United States Department of Agriculture
Forest Service

Southern Region

Helen Guard
Helibase Operations Plan
National Forests in Florida

2023

Innovation, Discipline, and Execution

Information presented in this document is a critical component of the National Forests in Florida Aviation Program. Questions regarding this plan should be directed to the Zone District FMO/Zone Aviation Officer (South). This plan shall be reviewed and updated annually.

Apalachicola National Forest

Prepared By:
(REQUIRED) District Level

/s/ Trixie Lee Smith
Trixie Smith
Helicopter Manager

10/31/2022
Date

Reviewed By:
(OPTIONAL) District Level

Mitchell Ketron or Acting
Zone Fire Management Officer

See Signature
Date

Reviewed By:
(REQUIRED)
Zone Aviation Officer

JOSHUA PIEROTTE
Digitally signed by JOSHUA PIEROTTE
Date: 2022.11.17 09:40:09 -05'00'
Joshua Pierotte
Zone Aviation Officer (South)

See Signature
Date

Approved By:
(REQUIRED) Line Officer

Birk Rosemen or Acting
District Ranger

See Signature
Date

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CHAPTER 1 – INTRODUCTION

A. Objectives

The plan aims to establish a helibase policy for the safe operational use of helicopters on the Apalachicola National Forest (ANF). This plan is supplemental to the National Forests of Florida (NFF) Aviation Management and Safety Plan. The guidance outlined in the NWCG Standards for Helicopter Operations, Forest Service Manual FS 5700, handbooks, and other applicable aviation policy references shall be followed.

B. General Information

1. State Organization

The Helen Guard Helibase operates in NFFL, under Region 8, US Forest Service. There are two other bases in the National Forests in Florida: Lake City Airtanker Base (ATB)/Osceola Helibase and Ocala Helibase (Smokey Base). ATB/Osceola Helibase operates in Osceola National Forest, in northeast Florida west of Jacksonville. Smokey Base operates in Ocala National Forest in central Florida, north of Orlando.

2. ANF Location

ANF is located in the eastern panhandle of Florida. The ANF is divided into two districts, the Apalachicola and the Wakulla. The two districts combined make the ANF the largest National Forest in Florida, totaling 558,817 acres. Within the boundaries of the ANF, there are three wilderness areas, Clear Lake, Mud Swamp New River, and Bradwell Bay being the largest.

3. Helibase Base Location

The Helen Guard Helibase is located on the Wakulla Ranger District at the Wakulla Work Center. The Wakulla Work Center is off HWY 267 (Bloxham Cutoff), approximately 8 miles west of HWY 319. The address is 10703 Bloxham Cutoff, Tallahassee, FL 32305, and the Latitude/Longitude are (N 30 18 18.7) (W 84 25 25.0).

4. Helicopter

An Exclusive Use Helicopter (EU) or Call When Needed (CWN) is based on the ANF at Helen Guard Helibase. The Exclusive Use helicopter contract is 60 days Mandatory Availability Period (MAP), from January to the beginning of March. The use of rotor-wing aircraft is essential to help with fire suppression activities and prescribed fire activities.

5. Fuels and Fire Behavior

i. General

The NFFL currently uses Spatial Fire Planning which replaced the narrative Fire Management Plan. Spatial Fire Planning uses Strategic Objective Shapes (SOS), formerly Fire Management Units, based on Land Management Plan objectives. There are three SOS on the NFF: General Forest, Military, and Wilderness. These are in the Wildland Fire Decision Support System: https://wfdss.usgs.gov

ii. Fire Season and Weather Patterns

The NFF fire season is year-round, with fires occurring every month of the year. Fire season usually starts slowly, with primarily human-caused fires occurring from January through March. Short daylight hours, cooler temperatures, and frontal passage rains keep fire behavior at a minimum.

From April through June, temperatures may reach 90-degrees or higher. Rainfall is scarce until the summer thunderstorms pick up in June and July. Droughts usually reach their peak during this period, and lightning becomes a factor in fire occurrence. Most large fires occur during this time, and days with multiple fires can be expected. Fire behavior may be intense and erratic, especially during thunderstorm passage or prolonged drought increases fuel availability.

Around July, the daily thunderstorm activity increases, and locally heavy rainfall is typical. Temperatures range from the mid-80s to the mid-90s. Many fires are started by lightning; however, most are accompanied by rainfall, making them easier to control. This pattern continues into the hurricane season (June 1-November 30), bringing more rain and humid days.

Fire activity declines from August through October, with September being the lowest recorded number of fires per year (10-year average). Temperatures remain in the 90s in August but begin to drop as fall approaches. In November, daylight hours become shorter, temperatures fall, and thunderstorms are few. Most fires in November and December are human-caused, and fire behavior is more manageable.

The fire environment in the NFF can change quickly from rain to drought. The well-drained soils allow areas that have received several inches of rainfall from burning within a day or two of drying. The NFF can go from almost flood-like conditions to extreme fire potential within a matter of weeks if no rain occurs. The largest influencing weather pattern is the lack of rainfall. When the lack of rain becomes long-term, this compound and the Keech-Byram Drought Index (KBDI) exceed 600-700. When this occurs, duff layers and organic soils become available for fire consumption and other natural fuels that generally would not have burned. Another indicator used in Fire Management is the Energy Release Component (ERC), which indicates the potential fire intensity.

ERC Values (FM D '88)	Staffing Class	Fire Danger
0 - 24	A	Low
–25-34	B	Moderate
–35-54	C	High
–55-59	D	Very Hight
>60	E	Extreme

iii. Dominant Fuel Types and Fire Behavior

Longleaf Pine-Wiregrass Sandhills

The longleaf/wiregrass ecosystem is characterized as a forest of widely spaced pines with a sparse understory of deciduous oaks and dense ground cover of grasses and herbs. Wiregrass is the primary carrier of fire with pine overstory that contributes needle cast to the fuel bed. Grass fire behavior fuel models best represent fuel conditions. The Low Load, Humid Climate Grass (Dynamic Fuel Model GR5) or Fuel Model 2 best predicts fire behavior, which can produce rapid rates of spread when wind-driven. Depending on fuel moisture levels, fuel loads, and wind speeds, flame lengths can range from 2'-30' and rates of spread from 10-400 chains/hr. Crown fires are rare in this ecosystem due to the distance between trees and the height of the crowns above the ground; however, single tree torching can occur occasionally.

Direct attack can be taken with engines utilizing roads for burning out. Tractor plows may be used. However, it is preferred that new plow lines be kept to a minimum as not to scalp ground vegetation.

Longleaf Pine Upland Flatwoods

The flatwoods ecosystem is identifiable by the near-continuous understory of palmetto and grasses with an overstory of widely spaced pine. Timber-shrub fuel models best represent fuel conditions in this ecosystem. The Moderate Load, Humid Class Timber-Grass-Shrub (Dynamic Fuel Model TU3) or Low Load, Humid Climate Timber-Shrub (Fuel Model SH4), or Fuel Model 7 best predicts fire behavior in this fuel type. The waxy content of palmetto leaves and the buildup of dead fuels below this brush model can produce very intense fires. Flame lengths can range from 2'-20' and rates of spread from 10-200 chains/hr. In dense pine plantations, crown fires may occur.

The use of tractor plows and dozers is the only option for containing fires in this fuel type. Direct attack with heavy equipment is possible when rates of spread are low to moderate. When fire intensities produce rapid rates of spread and spotting, indirect attack (backfires or burnouts) is the best option for containment. Engines and hand crews are inefficient except for mop-up. Terrain and vegetation make traveling off-road impossible.

Swamps and Bays

Hardwood swamps, bays, and drains are mainly concentrated within the wilderness, along rivers, and other low-lying areas. These areas are typically wet and can hold or stop fires, except during drought conditions. When drought conditions occur, these areas can burn readily, and fires can pass over wet soils through built-up dead fuels. Prolonged droughts prove that swamps and bays cannot be counted on as fire breaks.

During normal times, fuel conditions in these areas are best represented by the standard timber litter fire behavior fuel models, with dead and down woody fuel as the primary carrier of fire. The Low Load, Broadleaf Litter (Fuel Model TL2), or Fuel Model 9 best predicts fire behavior of this fuel type. Flame lengths can range from 1'-2', and rates of spread range from 1-4 chains/hour. The High Load, Dry Climate Shrub (SH5) or Fuel Model 4 is a practicable fuel model for fire behavior in Titi swamps during drought conditions. Surface water retention is the determining factor as to whether the area will burn. Flame lengths range from 2'-25', and rates of spread range from 10-250 chains/hour.

These soils are mostly "muck," and direct attack with heavy equipment may complicate the firefighting effort because the equipment may become stuck. Low flame lengths may allow direct attack with hose lays and hand tools. During drought, indirect attack from higher ground is the best solution.

