

# **USFWS Florida Panther NWR**

## **Compartment 4 Escaped Fire Review**

### **February 11, 2018**

#### **Incident Overview:**

On February 11<sup>th</sup>, 2018 a prescribed fire utilizing aerial ignition was conducted on 937 acres in compartments 7 and 9 on the Florida Panther National Wildlife Refuge. This area had not been burned in 2 - 3 years.

A training module from the National Prescribed Fire Training Center (PFTC) was assigned to the burn as a training opportunity. A member of this group was assigned as the Type 2 burn boss trainee and other members of the group were placed into the burn organization in training and support roles working alongside local firefighters.

Spot weather forecasts were obtained from the National Weather Service (NWS) office in Miami at 0600. All weather parameters were within the desired range in the prescribed fire plan. A Hysplit (smoke dispersion/movement model) run was also requested from the NWS in Miami which showed that smoke was forecast to move in a favorable direction.

The Agency Administrator Go/No Go was conducted over the phone with the Project Leader @ 0800 and later signed. The Prescribed Fire Go/No Go was signed by the RXB2 and the RXB2(t).

The burn was initiated at 1130. All operations were normal through the day.

As the burn was nearing completion, the helicopter overflew the southern fire line and several aerial ignition spheres were inadvertently dropped across the unit boundary into compartment 4. Compartment 4 adjoins Interstate 75 on its southern boundary and was outside of the planned project area of the day's prescribed fire. Compartment 4 had not seen fire in over a 14 years.

The fire in compartment 4 was attacked by holding resources. The aerial ignition helicopter (Type 3) was quickly reconfigured for bucket work and began dropping water, however attempts to contain the fire were unsuccessful. The decision was made to burn out compartment 4 on the following day if the fire growth was not stopped in a tropical hardwood hammock overnight. Fire growth was not stopped overnight.

On February 12th the decision was made to conduct a prescribed burn in compartment 4 which had an active prescription and which held the uncontained spots from the previous days prescribed burn. Compartment 4 is a high complexity unit due to its proximity to Interstate 75 and the propensity of smoke to settle onto this road during the night. A prescribed fire authorization was obtained from the Florida Forest Service. There was some confusion as to the appropriate level of management for this unit. The original prescribed fire of compartment 7 and 9 had been a moderate complexity. However, compartment 4 is in a different project area with a prescribed fire plan rated as a high complexity prescribed burn.

Crews were briefed and firing of compartment 4 started. At 1200, after discussions with the Regional Office it was decided that the fire should be converted to a wildfire. This was due to the higher complexity of the operations and that lack of appropriately qualified personnel to implement this operation. The fire had left the intended project area and was now in an area with significantly higher complexity. Additionally, the weather forecast called for a northerly wind switch which would place smoke onto the Interstate 75 that night. The fire management plan and the prescribed fire plan both are very clear that prescribed fire cannot be initiated in this unit if there is any mention of fog formation or northerly winds in the forecast.

Burnouts on the wildfire continued through the day. The fire was held in compartment 4 that night and into the next day.

