

## **Special Technology Development Program Progress Report**

Complete a copy of this form for: 1) each multi-year project active in the current fiscal year and not requesting funds, and 2) each project requesting funds to extend into the following fiscal year. Add lines within the form as necessary. Delete all that does not apply.

**PROJECT NUMBER** R6-2000-01

**PROJECT TITLE:** Noxious Weed Site Revegetation.

**PROJECT STATUS:**

Continuing (funds are being requested for the next fiscal year to continue the project).

**EXPECTED PROJECT DURATION :** 3-5 years.

**ORIGINAL EXPECTED COMPLETION DATE OF THE PROJECT:** End of FY03.

**EXPECTED COMPLETION DATE OF THE PROJECT:** End of FY05.

**SUBJECT:** Revegetation of Noxious Weed Sites.

**STATUS OF SUBJECT SPECIES:** Non-native noxious.

**PROJECT OBJECTIVES:**

The following project objectives were stated in the original project proposal that was submitted in FY 1999:

1. Test the effectiveness of revegetating noxious weed sites using native or non-invasive introduced plant species with various spatial and temporal resource use strategies on noxious weed sites that represent different disturbance intensities. Specific questions:
  - Did native plant species effectively colonize the site?
  - Was there a reduction in density, frequency, and/or cover of the noxious weed(s)?
2. Develop revegetation prescriptions that enhance native plant community diversity and weed-resistance. Specific questions name as above for #1.
3. Develop and test revegetation method(s) on dry sites with the levels of disturbance commonly encountered in central Oregon. Long-term objectives of testing revegetation on roadside sites are: 1) to determine long-term solution for reducing noxious weed populations, thereby preventing further transport of seeds into National Forest land, reduce the reliance on herbicides, and 2) meet vegetation management objectives for a variety of agencies (e.g., Oregon Dept. of Transportation, Oregon Dept. of Fish and Wildlife, Deschutes National Forest Service, and Deschutes County Public Works). Specific questions:
  - Did the revegetation project meet road management objectives?
  - Did the revegetation project change the roadside environment to be unfavorable for the establishment of weeds?

As we developed study design and methods, the project objectives have been reworded to be more succinct and are to:

- determine if knapweed populations can be reduced with competitive plantings;
- determine what native and desirable non-native species can survive and increase for a 3-5 year period in a knapweed-infested area;
- provide revegetation guidelines for knapweed sites in the central Oregon area.

**BRIEF DESCRIPTION OF THE PROJECT:**

The Noxious Weed Site Revegetation Project attempts to determine the feasibility of returning three knapweed-infested sites typical of weed management problems in central Oregon to a native or more desirable non-native community.

This is to be accomplished by seeding competitive species after herbicide and/or manual controls have been applied. Baseline data will be collected at all sites, with data collection continuing annually for 3-5 years. This data will be analyzed to determine seeded competitive native and desirable non-native species can out-compete knapweed populations.

The project will provide revegetation guidelines for knapweed sites in the central Oregon area available to land managers and the general public.

The project has now been underway for 2 years. Sites have been selected; baseline data collected; herbicide and manual controls applied; test species selected, collected, and sown; and first-year data has been collected. Baseline and first-year data are being input into a project database and data analysis will begin. Reseeding of sites will occur this fall.

**CHANGES TO ORIGINAL PROJECT SCOPE OR OBJECTIVES:** Essentially, the scope and objectives of the project have not changed since its inception in FY1999. However, in FY2000 several adjustments were made based on an intensive literature review and discussions with revegetation experts. These are:

1. In the original proposal, we stated that we planned to conduct these tests on sites that represent three disturbance regimes, though we would evaluate this and possibly drop one type of disturbance regime. The original disturbance regimes we planned on testing were:
  - High frequent disturbance.
  - High infrequent disturbance.
  - Low to moderate disturbance.

The low to moderate disturbance regime was dropped because these sites usually have well-established native plant populations that are available to spread naturally into areas cleared of noxious weeds.

2. The original scope of the project intended to involve partners (cooperators) in pulling weeds and collecting native plant seeds. The partners listed in the original proposal are active and engaged in helping us pull noxious weeds on the Deschutes National Forest. However, for this study, we were able to use herbicides to take care of the majority of noxious weeds at our three study sites; therefore, we did not need to use partnership labor to pull weeds. The small amount of hand-pulling done in FY01 was done by a Forest Service Botanist and Biotech at the sites following completion of data collection.

