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Legacy 09-213

Strategy for the Cooperative Recovery of Rare Species Affecting Training Ranges Final Report

The Nature Conservancy of Washington

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LEGACY PROJECT FINAL REPORT NOVEMBER 2011

Cooperative Recovery of Rare Species Affecting Training Ranges (09-213)

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PROJECT SUMMARY.

Current Status:

The project ended on September 30, 2011, and this is the final report for the project. This report describes the project's achievements, evaluates cooperative conservation techniques as a whole, and includes lessons learned.

The project's primary objective is to maintain military training flexibility by precluding the need for Endangered Species Act listing of the four candidate species that occur on the grasslands of Joint Base Lewis-McChord: Taylor's checkerspot and mardon skipper butterflies, the streaked horned lark, and Mazama pocket gopher. The project works toward this goal by promoting cooperative ecoregional recovery of these rare species throughout their range in order to share the burden of species recovery over a variety of partners and locations. The ecoregion extends from Oregon's Willamette Valley, through Washington's Puget Trough, and into the Georgia Basin of British Columbia, Canada. Thus, the project moves beyond geographic and political boundaries to engage and work with all organizations and individuals who will assist in the recovery process. The Legacy Program and US Fish & Wildlife Service are funding this effort.



Figure 1. Taylor's checkerspot butterfly, mardon skipper butterfly, streaked horned lark, and Mazama pocket gopher. These species all occur on Joint Base Lewis-McChord training lands and are candidates for listing under the federal Endangered Species Act.

Our work is framed under three clear components – information transfer, linking of entities, and generating incentives. We promote cooperative action by concurrently implementing strategies specific to each component. These strategies include facilitating working groups, identifying high priority actions, holding workshops, hosting a website and listserve,

shepherding agreements and research, and growing the funding sources to support recovery work. The lessons we learned through the three-component framework itself as well as specific strategies employed can be used in a wide variety of conservation settings and cooperative efforts. We have found this method very useful and have seen action to recover our target species increase dramatically.

Efficient information transfer ensures that all partners utilize the best available practices for restoration and recovery actions. The formal and informal linking of entities is important to facilitate production and implementation of ecoregional goals, define roles, and share resources. The final component of the strategy is to provide incentives. The project enhances financial incentives by raising awareness and helping to direct funds towards implementing identified priority actions. Non-financial incentives, such as technical and on-the-ground assistance, are also key to guiding and promoting recovery actions.

The project was immensely successful in achieving its goals to integrate ecoregional partners for conservation and recovery of target candidate species. Our facilitation work has resulted in an empowered conservation community that works together toward mutually identified priority recovery actions, funneling energy and resources toward the next best thing to do for these species.

The key achievements of the project were:

- Initiation of a formal organization to connect practitioners throughout the ecoregion: Cascadia Prairie-Oak Partnership (CPOP).
- Hosting species-specific workshops resulting in strategic action plans.
- Ecoregional science conference by the Northwest Scientific Association, co-hosted with the Cascadia Prairie-Oak Partnership.
- Publication of conference proceedings by Northwest Scientific Association.
- Ecoregional workshop addressing the presence of streaked horned larks on Pacific Northwest airports.
- Integration of Oregon and Washington state wildlife action plans for prairie species.
- Strategy for development of infrastructure and techniques for ecoregional prairie seed production.
- Technical note describing how to manage agricultural land for streaked horned larks.
- Fact sheet outlining the key aspects and benefits of the project.
- Generation of further actions and funding by other entities.

Ecoregional cooperation

We have worked to link practitioners, land managers, landowners, researchers, academics, scientists, public agencies, conservation organizations, and private individuals through a formal partnership that represents the prairie-oak habitat in British Columbia, Washington, and Oregon. Building on four existing regional working groups in the WPG, we have initiated the Cascadia Prairie-Oak Partnership. CPOP aims to be an information hub, provide a venue to define linked actions and priorities, and a unified voice for prairie-oak conservation.



