WC-F-05-02

TITLE: Ecological Impacts of Invasive Species after Fire

LOCATION: Wallowa-Whitman National Forest, R6

DURATION: Year 2 of 2 year project **FUNDING SOURCE:** Fire Plan

PROJECT LEADER: Leigh Dawson, WWNF Noxious Weed Coordinator, 541-426-5535, lddawson@fs.fed.us

FHM SPONSOR: Lia Spiegel

COOPERATORS: County Weed Boards (Baker, Wallowa, Union)
Tri State Weed Board (Idaho, Oregon, Washington
Tri County Weed Board (Baker, Union, Wallowa)
Oregon Department of Agriculture/ODFW
Private landowners/Wallowa Resources (non profit)

PROJECT OBJECTIVES:

1. To inventory and record new noxious weed populations associated with disturbance caused by wildland fires and associated activities.
2. Determine extent and severity of noxious weed sites in relation to extent and severity of fire
4. Compare new data to existing data of known sites & survey plots (e.g. CVS, FHM)

JUSTIFICATION: Monitoring surveys on the Wallowa-Whitman National Forest have detected the increase of noxious weeds after fires and fire-fighting activities. Several examples of weed spread following fire can be found in the Publication "Protecting Relatively Uninfested Lands: Reducing Weed Spread Following Fire" by Jerry Asher, S. Dewey, C. Johnson, and J. Olivarez. Over the past three years, 2001-2003, approximately 28,333 acres have burned on seven ranger districts located within the Wallowa Whitman National Forest. Staging areas and heliports have often been located in known weed sites thus adding to the rapid spread of weeds (e.g. Lightening Complex Fire Base Camp). The increased traffic and associated activities also contribute to the increased potential of noxious weeds. The National Fire Plan addresses prevention of noxious weeds under Goal 3: Restore (Guiding Principles). The direction for fire management outlined in the USDA-Forest Service: Guide to Noxious Weed Prevention Practices also addresses the need to identify existing and new weed infestations as well as preventing the spread of weeds. Numerous field observations of new weed sites are being reported, often in fire activity areas. As possible, the sites within easy access have been verified, recorded, and treated. However, many of the fire areas are located in remote areas with limited access hindering further investigation of those sites. This grant proposal will highlight the relationship between fire activities and the spread of noxious weeds, update the NRIS-Terra database and incorporate CVS plots. Future plans include applying for suppression/prevention funding for education and restoration.

DESCRIPTION:

a. Background:

Invasive weeds have become a major problem in Oregon's watersheds. As stated, after a disturbance event, such as fire, noxious weeds can invade and dominate an area. This area then becomes a source of infestation and spread, often affecting neighboring lands. This, in

turn, affects native plant communities, site productivity, recreational & economic values. To date, over the past three years approximately 16% of the WWNF has burned. The direction for prevention of noxious weed spread, as stated in the National Fire Plan, has not been fully implemented. Fire Rehabilitation (Burned Area Emergency Rehabilitation) Plans have been developed for several of the major fires that occurred on the WWNF. The noxious weed issue was addressed in most of these documents. However, this has not produced a thorough inventory or direction for further noxious weed management.

The CVS plots are widely distributed across the forest landscape. Invariably, plots will be located within fire activity areas. Weed inventory needs to be an important component to these plots. BLM has provided incentives to contractors who identify and record noxious weed locations. This project will link and enhance weed and vegetative survey data. This is especially valid since presently the Forest Service is updating the weed database to NRIS-Terra, a protocol that incorporates the North American Weed Management Association (NAWMA) standards for information collection and data storage. This system will provide consistency and enable us to analyze tactical weed information and facilitate effective monitoring. Another significant factor is the contribution to accomplishing one of the four top priorities, prevention and control of noxious weeds, as defined by USFS Chief, Dale Bosworth. Educational tools, such as field guides, will also result from this project.

The Tri County Cooperative Weed Management Area, consisting of Umatilla,Baker, Union and Wallowa counties, was formed under legal authority of ORS 190.010 in 1994. This organization has worked cooperatively to identify noxious weed infestations and develop management strategies. The Wallowa Whitman National Forest (WWNF) is a part of the WMA and the Memorandum of Understanding (MOU) agreement to cooperatively manage WMA's. In addition, several local partners are dedicated to the prevention of noxious weeds and the restoration of native ecosystems. They recognize the potential of weed infestations in fire activity areas and the likelihood for spread and fully support this project. Past successful partnership projects include Lower Grande Ronde Cooperative Weed Program and HCNRA Yellow Starthistle Project.

b. Methods: The fire acres are located in a wide variety of landscapes. Due to the topography and logistics associated with these landscapes a variety of tools will be required to accomplish the project objectives. The collected data will be input into GPS, palm pilot units that can be directly downloaded into NRIS-Terra. The inventory for fire areas located on the Wallowa Whitman N.F. will emphasize high probability areas. High probability areas will be defined by County Priority Weed lists and areas of high disturbance such as heliports, staging areas, firelines, and travel routes**.**

All new sites will be recorded and treated in accordance with USFS guidelines.

