



IMPORTANT MESSAGE

May 2016

In April 2014, the U.S. Fish and Wildlife Service (USFWS) listed four subspecies of Mazama pocket gophers in Thurston and Pierce Counties as *Threatened* under the federal Endangered Species Act (16 U.S.C. §1531 et seq.). Activities that may result in impacts to those subspecies should be discussed with the USFWS. For more information, please refer to the USFWS' Mazama pocket gopher website at <http://www.fws.gov/wafwo/articles.cfm?id=149489588>.



PRIORITY HABITATS AND SPECIES MANAGEMENT RECOMMENDATIONS: MAZAMA POCKET GOPHER

The Washington Department of Fish and Wildlife (WDFW) is providing these management recommendations to inform local government permit reviewers, applicants, consultants, and landowners working on projects with potential impacts to Mazama pocket gopher, a state-listed threatened species. These recommendations are not regulatory, but are based on best available science for avoiding, minimizing, and mitigating impacts to gophers and their habitat, which is primarily located in South Puget Sound. WDFW recommends the following mitigation sequence for reviewing and conditioning proposed development projects with potential impacts to Mazama pocket gophers:

1. **Avoid direct impacts to occupied Mazama pocket gopher habitat.**
 - a. Determine the potential for gopher occupancy. A list of soil types known to be inhabited by Mazama pocket gopher in Mason, Pierce, Thurston and Lewis Counties is attached (Attachment 1). A generalized map of these soil types in Thurston and Pierce Counties is posted online, along with these management recommendations, at http://wdfw.wa.gov/conservation/phs/mgmt_recommendations/. WDFW also maintains information on gopher locations based on survey and research information, which is updated frequently. Applicants can request current data on known locations of Mazama pocket gopher from WDFW's Priority Habitats and Species program (http://wdfw.wa.gov/conservation/phs/maps_data/), or by calling 360-902-2543. WDFW also provides gopher location data directly to local jurisdictions.
 - b. Because mapped gopher data is incomplete, WDFW recommends that the local permit authority require a **Mazama pocket gopher mound survey** for all projects proposed on sites with soils listed in Attachment 1. We recommend that a qualified professional who has received training from WDFW in Mazama pocket gopher survey protocols conduct the mound survey between the months of June and October. Surveys conducted outside that time period may not be accurate as to the presence of gophers, and applicants should be encouraged to plan ahead for their projects in order to complete a survey between June and October. A list of consultants who have received the training is available online at http://wdfw.wa.gov/conservation/phs/mgmt_recommendations/. Information on identifying gopher mounds, including differences from mole mounds, can be found at <http://wdfw.wa.gov/living/gophers.html>.
 - c. If a survey shows occupied gopher habitat on a proposed project site, require the applicant to design/re-design the project to **avoid** impacts to the occupied area. WDFW defines occupied gopher habitat as Mazama pocket gopher mounds found wholly or partially within the boundaries of the parcel(s) to be developed, buffered by a 5.64-m radial buffer, and with overlapping radii dissolved. To account for the estimated location

of the burrow system (based on surface mounds) occupied by the pocket gopher and biological needs for dispersal and reproduction, the occupied area should be multiplied by a factor of three (3) this area is considered the habitat protection area¹. (Consultants trained in the survey protocol are familiar with these mapping criteria.) See Attachment 2. All development should be located outside the gopher habitat protection area or areas. The permit authority may want to include mounds located off site in the assessment of areas that will be directly impacted by infrastructure improvements required by the development (e.g., right-of-way improvements).

- d. If relocating the project completely outside of existing, occupied gopher habitat is *not* possible without impacting reasonable use of the property, go to Step 2- minimize impacts. A determination of reasonable use is at the discretion of the local permit authority, but it is assumed that legal definitions of reasonable use within the context of the property's zoning/land use designation will be followed. WDFW recommends that the full mitigation sequence described here, including a consideration of offsite mitigation opportunities, be employed before issuing a reasonable use exception.
- e. If a survey has been completed for a site, a record of this survey should be maintained by the local permit authority, even if the development project does not move forward and even if no pocket gophers were found on the site. Requiring the survey to be recorded is the best way to notify future landowners that occupied gopher habitat has been found on their site. We recommend that a new survey be required if more than one year has passed between an initial survey and the issuance of preliminary plat approval or site plan approval. If mitigation is not implemented at the preliminary approval stage of the project, a new survey should be required when 5 or more years pass between preliminary approval and beginning of earth-moving work. Depending on available resources, WDFW may provide comment on the survey to the local jurisdiction and/or may be available to work with a consultant who is new to the survey protocol to fulfill survey requirements. WDFW will add the survey results to our mapped gopher data if the permit authority or consultant provides the results as a GIS shapefile or hard copy map, along with basic information including parcel number, surveyor and landowner name, date of survey, and number of mounds found (if any). By receiving this data, WDFW will be able to provide it to future landowners and jurisdictions planning or reviewing projects on the same or adjacent sites. Data should be submitted to WDFW Biological Data Management, Gretchen.Blatz@dfw.wa.gov.

