

Special Technology Development Program Progress Report

PROJECT NUMBER: R6-2000-03

PROJECT TITLE : Guidelines for managing black-stain root disease in ponderosa pine stands.

PROJECT STATUS: Continuing (funds are being requested for the next fiscal year to continue the project)

EXPECTED PROJECT DURATION (total years for project): 3

EXPECTED COMPLETION DATE OF THE PROJECT (fiscal year): FY 2002

SUBJECT (from original application form): Disease Management (root diseases); Insect Management (bark beetles)

STATUS OF SUBJECT SPECIES (select one by deleting inapplicable option): native

PROJECT OBJECTIVES (from original application form): The goal is to provide the land manager with the tools to accurately determine the distribution of root disease in stands (by means other than root excavation) and thus increase the effectiveness of treatments.

BRIEF DESCRIPTION OF THE PROJECT: The appearance of “lion-tails” in crowns of ponderosa pine has been used as a key indicator for black-stain root disease (BSRD) when surveying both to locate scattered individuals and to determine the extent of infection centers. Examination of a limited number of ponderosa pine root systems in 1996 has called into question the reliability of the lion-tailed symptom. The project will be conducted in eight ponderosa pine stands (total of 466 acres), with BSRD and representative of stands in the southern Blue Mountains. This project will examine randomly selected ponderosa pine with lion-tailed symptoms, and trees near symptomatic trees and randomly selected ponderosa pine with apparently healthy crowns. After collecting basic tree data and samples from the living trees, the trees will be pushed over and their root systems will be cleaned and evaluated for disease, insect activity, and general health. This project will provide the data necessary to develop management guidelines for ponderosa pine stands with BSRD that are ready to be thinned. With the ability to minimize spread and intensification of BSRD, managers will have the tools necessary to make decisions that could prevent or reduce losses and allow management of stands toward desired future conditions.

FY 2000

- 1) Established a grid in all eight stands and recorded plot data on 629 plots.
- 2) Returned to randomly selected plots and tagged, measured, and collected increment cores from 300 trees to be pushed.
- 3) Collected sapwood samples to be evaluated by headspace-gas chromatography. (extra information)
- 4) Measured increment cores to establish radial growth of trees to be pushed.
- 5) Started pushing trees, collecting crown samples, and cleaning and examining root systems.

FY 2001 (projected)

- 1) Complete pushing trees, collecting crown samples, and cleaning and examining root systems.
- 2) Evaluate sapwood samples by headspace-gas chromatography. (extra information)
- 3) Evaluate crown and root samples collected from the pushed trees.

FY 2002 (projected)

- 1) Analyze data and publish results.

Candidly describe what has worked and what hasn't worked in the project... **Although the field work was not completed in FY 2000, we are far enough along to recognize an equipment limitation in pushing over ponderosa pine in the soils of the southern Blue Mountains. We found that using a 518 skidder the practical size limitation was about 16 inches d.b.h. To push over trees of d.b.h. 16 to 21 inches required a D6 bulldozer.**

CHANGES TO ORIGINAL PROJECT SCOPE OR OBJECTIVES (changes that need to be made to the original proposal and reasons for the changes): NONE

ADDITIONS TO ORIGINAL PROJECT SCOPE OR OBJECTIVES (describe additional accomplishments expected from the project): No additions were made to this project. However, at no extra cost to the project we took advantage of the establishment of this unique project to collect sapwood samples to be analyzed by headspace-gas chromatography for the presence of bole gases that may indicate the presence of disease on the root system.

