



Glacier National Park Fire Ecology Annual Report Calendar Year 2005

Summary

The Glacier Fire Effects Crew started the 2005 field season by re-measuring six Long Term Monitoring plots in the Moose Fire (2001). The crew traveled to Big Hole National Battlefield for one week and completed re-reads of six FMH brush plots in the Sagebrush/Grassland monitoring type.



Big Hole Battlefield

In addition, the crew repeated six photo point plots following mechanical treatment last summer at park headquarters and collected fuel moisture samples bimonthly throughout the season starting in May.

We continued to monitor exotic weeds in the North Fork Grasslands monitoring unit in the Big Prairie burn units in the park's North Fork area this summer. This project was first started in 2002 to monitor Butter-and-Eggs (*Linaria vulgaris*) after it was noted that the thirteen FMH plots failed to capture its presence. Eleven Daubenmire transects were installed this summer and nine transects were re-read. Several small patches of Sulphur Cinquefoil (*Potentilla recta*) were discovered in one of the burn units. Four additional transects were installed to track this exotic species.



recta



vulgaris

The field season was concluded with a prescribed fire at Big Prairie at the end of September. Unfortunately, a wet month hindered the fall burn window and only one prescribed fire unit was burned. This unit contained three Daubenmire and four FMH plots. Immediate Post reads were completed for these plots the following week. Preliminary observations suggest that objectives were met. The Fire Effects Crew filled positions including: Public Information/Safety (Divoky), Ignition Specialist (McClellan), FEMO Trainee (Lang), and Ignition Crewmember (Fisher).

The FMH to FEAT data conversion was completed this spring. Data from GLAC, BIHO, and NEPE converted with few problems, but involved many long hours of intensive preparation and data checking. We were able to setup and utilize FEAT for the entry of data from our Daubenmire exotic weeds plots. This has enabled us to keep all of our data for our prescribed burn units in one database and has worked out well.

Fire suppression activity was relatively slow in Glacier this year, giving the crew a chance to get out and experience some new territory. In July, Huma Alvarado, Ed Hentcelt, and Mike McClellan, along with the park's three person fire crew and one person from the neighboring Flathead NF traveled to Bryce Canyon NP for the Swamp WFU. This fire proved to be short lived and they were soon reassigned to the North Rim of the Grand Canyon for emergency preparedness. During their stay, they assisted with holding and ignition on the Atoko Prescribed Fire and worked on the Thompson Fuels Project.

A detailer program arranged with the nearby Lewis and Clark Fire Use Module provided an excellent opportunity for several crew members to contribute their skills as well as learn some new ones. Laurie Fisher went to a WFU on the Rio Grande NF, Hentcelt went to a Fire Use in the Selway/Bitterroot Wilderness on the Bitterroot NF, and Alvarado accompanied the module on the Hazard Lake WFU on the Lewis and Clark Forest for two assignments.

The crew received valuable training opportunities this season from courses offered through the local NW Montana Zone and Northern Rockies Training Center in Missoula. The crew taught and assisted with annual fireline refreshers, while McClellan instructed units at Basic Fire School and S-212.

The crew performed maintenance and repair of the Park's three NFDRS RAWS throughout the summer. Last winter the crew fabricated and tested winter tipping buckets that use an antifreeze/alcohol filled reservoir to melt snowfall. These were installed on the Polebridge and Fielding stations this year and will provide valuable precipitation data year round.

Due to the absence of large fires in the park the last two seasons, the crew (most of us) were able to avoid CBI plot work for the first time in four years. Carl Key (USGS Glacier Field Station) and Nate Benson were able to fund Scott Lang for an extra month to organize and check the data from other parks and units.

Table 2. Fire Effects Plot Workload 2005

Park	Monitoring Unit	Type of Plot (FMH, photo point, other)	Pre-burn	Immed. Post	Postburn (1-20 yrs)	Total Plots
Glacier	NF Grassland	FMH Forest plot		4		13
Glacier	NF Grassland	Daubenmire	15	3	9	24
Glacier	Moose Fire	Long Term Monitoring			6	6
Glacier	West Glacier Fuel Reduction	Photo Point			6	6
Big Hole	Sagebrush/Grassland	FMH Brush plot			6	6

Total			15	7	27	55
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Table 3. Fire Ecology Staffing 2005

Monitor	Starting Date	Ending Date	# of Pay Periods	Training and Development
Dennis Divoky	1/1/05	12/31/05	26	FUM2 Trainee (2 assignments) PCHA, FPA-PM,
Mike McClellan	3/06/05	12/10/05	20	S-491, Ft. Collins Stats. Workshop
Scott Lang	4/17/05	11/26/05	16	S-491, S-490, Completed FEMO and HECM Taskbooks
Laurie Fisher	5/29/05	9/17/05	8	S-212
Ed Hentcelt	5/29/05	9/17/05	8	S-131
Huma Alvarado	5/29/05	10/01/05	9	S-130, S-190, S-217, S-212