**Burn unit description:**

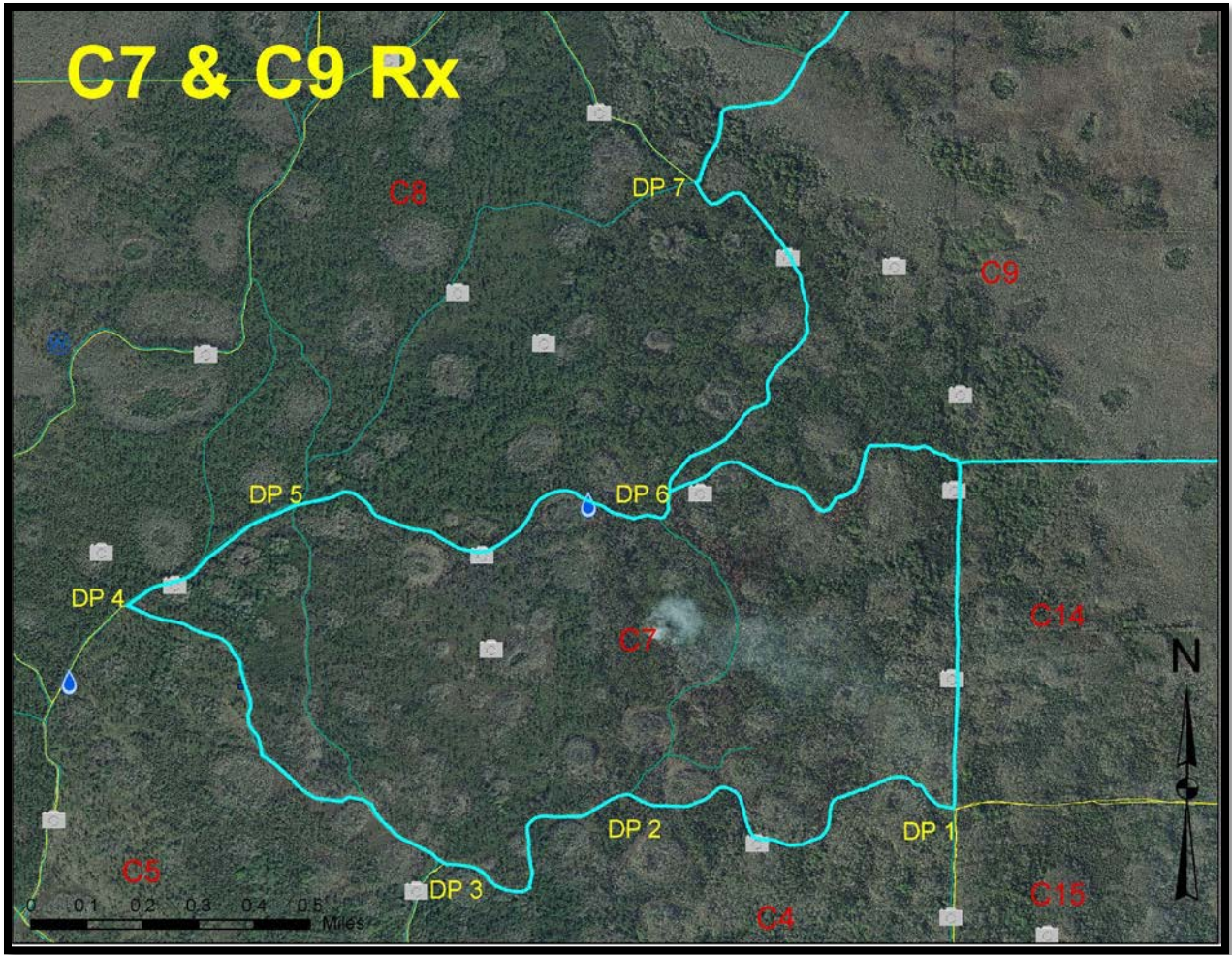
Compartments 7 (426 Acres) and 9 (511 Acres) reside in the westernmost portion of the refuge. Compartment 7 was last burned in 2016. Compartment 9 was last burned in 2015.

62% of Compartment 7 is considered to be pinelands modelled by the SH4 fire behavior fuel model. The remainder of the unit is mixed wetland forest cover types represented by TL2.

80% of compartment 9 is mixed swamp modelled by TL2 and 19% is pineland represented by SH4.

