



United States Department of the Interior



FISH AND WILDLIFE SERVICE

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Memorandum

To: Washington Fish and Wildlife Office Staff and Interested Parties

From: *FRS* State Supervisor, Washington Fish and Wildlife Office *BRM*

Subject: Mazama Pocket Gopher Conservation Strategy and Mitigation Guidance

As you know, our office listed four subspecies of the Mazama pocket gopher (MPG) in April 2014. Prior to and since that time, we have been in a planning mode to address regulatory issues and questions. We are now moving forward toward MPG recovery within a broader strategy for prairie ecosystem conservation by enhancing our partnering and outreach, prioritizing within our programs, utilizing our regulatory tools, and advancing our recovery planning. Our daily work needs to be integrated with this strategy and this document provides guidance to do so.

This document is based on the best available science known to our biologists. The work represented here draws from our listing documents, in-house analyses, work products developed in conjunction with the Washington Department of Fish and Wildlife (WDFW), and the best professional judgment of both U.S. Fish and Wildlife Service (USFWS) and WDFW biologists. This work is informed by USFWS policy and guidance.

While the guidance in this document was primarily developed in response to conservation needs within the geographic area defined by Thurston County, the principles endorsed here may be applied throughout the range of the listed entities and adjusted as appropriate.

This document will be updated as needed to reflect new scientific information, species needs, or policy changes. Until that time, this document should guide our collective Section 7 (federal agency consultation) and Section 10 (habitat conservation planning) work.

**U.S. Fish and Wildlife Service
Mazama Pocket Gopher Conservation Strategy and Mitigation Guidance**

Information in this document is presented in the following order:

- 1. Purpose**
(What is this document for, where should it be used, who should use it?)
- 2. Conservation Strategy**
(How is USFWS conserving federally listed Mazama pocket gophers?)
- 3. Impacts to Mazama Pocket Gophers**
(How are MPGs impacted?)
- 4. Mitigation to Offset Impacts**
(What is mitigation and how is it used?)
- 5. Translocation**
(Can translocation of Mazama pocket gophers be used to mitigate impacts?)
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This document is not meant to contain complete information regarding species biology, regulatory requirements, USFWS policies, or compensatory mitigation procedures. Additional materials supporting this document and providing supplemental information relevant to this topic are indicated within and at the end of this document. This document will be updated as needed to reflect new scientific information, species needs, or policy changes.

1. Purpose (What is this document for, where should it be used, who should use it?)

The main purpose of this document is to provide guidance when assessing land use and project development impacts to the Mazama pocket gopher (MPG) and offsetting unavoidable impacts through compensatory mitigation. This U.S. Fish and Wildlife Service (USFWS) guidance is provided in support of conservation and recovery of the listed MPG. It should be useful within the range of the listed subspecies (Olympia pocket gopher, Tenino pocket gopher, Yelm pocket gopher, Roy Prairie pocket gopher). At this time, however, it will be most useful within Thurston County. Biologists, consultants, and project proponents may use it to inform and facilitate their work with USFWS in a regulatory context.

While this guidance is not binding, it provides basic information to be used as a starting point for discussions with USFWS when impacts to MPGs and their habitat are anticipated. The site specific and project-specific conditions of each potential project, however, will be considered by USFWS on a case-by-case basis.

2. Conservation Strategy (How is USFWS conserving federally listed Mazama pocket gophers?)

The USFWS believes that the most effective strategy for conserving listed MPGs is: avoid and minimize impacts to MPG and their habitat where feasible; ensure that unavoidable impacts to individuals and MPG habitat are offset through compensatory mitigation; focus MPG conservation effort in areas where MPG persistence and recovery are most likely to be successful; prioritize our work on actions that add value to this conservation strategy; work with others (federal and nonfederal) to implement this strategy; integrate this strategy with species recovery planning; and use this strategy within the larger context of prairie ecosystem conservation.

3. Impacts to Mazama Pocket Gophers (How are MPGs impacted?)

The USFWS believes that, for projects that have unavoidable adverse impacts on MPGs, compensatory mitigation is needed to conserve MPGs and contribute to MPG recovery. The amount of compensatory mitigation to offset a proposed project's impacts should be determined by assessing a project's negative impacts to MPGs and their habitat. Impacts to MPGs result from direct mortality to individuals, loss or alteration of suitable MPG soils, loss or degradation of their forage resources, and interference with their dispersal. Impacts to MPG recovery result from loss of individuals and populations; diminishment of genetic variability or individual fitness; and the loss, degradation, and fragmentation of habitat that supports or could support MPGs. Impacts may be permanent or temporary, direct or indirect, immediate or cumulative. It is the collective effect of all these impacts to MPGs and their habitat that USFWS seeks to account for, avoid, and offset when a project is proposed.

See Attachment 1 for an example of how USFWS examines habitat requirements, and the direct and indirect effects of several project types.

4. Mitigation to Offset Impacts (What is mitigation and how is it used?)

Mitigation is typically defined as avoiding, minimizing, rectifying, reducing, and then compensating for unavoidable impacts that result from a project, to a species or its habitat. Projects should incorporate conservation measures that help to avoid, reduce, or minimize impacts. Remaining impacts should be offset through compensatory mitigation. Compensatory mitigation, in this document, means physical habitat that is permanently conserved, managed, and endowed in perpetuity to ensure conservation benefits for the MPG.

5. Translocation (Can translocation of MPGs be used to mitigate impacts?)

Translocation involves the human-mediated movement of animals from one area, with release in another. Techniques for successful MPG translocation are not refined at this time, and there is currently little data on the conservation value of MPG translocation to the species. Since MPG translocation is not presently viewed as a viable mitigation option by USFWS, translocation will occur at the discretion and authorization of the USFWS on a case-by-case basis. Translocation may be appropriate when recovery or research objectives are likely to be met. Submission of a translocation proposal which follows USFWS MPG translocation guidance is recommended in order for the USFWS to evaluate any potential translocation of MPGs.