In accordance with our facilitation of ecoregional cooperation, we subsumed listserves for the existing regional working groups – namely Oregon Oak Communities, South Sound Prairies (WA), North South Prairies (WA), and the Garry Oak Ecosystems Recovery Team (British Columbia, Canada) – into one listserve under the auspices of the Cascadia Prairie-Oak Partnership (CPOP). The new listserve is moderated by The Center for Natural Lands Management and its partners to ensure that only appropriate content is posted, and provides a new opportunity for members of the regional working groups to exchange ideas and learn of research, training opportunities and new developments in prairie-oak conservation across the ecoregion.

Species-specific workshops

We planned, hosted and provided follow-through on 6 species-specific workshops. Streaked horned lark: September 29, 2009 & September 16, 2010. Taylor's checkerspot: September 24, 2009 & September 23, 2010. Mazama pocket gopher: October 7, 2009 & October 28, 2010.

All workshops were attended by key partners in the ecoregion within their species' range, including partners from JBLM, US Fish & Wildlife Service, US Army Corps of Engineers, US Forest Service, Washington Department of Fish & Wildlife, Oregon Department of Fish and Wildlife, British Columbia Ministry of Environment, Washington Department of Natural Resources, Washington State Parks, Thurston County, Oregon Zoo, University of Washington, Oregon State



Figure 2. Range-wide Streaked Horned Lark working group

University, American Bird Conservancy, Wolf Haven, Weyerhaeuser, and private consultancies.

These workshops focus on compiling the current state of recovery actions and refining the recovery plans to determine next steps such as the specific activities for the coming year, the implementing party for that action, and funding sources. The cooperative process of refining the action plans assures support from a variety of partners increasing the likelihood of completion of agreed-upon recovery activities. We produced

minutes for the workshops that captured the discussions and follow-on actions from the workshops.

At the streaked horned lark workshops, specific action items included the formation of a monitoring sub-committee to finalize the draft range-wide monitoring protocol and developing comparable survey protocol for occupied sites. A streaked horned lark population target was agreed upon; the goal being to double the number of larks in five years. Presenters at the 2010 workshop reported on the survey protocol and standardized data collection methods implemented by the partners that year. Also, partners presented recent research, including trial restorations and nest exclosures. The working group designated two subgroups: a monitoring subgroup and a private lands subgroup. The two highest ranked actions in the most recent update of the action plan were to secure protection commitment on core occupied sites, and to implement habitat restoration activities on breeding and wintering grounds.

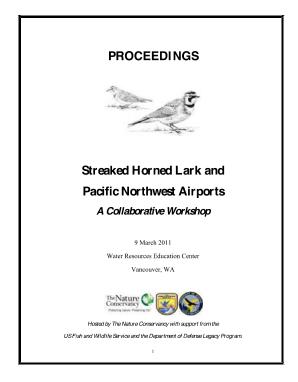
The 2009 Taylor's checkerspot workshop was the first range-wide meeting for this species. It set up lasting connections and information exchange for the recovery of this species across the ecoregion. It focused on updates on current activities, action planning and cementing partnerships, as well as updating the draft wildlife action plan for the Taylor's checkerspot. The 2010 workshop had sessions focused on current and future research on Taylor's checkerspot, research needs identified during a separate 2010 meeting of species researchers, captive rearing, an update on currently occupied sites, and finally discussions on future work on species recovery, including potential reintroductions.

The Mazama pocket gopher workshops updated the action plan, as well as presenting issues on taxonomy and DNA studies, translocation, and regulations affecting private property owners relating to Mazama pocket gophers. One concrete outcome from the workshops is the creation of a subgroup to correct the generally poor public image of the Mazama pocket gopher. Through separate funding, this subgroup is currently producing a series of public service announcements about the gopher.

Streaked horned larks and Pacific Northwest Airports workshop

On March 9-10, 2011 we hosted the Streaked Horned Larks and Pacific Northwest Airports Workshop. The workshop took place in Vancouver, WA, and drew about 50 participants from many different partners, including the US Department of Agriculture, airports/airfields, the US Navy's Bird Aircraft Strike Hazard (BASH) Program, state and federal wildlife agencies and nonprofits. Unfortunately the FAA was unable to attend, but we are in close contact with ecoregional personnel and shared the results of the workshop with them. Leading up to the workshop, we developed the agenda, arranged speakers, obtained speaker abstracts and biographies, compiled workshop materials, researched other US airports occupied by rare species, and coordinated logistics such as transport and catering.