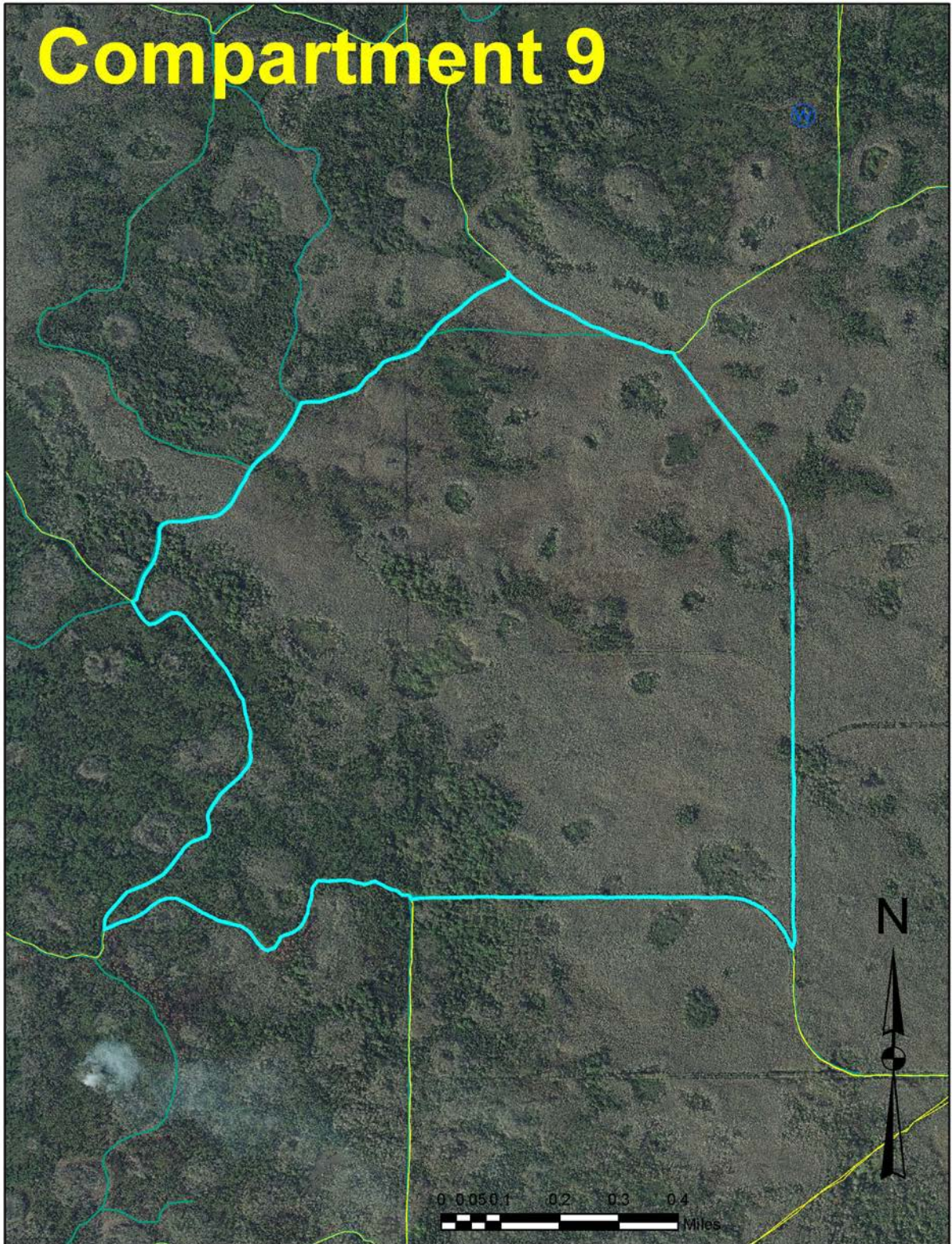
These units are 1 - 2 miles north of Interstate 75.

Both compartments are surrounded by well-established dirt roads/firelines with swamp buggy access around both units.





# Compartment 9



## **Review process:**

This review was conducted via an examination of all of the documentation and interviews of individuals involved. Much of this work was accomplished virtually due to work schedules of the review team and the region's prescribed fire season.

Team members are all familiar with the subject units, having assisted burning them in the past or in helping to develop burn plans.

## **Review Team:**

Jon Wallace - Deputy Regional Fire Management Coordinator - RXB1, OSC1, FBAN

Greg Titus - Zone 4 Fire Management Officer - RXB2, FBAN (t)

Robert Trincado - Director, National Prescribed Fire Training Center - RXB1, OSC2

## **Timeline:**

February 11, 2018

- 0600: Spot Weather forecast obtained from NWS Miami
- 0750: A burn authorization was issued by the Florida Forest Service.
- A pre-burn briefing was conducted before operations began.
- 1130: The test fire was ignited. All operations proceeded normally with downwind lines being fired out and secured. There were a few small spot fires which were quickly contained by holding resources.
- 1400: The RXB2 briefed the aerial ignitions resources via phone on the current situation and advised them to begin aerial ignition to complete the burn.
- 1437: Helicopter 6RW was on scene and began aerial ignitions.
- 1511: Helicopter reported that it had dropped some balls across the line and into compartment 4.
- 1518: Holding forces were on scene and confirmed that there were multiple spots across the line into compartment 4.
- 1527: Helicopter sent to reconfigure with a bucket for suppression of the spots
- 1527: Multiple resources were on scene to manage spots.
- 1616: Helicopter on scene with bucket. Reports light precipitation in the area.
- 1721: Helicopter reconfigures for a RXB2 recon mission
- 1800: All resources pulled off of burn. Enroute to west gate of refuge.
- 1900: AAR
- 1920: Resources released for day

February 12, 2018

- 0935: Briefing
- 1019: Start ignitions in compartment 4
- 1100: Begin to get spots out of compartment 4. These are contained.
- 1202: Decision made to convert to a wildfire. Burn plan reviewed more closely and realized that fire from previous day had become established out of project boundary. There was also concern about smoke on Interstate 75 that night.