6. Determining Mitigation (How much mitigation is needed?)

The USFWS will consider a number of primary factors when determining how much mitigation should be provided to adequately offset impacts that will be incurred by a proposed project. These primary factors are:

- a) type and amount of MPG soils to be impacted
- b) MPG occupancy and use of the site to be impacted
- c) type and distribution of woody vegetation covering the site to be impacted
- d) location and landscape context of the site to be impacted

Further information about each of these primary factors, and why they are important when assessing impacts and determining mitigation, is provided in Mitigation Determination Factors (Attachment 2).

Other factors that should be taken into account by both USFWS and the project proponent include: how well the proposed mitigation site meets our recommended Mitigation Site Selection Factors (Attachment 3); whether the impact is temporary or permanent; and whether the proposed mitigation to offset impacts provides immediate conservation and recovery benefits to MPGs or if there will be a delay in such benefits. It should be noted that USFWS has a preference for mitigation which is upfront or already-established to ensure immediate benefits to MPGs in exchange for proposed impacts, and to reduce risk to the species overall.

7. Providing Mitigation (How can mitigation be provided?)

Compensatory mitigation can be provided by the project proponent by paying a fee (in-lieu fee), by buying mitigation from a mitigation provider (mitigation bank), or by establishing a mitigation site (permittee-responsible mitigation).

That is, for those pursuing compensatory mitigation but not able or interested in establishing and securing a mitigation site, it may be possible to pay an in-lieu fee to or to purchase credits from a mitigation bank, each of which could result in providing MPG conservation benefits commensurate with project impacts.

Paying a fee or purchasing credits both entail a payment of monies by the entity needing to provide mitigation to a third party who will provide that mitigation. This payment of monies is relatively simple and fast compared to permittee-responsible mitigation. The USFWS will know if such in-lieu fee or credit arrangements are available.

For those establishing a mitigation site to provide their own mitigation or to establish a bank, it will be necessary to work with the USFWS to ensure approval of key elements needed to authorize the mitigation site. The USFWS is developing and will provide detailed guidance and feedback on each key element described below.

- a) Purchase a land parcel(s) adequate for providing compensatory mitigation.
- b) Record a permanent conservation easement on the property.
- c) Develop a management plan for the property that documents baseline conditions; establishes biological goals, objectives, and performance standards; prescribes monitoring and reporting; and provides for adaptive management.
- d) Provide financial assurances (specifically, an endowment) for the interim and perpetual maintenance, management, and monitoring of the mitigation site property.
- e) Private parties must obtain an Incidental Take Permit (i.e., Section 10 permit pursuant to the federal Endangered Species Act) or otherwise be covered by an existing permit. This occurs in part by developing a Habitat Conservation Plan (HCP) or being covered by an existing HCP. For additional information on HCPs, see: <http://www.fws.gov/endangered/what-we-do/hcp-overview.html>
- f) Federal agencies should complete a consultation (i.e., Section 7 consultation pursuant to the federal Endangered Species Act) in which the proposed project action includes compensatory mitigation to offset MPG impacts.

8. Siting Mitigation (Where should mitigation occur?)

Impacts to MPGs and their habitat, and the compensatory mitigation to offset those impacts, should be located within the same geographic area known as a Service Area. Service Areas in Thurston County are shown by different colors on Map 1 on the following page. There are six Service Areas delineated by USFWS upon consideration of subspecies ranges (as presently understood), dispersal barriers, genetics, and MPG population dynamics. Service Areas could be refined in the future as biological information, recovery needs, and land uses change.

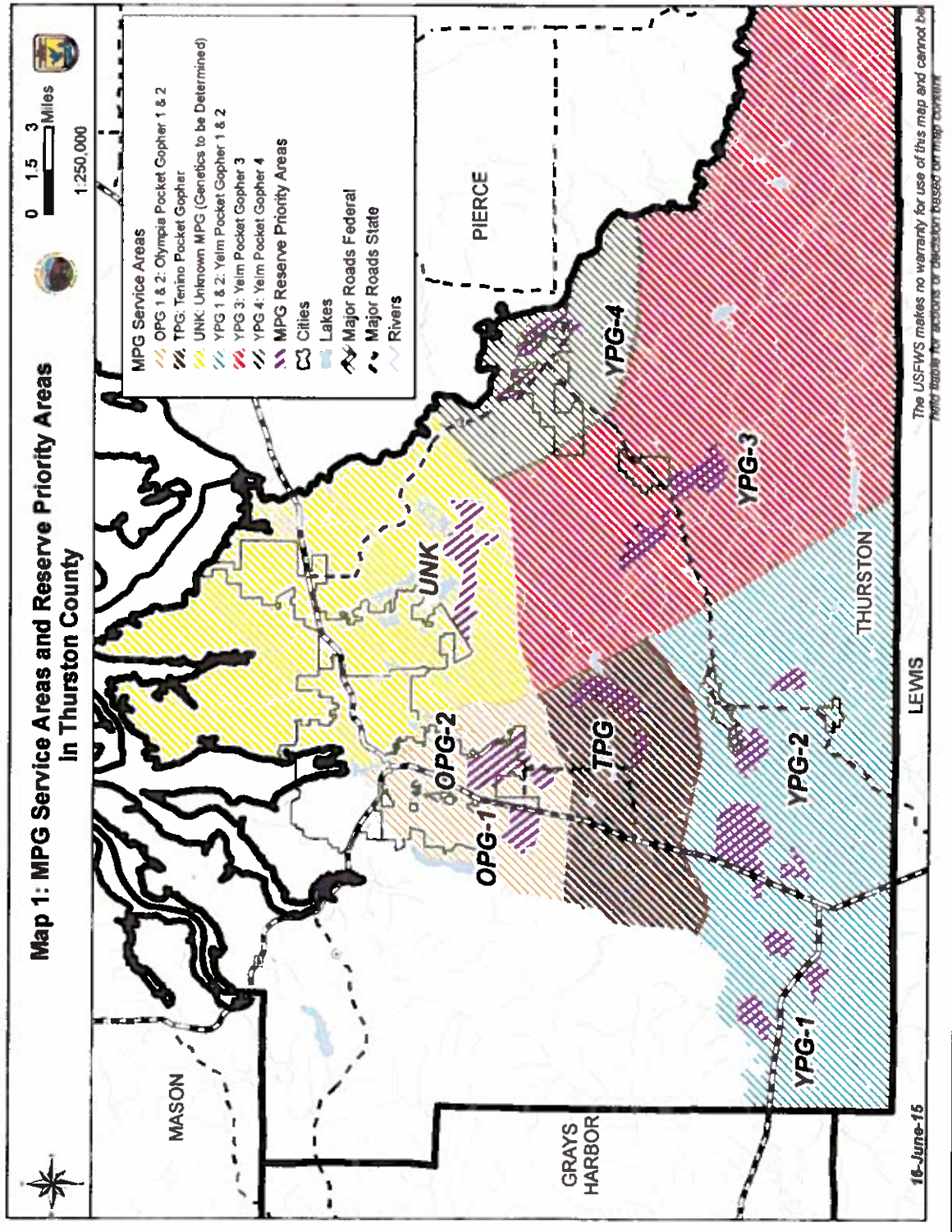
Within each Service Area, compensatory mitigation should be further directed to Reserve Priority Areas (RPAs). Reserve Priority Areas are those places identified by federal and state biologists as being the most important for, and the most likely to support, the long-term conservation and recovery of the Mazama pocket gopher. These RPAs have been determined by considering MPG subspecies ranges, MPG genetics, MPG occupancy, soil types, current land use, conservation biology and recovery needs, and landscape context.

