

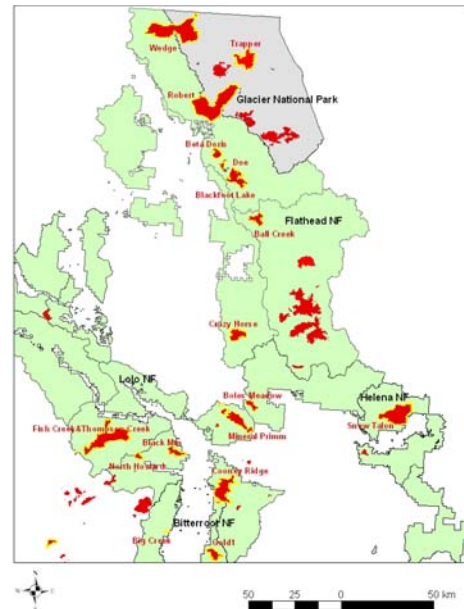
Annual Progress Report

Project Title: *Understanding the influence of local and landscape conditions on the occurrence and abundance of Black-backed Woodpeckers in burned forest patches*
JFSP Project No. 04-2-1-106

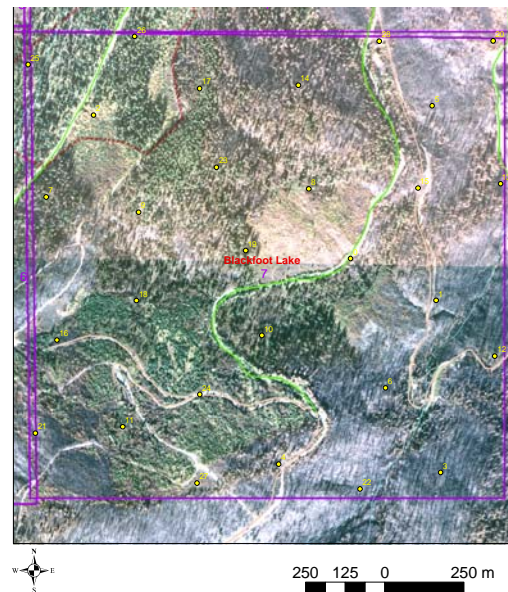
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1. Selection of sample sites

To assure coverage across a variety of pre-fire forest conditions, three categories of fire severity, and two categories of post-fire activity (salvage or no salvage), we planned our sampling effort by using the available GIS data layers developed before and after the fires of 2003 to position 2.25-ha survey blocks in each of 15 fires (outlined in yellow, Figure to the right).



We then positioned survey points randomly within each block, with the constraint that no point fell closer than 250 m from another point (see Figure to the right for an example target plot within the Blackfoot Lake fire). For each target site, we attempted to include a mix of relatively large (> 23-cm mean dbh) and small (< 23-cm mean dbh) trees, relatively high and low tree densities for each size class, and some post-fire salvage logging activity (if postfire logging had occurred subsequent to the fire).



2. Field logistics: equipment, vehicles, permission, hiring, and training

We advertised during the winter of 2005-2006 to hire several experienced point counters, and we ended up employing 7 technicians with good bird identification skills. Two weeks of field training began in early May, and the crews collected data from the latter part of May through mid-July 2006 (see appended field methods for 2006).

The logistics involved with advertising, hiring, and training a field crew, acquiring permission from all landowners, coordination with logging operations, acquiring access through locked gates, participation in defensive driver's training, participation in field safety courses required by the NPS, and daily check-ins. The level of cooperation needed to conduct a study involving multiple land owners, forests and districts is, as we noted last year, extreme, and logistic support was absolutely necessary to get needed survey data in a timely fashion. We were able to accomplish most of our research goals for the year, but not without considerable dedication on the part of the field coordinator.

3. Sampling effort obtained

We conducted standard point-count surveys at more than 900 points that were located through the stratified random sapling scheme that was developed using GIS data layers. About 300 points were visited twice to enable us to estimate probabilities of detection. The table below provides a breakdown of the distribution of sampling effort by management agency:

Agency	Fire Name	Total Point Count/ Playback stations	Total points revisited
Bitterroot NF	Big Creek	17	0
Flathead NF	Ball Creek	23	0
	Beta Doris	63	14
	Blackfoot Lake	62	14
	Crazy Horse	47	30
Flathead NF & Glacier NP	Robert	144	105
	Wedge Canyon	158	46
Glacier NP	Trapper Creek	16	0
Helena NF	Snow Talon	33	0
Lolo NF	Black Mountain	104	39
	Boles Meadow	60	28
	Cooney Ridge	65	10
	N. Howard Creek	12	1
	Mineral Primm	56	17
	Thompson Creek	51	2
Total		911	306