- 1202: Burnout operations continue
- 1303: Begin Aerial ignition in compartment 4
- 1355: Multiple spot fires occurring. Helicopter reconfigured for bucket work/suppression.
- 1438: First bucket drop
- 1700: PFTC crews released as they are not allowed to work on wildfires

February 13, 2018

- The wildfire in compartment 4 was contained
- Mop-up of compartments 4, 7, and 9 began and continued for several days.

Personnel on the prescribed burn:



#### **Burn Plan Review:**

A thorough review of the burn plan was completed. The burn plan utilized for this project used the 2014 version of the USFWS R4 prescribed fire template and is within policy. The burn plan was technically reviewed, signed and approved and meets all agency requirements.

- The prescribed fire plan states that the Fire Management Plan requires a southerly component to conduct a prescribed fire in compartments that fall in the western FMU in the section “Western FMU Project Area Description”. This includes compartments 7 and 9. The prescribed fire plan for this area in Element 7: Prescription Environmental Parameters states that these units can be burned with any wind direction. The compartments were in fact burned with a SE wind and as such does not impact this review. This wording should be corrected for future prescribed fires.

The required Agency Administrator Go-No-Go Checklist was completed with the line officer prior to the burn. The Prescribed Fire Go-No-Go Checklist was completed and signed by the Burn Boss and Burn Boss Trainee.

#### **Review Team Findings:**

**Finding:** All prescriptive elements for compartments 7 and 9 were met. All personnel were qualified for the job they held on the prescribed fire.

**Finding:** Plastic spheres were dropped across line by helicopter.

**Recommendation:** Lines could have been better delineated by ground ignition crews lighting in front of helicopter.

**Recommendation:** Insure that firing boss in helicopter has a good map that depicts established lines. Avenza digital maps is an excellent resource for this. A GPS track log of the burn area boundary during the recon flight can also be used to aid in firing operations. Firing boss should be very cautious about utilizing aerial ignition within 100 feet of exterior lines.

**Finding:** The fire moved out of the project area. If initial attempts to bring the fire back into prescription failed, the plan says that the prescribed fire will be declared a wildfire. This declaration did not happen until 1200 the following day.

**Recommendation:** Follow the plan. When the fire leaves the unit/project boundary and initial attempts to bring it back into control have failed the plan has the next steps you should follow.

**Recommendation:** Insure that decision makers understand the plan and do not deviate from it.

**Finding:** Contingency forces outlined in the plan were not used to help bring the fire back into prescription. Instead a burn module from the prescribed fire training center (PFTC) was held over to help manage the escape for an entire day.

**Recommendation:** Contingency forces listed in the plan were not utilized for fear that State bulldozers would cause hydrologic problems on the refuge. List resources in the plan that you can and will use to bring the fire back into prescription.

**Recommendation:** Focus on building contingency plans within the prescribed fire plan which are realistic, easily implementable and easily understood to bring any escaped prescribed fire back into prescription.

**Recommendation:** Insure availability of resources to serve as a contingency prior to conducting the test burn.

**Recommendation:** Do not depend on PFTC crews for extended attack support or as a suppression contingency resource as they are limited to prescribed fire operations. Hazard pay is not permitted for PFTC modules.

**Finding:** The burnout of compartment 4 was initially treated like a high complexity prescribed fire and not a burnout to bring the previous unit back into prescription.

**Recommendation:** Follow the plan. When the fire leaves the unit/project boundary and initial attempts to bring it back into control have failed the plan has the next steps you should follow.

**Recommendation:** Compartment 4 was not within the established prescription parameters for implementation. Before initiating a prescribed burn insure that all weather parameters and personnel required to implement the burn meet the burn plan requirements.

**Recommendation:** Insure that all involved personnel understand the intent and objective of the day's operation.

**Finding:** Complexity analysis constructed for the fire in compartment 4 appears to have been built to match the on-site personnel rather than a true measure of complexity. This unit borders the primary Interstate highway between Naples and Fort Lauderdale, Florida. Prescribed fires in this unit are high complexity due to the possibility of smoke impacts to the Interstate. These same factors apply to a wildfire and should be considered in the complexity analysis.

