Mazama Pocket Gopher Working Group Annual Meeting Summary

November 4th, 2015 | Natural Resources Conservation Service | Olympia, WA

Attendees

Hannah Anderson, Cara Applestein, Pat Dunn, Sanders Freed, Sarah Hamman, Elspeth Kim, Bill Kronland, Carola Tejeda, Susan Waters - *Center for Natural Lands Management;* Carolyn Menke – *Institute for Applied Ecology;* Jeff Foster, Dan Grosboll, Nick Miller, Eric Myers - *Joint Base Lewis-McChord;* Key McMurray, *Key Environmental Solutions;* Marty Chaney, *Natural Resources Conservation Service;* Jeremy Davis, Andy Deffobis, Jeanne Kinney, Katie Pruitt, Marisa Whisman, - *Thurston County;* Kevin Connally, Kim Flotlin, Taylor Goforth, Judy Lantor, Ryan McReynolds, Ginger Phalen, Joanne Stellini, Brad Thompson, *US Fish and Wildlife Service;* Christina Capelli, Gail Olson, Tammy Schmidt, Derek Stinson, Michelle Tirhi - *Washington Department of Fish and Wildlife;* Diane Gallegos, Anne Schuster – *Wolf Haven International;* John Hinkle; Andrew Moyer.

ESA Recovery Planning and Action Planning – Brad Thompson, USFWS

In order to successfully create a recovery plan for each of the multiple species listed, a new approach will be taken. A recovery plan allows the USFWS to clearly communicate identified goals and objectives to achieve down-listing and/or de-listing. Only four items are legally required to be in the recovery plan: recovery goals; site-specific actions; budget; implementation schedule. As opposed to the "old style" of recovery planning, new guidance directs that the recovery plan documents be approximately 30-50 pages, including a recovery outline (which will paint the picture of what USFWS is working towards). This document, the formal recovery plan, will have two corresponding documents - Species Status Assessment (SSA) and Recovery Implementation Strategy/ies (RIS). These documents won't be part of the official recovery plan and can be updated easily and regularly to reflect the current status of the population (SSA) and detailed site specific recommendations for recovery (RIS). The RIS can include other species such as streaked horned lark and Mazama pocket gopher, and/or may be created region by region. This allows for recovery of multiple species without combining them in the official Recovery Plan.

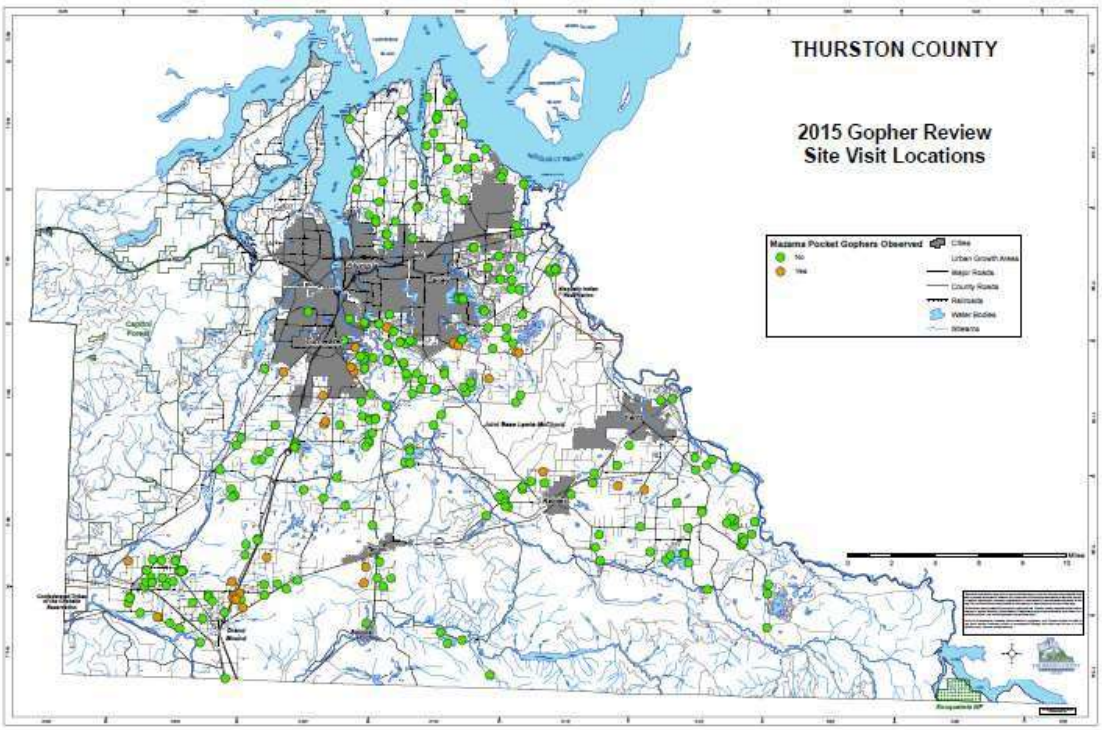
Want to make sure the plan connects threats to the species with recovery goals, to ensure the recovery plan not only meets population goals but also ameliorates threats that led to the listing. Also want to create common set of actions that can help achieve recovery for overlapping listed species, through the RIS. Rather than have a multi-species recovery plan, want to ensure each individual recovery plan has overlaps (e.g., in RIS's) that make coordination efficient when possible. At this time there is no formal recovery team for the Mazama pocket gopher, and no recovery criteria have yet been developed. Recovery criteria will be grounded in the threats which led to species listing, and will include conservation concepts such as representation, resiliency, and redundancy.

