



Results of 2015 Mazama Pocket Gopher Screening
in Thurston County

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We acknowledge the following individuals for their contributions in making the 2015 screening season and this report possible.

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EXECUTIVE SUMMARY

In April 2014 the U.S. Fish and Wildlife Service (USFWS) listed four subspecies of Mazama pocket gopher (MPG) as threatened species needing protection under the federal Endangered Species Act of 1973, as amended (ESA). Three of those subspecies are present in Thurston County, Washington (*Thomomys mazama pugetensis*, *T. m. tumuli*, and *T. m. yelmensis*).

In May 2015, the USFWS recommended that Thurston County government (County) implement field screening in advance of issuing county building permits, using a multiple visit protocol (dependent on MPG soil types) to detect the presence of MPGs. Based on field results using this protocol, USFWS then determined if: 1) projects were unlikely to take¹ MPGs and recommended to the County that permits could be issued; or 2) MPGs were present and recommended to the County that permit issuance would place Thurston County at risk of section 9 ESA violations. The USFWS also screened several additional properties for actions unrelated to County permitting.

Field screening for MPG mounds was conducted by a team of trained and experienced technical staff (Screen Team), from the USFWS, County, and Washington Department of Fish and Wildlife (WDFW), from June 1, 2015 through October 30, 2015. A total of 301 sites were visited one to three times depending on soil type and site conditions. No MPG mounds were detected on 268 sites (89 percent of all screened sites), and the USFWS determined that actions on these sites could proceed according to the County's regular permitting process.

MPG mounds were detected on 33 sites (11 percent of all screened sites), and landowners were notified by the USFWS that actions pending on these properties might result in prohibited take. If county permitting was needed, Thurston County was also notified.

This report presents results of the 2015 MPG screening season. The USFWS and County expect that this information will inform future screening and surveys for MPG, development of the Thurston County Prairie Habitat Conservation Plan (HCP), and MPG conservation efforts.

¹ NOTE: Section 9 of the ESA, and federal regulations pursuant to section 4(d) of the ESA, prohibit the take of endangered and threatened species, respectively, without specific exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Harm is defined by the USFWS as an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering (50 CFR 17.3). Harass is defined by the USFWS as an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering (50 CFR 17.3).

INTRODUCTION

This document describes and summarizes information collected during the 2015 MPG screening season conducted in Thurston County. USFWS recommended to Thurston County that pending county building permit applications be field-screened using a particular protocol (Appendix 1) to assess the likelihood for take of MPG occurring from permit issuance. The field screening protocol entailed looking for MPG mounds at a given site multiple times, depending on soil type.

Results from the MPG screening are presented in this document. Some analysis and interpretation of these results is also presented, but additional analysis and interpretation may be conducted and used to inform future screenings or surveys, development of the County Prairie HCP, and MPG conservation.

Concurrent with MPG screening, County staff collected information about prairie and oak habitat. That information is presented in this report, in cooperation with the County.

Discrepancies between USFWS and County site visit totals are due to USFWS conducting additional site visits at the request of parties who were not seeking permits from the County, and due to the County conducting prairie reviews (typically a one-time visit) on sites that did not require MPG screening.

APPROACH

Mazama Pocket Gopher Mounds

The USFWS, in partnership with the County and WDFW, assembled a field screening team to look for MPG mounds on properties with pending County permit applications, and on properties where landowners requested screening for informational or other purposes (i.e., no pending permit application). Additional properties subject to consultation with the USFWS but not associated with County permitting were also screened.

Sites subject to screening were located on or within 300 feet of MPG soils (to account for soil mapping error), and/or within 600 feet of a previously-confirmed MPG location (to account for compliance with the County's Critical Area Ordinance (CAO) for endangered species).

Field screenings were conducted according to the protocol recommended for use in 2015 by the USFWS (Appendix 1). The 2015 protocol recommended screening each site two or three times, depending on soil type and MPG preference for that soil type. Two or three screenings were conducted at each site, from June 1 through October 30, with consecutive site visits at least 30 days apart to account for variation in environmental and biological factors. Mounds with MPG characteristics are an indicator of occupancy, but seasonal, weather, and other environmental and biological factors influence mounding. Identifiable mounds are not always present or observable on occupied MPG habitat.

Landowners were notified by telephone that screening would be conducted on their property, generally within one week of the site visit. Screenings were conducted Monday through Thursday between approximately 7:30 am and 5:00 pm by an interagency, interdisciplinary team of 2 to 5 staff. MPG mound identification was conducted by personnel with training and experience in MPG mound identification. The protocol called for the entire property (ownership) to be screened, regardless of the nature of the pending permit, project, or activity; this was achieved at most sites.

Screening was conducted once the Screen Team arrived at a site, assessed site conditions, and determined a route for walking through the site. Generally, a transect approach was taken where members of the team would align and space themselves to be able to detect mounds between them, traverse the entire site, confer on proper identification of any mounds, and record mound data on field forms and a Trimble *Geo7x* geographic positioning system (GPS) unit. The survey path or transect walked was recorded with a Garmin *GPSmap 78sc* unit, or recorded by hand on a diagram or aerial photograph of the site. The Trimble GPS points were differentially corrected to increase accuracy. The digital data were downloaded at least weekly and checked for accuracy against field notes every two weeks.

Once the required number of screenings for MPG mounds were completed at a site, the USFWS determined whether: 1) a project was unlikely to take MPGs and recommended to the County that their permitting process could proceed; or 2) MPGs were present and recommended to the County that permit issuance would place Thurston County at risk of section 9 ESA violations. Letters were sent by USFWS to the County when it was determined that a project was unlikely to take MPGs (no mounds with MPG characteristics were detected). Letters were sent by USFWS to both the County and to the landowners of those properties where take of MPG mounds could occur (ie., mounds with MPG characteristics were detected). See Appendix 2 for example templates of each type of letter.

Soils

The USFWS checked soils at some sites to verify soil type against those mapped for the site (2006 USDA Soil Survey Geographic Database). Checking soils was conducted opportunistically based on the availability of qualified personnel and to assess the feasibility of checking soil types. In general, the following features were considered when comparing a site's soils to those mapped for the site: landform, slope, hydrology, and vegetation.

Verifying soils entailed observing the whole site and how it was situated relative to mapped soil types. Landscape features were noted and compared to surrounding areas. Topography was considered around the sampling point. For example, a nearly level bench or depression at or near the sampling point could indicate a local zone of a different soil type. Observations of vegetation and changes in vegetation type and growth form were similarly used. If there were obvious indications at a site that soils

had been previously graded, filled, or otherwise substantially disturbed, an attempt was made to identify and check or verify soils at one of the least disturbed portions of the site.

Soils were observed to a depth of at least 12 inches and examined for texture, color, and other characteristics typical of the soil series (such as amount of rock fragments, cemented layers, layers of silt or substantial clay content, or strongly contrasting soil textures). Soil test pits were dug or soils were checked in already-exposed soil profiles, such as in fresh slope cuts or septic test pits.

Field information for soils was then recorded in the Soils Verification Data Form (Appendix 2).