At this time, RPAs have only been identified for the three subspecies of Mazama pocket gopher that occur within Thurston County. If mitigation is needed outside of Thurston County, its location will be determined in coordination with USFWS.

No Service Area or Reserve Priority Area has been identified for the Roy Pocket Gopher at this time. Projects that will impact the Roy Pocket Gopher or its habitat should thus be evaluated by USFWS on a case-by-case basis.

Additional information on selecting a mitigation parcel(s) is provided in Attachment 3 (Mitigation Site Selection Factors).

It is important to note that siting a mitigation parcel in and adjacent to other parcels that are conserved and managed for similar prairie ecosystem functions and values can be advantageous both ecologically and economically. Experience by restoration practitioners indicates that prairie habitat restoration, which is likely to be needed at a mitigation site, requires a number of actions. These include: removal and control of non-native vegetation, reduction of tree and shrub cover, application of herbicides, seeding and/or planting of native vegetation, and prescribed fire. These actions must often be repeated with high frequency for the initial establishment of, and then repeated at longer intervals for the maintenance of, a target prairie condition. These repeated actions are typically facilitated when parcels with similar or compatible land uses or purposes (such as habitat conservation or species recovery) adjoin one another. As well, such restoration actions may be more economically and easily performed across parcel ownerships, due to economies of scale, partnering, and sharing of resources and personnel.



Attachment 1: Effects Pathway Manager - Mazama Pocket Gopher

In support of the *Mazama Pocket Gopher Conservation Strategy and Mitigation Guidance* the U.S. Fish and Wildlife Service – Washington Fish and Wildlife Office has prepared example, draft conceptual models that examine habitat requirements, and the direct and indirect effects of a few common actions (e.g., construction activities, permanent infrastructure, restoration actions). These conceptual models present the Service’s current thinking and recommended approach for fully considering the direct and indirect effects of these actions on the Mazama pocket gopher, pocket gopher habitat, and forage resources. We hope that they will be instructive and helpful to our partners and applicants who may be engaged in Endangered Species Act planning and consultation (ESA sections 7 and 10) on actions with potential effects to the four listed subspecies. In their present form, these conceptual models are “draft”. However, the Service intends to refine and finalize these conceptual models during 2015, and will use a publically available on-line information system and tool to make them widely available.

The Service’s *Effects Pathway Manager* (EPM; < <https://ecos.fws.gov/epm/home/dashboard> >) uses the North American Industry Classification System (developed by the U.S. Census Bureau), which breaks down businesses and activities into 11 broad *Sectors* and *Subsectors*. *Industry Group* is a more specific grouping of highly similar business activities, within a subsector.

Activities are all of the actions conducted on the landscape to achieve the goals of a project. The objective of “source deconstruction” is to define the fewest possible number of unique activities that are required to fully describe a project. *Deconstruction* should identify only those activities that appear, apriori, to have a potential effect(s) on biological resources.

Structures are the physical objects that are constructed, or that exist, on the landscape. The presence of a structure on the landscape can change and/or result in the loss of a resource which is needed by a species, or cause stress directly on the species.

Features (or resources) are the physical, biological, and environmental elements of the landscape, including natural processes. *Feature Metrics* are optional, but can add greater specificity to a resource; they consist of two parts, metric and value. *Metrics* are units of measure or other quantitative or qualitative terms that can be coupled with a value. *Values* are specific terms, values, or phrases that quantify or refine the feature metric.

Resource Functions describe how a particular resource (or feature) is used, in one or more life stage of a given species. Resource functions fall into the generic categories of “feeding”, “sheltering”, “breeding”, and “dispersal”.

Direct Interaction is the method or means by which an activity, structure, feature/resource, or stressor acts directly upon individuals of a species. *Individual Responses* are the anticipated reactions of an individual when exposed to a physical, chemical, or biological alteration, a stressor, and/or a changed condition in a resource or feature. The reaction can be expressed as a

behavioral response, which may in turn result in a physiological change, or as a direct physiological response. *Individual Effects* are the changes in an individual's ability to grow and mature, successfully reproduce, be free of illness, and survive to fulfill all of its life stages.