¹ Methodology to determine gopher habitat is based on best available science, including peer-reviewed literature and the best professional judgment of WDFW species experts. WDFW derived the 100 sq m habitat buffer depicted as a circle with a 5.64-m radius from data on home range. Witmer et al (1996) reported a mean home range of 108 sq m for males (range 73-143), and 97 sq m for females (range 47-151). Witmer reports that these figures are somewhat smaller than reported in the literature for other *Thomomys*, perhaps due to the limited duration of his study (Feb-April). Anderson and MacMahon (1981) reported that in the similar Northern pocket gopher, adults typically made only small shifts (10-15 m) in their home range over the course of the year. A multiplication factor (x3) accounts for uncertainty about the exact location of the burrow system relative to surface mounds as well as species reproduction and dispersal needs and buffering from development impacts, and is WDFW's recommendation based on the best professional judgment of our species and habitat experts. See Attachment 4 for literature citations and other resources.

- f. WDFW can assist landowners with projects that do not require local permits, but whose property is likely to contain Mazama pocket gopher habitat. The permit authority is encouraged to refer such landowners to WDFW for guidance and stewardship advice. Information on living with pocket gophers can also be found at <http://wdfw.wa.gov/living/gophers.html>. Malicious harm to state threatened species is prohibited².
2. If impacts to some active gopher mounds can't be avoided, minimize impacts to occupied Mazama pocket gopher habitat.
 - a. Designate as a habitat protection area onsite the area(s) that contains the highest gopher mound density, plus additional area(s) to make up for occupied habitat that will be destroyed by development. Maximizing width to length ratio such that large, contiguous patch(es) are provided and long, narrow corridors are avoided are most appropriate as habitat protection areas. Multiple habitat protection areas may be appropriate on some parcels or necessary to allow development. Corridors may be appropriate to maintain connectivity with adjacent sites that also have known gopher populations.
 - b. The total habitat protection area should include an area equivalent to the total occupied habitat area multiplied by three (3) (as calculated above). Attachment 2 shows a habitat protection area shaped to incorporate the concentrated population of gopher use onsite while also achieving the amount of buffer or protection area necessary to afford long-term benefits of habitat use. The habitat protection area should include habitat suitable for gophers. Restoration may be needed to achieve suitable habitat. See subsection (f), below.
 - c. Record the location of the habitat protection area on the face of the plat, short plat, or site plan. The habitat protection area may be designated as a separate tract.
 - d. Access to the habitat protection area should be restricted. Perimeter fencing should be installed if necessary to reduce human impacts and pet predation on gophers. Informational signage should be installed at the habitat protection area perimeter stating "Mazama pocket gopher habitat area: No entry" and explaining that the habitat protection area contains habitat sensitive to disturbance of a state-threatened species.
 - e. A habitat management plan (HMP) detailing the location and long-term management of the habitat protection area should be required as a condition of project approval, and recorded to run with the title. A recommended habitat management plan template is

² RCW 77.15.130 defines the unlawful taking of protected fish or wildlife as when a person hunts, fishes, possesses or maliciously kills protected fish and wildlife, or maliciously destroys the eggs or nests of protected fish or wildlife, and the taking has not been authorized by rule of the commission; or the person violates any rule of the commission regarding the taking, harming, harassment, possession or transport of protected fish and wildlife. Unlawful taking of protected fish or wildlife is a misdemeanor. WAC 232-12-297 classifies state threatened and sensitive species as subcategories of protected wildlife.

attached (Attachment 3). We request that the permit authority provide WDFW an opportunity to review the HMP by sending the Department a copy during the project review period (however, WDFW will not maintain HMP records and we may not have resources to provide timely comment on all submitted HMPs).

