



National Park Service Big Cypress National Preserve Fire Ecology Annual Report Calendar Year 2018

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This plot has been treated with fire on a 3-5 year fire return interval since 1998. The prescribed fire treatment in Feb, 2017 had a reduction in live woody shrub height (from 1.5-2.5m to <0.15m) as measured via ocular estimate immediate post burn. There was also <75% reduction in live woody shrub cover immediately post burn. However, significant regrowth, as measured 12 months post burn, enabled the slash pines surrounding the plot to completely re-burned 16 month after the 2017 prescribed fire (ie. Avian Complex). Nearby cypress domes did not re-burn during the same time period.

A. Summary

The Fire Effects crew a Big Cypress National Preserve (BICY) completed a wide variety of fuels and non- fuels projects in the 2018 calendar year. Accomplishments include:

- The treatment of 10,036 ac with prescribed fire and wildfire management of 87,572 ac. A total of 97,608 acres were treated with fire this year.
- Protection of 55 private camps and 7 NPS camps from potential wildfires.
- Secured 118 miles of primary off-road public use trails through fire management.
- Clearing of 57 RCW clusters of which 249 individual trees were impacted (and protected) by fires.
- 5 recent (2017-2018) treatments were used to corral 3 separate wildfires.
- The Fire and Aviation Division has worked with the National Wild Turkey Federation, The Florida National Parks Trust, Resource Management and Interpretation Divisions to acquire \$55,000 of grant funding to support prescribed fire treatments in high priority areas, as well as, the establishment of a training endowment fund for upcoming firefighters. The endowment fund was developed with the contributions from an anonymous private donation to the Florida National Park Trust for Big Cypress Fire and Aviation.
- Crewmembers worked with Interpretation Division to participate in over 5 educational and community outreaches including swamp walks and science fair judging.
- Crew completed 9 separate trainings, including operational courses and GIS.
- Lead completed a 120 extended detail to an R1 rappel crew.
- Successfully switched to ArcPro software.

Table 1. Fire Effects Plot Workload (2018) and Total Plots Installed

Park	Monitoring Unit	Plot Type	Pre-burn 2018	Immed. Post 2018	Postburn* (1-20 yrs) 2018	Annual Total (2018)	Total Plots
Big Cypress	Slash Pine	Photopoint	3	20	15	35	37
		Photoseries	-	5	1	6	8
	Prairie	Photopoint	2	3	10	13	31
		Photoseries	-	1	1	2	6
	Cypress Savannah	Photopoint	5	-	8	8	11
		Photoseries	1	-	1	2	3
	Hammock	Photopoint	1	-	-	1	1
		Photoseries	-	-	-	-	-
Total			12	29	26	67	80

**Postburn (1-20 yrs) includes our Pre's because all the plots are within 1-20 years of last burn date.*

*** Total plots includes only photopoint plot types because the photoseries data occurs at already established photopoint locations.*

Table 2. Fire Ecology Staffing 2018

Ecologist and Monitors	Starting Date	Ending Date	# of Pay Periods	READ Qualified (Yes or No)	Training and Development
Jill Waisley (Fire Ecologist)	1/1/18	12/31/18	26	No	RxB2 (t) ArcPro
Megan Hurrell (Lead Fire Effects Monitor)	1/1/18	12/31/18	26	No	Worked toward: IC4 (t) Detailed as a Helicopter Rappeller in the Forest Service in R1 Completed: HMGB and ENGB taskbooks Attended: S-215, S-231, S-390 and a GIS workshop
Trevor Williams (Seasonal Monitor)	1/1/18 10/15/18	3/20/18 12/31/18	10	No	Worked toward: FFT1 / IC5 (t) Attended: S-231, S-131, S-290, L-381, Human Performance Optimization,
Jeff Fulgum (Seasonal Monitor)	1/1/18	3/15/18	5	No	Chainsaw refresher
Tim Guartha (Seasonal Monitor)	10/15/18	12/31/18	5	No	Attended: L-381, UTV operator, Human Performance Optimization. Opened: FEMO and Technical specialist taskbooks.