Prairie/Oak Habitat

The County assessed sites for the presence of prairie plants (Appendix 3) consistent with their CAO prairie protocol. Plant species listed in the CAO as indicators of prairie habitat are referred to as “target” prairie plants, while vegetation not listed as prairie indicators are referred to as “non-target” plants, as described in the following paragraphs. These prairie habitat screenings were generally conducted in conjunction with MPG screenings during the first site visit. The primary focus of prairie habitat screenings was on the project area: the footprint, or immediate area where a structure or facility would be placed which could result in ground disturbance, including a 150-foot buffer surrounding the footprint. Screening took place beyond the project area, preferably on the entire parcel, as time allowed.

Under current County screening guidelines, the presence of three target prairie plants, numbering a total of 25 individual plants per species, is required in order to meet prairie habitat criteria. Plant species known to serve as a nectar source and/or host plant for any of the butterflies proposed to be covered in Thurston County’s HCP need not add up to 25 individual plants, onsite presence is enough. The same rule applies to plants listed as Washington Natural Heritage Program (WHNP) rare plants, such as white-topped aster (*Sericocarpus rigidus*).

Transects were used to screen for prairie vegetation, with transects generally 5 meters apart depending on visibility. In addition to prairie vegetation, non-target plant species were recorded on a separate datasheet for site characterization. Prairie habitat detected at greater than 46 meters (150 feet) from a project area did not affect the building/permitting process (i.e., require moving the footprint or mitigation), but landowners were informed verbally that prairie habitat exists on their property, for educational purposes.

Additional habitat features included in the prairie screening process included the presence of Mima mounds, which are classified as prairie habitat in the CAO, and the presence of Oregon white oak (*Quercus garryana*).

RESULTS

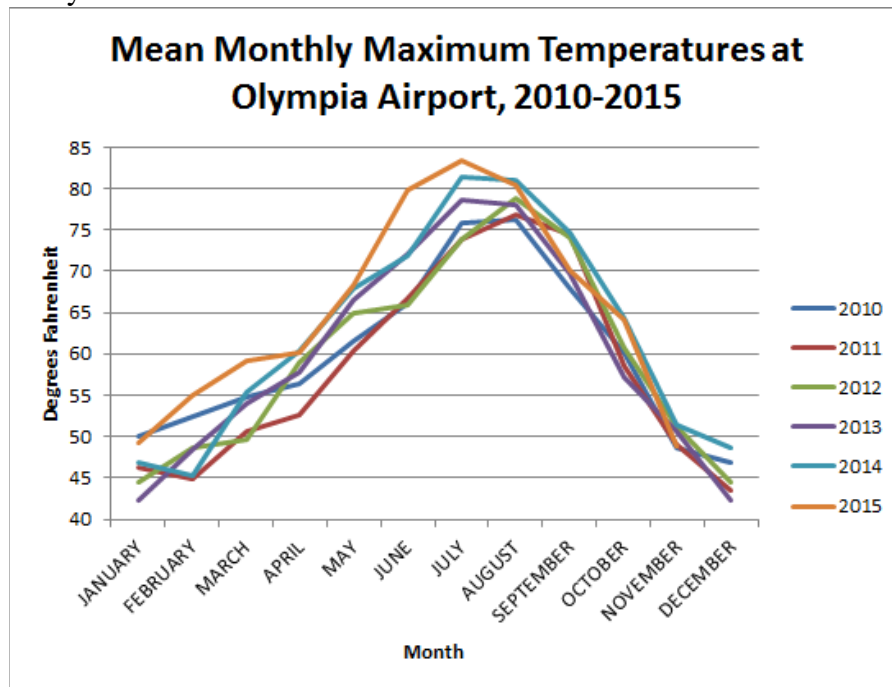
Environmental Conditions

This section reports results of the 2015 MPG screening season. It is important to consider these results with an understanding that screening was conducted during, and results could have been influenced by, environmental conditions affecting the behavior and survival of MPGs.

Specifically, the October 2015 National Drought Report states that, "Dry weather has dominated the West for much of the last four years, resulting in significant hydrological (low lake, reservoir, and stream levels) and agricultural impacts" (NOAA 2015, p. 9).² This, combined with unusually warm temperatures across the West, has led to increased evapotranspiration, which has made drought conditions worse. The USDA National Topsoil Moisture analysis released on November 1, 2015, indicates that Washington State had critically low moisture levels statewide during the 2015 screening season (NOAA 2015, p. 6).²

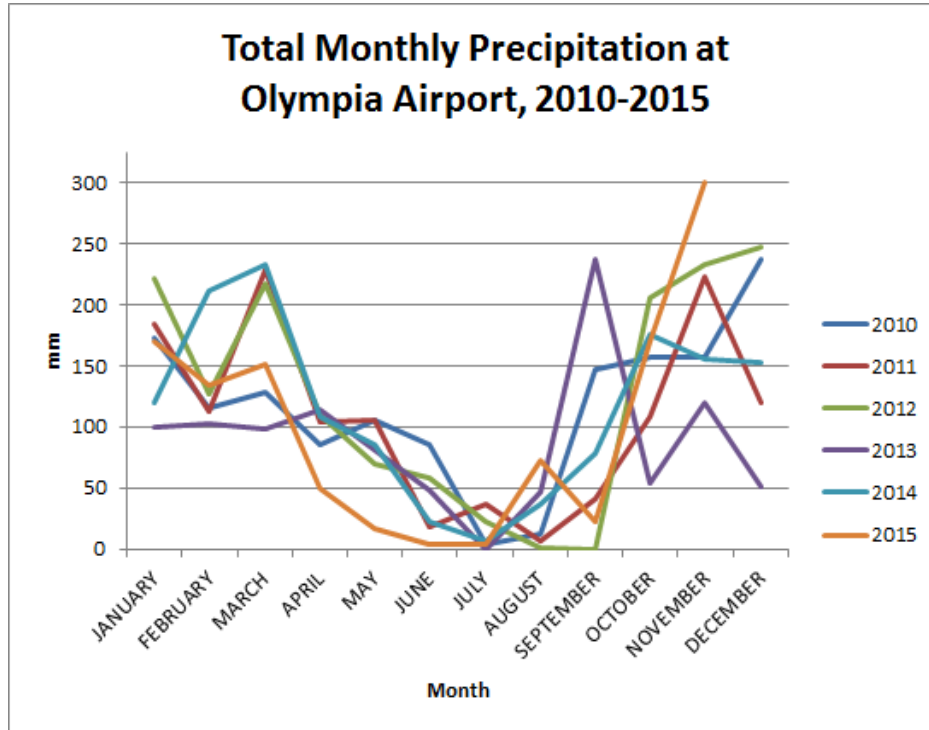
This characterization for Washington State was reflected locally by data collected at the Olympia Airport in Thurston County – the county where MPG screening was conducted – as shown in Figures 1 and 2 (developed from online data retrieved December 8, 2014 at <http://www.ncdc.noaa.gov/cdo-web/datatools/normals>).

Figure 1. Mean monthly maximum temperatures in the MPG screening area over the last five years.



²NOAA National Centers for Environmental Information, State of the Climate: Drought for October 2015, published online November 2015, retrieved on December 8, 2015 from <http://www.ncdc.noaa.gov/sotc/drought/201510>

Figure 2. Total monthly precipitation in the MPG screening area over the last five years.