- f. The HMP should include invasive vegetation control and restoration. WDFW recommends removing all Scotch Broom (*Cytissus scoparius*) using above ground hand techniques (e.g. no significant movement of earth or large machinery). Twice annually, the habitat protection area should be mowed to control Scotch Broom and enhance herbaceous plant growth. (Information on Scotch Broom control may be found at <http://w.southsoundprairies.org/scotchbroom.htm>. Restoration of native plants should occur following invasive/Scotch Broom removal. A planting plan should incorporate herbaceous species and minimizes the number of trees proposed for planting in the tree tracts. Examples of beneficial herbaceous plants include legumes, broadleaf forbs, and grasses such as broadleaf lupine (*Lupinus latifolius*), clover (*Trifolium* sp.) nodding onion (*Allium cernuum*) common yarrow (*Achillea millefolium*), field chickweed (*Cerastium arvense*) showy fleabane (*Erigeron speciosus*) coast strawberry (*Fragaria chiloensis*) and blue wildrye (*Elymus glaucus*). Possible deciduous trees to plant include Oregon white oak (*Quercus garryana*), big leaf maple (*Acer macrophyllum*) or dogwood (*Cornus* sp).
 - g. Avoid using herbicides and pesticides in the habitat protection area(s).
 - h. WDFW encourages the permit authority to require the applicant to submit annual compliance reports to the local jurisdiction for a period of three to five years after the HMP is approved. Such reports should provide basic information on how the conditions of the HMP are being implemented. WDFW recognizes that the ability to track compliance information is dependent on available local resources.
3. **Mitigate unavoidable impacts to Mazama pocket gopher active mounds.**
- a. Only if the avoidance or minimization of impacts through an onsite habitat protection area is not possible, as determined by the permit authority, then offsite mitigation *or* a combination of onsite and offsite mitigation may be used. A *combination* of onsite and offsite mitigation is preferred where there is the potential to retain some onsite habitat protection, even if that habitat protection is less than the amount recommended here.
 - b. The offsite mitigation ratio should be calculated at the rate of three acres of suitable gopher habitat permanently protected for every one acre of occupied gopher habitat (as defined above) that is destroyed. Permanent protection may come in the form of a permanent conservation easement implemented by another property owner with gopher habitat. The offsite habitat protection area should be one contiguous patch in single ownership, and use of the site for permanent habitat mitigation should be an allowable use by the local land use permitting authority. The site should contain suitably drained prairie soils of a type and quality equivalent to the gopher habitat on the development site, and be free of impervious surfaces or structures within the habitat protection area. WDFW biologists may be available to review off site proposals for suitability as gopher habitat.

- c. A habitat management plan as described in Step 2, above, should be implemented for the mitigation site. The HMP should also specify that the site is being used as off site mitigation for a development site, and may not be used as mitigation for other development activities.

WDFW Key Contacts:

Area Habitat Biologists

HMP review, general project assistance

Thurston County: Tel. 360-902-2579

E-mail Amy.Iverson@dfw.wa.gov

Pierce County: Tel. 360-895-3965

E-mail Gina.Piazza@dfw.wa.gov

Mason County: Tel. 360-249-4628 x 249

E-mail Gloria.Rogers@dfw.wa.gov

Lewis County: Tel. 360-785-0472

E-mail Scott.Brummer@dfw.wa.gov

District Wildlife Biologist

Consultant training for surveys

Tel. 253-813-8906

E-mail Michelle.Tirhi@dfw.wa.gov

PHS Data

For applicant data requests

Tel. 360-902-2543

E-mail phsproducts@dfw.wa.gov

http://wdfw.wa.gov/conservation/phs/maps_data/

Biological Data Management

To submit gopher survey results

Tel. 360-902-2484

E-mail Gretchen.Blatz@dfw.wa.gov

Attachments

1. Soils list
2. Mazama pocket habitat protection example
3. Habitat Management Plan template
4. Resource list
5. March 2011 amendments

