



**Big Thicket National Preserve
Fire Ecology Annual Report
Calendar Year 2005**

Summary

Deanna Boensch, Fire Ecologist

It was the best times and it was the worst of times for Big Thicket's 2005 fire effects season. Throughout the year we completed training, attended meetings, finished plot work, and supported both prescribed and wildfire operations. Then came the dark and stormy night of September 24, when Rita, the category 3 hurricane, passed directly over the preserve leaving a disaster area in her wake. In spite of Rita's devastating aftermath, we remain optimistic for the 2006 season and look forward to assessing the damage to the plots and reducing our fuel loads with fire. Our main focus for 2006 will be to complete a post-hurricane assessment of mortality on every over-story tree in our plots and reading fuels transects to track increased fuel loadings.

In January 2005, Fulton Jeansonne accepted the position of Fire Management officer for Big Thicket National Preserve, appointing Deanna (Fusco) Boensch, Lead Fire Effects Monitor, acting Fire Ecologist, which she held for the entire calendar year. Without a fire ecologist, data analysis was not completed for 2005. In addition, the Lead Fire Effects monitor decided to enroll in graduate school to analyze the fire effects data for her thesis project. This project will be ongoing until graduation in May 2007. Finally, on January 9, 2006, Deanna Boensch became the Fire Ecologist for Big Thicket National Preserve. In addition to all of these changes in personnel, the fire effects monitors completed all of the plots for 2005, supported prescribed and wildfire operations, and worked on the Texas Trailing Phlox reintroduction project.

After hurricane Rita, we spent the remainder of the year on emergency fuels projects and conducted 2 prescribed burns in our urban-wildland interface units. We have yet to visit most of the plots from after the hurricane; however, I am anticipating spending more time in our plots than previous years due to blowdown and missing plot markers. I am very interested in mortality rates and the increased fuel loading rates. The 2005 wildfire season was very active, due to very low annual rainfall and unseasonably warm temperatures. In addition, we have begun the year 2006 in a severe drought with near record-breaking warm days, causing a fairly active winter fire season. Due to all of the hurricane debris, the next several years are predicted to be very busy with wildfire suppression operations. All in all, 2005 was a very memorable year for the Big Thicket National Preserve fire effects program.

Table 1. Management Objectives and Monitoring Results 2005

Data analysis is not available for calendar year 2005, since fire ecologist position was vacant.

Table 2. Fire Effects Plot Workload 2005

Park	Monitoring Unit	Plot Type	Pre-burn	Immed Post-Burn	Post Burn (1yr&2yr)	Control	Total Plots
Big Thicket National Preserve	Upland Pine	RICE			4	1	5
	Upper Pine/Oak	RICE			3	1	4
	Midslope Pine/Oak	RICE			1		1
	Lower Oak/Pine	RICE			1	1	2
	Wetland Pine Savanna	RICE	1		1		2
	Sandhill	RICE			3		3
	Wildland/Urban Interface	RICE		1	1		2
	Total Plots		1	1	14	3	19

Note: BITH FEM Plots were established by Rice University. Each plot consists of five 10m by 10m subplots.

Table 3. Fire Ecology Staffing

MONITOR	Starting Date	Ending Date	# of Pay Periods	Training and Development
Deanna Boensch Lead Monitor & Acting Fire Ecologist	1/1/05	12/31/05	26	Attended IMR FMO Conference, Intro to Fire Effects Rx 310, HazCom, Fire Regime Condition Class Version 1.0, PEPC, Stats/FEAT Workshop, Completed On-line Stastics Course, HCRM (T) Assignment, S214 Engine Academy and ENOP Taskbook initiated, Completed FFT1 taskbook
Annette Sparks FEMO Seasonal	4/18/05	10/07/05	12.5	S130/190, Hurricane Katrina Shelter Support Detail
Josh Bardwell FEMO Seasonal	5/16/05	8/26/05	7.5	Rx Burn and Wildfire Experience
Somereet Nijjer Intermittent FEMO Seasonal	5/17/05	9/13/05	13 days	Vegetation Identification, Plot Work, Data Sorting

Table 4. Acting Fire Ecologist/Lead Fire Effects Monitor Accomplishments/Focus Area