High temperatures and low precipitation during 2015, especially during the first half of the year, reduced soil moisture. Very low soil moisture conditions may have affected MPG mounding activity, resulting in decreased mounding and reduced likelihood of detection. As well, very low soil moisture conditions combined with unusually warm temperatures may have resulted in drying and early senescence of vegetation used as forage by MPG. This, in turn, may have affected MPG movements in search of forage, the dispersal of juveniles, and survival rates during the screening period. Thus, 2015 environmental conditions (i.e., an unusually hot and dry spring) may have influenced the results reported in this document.

Field Results

A preliminary visit was conducted at 301 sites which were subject to screening for MPG mounds. After these preliminary visits, 4 sites were released from further screening due to site conditions that precluded the need for MPG screening.

After the first screenings were completed (most times this occurred simultaneously with the preliminary visit), 61 sites were released from further screening based on a combination of site conditions and other project-specific factors (ie., project footprint, type of action, MPG soil type location). Releasing sites from further screening occurred when the USFWS determined the proposed action would not result in the take of MPG.

After the second screenings, 9 sites were released from further screening due to site conditions and other project-specific factors. In total, 74 sites were released prior to completing the number of screenings appropriate for the soil type, based on site conditions and project-specific factors.

A total of 111 sites located on or associated with low MPG preference soils were screened 2 times each, in accordance with the protocol. A total of 94 sites located on or associated with medium or high MPG preference soils were screened 3 times each, in accordance with the protocol.

Screenings at 20 sites were not completed in accordance with the protocol due to time constraints or lack of landowner response to mowing requests. Another 3 sites were not screened to protocol because the building permit application was withdrawn by the landowner.

In 2 cases where MPG mounds were detected and no further site visits were required to meet the protocol, a third site visit was conducted to improve information over a longer portion of the screening season. In 10 cases where MPG mounds were detected and additional site visits were required to meet the protocol, those additional site visits were not conducted – mostly due to time constraints.

A total of 619 site visits were conducted during the 2015 MPG screening season.

Mazama Pocket Gophers

A total of 301 individual sites were screened. At least 333 legal tax parcels, associated with at least 2150 acres, comprised the 301 sites.

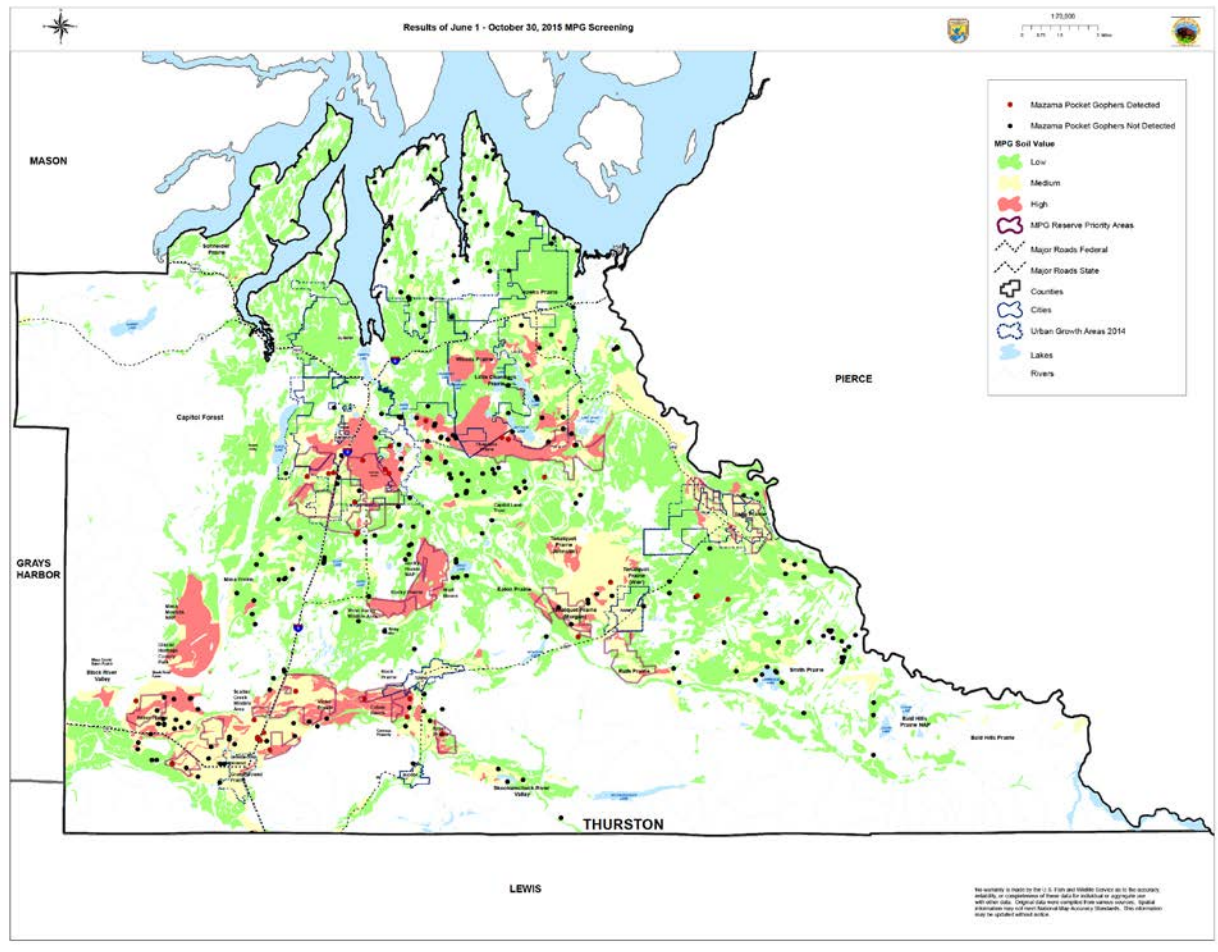
Table 1 shows the number of sites screened (column A), by MPG soil preference (column B), and the number of sites on which MPG mounds were detected (column C) and not detected (column D). Sites with multiple MPG soil preferences were accounted for only once and by whichever soil type was of greater preference. Sites with no MPG soil preference occurred when screening was required by an MPG soil lying within 300 feet of the project site; this procedure is in place to account for soil mapping error. Percentages shown in parentheses are relative to the total values per column.

MPG mounds were detected on 33 (11 percent) of the 301 sites screened. Of all sites screened, MPG mounds were not detected on 268 sites (89 percent). Figure 3 shows the approximate locations of the sites and indicates MPG preference based on soil type.

Table 1. Summary of all sites screened for MPG.

A	B	C	D
Sites Screened	MPG Preference (based on soil type)	Sites with MPG Mounds Detected	Sites with No MPG Mounds Detected
34 (11%)	High	10 (30%)	24 (10%)
134 (45%)	Medium	20 (61%)	114 (50%)
94 (31%)	Low	3 (9%)	91 (40%)
39 (13%)	---	0	39
301	---	33	268

Figure 3. Sites screened for MPG relative to MPG soil type preference.



Moles

Mole mounds were detected at 205 (68 percent) of the 301 sites screened. Mole mounds co-occurred with MPG mounds at 29 (88 percent) of the 33 sites where MPG mounds were detected.