FHP LEAD CONTACT (FHP person submitting proposal):

<u>Name</u>	<u>Affiliation (Office or Dept.)</u>	<u>Phone, E-mail, Fax</u>
Craig Schmitt, zone pathologist;	Blue Mt. Pest Mgt. Zone;	541-962-6544; cschmitt@fs.fed.us
John Kliejunas, pathology group leader R5,	San Francisco;	415-705-2660; jklijunas@fs.fed.us

PRINCIPAL INVESTIGATOR(S) (add lines as necessary):

<u>Name</u>	<u>Affiliation (Office or Dept.)</u>	<u>Phone, E-mail, Fax</u>
Walt Thies; research plant pathologist,	PNW Research Station;	541-750-7408; wthies@fs.fed.us
Rick Kelsey, chemical ecologist,	PNW Research Station;	541-750-7368; rkelsey@fs.fed.us
Chris Niwa, research entomologist,	PNW Research Station;	541-750-7370; cniwa@fs.fed.us

COOPERATORS (contributing to, but not leading, the project) (add lines as necessary):

<u>Name</u>	<u>Affiliation (Office or Dept.)</u>	<u>Phone, E-mail, Fax</u>
Mark Loewen, Silviculturist;	Burns/Snow Mt. RD, USDA FS;	541-573-4377; mloewen@fs.fed.us
Thurston Inglis, sale admin.;	Burns/Snow Mt.RD., USDA FS ;	541-573-4326; tinglis@fs.fed.us

COOPERATOR INVOLVEMENT (add lines as necessary):

<u>Name</u>	<u>Role</u>	<u>Time Commitment</u>
Mark Loewen	liaison with Ranger District	3 weeks
Thurston (Rusty)Inglis	marking and thinning stands	2 weeks

PRODUCTS AND DUE DATES (from original application form):

1) Development of guidelines used to accurately survey for BSRD and other diseases. 2) A summary of the distribution pattern of BSRD in a stand and stand factors that may contribute to increased BSRD.

STATUS OF PRODUCTS/PRESENTATIONS: No products are due at this point. Field data is still being collected and data analysis has not started.

ACCOMPLISHMENTS TO DATE: None due.

Products:

Publications:

Technology Transfer:

FIRST FISCAL YEAR FUNDED:2000

FUNDS OBLIGATED FROM BEGINNING OF PROJECT THROUGH

CURRENT FISCAL YEAR (extend table as needed)(Ignore this section if not requesting funds): ESTIMATED: **Most funds were spent in September; all expenditures have not been posted yet.**

	Item	Requested Funding	Expended Funding	Unused Funding
FIRST YEAR 2000				
Administration	Salary			
	Overhead			
	Travel			
Procurements	Contracting			

	Equipment			
	Supplies			
Year Totals				
CURRENT YEAR		Requested FHP STDP Funding	Other Source Funding	Source
Administration	Salary	15,150	34,000	PNW Res Sta. Malheur NF
	Overhead	-0-	12,000	PNW Res Sta
	Travel	16,500	2,000	-same-
Procurements	Contracting	10,500		
	Equipment	1,500	2,000	-same-
	Supplies	300	200	-same-
Year Totals		43,950	50,200	
PROJECT TOTALS		43,950	50,200	

FUNDS NOT USED FROM PREVIOUS FISCAL YEAR (If there are unused funds, what is the reason for not using them? How will the project continue without these funds?) **Note: there may not be unused funds, the majority of these funds were spent on field work during the last three weeks of the FY and it is difficult to know if we have accounted for all charges appropriately. Yes , we need the funds.**

Fiscal Year	STDP Funding Allocated	Funds Obligated	Funds Unused
2000	43,950	42,450	1,500

EXPECTED BUDGET FOR NEXT FISCAL YEAR (extend table as needed):

	Item	Requested FHP STDP Funding	Other-Source Funding	Source
Administration	Salary	18,250	34,000	PNW Sta
	Overhead	3,800	12,000	PNW Sta
	Travel	3,100		
Procurements	Contracting	4,500		
	Equipment	500		
	Supplies	600		
Totals		30,750	46,000	

DIFFERENCE BETWEEN ORIGINAL AND AMENDED REQUESTS AND JUSTIFICATION (the difference between originally requested funds and funds needed based on changes in the budget or scope of the project): **No differences.**

STDP FUNDING NEEDED:

Total estimated additional future funding needed beyond the current fiscal year:

Estimated STDP funding needed in remaining year(s) of the project by fiscal year. Show separately the funding to be requested/provided from other sources (extend the table as necessary).

Fiscal Year	STDP Funding	Other-Source Funding	Source
2001	30,750	46,000	PNW Sta
2002	-0-	18,000	PNW Sta

