

Mazama Pocket Gopher Working Group Meeting
Annual Meeting | November 20th, 2013 | WPUA Building, Olympia, WA

Executive Summary

The annual Mazama pocket gopher (MPG) working group meeting includes updates to research, monitoring, and conservation actions as well as a needs discussion and update to the Action Plan that lists and prioritizes next best actions for gopher conservation that can be accomplished in the next 3-5 years.

The first half of the meeting focused on project updates from partners, including a brief update regarding the proposed rule to list the Mazama pocket gopher as threatened under the Endangered Species Act. Hannah Anderson of the Center for Natural Lands Management provided an overview of work benefitting the gopher that is supported by the Dept. of Defense and other federal agencies. Andy Deffobis of Thurston County provided an update to the County's ongoing Habitat Conservation Plan development, and Liz Satterthwaite outlined the recently launched public outreach program – the Prairie Information Project.

In the second half of the meeting, Gail Olson of the Washington Dept. of Fish and Wildlife and Kim Flotlin of the US Fish and Wildlife Service provided updates and results from ongoing projects including a translocation study, two genomics studies, and a distribution and habitat study. The meeting concluded with a needs assessment, where the group was in consensus that increased funding is needed to keep up with the increasing survey, monitoring, research, and restoration needs to benefit the gopher.

Following the meeting, a smaller group met and reviewed the action plan, which included updates and revisions, as well as a reprioritization of actions. The meeting agenda and minutes are included below. The meeting agenda, minutes, and updated action plan are included.

Agenda

9:00	Welcome and Introductions	Hannah Anderson, CNLM
9:15	ESA Listing Status	Kim Flotlin, FWS
9:25	Sentinel Landscapes & Land Protection	Hannah Anderson, CNLM
9:45	Thurston County Habitat Conservation Plan	Andy Deffobis, Thurston Co.
10:10	Public Communications	Liz Satterthwaite, Engage NW
10:30	<i>BREAK</i>	
10:50	Distribution Surveys	Gail Olson, WDFW
11:05	Translocation Feasibility Study	Gail Olson, WDFW
11:25	Dispersal & Genetics	Gail Olson, WDFW
11:40	Needs Assessment Brainstorm	
12:00	<i>ADJOURN</i>	

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In Attendance

Hannah Anderson, Elspeth Hilton Kim, Bill Kronland, Audrey Lamb, *Center for Natural Lands Management (CNLM)*; Liz Satterthwaite, *Engage NW*; Cathie Conneley, Sarah Knowland, *Environmental Science Associates*; Dave Clouse, Warren Devine, Valerie Elliott, Jeff Foster, Nick Miller, *Joint Base Lewis-McChord (JBLM)*; Key McMurray, *Key Environmental Solutions*; Linda Kripner, *Kripner Consulting*; Shelly McGraw; Dave Risvold, *Pierce County Planning*; Andrew Deffobis, Jeanne Kinney, *Thurston County*; Kim Flotlin, Taylor Goforth, Ryan McReynolds, *US Fish and Wildlife Service (FWS)*; Mary Linders, Gail Olson, Tammy Schmidt, Derek Stinson, Michelle Tirhi, *Washington Dept. of Fish and Wildlife (WDFW)*; Jonathan Kemp, *Wildlife Society*.

Kim Flotlin, FWS – Listing Update

The US Fish and Wildlife Service (FWS) previously [proposed a rule](#) to list four subspecies of the Mazama pocket gopher (MPG) as threatened under the Endangered Species Act. Nine subspecies of the MPG were evaluated; four subspecies (Olympia, Tenino, Yelm, and Roy) were included in proposed rule. FWS is still writing the decision that will be submitted to the federal register no later than March 31st. The rule will be published in the federal register within two weeks of that time.

Hannah Anderson, CNLM - Sentinel Landscapes & Land Protection

Summary

CNLM has been engaged with JBLM on prairie conservation efforts since 1996. In addition to being partners in habitat management, DoD programs such as ACUB and REPI Challenge have provided financial and institutional support for additional conservation efforts in the region, allowing for acquisitions, easements, expanded habitat restoration and public outreach.