All fire severities were sampled in each of 15 separate fires, so the level of true replication attained in this study is noteworthy. We set up six survey plots for intensive nest study, but the total number of black-backed woodpecker nests sampled (< 10 nests) was much too sparse to justify continuing the work needed to survey these or similar plots in the future. Instead, we will capitalize on the hundreds of nests that we and another researcher (Jenny Woolf) have discovered during the past two years to characterize surrounding conditions retrospectively. By comparing those conditions with conditions surrounding randomly selected points from within areas searched, we will be able to determine the nature of sites selected by the woodpecker much more effectively than we would have been able to do through an analysis of the conditions surrounding the relatively few nests that we found on our designated nest plots.

Unfortunately, we were unable to obtain as many samples as planned from within a number of fires that were slated for salvage logging because the roads washed out at three sites and were closed for part of the season. We still managed to sample about 200 points in salvage logged areas within 8 different fires.

4. Demonstration trips

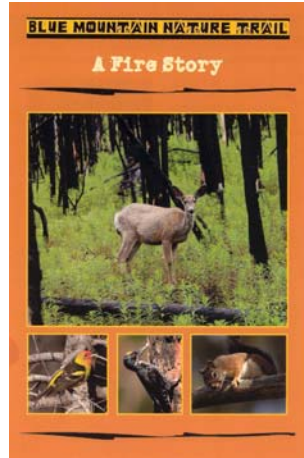
- 3 October 2005—field trip with Lolo and Bitterroot National Forest personnel to explain management implications of our JFSP-supported fire research.
- 24-25 May 2006—Sussex School field trip on fire ecology in Glacier National Park.
- 16 June 2006—Field demonstration for USFS biologists, FMOs, and line officers at Black Mountain, MT.
- 17 June 2006—Field trip to Black Mountain for public, in collaboration with the Montana Natural History Center and USFS.

5. Workshops, presentations

- 22 February 2006—presented paper (Kristina Smucker, speaker) “Results from passive and broadcast surveys for Black-backed and Three-toed woodpeckers” at the Wildlife Society Montana Chapter annual meetings, 21-24 February 2006, Helena, MT.
- 23 February 2006—speaker on telephone press conference call regarding Medford field hearings surrounding HR4200.
- 7-10 March 2006—presented testimony at Congressman Tom Udall’s science forum, Washington, D.C.
- 14 March 2006—speaker in press conference organized by Congressman Tom Udall (NM).
- 18-19 July 2006—invited panelist on discussion of litigation surrounding black-backed woodpeckers at the USFS Northern Region Wildlife Council meeting, Missoula, MT.

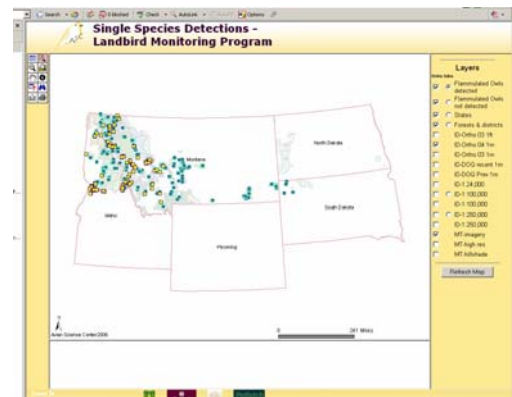
6. Hard-copy deliverables

Sue Reel completed writing and publishing interpretive material for an existing nature trail on the Lolo National Forest that burned in 2003 (see photo of interpretive sign; brochure is available on request). Sallie Hejl made progress on the creation of a new interpretive trail in Glacier National Park (see photo of trail creation in progress, below right).



7. Web development

We are making good progress on developing an interactive ARC-IMS page (see below), and we hope to have the black-backed woodpecker “probability of occurrence” models up and visible by early next year. We are using the Avian Science Center web page (http://avianscience.dbs.umt.edu/research_avianfire.htm) to highlight aspects of our work as well (see figure to the right).



8. Press/media coverage

21 August 2005—Helena Independent Republic article about our fire research (see link)

http://www.helenair.com/articles/2005/08/21/sunday/c01082105_03.txt

29 August 2005—Daily Interlake article about talk at the science and history conference in Glacier NP <http://www.dailyinterlake.com/articles/2005/08/29/news/news02.txt>

9. Publications

Hutto, R. L. 2006. Toward meaningful snag-management guidelines for postfire salvage logging in North American conifer forests. *Conservation Biology* 20:984-993.

10. Summary

We made amazing progress in the face of the logistic challenges associated with a field project as geographically extensive as this one is. This is going to be a very useful study, and we anticipate that results will yield important implications for fire management.