

Wetlands Reserve Enhancement Program Proposal

Project title: Enhancing diversity and habitat for at-risk species on WRP prairies of the Willamette Valley, Oregon.

Proposed start date: March 1, 2006

Proposed end date: March 1, 2009

Number of projects and acres addressed: 12 previously enrolled WRP easements with enhancement of 595 project acres

Project objective and summary:

We propose to enhance plant species diversity and habitat value for wetland-dependent species in the Willamette Valley, Oregon. The goal of the proposed project is to create high quality, diverse native plant communities with the potential to provide habitat for 7 Federally Threatened and Endangered species, 2 Candidate species, and 7 Species of Concern. To achieve this we will:

1. Design enhancement prescriptions
2. Collect and increase native seed
3. Implement prescriptions through on-the-ground activities such as mowing, spraying, burning, and seeding.

Summary of costs:	Total Project	Technical Assistance
WREP funds	\$412,000	\$100,000
<u>Matching funds</u>	<u>\$380,000</u>	<u>\$255,000</u>
Total	\$792,000	\$355,000

Submitted by:

Rob Fiegener, Program Director

Rob Fiegener
Institute for Applied Ecology
563 SW Jefferson Avenue
Corvallis, Oregon 97333
(541) 753-3099
rob@nativeseednetwork.org

Project collaborators:

Ken Bierly, Deputy Director, Oregon Watershed Enhancement Board
Steve Smith, Private Lands Biologist, US Fish & Wildlife Service
Jonathon Soll, Willamette Valley Preserve Manager, The Nature Conservancy
Eric Wold, Wetlands Program Supervisor, City of Eugene

The Institute for Applied Ecology in partnership with the Oregon Watershed Enhancement Board, U.S. Fish & Wildlife Service (USFWS), The Nature Conservancy, and the City of Eugene proposes to enhance plant species diversity and habitat value for wetland-dependent species in the Willamette Valley, Oregon. This proposal targets 12 sites, comprising 595 acres, of previously enrolled WRP land. The goal of the proposed project is to create high quality, diverse native plant communities that have the potential to provide habitat for 7 Federally Threatened and Endangered species, 2 Candidate species, and 7 Species of Concern.

PROJECT AREA

The Willamette Valley is located in the Pacific Flyway, providing essential habitat for migrating and wintering waterfowl, shorebirds, neotropical migrants, and significant breeding duck populations. More than 30 species of ducks, geese, and swans, and a diverse assemblage of shorebirds and wading birds depend on these wetlands. The Willamette Valley Ecoregion is the primary wintering grounds for the majority of the entire population of dusky Canada geese (approximately 15,000 – 20,000) and cackling Canada geese (approximately 150,000). The area is also considered the most important wintering area within western Oregon for northern pintails and mallards, with concentrations as high as 40,000 and 60,000, respectively, for each species. Small numbers of lesser scaup and greater scaup also use the area during migration and wintering periods.

Willamette Valley wetlands and wet prairies are among the most endangered habitat types in the state of Oregon, and among the rarest of North American ecosystems (Noss et al. 1995). Merely one percent of the Willamette Valley is managed for conservation purposes and only a fraction of that is for wetland habitats (Floberg et al. 2004). Twenty taxa in the Willamette Valley are listed under the federal Endangered Species Act and 155 more are imperiled. Of these 175 at-risk taxa, thirty-one occur in or use wetland prairie habitat for some portion of their lifecycle (Floberg et al. 2004). Oregon Governor Ted Kulongoski has declared that his number one environmental priority for the state of Oregon is to improve the Willamette River system, emphasizing improved wildlife habitat for at-risk species and restored historic wetlands and prairies, among other objectives (Kulongoski 2005).

Ninety-six percent of the Willamette Valley ecoregion is privately owned (Gregory et al. 2002). Consequently, over 97% of the estimated historic 768,000 acres of wet prairies have been converted to other uses, primarily agriculture. Restoration of farmed wetlands to wetland prairie, in particular, holds the greatest potential for restoration of winter waterbird habitat (Taft & Haig 2003). Wetland prairies in good condition, compared with other Willamette Valley habitat types, “provide the best reproductive habitat for 38 wildlife species, and are used regularly by at least an additional 54 breeding wildlife species” (Primozych & Bastasch 2004). As WRP and WREP have the objective of restoring and protecting the functions and values of wetlands in the agricultural landscape, these programs are particularly critical in meeting conservation objectives for the region.