MPG Screening Surveys in Thurston County – Andy Deffobis, Thurston County; Ginger Phalen, USFWS; and Marisa Whisman, Thurston County.

The screen process was developed by USFWS and adopted by Thurston County. Teams

performed 2-3 site visits on each property throughout the summer, based on soil types and known occurrences. Thurston County set up a screen team that included a county representative, someone from USFWS, a verifier, plus a soil specialist when available. A second team (consisting of a county representative and someone from USFWS) was set up in August to meet demand. The teams went out 3-4 days per week throughout the summer, usually screening 8 sites a day, made note of prairie plants on site, and verified soils on the ground (to compare to mapped soils).

The teams conducted 613 site visits inclusive of Thurston County and USFWS sites (295 first time visits, 224 second time site visits and 94 third time site visits). They identified gopher mounds on 33 sites (~11%). This was consistent with last year's ratios. Soil verification occurred on 172 sites (58%). When gopher mounds were observed, applicants were sent a letter letting them know of potential actions for moving forward. Properties without gopher mounds received a letter from USFWS that allowed Thurston County to clear projects. USFWS is currently working on next steps/options with 16 landowners with MPG present.



During the 2015 building season, Thurston County staff also conducted prairie habitat screening during MPG site visits that looked for target plant species. In addition to the parcels that were screen for MPG and prairie habitat, an additional 25 properties were screened for prairie only, for a total of 307 sites. 4% (11 sites) met prairie habitat criteria; 1% (4 sites) met prairie habitat criteria within the project area (footprint + buffer); 43% (131) sites contained some target species but did not meet prairie habitat criteria; 15% (47 sites) had target species detected in project areas, but did not meet prairie habitat criteria; 14% (39 sites) contained Oregon white oak trees (2% had oaks in project area); fewer than 1% had Mima mounds. The prairie habitat screen team created a target prairie plant guide that will hopefully be added to

the Thurston County website for landowners, and hope that prairie habitat surveys will help inform the Thurston County HCP development. A report about the screening activities is planned to be published by USFWS sometime after November 13, 2015.

Standardized Occupancy-Based Transect Surveys – Gail Olson, WDFW
Ongoing projects include an occupancy modeling project, a translocation project, dispersal study, distribution survey, survey methods, habitat quality study, site evaluation study, genetics, and short-term fire effects study. Occupancy, dispersal, distribution completed. Translocation and genetics projects are wrapping up. Remaining projects are just beginning or in progress.

Site evaluation procedures project: survey procedures have been historically been based on site needs. This project aims to develop methodology to bring together various methods and techniques that will help detect occupancy and provide a standardized metric that evaluates site quality and/or gopher presence and site-specific population trends. The resulting procedures will be an adjustment, but will allow for an efficient and statistically sound methodology that can work in the long run, on a site-by-site basis. Tested multiple methodologies on the same plot to get a better measure of what the differences in detectability are. Ideal methodology would allow detection ability to be weighted based on time of year and method to impact amount of surveys conducted. In order to transition from plots to transects, Gail is developing methods for having a high probability for detecting gophers at any given site and hopes to have the methods ready by summer 2016.