The pages that follow present three example conceptual models or pathways: 1) A Generic Description of High-Functioning Mazama Pocket Gopher Habitat; 2a) Construction (Activities / Temporary "Footprint"); 2b) Construction (Structures / Permanent "Footprint"); and, 3) Restoration. These are example, draft conceptual models. They describe the habitat requirements of the Mazama pocket gopher, and the direct and indirect effects of a few common actions or activities on habitat and forage resources.

The Service intends to refine and finalize these conceptual models during 2015, and will likely also develop additional conceptual models for additional industry groups, structures, activities, and actions that are common within the ranges of the four listed subspecies (e.g., farm and agricultural practices, maintenance activities, conditions in the developing suburban environment). The Service intends to use a publically available on-line information system and tool to make the conceptual models or pathways more widely available.

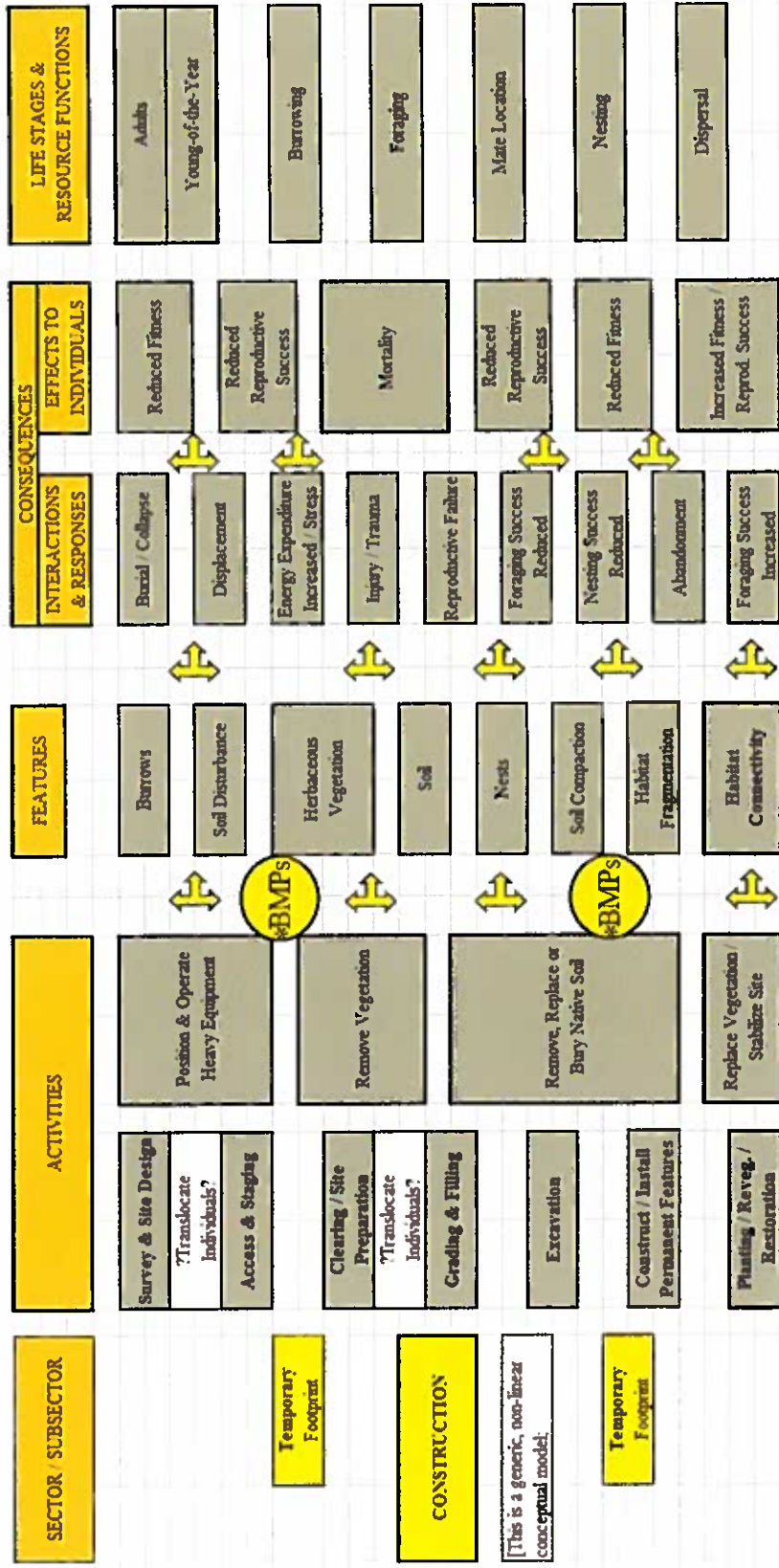
Effects Pathway Manager: MPG Pathway 1 – A Generic Description of High-Functioning Mazama Pocket Gopher Habitat

FEATURES ²	Feature METRICS	Feature VALUES	RESOURCE FUNCTIONS ³	Notes
Soil Texture	Soil Type	Suitable gopher soils. ⁴	Foraging, Burrowing & Nesting	⁴ Source: 79 FR 19712 and 79 FR 19760; April 9, 2014. Approximately 20 soil types (or soil series) in western WA.
Slope	Percent Slope	Slopes less than 15 percent.	Foraging, Burrowing, and Dispersal	Nest chambers are located below ground, generally near the center of the tunnel system. Pups are birthed and reared in the nest chamber.
Vegetation / Composition	Vegetation Type	Short-statured, early seral vegetation, grasses and forbs.	Foraging	
Herbaceous Vegetation	Herbaceous Cover	Forbs, fleshy tubers, and tap roots are preferred forage.	Foraging, Burrowing, and Dispersal	
Patch Size	Patch Size	Patches providing 50 or more acres of suitable habitat. ⁵	ALL Functions	⁵ Mazama pocket gophers occupy patches of variable size, though generally always greater than 0.10 ac.
Trees & Shrubs	Woody Cover	Less than 10 percent woody (tree, shrub) cover.	Foraging, Burrowing and Dispersal	⁶ The presence and/or proportion of medium-sized rocks (e.g., 0.5-2.0 m) may strongly influence habitat suitability.
Rock	Soil Type	Excess rock reduces or impairs habitat function. ⁶	Foraging, Burrowing & Nesting	⁷ Preferred forage includes annual and perennial forbs, including those that produce a fleshy tuber or large tap root.
Forbs	Vegetation Type	Availability of forbs improves habitat function. ⁷	Foraging	⁸ Mazama pocket gophers do not typically disperse over distances greater than 200m (approx. 656 ft) in the absence of barriers
Habitat Connectivity	Dispersal Distance	Patches separated by less than 200 m, with no barriers. ⁸	ALL Functions	

HABITAT REQUIREMENTS¹
 [This is a generic, non-linear conceptual model.]