Savannahs

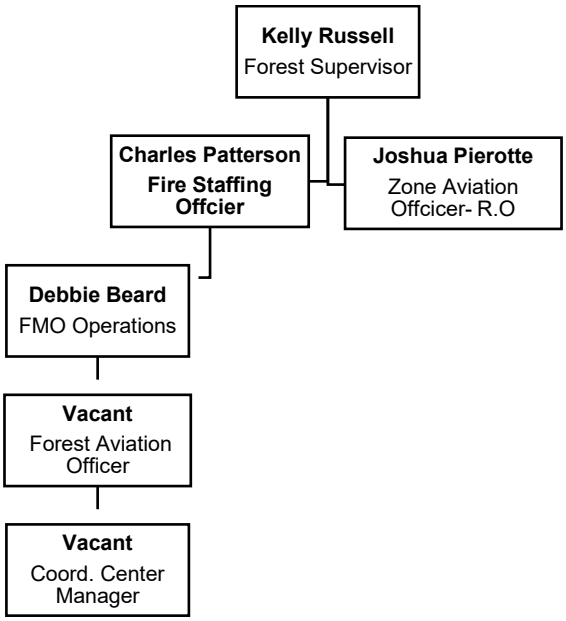
The savannahs have a clay underlining that holds groundwater close to the surface. The shallow water table retards the growth of trees in the lowest portions; however, six inches of elevation rise will support some tree growth. This produces open herbaceous stands with sparse trees. Grass fire behavior fuel models best represent fuel conditions. The Low Load, Humid Climate Grass (Dynamic Fuel Model GR5) or Fuel Model 2 best predicts fire behavior, which can produce rapid rates of spread when wind-driven. Depending on fuel moisture levels, fuel loads, and wind speeds, flame lengths can range from 2'-30' and rates of spread from 10-400 chains/hr.

CHAPTER 2 – ORGANIZATION and RESPONSIBILITIES

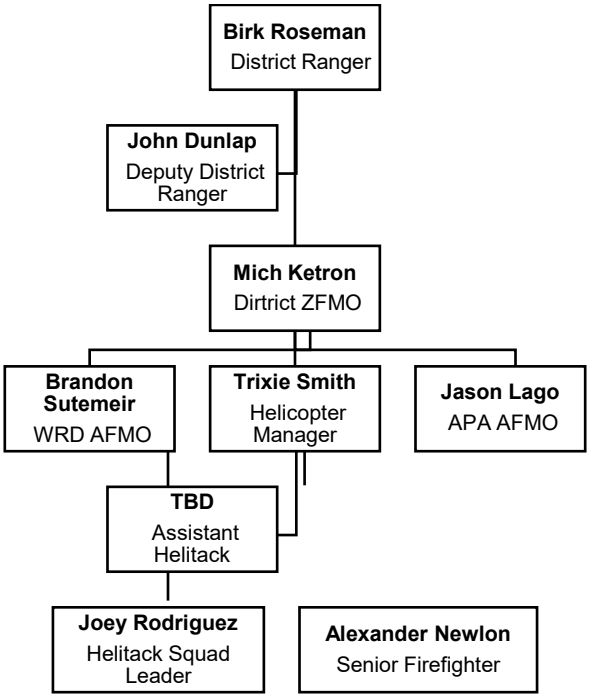
A. Organization

1. Forest and District Aviation Leadership

Forest aviation leadership positions are indicated below:



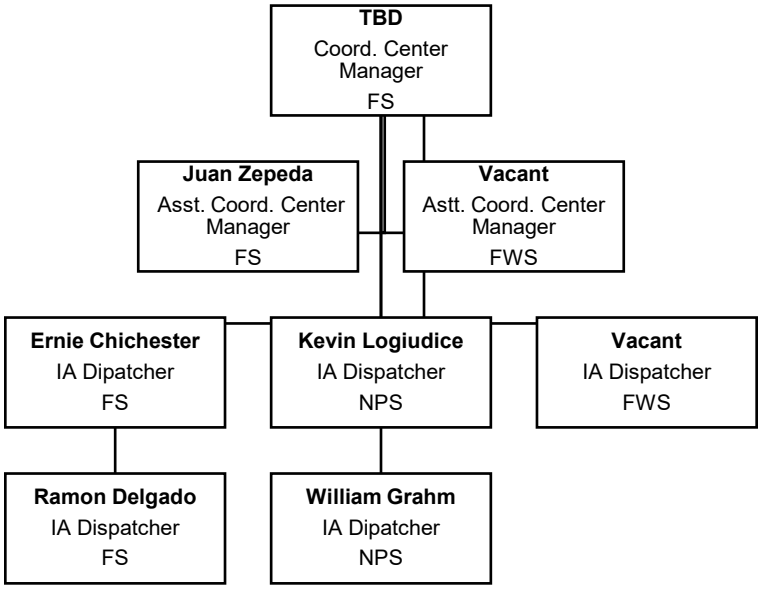
District aviation leadership positions are indicated below:



2. Dispatch Organization

The Florida Interagency Coordination Center (FICC) is the primary dispatch center for the Apalachicola National Forest, Osceola National Forest, Ocala National Forest, and St. Marks National Wildlife Refuge.

FICC Organization Chart



B. Duties and Responsibilities

1. General

All personnel must meet or exceed air operations qualifications described in the NWCG Standards for Helicopter Operations Crewmembers must meet or exceed the physical qualifications outlined in the physical standards for red card qualifications at the level appropriate to the assignment. The Helicopter Manager is designated as HMGB. [Refer to ire Qualifications Guide (PMS 310-1) for additional details].

2. Air Attack

Currently, there is no air attack personnel assigned to the ANF. An air attack platform/ATGS may be located at the Tallahassee Airport or ATB. For information, contact FICC.

3. Helicopter Manager

Duties and responsibilities include, but are not limited to the following:

- Coordinates with Zone FMO, dispatch, pilot, and users on mission requirements
- Identifies specific project requirements
- Completes Aircraft Flight Request/Schedule
- Ensures availability and that pilot and aircraft are approved for the mission
- Obtains approvals and authorizations for flights
- Establishes work schedules
- Completes required administrative and operational forms specified in Appendix A and B in the NWCG Standards for Helicopter Operations
- Ensures that the contractor completes records and reports specified in the contract
- Ensures PPE is available and utilized correctly

- Performs preflight briefing and ensures preflight passenger briefing is accomplished
- Ensures that all pilots are given an incoming briefing, and checklist is signed off
- Ensures flight following, resource tracking, and radio checks are accomplished
- Reviews and signs helicopter load calculations; completes or delegates the completion of passenger/cargo manifests
- Directs personnel in the proper conduct of helicopter operations
- Reports any condition, observance, act, maintenance problem, or circumstance which has the potential to cause an aviation related-mishap utilizing an Aviation Safety Communiqué (SafeCom)
- Performs daily inventory check on equipment, vehicles, and tools
- Ensures safety information, changes in aviation policy, procedures, and regulations are shared with personnel
- Tracks contractor personnel duty limitations
- Completes payment documents and submits them to the COR
- Functions as a COR or CI (CI reports to the COR)

4. Assistant Helicopter Manager

Perform the same duties and responsibilities in the absence of the helicopter manager.

5. Helitack Crewmembers

Duties and responsibilities include, but are not limited to the following:

- Constructs helispots, manifests, loads and unloads cargo and personnel, marshals' helicopter, rigs external loads
- Assists helicopter manager in performing daily inventory checks
- Ensures operational readiness of helicopter unit
- Performs tool, equipment, and vehicle maintenance
- Performs facility and cache maintenance
- Participates in proficiency checks and drills
- Participates in safety session
- Completes aviation and vehicle forms when required

CHAPTER 3 – STAFFING

A. Staffing

1. Suppression

Suppose an exclusive use helicopter is assigned to the helibase. In that case, a helicopter manager shall remain with the helicopter at all times except when the aircraft is dispatched with an external load or certain tasks are needed to be accomplished by the helicopter manager. Example: Deliver payment documents.

The assigned helitack crew, on A, B, and C days, can be on Forest performing other duties but must remain in a readiness status if needed for dispatch. On D & E days, the assigned helitack crew must respond to the helibase or the helispot within 30 min.

A helicopter module is assigned to all Call When Needed (CWN) helicopters assigned to the Helen Guard Helibase per NWCG Standards for Helicopter Operations standards. These aircraft are dispatched by FICC and should not take more than 10-minutes to commensurate their mission.

When a helicopter is dispatched for fire suppression, it must be staffed as stated in the NWCG Standards for Helicopter Operations before blades are turning.

Standard initial attack that requires aviation resources consists of the helicopter flying from helibase to the fire with the bucket onboard. Most fires on the Apalachicola NF are initially attacked quickly and effectively during normal weather conditions (i.e., no periods of extended drought). The common response is for the helicopter to arrive on scene at the fire, make a size up, and monitor fire from the air until ground crews arrive or drop water on the fire until ground crew arrives. If the fire behavior is such that quick containment seems unlikely, then the Incident Commander (IC) may request the helicopter manager establish a helispot closer to the fire.