Sentinel Landscapes, Reserve Design, Coordination and Application of Multiple Strategies – Joanne Stellini, USFWS
The goal of the Reserve Design is to protect existing populations and habitat. Want to protect and manage for long-term persistence of the subspecies; maintain and restore habitat connectivity, and maintain or improve habitat quality. Reserve Design is needed for gopher conservation and recovery; for mitigation to offset impacts to gophers; and for the Thurston County HCP.

In 2014, USFWS and WDFW identified Reserve Priority Areas, areas that are the most important for long-term conservation and recovery of 3 subspecies of Mazama pocket gopher in Thurston County. Factors considered in the selection of the RPA's were consistent MPG occupancy, soil types, compatible land use, likely subspecies ranges, and proximity to protected areas. In July 2015, USFWS created a Mazama pocket gopher conservation strategy and mitigation guidance document. This includes conservation in the prairie ecosystem context, how gophers are impacted (directly and indirectly), and mitigation for impacts to gophers and/or gopher habitat– how mitigation can be used, factors to consider, requirements set by USFWS (permanency to the landscape, planned for, managed and conserved in the long term), and site selection factors for where and what elements go into creating a good mitigation site.

There are 5 'service areas' within Thurston County that each encompasses one or more RPA(s). Generally, if you were to impact the species or its habitat within a certain service area, impacts would be offset within the RPA of that service area. There are multiple service areas for the Yelm subspecies because of the presumption that there are genetic variations across the range of

the subspecies, and not enough is known to represent the entire range with one RPA. This map will be further informed by results of the WDFW genetic study. This map aims to be informative for the Thurston County HCP, to help focus the Sentinel Landscapes partners. The map is subject to revision based on new information (such as results of ongoing WDFW genetic study, information from screening surveys, and so on).

Conservation Protection Projects – Michelle Tirhi, WDFW

There are three ongoing projects. First is a potential opportunity to acquire a Port of Tacoma property (745 acres), which is adjacent to West Rocky Prairie (one of two locations where MPG were translocated). If this acquisition is made, it will add to the existing WDFW property and create a 1550 acre Wildlife Area, one of the largest in the state, west of the Cascades. The second opportunity is that WDFW is also starting to work with private landowners to proactively identify willing sellers and conservation easements opportunities within Mazama Pocket Gopher Reserve Design areas (Sentinel Lands Group). Five properties spread throughout RPAs where conversations have started, with one of these a potential parcel between Scatter Creek North and Scatter Creek South. The third is that prior to federal listing, WDFW, Thurston County, and cities within the County were requiring landowners having gophers on private properties going through land use permit review to set aside a portion of their property for gophers (called gopher set-asides or gopher habitat protection areas), and to conduct management of those areas (such as mowing) in perpetuity. A Competitive State Wildlife Grant has allowed WDFW to go back to some of these landowners and do a habitat assessment as well as to provide technical assistance through a long range habitat management plan. Nineteen projects that went through Thurston County process to create a habitat management plan and an additional 13 landowners that have partial habitat management plans or have projects in flux and don't yet have a formal set aside are being contacted.

NRCS Opportunities - Marty Chaney, NRCS

Through federal Farm Bill, there are several programs to support conservation on working lands including conservation easements and cost share programs to implement conservation practices. The new Conservation Reserve Program (CRP) allows agricultural producers to receive an annual rental payment for grazing activities for shared landowner benefit and conservation benefit. Conservation easements sell development rights while still allowing agricultural practices to proceed. If folks are interested in these benefits, they can come in and talk to their county NRCS office. There are offices in every County, including Farm Services, which is a sister agency to NRCS.

Thurston County Habitat Conservation Plan – Carolyn Menke, IAE

A county-wide HCP for Thurston County include 6 ESA listed species (Olympia pocket gopher, Tenino pocket gopher, Yelm pocket gopher, Taylor's checkerspot butterfly, streaked horned lark, and Oregon spotted frog) and provides predictability for the county and landowners, more local control, protection from liability for County and private landowners, efficiency, better conservation, and access to federal conservation funding. Without an HCP, impacts would be evaluated case by case regarding impacts to listed species, USFWS permitting, and the NEPA process.