I. Inventory: The goal of inventory is to determine and map the weed species present, area infested, density of the infestation, land under threat of invasion, soil types, fire intensity, and other site factors. This will be accomplished by:

a. Ground Survey: In the spring and fall ground surveys will occur in high disturbance fire areas (as defined on the maps). These inventories will follow guidelines and priorities as stated in the USFS, Oregon State and appropriate county priority weed management plans. Sites will be documented via GPS palm pilots with data

downloaded into NRIS-Terra, USFS Invasive Plant Data Base.
b. Aerial survey: As possible, Oregon Department of Fish and Wildlife will compliment the ground surveys by incorporating noxious weed inventories as part of their spring and fall big game counts.

II. Planning and Implementation: Compile data and appropriate maps in order to assess extent and severity of noxious weeds and recognize possible patterns within spread (i.e. helispot locations, ground transportation routes, fire lines, or staging sites) and link to FHM and surveys

Products:

-Database displaying relationship between fire activity areas and noxious weed sites
-Link noxious weed data to appropriate existing vegetative surveys
-Monitoring and recommendations for successful weed treatment methods
-Final published report, executive summary in FHM "fact sheet" format, FHM poster

c. Schedule of Activities: Listing of major activities & timelines:

Inventory (see methods). Begin working with partners to overlay map of known weed sites to fire maps; prioritize survey areas and associated target weed species; inventory.

Planning & Implementation (see methods). Enter all data in NRIS-Terra; update & evaluate data, summarize findings.

d. Progress/Accomplishments:

Following is a project summary of the FY04 accomplishments:
Project Objectives:

1. To inventory and record new noxious weed populations associated with disturbance caused by wildland fires.

A forest map with fire and weed data layers was created for this project.
To date, we have ground inventoried approx. 450 acres of fire disturbance areas. In addition to the ground inventoried acres, we have also accomplished aerial surveys in partnership with ODFW, Wallowa Resources (non profit organization), and The Nature Conservancy.
All weed sites were recorded via GPS and locations and associated data will be entered into GIS weed layers and data base this winter.

2. Determine extent and severity of noxious weed sites in relation to extent and severity of fire.

The accomplishment will be finalized at the end of this project. We are presently working on a matrix that will display these results. This matrix will help display the relationship between the extent and severity of weed infestations in relation to the fire severity levels and plant communities to assist in prioritizing fire rehab treatments and weed management strategies.

3. Compare new data to existing data of known sites & survey plots (e.g. CVS).

We have been working with Glenn Fisher, Forest CVS coordinator, on linking current vegetative data to fire disturbance areas. The CVS information will provide baseline vegetation which will assist determining introduction of weed infestations. Information via specific plots will be downloaded into an excel database that will provide monitoring results by the end of the second year. In addition, research on effects of fire on soil types found in specific plant community types is ongoing and will be linked to these results.

COSTS:

	Item	Requested FHM EM Funding	Other-Source Funding	Source
YEAR 04/05 (per year)				
Administration	Salary	$ 5,000	Wallowa County	Title II-$10,000
	Overhead	$ 1,000	Or. Dept. Agriculture	$1,500
	Travel	$2,500	Tri-county Weeds	$1,000
			ODFW	$1,500
Procurements	Contracting	*$20,000	Walowa Resources	$1,000
	Equipment-Vehicle	* $1,500		
	Supplies-Ed.,GPS/data	* $1,000		
**Other grants		CCS	BMEI	Pending
TOTAL for FY05	EM request	$31,000	Other	$14,000+

*Work will be accomplished either by the most cost efficient means (USFS and/or contracting)
**Presently applying for Burned Area Emergency Rehabilitation (BAER) and other grant opportunities Blue Mountain Elk Initiative (BMEI), Challenge Cost Share to compliment this proposal. Tri County Weed Board, Wallowa Resources, and County Weed Boards have expressed support for this project and will compliment efforts on adjacent county and private lands.