Table 4. Fire Ecologist Accomplishments/Focus Area

Category	Percent Time	Accomplishments/Focus Areas
Planning	3	• FMP annual review • FPA planning ; 6 meetings and 12+ conference calls
Presentations and preparation	10	• GNP Interpretation Staff Training – 4 hours of Fire Ecology • GNP Concessions Advanced Training – 1 hour of Fire Ecology • Taught the last day of Basic Fire School • Oregon State University Park Management Course; one presentation and one field day • Glacier Institute Class – Two days, one presentation and one field day • Assisted Interpretation with two ½ day school group fire ecology hikes
NPS Meetings/ task groups	15	• Crown of the Continent Learning Center/National Center for Landscape Fire Analysis/GNP Fire Atlas Geodatabase planning; six meetings • NRCG Fire Use Committee – NPS representative • GNP Safety Committee Chairman – monthly meetings • Ranger Warden Meeting, Waterton Lakes NP • GNP Division Meetings; two • FNF/GNP Fire Management Preseason Meeting • GNP Interpretation Program Review
Interagency work	15	• NWS Fire Weather Audit - Missoula, MT 1/10/05 • FPA meetings; 8-10, Missoula and Great Falls • Wilderness Management Conference- Lubrecht Forest • Montana/Idaho Airshed Meeting – Missoula, MT, 2/2/05 • Helped Coordinate with Lewis and Clark FUM assignments
Fire Assignments	10	• Duty Officer for four weeks throughout the summer • FUM2 Trainee on two park fires • Big Prairie Prescribed Fire in GNP; three days burning and post monitoring
Research	<3	• Reviewed two JFSP proposals
Data entry	0	• Estimated amount of time spent entering data from paper to PC
Data Conversion	<3	• Assisted lead Monitor and some checking
Data analysis	<5	• Familiarization with FEAT Summary Builder
Supervision/Admin	10	• Hiring, supervision, travel, payroll. Training; ethics, computer security supervisory, Smart Card, driver safety,
Training	15	• PCHA and FPA-PM; 24 and 32 hours • NPS Structural Fire Training; two weeks in May • Zone IA Aerial Observation Course; 16 hours, 3/15+16/05 • Taught one 8 hr Firefighter Refresher • Fort Collins FEAT/Stats Training

		• Monthly Structural Fire Training • WFU Training, 6 hours • Taught GPS skills to Wilderness Rangers and Fire Staff • WFSa Training at FNF Supervisors Office, 8hrs • FEIS Field Training; 1.5 days
Miscellaneous		• Assisting GNP Education Specialist in designing a GLOBE curriculum that will monitor post fire effects • Attended GNP Science Conference • Attended a Whitebark Pine Ecosystem Foundation symposium • Assisted U of M Grad Student with thesis proposal • GIS Map products for fire management and other divisions • Reviewed and commented on a chapter review for author Stephen Arno's book; <u>Mimicking Nature's Fire: Restoring Fire-Prone Forests in the West</u> • Reviewed and commented on the NPS publication <u>A Test of Adversity and Strength</u>, Chapters 2 and 3.

Table 6. Fire Effect Crew Accomplishments

Category	Percent Time	Notes
FMH plots	10%	• Crew traveled to Big Hole for one week to re-read plots. • Immediate Post reads of plots in Glacier following prescribed burn in Big Prairie
WUI plots	0	
CBI plots	0	
Other plot work	20%	• Daubenmire – Exotic plant monitoring in prescribed fire units (<i>Linaria vulgaris</i> and <i>Potentilla recta</i>). • Long Term Monitoring – Completed re-reads of plots from the 2001 Moose fire. • Photo Point – Re-reads of plots in West Glacier fuel reduction project.
Fire Assignments	15%	• Alvarado, Hentzelt, and McClellan went on a two week fire assignment, which included a WFU at BRCA, and a prescribed fire and emergency preparedness at GRCA. • Fisher and Hentzelt each did a two week WFU assignment with the Lewis and Clark Fire Use Module. Alvarado went out for three weeks with the Module on a WFU.
Fuels Project work	<5%	• Crew spent two days prepping for the Big Prairie prescribed fire followed by one day of ignition. • Crew worked four days on the Thompson Fuels Reduction Project while on a fire assignment at the N. Rim of Grand Canyon.
Data entry	20%	• Completed entry of all data from 2005 field season. • Utilized FEAT to enter data from Daubenmire plots.
Data conversion	10%	• McClellan converted data for Glacier, Big Hole and Nez Perce. • Fire effects crew performed thorough error checking of data throughout season.
Data analysis	0	
Supervision/Admin	10%	• McClellan hired three seasonal monitors. • Lang supervised seasonal employees.
Training	5%	• McClellan instructed units in Basic Fire School (S-130/190) and S-212. • Fire effects crew attended and assisted with annual fireline refreshers. • Crew received training including: S-130/190, S-131, S-212, S-217, S-490, and S-491.
Miscellaneous	15%	• Collected fuel moisture samples every two weeks throughout season. • Performed maintenance and repair of the park's three NFDRS RAWs. • Checked and entered fire history data in the park's Fire Atlas geodatabase. Digitized fire perimeters from old maps for inclusion into GIS. • Assisted USGS WRD with Coal Creek water quality study.

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.

- Perform preliminary analysis of Ponderosa pine data - 10-15%.
- Write the park's Fire Monitoring Plan - 20%.
- Help Resource Management write desired future conditions for the park? 3-5-10%?
- Assist with FPA. <5%
- Assist Interpretation with writing the parks Education Plan - <3%. Attend meetings and provide input.
- Assist Education Specialist with setting up a GLOBE fire monitoring program for the park that can utilize neighboring schools - 5%. Write protocols, locate area, train Ed. Spec.
- Work on Glacier Fire History Geodatabase – 5%.