Soils

Soils were checked at 170 sites (56 percent of all sites screened) to determine if soils onsite matched the mapped soil series. Because more than one soil type was often mapped on a property or site, a total of 249 soil types were checked across the 170 properties or sites. Soil types were verified (that is, they matched mapped soil series) 191 times (77 percent of all soil types checked). Soils did not match mapped soils 58 times (23 percent of all soil types checked).

Soil types were checked at 26 (79 percent) of the 33 sites where MPG mounds were detected, and were not checked at the other 7 sites (21 percent). Soil types were checked 35 times across the 26 sites, with 30 soil types (86 percent) verified to soil series, and 5 not verified (14 percent). MPG mounds were detected 12 times in soils mapped as high MPG preference (26 percent of all MPG mound detections), 25 times in soils mapped as medium MPG preference (54 percent of all MPG mound detections), and 9 times in soils mapped as low MPG preference (20 percent of all MPG mound detections).

Prairie and Oak Habitat

The majority of prairie habitat screening took place between June 1 and October 30, 2015. Screenings for prairie and oak habitat began as early as May of 2015 in sites considered outside the range of MPG habitat, or on vested properties. A total of 307 sites were screened for prairie habitat; 282 sites were screened during MPG screening visits, screenings on 25 sites were conducted only by the County.

Prairie habitat was present on a total of 11 sites, or 4 percent of all sites screened. Of these sites, 4 had prairie habitat within the project area (1 percent of sites screened for prairie). Three of the properties screened for prairie which met the CAO prairie habitat criteria were for a general review of the parcel, and did not have specific project areas. Additionally, 131 (43 percent) sites screened for prairie habitat had some target plant species onsite but did not meet the prairie habitat criteria; 47 sites (15 percent) contained target plants within the project area.

Only 3 sites (1 percent) had Mima mounds present. Oregon white oak trees, woodlands, or seedlings were present in 39 of the sites (13 percent), with only 5 instances in which oak were present within proposed project areas (2 percent).

Prairie habitat, as defined by the County, coincided with MPG mound detection at 5 sites (2 percent of total sites, or 45 percent of sites meeting prairie habitat criteria). Sites containing some target prairie plants but not meeting the prairie habitat criteria coincided

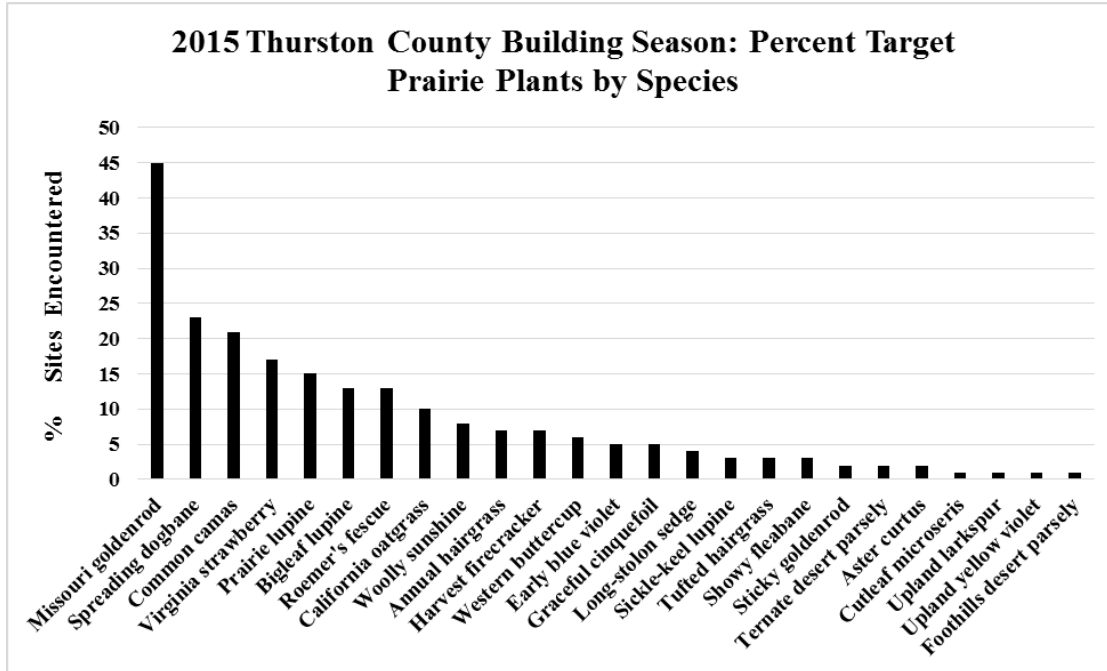
with MPG mound detection at 17 sites (6 percent of total sites, or 13 percent of sites with target plants present). Table 2 presents these prairie and oak results.

Table 2. Prairie and oak field data for 2015.

2015 Thurston County Prairie Data			
	# Sites	Percent of Total Sites	Comments
Total prairie screenings	307	---	Prairie habitat screenings conducted on first visit
Screen Team site visits	282	92%	Concurrent w/MPG screening
County site visits	25	8%	Prairie only
Prairie habitat identified	11	4%	
Prairie habitat within project area	4	1%	For several sites there was no specified footprint or project area
Target plants present	131	43%	---
Target plants present within project area	47	15%	---
Prairie habitat and MPG mounds	5	2%	---
Target plants and MPG mounds	17	6%	---
Oregon white oak present	39	13%	Trees, woodlands, seedlings
Oak within project area	5	2%	CAO requires 5 feet of buffer beyond canopy dripline
Mima mounds present	3	1%	---

During the 2015 season, a total of 25 target prairie species were detected during prairie habitat screenings. The five species most frequently encountered were Missouri goldenrod (*Solidago missouriensis*), spreading dogbane (*Apocynum androsaemifolium*), common camas (*Camassia quamash*), Virginia strawberry (*Fragaria Virginiana*), and prairie lupine (*Lupinus lepidus* var. *lepidus*). See Figure 4 for percent abundance of all target species encountered.

Figure 4. Target prairie plants encountered during 2015 building season reviews.



Expenditures

Implementation of the 2015 MPG screening protocol required significant time and funding. USFWS and County staff were redirected to screening from other work, and in addition to other work. The USFWS provided funding to both Thurston County and WDFW to assist with screening. The full 2015 screening effort resulted in the following expenditures of personnel:

- Field work for approximately 82 days, with 1 to 3 USFWS staff (includes WDFW staff time that USFWS paid for) and 1 to 2 Thurston County staff, totaling 1852 person hours for USFWS staff, and approximately 870 person hours for Thurston County (duties included field gear pick-up, site visits, data collection, interacting with landowners or project proponents, field data form completion).
- Office support for approximately 185 days, totaling 1553 person hours for USFWS staff, and approximately 888 person hours for Thurston County (duties included planning, coordination, equipment preparation, data download, field form review, preparation of determination forms, database maintenance, mapping).