The full-day workshop on March 9, 2011 surveyed the field of topics involved in this complex issue. The morning presentations focused on the hazard that birds present to aircraft, with presentations from representatives of both the civilian and military wildlife strike prevention programs: the US Department of Agriculture Wildlife Services, and the US Navy BASH Program. The wildlife hazard prevention manager at Portland International Airport – a site currently occupied by streaked horned larks – described the airport's wildlife hazard prevention program. Then a leading US researcher on the potential synergies between bird hazard management and conservation at airfields, Dr. Kimberley Peters of the New Jersey Audubon Society, made a keynote presentation. Dr. Peters is currently studying how grassland birds react to different types of grassland management on military airfields, and shared her results to date with us.



The afternoon's proceedings focused on streaked horned larks in the Pacific Northwest, covering natural history and conservation, as well as the potential impacts to airports/airfields should listing under the Endangered Species Act occur. The final presentations for the day focused on actual experiences at airports/airfields currently occupied by larks, namely JBLM, Portland International Airport, Corvallis Airport and the Olympia Airport.

On Thursday March 10, 2011 we hosted a field trip to Portland International Airport to see the airport's wildlife hazard management program in action. Approximately one quarter of the Workshop participants attended the field trip as well.

Overall the workshop was a great success, bringing together for the first time partners from the aviation world and the streaked horned lark conservation world to talk about how lark conservation might occur at the airports and airfields without impacting aircraft safety. We were complimented on the evenness of coverage between the two competing issues (conservation and aircraft safety), the opportunity to hear first-hand how airports are handling streaked horned lark conservation, and the professionalism of the proceedings. Promptly after the workshop we sent an email to all invitees, which thanked participants for their attendance, summarized the results of the workshop and highlighted next steps.

We compiled the proceedings of the workshop (including all presentations, materials provided and a participant contact list) and distributed them to the participants, as well as partners who were unable to attend.

The common understanding created by the Workshop should result in increased cooperation and buy-in by partners as we move to the next step in the process: creation of a working group to develop a clear roadmap on how to approach conservation of streaked horned larks on Pacific Northwest airports (to be funded separately). We anticipate the working group will address several outstanding issues, including surveys of airports with streaked horned lark habitat, wildlife assessments for airports with known streaked horned lark populations, recommendations to be incorporated into management plans, and conservation incentives which may be available to airport operators.

Northwest Scientific Association and Cascadia Prairie-Oak Partnership Joint Science Conference

The Northwest Scientific Association cohosted with the Cascadia Prairie-Oak Partnership (CPOP) the 82nd annual meeting. The annual meeting was refashioned to be an ecoregional conference titled "From Mt. St. Helens to Oak-Prairie Lowlands: Disturbances. Biological Legacies, and Conservation" held March 24-27, 2010. This conference was the result of months of work by the Conservancy's Hannah Anderson and NW Science's Patrick Pringle. The coordination (finding space, speakers, call for presentations, abstracts, creating the schedule and field trips), preparation (organization and publication of materials following abstract submissions, location and confirmation of food and lodging, etc.),

Announcing the 2010 joint meeting of

Northwest Scientific Association & Cascadia Oak-Prairie Partnership



24-27 March 2010

Centralia College Campus, WA State

from Mount St. Helens to Oak-Prairie Lowlands
Disturbance, Biological Legacies,
and Conservation

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Websites: NWSA:

www.vetmed.wsu.edu/org_NWS/NWSci_Home.htm www.southsoundprairies.org; www.northsoundprairies.org www.goert.ca; www.oregonoaks.org/index.html







and presentation of this conference was shouldered between these two professionals. 253 conservation professionals, scientists, and students from British Columbia, the Willamette Valley, North and South Sound and other areas representing the ecoregion registered for and converged in Centralia, WA for the three day event. Approximately 2/3 of the attendees were experts within the specialized field of prairie conservation.