Covered species include the 6 ESA listed species and aims to benefit additional vulnerable

species: vesper sparrow, Puget blue, Valley silverspot, Oregon branded skipper, Western gray squirrel, slender-billed white-breasted nuthatch, hoary elfin, and Mardon skipper. Activities covered by the plan include private lands (residential and commercial development), public services (school and fire station construction); and county actions (development and utility permit issuance, transportation activities, water and wastewater management, land management and habitat restoration).

Projected impact to prairies from covered activities is primarily (>75%) from residential development. Commercial development is second highest impact (~10%) with additional smaller impacts. This is a 30 year plan with projects for 2045 extrapolated from TRPC 2035. Actual implementation will be tracked and permitted parcel by parcel and will be pay as you go.

Assumptions per development unit include homes and permitted outbuildings with a 60 foot full-impact development envelope on structures and driveways (minus overlap). This will encourage clustered development, which will reduce the overall envelope because of overlap. The estimated average will be a 2.33 acre total impact area per parcel. For Mazama pocket gophers, impacts on all MPG soils are calculated using an adaption of the original PHAM and SHARP system GIS/Imagery mapping exercise. With highest value of habitat placed on occupied areas and high-preference soil and lowest on unknown or unoccupied areas with low-preference soil. Over 4,500 acres overall identified (429-1,294 acres per service area).

The objectives of the conservation program are to avoid/minimize impacts (through CAO, BMP's), prioritize and protect land to support prairie, oak, and riparian/wetland ecosystems (establish reserves), manage and enhance reserves for all species, promote conservation on private lands, and the use of monitoring and adaptive management. The monitoring and performance standards are in the process of development. Possible components of funding include fees charged to permitted development to compensate for impacts, contributions from utility and road infrastructure development funds, a portion of Conservation Futures, as well additional potential options under development.

Single-owner HCP's – Kevin Connally, USFWS
USFWS is working with approximately 20 entities developing HCP's that will include gophers – including the Thurston County HCP. Some of these are only at the inquiry stage, about 1/3 are pretty far along, and 2 have been posted in the Federal Register for public comment. Only those two have actually submitted applications. The timeline for an individual plan varies but the average length of time is impacted most greatly by the NEPA process (with a 60-90 day comment period). Best case scenario is about a year from draft HCP to permit. Cost varies on scope and time period of HCP and development activities.

Mazama Meadows Conservation Bank – Pat Dunn, CNLM
A conservation bank helps landowners access a way to meet mitigation requirements. Permitted individuals can purchase credits at a conservation bank. The Mazama Meadows Conservation Bank is 140 acres and is scheduled to open in early 2016. Unique characteristics about this bank include that a non-profit is running it and that this is the first mitigation bank in Thurston County, which means working through new processes. The Bank is designed to take multiple

impacts and put the mitigation into one place that will provide higher quality conservation. Benefit to the community and landowner is clarity and the ability to meet mitigation requirements over time instead of all at once.

Prairie Quality Monitoring Resample Results – Cara Applestein, CNLM
The Prairie Quality Monitoring (PQM) project was initially conducted by WDFW in 2007-2009 and was a wall to wall grid survey. In 2015, a subsample of the sites were resampled with 25x25 meter plots. Four sites with gophers were monitored – Scatter Creek, West Rocky, Wolf Haven, and Tenalquot. Repeat attributes monitored included shrub cover, MPG mounds, fescue cover, scotch broom, and tall oat grass. This year added total native cover, total native graminoid, open ground, and tree cover. At all gopher sites, there were decreases of scotch broom and tall oat grass cover. Shrub cover increased at some sites, which is primarily native white snowberry coming in after scotch broom removal. Fescue cover declined at some sites, though it did increase at Tenalquot and West Rocky.

Surveys looked for at least one gopher mound in each 25x25 m plot (presence/absence). At Wolf Haven there was a 20% increase in the frequency of MPG mounds. At Tenalquot, increased mounds were recorded. At West Rocky, gophers have distributed north. At Scatter Creek North and South there was a minor decrease in mound frequency, but detectability is hard because of dense tall oat grass. Good distribution overall. Two criteria looked at are native grassland and high quality prairie, which are in line with the PHAM guidelines. Of all gopher sites surveyed, 29% of area met native grassland criteria and 10% met high quality prairie criteria.