The standard procedure for determining allowable load calculations is to use FS-5700-17 Load Calculation Forms (FS 5700-17) at Sea Level elevation at 35-degrees Celsius or the actual computed temperature utilizing Hover-Out-of-Ground Effect Charts (HOGE) to calculate for initial attack landing sites. Limitations or performance adjustments are applied as necessary. If these adjustments affect the available payload of the aircraft and necessitate adjustments to the standard initial attack load, then weight reductions are required to operate the helicopter safely. A Load Calculation Form is used to plan for specific conditions present at the operations if landing site conditions are known.

After arrival on the incident, the helicopter manager shall select the preferred strategy for personnel and cargo deployed or contact the appropriate supervisor for instructions.

- Option #1 - Leave the crew at dip-site and deploy bucket.
- Option #2 –Conventional Helitack - land and discharge firefighters with all gear and walk to the fire.
- Option #3 - Combination of Option 1& 2

2. Prescribed Burns

Initial attack capability is maintained while conducting prescribed burns. Dispatch is notified whenever initial attack capabilities may not meet the 10-minute getaway. (Refer to specific burn plans for details)

3. Projects

Any activity involving aircraft or aviation resources also becomes an aviation project. Employees must contact local aviation managers before planning any aviation activity. The involvement of local aviation personnel is necessary at the earliest possible planning stage. Employees must review applicable aviation and safety plans before planning aviation projects.

Reoccurring projects on the Apalachicola National Forest are:

- Prescribed fire
- Timber / insect / storm damage / wildlife inventories
- Installing fish attractors
- Search and Rescue
- Law Enforcement missions

Note All project flights are mission flights, thus requiring an approved MASP.

CHAPTER 4 – COMMUNICATIONS

A. Communications

1. Dispatch

Dispatch or Coordination Center	Telephone Numbers
Florida Interagency Coordination Center (FICC)	850-523-8600
Southern Area Coordination Center (SACC)	678-320-3000

2. Flight Following

The Helicopter Manager or delegated helitack crewmember shall report all takeoffs and landings and maintain a 15-minute check-in with Tallahassee Dispatch. Flight following shall be accomplished according to the local, geographic and national guidelines. Tallahassee Dispatch shall be made aware of all scheduled and unscheduled flights to facilitate flight following. Automated Flight Following (AFF) may be used for flight following.

3. Telephone

There are several phones located in the helibase office. All phone line is tied into the Wakulla Work Center, and each phone has its own extension. You must dial '9' to obtain an outside line. Below is a list of the telephone numbers for the Helibase Office.

Line	Office Location	Telephone Number
Line 1		TBD
Line 2		TBD
Line 3		TBD
Line 4		TBD

See (**Appendix E- Apalachicola NF Aviation Phone List**) for additional local/ regional aviation personal.

4. Radios

There are FM & AM base radios located in the helibase radio room. FICC usually performs flight following unless the activity is such that an Aircraft Base Operator (ABRO) is ordered to handle helibase radio operations. Radio frequencies can be obtained from FICC and the Wildland Firefighter Frequency Guide or can be found in (**Appendix A – Frequency List**). The Apalachicola National Forest operates utilizing narrowband radio frequencies.

5. Call Signs

When communicating with FICC via radio, it will be referred to as 'Tallahassee Dispatch.'
When communicating with FICC via radio, Helen Guard Helibase will be called 'Helen Guard Base.'

B. Airspace

All personnel in air operations shall follow the Interagency Airspace Coordination Guide FSM 5715. Temporary Flight Restrictions (TFRs) and Notice to Airmen (NOTAM) shall be coordinated through the appropriate dispatch offices and coordination centers. Refer to (**Appendix B, Flight Hazard Map**).

The Helen Guard Helibase is located at the northeast corner of the ANF on the Wakulla Ranger District in the outer circle of Class C airspace. The Class airspace is controlled by Tallahassee International Airport (KTLH). In the KTLH airspace, it contains 32 burn units. Westside of ANF, we have 2 Military Operational

Areas (MOA), Tyndall D and E MOA, on the Apalachicola Ranger District. (These 2 MOA's covers 100 burn units. Within these 2 MOA's, there are 3 Visual Flight Reference routes VFR (IR021, IR015, and IR019) and 1 Instrument Flight Reference IFR route (V521).) In the 2 MOA, it contains 100 burn units. The middle of ANF contains 3 Military Training Routes VFR (IR021, IR015, and IR019) and 1 Military Training Route IFR (V521).

1. Operational Procedures for Class C Airspace

The first initial inbound to Helen Guard Helibase all aircraft operating in and around KTLH will adhere to FAA regulations. The following is a list of radio frequencies for KTLH:

FAA Facility	Frequency
Approach Control	135.800
Control Tower	118.700
Unicom	123.075
(FICC does not monitor this frequency)	

After initial contact and landing, the aircraft may take off in the west, south, or southwest direction without contacting the KTLH control tower. Aircraft must SQUAWK code **1255** inbound and outbound of Helen Guard Helibase at all-time. Any flights to the north or northeast where the aircraft may cross established runways 09-27 or runways 18-36 must contact the KTLH control tower immediately once airborne.

2. Operational Procedures for Tyndall MOA

Any aircraft operating on Apalachicola Ranger District or flights crossing the Ochlockonee River deconflict phone call must be made to Tyndall Air Force Base before any flight. Tallahassee Dispatch coordinates military airspace deconfliction by a phone call to Tyndall Air Force Base schedulers. Helen Guard Helibase can assist with the deconflict phone call to Tyndall Air Force Base. Tallahassee Dispatch needs to be aware that deconflict phone call has been done.

Facility	Telephone Number
Tyndall Air Force Base Schedulers	850-283-3401

The deconflict information that Tyndall Air Force Base needs is the following:

- Aircraft tail number
- The MOA we are operating-in
- The burn unit number inside the MOA
- What altitude operating
- Time

Aircraft must SQUAWK code **1255** inbound of all for the MOA at all-time.

3. Aerial Hazard

Hazard to look out for on the ANF is transmission line or towers. Transmission line are across forests or near private and state land. One well-known tower is FSU Repeater (T82) 1000' AGL high-intensity white strobe and red; it is in burn unit 209.

C. Airfields

Personnel operating at helibase located on airports shall familiarize themselves with local flight traffic and ground operating procedures.

There is one private airstrip located north of Apalachicola National Forest. All known private airstrips are depicted on the Flight Hazard Map. There are two public airports near the forest.

One of the public airports in the Tallahassee International Airport (KTLH). This is a much larger airport and has an FAA control tower. It has two runways, a north/south runway 18-36 and west/east runway 09-27; both runways surfaces are asphalt and have a Fixed Base Operator (FBO). The KTLH is in the Apalachicola National Forest boundary. This airport offers Av-Gas and Jet-A fuel. Also, all personnel working inside the airport fence are required to have an airport security clearance and badge or be under the direct supervision of a Tallahassee International Airport badge holder with "Escort Privileges." There is no agreement with the City of Tallahassee for the use of the airport for Helibase operations.

D. Maps

1. Districts/Detection Flight Routes/Roads

The ANF is broken into two Ranger Districts (Apalachicola and Wakulla). The Ochlockonee River, which runs north to the south, separates the two districts. The Apalachicola Ranger District is located on the west side of the river, and the Wakulla Ranger District is located on the east side.

Maps show the local area, prominent landmarks, roads, trails, and waterways. The Flight Hazard Map depicts the Flight Routes, Towers, Helispots, Water Sources, and Major Roads.

Maps are in the Helibase/Pilot office and are available at both district offices.

2. Flight Hazards

The helibase Flight Hazard Map shall be updated annually and dated. The Flight Hazard Map shows known hazards, i.e., towers, cables, congested areas, Military Training Routes (MTRs), Military Operations Areas (MOAs), restricted areas, and airports. The Flight Hazard Map also shows helispots, dip sites, and the Forest aerial detection flight route.

Points of interest for aircraft operating in or around the ANF are three Military Flight Routes (MTR) that cross over the ANF and the Tyndall D & E Military Operating Areas (MOA). These areas are identified on the aircraft sectionals and the Flight Hazard Map in the Helibase/Pilot office.

E. Services

1. Fuel

The helicopter is usually fueled on the primary land pad. The nearest fuel vendor is at the Tallahassee International Airport.

Fuel Vendor	Location	Telephone Number	Travel Time
Million Air	Tallahassee Airport	850-574-5671	18 min
Perry-Foley Airport	Perry-Foley Airport	850-838-3519	1 h 4 min
Sky Warrior Flight Support	Marianna Municipal Airport	850-898-1328	1 h 21 min

2. Lodging and Restaurants

The local lodging and restaurants information is found at the helibase in the Aviation Incoming Resource Binder.