**Recommendation:** Complexity analysis should be a reflection of the complexity of conducting fire operations inside of a unit. They should not be designed to reflect the personnel on-site.

**Conclusion:**

The review team encourages the fire staff at the Florida Panther NWR to continue the great work that they are doing. Strive to conduct prescribed burning each year to protect the Interstate 75 corridor, people and critical infrastructure adjacent to your refuge while at the same time burn to improve habitat for the Florida Panther. Work closely with refuge management, refuge biology staff and your partners to insure that you are meeting the goals for fire set forth in your Comprehensive Conservation Plan.

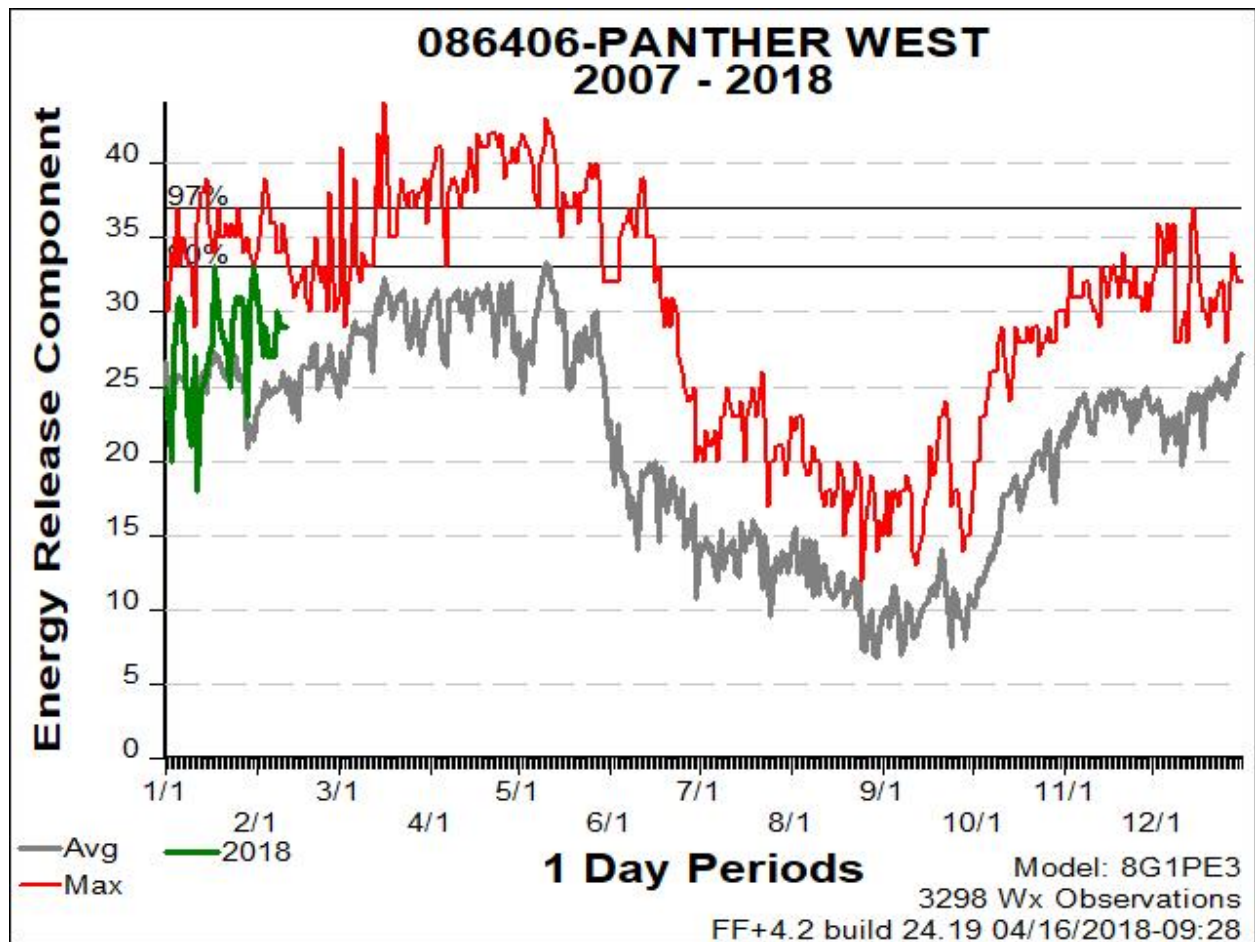
Continue to review, improve, and strengthen prescribed fire plans based on what you have learned. Always seek ways to make the program better and learn from the past.