Also, in the original proposal, we stated we would attempt to establish at least one study plot within a noxious weed demonstration area as part of a on-going partnership that is funded by a grant from the Oregon Watershed Enhancement Board (OWEB). As mentioned in the Project Summary for FY00, the OWEB partnership, of which the Deschutes NF is a member, had not established demonstration areas; but, instead, the consortium of partners are working on other educational efforts.

**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>
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**PRINCIPAL INVESTIGATOR(S):**

<u>Name</u>	<u>Affiliation (Office or Dept.)</u>	<u>Phone, E-mail, Fax</u>
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Katie Grenier	Deschutes Forest Botanist	541-383-5564 <a href="mailto:kgrenier@fs.fed.us">kgrenier@fs.fed.us</a>

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**PRINCIPAL INVESTIGATOR(S) INVOLVEMENT:**

<u>Name</u>	<u>Role</u>	<u>Time Commitment</u>
Signe Hurd, Botanist	Coordinate, collect, and input data.	60 days
Katie Grenier, Forest Botanist	Project administration.	6 days
Gregg Riegel, Ecologist	Ecology resource.	1 day

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

<u>Name</u>	<u>Affiliation (Office or Dept.)</u>	<u>Phone, E-mail, Fax</u>
Dave Langland	OR Dept. of Agriculture	541-548-2241
Jamie Eichman	Deschutes NF, Biotech	-----
Nita Rauch	Region 6 Seed Extractory	541-383-5646
Jim Barner	Region 6 Seed Extractory	541-383-5481
Andrea Carpenter	Deschutes NF, Systems Administrator	541-383-5530

**COOPERATOR INVOLVEMENT:**

<u>Name</u>	<u>Role</u>	<u>Time Commitment</u>
Dave Langland	Weed herbicide application	4 days
Jamie Eichman	Data collection, seed collection and sowing.	15 days
Nita Rauch	Native seed cleaning and storage.	1 day
Jim Barner	Native seed cleaning and storage.	1 day
Andrea Carpenter	Database setup.	2 days

**PRODUCTS AND DUE DATES:**

The end product of this study will be guidelines for revegetating noxious weed sites based on what we have learned from this study. Assuming we monitor this revegetation project for 5 years, these guidelines would be available in FY 2005 and would be distributed to central Oregon agencies (e.g., Deschutes, Fremont, Ochoco, and Winema NF employees, Prineville BLM, Deschutes County Public Works, OR Dept. of Transportation) and private landowners in the communities of Bend, Sisters, Redmond, and LaPine, OR. The collection and addition of each years data to the project data base will give depth to the final analysis of this project. An annual project summary will be prepared for each year of the project.

**STATUS OF PRODUCTS/PRESENTATIONS:**

Data has been collected and approximately 50% of it has been input into a database created for continued use by this project. As soon as the database is complete, remaining data will be entered. Analysis of first year data has not yet begun due to scheduling conflicts, but is expected to be underway soon and completed by December 2001. Information from this first year's analysis will be forwarded at that time.

The accumulation of each year's data will be critical for a valid final analysis of the project's objectives.

**ACCOMPLISHMENTS TO DATE:**

- FY2000 - Literature review conducted.
- Study plan written.
  - Baseline data collected (density, cover, frequency).
  - Herbicide and manual weed treatment.
  - Native seed collected.
  - Additional seed purchased.
  - Progress report written.
- FY2001 - Site preparation and seed sowing.
- Herbicide and manual weed treatment.
  - 1<sup>st</sup> year data collected (density, cover, frequency)
  - Native seed collected.
  - Additional seed purchased.
  - Database constructed.
  - Density data input.

- Progress report written.

It was decided to reseed all sites as the number of establishing native plants appeared to be low. Precipitation amounts were low in 2001 and poor recruitment may be linked to this. Seed of the same species or species mixes have been collected or purchased and will be sown with fall rains or early winter snow before December 2001.