¹ This pathway describes the attributes of high-functioning habitat. ² Physical, biological, and environmental elements of the landscape (resources), including natural processes. ³ How a resource (or feature) is used for “feeding”, “sheltering”, “breeding”, and “dispersal”.

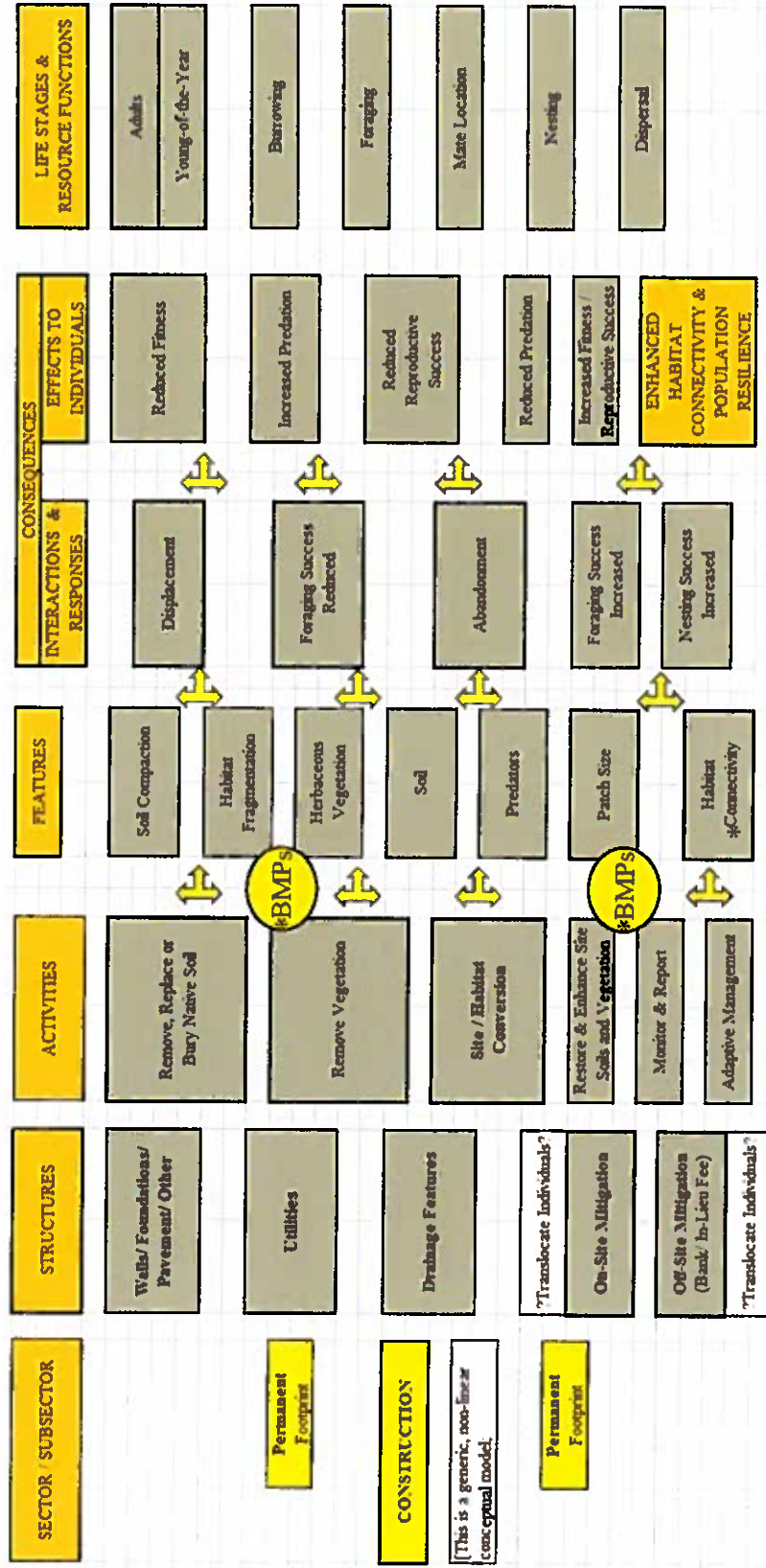
Effects Pathway Manager: MPG Pathway 2a – Construction (Activities / Temporary “Footprint”)



This conceptual model is not strictly linear. There are more interactions than a straight linear reading, e.g., reading from left to right, would suggest or imply. The arrow icons are an indication that the elements in the columns to the left interact with, influence, and/or affect more than one element found within the columns to the right.

* When carefully selected and implemented, BMPs (best management practices) serve to avoid and minimize impacts.