Table 3. 2018 Management Objectives and Monitoring Results

Monitoring Unit	Management Objective (Restoration)	Monitoring Results (XX% confidence interval)	Objective Achieved?	Year Analysis Completed (Range of Data [Yrs] Included in Analysis)
Slash Pine	Treat >70% of pinelands in BICY at least once within 7 years	Fuel reduction treatments for the last 7 years occurred in 83% of pinelands in BICY at least once <i>83,801 acres of hydric and mesic pineland flatwoods were treated during 315 fires within last 7 years (95,924 total acres of pinelands).</i>	YES	2018 (Jan 2012-Dec 2018)
	Reduce woody shrub height >50% one year post burn (when compared to pre-treatment) in pinelands	Ocular Estimation at photopoint sites determined that >50% reduction in shrub height occurred 1 year post at 67% of the plots. <i>n=9. Nine site visits were analyzed via ocular estimation one-year post treatment within 30m radius of plot center.</i>	YES	2018 (2017-2018)
Prairies	Treat >70% of prairies in BICY at least once within 7 years.	Fuel reduction treatments for the last 7 years occurred in 76% of prairies in BICY at least once <i>143,866 acres dominated by herbaceous material treated during 315 fires within last 7 years (188,457 total acres of prairies).</i>	Yes	2018 (Jan 2012-Dec 2018)
	Reduce woody shrub height >50% one year post burn (when compared to pre-treatment) in prairies	Ocular Estimation at photopoint sites indicate that >50% reduction in shrub height occurred 1 year post at 83% of the plots <i>n=6. Seven site visits were calculated via ocular estimation and photopoint monitoring.</i>	YES	2018 (2018)
	Top-kill at least >75% of fine fuels and woody shrubs during each treatment	Ocular Estimation at photopoint sites indicate that at least >75% of fine fuels and woody shrubs were top killed during each treatment. <i>n=23. Three site visits were analyzed via ocular estimation immediately post treatment within 30m radius of plot center.</i>	YES	2018 (2018)

B. Program Information

Table 4. Planning - 2018

Park	Does Park have written Desired Future Conditions? (yes or no)	Date Park-level Monitoring Plan completed (or revised)	Total # of Project- or Community-level Monitoring Plans (not just 2018)	Assisted with how many BAER/BAR plans in 2018?
Big Cypress National Preserve	NO	2013	0	4

Table 5. Monitoring - 2018

Park	% 2018 Data Entered	% 2018 Data Quality Checked	# Prescribed Fires Monitored	# Non-fire Fuels Treatments Monitored	# Wildfires Monitored	# BAER/BAR Treatments Monitored
Big Cypress National Preserve	95%	95%	6	0	*3	2

*Avian Complex was a combination of 5 fires, encompassing 82,461 acres.

Table 6. Communicating Results - 2018

Park	# of Project Monitoring Reports completed in 2018	# of Annual meeting(s) with Park staff	# of Formal presentations of results*	Do you use Minitab?
Big Cypress National Preserve	0	2	1	**No

* Provide the National Wild Turkey Federation with results of burned habitat

* Anticipate using in 2019

Table 7. Research - 2018

Park	Are research needs identified in FMP or Monitoring Plan? (yes or no)	# of Proposals Submitted in 2018	# of Proposals Funded in 2018	# of Research Projects Supported in 2018*	Additional Comments
Big Cypress National Preserve	Yes*	0	0	4	RCW monitoring, Florida panther research, Bonneted bat research project, Back rail research

* Additional research needs are being considered and will be included in the next Monitoring Plan update.

C. Fire ecologist accomplishments and areas of focus

Table 8. Fire Ecologist 2018 Accomplishments/Focus Areas

Category	Percent Time	Accomplishments and/or areas of activities
Prescribed Burning planning and prep	35	<i>Planning and participation in Rx treatments in BICY. Including compiling GIS data for upcoming/completed fire treatments. Wrote part of the Cape Canaveral Burn Plan for the Apollo Units.</i>
Training/Conferences	5	<i>ArcPro training Fire Refresher</i>
Data Collection	5	<i>Assist with Fuels Plots and photopoints</i>
Data Entry	10	<i>Combination of data entry/quality checks for photopoint and photoseries data, entering WFMI and NFPORS ID numbers into GIS database.</i>
Admin / Supervisory / Misc.	25	<i>Hiring, award nominations, disciplinary actions, payroll, CA-1s, accident reports, travel authorization/vouchers, purchasing, Weekly staff meetings Daily PT and vehicle PM's Misc.</i>
Data Analysis	5	<i>Basic photo plot data analysis for yearly Monitoring Report.</i>
Interagency / Cooperators / Outreach / Grant writing	15	<i>Coordinating resources to participate in Interpretative events National Wild Turkey Federation grant National Park Trust grant.</i>