CHAPTER 5 – ADMINISTRATIVE PROCEDURES

A. Contract Administration

1. Aircraft Contracting Organization

i. Contracting Officer

Responsible for all contracting actions, including contracting procedures and methods, contract legality, compliance with existing laws and regulations, contract administration, and terminations.

ii. Contracting Officer's Representative

The COR is responsible to the CO for monitoring contract performance. The COR is primarily responsible for assuring compliance with the administrative provisions of the contract. The COR maintains communications with the contractor concerning day-to-day operations. However, this may be further delegated to the CI The COR is responsible for verifying the work performed upon which payment is based.

iii. Contract Inspector

Designated by the COR to assist in administering the contract. Responsibilities may include:

- Verifying services performed by a contractor
- Ensuring contractor's compliance with contract specifications
- Discussing daily work requirements
- Ordering services within the contract specifications
- Completing Aircraft Contract Daily Diary (HCM-1) and IBS Flight Payments promptly
- Ensure serious problems are brought immediately to the attention of the COR, CO, and FMO

2. Contracting Personnel

Contracting Officer		
Name: Matt Morris	**Phone:** 208-749-1603	
Contracting Officer's Representative (COR)		
Name: Will Lucas	**Phone:** 352-759-2081 ext. 5612	
Contract Inspectors (CI)		
Name: Trixie Smith	**Title:** Helicopter Manager	**Phone:** 850-576-5205
Name: TBD-Fire Hire	**Title:** Assistant Helitack	**Phone:** 850-576-5205
Name: Brenton Holt	**Title:** Bio Scientist Tech. (HMGB)	**Phone:** 850-643-2282 Ext. 1532
Name: TBD	**Title:** TBD	**Phone:** TDB

B. Form and Reports

The helicopter manager records Hobbs meter readings, reviews load calculations, records power checks, and keeps accurate flight time readings for individual projects. The helicopter manager completes the duty logs, trend analysis chart, FS 6500-122, daily diary, helicopter use summary, and schedule updates.

C. Exclusive Use Helicopter Report

This report is to be completed by the Helicopter Manager or their designee for all Exclusive Use RX and Suppression helicopters.

D. Load Calculations

Load calculations shall be completed for all flights to ensure the helicopter is operated within its limitations. It is the responsibility of the pilot to complete and sign the load calculation; the load calculation is reviewed and signed by the helicopter manager. New load calculations shall be completed if there is a change of +/- 5 degrees C in temperature or +/- 1000 feet of altitude or change in operating weight. (Refer to the NSHO for additional details)

E. Standby and Availability

The helicopter and fuel serving vehicle shall be available for 14-hours each day, unless otherwise specified by the CO, COR, or CI Standby hours shall be 9-hours per day. The contract specifications shall compensate the contractor.

Crewmembers shall sign out on the fire rotation list indicating their location and how to be contacted when in days off status or away from the station.

Availability of the helicopter shall be as specified in the contract.

F. Turbine Engine Power Checks

A Turbine Engine Power Check shall be completed at the beginning of the contract and shall be completed again after every 10-hours of flight. These recordings shall be documented on a power trend analysis chart to track the engine output and shall be posted in the helibase.

G. Payment Documents Submission

Daily availability, flight time, fuel truck mileage, unavailability, and all other authorized expenses shall be paid in IBS. Flight payments shall be completed daily by the CI and submitted to IBS.

In the case of the Forest Exclusive Use contractor, IBS Payments will be submitted to the COR twice-monthly, covering the periods from the 1st – 15th and 16th through the end of the month.

H. Timekeeping

Local agency personnel assigned to helibase shall document their duty time and process it for payment bi-weekly. All others shall document their duty time on the crew time report and shall be signed by the Helibase Manager.

CHAPTER 6 – HELIBASE FACILITIES

A. Base Facilities

The Helen Guard Helibase consists of one building that houses two offices, an aircraft base radio operator/ briefing room, a pilot lounge, a common/ kitchen, and two restrooms. The shower is in the Fire shop/ Main office building.

B. Maintenance

The helitack crew maintains the helibase facilities and equipment. The helibase/pilot office shall be cleaned every day. Facilities and grounds shall be maintained and kept professionally.

A maintenance checklist for the helibase/pilot office shall be signed-off by the helitack personnel. All operators' manuals for equipment, water system, and electrical system can be found in the Wakulla Work Center. For additional information on facilities maintenance, contact the Wakulla Work Center Facilities, Maintenance Coordinator.

Facilities Maintenance Coordinator	Name	Telephone
Wakulla Work Center	Chris Ventry	850-575-9064 ext 6614

All damaged and worn equipment should be brought to the attention of the Helicopter Manager. Any equipment that is worn or broken should be tagged or marked for non-use. Equipment transfers or replacements shall be done through the Helicopter Manager.

Helitack equipment shall be maintained and replaced according to the NWCG Standers for Helicopter Operation.

C. Electrical and Water System

The Wakulla Work Center and helibase/pilot office have electricity provided by the local electric company and an onsite well for water. The helicopter landing Pad (Pad 1) has water available at the pad, allowing for helicopter wash down and equipment. Backup power is to rent a portable generator to supply power to the building. The emergency generator receptacle is located outside of the Helibase building. There are two circuit breaker boxes for the Helibase office, the main breaker box is in the pilots' lounge, and the second breaker box is located common/ kitchen between the two restrooms.

The local electric company is the Talquin Electric Cooperative: 850-926-7422

D. Washdown, Draining, and Spill

It is the responsibility of all personnel, both vendor and government, to ensure that procurement document specifications conduct fueling operations, agency fueling directives, and all other applicable federal, state, and local hazardous materials regulations and to the agency-specific fuel spill avoidance requirements.

The fuel service truck is responsible for carrying enough fuel product absorbent material to absorb fuel spills up to 5-gallons.

Fuel spills shall be reported to reported to District Haz-mat Coordinator and Forest Haz-mat Coordinator.

HazMat Coordinator	Name	Telephone
District Haz-mat Coordinator	TBD	
Forest Haz-mat Coordinator	TBD	

E. Helicopter Parking

The Helibase can handle two helicopters, either one type II helicopter, one type III helicopter, or just two type III helicopters.

The Primary landing pad for Helibase day-to-day operation, Pad1, is located northeast of the Helibase office. Pad 1 is a 15' x 15' concrete landing pad capable of handling one type III helicopter.

F. Fuel Servicing

Fuel servicing vehicles/trailers shall be kept inside the Wakulla Work Center/helibase compound fence and taken out onto the helibase as needed. Helicopter fuel servicing on the helibase shall adhere to Department of Transportation (DOT), Forest Service, and NWCG Standards for Helicopter Operation policies.

G. Helibase Diagram

A Helibase diagram is located on the Helibase office bulletin board and included in (**Appendix D – Helibase Diagram**) of this plan.

CHAPTER 7 – EQUIPMENT AND SUPPLIES

A. Personal Protective Equipment

1. General

This requirement intends to equip individuals with the best Personal Protective Equipment (PPE) to the extent possible for all helicopter flights. PPE includes an approved flight helmet, fire-resistant flight suit, gloves, and leather boots. It is the responsibility of each Forest Supervisor/Unit Manager to provide FS helicopter flight crewmembers with an aviator flight helmet and other necessary PPE. Personal protective equipment shall be operable and maintained in serviceable condition as per the appropriate manufacturer's specifications.

All aircraft flight below 500' (i.e., Leadplane) require PPE as specified in FM 5716.31. Individuals aboard helicopters shall wear as a minimum PPE required for a firefight as specified in the NWCG Standard for Helicopter Operations. Any deviation from this requirement shall be specified in the Mission Aviation Safety Plan.

2. Helmets (Helicopter)

Personnel flying aboard the helicopter shall wear a protective flight helmet with a chin strap fastened.

A hardhat may be substituted for a flight helmet of wildland firefighter being transported during fire suppression operations between an established and managed Helispot/Helibase and an established and managed Helispot/Helibase.

Aviator's flight helmet, consisting of a one-piece hard shell made of polycarbonate, Kevlar, carbon fiber, or fiberglass, shall cover the top, sides (including the temple area and to below the ears), and the rear of the head. The helmet shall be equipped with a chinstrap and shall be appropriately adjusted for proper fit. Flight helmets for helicopter usage shall conform to a national certifying agency standard, such as DOT, Snell, SFI, or an appropriate military standard, or appropriate equivalent standard, and be compatible with required avionics. "Shorty" (David Clark style) helmets are not approved.

Flight helmets currently meeting this requirement per the ALSE guide, but not limited to, are shown below. Please use the following URL for additional approved flight helmets.
https://www.doi.gov/aviation/safety/helmet

Military Service	Helmet	Commercial Specification	Military Specification
Army, Air Force, Coast Guard	HGU-56/P	PS-0127	FNS/PD 96-18
Army (Special Units)	SPH-4B	None	PS-020
Navy, Marine Corps	HGU-84/P	PS-0120	FS-0062
Coast Guard	SPH-5	PS-0058	PS-0025

Obsolete helmets including the HGU-2/AP, HGU-26, HGU-33P, HGU-34P, APH series, AFH-1, SPH-3 series, and SPH-4 are not approved.