Effects Pathway Manager: MPG Pathway 2b – Construction (Structures / Permanent “Footprint”)

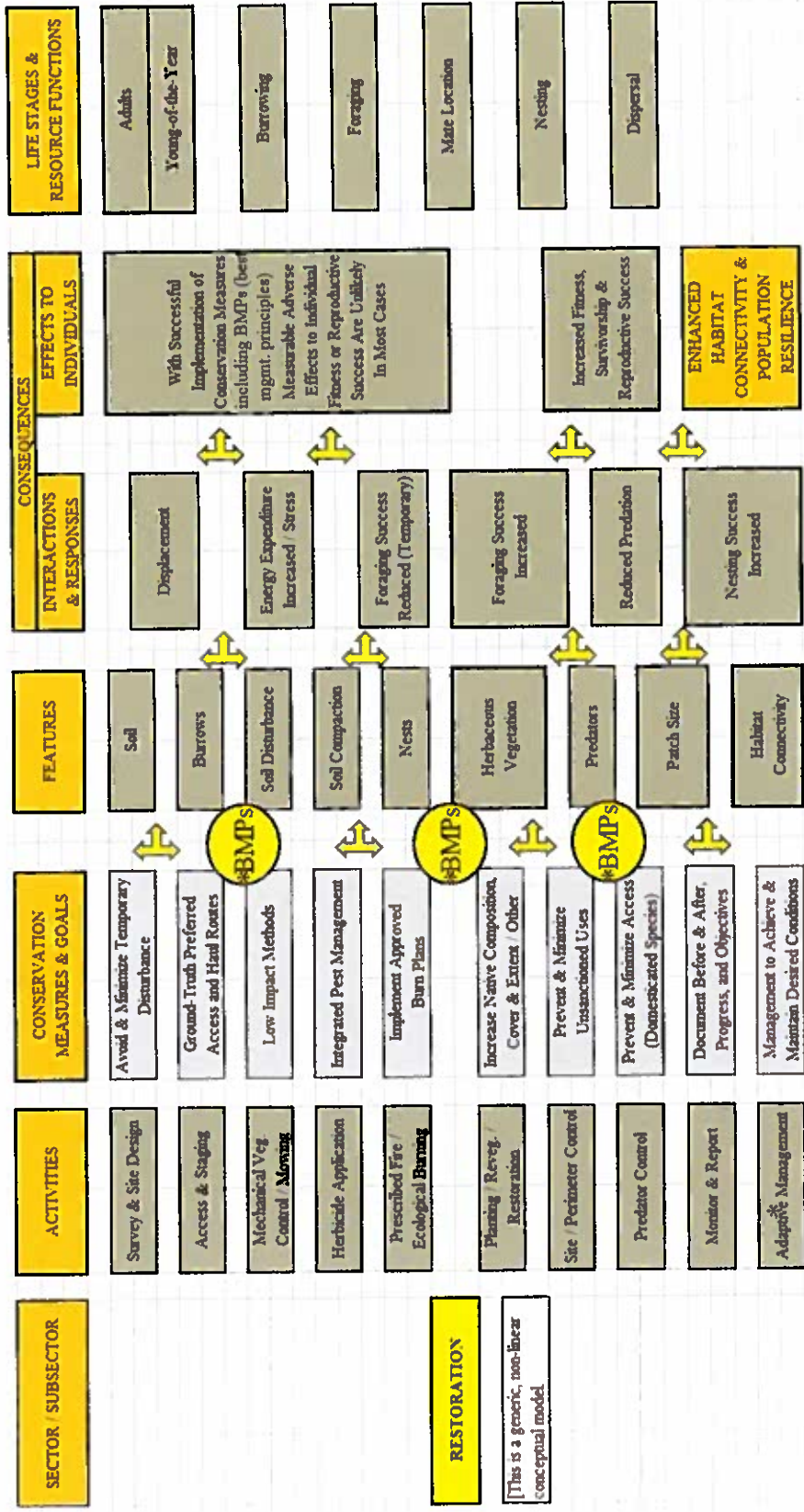


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* When carefully selected and implemented, BMPs (best management practices) serve to avoid and minimize impacts.

* Monitoring & Reporting should document the implementation of BMPs, the effectiveness of permanent design elements, and

Effects Pathway Manager: MPG Pathway 3 – Restoration.



This conceptual model is not strictly linear. There are more interactions than a straight linear reading, e.g., reading from left to right, would suggest or imply. The arrow icons are an indication that the elements in the columns to the left interact with, influence, and/or affect more than one element found within the columns to the right.

* **Monitoring & Reporting** should document the implementation of BMPs, the effectiveness of permanent design elements, and

* When carefully selected and implemented, **BMPs** (best management practices) serve to avoid and minimize

Attachment 2: Mitigation Determination Factors

Purpose

Four subspecies of Mazama pocket gopher (MPG) were listed as threatened species by the U.S. Fish and Wildlife Service (USFWS) in April 2014, thereby receiving protection under the federal Endangered Species Act of 1973, as amended. Accordingly, USFWS is undertaking steps necessary to conserve and recover these subspecies.

The USFWS strategy for conserving MPGs is to: avoid and minimize impacts to MPGs and their habitat where feasible; ensure that impacts to individuals and MPG habitat are offset through compensatory mitigation; focus MPG conservation efforts in areas where MPG persistence and recovery is most likely to be successful; prioritize our work and programs on those actions that add value to this conservation strategy; work with others to implement this strategy; inform this strategy with species recovery planning; and integrate this strategy within the larger context of prairie ecosystem conservation.

The purpose of this attachment is to describe those factors USFWS believes should generally be used to inform an estimation of the likely impacts to MPGs, so compensatory mitigation can be determined and project development can move forward where appropriate. Our application of these factors will depend on our evaluation of project-specific conditions. We considered these factors specifically for use in Thurston County; they may have applicability elsewhere.

Factor A: MPG Soils

Soil type is the first factor evaluated when considering whether a site may be suitable for MPG, and one of the most important factors determining the value of a site for MPG recovery. Suitable MPG soils cannot be created, are not known to be restorable once altered, and are a finite resource in Thurston County. Using impervious surface classifications from 2011 national land cover data, USFWS analysis indicates approximately 21 percent of the MPG soils in Thurston County have been lost to development. This does not account for suitable MPG soils that are isolated, fragmented, unsuitable due to vegetative cover type, or otherwise either unsuitable or unavailable for MPG use. Further loss of MPG soils could negatively affect MPG survival, conservation, and recovery.