D. Fire effects crew accomplishments and areas of focus

The BICY Fire Effects Crew had an active 2018. Conducted site plot readings at 57 Photopoint plots and 10 Photoseries plots. 23 of these plots plot reads were immediately post burn. 10 reads occurred after prescribed fire treatments and 13 were after wildfire management. The crew participated on 20 prescribed/wildfires. Operational and leadership training was a high focus for the crew this year with participating in over 10 trainings, including helping teach helicopter crew member S-271.

Table 9. Fire Effects Crew 2018 Accomplishments/Focus Areas

Table 9. Fire Effects Crew 2018 Accomplishments/Focus Areas Category	Percent Time	Notes
Data Collection	14%	<i>This includes both photopoints and fuel loading photoseries plots.</i>
Wildfire Assignments (Off-unit)	<5%	<i>Crew assisted with 4 off unit wildfires.</i>
Wildfire response (in BICY)	16%	<i>Lead had 1 IC4 assignment and assisted on 4 wildfires. Seasonals assisted on 4 wildfires.</i>
Prescribed fire projects	20%	<i>Crew lead and assisted in preparation that included Red Cockaded Woodpecker tree clearing, power poll and line clearing, removing hazardous trees and prepping around private in holders, mixing fuel and preparing equipment, as well as, scouting burn locations and furl conditions.</i> <i>Crew assisted as ENGB, FFT1, FFT2 and FEMO on 8 prescribed fires within BICY, and 4 prescribed fires off-unit.</i>
Data entry	6%	<i>Completed data entry and quality checked for 2018.</i>
Data analysis	0%	<i>No data analysis occurred in 2018.</i>
Supervision / Admin / Meetings	12%	<i>Payroll, travel authorization/voucher, division meetings, hiring process etc.</i>
Training / Conferences	15%*	<i>Each crew member completed refresher training. Seasonals completed Human performance optimization, S231, S131, S290, L381 and UTV operator training. Lead monitor completed S215, S231, S390 and GIS training.</i>
Miscellaneous / Outreach / Research Cooperation	< 5%	<i>Crew members assisted other divisions with education outreach swamp walks and outdoor adventure days, participated as science fair judges, and represented NPS employees in local parades.</i>
Physical Training	8%	<i>Each crew member is expected to PT for at least an hour every day.</i>

* Lead monitor participated in a 120 day detail to a rappel crew. Training and wildfire hours were not included because they did not pertain to the fire effects crews' accomplishments.

E. 2019 Direction

In the future the BICY Fire Effects program will work to convert all monitoring data from Excel into FFI for easy data sharing and utilize Minitab for data analysis. Additional projects will be undertaken to improve our data assessment and collection procedures by using tablets in the field. This is a work in progress and will likely take several years to complete and the information will be included in the updated Fire Effects and Monitoring Plan.