Helmets designed for use in fixed-wing aircraft do not provide adequate protection for helicopter occupants and are not approved for helicopter use.

Helmets shall be maintained and inspected to the manufacture's specifications.

3. Clothing (Helicopter)

In lieu of a flight suit, firefighters approved fire-resistant pants and shirt may be worn. In accordance with Chapter 9 of the NWCG Standard for Helicopter Operations, rubber/synthetic boots may be worn if the environmental situation warrants; otherwise, leather boots are required.
Personnel shall wear a long-sleeved shirt and trouser (or long-sleeved flight suit) made of fire-resistant polyamide or aramid material, leather boots, and leather, polyamide, or aramid gloves. A shirt with long-sleeved overlapping gloves and long-pants overlapping boots by at least 2-inches shall be worn by the pilot(s). Personnel shall not wear clothing made of non-fire-resistant synthetic material under the fire-resistant clothing described herein.

Nomex® or other material proven to meet or exceed specifications contained in MIL-C-83429A may be worn. Currently, the following "other" materials meet this specification:

- FRT Cotton Denim Cloth, MIL-C24915
- FRT Cotton Chambray Cloth, MIL-C24916

Clothing not containing labels identifying the material either by Brand Name or MIL-Spec will not be acceptable.

4. Ground Personnel (Helicopter)

While within the safety circle of a helicopter with the engine(s) running and /or rotor(s) turning, all Contractor personnel shall wear the following PPE:

- Shirt with long-sleeved overlapping gloves, long pants, hardhat/flight helmet with chinstrap, appropriate footwear, hearing, and eye protection.
- Maintenance personnel working on running aircraft are exempt from gloves, eye protection (eye protection may be worn at the option of maintenance personnel or company policy), long sleeves, and hardhat requirements.

During all fueling operations, fuel service personnel shall wear a shirt with long sleeves and long pants made of 100% cotton/natural fiber or labeled non-static boots and gloves.

5. Personal Flotation Devices

A personal flotation device (PFD) required by 14 CFR 91 or life preserver (TSO-C13) required by 14 CFR 135 shall be on board all aircraft operated over water and beyond power-off gliding distance to shore and during all hovering flight operations conducted over water sources such as ponds, streams, lakes, and coastal water. Automatic inflation (water activated) personal flotation devices are prohibited.

When performing water takeoff and landings, all occupants shall wear a PFD.

Anti-exposure suits shall be worn in all single-engine aircraft and readily available to occupants of multiengine aircraft when conducting extended overwater flight (as defined in 14 CFR 1.1) and when the water temperature is estimated to be 50° F or below.

B. Helicopter

The Helicopter Manager shall ensure that the helicopter and pilot are available for immediate dispatch as required in the contract specifications.

C. Packs (PG & IA.)

Helitack crewmembers shall be issued by the home unit a personal gear pack (25 lbs. max.) and a "Red Bag" (35 lbs. max.). Initial attack packs and equipment shall be refurbished immediately after returning from an incident.

D. Handtools

All fire hand tools shall be maintained to specifications outlined in the Fireline Handbook PMS 410-1. All used tools shall be reconditioned and stocked as soon as possible.

E. Support Vehicle/Trailers

The support vehicle is normally located at the Wakulla work center and contains equipment and supplies necessary for helicopter operation assignments. The equipment and supply list shall be located at the helibase office and the support vehicle. The Helicopter Manager's responsible for maintaining and equipping the support vehicle.

All applicable driving rules and regulations shall be met. No driver may exceed 10-hours of driving in a single day. The driver shall take a break every 2 hours. The driver shall notify the appropriate dispatch of their location and itinerary. Typically, this is done at the 2-hour break periods. (Refer to the Incident Business Management Handbook and Health and Safety Code Handbook.)

F. Helicopter Support Kit (NFES 0520)

The Helicopter Support Kit contains the essential support items for a helicopter and is utilized whenever the helicopter is operating from a helibase. An inventory list of the components of the kit is on the support vehicle. Support kits are in each district Fire Cache.

G. Evacuation Litter Basket Kit (NFES 0630)

The Evacuation Kit shall be stored at the Wakulla Fire Cache. Employees shall be trained in the proper use of the kit. An inventory list of components shall be located inside the kit.

H. Crash Rescue Kit (NFES 1040)

There are Crash Rescue Kits located at all Apalachicola Helibase landing pads and one in the box trailer. Employees shall be trained in the proper use of the kit. (Refer to NWCG Standard for Helicopter Operations for the number of kits required.) Crash Rescue Kits are carried on all the engines during all fire operations.

I. Aerial Ignition Devices

The Premo Mark lll and the Red Dragon are the only two Aerial Ignition devices approved at this time. Due to the history of prescribed fire on the forest and the type of natural fuels that occur, this ignition method is preferred over the helitorch. Two will be carried in the helitack truck, along with plastic spheres (a.k.a. Ping-Pong balls), bags, etc. The glycol-based antifreeze needed to activate the spheres will not be carried inside the truck with the spheres.

J. Helibase Stock

Equipment and supplies necessary for helitack use shall be maintained and kept in the district Fire Caches and the helicopter support vehicle. The Helicopter Manager is responsible for maintaining stocks. The Helicopter Manager shall coordinate with Fire Management Officer (FMO) or Assistant Fire Management Officer (AFMO) on ordering stocks.

Crewmembers shall inspect equipment before use and before returning to storage. All damaged or excessively worn equipment shall be brought to the attention of the Helicopter Manager. Equipment should

only be used for its designed purpose. Equipment shall not be used unless properly marked or tagged with weight limitations.

CHAPTER 8 – SAFETY

A. General

Safety in air operations is outlined in safety plans from the Regional Forester's and Forest Supervisor's Offices, as well as FSM 5700, Forest Service Health and Safety Code, NWCG Standards for Helicopter Operations, Federal Aviation Regulations, Transportation of Hazardous Materials Guide (NFES 1068), and Interagency Aerial Ignition Guide. This plan was developed from the sources listed above and reinforced items of concern.

B. Training/Recertification

Helicopter recurrent training is the responsibility of the Helicopter manager in coordination with the Forest Fire Management Officer. This training is normally done during periods of no fire activity. Training shall include, but not be limited to, the Interagency Helicopter Training Guide format and S-271, A-219, and A-110. Helitack crewmembers must meet the requirements outlined in the NWCG Standards for Helicopter Operations. Crewmembers shall receive this training annually, and documentation must be forwarded to the Fire Management Officer (FMO) and Forest Training Officer.

The Helicopter Manager for the Apalachicola NF is responsible for seeing that the annual recertification of PLDO's occurs. Follow the guidelines in Chapter 2 of the Interagency Aerial Ignition Guide. Regional Helicopter Operations Specialist must approve instructors.

Helicopter manager trainees shall be used only under the direct supervision of a qualified helicopter manager. This does not mean they must be on board the helicopter at all times.

C. Operational Policy

Forest Service Air Operations Policy includes the following:

- Aircraft and pilots must be carded, and these cards must be shown upon request.
- All pilots must adhere to flight and duty limitations.
- Low-level flights of 500 feet or less shall be avoided when possible
- A 20-minute fuel reserve is required.
- Only authorized personnel shall fly onboard Forest Service-owned or contracted aircraft.
- Load calculations shall be made for all helicopter flights before takeoff as defined in Chapter 6, Load Calculations of this plan and the NWCG Standards for Helicopter Operations.
- Receiving unit or pilot is responsible for closing the flight plan.
- All helicopter landings must be made in terrain where the landing gear shall be solid on the ground.
- Report any condition, observance, act, maintenance problem, or circumstance that can cause an aviation-related-mishap utilizing an Aviation Safety Communiqué (SafeCom).
- A shoulder harness is required for front-seat passengers and pilots and is required for passenger seats in the rear cabin seats.
- Flight Hazard Map must be posted and reviewed periodically at the base by the pilot and crew.
- Radio dispatch or base when landing and taking off.
- Fifteen-minute radio check-ins shall be maintained throughout all flights with the forest or appropriate dispatch office. Check-ins shall give geographical or Lat/Long location and direction of travel. Dispatch shall be informed of route changes.
- Manifests for passengers shall be made for every flight listing personnel and cargo weights as defined in the NWCG Standards for Helicopter Operations.
- Flights should follow terrain most suitable to forced landings.