APPLICATION OF RESULTS

Timing and Frequency of MPG Screening

The 2015 screening protocol required multiple site visits related to soil types and MPG preference for those soil types. This was done both to improve the limited information that exists about the timing and frequency of screening needed to confidently detect MPG presence at a site, and to improve the chances of correctly determining MPG presence at a site if it occurred. However, this year's low detection rates and unusual environmental conditions impeded meaningful statistical analysis and inferences. Thus, the USFWS has determined that no changes to the timing (screening 30 days apart) or frequency (number of required screenings per season based on soil type) of screening are appropriate at this time.

Chehalis and Newberg Soil Types

Chehalis and Newberg soil types were included as a low preference MPG soil in the 2015 screening protocol. This was because USFWS had extremely limited information indicating MPG may use these soil types. Twelve sites that contained these soils were screened in 2015: 7 sites had Chehalis soils, 2 sites had Newberg soils, 3 sites had both soils. No MPG mounds were detected at any of these sites.

Due to the lack of MPG mound detections on Chehalis and Newberg soil types during screening in 2014 (at least 18 sites with one or both of these soils types present were screened) and 2015 (12 sites were screened), and the lack of confirmed data indicating MPG use of these soil types, the USFWS has determined that Chehalis and Newberg soil types should be removed from the list of MPG preference soils for the purposes of screening. Chehalis and Newberg soil types comprise approximately 9200 acres in Thurston County.

Areas North of Interstate 5

Of the 301 sites screened for MPG mounds, 41 were located north of Interstate 5 (I-5). Sites that were screened only occurred on medium and low MPG preference soils as no high MPG preference soils occur on this peninsula of land located in the northeastern portion of Thurston County (refer back to Figure 1). Four sites were screened on medium MPG preference soils and 37 sites were screened on low preference soils. No MPG mounds were detected at any of the screened sites in this area.

USFWS will no longer screen or recommend that screening for MPG mounds be conducted on low MPG preference soils north of I-5 in the area shown on the map below. This is due to the above results for 2015, the lack of MPG mound detection on low preference soils in this area during the 2014 MPG screening conducted in Thurston County, and the relative amount of screening conducted on low preference soils in this area with no MPG detections compared to the amount of low preference soils screened south of I-5 with positive MPG detection rates.

Figure 5. Areas included or excluded for MPG screening.



Prairie Habitat Screening

The optimum time window for prairie vegetation surveys lies between April and mid to late August. While it is possible to identify certain plants by leaves or fruits beyond this time window, an equal possibility exists that other species will escape notice due to senescence and other factors. The 2015 building season saw unprecedented drought, particularly in June. Additionally, mow requests fell within the peak flowering and fruiting periods for many target plants. The late-season screening, drought conditions, and mowing activity may have reduced the number of sites with identifiable prairie habitat.

It is the objective of the County, for future building seasons, to require mowing to take place no later than mid-March. Conducting prairie habitat surveys in the spring and no later than mid-to-late August may improve screening conditions. If the 2016 building season review process is conducted in a similar manner to that of 2015, this earlier prairie screening technique would also improve efficiency of MPG screening by freeing up the availability of County staff for mound identification.

CONCLUSION

The screening conducted in 2015 – while limited – provides results that will be useful for informing MPG screening and prairie habitat screening that may occur in 2016, and for the ongoing development of the Thurston County HCP.



United States Department of the Interior

FISH AND WILDLIFE SERVICE


Washington Fish and Wildlife Office
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May 28, 2015

Memorandum

To: Thurston County
Olympia, Washington

From: State Supervisor, Washington Fish and Wildlife Office
Lacey, Washington 

Subject: Guidance for Assessing Potential Take of Mazama Pocket Gophers in
Thurston County for the 2015 Screening Season

The U.S. Fish and Wildlife Service (USFWS) recommends the following approach to assess the likelihood of potential “take” of (i.e., impacts to) Mazama pocket gophers during the 2015 Screening Season (approximately June 1 through October 31, 2015).

Three subspecies of Mazama pocket gophers found in Thurston County are listed as threatened under the Endangered Species Act. Impacts to Mazama pocket gophers should be avoided or addressed through USFWS permitting processes. The screening approach recommended here is based on the best available science incorporating the most current knowledge and experience with Mazama pocket gopher biology and field detection. Methods described here apply to the 2015 screening season only. Results from this 2015 approach will be used to inform future screening requirements and the Thurston County Prairie Habitat Conservation Plan (HCP) currently under development (<http://www.co.thurston.wa.us/planning/hcp/hcp-home.htm>).

Thurston County landowners who know that Mazama pocket gophers are present on their property can move forward with their development permitting requirements by: 1) contacting USFWS to discuss the review, assessment, and mitigation process most appropriate for their sites and proposed activities; or 2) choosing to wait to participate in the Thurston County HCP, currently anticipated to be completed in late 2016.

The recommended approach for the 2015 screening season applies to properties not known to be occupied by Mazama pocket gophers, and applies only through the 2015 screening season.

APPENDIX 1

Determinations made during the 2015 screening season allowing projects to move forward will be valid through October 31, 2016.

Landowners should be aware that engaging third party surveyors (consultants, biologists, etc.) to assess Mazama pocket gopher presence may not meet USFWS needs; consequently, such assessments will not substitute for the 2015 screening approach described here.

Thurston County Building Permit – In-Office Review

1. Thurston County staff will continue their practice of reviewing all building permit applications to ensure compliance with the County's Critical Area Ordinance (CAO). Factors that require additional review include (but are not limited to) legal lots that host prairie species (including Mazama pocket gophers), or that contain potential habitat for Mazama pocket gophers (specifically, [a]within 600 feet of a site known to have positive Mazama pocket gopher occurrence; or [b] on or within 300 feet of a soil type known to be associated with Mazama pocket gopher occupancy).
2. Thurston County staff will determine if other factors preclude the need for additional screening. Factors that would preclude additional screening for Mazama pocket gophers include, but are not limited to:
 - a) Locations west of the Black River, or on Steamboat Island peninsula.
 - b) Sites submerged for 30 consecutive days or more since October 31, 2014.
 - c) Sites covered with impervious surfaces (as defined in CAO Chapter 17.15 and Title 24).
 - d) Sites that consist of slopes greater than 40%, or that contain landslide hazard areas (per existing County regulations).

Thurston County and USFWS – Preliminary Site Assessment

3. Building permit applications not excluded from further review will undergo a preliminary site assessment conducted by Thurston County and USFWS staff. This preliminary site assessment will determine if additional screening and site visits will be required. The preliminary site assessment will determine:
 - a) Presence of prairie indicators such as native prairie plants and mima mounds.
 - b) If mowing would facilitate more effective site assessment for these prairie indicators, and if Thurston County will request that the site be mowed.
 - c) If forest canopy exceeds 30% cover and other site factors preclude the need for additional Mazama pocket gopher screening on all or part of the site.
 - d) If sites with low preference soils* (preference by Mazama pocket gophers), and >30% woody shrub cover and other factors preclude the need for additional screening on all or part of the site.
 - e) If mowing will be requested by the County to facilitate additional screening. Mowing may be requested on sites with medium and high preference soils with woody shrub cover that impedes effective screening.

If site conditions allow, this preliminary site assessment may also serve as the first site visit to determine Mazama pocket gopher presence (see below).