Army Compatible Use Buffer Program (ACUB)

In 2006, JBLM's ACUB (Army Compatible Use Buffer) Program began, which helped improve the availability of management funding, in addition to acquisition funding. ACUB is the Army's implementation of the DoD's [REPI](#) (Readiness and Environmental Protection Initiative) program. REPI typically supports land acquisition around installations to buffer them from "encroachment" pressures such as development. At JBLM, the encroachment challenge was the potential listing of candidate species under the ESA (streaked horned lark, Taylor's checkerspot, Mazama pocket gopher). The JBLM ACUB program is aimed minimizing training restrictions due to ESA status species by supporting habitat restoration and efforts to increase the sizes and numbers of the target species on lands outside the base. In 2013 the JBLM ACUB also protected two new properties – one in S. Puget Sound (Violet Prairie – Scatter Creek, which is MPG occupied), and one in Clallam County (Dan Kelly Ridge, Taylor's checkerspot occupied).

Readiness and Environmental Protection Initiative (REPI) Challenge

In 2013, the JBLM ACUB program expanded with the awarding of the REPI Challenge, a special grant program under the REPI program. The REPI challenge includes funding for traditional land protection projects (in fee, Conservation Easements) and stewardship endowments to provide long-term support for the protected sites, thereby ensuring the properties

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are maintained for the species in perpetuity and securing DoD's investment. Complementing DOD's support, NRCS has provided support to protect private working lands through conservation easements and grant stewardship program. The REPI Challenge also provides a regulatory relief component, an effort to provide interim permitting strategies, county habitat conservation plans, and a credit-debit infrastructure that can be used for mitigation by private landowners, developers, and JBLM. Outreach is also funded, which includes an intern program for veterans, public outreach campaign, and supports CPOP, the Cascadia Prairie-Oak Partnership

South Sound Prairies are Nation's First Sentinel Landscape

With the awarding of the 2013 REPI Challenge, South Sound Prairies were designated the nation's first Sentinel Landscape. This new designation is an agreement between three national agencies (Dept of Defense, Dept of Agriculture, and Dept of Interior) to focus their existing programs to provide support for a particular region, which provide benefit to all three entities. On South Sound Prairies, this three-agency prioritization is realized through the JBLM ACUB program, NRCS's agricultural easement programs, and USFWS working to provide regulatory certainty in the region. Private landowners can get involved with Sentinel Landscapae by working with NRCS, Land Trusts, and County Conservation Districts to identify programs that may be appropriate for their site.

Take Home Messages

The ongoing success of these programs is the result of developing strong, long-term partnerships that are rooted in shared goals. We need to think outside the box to find new tools, partners, and roles. Lastly, we need to build endowments to enable long-term habitat and species maintenance that is not reliant on DoD or partner funding.

Group Discussion

There was general discussion around the importance of communicating and working with developers – both large scale and small private landowners, as many are interested in working with conservation groups around mitigation and conservation banking. Although mechanisms to do this are not currently available, landowners interested in donating or selling their land for conservation are able to do so through longstanding mechanisms such as land trusts, NRCS programs, and conservation districts. None of these mechanisms are quick, so landowners who are interested in selling or doing an easement need to be willing to wait for the process to work and also need to be willing to sell as the appraised value.

Andy Deffobis, Thurston County - Habitat Conservation Plan Overview

Summary

Thurston County, which has being involved with prairie conservation since the 1980's, is [developing a Habitat Conservation Plan \(HCP\)](#) with a multi-species regional approach covering 17 prairie associated [species](#). The goals of HCP development are to: secure a Section 10 permit with long term permit duration, provide certainty in land use and economic development, create protection of prairie habitat, and support other goals (agriculture, prairie tourism) in the county. The County is currently developing the Prairie Habitat Assessment Methodology (PHAM), one of the HCP deliverables, and hopes to complete the HCP by 2015.

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Overview

Thurston County has been involved with prairie conservation since the 1980's when it purchased Glacial Heritage Preserve and has been working on a county-wide HCP for prairie associated species since 2010. An HCP (Habitat Conservation Plan) is developed by non-federal entities to assess impacts and provide conservation measures for species listed under ESA. Thurston County, which has received three years of habitat conservation plan development funding, is taking a multi-species, regional approach which includes 17 species. This approach maximizes flexibility and options for developing mitigation programs, and reduces the burden on individual landowners.