F. Overall Data Entry Status and FFI suggestions

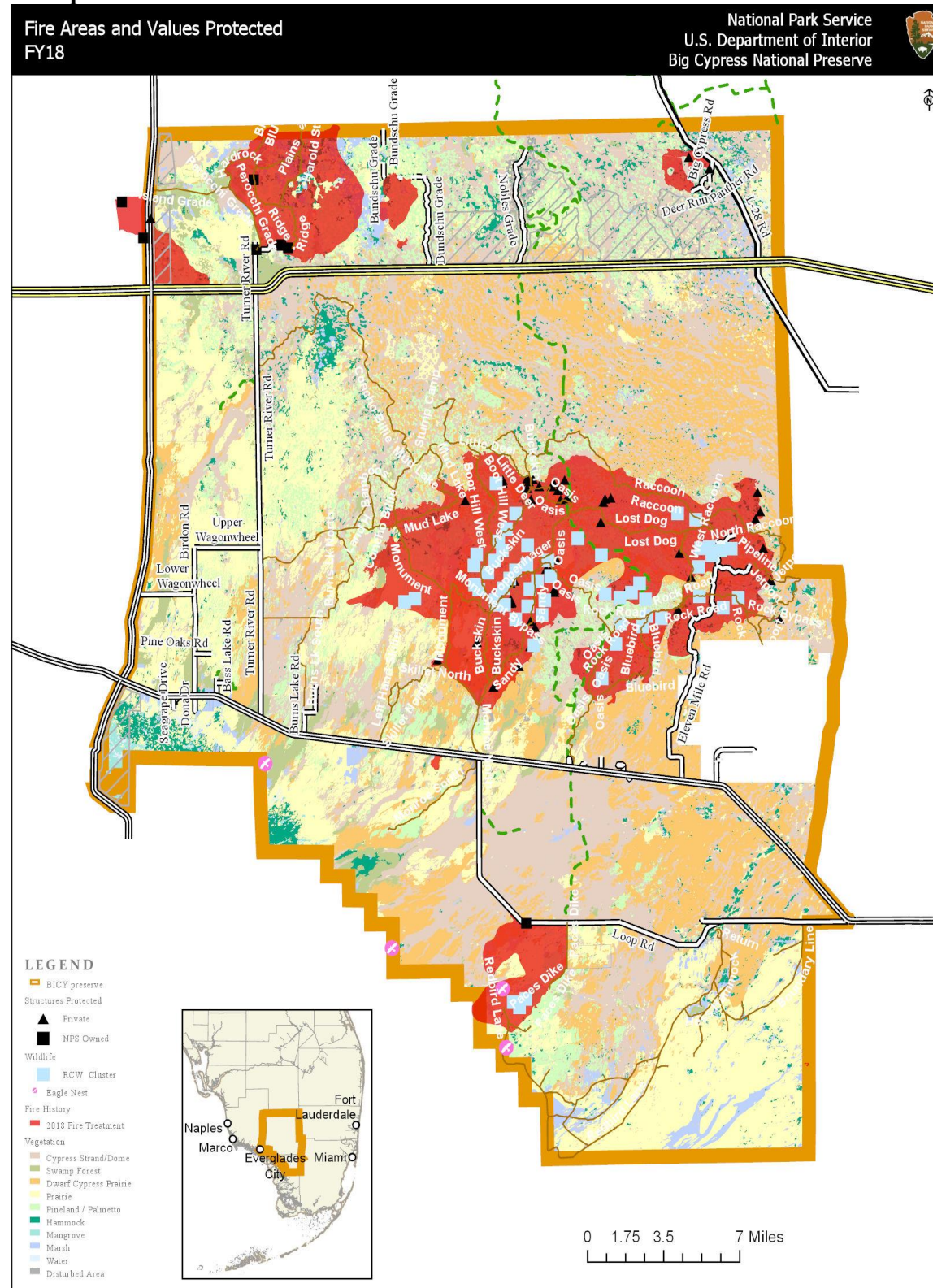
Program Data

List FFI databases for which no new data were collected this year: Data was collected this year however, it has not been entered into FFI.

- Estimate of the percentage of your park/network **total** monitoring program data (including past and present data) that has been entered into FFI, or another application, and quality checked): 95% of photopoint data has been entered into Excel. We have not been able to access FFI database on the server since Hurricane Irma in 2017. Information has been entered into Excel instead.
- Do you have a need for migration of any data to FFI? (if so, briefly describe the dataset, e.g. *20 Excel spreadsheets with fuels data*): Yes, all historical photopoint data need entered into FFI (most standardized data was collected between 2012 and 2018) and Fuels plot information also needs entered for all Fuels plots (project began in 2016).

FFI Feedback - To help in the ongoing effort to improve FFI, please include any feedback or suggestions here based on your experiences using FFI or FFI-Lite: We have had multiple issues using FFI on our server. We have been completely reliant on IT with administrative rights to reconnect us each time there is a computer security update or computer updates. I'd like to see a long-term solution would involve entering/or uploading data into an internet based platform. Specifically, incorporation of IPADs into a usable mobile platform that would easily allow us to collect and store data (similar to AGOL).

G. Optional Information



Fire treatment areas and values that were protected from wildfires in 2018.