



**National Park Service
Fire Ecology Annual Report
Calendar Year 2007
Southern Plains Fire Group
Lake Meredith National Recreation Area**

Summary

The 2007 season was an exciting and hectic time for the young fire effects program at Lake Meredith NRA and the Southern Plains Fire Group. A Lead Fire Effects position was hired for the 2006 calendar year for the then brand new fire effects program. This Lead, however, went on to bigger and better things as she left Lake Meredith NRA in May 2007. This left the remaining fire effects seasonal, Briana Potts, to take over as the Acting Lead fire effects for the remainder of the fiscal year. With the help of Richard Gatewood, the Chihuahuan Desert Fire Ecologist, and many other advisors, the new Acting Lead was able to effectively carry out the Lead fire effects duties and role.

Before the previous Lead left in May, 2007, we hired two SCA interns as crewmembers for the field season to complete the fire effects crew. The SCA interns were hired to work the months of May, June, and July. In this short field season, the fire effects crew was able to travel to all of the Southern Plains Fire Group (SPFG) satellite parks which include: Chickasaw National Recreation Area and Washita Battlefields National Historic Site in Oklahoma, Bent's Old Fort National Historic Site and Sand Creek Massacre National Historic Site in Colorado, and Capulin Volcano National Monument in New Mexico.

The crew installed and/or re-read fire effects monitoring plots in all of the SPFG parks except Washita Battlefields NHS and Sand Creek Massacre NHS. We received an excessive amount of rain in the Texas Panhandle and Western Oklahoma this season which caused delays and cancellations of scheduled monitoring trips. Washita ended up being passed by this year for monitoring purposes. We were, however, able to help out with their new visitor's center dedication ceremony in late spring.

The crew did not do any monitoring work at Sand Creek Massacre NHS because this brand new park is not yet ready to use fire as an ecological tool. The crew was able to visit Sand Creek

Massacre NHS to go on a “field trip” of Sand Creek and similar surrounding areas and hear a presentation on the ecology of the creek beds and floodplains. This will aid in determining if fire should be used as an ecological tool at the park. The Southern Plains Fire Group was also honored to be invited to be involved with the actual park dedication in late spring. It was amazing to be a part of the opening of a brand new National Park.

While the SCA interns were here, the crew also undertook the big job of transforming an old engine bay into the new fire effects office. Currently the whole crew has to work out of one tiny little office- not very practical. One intern has previously worked construction which was incredibly helpful. The Acting Lead purchased all of the needed supplies and in the crew’s free time began building the new office. The garage door had to be removed, and in its place, a wall with one window, and one door with a window in it. Interior walls had to be put up; electrical work had to be done; and the office had to be furnished. The office is not entirely finished, but once it is, the office will be wonderful.

The increased amount of rain this year led to a very inactive fire season here at Lake Meredith NRA. We were only able to accomplish a few of our prescribed fire projects due to the increased moisture. The Acting Lead fire effects was able to attend a training in Lufkin, TX at the Texas Fire Training Academy to take S-290. This opened her FEMO (Fire Effects Monitoring) Taskbook. She was also able to work as a FEMO trainee on one prescribed fire here at Lake Meredith NRA

Once the SCA interns left at the end of July, the Acting Lead refocused her efforts. The FMO wanted to consolidate all of the burn plans and use a more programmatic approach to organizing the SPFG prescribed burn program. Previously, the procedure was to create a separate burn plan for each burn unit we intended to burn that fiscal year. This is not practical, however, because there are so many burn units. The goal is to create one-three burn plans for each park that will encompass the entire park. The new burn plans will be in the Interagency Burn Plan Template. The Acting Lead’s job was to create these burn plans. There will now be 3 burn plans for Lake Meredith NRA (previously 26+), 3 burn plans for Chickasaw NRA, and 1 burn plan for each of the remaining parks - Washita Battlefields NRA, Bent’s Old Fort NHS, Sand Creek Massacre NHS, and Capulin Volcano NM.

At the end of August, the Acting Lead was able to do a two-week detail with the Bandalier Fire Use Module at the Fool’s Creek and Skyland Fires. It was good to get out of the office for awhile.

Overall, this year has been a successful and productive year for the fire effects program at Lake Meredith NRA. We have learned a lot, and still have a lot to learn.

Table 1. Fire Effects Plot Workload 2007

Park	Monitoring Unit	Type of Plot (FMH, photo point, other)	Pre-burn	Immed. Post	Postburn (1-20 yrs)	Total Plots
Lake Meredith and Alibates Flint Quarries	Low Density Mesquite	FMH brush plot	4	0	4	8
	High Density Mesquite	FMH brush plot				
Chickasaw	Post Oak	Rapid assessment, radial plot (pilot sampling)	4	0	1	5
	Eastern Red Cedar	FMH forest plot FMH modified grass plot				
Bents Old Fort	Riparian, Cottonwood	FMH modified forest plot	0	0	5	5
Sand Creek Massacre	No plot work in 2007; Still under assessment whether fire will be used as a management tool at this time.	N/A	N/A	N/A	N/A	N/A
Washita Battlefield	No plot work in 2007; Rained out during the planned visits, then ran out of time.	N/A	N/A	N/A	N/A	N/A
Capulin Volcano	One seed Juniper	FMH forest plot	2	0	5	7
	Pinyon Juniper	Rapid assessment radial plot (pilot sampling)				
Total			10	0	15	25