The County has taken a two-track approach to developing the HCP:

- Track 1- Interim permitting strategy for the period between when the species are listed and when the final HCP is completed. This interim permit will enable permitting and mitigation in the near term, fit into goals of comprehensive HCP, and maintain local control.
- Track 2 – Develop final Prairie HCP, long term assurances and protection of species, continues to maintain local control.

Goals & Objectives

The goals of the HCP are to: Secure a Section 10 permit; provide long term permit duration; provide certainty in land use and economic development; create protection of prairie habitat; and support other goals (agriculture, prairie tourism). The objectives of the HCP are to: Protect and maintain prairie habitat and species in perpetuity; provide a mechanism to maintain local control over permitting decisions related to habitat; and allow for long-term economic certainty and responsible economic development.

Project Deliverables

- a. A model for quantifying credits and debits (PHAM & SHARP – see below)
- b. User manual for running the model
- c. Field Survey Guide for data collection
- d. Protocol document.

PHAM & SHARP

For the Prairie Habitat Assessment Methodology (PHAM), there is a scientific review process - the County convened [a technical working group](#) of 20 experts to provide input into the development of the methodology. There have been three field assessments of the credit-debit methodology, and an independent scientific review was gathered from the Institute of Applied Ecology. The County is working on the final product, and expects completion soon. Entities involved in the technical working group include: USFWS, WDFW, CNLM, JBLM, WSDOT, Thurston County Public Works, City of Tumwater, Thurston County Regional Planning Council, Thurston County Planning Department, Willamette Partnership, and ENVIRON.

The PHAM process asks:

- Is the site a likely prairie (field review)? Answers include: 'no', 'yes', or 'yes but...'
- Run Species and Habitat Asset and Risk Prioritization (SHARP) on current (baseline) AND proposed condition: nature of prairie area, occupancy, patch size, patch proximity, intensity of effects.

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- The difference equals your debits. *Note: You don't just get debit for the land but also for the management of the replacement land. It's not strictly 1 to 1. There is self-sustaining endowment creation.*

Thurston County hopes to be done with the HCP by 2015 with an interim permit strategy completed sooner than that. There will be a public review period, a series of open houses, and then as it moves through the regulatory process there will be public hearings with the planning commission and others. The plan currently applies to Thurston County only, though it could serve as a framework for nearby jurisdictions.

Liz Satterthwaite, Engage NW - Prairie Information Project

Summary

Liz is working with CNLM and other partners (including Thurston County, USFWS, NRCS, JBLM and WSU extension) to communicate the restoration and species recovery work that is being carried out in the South Sound. The project is supported by REPI funding and is working to: provide clear and consistent messages; clarify audiences, messages, and communication needs; and tell stories about habitat restoration and species recovery work on S. Sound prairies. The long terms goals of this project are to increase stewardship, environmental education, and the public's awareness and appreciation of S. Sound prairies.

Actions

Work for this project just began and will go through June 2014. The first focus is on ESA messaging, after which the focus will be prairies messaging. The group is also conducting a review of existing public info materials, and will come out with a communications plan and recommendations in March 2014.

Goals

The key audiences for the results of this project are landowners (especially ranchers), builders and developers, the environmental community, property rights groups, government agencies, elected officials, media and the general public. The long terms goals of this project are to increase stewardship, environmental education, and the public's awareness and appreciation of S. Sound prairies.

Key messages are:

- Inclusive approach of prairie conservation;
- Emphasis on the prairie ecosystem as whole (not individual spp);
- Illustrating the ways that agriculture and conservation can work well together;
- Communicating the availability of technical and financial assistance.

Getting Involved

Working group members can get involved by: taking pictures of their projects, sites and work; sharing information; coordinating on events and tours; and keeping internal audiences and informed. We can all do a better job on outreach if we team up on media opportunities.

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Kim Flotlin, FWS – Detection Dogs as method to determine MPG occupancy

The Service is looking into using detection dogs as a way to conduct low-cost presence/absence surveys for gophers. The project is still in the works and FWS is in the process of developing a training protocol for the dogs to determine if it will be efficient to use them. Training began recently to prepare for performance testing, which they hope to begin as early as February 2014.