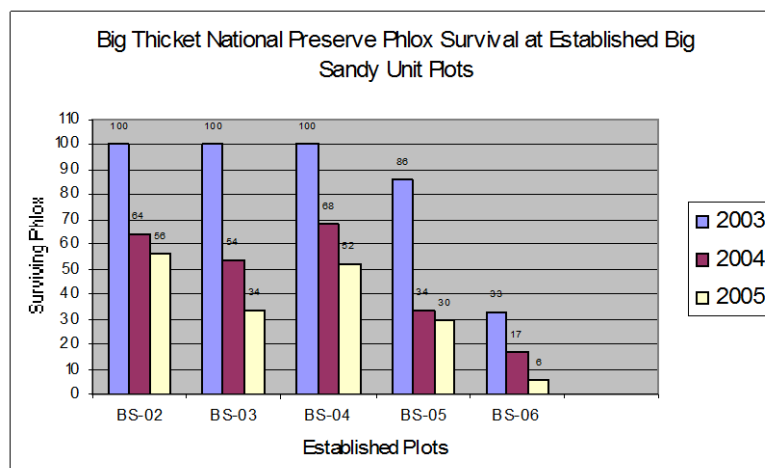
Category	Percent Time	Accomplishments/Focus Areas
Planning	5%	• Worked on Post-Hurricane assessments of fuels • Planned workload and plot reading schedule •
Presentations	<5%	• Participated in Fire Awareness presentations. • Provided information to the public about fire management. •
NPS Meetings/ task groups	10%	• Intermountain Region Fire Management Officer Meeting • All Employee and Resource Management Meetings • FEAT/STATS Fire Ecology Workshop • Southern Pine Beetle Taskforce Meeting • Phlox Reintroduction Taskforce Meeting • Big Thicket Science Conference Meetings
Interagency work	5%	• Texas Trailing Phlox reintroduction project • FPA Weighting Factors workshop
Fire Assignments	25%	• 1 shift with USFWS helping with a Rx Burn • 5 shifts with BIBE as a FEMO for an Rx Burn • 12 shifts as FEMO and squad boss with BITH Rx Burns • 2 shifts with TNC assisting with Rx Burns • 14 day assignment to LAME as HECM (t) • 20 operational shifts for BITH severity and helping assist fight local wildfires
Research	0	
Data entry	5%	Entered Fire Effects data, quality checked data, and saved data.
Data Conversion	<5%	No conversion needed, however we did complete an extensive overstory tree data quality check
Data analysis	0	Did not complete any data analysis
Supervision/Admin	15%	• Supervised Fire Effects Crew • Completed Fire Effects Plot work • Helped hire and orient new employees • Travel and time paperwork
Training	15%	• Rx 310 • Completed an on-line introduction to Statistics Course • PEPCC, FRCC, and Access Online Training • Haz-com training • S-214 Engine Operator Academy • Complete a 6 credit hour semester of graduate courses at Stephen F Austin State University- Biometrics & Ecological Concepts • Firefighter refresher

**Table 5. Fire Effects Crew Accomplishments
(Lead FEMO time is listed above)**

Category	Percent Time	Notes
FMH plots	35%	
WUI plots	5%	Read plots in our Hickory Creek WUI units
CBI plots	0	No CBI plots exist on the preserve
Other plot work	5%	Helped monitor endangered Texas Trailing Phlox plants
Fire Assignments	15%	One seasonal completed a 14 day assignment for Hurricane Katrina Shelter Support. One seasonal traveled to TX FWS refuge for several days for wildfire assistance.
Fuels work	10%	Two crew members assisted when needed to help prep burn units
Data entry	25%	Completed data entry of all plot data for 2005
Data conversion	0	No FMH data exists for the preserve, therefore no conversion was needed.
Data analysis	0	
Supervision/Admin	0	Lead monitor also served as acting fire ecologist; therefore supervision time is listed under previous chart.
Training	5%	One crew member attended S130/190 and completed the pack test.
Miscellaneous	0	

Optional. Attach additional material not already covered: Describe in narrative form alternative monitoring activities, unique solutions to problems, and challenges facing monitoring program. Include any collaboration with natural resource managers, other federal agencies, or research institutions. Provide graphics and/or tables of data analysis results presentations, photographs of monitoring and fire activities.

One of the most important resource management projects the fire ecologist has been involved in is the reintroduction project of the endangered Texas Trailing Phlox. I am currently serving on a inter-agency work group to collaborate efforts on inventorying, monitoring, and researching the phlox. This is going to be a long term effort, since very little is known about the life history of the phlox, and very little surveys have been competed search for its presence. Furthermore, the plots of reintroduced plants in 2003, have been in steady decline. Due to these results in mortality (see chart below), researchers from Texas A&M are currently responsible for the new reintroduction efforts, and so far have had good survivorship.



The Big Thicket Fire Effects program needs to be refocused. One of the most important missing parts of the program is the need for herbaceous vegetation data. Protocol will need to be established, based on what we intend to know about the vegetation. Furthermore, the importance of the control plots needs to be addressed, since the Fire Management Office does not feel a need to keep these areas from burning, if they are not useful to the program. Currently the decision is going to be withheld until the data analysis is completed from my masters project. Finally, there are changes to plot protocol that need to be assessed, such as the need to keep delineating the brush species to three different size classes. Most importantly, better objectives need to be set for the vegetation types and the burn units.

Optional question for the fire ecologist. Over the next 6 to 12 months what do you anticipate to be your primary areas of focus? Provide a rough break out of how much time you anticipate to spend in these areas and a short description of what you will be doing.

The next four months I will be busy with attending classes and writing my research proposal for my thesis project, and then working on my research in the fall. These activities will take up roughly 35% of my time. I will also be busy training the new lead monitor and working with him/her in the field for most of the spring and summer, estimating 40% of my time. The remaining 25% of my time I hope to dedicate to furthering my fire qualifications, participating in Rx burns and working on wildfire assignments, in particular getting signed off as engine operator and helicopter crew member.

Hickory Creek Rx w/ plot marker in background



Longleaf seedlings after Rx Fire in Hickory Creek Unit



Rx burn in Turkey Creek unit following Hurricane Rita



Wildfire in pine plantation July 5, 2005.