- The Helicopter Manager may accompany the helicopter when transporting external loads during special circumstances as outlined in Chapter 10, Section IV of the NWCG Standards for Helicopter Operations.
- Grant of Exemptions: DOT-SP 9198 allows hazardous materials to be carried in Forest Service aircraft. Always consult the "Aviation Transport of Hazardous Materials Guide" when transporting hazardous materials
- No smoking is allowed in or within a 50-foot radius of aircraft.
- Seat belts are required for all passengers.
- PLDOs are required to wear restraining harnesses during operations.
- Forest Service employees shall not ride in military aircraft unless the Regional Air Officer has approved it for personnel transport.
- All aircraft operating in Region 8 shall be equipped with and monitor the national air guard (VHF 168.625 tx tone 110.9). Air guard is for emergency use only, but it can be used to establish flight following when coming to a new area.
- All passengers are required to wear Nomex clothing, a protective flight helmet, leather boots, and overlapping leather or Nomex gloves. A hard hat with chinstrap and hearing protection may be used only when flying firefighters to managed helispot. "Managed helispot" means qualified helispot manager on the ground before aircraft landing.
- Authorization to transport animals shall be requested and approved by the ZAO before the flight is scheduled. The pilot shall be notified and must approve the transportation of animals before they are loaded aboard an aircraft. Animals must be confined, restrained, or, when necessary, sedated.
- Passenger briefing and aircraft familiarization shall be accomplished before each flight.
- Turbine engine power check shall be completed and documented every 10-flight hours on a Power Check and Trend Analysis chart appropriate to the type of aircraft being used.
- The contractor's fuel servicing vehicle sump shall be drained daily, and pressure differential readings recorded on a log to be kept in the fuel truck. Fuel sump on contractors' bulk tank should be checked weekly.
- Periodic fuel samples shall be taken and checked for contaminants.
- Hearing protection is required for all helitack crewmembers and all other passengers. Eye protection is also required for all helitack personnel when working around helicopters.
- Wind restrictions for Types 1-3 helicopters are listed in Chapter 6 (Helicopter Capabilities/Limitations) of the NWCG Standards for Helicopter Operations.
- No night flights are allowed. Daylight limitation is ½-hour before sunrise and ½-hour after sunset.
- Motorized equipment can be transported in a ventilated compartment with fuel in tanks, provided they do not leak and can be secured in an upright position.
- The helicopter pilot is responsible for following all FAA regulations when fling sling loads.
- All flights shall be computed on load calculation FS-5700-17, using the appropriate HIGE or HOGE charts. However, one calculation is valid if there is no change of +/- 5 degrees C in temperature or +/- 1000 feet of altitude or change in operating weight. Each load will be manifested.
- A qualified Helicopter Manager shall supervise all helicopter operations.
- Ground personnel must utilize radio contact or hand signals when conducting external load operations.
- The helicopter manager is responsible for meeting project work schedules, posting crew time slips, and the overall supervision of the crew.

D. Operational Procedures

The following is a list of operational procedures that cover the most common situations encountered regarding safety.

- Approach or depart the helicopter only after the pilot has signaled approval.
- Assure that proper approach and departure routes are used.
- The helicopter manager or a member of their module will maintain control of all personnel around helicopters. Do not hurry or run around the helicopter, crouch when approaching the helicopter, keep tools and equipment low and clear of rotors, maintain a 100-foot safety zone, and never approach the tail rotor of a helicopter.

- Proper hand or radio signals shall be used, especially during sling operations, landings, and takeoffs on unfamiliar helispots.
- Always indicate wind direction for approaching aircraft.
- The pilot has the final say! The pilot must approve all missions and be informed of what is loaded on the aircraft.
- All passengers must be briefed on helicopter operations and safety.
- Landing areas shall be kept clean. All light material shall be removed.
- Dustproof landing areas when necessary.
- Do not talk with the pilot during takeoffs or landings.
- Ensure mission is understood before departure.

E. Overdue or Missing Aircraft

Refer to the Interagency Aviation Mishap Response Plan as modified for area use.

F. Transporting of Accident Victims

If possible, victims should be transported by air ambulance with qualified medical personnel on board. Our aircraft with qualified medical personnel should only be used as a last resort. Air ambulances are superior to our aircraft for the following reasons: (1) Qualified medical personnel with the proper life support equipment will enhance the victim's chances of surviving the incident, and (2) Air ambulance pilots are familiar with radio frequencies and traffic patterns at hospitals.

CHAPTER 9 – MISHAP RESPONSE

A. General

When the District helibase is active, takeoffs and landings may occur daily, and assignments may vary from prescribed fire to wildfire to project operations. Most helicopter accidents occur during takeoffs and landings. Proper planning and action may significantly reduce the severity and consequences of such an accident.

B. Equipment

Equipment available in the event of a helicopter accident includes an evacuation kit, crash rescue kit, and helicopter support kit (**See Chapter 7, Equipment and Supplies**).

C. Personnel

1. Pilot

Declares emergency to passengers/flight following personnel, avoid ground personnel, fuel storage, and other sensitive areas.

2. Helicopter Manager

Radios emergency and location to dispatch and follows in-flight emergency procedures.

3. Passenger on Board

Keep calm and follow flight emergency procedures.

D. Aviation Mishap Response Plan for the Apalachicola NF.

Dispatch and the appropriate personnel will familiarize themselves with this plan as it applies to District use. This plan must be reviewed annually for currency.

E. Training

Training shall be conducted annually and include the following:

- Review of the Interagency Aviation Mishap Response Plan, as modified
- Conduct equipment familiarization and review emergency flight procedures
- Conduct a crash response simulation by calling listed telephone contacts to see if their numbers are current

F. Hazard, Incident and Mishap Reporting

Each and the organizational unit have an obligation to the aviation community to share mishap prevention information. A communication tool used to assist in this effort is the SafeCom (FS 5700-14).

G. Aviation Safety Communiqués

Aviation Safety Communiqués (SafeCom) is used to report any condition, observance, act, maintenance problem, or circumstance, which has the potential to cause an aviation-related mishap. Submitting a SafeCom is not a substitute for "on-the-spot" correction(s) to a safety concern. Instead, it is a tool used in the documentation, tracking, and follow-up corrective action(s) related to safety issues. Categories of reports include aircraft mishaps, aviation hazards, aircraft maintenance deficiencies, and airspace intrusions.

If a mishap involves damage or injury, notify the Regional Aviation Office immediately by the most expeditious means available.

Non-scheduled aircraft maintenance or repairs require that the Regional Aircraft Maintenance Inspector be notified before the aircraft is returned to service. A SafeCom may be required to be submitted to the Regional Aviation Safety Manager (RASM) within 5-days of the return to service.

All employees have the responsibility to initiate action to stop any unsafe aviation operation (FSM 5720.45.2). Anyone may refuse or curtail a flight or operation when an unsafe condition may exist. Unsafe conditions shall be corrected on the spot when possible and documented on a SafeCom. If the unsafe condition raises a serious safety concern, it shall be immediately reported through channels to the RASM or RAO.

1. **Submission (Electronic)**

   Access the FS Aviation Web Site at www.fs.fed.us/fire/av_safety

   From the Home page, click on the "SafeCom" button.

   From the SafeCom page, click on "Submit a SafeCom" and complete the form. Once submitted, the SafeCom shall reside in the FS Aviation Management Information System (AMIS) database, and designated aviation managers shall be notified by email that a SafeCom has been submitted within the selected region.

2. **Processing**

   Once a SafeCom comes to the attention of the ZAO, when necessary, corrective action(s) and comments should be documented on the form. It is incumbent of the RASM to quickly process SafeComs for distribution and dissemination to aviation users and managers.

3. **Dissemination**

   The timely distribution of SafeComs is a critical component in mishap prevention. SafeComs may be accessed and printed from the "Public Access" area of the database. The ZAO and RASM should be contacted if additional information or follow-up action(s) is required.

4. **Access (Protected Area)**

   Access to the SafeCom "Protected Area" is limited to regional staff aviation program managers and ZAOs.

APPENDIX A – FREQUENCY LIST

Apalachicola National Forest Group 1					
Channel #	Channel Name	RX Freq.	RX Tone	TX Freq.	TX Tone
1	A-Sumatra	170.5500		164.1250	146.2
2	A-FSU	170.5500		164.1250	167.9
3	R8 Fire	166.5625		166.5625	
4	A/G 15	167.5250		167.5250	
5	F-Sumatra	170.5250		163.6875	179.9
6	F-FSU	170.5250		163.6875	141.3
7	FL Fire	169.1750		169.1750	
8	FFS Tac3	151.2350		151.2350	156.7
9	FFS Tac4	151.2950		151.2950	156.7
10	Wak FD	154.3550		158.9025	186.2
11	FFS Leon	159.2250	94.8	151.1825	94.8
12	ST. MARKS	169.6500		165.4500	131.8
13	VFIR22R (RED)	154.2650		154.2650	156.7
14	VFIR21W (white)	154.2800		154.2800	156.7
15	VFIR23B (Blue)	154.2950		154.2950	156.7
16	Air Guard	168.6250		168.6250	110.9