Gail Olson, WDFW – 2013 Gopher Translocation Study

Summary

Led by Gail Olson, WDFW began the translocation study in 2009. The goal for 2013 was to assess the status of the newly established population at WDFW's West Rocky Wildlife Area, where there haven't been any releases since the fall of 2011. The 2013 project objectives were to estimate spring breeding population size, estimate survival and recruitment rates, and evaluate whether additional supplementations will be necessary. Results showed moderate to high rates of reproduction and site fidelity by offspring. This project is supported by USFWS, Wildlife Action Opportunities Grant – Doris Duke Foundation, JBLM ACUB.

Background

Post-release survival is going up each year – the survival rate was 17% in 2009, 41% in 2010, and 62% in 2011. There are a variety of factors involved in this increase including better release methods and the translocations occurring in an increasingly established population. Annual Spring to Spring survival is high and better than expected. The 2008 population persisted and 2011 residents (non-released animals) have a 48% survival rate, which is comparable to the most recent releases survival rate. This success has led to an increase in the population – up to 250 individuals in 2012 and hoping 2013 data will show over 400 individuals. The population is also expanding spatially.

2013 Project Goal & Objectives

The goal for 2013 was to assess the status of the newly established population. There haven't been any releases as West Rocky since fall 2011, and the hope is that the population there is sufficiently established at this point. The objectives of this project were to estimate spring breeding population size, estimate survival and recruitment rates, and evaluate whether additional supplementations will be necessary.

Challenges & Modifications

Although the population is increasing, the budget for surveying isn't, making it difficult to keep up with the growing workload. To accommodate the larger survey, the group sub-sampled to project estimates. They overlaid grid cells on potential occupied areas, determined a sample size from the 2012 results, and surveyed all cells for mound presence. They then randomly selected samples of occupied cells for trapping, captured 'all' pocket gophers in the selected cells, and used this information to project population size. Although the original plan was to trap 72 cells, they trapped only 30 cells. Early in the process it became clear that each cell was going to require more time than planned, so they made the call to switch which cells they trapped, and instead trapped occupied cells in the location of the 2009 release in order to get long term survival data.

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Results

199 total individuals were trapped – 68 recaptures and 131 new captures. Of the recaptures, 4 were from the 2009 release and 4 from the 2010 release, though not all of the 2010 release site was trapped. The 131 new captures indicate a moderate to high level of reproduction, and also indicate that offspring are not leaving the area. 19 of the individuals trapped this year were 2013 juveniles. The 2013 captures showed higher density than the 2012 (6.6 per cell versus 3.8). Movement analysis to determine how far individuals have moved over the years show that no individual moved more than 2.4 meters from previous locations. This suggests that once individuals are established, they stay put.

Future Plans

The plans for 2014 are: to do survival rate estimates including the 2013 data; to project population based on 2013 vital rates and 2012 numbers; adjust sampling plans for spring trapping to account for increased density; and increase effort – dependent on additional funding.

Q&A

Question: Can these results can be applied or paired with the results from the ad hoc translocation at Wolf Haven?

Answer: The different results reiterate the fact that you need large numbers to establish a population and that the process is not easy. The soils are very different at Wolf Haven though, so it's hard to say if the different results in establishment time were due to the small bunches of individuals (30 – 40) used at Wolf Haven or the habitat.

Gail Olson, WDFW - 2012 MPG Distribution & Habitat Survey in W. Washington

The goal of the project was to detect relative occurrence of MPG mound evidence among broad substrate and land cover associations in Western Washington. This project was funded by a FWS Competitive State Wildlife Grant (SWG). The report is available [online](#).

The team used 3 survey types – plot based, historic and opportunistic/directed, and surveyed 800 plots, finding gopher detections at 133 of them (17%). The results by cover type and stratum reveal that the detection rates (in order from highest to lowest) were: grassland, open canopy, and clear cuts (only a few detections in clear cuts, less than any other cover type). Regarding substrate, the highest rate of detection was found in low-clay, low-rock soils and low-clay, high-rock soils. There were very few found in high-clay, low-rock, and none found in high-clay, high-rock. This confirmed that grassland with low-clay soils and low to moderate rock content has the highest relative occurrence of pocket gophers. Agricultural lands also seem to support gophers (this includes pasture lands). Conclusions were limited by a lack of access to private lands, unfortunately. *Note: The agricultural category is a land use category, not a cover-type category, so there is overlap with grassland and agricultural land, and much of that has the same soils.*