The conference was distinct from other scientific conferences as the content was focused primarily on a specific rare habitat type and thus pulled relevant abstracts, presenters, and posters for dissemination. The Plenary speaker Dr. Gerould Wilhelm of the Conservation Design Forum spoke using native prairie, woodland, and riverbank landscapes to illustrate the concepts of consilience (jumping together) and concinnity – 'the beautiful harmony between people and place as humans understand their role in consilience'. Research geologist and ecosystem scientist with the USDA Forest Service PNW Research Station and Oregon State University and

plenary speaker, Fred Swanson, presented 30 years of learning at Mt. St. Helens: Geology, Ecology, and Human Dimensions. Session topics included symposia featuring: Prairie Restoration Research-Combining Tools for Success, Floristic Quality Assessment-Potential for Application in the PNW, and Biological, Landscape, and Disturbance Legacies of Railroad Logging. Concurrent technical sessions covered a broad range of topics related to Prairie-Oak conservation including: history and inventory, vertebrate wildlife, native plant materials production, invasive species control and prescribed fire as well as other topics including lichenology, climate change, and the management of Pacific Northwest forests. The vast majority of these sessions had time built into the schedule to accommodate discussion.

Three field trips were offered to registered participants: *Comparing Washington's Willamette and Puget Prairies* led by Rex Crawford and Joe Arnett of the Washington Department of Natural Resources (WADNR), *Garry Oak Restoration in the South Puget Sound* led by David Wilderman of WADNR, Mason McKinley of The Nature Conservancy and Dave Hays of the WA Department of Fish and Wildlife, and *Lichens in the Mima Mounds* led by Katherine Glew of the University of Washington. In addition to the symposia and technical sessions, there were 39 poster presentations providing information about invasive species, landowner guidance for conservation, native plant production, monitoring of native grasslands and oak woodlands and a variety of other pertinent information.

This conference marked the proposal and acceptance of CPOP and the subsequent first business meeting. The project lead capitalized on the presence of many partners to suggest formalization of CPOP as the overarching link between the various working groups for habitats and species throughout the Willamette Valley – Puget Trough – Georgia Basin (WPG) ecoregion. This group addressed the scoping and services of the partnership. Identified needs that could be met by CPOP were: government relations, grant writing, influence/presence in legislation, housing of a literature database, website, and research questions. From this meeting it was decided that the partnership would meet every two years to refine the scope and address new needs that the ecoregion will develop.

Feedback from the ecoregional conference attendees was overwhelmingly positive. The praise primarily focused on networking opportunities that successfully linked conservation groups and individuals working in this niche ecosystem as well as the conference's organization and professionalism.

Proceedings of Northwest Scientific Association 82nd Annual Meeting 24-27-March 2010

The peer-reviewed scientific journal Northwest Science published the proceedings of this meeting in a special edition in mid-2011. A well-respected Prairie Oak expert in the region, Peter Dunwiddie, PhD. was the editor for this special issue. The issue contains 24 papers focused on prairie habitats and processes. The articles fall into two categories: primary research papers, and papers detailing the current state of knowledge for topics such as rare prairie species, invasive species, and prescribed fire as a conservation tool.

The Nature Conservancy negotiated with Northwest Science to ensure that the edition will be available online, free of charge, to all who wish to access it. Also, The Nature Conservancy obtained a perpetual license to publish, print and share the special edition with its partners and others, thus ensuring that the important scientific research contained in the special edition will be disseminated as widely as possible. In connection with the transition of The Nature Conservancy's South Sound Program to the Center of Natural Lands Management (CNLM), The Nature Conservancy assigned these rights to CNLM, so that CNLM can continue to publish the special edition.

As of August, 2011, there had already been over 3,700 hits to the online version of the special edition. We printed about 200 hard copies of the special edition, and distributed them to partners, free of charge. We expect demand for this special edition to continue well into the future.



Integration of OR & WA state wildlife action plans for prairie species

This document was completed and disseminated to conservation partners, including the Oregon Department of Fish & Wildlife and the Washington Department of Fish & Wildlife. It is a compilation and summary of the prairie and oak woodlands components of the two states' wildlife action plans for use by CPOP and other conservation partners.

The integration is divided into four sections. The first section explains why the summary has been prepared, and briefly describes the defining characteristics of prairie habitat. The second section identifies the limiting factors to prairie habitat in the ecoregion, and identifies actions to counteract those factors. The third section lists the species of greatest conservation need which occur in the prairie habitat of the ecoregion, and the actions necessary to protect those species. The fourth section highlights areas and actions where a coordinated, ecoregional effort may be most effective. We hope that the fourth section of the document will provide an opportunity to create innovative cooperative conservation opportunities that might not otherwise have come to light. While the integration only involved Oregon and Washington's state wildlife action plans, we eventually hope to extend it to include the relevant portions of British Columbia's wildlife action plan.