OBJECTIVE: Restore native plant communities for the benefit of wildlife

The sites identified for enhancement through this proposal (Table 1) have been selected because their potential for high quality wildlife habitat is not being realized. Status reviews and monitoring visits made to these sites by NRCS District Conservationists, landowners, USFWS and the Oregon Department of Fish & Wildlife (ODFW) have generally concluded that:

1. The ecological objectives outlined in the existing management plans are difficult to evaluate or absent, and
2. These sites have the potential to offer significantly improved habitat value for several species of concern including Federally Listed plants, invertebrates, and birds, all of which are wetland and upland prairie dependent.

The general condition of the selected sites is that they have had wetland hydrological function successfully restored, but do not have the desired plant communities. Sites are either dominated by a single species or they are dominated by weeds and have very low cover of native species. Descriptions of each site are found in Appendix A.

Given the WRP objective that “*where there are important species or species groups associated with the easement or those that could be associated with the easement, such species or species groups should be a principal target in restoration and protection efforts,*” (NRCS Conservation Practices Manual 514H.2) we propose to enhance these WRP easements by creating diverse plant communities that are potential habitat for Listed species.

Maintaining native wetland prairies and habitat for rare wetland-dependent species requires active management and reintroduction of fire (Pendergrass et al. 1998, Wilson 1999). Prescribed burning has been demonstrated to increase the seeding success of some Willamette Valley species, particularly forbs (Clark & Wilson 2001), and is an effective tool for maintaining population viability of Federally Endangered Bradshaw’s lomatium (Kaye et al. 2001, Pendergrass et al. 1999). Burning alone is insufficient to increase species diversity (Wilson, 1999), so seed will need to be added to the sites to achieve the diversity objective. Seeding a diversity of species has been successful in Willamette Valley wet prairie restorations in the West Eugene Wetlands (Wilson 2004).

Once a habitat network of protected sites containing a desired matrix of native plants has been established, recovery of several Listed species could be achieved by re-introduction and/or augmentation (Table 2). The USFWS and NRCS could cooperate to accomplish the recovery or de-listing of several species through Farm Bill and USFWS programs. Nelson’s checkermallow, a Federally Threatened plant, has already been successfully introduced to three Willamette Valley easements restored through CREP and WRP (Gisler 2001). Nelson’s checkermallow is a valuable source of nectar for the Federally Endangered Fender’s blue butterfly and Federal Candidate species Taylor’s checkerspot.

PROJECT DESCRIPTION

There are three core elements to the proposal, to occur over three years:

1. Development of a Wildlife Habitat Conservation & Management Plan for each site. This plan will detail a prescription for enhancement of the site. In addition, we propose to include a recommendation and schedule for long-term

maintenance of the target habitat and plant community structure and composition. The proposed format for these plans is that currently being used by the USFWS and NRCS for projects being implemented through a Cooperative Agreement.

2. Native seed collection and increase. Successful enhancement of these sites requires the addition of a diverse mix of native plants. Priority species are identified in Table 3.
3. Implementation of the enhancement prescription. Prescriptions will be site-specific and may include activities such as mowing, burning, herbicide application, and seeding.

Products at the end of the three year period include:

- Enhanced prairie and wetland WRP sites with increased species richness & habitat value.
- A plan for the ongoing maintenance of quality habitat at each site.
- Development of native seed stocks and a larger, more experienced base of native seed producers.
- Significant progress towards the establishment of a network of prairie habitats capable of supporting Federally Listed and Candidate plants, invertebrates and bird species.

The target habitats for this proposal are wet prairies and adjacent upland prairies previously restored by WRP. Target species will be determined on a site by site basis and will include those species identified in Table 2. The basic goal is to reduce the abundance of the dominant species and create openings for the introduction of additional species. Weedy sites would undergo aggressive weed control and reseeding with natives. Available seed supplies are inadequate to meet the needs of this project so will be augmented by new collections and growout.

Designing a Wildlife Habitat Conservation & Management Plan for each site will make it easier to identify the ecological goals and objectives of the restoration and evaluate progress towards achieving those objectives. Presently such goals are not clearly identified or lack measurable indicators of success. Plans developed as part of the enhancement prescription will specifically outline habitat goals and objectives, including protocols for evaluating maintenance schedules, practices, and habitat quality.

Development of the enhancement prescription will essentially follow the implementation design process used to establish the restoration plan of operations. Engineering and structural work will not be included, as this work has already been done and is not part of the enhancement proposal.

