



File Code: 3400

Date: July -TERM BUDGET REQUEST

Enclosure 3

## Special Technology Development Program Progress Report

**PROJECT NUMBER** R6-2001-02

**PROJECT TITLE:** Develop an Accurate Western Spruce Budworm Hazard Rating System for Central Oregon

**PROJECT STATUS:**

Continuing but without additional funds.

**EXPECTED PROJECT DURATION :** 2 years

**ORIGINAL EXPECTED COMPLETION DATE OF THE PROJECT:** End of FY02.

**EXPECTED COMPLETION DATE OF THE PROJECT:** End of FY02.

**SUBJECT:** Risk and Hazard.

**STATUS OF SUBJECT SPECIES:** Native.

**PROJECT OBJECTIVES:**

To develop (or adapt from an existing system) a usable quantifiable western spruce budworm hazard rating system for Central Oregon by 2002. By hazard rating system we mean a relative measure of predisposing conditions for damage (Paine et al 1983). This will be written in the form of a formal R6 report (2002) and also submitted to a refereed journal for publication. A set of FVS (Forest Vegetation Simulator) keywords will also be written describing this system and be made available to users so that it can be incorporated into stand projections.

**BRIEF DESCRIPTION OF THE PROJECT:** Hazard rating system (model) will consist of assigning individual stands a quantitative value which describes likelihood of the stand sustaining light, moderate or heavy damage during an outbreak. Development of the hazard rating system will depend heavily on comparing areas that were heavily impacted by the recent budworm outbreak (1985-1992) with non-impacted or lightly impacted areas. These comparisons will be made both on a stand and landscape level. The project will be conducted in two phases. In year 2001 stand data will be gathered and formatted for analysis throughout the western spruce budworm host type in Central Oregon. This first phase is what we are asking for funding. In 2002, this data will be analyzed and the hazard rating system developed. Paper and reports will be written by the PI's.

**CHANGES TO ORIGINAL PROJECT SCOPE OR OBJECTIVES:** None.

**ADDITIONS TO ORIGINAL PROJECT SCOPE OR OBJECTIVES:** None.

**FHP LEAD CONTACT:**

<u>Name</u>	<u>Affiliation (Office or Dept.)</u>	<u>Phone, E-mail, Fax</u>
Helen Maffei	Central Oregon FHP Service Center	541-383-5591

**FHP LEAD INVOLVEMENT**

<u>Name</u>	<u>Role</u>	<u>Time Commitment</u>
Helen Maffei, Pathologist	Supervise and administer.	2 weeks

**PRINCIPAL INVESTIGATOR(S):**

<u>Name</u>	<u>Affiliation (Office or Dept.)</u>	<u>Phone, E-mail, Fax</u>
Helen Maffei, Pathologist	Central Oregon FHP Service Center	541-383-5591
Andy Eglitis, Entomologist	Central Oregon FHP Service Center	541-383-5701
Kathy Sheehan, Entomologist	FHP R6 Regional Office	503-808-2674

**PRINCIPAL INVESTIGATOR(S) INVOLVEMENT: (FY01 and FY02)**

<u>Name</u>	<u>Role</u>	<u>Time Commitment</u>
Helen Maffei, Pathologist	Coordinate and analyze data.	6 weeks
Andy Eglitis, Entomologist	Review data analysis.	1 week
Kathy Sheehan, Entomologist	Data analysis.	6 weeks

**COOPERATORS (contributing to, but not leading, the project):**

<u>Name</u>	<u>Affiliation (Office or Dept.)</u>	<u>Phone, E-mail, Fax</u>
John Arena	BIA, Forestry Warm Springs IR	(541) 553-2416
Barbara Fontaine	Ochoco NF, Silviculturist	(541) 416-6460
Rob Rawlings	Ochoco NF, Silviculturist	(541) 416-6645
Brian Tandy	Deschutes NF, Silviculturist	(541) 549-7712
Jim Stone	Deschutes NF, Silviculturist	(541) 383-5783
Kim Johnson	Deschutes NF, Silviculturist	(541) 383-4780
Jim Tyler	Deschutes NF, Veg Mgt Coord.	(541) 383-5634
Tom Gregg	FHP Regional Office, mensuration	(503) 808-2996
Renee Roufs	Ochoco NF, Forester	(541) 477-6921
Leo Yanez	Deschutes NF, Data Manager	(541) 383-5592
Tim Grace	Deschutes NF, Stand Exam Tech	(541) 383-4738
Gretchen Harvey	Deschutes NF, Forestry Tech	(541) 383-4777
Jamie Eickman	COCC Student	---

**COOPERATOR INVOLVEMENT: (FY01 only)**

<u>Name</u>	<u>Role</u>	<u>Time Commitment</u>
John Arena	Provide data to analyze.	2 days
Barbara Fontaine	Provide data to analyze.	3 days
Rob Rawlings	Provide data to analyze.	3 days
Brian Tandy	Provide data to analyze.	2 days
Jim Stone	Assembled and formatted data to analyze.	60 days
Kim Johnson	Provide data to analyze.	1 days
Jim Tyler	Assist with data analysis.	2 days
Tom Gregg	Assist with data analysis.	2 days
Renee Roufs	Provide data to analyze.	2 days
Leo Yanez	Provide data analysis skills/tools	5 days
Tim Grace	Stand data reconstruction	1 days
Gretchen Harvey	Data input and editing.	6 days
Jamie Eickman	Data input	10 days

**PRODUCTS AND DUE DATES:**

**2001**, data compiled and formatted for analysis. **2002** analysis completed, R6 report written, draft journal article submitted, FVS keyword set completed.