USFWS – Site Visits

4. After the preliminary site assessment, a USFWS Screening Team will conduct field observations to determine Mazama pocket gopher presence on sites with potential habitat. Thurston County and WDFW staff may participate. These site visits will be scheduled in advance, and will be conducted through October 31 as follows:
 - a) Sites with low preference soils and more than 600 feet from a known occurrence will be visited two (2) times, at least 30 days apart. If these field observations do not verify Mazama pocket gopher presence, the legal lot will proceed through the regular building permit process.
 - b) Sites with low preference soils and within 600 feet of a site with verified occurrence will be visited three (3) times, at least 30 days apart. If these field observations do not verify Mazama pocket gopher presence, the legal lot will proceed through the regular building permit process.
 - c) Sites with medium or high preference soils will be visited three (3) times, at least 30 days apart. At least one of these visits must occur in September or October. In order to complete the field observations this screening season, the first visit must occur no later than the last week of August. Therefore, in order to achieve all three site visits, we recommend that Thurston County urge applicants to submit building permit applications as early as possible.
 - d) Sites visits will be discontinued if pocket gophers are detected and the proposed project has the potential to take pocket gophers. At that point, the landowner may choose to develop an HCP with the USFWS directly or wait until the County HCP has been approved and permitted.
 - e) These proposed field observations apply to the 2015 screening season only. Results from this 2015 approach will be used to inform future screening requirements and the Thurston County Prairie Habitat Conservation Plan currently under development (<http://www.co.thurston.wa.us/planning/hcp/hcp-home.htm>).

*See attached list of soil types, relative Mazama pocket gopher preference, and site visits/timing.

2015 Mazama Pocket Gopher Review Process for Permits – Thurston County

Mazama Pocket Gopher Preference	Soil Type	Site Visits & Timing*
High	Nisqually loamy fine sand, 0 to 3 percent slopes Nisqually loamy fine sand, 3 to 15 percent slopes Spanaway-Nisqually complex, 2 to 10 percent slopes	<ul style="list-style-type: none"> • 3 site visits at least 30 days apart • At least 1 visit must occur in September or October • To meet the above, 1st visit must occur no later than the last week in August
Medium	Cagey loamy sand Indianola loamy sand, 0 to 3 percent slopes Spanaway gravelly sandy loam, 0 to 3 percent slopes Spanaway gravelly sandy loam, 3 to 15 percent slopes	
Low	Alderwood gravelly sandy loam, 0 to 3 percent slopes Alderwood gravelly sandy loam, 3 to 15 percent slopes Chehalis silt loam Everett very gravelly sandy loam, 0 to 3 percent slopes Everett very gravelly sandy loam, 3 to 15 percent slopes Indianola loamy sand, 3 to 15 percent slopes Kapowsin silt loam, 3 to 15 percent slopes McKenna gravelly silt loam, 0 to 5 percent slopes Newberg loam Norma fine sandy loam Norma silt loam Spana gravelly loam Spanaway stony sandy loam, 0 to 3 percent slopes Spanaway stony sandy loam, 3 to 15 percent slopes Yelm fine sandy loam, 0 to 3 percent slopes Yelm fine sandy loam, 3 to 15 percent slopes	<p>For property more than 600 feet from a gopher occurrence:</p> <ul style="list-style-type: none"> • 2 site visits at least 30 days apart • To meet the above, 1st visit must occur by September 30 <p>For property within 600 feet of a gopher occurrence:</p> <ul style="list-style-type: none"> • 3 site visits at least 30 days apart • To meet the above, 1st visit must occur no later than the last week in August

*All site visits will be conducted by U.S. Fish and Wildlife Service no later than October 31, 2015. If site conditions allow, the preliminary site assessment may also serve as the first site visit to determine Mazama pocket gopher presence.

This document produced: May 28, 2015



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Washington Fish and Wildlife Office
510 Desmond Dr. SE, Suite 102
Lacey, Washington 98503



Cynthia Wilson, Interim Resource Stewardship Director
Thurston County Planning Department
2000 Lakeridge Drive SW
Olympia, Washington 98502

Attention: Mike Kain

Dear Ms. Wilson:

U.S. Fish and Wildlife Service (Service) biologists and Thurston County Planning staff recently completed site visits to the locations/parcels indicated in the table below. These locations have permit applications pending, or requests for technical assistance in process with the Thurston County Planning Department.

Based on physical, environmental, and biological conditions on and near the project site, the Service has determined that no further site visits are necessary and that these projects are unlikely to result in take of federally listed *Mazama* pocket gophers (*Thomomys mazama ssp.*).

# of Site Visits Completed	Parcel # ¹	Property Owner or Other Identifier	Address	Project

¹ Initials in parentheses indicate Thurston County Project Manager

These parcels and associated projects require no further screening or other technical assistance from the Service as a procedure of the Thurston County permitting process.

This determination by the Service remains in effect until October 31, 2016. After that time, additional requirements may be in place through Thurston County or the Service to protect this or other federally listed species due to new information on or near the project site, changed site conditions, or changes in permitting.

We appreciate you working with us to conserve *Mazama* pocket gophers. If you have any questions, please contact Tim Romanski, Branch Manager, Conservation and Hydropower Planning at (360) 753-5823.

APPENDIX 2

Sincerely,

Eric V. Rickerson, State Supervisor
Washington Fish and Wildlife Office

cc:

Thurston County, Olympia, WA (A. Deffobis)



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Washington Fish and Wildlife Office
510 Desmond Dr. SE, Suite 102
Lacey, Washington 98503



Cynthia Wilson, Interim Resource Stewardship Director
Thurston County Planning Department
2000 Lakeridge Dr. SW
Olympia, Washington 98502

Attention: Mike Kain

Dear Ms. Wilson:

U.S. Fish and Wildlife Service (Service) biologists and Thurston County Planning staff recently conducted the first of 2-3 site visits to the locations/parcels indicated in the table that follows. These locations have permit applications pending, or requests for technical assistance in process with the Thurston County Planning Department.

Based on physical, environmental, and biological conditions on and near each project site, the Service has determined that the proposed projects are likely to result in “take” of federally listed Mazama pocket gophers (*Thomomys mazama ssp.*), which would be a violation of Federal law pursuant to the Endangered Species Act of 1973, as amended. Three subspecies of the Mazama pocket gopher were listed as threatened species in Thurston County on May 9, 2014, and are therefore under Federal protection.

We recommend that landowners of each project receive further technical assistance from the Service prior to Thurston County permitting the proposed action, in order to avoid the potential take of a listed species. The project proponent may contact the Service to discuss options on how to proceed. The Service is notifying the landowners of these properties by letter about the potential for take of a listed species and providing additional information on how they may proceed.

# Site Visits Completed	Parcel #/ Property Owner/ Other Identifier	Address	Determination

This determination by the Service remains in effect until October 31, 2016. After that time, additional requirements may be in place through Thurston County or the Service to protect Mazama pocket gopher or other federally listed species, due to new information on or near the project site, changed site conditions or changes in permitting.

APPENDIX 2

We appreciate your working with us to conserve Mazama pocket gophers. If you have further questions, please contact Tim Romanski, Branch Manager, Conservation and Hydropower Planning at (360)753-5823.