*Success is not final, Failure is not fatal: It is the courage to continue that counts. Winston Churchill*



Appendix:

NFDRS indices were well within desired ranges. Only slightly above average which placed the refuge in staffing level 3.



Florida Panther NWR  
Western FMU  
**ELEMENT 2B**

**PRESCRIBED FIRE GO/NO-GO CHECKLIST**

Preliminary Questions	Circle YES or NO
A. Have conditions in or adjacent to the ignition unit changed, (for example: drought conditions or fuel loadings), which were not considered in the prescription development? If <b>NO</b> proceed with the Go/NO-GO Checklist below, if <b>YES</b> go to item B.	YES <u>NO</u>
B. Has the prescribed fire plan been reviewed and an amendment been approved; or has it been determined that no amendment is necessary? If <b>YES</b> , proceed with checklist below. If <b>NO</b> , <b>STOP: Implementation is not allowed. An amendment is needed.</b>	<u>YES</u> NO

Southeast Regional Smoke/Fog Management Questions	Circle YES or NO
C. Is there a chance of fog formation Post burn forecasted in the morning spot weather forecast? If <b>NO</b> proceed with checklist, if <b>YES</b> go to item D.	YES <u>NO</u>
D. If <b>YES</b> have appropriate mitigation elements been identified to limit potential fog/smoke impacts to smoke sensitive targets and are they explained in the pre-burn briefing? If <b>YES</b> proceed with checklist below, if <b>NO</b> STOP.	<u>YES</u> NO

GO/NO-GO Checklist	Circle YES or NO
Have ALL permits and clearances been obtained?	<u>YES</u> NO
Have ALL the required notifications been made?	<u>YES</u> NO
Have ALL the pre-burn considerations and preparation work identified in the prescribed fire plan been completed or addressed and checked?	<u>YES</u> NO
Have ALL required current and projected fire weather forecast been obtained and are they favorable?	<u>YES</u> NO
Are ALL prescription parameters met?	<u>YES</u> NO
Are ALL smoke management specifications met?	<u>YES</u> NO
Are ALL planned operations personnel and equipment on-site, available and operational?	<u>YES</u> NO
Has the availability of contingency resources applicable to today's implementation been checked and are they available?	<u>YES</u> NO
Have ALL personnel been briefed on the project objectives, their assignment, safety hazards, escape routes, and safety zones?	<u>YES</u> NO
If all the questions were answered "YES" proceed with a test fire. Document the current conditions, location and results. If any questions were answered "NO", DO NOT proceed with the test fire: Implementation is not allowed.	
After evaluating the test fire, in your judgment can the prescribed fire be carried out according to the prescribed fire plan and will it meet the planned objective? Circle: <u>YES</u> or NO	

Burn Boss Signature:

PMS 486 (11/13)

Date: 2/11/2018

2/11/2018

## ELEMENT 2A

### AGENCY ADMINISTRATOR GO/NO-GO PRE-IGNITION APPROVAL CHECKLIST


Instructions: The Agency Administrator Ignition Authorization must be completed before a prescribed fire can be implemented. If ignition of the prescribed fire is not initiated prior to expiration date determined by the agency administrator, a new authorization will be required.

Prior to signature the agency administrator should discuss the following key items with the fire management officer (FMO) or burn boss. Attach any additional instructions or discussion documentation (optional) to this document.

#### Key Discussion Items

A. Has anything changed since the Prescribed Fire Plan was approved or revalidated?	<i>No</i>
<i>Such as drought or other climate indicators of increased risk, insect activity, new subdivisions/structures, smoke requirements, Complexity Analysis Rating.</i>	
B. Have compliance requirements and pre-burn considerations been completed?	<i>Yes</i>
<i>Such as preparation work, NEPA mitigation requirements, cultural, threatened and endangered species, smoke permits, state burn permits/authorizations.</i>	
C. Can all of the elements and conditions specified in Prescribed Fire Plan be met?	<i>Yes</i>
<i>Such as weather, scheduling, smoke management conditions, suitable prescription window, correct season, staffing and organization, safety considerations, etc.</i>	
D. Are processes in place to ensure all internal and external notifications and media releases will be completed?	<i>Yes</i>
E. Have key agency staffs been fully briefed about the implementation of this prescribed fire?	<i>Yes</i>
F. Are there circumstances that could affect the successful implementation of the plan?	<i>No</i>
<i>Such as preparedness level restrictions, resource availability, other prescribed fire or wildfire activity</i>	
G. Have you communicated your expectations to the Burn Boss and FMO regarding if and when you are to be notified that contingency actions are being taken?	<i>Yes</i>
H. Have you communicated your expectations to the Burn Boss and FMO regarding decisions to declare the prescribed fire a wildfire?	<i>Yes</i>