Kim Flotlin, USFWS – USFWS Genomics Study

The analysis sequences the entire mitochondrial molecule and also identifies novel nuclear markers to answer phylogeographic and demographic questions. These tools will elucidate the geographic boundaries between the subspecies and identify the functional unit of

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management (e.g., population, metapopulation, or subspecies) for each sampled group. Understanding both the subspecies distribution and the functional unit of management will assist with guiding recovery strategies for the Mazama pocket gopher in Pierce and Thurston County. *Note: Kim provided this update on behalf of someone else from FWS, so it was brief.*

Gail Olson, WDFW – WDFW Genomics Study

The aim of the genomics study being conducted by WDFW is to clarify the genetic structure of the S. Puget Sound gopher population (found in Thurston, Pierce and Mason Counties). The team will collect tissue samples throughout the known distribution of MPG in South Puget Sound with precise spatial locations. They will then use genomics analyses to deduce relatedness of populations; address questions regarding genetically related units in SPS, including subspecies and their ranges; and to inform recovery planning. Questions that this study hopes to answer include ones similar to ‘Where did Yelmensis gophers came from, since no gophers were found at Yelm prairie? The assumption is that many of these subspecies were based on geographic location so this study is an attempt to identify the actual range of each subspecies. They will also look to see if the presence of I-5, which has gone through the MPG range for the last 50 years or so, has separated populations and caused an impact on genetic distribution. The team expects to have results in a year.

Needs Assessment

The wide consensus from the group was that more funding is needed to support ongoing work. Other topics discussed the potential of restoring areas degraded by scotch broom and using it for mitigation, and investigating habitat modifications that can be done to benefit gophers.

Action Planning

Updates

A smaller group went through the action plan line by line and updated it based on completed items, items that are no longer relevant, improving language and adding new items. Updates to the action plan included an enhanced focus on outreach and education, and progress in scoping and conducting genetic and demographic studies, and increased emphasis on survey and monitoring schemes and implementation.

Ranking

Following the updates to the action plan, the group went through the ranked priorities line by line and noted if the priority has increased, remained the same, or decreased. The group also identified action items that were new or not previously ranked that should be ranked. A discussion then followed to determine the new rank order. The top three priorities are:

1. Protect occupied habitat via land purchase, easements, voluntary conservation, etc.
2. Protect occupied habitat via regulation, with an emphasis on creating a long term strategy to address development pressure (e.g. mitigation bank, interim permitting strategy, HCP).
3. Develop a survey/monitoring scheme to address probability of occurrence, assess site occupancy, and monitor trends.

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2013-2014 Mazama Pocket Gopher Action Plan