Sincerely,

Eric V. Rickerson, State Supervisor
Washington Fish and Wildlife Office



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Washington Fish and Wildlife Office
510 Desmond Dr. SE, Suite 102
Lacey, Washington 98503



[NAME]

[ADDRESS]

[XXXXX, Washington 98XXX]

Dear Mr./Mrs. Landowner:

U.S. Fish and Wildlife Service (Service) biologists and Thurston County Planning staff recently conducted the first of 2-3 site visits to your property located at XX, XX, XX. Based on physical, environmental, and biological conditions on and near your proposed project site, the Service has determined that the project is likely to result in “take” of federally listed Mazama pocket gophers (*Thomomys mazama*), which would be a violation of Federal Law pursuant to the Endangered Species Act of 1973, as amended. Three subspecies of Mazama pocket gopher were listed as a threatened species on May 9, 2014, and are therefore under Federal protection.

As you may know, the Service is actively working with Thurston County to develop a habitat conservation plan (HCP) to address the long-term conservation needs of prairie-dependent species in Thurston County, including the federally-listed Mazama pocket gopher. When approved, the HCP will provide for the conservation of significant prairie ecosystems in Thurston County, and the long-term survival of the listed and rare species that depend on these habitats. In return, Thurston County will be able to conduct their normal project and permitting activities with assurance from the Service that the incidental take of listed species has been fully mitigated and authorized.

We understand that your short-term needs may not be met by the Thurston County HCP. However, because your project is likely to take Mazama pocket gophers, your options may be:

- 1) Avoid Take – Modify your project footprint or location to avoid take, if possible.
- 2) Develop an Individual HCP – Minimize project impacts and take, then mitigate remaining impacts and take in accordance with an HCP you have developed and the Service has approved. This will provide you with federally-authorized take coverage.
- 3) Wait for Thurston County’s HCP – Delay your project until Thurston County can provide you with federally-authorized take coverage through a county-wide HCP.

APPENDIX 2

We are committed to providing you with the technical assistance you need to make an informed decision about how to proceed with your project. By working with the Service now, you will ensure that your project is compliant with the Endangered Species Act.

We appreciate you working with us to conserve Mazama pocket gophers. If you would like additional information or have questions about this letter, please contact Tim Romanski, Branch Manager, Conservation and Hydropower Planning at (360)753-5823.

Sincerely,

Eric V. Rickerson, State Supervisor
Washington Fish and Wildlife Office

cc:

Thurston County, Olympia, WA (A. Deffobis)

NOTE: Section 9 of the Endangered Species Act and federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. *Harm* is defined by the Service as an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering (50 CFR 17.3). *Harass* is defined by the Service as an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering (50 CFR 17.3).



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FISH AND WILDLIFE SERVICE

Washington Fish and Wildlife Office
510 Desmond Dr. SE, Suite 102
Lacey, Washington 98503



[NAME]
[ADDRESS]
[XXXXX, Washington 98XXX]

Dear Mr./Mrs. Landowner:

U.S. Fish and Wildlife Service (Service) and Thurston County biologists conducted X site visits to the property at XXXXX in XXX, Washington, on XX, XX, and XX, 2015. Please see the enclosed aerial map and screening field forms for more information. Three subspecies of Mazama pocket gopher (*Thomomys mazama ssp.*) were listed as threatened species on May 9, 2014 pursuant to the Endangered Species Act of 1973, as amended. Based on physical, environmental, and biological conditions on and near your proposed project site, the Service has determined that your proposed project may impact Mazama pocket gophers and could result in “take”.

Section 9 of the Endangered Species Act and federal regulation pursuant to section 4(d) of the Act prohibit “take” of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. *Harm* is defined by the Service as an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering (50 CFR 17.3). *Harass* is defined by the Service as an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering (50 CFR 17.3).

As you may know, the Service is actively working with Thurston County to develop a habitat conservation plan (HCP) to address the long-term conservation needs of prairie-dependent species in Thurston County, including the Mazama pocket gopher. Thurston County’s HCP will provide for the conservation of significant prairie ecosystems in Thurston County, and the long-term survival of the listed and rare species that depend on these habitats. Upon issuance of the Incidental Take Permit for the HCP, Thurston County will be able to conduct their normal project and permitting activities with assurance from the Service that the incidental take of listed species has been fully mitigated and authorized.

We understand that your short-term needs may not be met by the Thurston County HCP. However, because your proposed project may result in “take” of Mazama pocket gophers, your options may be:

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- 1) Develop an Individual HCP – Minimize project impacts and take, then mitigate remaining impacts and take in accordance with an HCP you have developed and the Service has approved. This will provide you with federally-authorized take coverage.
- 2) Wait for Thurston County's HCP – Delay your project until Thurston County can provide you with federally-authorized take coverage through a county-wide HCP.

We are committed to providing you with the technical assistance you need to make an informed decision about how to proceed with your project. By working with the Service now, you will ensure that your project is compliant with the Endangered Species Act.

We appreciate you working with us to conserve Mazama pocket gophers. To schedule a meeting to further discuss options, or if you would like additional information or have questions about this letter, please contact Kevin Connally, Acting Branch Manager, Conservation and Hydropower Planning at (360)753-4122, or Tim Romanski, Acting Division Manager, Consultation and Conservation Planning at (360)753-5823.

Sincerely,

Eric V. Rickerson, State Supervisor
Washington Fish and Wildlife Office

Enclosures

cc:

Thurston County, Olympia, WA (A. Deffobis)

APPENDIX 3

2015 Thurston County

The following tables are derived from the Thurston County Critical Areas Ordinance, **Thurston County Code Title 24, Chapter 24.25, Tables 24.25-7 and 24.25-8, Appendix 24.25-1**, to include host and nectar sources of the Taylor's checkerspot butterfly and butterflies classified as **Species of Conservation Concern (SCC)/Greatest Conservation Need (SGCN)**