**Products:** A study plan, literature review, and project database have been prepared.

**Publications:** None to date. Revegetation guidelines, the culmination of this project, will be available in FY2003 or FY2005, depending on how long this study is funded.

**Technology Transfer:** Information we have gained during background research for this project regarding species to consider for revegetation in central Oregon has been shared verbally with local Forest Service botanists. A presentation and handouts including a list of revegetation species and planting tips were made and shared with the public through participation in the Bend Riverfest in May 2001, sponsored by the Deschutes Watershed Council.

**FIRST FISCAL YEAR FUNDED:** FY2000

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

	<b>Item</b>	<b>Requested Funding</b>	<b>Received Funding</b>	<b>Expended Funding</b>
<b>PREVIOUS YEAR</b>				
<b>FY 2000 (1<sup>ST</sup> YR.)</b>				
<b>Administration</b>	Salary	\$26,800	\$26,800	\$20,577
	Overhead			
	Travel	200	200	770
<b>Procurements</b>	Contracting			1,805
	Equipment			266
	Supplies	400	400	517
<b>YEAR TOTALS</b>		\$27,400	\$27,400	\$23,935 (carryover to FY01 = \$3,465)

	<b>Item</b>	<b>Requested Funding</b>	<b>Received Funding</b>	<b>Expended Funding</b>
<b>CURRENT YEAR FY 2001</b>				
<b>(Carryover from FY 2000)</b>			(\$3,465)	
<b>Administration</b>	Salary	\$9,115	\$9,115	\$12,331
	Overhead			
	Travel	\$100	\$0	\$0
<b>Procurements</b>	Contracting			
	Equipment	\$0	\$0	\$0
	Supplies	\$0	\$0	\$150
<b>YEAR TOTALS</b>		\$9,115	\$12,580	\$12,481

**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>2000</b>	<b>\$27,400</b>	<b>\$23,935</b>	<b>\$3,465</b>

The project work scheduled for FY 2000 was accomplished in less time than anticipated, resulting in unused funds. These funds were carried over into FY2001 and were used to accomplish the site preparation and seed planting that, though tied to FY2000 plans, due to precipitation regimes could only be accomplished after the end of the fiscal year.

**EXPECTED BUDGET FOR NEXT FISCAL YEAR:** (include both monetary and in-kind, excluding FHP base funding and salaries):

<b>FY 2002</b>	<b>Item</b>	<b>Requested FHP STDP Funding</b>	<b>Other-Source Funding</b>	<b>Source</b>
<b>Administration</b>	Salary	\$10,712	\$2,000	Contributed input from Dr. Helen Maffei & Dr. Gregg Riegel
	Overhead			
	Travel	100		
<b>Procurements</b>	Contracting	338		
	Equipment			
	Supplies	100		
<b>YEAR TOTALS</b>		\$11,250	\$2,000	

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

In our original project proposal, we estimated needing \$6,320 in funding for FY2002. However, as the project has developed, additional areas of funding needs have become apparent. Building a database and selecting and setting up analytical tools that will be used as the annual data is added are more time-consuming than anticipated before the study plan was in place and the project began.

The timeline of proposed work (see APPENDIX A) incorporated in the Study Plan, June 2000, allows for the reseeded of sites if necessary. Given the poor first-year recruitment at all sites and the unusually low precipitation through the germination period of fall 2000 and spring 2001, it was decided to reseed all sites in the fall of 2001. The cost of additional seed collection and purchase as well as the additional salary hours needed to accomplish the seeding will require more funding than was originally sought for FY2002.

The additional \$4,930 requested would be used toward:

- Completion of a database
- Additional data input
- Choice of analytical tools for the duration of the project.
- Data analysis.
- Site preparation and seeding of all sites.

**STDP FUNDING NEEDED:**

Total estimated additional future funding needed beyond the current fiscal year: \$30,660

Estimated STDP funding needed in remaining year(s) of the project by fiscal year

<b>Fiscal Year</b>	<b>STDP Funding</b>	<b>Other-Source Funding</b>	<b>Source</b>
FY 2003	\$10,220	\$2,000	Contributed input from Dr. Helen Maffei & Dr. Gregg Riegel.
FY 2004	10,220	2,000	Same as above.
FY 2005	10,220	2,000	Same as above.