**STATUS OF PRODUCTS/PRESENTATIONS:**

Data compilation has been completed. Formatting of data for analysis is 80% completed. The remaining formatting includes the need to divide the Sisters and Crescent Ranger Districts' data by project areas. The unused funds in FY01 will be used as carry-over to complete data formatting.

The data formatting was not completed due to coordination and scheduling problems between the numerous cooperators compounded by the numerous wild land fires impacting the cooperators' schedules. For example, we waited 2 ½ weeks to be able to get with one cooperator for just a couple of hours of work.

**ACCOMPLISHMENTS TO DATE:**

Stand exams were reviewed on six Ranger Districts on two National Forests and on Confederated Tribes of the Warm Springs Reservation. A total of 903 stands were selected for analysis, based on minimal host species amounts (at least 10% of the stems were host species). Manual input of some stand exam data (86 stands) was done, as electronic data had been lost years ago. All other stands were available electronically. Only stand exams taken since the budworm activities were considered for use. Exams taken prior to the outbreak were not considered, as they are not directly comparable spatially with post-outbreak exams: Common stand boundaries were not used.

Data is currently electronically stored by sub watershed and/or project area for each district on each forest. The Warm Springs data uses the East Cascades Variant of FVS; the Ochoco data uses the Blue Mountains Variant of FVS, and the Deschutes data uses the SORNEC Variant of FVS, so separate files must be maintained. Only the Ochoco data was stored by sub watershed. Deschutes data is being linked to sub watersheds and will be grouped within the .slf file in FVS, while the Warm Springs data (8 stands) are not proximal, but are scattered across the landscape.

Data is filed by Unit, Subunit, and project/watershed as follows:

**Bend (Deschutes NF):** Cultus sub watershed (146 stands); Lookout sub watershed (2 stands); Sheridan sub watershed (11 stands).

**Big Summit (Ochoco NF):** Badger sub watershed (86 stands); Bridge sub watershed (74 stands); Kelly sub watershed (9 stands); Rv sub watershed (27 stands).

**Crescent (Deschutes NF):** Not sorted by sub watershed yet (69 stands).

**Paulina (Ochoco NF):** Battle Mountain sub watershed (26 stands); Westrock sub watershed (25 stands).

**Prineville (Ochoco NF):** Maury sub watershed (81 stands); Mill sub watershed (81 stands); Trout sub watershed (156 stands).

**Sisters (Deschutes NF):** Note sorted by sub watershed yet (102 stands).

**Warm Springs (Confederated Tribes of the Warm Springs Reservation):** Eight isolated stands.

**Products:** Data files have been collected and in .txt files useful for FVS.

**Publications:** None to date.

**Technology Transfer:** None to date.

**FIRST FISCAL YEAR FUNDED:** \$25,000

**FUNDS OBLIGATED FROM BEGINNING OF PROJECT THROUGH CURRENT FISCAL YEAR:** (include both monetary and in-kind, excluding FHP base funding and salaries):

	Item	Requested Funding	Received Funding	Expended Funding
<b>PREVIOUS YEAR FY 2001</b>				
<b>Administration</b>	Salary	\$20,000	\$20,000	\$15,223.13
	Overhead			
	Travel	\$3,000	\$3,000	\$557.53
<b>Procurements</b>	Contracting			
	Equipment	\$2,000	\$2,000	\$4,079.64
	Supplies			
<b>YEAR TOTALS</b>		\$25,000	\$25,000	\$19,860.30

<b>CURRENT YEAR FY 2002</b>				
<b>Administration</b>	Salary			
	Overhead			
	Travel			
<b>Procurements</b>	Contracting			
	Equipment			
	Supplies			

<b>YEAR TOTALS</b>		\$0	\$0	\$0
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<b>FY 2003</b>		<b>Requested FHP STDP Funding</b>	<b>Other Source Funding</b>	<b>Source</b>
<b>Administration</b>	Salary			
	Overhead			
	Travel			
<b>Procurements</b>	Contracting			
	Equipment			
	Supplies			
<b>YEAR TOTALS</b>				
<b>PROJECT TOTALS</b>				N/A

**FUNDS NOT USED FROM PREVIOUS FISCAL YEAR**

<b>Fiscal Year</b>	<b>STDP Funding Allocated</b>	<b>Funds Obligated</b>	<b>Funds Unused</b>
<b>2001</b>	<b>\$25,000</b>	<b>\$18,796.42</b>	<b>\$6,203.58</b>
<b>2002</b>	<b>\$0</b>		
<b>2003</b>	<b>\$0</b>		

Unused funds resulted from data collection and assistance with input taking less time than projected. In addition, travel and supplies needed were considerably below the projected amounts. Some additional time will be spent to finish organizing and preparing the data with carry-over funds. NFS funds were used by cooperators and investigators to assemble the data and administer the project.

The project will continue with NFS and FHP Service Center funds, which have been approved in preliminary budget advice, so the absence of the unused funds will not impair progress on the project in the second fiscal year.

**EXPECTED BUDGET FOR NEXT FISCAL YEAR:** (include both monetary and in-kind, excluding FHP base funding and salaries): **None**

	<b>Item</b>	<b>Requested FHP STDP Funding</b>	<b>Other-Source Funding</b>	<b>Source</b>
<b>Administration</b>	Salary			
	Overhead			
	Travel			
<b>Procurements</b>	Contracting			
	Equipment			
	Supplies			
<b>Totals</b>				N/A

**DIFFERENCE BETWEEN ORIGINAL AND AMENDED REQUESTS AND JUSTIFICATION:**

None.

**STDP FUNDING NEEDED:**

Total estimated additional future funding needed beyond the current fiscal year: None.

Estimated STDP funding needed in remaining year(s) of the project by fiscal year: None.

<b>Fiscal Year</b>	<b>STDP Funding</b>	<b>Other-Source Funding</b>	<b>Source</b>
N/A			