USFWS categorizes suitable MPG soils as High, Medium, or Low, indicating the relative preference of these soils by MPG (see Table A). Assignment to these categories was determined through an analysis of Thurston County soils, known MPG occurrences, and the frequency of occurrence within soil types (USFWS 2015). If a site contains any of these soils, USFWS recommends that compensatory mitigation for MPG be provided by the project proponent on at least an area-for-area basis. Compensatory mitigation should take into account all Table A soils that would be built on, covered, disturbed, isolated, or removed by a proposed project or action.

Table A. Relative preferences of Mazama pocket gophers by soil type.

Mazama Pocket Gopher Preference	Soil Type
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
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

Factor B: MPG Occupancy

Known or suspected occupancy of a site by MPG, and the specifics of the proposed action, help USFWS to determine the likelihood of negative impacts to MPGs and MPG habitat.

Determining occupancy of a site has typically been approached by conducting a one-time field survey or screening for MPG mound surveys. However, mound detection may be missed due to changes in MPG habitat use within seasons, between seasons, and between years. How frequently mound surveys should be conducted to prevent a Type II error (i.e., determining MPG are not occupying a site, when MPG are occupying a site), is unknown. This means that currently, there is no statistically defensible method for positively surveying to determine absence of MPG at a site.

Detecting MPG mounds on a site indicates MPGs are using the site. However, mounds are not always present, or easily detectable, even when the species is occupying a site. Further, the extent of MPG use of a site with MPG soils cannot be accurately determined by mounding because: mounding may vary with season, moisture, vegetation, and other factors; not all burrows end with a mound and thus underground burrows may be present without above-ground mounds as indicators; and the extent of habitat use can change from year to year. Therefore, all suitable habitat with known or suspected MPG use, within dispersal distance of known MPG occurrences, and where there are no barriers to movement, are considered occupied by USFWS.

USFWS categorizes MPG occupancy as High, Medium, or Low, indicating the relative likelihood of occupancy at a site with suitable MPG soils, in relation to known occupancy on or near the site, MPG movement distances, and barriers to MPG movement (see Table B).

Table B. Relative likelihood of MPG occupancy at a site with MPG soils.

Likelihood of MPG Occupancy	Characteristics of Site
High	Site is occupied, OR Site is adjacent to occupied area (MPG soils are present on project site and there are no barriers to MPG movement between project site and occupied area).
Med	Site occupancy is unknown, AND Within 200 m (656 ft) of an occupied area (MPG soils are present on project site, and there are no barriers to MPG movement between project site and occupied area).
Low	Site is more than 200 m (656 ft) from an occupied area, OR Within 200 m (656 ft) of an occupied area (and MPG soils are present on project site), and there are barriers to MPG movement between project site and occupied area.

Factor C: Woody Cover

The extent of woody cover on a site with suitable MPG soils influences the likelihood of occupancy by MPG. Woody cover consists of persistent (present year-round) shrubs and trees. Given the limitations of known MPG occupancy data, this provides an additional evaluation of relative likelihood of occupancy at the time of the survey. This is not a measure of whether the site could become occupied by MPG if the site were cleared of woody cover; presence of woody cover does not preclude a site’s potential for restoration and does not negate its value to MPG recovery.

High, Medium, and Low categories of woody cover indicate relative likelihood of MPG occupancy at a site with suitable MPG soils (see Table C). These categories rate areas with 0 to less than 30 percent woody cover. Areas with woody cover equal to or greater than 30 percent receive no value under this factor.

Table C. Likelihood of MPG occupancy relative to woody vegetation cover.

Likelihood of MPG Occupancy	Woody Vegetation Cover
High	Areas with $\leq 10\%$ woody cover.
Med	Areas with $> 10\%$ and $< 15\%$ woody cover.
Low	Areas with $\geq 15\%$ and $< 30\%$ woody cover.

Factor D: Location Adjustment

The location of a site within, or outside, a Reserve Priority Area affects a site’s relative importance to the persistence and recovery of MPGs. Reserve Priority Areas are those geographies that have been identified as most important for the long-term conservation and recovery of MPGs in Thurston County. Conservation efforts for MPG are being directed into Reserve Priority Areas.

A site within a Reserve Priority Area is in the High category. A site outside a Reserve Priority Area is in the Medium category. See Table D. At this time, only two categories have been defined; in the future, however, additional biological information may allow the development of a third category.

Table D. Impact site importance relative to location.

Importance to MPG Conservation and Recovery	Location
High	Site is within a Reserve Priority Area.
Med	Site is not within a Reserve Priority Area.

Attachment 3: Mitigation Site Selection Factors

The USFWS anticipates that the following factors are likely to be the most relevant when evaluating parcels proposed for Mazama pocket gopher (MPG) mitigation.

- 1) Proposed mitigation parcels should, and preferably will be, located within Reserve Priority Areas. Such parcels must be evaluated and approved by USFWS to qualify as mitigation for proposed impacts to MPGs.
- 2) Proposed mitigation parcels outside the Reserve Priority Areas will be considered on a case-by-case basis, but this may incur a longer review process and may be subject to additional requirements, including significantly higher mitigation ratios.
- 3) All parcels approved for mitigation will be legally and permanently conserved, managed, and endowed to help ensure their long-term ecological value, in a manner consistent with the 2003 USFWS Conservation Banking guidance and the most current USFWS recommendations for implementing that guidance specific to federally-listed species conservation.
- 4) Reserves that are 300 acres in size or larger are preferred. An aggregate of mitigation parcels and conservation parcels may comprise a reserve. (Conservation parcels are non-mitigation parcels that are permanently conserved and ideally managed and endowed for all or some prairie ecosystem values.) Reserves must be predominantly underlain by MPG soils. In general, large sites functionally connected to permanently conserved lands are preferred for reserves. In general, larger parcels are more desirable.
- 5) Characteristics that increase the suitability and desirability of a parcel(s) for mitigation and inclusion in a reserve include (not ordered):
 - a) The site is predominantly vegetated by low-statured forbs and grasses, and is not a monoculture.
 - b) The site is federally-designated critical habitat.
 - c) The site is adjacent to federally-designated critical habitat with few intervening physical barriers.
 - d) The site is adjacent to a site permanently conserved and managed for prairie species, prairie habitats, or MPG.
 - e) The site is functionally connected via permanently conserved land to federally-designated critical habitat or a site permanently conserved and managed for prairie species, prairie habitats, or MPG.
 - f) The site is adjacent to, or provides connectivity with, MPG strongholds (that is, sites with high MPG use or conservation value).