Feedback on the document from partners has been extremely positive. Partners have noted the usefulness in seeing, side-by-side, the differing approaches to prairie and oak conservation taken in each of Oregon and Washington. Partners also appreciate having the prairie and oak portions extracted from the rather lengthy wildlife action plans, to enable a more focused look at the respective states' conservation priorities in this habitat. Another advantage of this

document is the ability to fill data gaps using recent data reported from the various working groups in the ecoregion. The integration is envisaged to be a living document, incorporating recent research and results in a more nimble way than is possible through state wildlife action plans, which have several years between updates, and have a more significant review and vetting process.

South Puget Sound Prairies Regional Seed Production Strategy

Restoration efforts in the South Puget Sound have moved from relatively simple actions, such as control of invasive shrubs, to increasingly complex actions such as reintroduction of rare animals with specific habitat needs. Not only is the complexity increasing, the scope of the action on the landscape has dramatically increased. One limiting factor of large-scale restoration is the availability of native seed. South sound partners are working together to ramp up seed availability to support the landscape scale restoration actions. We have produced a 5-year strategy to guide the expansion of the seed production program.

Final presentation to Legacy board or appropriate conference

Patrick Dunn of our office attended the 2011 Sustaining Military Readiness Conference on behalf of our project manager, Hannah Anderson, as Hannah was heavily pregnant at the time. At the conference, Mr. Dunn presented a poster that summarized the key components and achievements of the Legacy program as it relates to ecoregional prairie and oak woodland conservation.

Managing agricultural lands for streaked horned larks in the Willamette Valley

Stemming in part from our cooperative work on streaked horned larks in the ecoregion, the Natural Resources Conservation Service of the US Department of Agriculture (NRCS) included streaked horned larks in their incentive programs for agricultural landowners. This is particularly significant for Oregon's Willamette Valley, where almost all streaked horned larks use agricultural land for nesting and breeding.

In order to capitalize on this program, and to ensure that agricultural landowners are well-informed about the opportunities to manage their land for streaked horned lark conservation, we coordinated the production of a technical note titled, "Managing Agricultural Land to Benefit Streaked Horned Larks". The note is



styled after technical notes produced by the NRCS, and is aimed to be distributed by the NRCS and other partners. It provides a background on streaked horned larks, the types of habitat that best suit larks, and step-by-step instruction on the ways in which agricultural land can be

managed or adapted to provide that habitat. The note is written in a practical manner targeted to its particular audience – agricultural landowners and managers. It was vetted by numerous experts in the field to ensure that the information is accurate, comprehensive and relevant.

Following on from the publication of the technical note a key future step (to be funded separately) will be conducting a targeted outreach program to agricultural landowners with potential streaked horned lark habitat. The outreach program will aim to make landowners aware of their potential to assist in recovery of the lark, and provide opportunities to hear concerns about potential listing. This may be done through partnerships with farming interests, and may involve parcel-by-parcel identification.

Fact Sheet

As required by the Legacy program, we submitted a fact sheet describing the project's objective, summarizing our approach, and describing the project's benefits and accomplishments.

Generating further action

Through the actions supported by this program, awareness, identification, and planning for rare species needs is significantly increased and coordinated among partners. Promotion and facilitation actions have resulted in a community of engaged and informed partners working together toward prioritized strategic goals, supported by increasingly robust resources.

The conservation infrastructure of partnerships, planning, and prioritization puts us on the path to success even in the face of Federal listing. The positive track record of working together with tangible results creates incentives for future cooperation and resource sharing. Finally, the working groups and action plans are poised to become formal recovery teams and plans should listing occur.

In addition to enhanced partnerships funding resources for candidate species recovery actions has significantly increased as a result of active promotion. For example, the USFWS has focused limited recovery dollars toward the candidates. Also, the partnerships nurtured through this program implement a multi-million dollar Army Compatible Use Buffer (ACUB) program for JBLM. The JBLM ACUB program is unique in the nation, focusing DoD support on rare species recovery actions rather than solely land acquisitions. By restoring habitat and increasing species populations, the JBLM ACUB aims to minimize training restrictions in the face of ESA listing.