FFS Apalachicola National Forest Group 4					
Channel #	Channel Name	RX Freq.	RX Tone	TX Freq.	TX Tone
1	A-Sumatra	170.5500		164.1250	146.2
2	A-FSU	170.5500		164.1250	167.9
3	R8 Fire	166.5625		166.5625	
4	A/G 15	167.5250		167.5250	
5	F-Sumatra	170.5250		163.6875	179.9
6	F-FSU	170.5250		163.6875	141.3
7	FL Fire	169.1750		169.1750	
8	FFS Tac3	151.2350		151.2350	156.7
9	FFS Tac4	151.2950		151.2950	156.7
10	Wak FD	154.3550		158.9025	186.2
11	FFS Franklin E	159.2250	192.8	151.1825	192.8
12	FFS Liberty	159.2250	94.8	151.1825	179.9
13	VFIR22R (RED)	154.2650		154.2650	156.7
14	VFIR21W (white)	154.2800		154.2800	156.7
15	VFIR23B (Blue)	154.2950		154.2950	156.7
16	Air Guard	168.6250		168.6250	110.9

National Flight Following: 168.5600 (TX Tone 110.9)

Air-to-Air
Primary: A/A 1 (122.925)
Secondary: A/A 2 (122.275)
Tertiary: A/A 3 (122.900)

Air-to Ground
Primary: A/G 15 (167.5250)
Secondary: A/G 71 (168.6750)

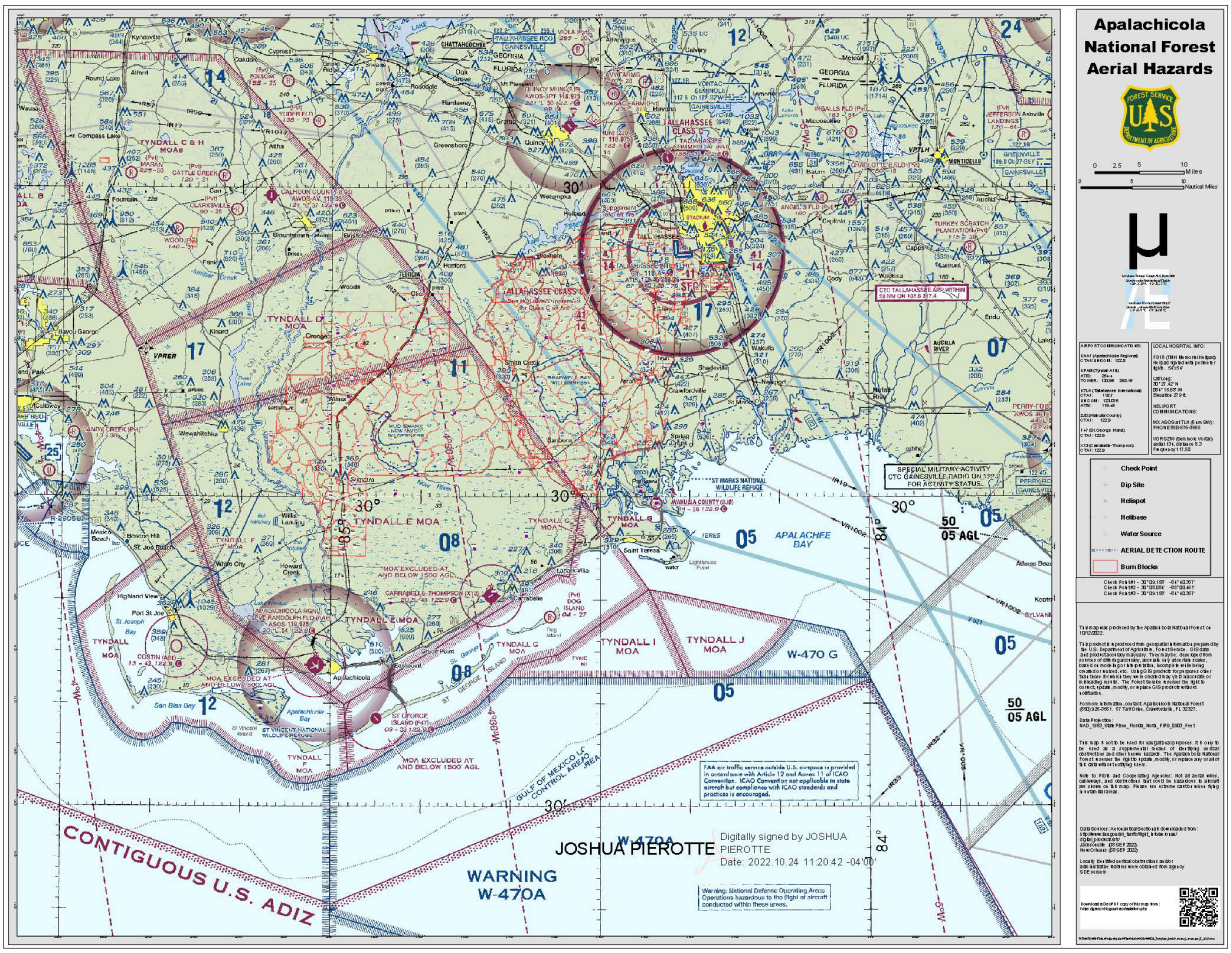
Early TIA documents specified a formula for converting analog CTCSS tones and DCS codes to specific NAC codes. Those documents have since been removed and the selection of NAC codes has been left to the user. Some government agencies have defined a conversion table for their own use for translating CTCSS to NAC codes (eg. State of California and others).

Shown below is the early TIA conversion table from CTCSS to NAC codes. These codes were determined by taking the CTCSS frequency and multiplying it by ten, then converting the integer result to a hexadecimal number.

CTCSS to NAC code conversion chart

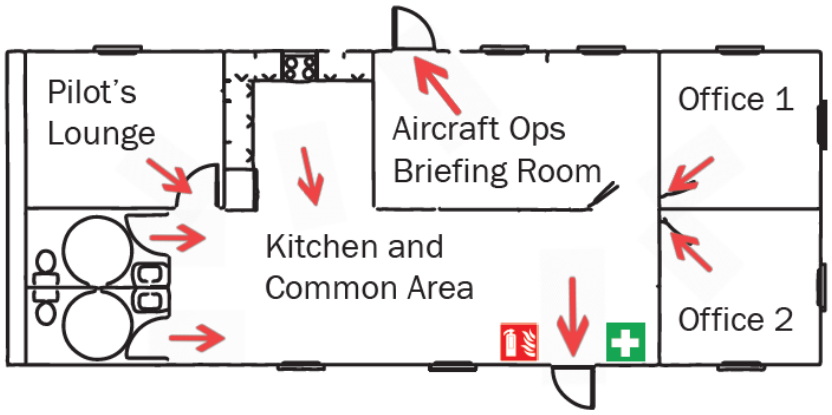
CTCSS	NAC	CTCSS	NAC
67.0 Hz	$29E	136.5 Hz	$555
69.3 Hz	$2B5	141.3 Hz	$585
71.9 Hz	$2CF	146.2 Hz	$5B6
74.4 Hz	$2E8	151.4 Hz	$5EA
77.0 Hz	$302	156.7 Hz	$61F
79.7 Hz	$31D	162.2 Hz	$656
82.5 Hz	$339	167.9 Hz	$68F
85.4 Hz	$356	173.8 Hz	$6CA
88.5 Hz	$375	179.9 Hz	$707
91.5 Hz	$393	186.2 Hz	$746
94.8 Hz	$3B4	192.8 Hz	$788
97.4 Hz	$3CE	203.5 Hz	$7F3
100.0 Hz	$3E8	206.5 Hz	$811
103.5 Hz	$40B	210.7 Hz	$83B
107.2 Hz	$430	218.1 Hz	$885
110.9 Hz	$455	225.7 Hz	$8D1
114.8 Hz	$47C	229.1 Hz	$8F3
118.8 Hz	$4A4	233.6 Hz	$920
123.0 Hz	$4CE	241.8 Hz	$972
127.3 Hz	$4F9	250.3 Hz	$9C7
131.8 Hz	$526		

APPENDIX B- FLIGHT HAZARD MAP



APPENDIX C – HELIBASE DIAGRAM

Helen Guard Helibase Diagram



NORTH

= FIRST AID KIT

= FIRE EXTINGUISHER

FIRE EVACUATION - Evacuate to the Helipad Northeast of Building

TORNADO - Muster in the Appropriate restroom.