Table 2. Fire Ecology Staffing 2007

Monitor	Starting Date	Ending Date	# of Pay Periods	Training and Development
Richard Gatewood (Fire Ecologist-BIBE)	01/06	Present	26	
Becky Seifert-Smith (Lead-LAMR)	1/22/06	5/15/07	17	
Briana Potts (Seasonal/Acting Lead-LAMR)	04/16/07	Present	12	Refresher, S-290
Dustin Stewart (SCA Intern-LAMR)	05/08/07	07/27/07	6	Arduous Pack Test
Laura Eskridge (SCA Intern- LAMR)	05/08/07	07/27/07	6	S-130/S-190, Arduous Pack Test

Table 3. Management Objectives and Monitoring Results 2006

We do not have any monitoring results completed at this time for the Southern Plains Fire Cluster. Hopefully by next year's report, we will have some actual results to show.

Fire effects crew accomplishments and area of focus. –See Time Sheets

Category	Percent Time	Percent Time (SCA Interns)	Notes
FMH plots	11%	33%	This includes all prep time, plant identification.
FMH Travel	9%	9%	
Fire Assignments	20%	0%	Bandalier Fire Use Module Detail-Fools Creek Fire, MT
Fuels Project work	13%	0%	Includes working on and preparing burn plans for FY2008
Data entry	2%	12%	
Data conversion	4%	0%	FEAT has been installed on both computers and we are in the process of converting FMH to FEAT. We were misinformed about all of BAND data having been already converted to FEAT. BAND data still needs to be converted.
Data analysis	0%	0%	
Supervision/Admin	11%	0%	Travel, payroll, training paperwork, all other misc. office work that is not data entry or FMH.
Training	7%	12%	See above, Table 2 for specific classes
Miscellaneous	16%	17%	Includes PT and all misc. work such as preparing/constructing new Fire Effects office, and participating in events like the WABA visitor center dedication and the SAND dedication.

Optional

The upcoming year should be a busy one for the Southern Plains Fire Effects crew. Increased knowledge of the different ecosystems and the ability to work with the fire ecologist will immensely improve the programs functioning ability and effectiveness. The continued support and enthusiasm from the fire management team will help propel the Southern Plains Fire Effects crew into an efficient and involved crew which will help create an excellent, scientifically based fire program.

Alternate Plot Protocols

At Lake Meredith the typical FMH shrub plot is being evolved into a plot that includes browns transects and clip plots. The new protocols were designed by Laura Trader, Bandelier Fire Ecologist, after discussions with Mike Davin (former FMO) concerning the ability to monitor the objectives more accurately. This was done before the Lead started at Lake Meredith and she fully supports Laura's work and has implemented it on the one FMH plot in Lake Meredith that has been re-read. These new protocols include adding four browns transects at the 5, 10, 25 and 29 meter mark on the 30 meter vegetation transect. Four 0.25 m² clip plots are being implemented at each of the four corners of the 10m wide shrub belt (5 meters on each side of the vegetation transect). The initial clip plots will be located at the 0 and 30 meter corners of the shrub belt, with the post reading moving 1 meter towards the center of the transect, therefore the plots will be placed at the 1 and 29 meter mark, and so on, each time the plot is re-read.

Also at Lake Meredith, Chickasaw, and other forested areas of the parks the Lead will continue to implement a rapid assessment radial plot. This is a 20 meter radius plot where all of the over story trees are tagged and mapped. Pole size trees will be recorded in either a 10 meter radius or 5 meter radius within the plot. Heights of all pole and overstory trees will be collected and a picture is taken from the center of the plot using a fish eye lens. This picture is then put into HemiView Software, a computer program that should help identify canopy density without having to take all of the tedious, time consuming measurements required to otherwise get these numbers. Seedlings and shrubs are recorded in either a 5 meter or 10 meter radius plot and three browns transects are recorded at 0°, 120° and 240° azimuths from the center of the plot. One picture is taken down each browns transect to capture plot photos. Vegetation is done on a random azimuth from the plot center, 50 meter transect. A one m² frame is placed at the 10, 20, 30, 40 and 50 meter marks of the transect. Within each plot species are clipped and placed into bags according to individual species, weighed, and therefore giving us tons per acre of each species present. These techniques are still being developed to help us find the most efficient, repeatable protocols that will work in various fuel types throughout the cluster of parks.

A person wearing a dark shirt and pants is standing on a green A-frame ladder, working on the exterior of a building. The building has a light-colored, textured wall and a white-framed window. The person appears to be installing or repairing something near the window. The building has a corrugated metal roof and a dark doorway. The ground is paved, and there are some wooden planks and debris nearby.



Laura Eskridge (SCA intern),
Dustin Stewart (SCA intern),
Briana Potts (Acting Lead/Seasonal).

