

Special Technology Development Program Progress Report

PROJECT NUMBER: R6-2000-2

PROJECT TITLE: Predicting Insect-Caused Tree Mortality Following Prescribed Burning in Ponderosa Pine Communities of Eastern Oregon.

PROJECT STATUS: Continuing - continuing funding is being requested

EXPECTED PROJECT DURATION: 5 years

ORIGINAL EXPECTED COMPLETION DATE OF THE PROJECT: FY 04

EXPECTED COMPLETION DATE OF THE PROJECT:

SUBJECT: Insect Technical Committee, insect/fire interaction, bark beetles

STATUS OF SUBJECT SPECIES: native

PROJECT OBJECTIVES:

- 1) Develop management guidelines which predict tree mortality due to insects after prescribed burning, based on stand and tree characteristics, fire season and severity, and resident insect levels.
- 2) Identify measures to minimize fire injuries that are most likely to lead to subsequent insect mortality.
- 3) Collect data which will lead to the development of a probability model of post-fire insect caused mortality that will be compatible with the Fire and Fuels Extension (FFE) of the Forest Vegetation Simulator (FVS) model.

BRIEF DESCRIPTION OF THE PROJECT:

FY00: The primary activities the first year were to select six pairs of units designated for fall 2000 and spring 2001 underburning and to take pre-fire tree and beetle data on them. We were successful in selecting and collecting data for four pairs of burn units (2 pairs on the Blue Mountains RD, and 2 pairs on the Emigrant Creek RD). Two pairs of units on the Blue Mts. RD that we had scheduled to use will not be burned this fall because the planning on them has not been completed as expected.

FY01: Fall 2000 burns were accomplished on the 2 pairs of units on the Blue Mt. RD but were not conducted on the Emigrant Ck. RD units due to inadequate burning conditions. A spring 2001 burn was accomplished on one of the Blue Mt. RD units, thus completing the treatments on this pair. The 2nd spring unit on this RD was not burned due to public complaints about air quality, which shut down prescribed burning for the season. Since the treatments on this pair were not completed within the necessary timeframe, this replicate was dropped from the project. Due to continuing problems with the planning process, the additional 2 pairs of units on the Blue Mts. RD were also excluded from the project. This spring, three pairs of units were located to complete the total of six replicates for the project. Two pairs are on the Unity RD of the Wallowa-Whitman NF and one pair is on the Emigrant Ck. RD. This summer, post-fire damage data were collected from the pair of plots that was burned; pre-fire tree and beetle data were taken on the 3 newly selected pairs of units; and the 2 pairs that were not burned last fall were resurveyed for beetles. Tommy Gregg, R-6 FID has completed a program that will generate stand tables from our tree data.

Future years: All units are scheduled to be burned in fall 2001 or in spring 2002. Post-fire tree and beetle damage data will be taken on all units and beetle damage will continue to be monitored through 2004.

Locating suitable pairs of units and getting the prescribed burns accomplished according to the time constraints of the study design have been difficult. Some factors such as burning windows cannot be controlled, however, we have learned that it is essential to work with and have the complete cooperation of both silvicultural and fire personnel on the district. Without the commitment of the people responsible for conducting the fires, it is highly unlikely that the burning treatments will be applied in a timely fashion.

CHANGES TO ORIGINAL PROJECT SCOPE OR OBJECTIVES: none

ADDITIONS TO ORIGINAL PROJECT SCOPE OR OBJECTIVES: Two pairs of units scheduled for burning in fall 2001/spring 2002 are located on the Unity RD of the Wallowa-Whitman NF. Though this does not change the number of units being assessed, it does increase cooperation and interest in this project to another eastside Forest. It also widens the breath of the habitat the project covers and thus increases confidence that results will be applicable to eastside ponderosa pine communities in general.

FHP LEAD CONTACT:

<u>Name</u>	<u>Affiliation (Office or Dept.)</u>	<u>Phone, E-mail, Fax</u>
Don Scott	Wallowa-Whitman NF	541-962-6545 dscott@fs.fed.us 541-962-6504

FHP LEAD INVOLVEMENT

<u>Role</u>	<u>Time Commitment</u>
FHP coordination	5 weeks/yr

PRINCIPAL INVESTIGATOR:

<u>Name</u>	<u>Affiliation (Office or Dept.)</u>	<u>Phone, E-mail, Fax</u>
Chris Niwa	PNW Research Station, Corvallis	541-750-7370 cniwa@fs.fed.us 541-750-7329

PRINCIPAL INVESTIGATOR INVOLVEMENT:

<u>Name</u>	<u>Role</u>	<u>Time Commitment</u>
	Project coordination	8 wks/yr

COOPERATORS:

<u>Name</u>	<u>Affiliation (Office or Dept.)</u>	<u>Phone, E-mail, Fax</u>
Bryan Lynch	Blue Mts. RD, Malheur NF	541-575-3330 blynch@fs.fed.us
Mark Loewen	Emigrant Ck. RD, Malheur NF	541-575-3001 541-573-4377 mloewen@fs.fed.us
Gene Mackey	Emigrant Ck. RD, Malheur NF	5410573-4398 541-573-4310 gmackey@fs.fed.us
Ken Higle	Emigrant Ck. RD, Ochocho NF	541-573-4398 541-573-4319 khigle@fs.fed.us
Brett Thomas	Burnt Powder Fire Zone, Unity RD, Wallowa-Whitman NF	541-5783-4398 541-523-1913 bthomas@fs.fed.us
Tommy Gregg	FHP, R-6, Portland	503-808-2996 tgregg@fs.fed.us
Kathy Sheehan	FHP, R-6, Portland	503-808-2469 503-808-2674 ksheehan@fs.fed.us 503-808-2469

COOPERATOR INVOLVEMENT:

<u>Name</u>	<u>Role</u>	<u>Time Commitment</u>
B. Lynch, M. Loewen, B. Thomas	Locate burning units	1 person wk/RD/yr

G. Mackey, K. Higle, B. Thomas	Contribute crews for assessments Collect fuels & fire information Conduct prescribed fires	Assessment crews: 4 person wks/RD/yr
Tommy Gregg	Construct stand tables	2 weeks
Kathy Sheehan	Develop predictive model	2 weeks

PRODUCTS AND DUE DATES:

- 1) The primary product will be burn management guidelines for insects in ponderosa pine stands that are ready for prescribed burning; this will be produced in 2005/6.
- 2) Refined data on insect caused tree mortality following prescribed burning in ponderosa pine systems; produced throughout the project and presented at workshops for entomology, fire and land management users.
- 3) A probability model of post-fire insect-caused tree mortality in ponderosa pine type; will be produced in 2006/7.

STATUS OF PRODUCTS/PRESENTATIONS: No products or presentations are expected at this time.

ACCOMPLISHMENTS TO DATE:

Products: na

Publications: na

Technology Transfer: na

FIRST FISCAL YEAR FUNDED: 2000

FUNDS OBLIGATED FROM BEGINNING OF PROJECT THROUGH CURRENT FISCAL YEAR:

	Item	Requested Funding	Received Funding	Expended Funding
PREVIOUS YEAR FY 2000				
Administration	Salary	19,272	19,272	12,972
	Overhead	4,240	4,240	3,040
	Travel	16,299	16,299	10,799
Procurements	Contracting	0	0	0
	Equipment	5,000	5,000	5,000
	Supplies	2,000	2,000	2,000
YEAR TOTALS		46,811	46,811	33,811

CURRENT YEAR FY 2001			FY01 request + FY00 CO	
Administration	Salary	17,540	23,840	23,840
	Overhead	3,860	5,060	5,060
	Travel	14,400	19,900	19,900
Procurements	Contracting	0	0	0
	Equipment	0	0	0
	Supplies	500	500	500
YEAR TOTALS		36,300	49,300	49,300

FY 2001		Requested FHP STDP Funding	Other Source Funding	Source
Administration	Salary	17,540	18,224	PNW Res Sta
			7,432	3 RD's
	Overhead	3,860	9,112	PNW Res Sta
			1,898	3 RD's
	Travel	14,400	3,498	PNW Res Sta
			1,216	3 RD's
Procurements	Contracting	0	0	
	Equipment	0	0	
	Supplies	500	0	
YEAR TOTALS		36,300	41,380	
PROJECT TOTALS		83,111	82,151	PNW & RD's

FUNDS NOT USED FROM PREVIOUS FISCAL YEARS:

Fiscal Year	STDP Funding Allocated	Funds Obligated	Funds Unused
2000	\$46,811	\$33,811	\$13,000
2001 (+FY00 CO)	\$49,300	\$49,300	0

EXPECTED BUDGET FOR NEXT FISCAL YEAR:

FY 2002	Item	Requested FHP STDP Funding	Other-Source Funding	Source
Administration	Salary	14,326	18,960	PNW Res Sta
			7,726	3 RD's
	Overhead	3,152	9,480	PNW Res Sta
			1,973	3 RD's
	Travel	12,196	2,468	PNW Res Sta
			1,288	3 RD's
Procurements	Contracting	0	0	
	Equipment	0	0	
	Supplies	500	0	
Totals		30,174	41,895	PNW & RD's

DIFFERENCE BETWEEN ORIGINAL AND AMENDED REQUESTS AND JUSTIFICATION: na

STDP FUNDING NEEDED:

Fiscal Year	STDP Funding	Other- Source Funding	Source
2002	30,174	41,895	PNW & RD's
2003	31,634	42,126	PNW & RD's
2004	33,104	43,870	PNW & RD's