Category	Ref. #	Task	Rank	Status and Implementing Party (Options: Ongoing, In Progress, Planned, or No Action Yet)
1. Survey and Monitoring	1.1	1. Develop a survey/monitoring scheme to addresses probability of occurrence, assess site occupancy, and monitor trends	3	WDFW
	1.1.a	a. Identify the type, number and timing of surveys required to determine occupancy, including refining process to determine area occupied		WDFW, FWS
	1.1.b	b. Identify the type, number and timing of surveys required to determine population numbers		WDFW
	1.1.c	c. Develop and test cost effective and efficient monitoring protocols at multiple scales		
	1.2	2. Implement survey/monitoring scheme	11	
	1.2.a	a. Refine and update gopher distribution		Ongoing (WDFW)
	1.2.b	b. Assess population trend		
2. Protect Existing Populations and Habitat	2.1	1. Protect occupied habitat via land purchase, easements, voluntary conservation, etc.	1	
	2.1.a	a. Develop and implement management agreements (e.g. ESMP, Mgmt. Plan)		<i>In Progress</i> JBLM, WDFW, CNLM, FWS
	2.1.b	b. Explicitly include gophers in incentive programs that support habitat protection, (e.g. NRCS, FRPP)		<i>Ongoing</i> NRCS
	2.2	2. Protect occupied habitat via regulation		
	2.2.a	a. Create long-term strategy to address development pressure via regulation (e.g. mitigation bank, interim permitting strategy, HCP)	2	<i>In Progress</i> Thurston Co., FWS, WDFW, CNLM
	2.2.b	b. Improve conservation effectiveness and implementation of regulatory process for local permitting offices, consultants and DFW		<i>Ongoing</i> WDFW, Thurston Co.
	2.2.b.i	<i>i. Develop and implement compliance monitoring measures</i>		
	2.2.c	c. Assess effectiveness of habitat protection areas for gopher conservation (e.g., set-aside, mitigation bank)		
	2.2.c.i	<i>i. Develop conservation performance criteria for habitat protection areas</i>		
3. Manage, Enhance, and Maintain Habitat	3.1	1. Implement habitat restoration, maintenance and enhancement	6	
	3.1.a	a. Control pest plants at occupied sites (e.g. trees, shrubs, pasture grasses)		<i>Ongoing</i>
	3.1.b	b. Expand occupied habitat through restoration (e.g. tree removal)		
	3.1.c	c. Assess site-specific vegetation composition and structure, improve as needed		
	3.2	2. Develop and implement spatially-explicit plans to restore, enhance, maintain habitat	10	
	3.2.a	a. Identify compatible/incompatible land uses and redirect incompatible land use (e.g. recreation, military training, grazing, prescribed fire)		
	3.2.b	b. Explicitly include gophers in incentive programs that support habitat management (e.g. FWS Partners Program, NRCS Stewardship Programs - WHIP, EQIP)		<i>Ongoing</i> FWS, NRCS
	3.3	3. Identify important habitat features	4	
	3.3.a	a. Identify key food plants (native & non) that are tied to survival and reproduction		
	3.3.b	b. Identify vegetation structure favorable to Mazama pocket gophers		
3.3.c	c. Identify the level and type of disturbance beneficial to gophers and/or their habitat e.g., source, frequency, intensity, duration, spatial extent			
3.3.d	d. Determine relationship between gopher populations and soil type and structure			

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4. Increase Sizes and Numbers of Populations	4.1	1. Identify sites that are suitable for translocation (actual implementation of translocation is pending regulatory decisions)		
	4.1.a	a. Identify, evaluate, and prioritize potential translocation sites		
	4.1.b	b. Develop criteria to identify source populations for translocations		
	4.1.b.i	<i>i. Incorporate genetic and demographic research results as appropriate</i>		
	4.2	2. Evaluate the range-wide need to increase numbers of populations through translocation vs. sizes of existing populations through habitat manipulations.		
	4.3	3. Conduct translocation research	9	
	4.3.a	a. Evaluate efficacy and feasibility of translocating gophers		<i>In Progress</i> WDFW
4.3.b	b. Refine translocation methods			
5. Additional Research	5.1	1. Conduct demographic and genetic studies		
	5.1.a	a. Describe subspecific taxonomy of Washington populations based on DNA including mapping boundaries of distinct populations	5	<i>In Progress</i> FWS, WDFW
	5.1.b	b. Determine population vital rates and factors that might affect those rates (e.g., survival, reproduction, etc.)	8	
	5.1.c	c. Identify characteristics of dispersal that would affect population structure and viability (e.g., timing, distance, and demographics)		<i>In Progress</i> WDFW
	5.1.d	d. Determine sustainable population size relative to habitat patch size and quality	13	
	5.1.e	e. Determine whether and how populations are structured (i.e. panmictic, metapopn, isolated)		<i>In Progress</i> FWS, WDFW
	5.1.f	f. Evaluate genetic diversity of existing populations		
6. Outreach and Education	6.1	1. Develop and implement a regional, cooperative communications strategy for multiple audiences	7	
	6.1.a	a. Direct outreach to landowners of existing populations		<i>In Progress</i> WDFW, Thurston Co., CNLM, Conservation District
	6.1.b	b. Improve public perception of gophers through positive PR & other means		<i>In Progress</i> CNLM
	6.1.c	c. Educate public on regulatory and incentive programs (e.g., ESA, CAO, HCP, Farm Bill, Futures)		<i>Ongoing</i> Thurston Co.
	6.1.d	d. Develop voluntary conservation guide (e.g. who to contact, how to do it).		
	6.1.d.i	<i>i. Update habitat management guidance for land managers and private landowners</i>		
	6.1.e	e. Update, clarify, and explicitly link private, federal, county and state on-line information (e.g., PHS, CAO)		
	6.2	2. Maintain active working group, information sharing, and collaborative action	12	<i>Ongoing</i> CNLM, Partners