APPENDIX D – COMMONLY USED LAT/LONG LOCATIONS

Apalachicola NF. Helispot				
Helispot #	Comments	Point Type	Latitude	Longitude
H1 (KTLH)	Tallahassee International Airport	Airport	N 30° 23.996’	W 84° 21.309’
H2	Derby Pond (Hwy 267 & FS 360)	Helispot	N 30° 21.347’	W 84° 31.968’
H3	Helen Guard Helibase	Helibase	N 30° 18.405’	W 84° 25.427’
H4	FS 329 & FS 341	Helispot	N 30° 07.183’	W 84° 32.365’
H5	FS 348 & FH13	Helispot	N 30° 14.200’	W 84° 32.158’
H9	FS 309 & FS 353	Helispot	N 30° 15.473’	W 84° 36.053’
H11	Hwy 22 at Ochlockonee River	Helispot	N 30° 03.336’	W 84° 35.598’
H21	Apalachicola Work Center	Helispot	N 30° 17.350’	W 85° 01.075’
H22	Dove Field	Helispot	N 30° 15.868’	W 84° 59.327’
H23	FS 128-A	Helispot	N 30° 17.951’	W 84° 46.880’
H24	FS 176	Helispot	N 30° 14.511’	W 84° 47.362’
H27	FH13 & FS 126	Helispot	N 30° 08.155’	W 84° 46.262’
H28	Cliff Lake	Helispot	N 30° 08.468’	W 84° 55.869’
H29	Wilma Work Center	Helispot	N 30° 09.770’	W 84° 58.155’
H30	FS 12-S (Burn Unit 29)	Helispot	N 30° 10.756’	W 84° 59.776’
H31	End of SR 22 near Hwy 67	Helispot	N 30° 02.391’	W 84° 39.037’
H32	FS 120 & FS 125	Helispot	N 30° 02.184’	W 84° 50.406’
H33	Hwy 22 Sumatra	Helispot	N 30° 01.238’	W 84° 57.756’
H34	Fort Gadsden Creek	Helispot	N 29° 54.930’	W 84° 58.844’
H35	FS 187-C (Burn Unit 18)	Helispot	N 30° 15.210’	W 84° 51.119’

St. Marks National Wildlife Refuge Helispot				
Helispot #	Comments	Point Type	Latitude	Longitude
WR-H1	Stoney Bayou Field Concrete Pad	Helispot	N 30° 08.341'	W 84° 08.145'
WR-H2	Parking Lot at Lighthouse Boat Ramp	Helispot	N 30° 04.705'	W 84° 10.727'
WR-H3	Abe Trull Field Concrete Pad	Helispot	N 30° 07.160'	W 84° 18.522'
WR-H4	Panacea Field Concrete Pad	Helispot	N 30° 00.593'	W 84° 25.463'
WR-H6	St. Vincent Island Concrete Pad	Helispot	N 29° 39.474'	W 85° 07.795'

Tate's Hell State Forest Helispot				
Helispot #	Comments	Point Type	Latitude	Longitude
Hangar	FL Forest Service Hanger	Airport	N 30° 23.768’	W 84° 20.465’
SF-H1	Tate’s Hell State Forest Office	Helispot	N 29° 50.562’	W 84° 41.762’
SF-H2	OHV Parking Lot	Helispot	N 29° 56.197’	W 84° 38.211’
SF-H3	Borrow Pit Campsite	Helispot	N 29° 54.970’	W 84°44.022’
SF-H4	Eastbay Forestry Station	Helispot	N 29° 49.675’	W 84° 53.341’
SF-H5	Tucker Rd. & Double Bride Rd	Helispot	N 29° 55.895’	W 84° 50.209’
SF-H6	Sumatra Road	Helispot	N 30° 00.288’	W 84° 52.835’
Airport	Carrabelle Airport	Airport	N 29° 50.611’	W 84° 41.784’
Potential Site				

APPENDIX E – APALACHICOLA NF. AVIATION PHONE LIST

Wakulla/ Apalachicola Ranger District

Name	Title	Office	Office #	Cell #
Mich Ketron	Zone FMO	Wakulla RD	850-926-3561 ext. 6523	423-534-5794
Brandon Sultemeier	District AFMO	Wakulla WC	850-575-9064 ext. 6633	850-666-1806
Jason Lago	District AFMO	Apalachicola WC	850-643-2131 ext. 1602	850-570-2217
Trixie Smith	Helicopter Manager	Wakulla WC	850-575-9064 ext.	850-933-1782
TBD	Helitack Assistant	Wakulla WC	850-575-9064 ext.	TBD
Joseph Rodriguez	Helitack Squad Leader	Wakulla WC	850-575-9064 ext.	208-781-1421
Alexander Newlon	Helitack Senior	Wakulla WC	850-575-9064 ext.	407-325-8215

Local Helicopter Manager / Helibase Manager

Name	Badge	HMGB	HEBM	PLDO	Office #	Cell #
Trixie Smith	Yes	Qualified	Qualified	Qualified	850-575-9064 ext.	850-933-1782
TBD					850-575-9064 ext.	
Brenton Holt		Qualified		Qualified	850-643-2282 ext. 1532	870-715-0402
Dave Quisenberry		Qualified			850-575-9064 ext. 6633	850-666-1806
Aaron Edwards		Trainee		Qualified	850-926-3561 ext. 6524	850-631-1608
Shanon Harvey		Qualified		Qualified	850-926-3561 ext. 6512	850-590-2171
Joey Rodriguez		Qualified		Qualified	850-575-9064	208-781-1421
Mike Bodziak		Qualified		Qualified	850-926-3561 ext. 6503	814-421-1104

Local Helicopter Crewmember

Name	Badge	HECM	PLDO	Office	Office #	Cell #
Joe Brinson		Qualified	Qualified	AWC	850-643-2131 ext. 1608	850-459-1858
Lorenza Marlow		Qualified	Qualified	AWC	850-643-2131 ext. 1604	850-508-5938
Matt Hundt		Qualified		WWC	850-575-9064 ext 6634	775-340-2991
Sara Strickland		Qualified	Qualified	AWC	850-643-2131	912-288-1367
Jack Pock		Qualified	Qualified	WWC	850-575-9064	520-508-7064
Alexander Newlon		Qualified	Trainee	AWC	850-575-9064	407-325-8215

Florida Interagency Coordination Center

Name	Title	Office #	Cell #
Charles Patterson	Fire/Aviation Staff Officer	850-523-8562	850-661-1005
TBD	Center Manager	850-523-8611	
Juan Zepeda	Asst. Center Manager	850-523-8605	850-728-7537
Vacant	Asst. Center Manager		
FICC	Dispatch	850-523-8600 ext. 0	

Regional Fire & Aviation Management - Atlanta

Name	Title	Office #	Cell #
Keith Hackbarth	Regional Aviation Officer	770-237-0119 ext. 1008	406-381-8203
Caleb Berry	Deputy Regional Aviation Officer		202-870-1778
Jimmy Keyes	Regional Aviation Safety Manager	770-237-0119 ext. 1013	404-780-0590
Vacant	Helicopter Operations Specialist	770-237-0119 ext. 1002	
Joshua Pierotte	South Zone Aviation Officer	770-237-0119 ext. 1010	559-909-9151
Donna Shope	ASI- Airworthiness	770-237-0119 ext. 1015	
Vacant	Helicopter Inspector Pilot	770-237-0119 ext. 1014	470-501-9123
David Garritson	ASI –Avionics	770-237-0119 ext. 1006	470-230-9585

Tallahassee Airport

Name	Title	Office
KTLH Security	Airport Operations	850-891-7830
KTLH Airport Tower	Approach Control	850-942-8311
Million Air	Fuel Service	850-574-5671

APPENDIX F – EMERGENCY CONTACT LIST

FAA Flight Service Station	**800-992-7433**
FAA Communication Center	**202-267-3333**
NTSB Communication Center	**202-314-6290**

Primary Response (Emergency Responders)	
Fire Department (Tallahassee)	850-891-6600
Ambulance Services (Leon County)	850-606-2100
Air Ambulance – Shands Cair	1-800-342-5365
Hospital (Tallahassee Memorial HealthCare)	850-431-1155
Hospital (Capital Regional Medical Center)	850-325-5000
Burn Facility (UF Health Shands Hospital)	352-265-0111
Secondary Response (Support Personnel)	
Helen Guard Helibase	
Florida Interagency Coordination Center	850-523-8600
Southern Area Coordination Center	678-320-3000
FAA Flight Service Station	800-992-7433
NTSB	202-314-6290
HazMat Response (Leon County)	911
Explosive Ordnance Disposal (Tyndall AFB)	850-283-1110
Agency Management and Other Agencies (As Required)	
District Ranger – Birk Roseman	850-926-3561 ext. 6530
Deputy District Ranger – John Dunlap	850-643-2282 ext. 1501
Zone Fire Management Officer – Vacant	850-926-3561 ext. 6523
District Aviation Officer -	
District Safety Officer – Trixie Smith	850-575-9064 ext. 6610
District Haz-mat Coordinator -	
District Law Enforcement Officer - Shanon Holaway	850-926-3561 ext. 6545
District Law Enforcement Officer - Kevin Partridge	850-643-2282 ext 1522
Forest Supervisor – Kelly Russell	850-523-8547
Fire/Aviation Staff Officer – Charles Patterson	850-523-8562
Forest Safety Officer – Dean Teter	850-523-8587
Forest Haz-mat Coordinator -	
Forest Public Affairs Specialist – Susan Blake	850-523-8590
Forest Patrol Captain - Kelada Bennett-Wallace	850-523-8558
Contracting Officer – Matt Morris	208-749-1603
Contracting Officer Representative – Will Lucas	352-759-2081 ext. 5612
Contracting Officer Representative Alt- Joshua Pierotte	559-909-9151
Security (Leon County Sheriff)	850-922-3300

APPENDIX G – RESERVED