Implementation Recommended by:

FMO or Prescribed Fire Burn Boss Signature: 

Date: *2/11/18*

I am authorizing ignition of this prescribed fire between the dates of *2/11/18* and *2/23/18*. It is my expectation that the project will be implemented within this time frame and as discussed and documented and attached to this plan. If the conditions we discussed change during this time frame, it is my expectation you will brief me on the circumstances and an updated authorization will be negotiated if necessary.

Additional Instructions or Discussion Documentation attached (Optional): Yes ☐ No ☒

Ignition Authorized by:

Agency Administrator Signature and Title: *Thone Ap*

*w/*

*2/11/18*  
*0800*

PMS 485 (11/13)

**Florida Forest Service  
BURN AUTHORIZATION Info:  
Dispatch #: 239-690-8001**

**FL-FPR Burn Compartment: 7 & 9**

- 1) Customer #/Certified #: [REDACTED]
- 2) Legal Description: township, range and section: 30 49 29<sup>SE</sup>
- 3) Lat. Long: 81° 27' 3.84" W 26° 10' 29.72" N
- 4) Location Description: 1 mi N of I-75 MM 87
- 5) Number of acres: C7-426ac.  
C9-511ac.  
**Total acres-937**
- 6) Type of burn: hazard fuel reduction
- 7) Ignition time: 1000

2/12/18  
C4 / 1000 Ac

AUTHORIZATION # 016923 / 017339

NOTIFICATIONS:					
Who	When*	Phone Number and/or e-mail	Contact	Date	Method
Florida Forest Service – Caloosahatchee ( CAL 5)	day of	[REDACTED]		2/11/18	Phone
Goldengate FD	day of			2/11/18	Phone
Collier County Sheriff	day of			2/11/18	Phone
Florida Highway Patrol	day of			2/11/18	Phone

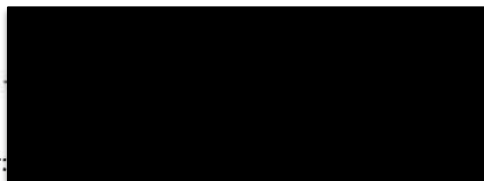
<b>ELEMENT3</b>			
<b>COMPLEXITY ANALYSIS SUMMARY</b>			
<b>ELEMENT</b>	<b>RISK</b>	<b>POTENTIAL CONSEQUENCE</b>	<b>TECHNICAL DIFFICULTY</b>
1. Potential for escape	Moderate	Moderate	Moderate
2. The number and dependence of activities	Moderate	Moderate	Moderate
3. Off-site Values	Moderate	Moderate	Moderate
4 On-Site Values	Moderate	Moderate	Moderate
5. Fire Behavior	Moderate	Moderate	Moderate
6. Management organization	Moderate	Low	Moderate
7. Public and political interest	Moderate	Moderate	Low
8. Fire Treatment objectives	Moderate	Low	Moderate
9 Constraints	Moderate	Moderate	Low
10 Safety	Moderate	Moderate	Moderate
11. Ignition procedures/methods	Moderate	Moderate	Moderate
12. Interagency coordination	Low	Low	Low
13. Project logistics	Low	Low	Low
14 Smoke management	Moderate	Moderate	Moderate

COMPLEXITY RATING SUMMARY		
		OVERALL RATING
RISK	Moderate	
CONSEQUENCES	Moderate	
TECHNICAL DIFFICULTY	Moderate	
SUMMARY COMPLEXITY DETERMINATION	Moderate	
<b>RATIONALE:</b> Burn location along with current fuel loading and past fire treatments make this project a moderate complexity overall. Moderate smoke management concerns are present within this project along with minimal chance for escape. This project can be implemented with the forces on station or with minimal assistance from neighboring land management agencies or refuges.		



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Prepared by:



Date:

10/26/16

Approved by:

(Agency Administrator)

A handwritten signature in blue ink, likely belonging to the Agency Administrator.

Date:

10/31/16