An important benefit of this project is the increased availability of source-identified locally-native seed stocks. The native seed currently available is quite limited in terms of species diversity and genetic provenance. The seed production knowledge resulting from this proposal would be helpful in setting a standard for future restoration efforts throughout the Willamette Valley, encouraging larger markets, larger-scale production, and lower costs per pound. Future WRP and WREP enrollments, as well as other Willamette Valley wetland restoration activities, will benefit from lower cost locally-adapted seed for a diversity of native species. The species targeted for collection and

production have been selected as priority species with the greatest potential for widespread application and highest value for wetland-dependent wildlife (Table 3).

Several efforts to increase the supply of native seed in the Willamette Valley have been initiated or proposed. We will work closely with these key partners to coordinate a regional seed strategy to increase the efficiency and cost-effectiveness of plant materials procurement. Seed collections will be made on private and public lands from ecologically appropriate donor sites throughout the ecoregion.

Schedule of Activities

Spring – Summer 2006

- Site visits
- Develop prescriptions
- Coordinate seed availability and seed procurement strategy
- Collect seed
- Contract seed growout

Fall 2006 – Winter 2007

- Write prescriptions and management plans
- Begin site treatments
- Monitoring treatments
- Plant seed for initial growout
- Documentation and reporting

Spring – Summer 2007

- Weed control, site prep
- Collect seed
- Harvest seed from growout
- Monitoring

Fall 2007 – Winter 2008

- Weed control and site prep
- Plant additional seed collections
- Monitoring
- Documentation and reporting

Spring – Summer 2008

- Conduct prescribed burning
- Harvest seed from growout
- Weed control
- Monitoring

Fall 2008 – Winter 2009

- Conduct prescribed burning
- Pre-planting site prep
- Plant seed
- Monitoring
- Documentation and Final reporting

PROJECT MANAGEMENT AND PARTNERS

The Institute for Applied Ecology (IAE) is a 501(c)(3) not-for-profit organization dedicated to natural resource conservation, research, and education. IAE has been actively involved in restoration projects, invasive species control and research, conservation biology, and habitat management in the Willamette Valley since 1998. IAE specializes in work related to rare plants, focusing on monitoring and researching habitat management techniques. The highly trained, professional staff of IAE provides technical services to public and private agencies by developing and communicating information on ecosystems, species, and effective management strategies.

The work outlined in this proposal would be managed and coordinated by a qualified Project Manager to be hired for the three-year term. The project manager would be responsible for coordinating with partners and subcontractors, designing enhancement prescriptions, overseeing the enhancement activities, reporting, and generally ensuring the success of the project. Assisting the project manager will be a seed program coordinator, charged with coordinating and organizing native seed collection and increase. This position would be for five months of project years 1 and 2. Seed collectors (2-3) would be hired for seasonal seed collection (three months) of project years 1 and 2. We will subcontract with qualified equipment operators, drawn from a local pool of skilled technical services providers, to implement on-the-ground activities. The enhancement activities will be routine vegetation management actions such as herbicide application, mowing, burning, disking, and seeding.

Monitoring and evaluation of the project will be conducted by project staff on a continual basis. We will monitor all actions taken at each site, employing an adaptive management strategy that will accommodate the variable nature of field-based projects. Annual reviews may be coordinated with NRCS and USFWS staff.

The USFWS has shown an outstanding commitment to restoring and conserving critical habitat for imperiled species in the Willamette Valley. Staff of the USFWS William L. Finley National Wildlife Refuge Complex have restored and enhanced over 3,000 acres of Willamette Valley wetlands and wetland-type habitats during the past 7 years for the benefit of migratory waterfowl and other wetland-dependent species. USFWS will contribute expertise in wetland habitat management, especially for listed species, including assistance with ESA and NEPA compliance, where required.

The Oregon Watershed Enhancement Board is a state agency that promotes and funds voluntary actions to enhance Oregon's watersheds. OWEB provides grants to carry out on-the-ground restoration projects that aim to restore aquatic habitat, improve water quality, and restore biodiversity. OWEB staff support this proposal and are recommending the allocation of \$250,000 in matching funds towards the project, pending Board approval in September 2005.

The Nature Conservancy (TNC) is contributing technical assistance in developing and reviewing enhancement prescriptions. TNC staff has expertise in the natural history of the Willamette Valley and knowledge of the composition of historic habitats. TNC will also provide access to its properties for seed collecting.

The City of Eugene has a well established seed collection program for wetland and upland prairie species. They are contributing technical assistance with regards to seed collecting as well as access to seed collecting sites. We will also be collecting

seed from sites that are owned or managed by the Greenbelt Land Trust, City of Corvallis, Benton County, and other public and private landowners.

Table 1. WRP Easements selected for habitat enhancement.