Attachment 1

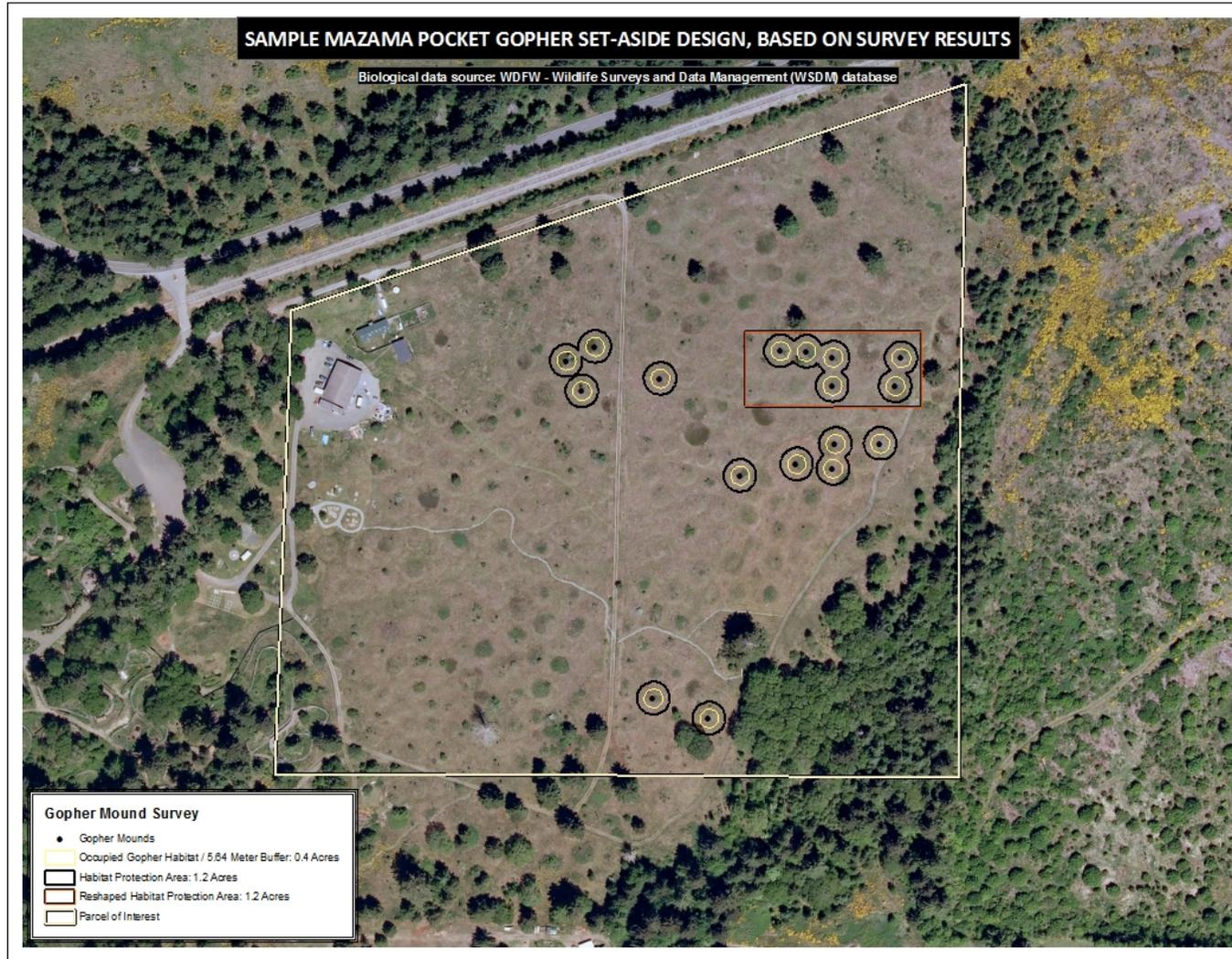
Soil types where Mazama pocket gophers are most commonly found

Cagey loamy sand
Everett very gravelly sandy loam, 0-3%
Everett very gravelly sandy loam, 3-15%
Indianola loamy sand, 0-3%
Indianola loamy sand, 3-15%
Nisqually loamy fine sand, 0-3%
Nisqually loamy fine sand, 3-15%
Spana gravelly loam
Spanaway gravelly sandy loam, 0-3%
Spanaway gravelly sandy loam, 3-15%
Spanaway stony sandy loam, 0-3%
Spanaway stony sandy loam, 3-15%
Spanaway-Nisqually complex

Go online to http://wdfw.wa.gov/conservation/phs/mgmt_recommendations/ to see a generalized map of soils associated with pocket gopher habitat in Thurston and Pierce Counties. Local records may be more accurate.

Attachment 2

SAMPLE MAZAMA POCKET GOPHER SET-ASIDE DESIGN, BASED ON SURVEY RESULTS



Attachment 3

HABITAT MANAGEMENT PLAN TEMPLATE: MAZAMA POCKET GOPHER

WDFW Mazama pocket gopher management recommendations can be found online at http://wdfw.wa.gov/conservation/phs/mgmt_recommendations/.