One major factor this year was the unusually low precipitation and high temperatures. These factors may have caused monitoring in later months to miss the phenological window needed to appropriately assess species richness. In the future, may want to add more attributes such as total native forb, or total non-native graminoid to give a more comprehensive look at the prairie quality. Multiple years are needed to truly monitor species richness.

Short-term Gopher Response to Management Actions on JBLM – Bill Kronland, CNLM
Mazama pocket gophers are generally believed to have a positive long-term response to fire. For example, persistent populations that are believed to be abundant on Joint Base Lewis-McChord (JBLM) occur on areas that frequently burn. Short-term impact of fire is less understood, with a dearth in knowledge concerning direction and primary driver of response.

The goals of this study were to quantify patch-occupancy of gophers on burned and unburned sites across multiple seasons. Occupancy was estimated following a repeat-visit design that accounted for gophers present, but not detected. Three visits were conducted in summer (August – September) and October 2015, with 3 – 5-day interval between visits. Each visit consisted of searching regularly-distributed 25 m x 25 m plots for gopher mounds over a maximum 2-minute period. Robust Design models in Program MARK were used to estimate patch-occupancy, probability of detection, and rate at which patches became unoccupied across seasons. All data were collected on burned and unburned management units in the Rainier Training area of JBLM (i.e., Johnson Prairie, Lower Weir, Upper Weir).

Patch-occupancy declined between summer and fall across burned and unburned units on all

prairies, except for the unburned unit on Upper Weir where nearly 100% of surveyed plots were occupied in both seasons. This decline in occupancy was slightly more exaggerated on burned compared to unburned units. Rate at which plots become unoccupied was also slightly greater on burned compared to unburned units.

Management units will again be surveyed in spring and summer 2016 to assess duration in of the observed post-fire contraction in patch-occupancy. Our hypothesis moving forward is that occupancy will increase on burned versus unburned units as vegetation cover and forage opportunities expand on post-burn landscapes.

Translocation Study Update – Gail Olson, WDFW

The gopher translocation study was initiated in 2009. Over three years 560 gophers were translocated from the Olympia airport to West Rocky Prairie Wildlife Area. First three years included translocations and analysis to determine the feasibility of translocation as a gopher conservation tool. The final report for this segment was submitted to USFWS and included recommendations for future translocations. Analysis looked at survival rates. Recommendations include using large number (175+) of translocations in first year. Survival from first cohort was low (7%). Most gophers were lost within first 3-5 days due to predation and other factors. Survival of second cohort was improved by using different release methods (14%), which is still quite low, which is why you need so many gophers to get the population going. The second year survival rate was used to determine number of translocated individuals needed to increase the population by 20 individuals the next year. Report also includes a recommendation of site evaluation of predator abundance, and intensive monitoring and both short and longer term monitoring methods.

The following two years were focused on monitoring the translocated populations. The study shows the translocation effort was apparently successful in establishing a new population as the 2014 spring population estimate (based on live-trapping) was 474 gophers. Monitoring of the population switched to an occupancy based mound survey approach with 50x50 m grid blocks in Fall 2014, when121 grid cells had gopher presence detected. Although 2015 numbers are not available yet, early results show a slightly expanded distribution in 2015. There is very low recruitment at WRP, i.e., barely replacement level. An analysis of post-translocation sex-specific survival based on recapture data from 2010-2014 found that average annual survival probability for males was between 50-60%, and females were over 90% initially and then declined from 75% down to 40%. If it continues, this trend in female survival might subsequently lead to a population decline, indicating that continued monitoring is essential to detect such a possibility.

Translocation Guidance – Joanne Stellini, USFWS

When the Mazama pocket gopher was listed, USFWS developed gopher translocation guidance (June 2015) for future projects. The document guides informed, consistent decision making. Translocation considerations that need to be provided include reasons for translocation, timing of translocation, site suitability and survivorship, minimizing genetic impacts, and how translocation would support recovery. Translocation requires USFWS and WDFW permits and a written proposal is required. USFWS currently does not feel gopher translocation is a viable method, is not suitable as mitigation, and will review requests to translocate on a case by case

basis.