Diagnostic Wet Prairie Plants and Flowering Periods

Scientific Name Bold font = rare plant	Common Name	Most Identifiable (lf. morphology, flowering, fruiting)	Flowering Period	TCB Nectar Species	SCC/ SGCN** Nectar/ Host
<i>Camassia leichtlinii</i>	giant camas		April – May		
<i>Camassia quamash</i>	common camas	Mid-Mar to mid-Jul	April - June	N	N
<i>Carex densa</i>	dense sedge*	Mid-May to mid-Aug	April - June		
<i>Carex feta</i>	green-sheath sedge	Mid-Apr to mid-Jul	May - July		
<i>Carex tumulicola</i>	foot-hill sedge	Mid-Apr to mid-Jul	April - May		
<i>Carex unilateralis</i>	one-sided sedge	Mid-Apr to mid-Jul	May - July		
<i>Deschampsia cespitosa</i>	tufted hairgrass	Mid-May to mid-sept	June - September		
<i>Deschampsia danthonioides</i>	annual hairgrass	Mid-Apr to mid-Jul	April - May		
<i>Downingia yina</i>	Cascade downingia	Mid-May to mid-Jul	April - August		
<i>Eryngium petiolatum</i>	Oregon coyote thistle*	Mid-May to mid-Aug	June - August		
<i>Lomatium bradshawii</i>	Bradshaw's lomatium* Federally Endangered Species	Mid-Mar to mid-May	May		
<i>Lotus pinnatus</i>	bog bird's-foot-trefoil*	Mid-May to mid-Jul	May - July		
<i>Lupinus polyphyllus</i>	large-leaf lupine	Mid-May to mid-Jul	June - September		
<i>Perideridia gairdneri</i>	Gairdner's yampah	Mid-May to late Sept	July - August		
<i>Plagiobothrys figuratus</i>	fragrant popcorn flower	Mid-Apr to mid-Jul	May - July		N
<i>Polemonium carneum</i>	great polemonium*	Mid-May to mid-Aug	May - July		
<i>Polygonum bistortoides</i>	American bistort*	Mid-May to mid-Aug	May - August		
<i>Potentilla gracilis</i>	graceful (fanleaf) cinquefoil	Mid-May to mid-Aug	July - August	N	N
<i>Ranunculus alismifolius</i>	plantain-leaf buttercup	Mid-May to mid-Jul	May - July		
<i>Ranunculus orthorhynchus</i>	bird's-food buttercup	Mid-Apr to mid-Jul	April - August		
<i>Saxifraga integrifolia</i>	northwestern saxifrage	Mid-Mar to mid-Jul	March - July	N	N
<i>Saxifraga oregana</i>	bog saxifrage	Mid-Mar to mid-Jul	April - July		
<i>Sidalcea malviflora</i> var. <i>virgata</i>	rose checkermallow*	Mid-Apr to mid-Jul	May - June		
<i>Sisyrinchium idahoense</i>	Idaho blue-eyed-grass	Mid-May to mid-Jul	April - June		N
<i>Veratrum californicum</i>	California false hellebore	Mid-May to mid-Aug	June - August		
<i>Veratrum viride</i>	American false hellebore*	Mid-May to mid-Sept	June - September		
* Rare Wet Prairie Species					

**Butterfly Species of Greatest Concern; N = Nectar source, H = Host plant

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2015 Thurston County

Diagnostic Dry Prairie Plants (Common and Rare) and Flowering Periods

Scientific Name Bold font = rare plant	Common Name	Most identifiable (lf. morphology, flowering, fruiting)	Flowering Period	TCB Nectar/ Host	SCC/ SGCN** Nectar/ Host
<i>Apocynum androsaemifolium</i>	spreading dogbane		June – Sept. (mid June - July)*		
<i>Balsamorhiza deltoidea</i>	deltoid balsamroot	Mid-Apr to mid-Jul	March - July	N	
<i>Brodiaea coronaria</i> ssp. <i>coronaria</i>	harvest firecracker-flower		May - June		
<i>Camassia quamash</i>	common camas	Mid-Mar to mid-Jul	April - June	N	N
<i>Carex inops</i> ssp. <i>inops</i>	long-stolon sedge		April – July		H
<i>Castilleja levisecta</i>	golden Indian paintbrush Federal Threatened Species	Mid-Apr to mid-Jul	April – Sept. (usually only through June);	H	
<i>Castilleja hispida</i>	harsh Indian paintbrush		April – August	H	
<i>Danthonia californica</i>	California oatgrass	Mid-May to mid-Jul	Late May – early July		H
<i>Delphinium menziesii</i>	Puget Sound larkspur	Mid-Apr to mid-Jul	April - July		
<i>Delphinium nuttallii</i>	upland larkspur	Mid-May to mid-Jul	May - June		
<i>Dodecatheon hendersonii</i>	Henderson's shootingstar	Mid-Mar to mid-Jul	March - June		
<i>Erigeron speciosus</i>	showy fleabane (aspen fleabane)	Mid-May to mid-Jul	June - August		N
<i>Eriophyllum lanatum</i> var. <i>lanatum</i>	common woolly sunflower	Mid-Apr to mid-Aug	May - August	N	
<i>Festuca idahoensis</i> v. <i>roemerii</i>	Roemer's fescue	Mid-May to mid-Jul	May - July		H
<i>Fragaria virginiana</i>	Virginia strawberry		May - August	N	
<i>Fritillaria affinis</i>	chocolate lily	Mid-Apr to mid-Jul	April - June		
<i>Hieracium scouleri</i>	hound's-tongue hawkweed	Mid-May to mid-Jul	June - August		
<i>Koeleria macrantha</i> (<i>cristata</i>)	prairie Junegrass	Mid-May to mid-Jul	May - July (primarily June)*		
<i>Linanthus bicolor</i>	bicolored desert-gold	Mid-Apr to mid-Jul	April - June		
<i>Lomatium triternatum</i>	ternate desert-parsley	Mid-Apr to mid-Jul	April - July (late May - mid June)*	N	
<i>Lomatium utriculatum</i>	foothills desert-parsley	Mar to mid-Jul	April - June	N	N
<i>Lomatium nudicaule</i>	barestem biscuitroot		April - June		
<i>Lupinus albicaulis</i>	sickle-keel lupine	Mid-May to mid-Jul	May – July (primarily June)*		N/H
<i>Lupinus lepidus</i> var. <i>lepidus</i>	prairie lupine	Mid-May to mid-Jul	June - August		N
<i>Microseris laciniata</i>	cut-leaf silverpuffs	Mid-May to mid-Jul	May – July (primarily June)*		
<i>Plectritis congesta</i>	shortspur seablush	Mid-Apr to mid-Jul	April – June	N/H	N
<i>Potentilla gracillis</i>	fanleaf cinquefoil	Mid-May to mid-Aug	Late May – July	N	N
<i>Ranunculus occidentalis</i> var.	western buttercup	Mid-Mar to mid-Jul	April - June	N	N

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2015 Thurston County

<i>occidentalis</i>					
<i>Saxifraga integrifolia</i>	northwestern saxifrage	Mid-Mar to mid-Jul	March - July	N	N
<i>Sericocarpus rigidus</i>	aster Curtus (white topped aster)	Mid-May to mid-Aug	July - August		N
<i>Silene scouleri</i>	Scouler's catchfly		June - August		
<i>Sisyrinchium idahoense</i>	Idaho blue-eyed-grass	Mid-May to mid-Jul	April - July		N
<i>Solidago missouriensis</i>	Missouri goldenrod	Mid-May through Sept	Late June - October		
<i>Solidago simplex</i> var. <i>simplex</i> (<i>S. Spathulata</i>)	sticky goldenrod	Mid-Apr to mid-Jul	June – Sept.		
<i>Solidago spathulata</i>	spikelike goldenrod	Mid-Apr to mid-Jul	June – Sept.		
<i>Trifolium willdenowii</i> (<i>T. tridentatum</i>)	springbank clover	Mid-Mar to mid-Aug	April - July		
<i>Triteleia grandiflora</i>	Howell's triteleia	Mid-Apr to mid-Jul	May - June		
<i>Triteleia hyacinthina</i>	white triteleia	Mid-Apr to mid-Jul	May - August		
<i>Viola adunca</i>	early blue violet (sand violet)	Mid-Apr to mid-Jul	April - August		N/H
<i>Viola praemorsa</i> var. <i>nuttallii</i>	upland yellow violet	Mid-Mar to mid-Jul	April - July		
<i>Zigadenus venenosus</i> var. <i>venenosus</i>	meadow death-camas	Mid-Apr to mid-Jul	May - July		

**Butterfly Species of Greatest Concern; N = Nectar source, H = Host plant