



Big Cypress National Preserve

National Park Service Fire Ecology Annual Report Calendar Year 2011

Contents

A. Summary.....	1
Table 1. Fire Effects Plot Workload (2011) and Total Plots Installed.....	2
Table 2. Fire Ecology Staffing 2011.....	3
Table 3. Management Objectives and Monitoring Results.....	3
B. Fire ecologist accomplishments and areas of focus	4
Table 4. Fire Ecologist Accomplishments/Focus Areas	4
C. Fire effects crew accomplishments and areas of focus	4
Table 5. Fire Effects Crew 2011 Accomplishments/Focus Areas	4
D. Additional Information.....	5
Table 6. Planning - 2011.....	5
Table 7. Monitoring – 2011	5
Table 8. Communicating Results - 2011.....	5
Table 9. Research - 2011	6
E. 2012 Direction	6
F. Optional Information	7

A. Summary

The Fuels/Fire effects crew at Big Cypress National Preserve had a busy year. In CY 2011 we completed 9 prescribed fire projects for a total 19,000 acres. When not burning or doing burn prep a vast amount of time was spent writing 5 new burn plans that encompass 95% of the burnable vegetation on the Preserve. 50 pre and post burn plots were visited.

The lack of staff has forced the employees in the Fuels/Fire effects crew to come up with innovative and time saving solutions that allowed us to do all the work needed without sacrificing quality. Here is a brief list of some of those accomplishments.

- In 2011 three employees in the Fuels/Fire effects crew have participated in Technical Fire Management. One person completed TFM, One person in finishing TFM, and one person has just started TFM. Final projects from these endeavors have rewarded BICY with creative, time saving, ecologically friendly, and cost efficient ways of implementing prescribed fire and preparing for wildfire.
- Updated comprehensive database for an easy way to compare data collected at many different photopoints.
- Created 33 additional plots. Each pine plot covers 30,000sq/ft. Every pine tree in the plot is measured for CBH, DBH, scorch height, crown scorch, and total height. We discovered that we average 14% pine mortality per fire event.
- Collected 360° panoramic photos, in addition to typical N, S, E, and W views, and we are in the process of linking them to GIS so when the photopoint is clicked a 360° view is available for the user.
- A new TFM project is almost complete that evaluates pine stand characteristics and NFDRS indices/components against pine mortality. The results show that we can accurately predict conditions and stand characteristics that lead to high mortality.

We also maintain 4 weather stations that we perform all annual maintenance on. We have several sites around the preserve that we collect weekly fuel moistures from. We maintained all the fire reports and updated and error checked the WFMI, and WIMS for all the data since 1978.

We have started using the hydrology levels at 9 stations on the preserve and we have created a database for those hydrology levels that allow us to track seasonal severity.

All the firefighters at Big Cypress National Preserve are suppression firefighters and prescribed firefighters regardless of their official title. We depend on each other for many things from monitoring to welding to digging handline.

Table 1. Fire Effects Plot Workload (2011) and Total Plots Installed

Park	Monitoring Unit	Type of Plot (FMH, photo point, other)	Pre-burn 2011	Immed. Post 2011	Postburn (1-20 yrs) 2011	Annual Total (2011)	Total Plots
Big Cypress	Pine	Photo point	4	6	14	24	34
Big Cypress	Pine	FMH	0	0	1	1	3
Big Cypress	Prairie	Photo point	6	3	8	17	29
Big Cypress	Prairie	FMH	0	0	1	1	5
Big Cypress	Cypress Savannah	Photo point	0	0	4	4	12
Big Cypress	Cypress Savannah	FMH	0	0	0	0	1
Big Cypress	Hammock	Photo point	0	0	0	0	1
Big Cypress	Mechanical	Photo point	0	0	0	0	2
Big Cypress	Disturbed	Photo point	0	0	0	0	1
Big Cypress	Pine	TFM PLOT	33	0	33	33	33
Total			43	9	61	80	121

* Pilot sampling plots

Table 2. Fire Ecology Staffing 2011

Every firefighter at BICY, regardless of their position, contributed to monitoring, data collection and entry, suppression, and prescribed fire preparations. We had suppression folks; ENGB's, FFT1's, TFLD's, and HMGB's going out in the field to help do plots and monitoring. The people listed below work in Fuels or Fire Effects.

