Master Response 2
Amphibians/Tehachapi Slender Salamander

Table MR2-1. Comments Addressed in Master Response 2

Comment Number	Commenter
O4-127	Center for Biological Diversity (Keats, Adam)
O4-128	Center for Biological Diversity (Keats, Adam)
O4-129	Center for Biological Diversity (Keats, Adam)
O4-130	Center for Biological Diversity (Keats, Adam)
O4-131	Center for Biological Diversity (Keats, Adam)
O4-132	Center for Biological Diversity (Keats, Adam)
O4-133	Center for Biological Diversity (Keats, Adam)
O4-134	Center for Biological Diversity (Keats, Adam)
O4-135	Center for Biological Diversity (Keats, Adam)
O4-136	Center for Biological Diversity (Keats, Adam)
O4-137	Center for Biological Diversity (Keats, Adam)
O4-138	Center for Biological Diversity (Keats, Adam)
O4-139	Center for Biological Diversity (Keats, Adam)
O4-140	Center for Biological Diversity (Keats, Adam)
O4-141	Center for Biological Diversity (Keats, Adam)
O4-142	Center for Biological Diversity (Keats, Adam)
O4-143	Center for Biological Diversity (Keats, Adam)
O4-144	Center for Biological Diversity (Keats, Adam)
O4-145	Center for Biological Diversity (Keats, Adam)
O4-146	Center for Biological Diversity (Keats, Adam)
O4-147	Center for Biological Diversity (Keats, Adam)
O4-148	Center for Biological Diversity (Keats, Adam)
O4-149	Center for Biological Diversity (Keats, Adam)
O5-11a	Defenders of Wildlife (Flick, Pamela)
O5-11b	Defenders of Wildlife (Flick, Pamela)

2.1 Summary of Substantive Comments

The following summarizes the substantive comments received on the Draft EIS and Draft TU MSHCP specific to amphibians and/or the Tehachapi slender salamander. Table MR2-1 provides a list of the commenters and a reference to the individual comment, as summarized in the following list. The parenthetical reference after each summary bullet indicates where a response to that comment is provided.

- No take of amphibians on Tejon Ranch should be allowed because the population is declining worldwide. (Response provided in Section 2.2.1, No Take of Amphibians Should Be Allowed.)
- The pattern of amphibian decline in San Joaquin Valley is unambiguous; therefore, careful evaluation is needed to consider the potential effects of the Covered Activities on amphibian species. (Response provided in Section 2.2.2, Overview: Identification of Effects and Mitigation Measures.)
- The Draft TU MSHCP fails to identify or mitigate for long-term (operational) effects on the amphibian Covered Species. Specifically, the TU MSHCP fails to identify effects associated with road construction and use, such as roadkill and water-quality impacts from urban runoff. The use of design features as mitigation for operational effects is too ambiguous. (Response provided in Section 2.2.3, Evaluation of Operational Effects and Associated Avoidance, Minimization, and Mitigation Measures.)
- The Draft TU MSHCP fails to identify effects on amphibian species from grazing and relies on a "future grazing plan" that is not a component of the TU MSHCP, making it impossible to judge if the "unidentified" impacts would be adequately mitigated. (Response provided in Section 2.2.4, Evaluation of Grazing Effects and Associated Avoidance, Minimization, and Mitigation Measures.)
- The Draft TU MSHCP fails to identify effects on amphibian species from human recreation and pet use in the Covered Lands. Proposed mitigation for these potential effects (i.e., requiring educational materials) is not sufficient; pets must be confined. (Response provided in Section 2.2.5, Evaluation of Human Recreation and Pet Effects and Associated Avoidance, Minimization, and Mitigation Measures.)
- The Draft TU MSHCP does not properly identify effects associated with Plan-Wide Activities, improperly calls them "nonpermanent activities," fails to identify what infrastructure, trails, and access facilities are proposed in amphibian-suitable habitat, and fails to require adequate mitigation, stating that surveys are not mitigation. (Response provided in Section 2.2.6, Evaluation of Nonpermanent Activity Effects and Associated Avoidance, Minimization, and Mitigation Measures.)
- Additional effects on modeled habitat for the amphibian Covered Species may occur. (Response provided in Section 2.2.7, Additional Effects on Modeled Habitat May Occur.)
- The Draft TU MSHCP does not include measures to minimize the spread of disease among amphibian populations. (Response provided in Section 2.2.8, Measures to Minimize the Spread of Disease.)
- Preconstruction surveys for the amphibian Covered Species must be conducted and not left to the discretion of the project biologist. (Response provided in Section 2.2.9, Preconstruction Surveys.)