The Center for Natural Lands Management (formerly The Nature Conservancy South Sound program) coordinates the administration of the ACUB program, utilizing and building upon the connections made with partners through this project. Projects funded through the ACUB program include a Taylor's captive rearing and breeding program which is poised for transfer within other regions within the historic range, range-wide habitat preparation for Taylor's checkerspot translocation, a South Sound habitat quality monitoring program, Mardon skipper monitoring and habitat enhancement, and native seed and plug production to better recreate native habitat for the candidate species.

Similarly, partner work on streaked horned larks has led to cooperation with the US Army Corps of Engineers. The Corps manages important lark breeding grounds on dredge islands in the Columbia River, and we are working with the Corps to ensure that the location and timing of dredge deposition enhances lark habitat and does not interfere with breeding larks.

Another indirect effect of this program is that in 2011, for the first time Oregon recognized certain butterflies as a priority conservation target. Historically, Oregon Department of Fish and Wildlife had not addressed invertebrates. This provides an institutional basis for further work and funding on butterfly conservation in Oregon.

Cost Savings:

The project proposed to the USFWS, *Implementing Cooperative Recovery of Prairie Ecosystem Candidate Species* was funded at \$34,500 in 2010. The primary benefit from this complementary project is the funding of a dedicated coordinator (Hannah Anderson, TNC) who ensures that relevant research is catalogued and disseminated, a forum for discussion and sharing of best management practices is created and nurtured, priority conservation actions are pushed forward, solutions to identified problems are generated and implemented, and cooperative recovery of rare species and their habitats is promoted throughout the ecoregion.

Military Benefit:

The regulatory burden of endangered species on training lands is an imminent threat to Joint Base Lewis-McChord. The installation retains some of the last remaining native habitat for 4 species that are candidates for listing under the Endangered Species Act. These same lands are important for training maneuvers, central and small arms artillery impact, and airfield approach zones, runways and taxiways. If any of the species were listed, significant restrictions could be imposed by the US Fish and Wildlife Service.

Cooperative, range-wide, ecoregional recovery of these species is the best strategy to minimize impact to training should the species become listed under the ESA. The ecoregional focus has directed efforts throughout the ecological range of the target species, thereby shifting the focus from only the few remaining populations on DoD lands and sharing the recovery burden with partners. With continued conservation success, either listings could be avoided and training flexibility maintained, or if listed, the conservation infrastructure and partnerships built through this project can help minimize the potential impact to JBLM.

The synergies created from the cooperative creation of our ecoregional, integrated products provide lasting benefits for JBLM that will continue to accrue beyond the production of the items themselves. The partnerships nurtured and maintained through development of strategies and plans, at meetings and conferences, and through generation of incentives cement the shared goals of all parties and encourage collaboration of future actions.

Many military installations face the same problems as JBLM. This project can serve as a demonstration for regional cooperative recovery of rare species and provide a framework for

implementation. The project links DoD with a wide variety of conservation partners including state, federal, and private organizations as well as utilizes a full suite of conservation tools. The project aligns DoD natural resource management plans with those of State and private conservation planning efforts and guides and supports the integrated implementation of those plans.

Project Difficulties:

Bringing a multitude of partners together can be challenging. Cooperative work by its very nature requires understanding of disparate viewpoints and willingness to compromise. Our program meets this challenge by bringing all entities together that can address the issue of interest, creating a non-threatening venue for cooperation, identifying and filling information gaps, and identifying solutions that are supported and vetted by the group.

Future Direction:

This project is complete, however the need for ecoregional coordination of prairie and oak woodland conservation continues. In particular the CPOP conference demonstrated the need for long-term support to continue the leadership role for conservation throughout the ecoregion. If developed properly, CPOP has the potential to be the organization that can leverage this needed support. In the meantime, we will continue to seek support to maintain existing partnerships and develop new partnerships to ensure that prairie and oak woodland conservation in the Willamette Valley – Puget Trough – Georgia Basin ecoregion continues apace.