Applicant

NAME AND ADDRESS

Subject Property

PARCEL NUMBER, ADDRESS, JURISDICTION

EXISTING CONDITIONS

1. Parcel size, location, and current use including any improvements.
2. Mazama pocket gopher status and use of subject property. If other wildlife species of concern are also found on or near the property, their status and use should also be described. A single HMP can be used to cover multi-species and habitat management issues.

PROPOSED ACTIVITY

Describe the proposed activity including a discussion of proposed structures, roads, right-of-ways and their location on the subject parcel. Include a timeline for proposal activities and whether or not this proposal is part of a long-term plan for continued development of the property.

HABITAT MANAGEMENT PLAN CONDITIONS

ON-SITE

1. Describe habitat preservation actions that will be taken on site. Include size and shape of any preserved area (set-aside) and how this area relates to the existing pocket gopher mound distribution on the parcel.
2. Describe actions that will be taken to maintain and enhance the habitat preservation area on the parcel. This may include but is not limited to; mowing, invasive species control, reestablishment of native plant species associated with gopher habitat.
3. Describe protection and education actions that will be taken on the preservation site and the property as a whole. This may include fencing, educational signs, etc.

OFF-SITE

1. Describe any mitigation actions that will be taken on parcels other than the parcel where the project is proposed.
2. Include a description of the parcel(s) their location(s).

3. Discuss how these parcels will be acquired and how managed as was done for the ON-SITE parcel.

DURATION OF PLAN and MODIFICATIONS

1. Describe how long the plan will be enforced, how often the plan will be reviewed, and what conditions lead to this review.
2. Describe how the plan will be funded and who or what organization(s) will be responsible for ensuring the plan is carried out and the site maintained.
3. Describe how responsibility for maintaining this plan will be transferred if ownership changes.
4. Describe how the plan will be reviewed and modified should land use on the parcel is proposed to change. This could include changes in how other natural resources on the parcel are managed in addition to additional or change in development.
5. Describe who will notify the local jurisdiction of any new proposed land use activities.

COMPLIANCE

Failure to comply with this Plan is a violation of [JURISDICTION] codes and may be subject to civil or criminal penalty.

 Landowner or Agent Signature (Date)

 Landowner or Agent Names (Print)

 Address

 City, State, Zip

 [JURISDICTION] Representative (Date)

For review and comment purposes, a copy of this plan may be sent to:
 WDFW- Habitat Program
 Attention: Region 6 Area Habitat Biologist
 600 Capitol Way North
 Olympia, WA 98501-1091

Attachment 4

Resources for further information about Mazama pocket gopher species and habitat

Andersen, D.C. and J.A. MacMahon. 1981. Population dynamics and bioenergetics of a fossorial herbivore, *Thomomys talpoides* (Rodentia: Geomyidae), in a spruce-fir sere. *Ecological Monographs* 51:179-202.

Campbell, B. 2004. Restoring Rare Native Habitats in the Willamette Valley. A Landowner's Guide to Restoring Oak Woodlands, Wetlands, Prairies and Bottomland Hardwood and Riparian Forests. See Chapter 5. <http://www.southsoundprairies.org/documents/Landownerguide.pdf>

Stinson, D. W. 2005. Washington State Status Report for the Mazama Pocket Gopher, Streaked Horned Lark, and Taylor's Checkerspot. Washington Department of Fish and Wildlife, Olympia. 129+ xii pp. <http://wdfw.wa.gov/publications/pub.php?id=00390>

WDFW Living with Wildlife Series: Pocket Gophers <http://wdfw.wa.gov/living/gophers.html>

Witmer, G. W., R. D. Sayler, and M. J. Pipas. 1996. Biology and habitat use of the Mazama pocket gopher (*Thomomys mazama*) in the Puget Sound area, Washington. *Northwest Science* 70:93-98.

Attachment 5

Amendments to Mazama Pocket Gopher Habitat Management Recommendations

In March 2011, the Washington Department of Fish and Wildlife revised the July 2009 Mazama Pocket Gopher Habitat Management Recommendations as follows:

1. Section 1c was amended to correct the radial buffer used to depict the 100 sq m gopher mound. The correct radial buffer distance is 5.64 m. The map in Attachment 2 was also replaced to reflect the change.
2. The term “active” was removed to describe gopher mounds from section 1c. Gopher mound activity varies throughout the year and therefore an inactive mound in one season may be occupied in another.
3. Section 2 was amended to replace the term “set-aside” with “habitat protection area.” The habitat protection area is not a true set-aside because it may have other uses consistent with gopher occupancy.
4. Internet links and contact information were updated throughout.