Dispersal Study Update – Gail Olson, WDFW
The final report for the dispersal study was completed in 2015. The study was conducted at Lower Weir Prairie in 2011 and 2012. Objective was to provide estimates of various dispersal characteristics such as length of movement and dispersal rates. Some results from study are summarized on a poster presented at the Washington Chapter of The Wildlife Society Annual Meeting in 2015 (click here to view). Long distance movements were rare, and only 2 movements across roads of any kind were detected from radio-telemetry and trapping data combined. Based on this, Gail believes roads are likely a barrier to movement, be they dirt or gravel or paved. However, parentage assignment showed that young must have crossed roads as they dispersed, because they were found on opposite sides of roads from their parents. Although this study focused on juvenile dispersal, adult movements were observed from recapture data, including one female that moved 375 meters in a single day. Populations might be easily separated by distance, and will need internal population controls to persist. Recommend looking closer at connectivity in contiguous habitat; corridors should be investigated.

Prairie Communication Partnership – Taylor Goforth, USFWS
The National Park Service provided funding and a facilitator to help South Sound prairie partners come together and talk about communications about prairies (including gophers). This group includes a variety of partners including local, state, and federal agencies, NGO's, and private landowners. Want to communicate that prairies are rare but important habitat, filter drinking water, and benefit pollinators. Goals of the project were to establish a communications partnership that includes diverse members for supporting south sound prairies; to provide constant, clear, and engaging messages for sustaining South Sound prairies; and directly engaging with prairie partners and the public by creating and promoting activities and events that involve them in prairie conservation, appreciation, and restoration. The group developed six main messages and these will be communicated on the South Sound Prairies website and the group hopes to build a Facebook, Twitter, and Flickr social media network. The group also has a partnership editorial calendar. There are six main messages:

- Take your chance: get up close and personal!
- Healthy prairies equal healthy communities
- Prairies are an American way of life
- Working lands work for prairies
- Prairie build a base of protection: keep JBLM prairies growing strong
- Prairie fires make prairie flowers; good fires stop bad fires.

Thurston County Communication Update – Andy Deffobis on behalf of Stacy Klein
Throughout the 2015 review season, 20 media articles and blog posts were published. The message being communicated was to let folks know gopher review is occurring. Thurston County created a flowchart and website to help explain the gopher review process and background on the HCP. A flyer was developed for the screen team to give to landowners when they were on site. Outcomes of these efforts include successful communication with the Master builders, with their spokesperson saying the county was showing transparency around gopher efforts. The screen team showed improved understanding and reduced anger from landowners

as they better understood the process. Visit ThurstonPlanning.org for more information.

Communications in Action – Carola Tejeda, CNLM
The communications partnership has 6 goals. Each goal is outlined below.

Goal 1: *To provide internal support to deliver consistent, clear, and engaging messages for sustaining South Sound prairies.* The message for this goal is to communicate that south sound prairies are unique, that there is a need for conservation, and lastly that there are opportunities to be involved. The editorial calendar created helps the various partners communicate messages with the same theme from month to month. The group also created an image bank on Flickr. The group also made an inventory of tools and pooled resources: conservation tools, communications tools, and tools for landowners.

Goal 2: *To work with landowners to alleviate concerns, correct any misconceptions, and engage them in prairie conservation.* This includes communicating available resources, highlighting land stewards through blogs, and other efforts.

Goal 3: *To promote and expand tours and events targeting key audiences and decision makers to celebrate the outstanding successes to date in prairie restoration and recovery.* Tours were conducted for partners and decision makers, and a tour for educators is planned. A south sound prairies map for visitors is being created, and the group is also developing a monthly lecture series.

Goal 4: *To support prairie education and school programming.* This includes the development of a pollinator garden for the Tenino High School Gardening Program, expanding the USFWS Prairie Box curriculum, creating educational materials and activities for children, organizing field tours and in-school presentations, and reaching out to local artists for work on prairies and exhibits in key locations.

Goal 5: *To support South Sound Prairie volunteers and interns.* This includes the free lecture series being developed, organizing service outings and celebrations, and an award program for volunteers.

Goals 6: *To engage South Sound Prairies communities and residents.* This includes highlighting research findings and featuring novel approaches to prairie conservation and restoration. The communications partnership is also sharing stories of successful conservation actions to highlight the effectiveness of the group's collaborative approach.