member—Colonial Nesting Birds Protocol
- **Date Written:** March 27, 2013
- **Title of Person Who Does the Job:** SFCN staff, especially Biological Science Technician
- **Analysis By:** Robert Muxo
- **Supervisor:** Irina Ford
- **Park:** All SFCN parks
- **Division:** SFCN Inventory and Monitoring
- **Approved By:** Kevin Whelan, Matt Patterson
- **Required or Recommended Personal Protective Equipment:**
 - Leather boots
 - Nomex flight suit
 - Nomex or leather gloves
 - Non-synthetic undergarments
 - Helmet
 - Manual PFDs
- **Required Standards and General Notes:**
 - All DOI personnel participating in helicopter flights for this monitoring project are required to complete the following helicopter training courses: A-107, Aviation Policy and Regulations I (online), A-100, Basic Aviation Safety, S-271, Helicopter Crewmember, A-110, Aviation Transport of Hazardous Material, A-200, Aviation Mishap Review, and A-312, Water Ditching and Survival
 - Maintain Flight following with Everglades Dispatch
 - Also required: Complete office field Safety sign-out sheet; review helicopter “Go-No Go” list; complete Operational Risk Management Analysis (GAR); complete Hazardous Materials Manifest; notify FPL and office at takeoff and landing.

- **Required Tools and Equipment:**

- GPS
- Camera
- Field notebook
- Personal survival kit
- Park radio
- Locator beacon

Table A-3. Sample of Work Safety Job Hazard Analysis.

Sequence of Job Steps	Potential Hazards	Safe Action or Procedure
Field safety briefing	Not knowing procedures to prevent accidents.	Brief entire crew on the use and application of the JHA and GAR model. Pilot/aircraft data card approved and current Flight plan approved/flight following initiated. Personal protective equipment in use when required. Pilot briefed on mission and known flight hazards. Crew and passengers briefed on hazards and emergency procedures.
Loading gear	Items not secured/storage compartments not latched properly cause distraction/injury during flight.	Tie down cargo in cabin and gear in storage compartment. Make sure cargo latches are properly closed.
Boarding the helicopter	Contacting moving propeller blades or falling.	Whenever possible, wait until all moving parts have stopped moving. Watch your step. Approach helicopter within view of pilot. Approach helicopter from the front of the aircraft. Do not hold gear overhead
During flight	Person or items falling out. Mid-air collision.	Do not remove seatbelts. Do not throw anything from the helicopter Assist pilot by watching for other aircraft and birds
Disembarking the helicopter	Contacting moving propeller blades or falling	Wait for all moving parts to stop moving before releasing seatbelts and disembarking. Watch your step.

Aircraft Flight Request/Schedule Form (ENP 9400)

UNITED STATES DEPARTMENT OF THE INTERIOR										Change #		6. Aircraft Information	
AIRCRAFT FLIGHT REQUEST/SCHEDULE												FAA N#	
1. Initial request information			Cost-Account/Management Code(s)			Billee Code (OAS A/C only)			Flight Schedule No.		PAX Seats		
Initial Date/Time	To/From EVER Flight Following/	Phone Numbers							Make/Model				
									Color				
Check one: ☐ Point-to-Point Flight ☒ Mission Flight									Desired A/C Type: ☒ Helicopter ☐ Airplane			Vendor	
Mission Objective/Special Needs:									Phone No.				
									Pilot(s)				
2. Passenger/Cargo Information -- Indicate Chief of Party with an asterisk (*) Please include pax cell numbers													
NAME/TYPE OF CARGO	LBS OR CU FT	PROJECT ORDER/ REQUEST NO.	DEPT ARPT	DEST ARPT	RETURN TO	NAME/TYPE OF CARGO	LBS OR CU FT	PROJECT ORDER/ REQUEST NO.	DEPT ARPT	DEST ARPT	RETURN TO		
3. Flight Itinerary (For Mission-Type Flights, Provide Points of Departure/Arrival and Attach Map with Detailed Flight Route and Known Hazards Indicated)													
DEPART WITH		DEPART FROM		ENROUTE		ARRIVE AT		DROP OFF		KEY POINTS		INFO RELAYED	
Date	No. Pax	Lbs.	Airport/Place	ETD	ATD	ETE	Airport/Place	ETA	ATA	No. Pax.	Lbs.	Drop-Off Points, Refueling Stops, Flight Check-Ins, Pickup Points	To/From
4. Flight Following			5. Method of Resource Tracking:						7. Administrative		8. Review (If applicable)		
☐ FAA IFR ☐ Satellite ☐ FAA VFR With Check-In Every _____ Minutes To ☐ FAA or ☐ Agency ☒ Agency VFR With Check-In via radio Every <u>15</u> Minutes Frequency(ies):			☐ Phone ☒ Radio ☐ To Scheduling Dispatcher @ _____ (Phone Number) ☐ Prior to Takeoff ☐ Each Stop Enroute ☐ Arrival at Destination ☐ To: _____ @ _____ (Other Office) (Phone Number)						Type of Payment Document: ☒ OAS-23 or ☐ OAS 2 ☐ JFS 6500-122 ☐ Other Route Document To:		☐ Hazard Analysis Performed ☐ Dispatch/Aviation Mgr. Checklist ☐ Other:		
									9. Close-out		Closed by: _____ Date/Time: _____		

Figure A-6. Sample of Aircraft Flight Request/Schedule Form (ENP 9400).