WRP Site	Year Enrolled	County	Site Acres	Project Acres
Gahr	1999	Yamhill	117	20
Mud Slough	1995	Polk	320	100
Bessett	2000	Polk	68	25
Winter Creek	1994	Polk	58	40
Dooghe	2002	Polk	62	30
Tyee	2001	Benton	180	50
Dunn	1998	Benton	200	30
Raindance Ranch	1998	Benton	68	25
Mary's River	1998	Benton	62	15
Long Tom Ranch	1998	Lane	300	100
Bergey	2002	Lane	210	100
Helt	1999	Lane	103	60
			Total: 1748	Total: 595

Table 2. Species with Federal ESA Status that will potentially benefit from enhancement activities of this proposal (Oregon Natural Heritage Information Center 2004).

Scientific name	Common name	Federal ESA Status
Animals		
<i>Icaricia icarioides fenderi</i>	Fender's blue butterfly	Endangered
<i>Eremophila alpestris strigata</i>	Streaked horned lark	Candidate
<i>Euphydryas editha taylori</i>	Taylor's checkerspot butterfly	Candidate
<i>Emys marmorata marmorata</i>	Northwestern pond turtle	Species of Concern
<i>Poocetes gramineus affinis</i>	Oregon vesper sparrow	Species of Concern
<i>Acetropis americana</i>	American grass bug	Species of Concern
Plants		
<i>Erigeron decumbens</i> var. <i>decumbens</i>	Willamette Valley daisy	Endangered
<i>Lomatium bradshawii</i>	Bradshaw's lomatium	Endangered
<i>Plagiobothrys hirtus</i>	Rough popcornflower	Endangered
<i>Castilleja levisecta</i>	Golden paintbrush	Threatened
<i>Lupinus sulphureus</i> ssp. <i>kincaidii</i>	Kincaid's lupine	Threatened
<i>Sidalcea nelsoniana</i>	Nelson's checkermallow	Threatened
<i>Aster curtus</i>	White-topped aster	Species of Concern
<i>Delphinium oreganum</i>	Oregon larkspur	Species of Concern
<i>Delphinium pavonaceum</i>	Peacock larkspur	Species of Concern
<i>Horkelia congesta</i> ssp. <i>congesta</i>	Shaggy horkelia	Species of Concern

Table 3. Native plants targeted for planting at project sites.

1st Priority Forbs	2nd Priority Forbs	Priority Graminoids
<i>Eriophyllum lanatum</i>	<i>Asclepias speciosa</i>	<i>Danthonia californica</i>
<i>Lotus purshianus</i>	<i>Grindelia integrifolia</i>	<i>Carex unilateralis</i>
<i>Lomatium nudicaule</i>	<i>Lupinus polyphyllus</i>	<i>Juncus tenuis</i>
<i>Potentilla gracilis</i>	<i>Microseris laciniata</i>	<i>Elymus trachycaulus</i>
<i>Prunella vulgaris</i>	<i>Ranunculus orthorhynchus</i>	
<i>Ranunculus occidentalis</i>	<i>Sidalcea virgata</i>	
<i>Saxifraga integrifolia</i>	<i>Sisyrinchium idahoense</i>	
<i>Sidalcea campestris</i>		
<i>Symphyotrichum hallii</i>		
<i>Wyethia angustifolia</i>		

Project Budget

	Match					Requested funds	Project TOTAL
	IAE	OWEB	City of Eugene	TNC	Total Match	WREP	
Salaries and benefits	100,000	140,000	10,000	5,000	255,000	100,000	355,000
Travel					0	4,000	4,000
Supplies					0	4,000	4,000
Contract services		85,000			85,000	245,000	330,000
Indirect costs	15,000	25,000			40,000	59,000	99,000
Total	115,000	250,000	10,000	5,000	380,000	412,000	792,000

Budget notes

- OWEB funds have been requested and are subject to board approval in September 2005.
- NRCS Technical Assistance contribution of \$100,000 is being matched by non-federal partner contributions totaling \$255,000 (match ratio 2.55:1).
- NRCS funds allocated for implementation (\$253,000) will be matched by \$85,000 from OWEB, a 25% cost-share.
- USFWS is providing Federal non-matching assistance that is not reflected in the figures above. Contributions by USFWS include ESA and NEPA consultation, review of implementation plans, and use of seeding equipment.

Schedule of WREP funding needs

Year 1 (30%)	\$120,000
Year 2 (30%)	\$120,000
Year 3 (40%)	\$172,000
Total requested	\$412,000

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Willamette Valley WREP Project Locations