Ecologist and Monitors	Starting Date	Ending Date	# of Pay Periods	READ Qualified (Yes or No)	Training and Development
Jill Waisley	1/1/2011	12/31/2011	26	No	TFM 27, FEMO, GISS, ICT5
Mindy Wright	1/1/2011	12/31/2011	26	No	FIRB, ICT5 (T), GISS
Adam Kunc	7/20/2011	12/31/2011	9	No	TFM 26, ENGB, ICT5, FIRB(T)
Justin Turnbo	1/1/2011	12/31/2011	26	No	TFM 25 completed, HMGB,TFLD,DIVS(T),ICT3(T)

Table 3. Management Objectives and Monitoring Results

Monitoring Unit	Management Objective (Restoration)	Monitoring Results (XX% confidence interval)	Objective Achieved?	Year Last Analysis Completed
Pine	Consumed 75% of pine litter and palmetto thatch	Total fuel reduction >75% (n= 6 plots visited, 6 fires in pine plots)	YES	2011
	Reduce existing shrub height >50% 1-yr post burn	Ocular Estimation at photopoint site: >50% reduction 1 yr post (n=8 plots, 6 fires in pine plots)	YES	2011
Prairie/Cypress Savannah	Reduce existing shrub height in prairies >50% 1-yr post burn	Ocular Estimation at photopoint site: Total woody vegetation reduction >50% (n=2 plots, 3 fires in Prairie/Cypress plots)	NA – No shrubs found in Prairie Plots in 2011	2011
All Units	Treat 75% of burnable veg during each treatment every 3-5yrs	total fuel reduction = 75%-100% (n= 50 plots visited, 9 fires in all plots this year)	YES	2011

B. Fire ecologist accomplishments and areas of focus

We do not have an Ecologist here at BICY. We do collaborate with the Regional Ecologist.

Table 4. Fire Ecologist Accomplishments/Focus Areas
(Please see B. above)

C. Fire effects crew accomplishments and areas of focus

Table 5. Fire Effects Crew 2011 Accomplishments/Focus Areas

Category	Percent Time	Notes
FMH plots	2%	FMH plots that reached completion of 3 yr rotation were converted to photo point plot, of 32 original FMH plots almost all have been converted in last 2 years
WUI plots	25%	Big Cypress 2011 FMP defines WUI as an “Area where an ignition can impact any structure or roadway within one burn period.” So all photopoints have been included in this estimate
CBI plots		Beginning of 2011 fiscal year all immediate post burn site visits include CBI data collection.
Wildfire assignments	25%	44 Wildfires on Preserve. 2 assignments to Texas
Prescribed fire projects	15%	9 prescribed fire projects.
Non-fire fuels projects	0	Estimated amount of time spent assisting with non-fire fuels projects; include READ activities
Data entry	15%	Estimated amount of time spent entering data from paper to PC
Data analysis	5%	This is expected to be very low number or zero for fire effects crew/lead monitor
Supervision/Admin	1%	Payroll, travel authorization/voucher, etc.
Training	5%	TFM, L-280, RX-410, WFDSS, IQCS, S-339, ICS-400 Annual Refreshers.
Miscellaneous	7%	Composed 5 Burn Plans

D. Additional Information

Table 6. Planning - 2011

Park	Does Park have written DFCs? (yes or no)	Date Park-level Monitoring Plan completed (or revised)	Total # of Project- or Community-level Monitoring Plans (not just 2011)	Assisted with how many BAER plans in 2011?
Big Cypress National Preserve	yes	2001 Revised. Currently re-writing	0	0

Table 7. Monitoring - 2011

Park	% 2011 Data Entered	% 2011 Data Quality Checked	# Prescribed Fires Monitored*	# Non-fire Fuels Treatments Monitored*	# Wildfires Monitored*	# BAER Treatments Monitored*
Big Cypress National Preserve	100%		9	0	5	

* Number of treatment units with treatment effects monitoring conducted. Include pre-burn and post-burn monitoring but not burn-day monitoring.

Table 8. Communicating Results - 2011

Park	# of Project Monitoring Reports completed in 2011	# of Annual meeting(s) with Park staff	# of Formal presentations of results	Do you use Minitab?*
Big Cypress National Preserve	0	1	2	Yes but it is limited as it is the trial version.

* This information will help to assess Minitab multi-user license needs.

Table 9. Research - 2011

Park	Are research needs identified in FMP or Monitoring Plan? (yes or no)	# of Proposals Submitted in 2011	# of Proposals Funded in 2011	# of Research Projects Supported in 2011*	Additional Comments
Big Cypress National Preserve	yes	0	0	5	Raccoon Point Research Study/ Cypress Dome Burn Severity Study/ RCW, Fox Squirrel, and Panther research

*Number of funded research projects, new or ongoing, supported by the fire ecology program including logistical info or support, staffing, etc.

E. 2012 Direction

1. This year we have revamped the way in which we prioritize are burn treatments by assigning weights to the different variables listed below

- Vegetation type.
- Departure from desired fire return interval.
- Distance to roads and structures.
- Departure from desired condition class.

Utilizing GIS we are able to pin point areas that are in need of treatment and the weighted values allow us to prioritize our treatments.

This system is repeated on a yearly basis. By combing resource objectives with wildland urban interface objectives we have been able to maximize our time and budget to provide the most benefit to Big Cypress National Preserve.

2. We have also identified the need to evaluate the impacts of wildfire and prescribed fire on Southern Slash pine. We have established 33 pine plots that we will continue to monitor in order to enhance our knowledge and perhaps alter our approach to burning in pinelands.

F. Optional Information



Fred's First Prescribed Fire (10-26-2011) BICY

5 miles of fire on Interstate 75. I-75 connects east and west Florida.