- 6) Sites selected to mitigate impacts to MPGs and their habitat will preferably be occupied by MPGs or if not, underlain by soils known to support MPGs year-round, on slopes less than 15 percent, and within the same MPG subspecies range as where the impact occurs.

Sites for MPG mitigation, in order of preference, should be:

- a) on parcels occupied by MPG (naturally-occurring)
 - b) currently unoccupied by MPG but have known historical, naturally-occurring MPG occupancy
 - c) on parcels with a predominance of Nisqually, Indianola, Spanaway, Spanaway-Nisqually soils and adjacent to areas occupied by MPGs
 - d) on parcels with the same soils as adjacent areas occupied by MPGs
 - e) on parcels with a predominance of Nisqually, Indianola, Spanaway, Spanaway-Nisqually soils which may not be adjacent to areas occupied by MPGs.
- 7) There are 3 subspecies of MPG in Thurston County, Washington. Impacts to a particular subspecies will be mitigated within the geographic area associated with that subspecies. Specifically, impacts to *T. m. pugetensis* (Olympia pocket gopher) will be mitigated within the range of *T. m. pugetensis*. Impacts to *T. m. tumuli* (Tenino pocket gopher) will be mitigated within the range of *T. m. tumuli*. Impacts to *T. m. yelmensis* (Yelm pocket gopher) will be mitigated within the range of *T. m. yelmensis*.

While a range is hypothesized for each MPG subspecies, the outer extent of each subspecies' range is not precisely delineated. Thus, if an impact occurs in such an area, USFWS will work with those needing to provide mitigation to determine where the mitigation shall occur. At this time, however, USFWS will use the Service Areas map to guide mitigation.

In addition, a fourth subspecies of MPG, *T. m. glacialis* (Roy Prairie pocket gopher), occurs in Pierce County, Washington. Impacts to this species will be mitigated within its range. However, MPG impacts in Thurston County may, on a case-by-case basis, be mitigated in Pierce County to benefit the Roy Prairie pocket gopher, due to its limited range outside the boundaries of Joint Base Lewis-McChord.

- 8) USFWS will consider a number of other factors when evaluating possible mitigation locations for MPGs, including: parcel size, habitat quality, potential for habitat improvement, adjacency or connectivity to other known occupied areas, site access, current extent of MPG occupation on the site, likelihood of prior occupation of the site by MPGs, site resiliency, compatibility with surrounding uses, management and defensibility of the site, barriers to MPG movement or dispersal, predation risk, presence of other species, overall prairie ecosystem function and diversity of the site, and constraints on prairie ecosystem maintenance activities.

Attachment 4: Supporting Documents

On April 9, 2014, the Service published a final rule in the Federal Register listing four subspecies of the Mazama pocket gopher as threatened throughout their ranges in Washington (79 FR 19760; April 9, 2014).

<http://www.fws.gov/wafwo/species/mpg/draftdocsforpocketguide/MPG%20FL.pdf> On this same date, the Service published a final rule designating critical habitat for these subspecies (79 FR 19712; April 9, 2014).

<http://www.fws.gov/wafwo/species/mpg/draftdocsforpocketguide/MPG%20FCH.pdf>

Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.) For more information on the ESA, see: <http://www.fws.gov/endangered/laws-policies/esa-history.html>

USFWS MPG Effects Pathways, Information, Planning and Conservation (IPaC) system.

<http://ecos.fws.gov/ipac/>

USFWS, 2003 Conservation Banking Guidance.

Guidance for the Establishment, Use, and Operation of Conservation Banks.

https://www.fws.gov/endangered/esa-library/pdf/Conservation_Banking_Guidance.pdf

USFWS, 1981 U.S. Fish and Wildlife Service Mitigation Policy.

<http://www.fws.gov/habitatconservation/FWS%20Mitigation%20Policy.pdf>

USFWS, 2014 U.S. Fish and Wildlife Service Mitigation Policy Revisions (December 9, 2014, Draft) and accompanying Director's Memorandum (December 23, 2014). Prepared by the U.S. Fish and Wildlife Service, Washington, D.C. 54 pp.

USFWS, 2015 *in litt.* Mazama Pocket Gopher Translocation Guidance (June 19, 2015).

Prepared by the U.S. Fish and Wildlife Service, Washington Fish and Wildlife Office, Lacey, Washington. 10 pp.

(USFWS and WDFW) U.S. Fish and Wildlife Service and Washington State Department of Fish and Wildlife. 2014 *in litt.* Reserves for Mazama Pocket Gopher Conservation: Considerations for the Thurston County HCP (December 2, 2014 Working Draft). Prepared by the U.S. Fish and Wildlife Service, Washington Fish and Wildlife Office, Lacey, Washington and Washington State Department of Fish and Wildlife, Habitat and Wildlife Programs, Olympia, Washington. 21pp.

(USFWS and WDFW) U.S. Fish and Wildlife Service and Washington State Department of Fish and Wildlife. 2015 *in litt.* Assessment of WDFW Mazama Pocket Gopher Survey Protocol and USFWS Mazama Pocket Gopher Screening Memorandum (May 14, 2015). 8pp.

USFWS, 2015 *in litt.* Rationale for MPG Mitigation Determination Factors Memorandum (June 18, 2015). Prepared by the U.S. Fish and Wildlife Service, Washington Fish and Wildlife Office, Lacey, Washington. 14pp.