- **Tehachapi slender salamander**. The following substantive comments were provided specific to Tehachapi slender salamander (*Batrachoseps stebbinsi*). Responses to these comments are provided in Section 2.2.10, Tehachapi Slender Salamander.
    - The Federal listing status of the Tehachapi slender salamander should consider information regarding habitat loss and degradation and continuing threats, local extirpations, project development, and cumulative effects of development on Tejon Ranch, as well as ongoing ranch operations such as grazing, film production, recreation, and culvert, drainage, and utility maintenance.
    - There are discrepancies in the total acreage of suitable habitat for Tehachapi slender salamander presented in the Draft EIS and Draft TU MSHCP.
    - The Draft TU MSHCP recognizes a suite of threats for the Tehachapi slender salamander but fails to analyze those effects or mitigate for them.
- **Western spadefoot**. The following substantive comments were provided specific to western spadefoot (*Spea* [*Scaphiopus*] *hammondii*). Responses to these comments are provided in Section 2.2.11, Western Spadefoot.
    - The Draft TU MSHCP does not adequately analyze effects on nonriparian areas that may be habitat for western spadefoot.
    - It is unclear how the avoidance measure for western spadefoot under the Draft TU MSHCP would be effective (i.e., just avoidance of larvae (tadpoles) until they have metamorphosed).
    - Construction noise and vibration could cause western spadefoot to emerge prematurely from burrows.
    - The Draft TU MSHCP recognizes a suite of threats for the western spadefoot but fails to analyze those effects or mitigate for them.
- **Yellow-blotched salamander**. The following substantive comments were provided specific to yellow-blotched salamander (*Ensatina eschscholtzii croceater*). Responses to these comments are provided in Section 2.2.12, Yellow-Blotched Salamander.
    - It is unclear how effects on 4,381 acres of oak savannah and woodlands under the Draft TU MSHCP relate to the effects on 1,001 acres of modeled habitat for the yellow-blotched salamander.
    - The Draft TU MSHCP recognizes a suite of threats for yellow-blotched salamanderbut fails to analyze those effects or mitigate for them.

2.2 Responses to Substantive Comments

2.2.1 No Take of Amphibians Should Be Allowed

A commenter suggested that because amphibians are declining worldwide due to factors such as habitat loss and fragmentation, pollution, climate change, disease, and introdution of nonnative species, that no take of amphibians should be allowed on the Covered Lands. Although the Service acknowledges that amphibians as a group are declining worldwide, complete avoidance of all species is not warranted. For example, although California toad (*Anaxyrus* [*Bufo*] *boreas halophilus*),

Pacific treefrog (*Hyla regilla*)[1], and bullfrog (*Lithobates catesbeianus* [*Rana catesbeiana*]) were found in the Covered Lands during focused surveys of the TMV Planning Area in 2007 (Dudek 2007), these species are all extremely common species in California. The California toad is present virtually everywhere in California except the deserts and highest mountains, and almost any source of water can be used for reproduction (Zeiner et al. 1990, p. 64). The Pacific treefrog is the most common amphibian species in California and is only absent from desert regions (Zeiner et al. 1990, p. 78). Similar to the California toad, the Pacific treefrog can use almost any source of water for reproduction. The bullfrog is not native to the western states but is now common and widespread in California (Zeiner et al. 1990, p. 92). Because the California toad, Pacific treefrog, and bullfrog are so common and widespread in California and under no threat, specific avoidance of these amphibians is not necessary.

The two other amphibian species identified on site during the 2007 focused surveys—the Tehachapi slender salamander and yellow-blotched salamander—as well as the western spadefoot, which was not detected during the surveys, are included as Covered Species in the TU MSHCP. The western spadefoot is included as a Covered Species in the TU MSHCP because the Covered Lands are on the eastern edge of its documented range, suitable habitat is available on site, and the species is difficult to detect. The western spadefoot's aboveground activity is ephemeral and triggered by warm rain events, making it virtually undetectable during dry and/or cold times of the year. Therefore, western spadefoot could occur in the Covered Lands and/or be affected by implementation of the Covered Activities.

Four other special-status amphibians were also considered for coverage in the TU MSHCP: California red-legged frog (*Rana draytonii*), foothill yellow-legged frog (*Rana boylii*), Kern Canyon slender salamander (*Batrachoseps simatus*), and arroyo toad (*Anaxyrus [Bufo] californicus*). These four species are considered to have a low potential to occur on the Covered Lands because there is limited modeled habitat present and because the Covered Lands are outside of their documented range. Therefore, no incidental take of these four species is anticipated, and they were not included for regulatory coverage under the TU MSHCP.

Background information and the status of Tehachapi slender salamander, western spadefoot, and yellow-blotched salamander on Covered Lands are provided in Section 3.1, Biological Resources, in Volume I of this Supplemental Draft EIS and Section 5.2.1, Amphibians, of the TU MSHCP (Dudek 2011). To evaluate potential development-related effects, suitable habitat was modeled for these species. Figure 3.1-9, Figure 3.1-10, and Figure 3.1-11 in Volume I of this Supplemental Draft EIS show that modeled habitat for the three species is broadly distributed throughout the Covered Lands, with Tehachapi slender salamander habitat primarily confined to drainages, western spadefoot habitat patchily distributed, and yellow-blotched salamander habitat more broadly distributed in upland areas. Based on the wide-ranging and scattered pattern of the modeled habitat distributions for Tehachapi slender salamander, western spadefoot, and yellow-blotched salamander, Tejon Ranchcorp (TRC) determined that it was not possible to delineate a development footprint that would result in 100% avoidance of modeled habitat for these species.

The effects analyses for Tehachapi slender salamander, western spadefoot, and yellow-blotched salamander are provided in Section 4.1, Biological Resources, in Volume I of this Supplemental Draft EIS and Section 6.2.1, Amphibians, of the TU MSHCP (Dudek 2011). The effects analyses include the acreage and percentage of modeled habitat and individuals (as applicable) that would be directly and permanently lost as a result of proposed Commercial and Residential Development Activities, and the effect of this loss on the species. This analysis considered the amount and proportion of

[1] Since the 2007 surveys, the taxonomy of this species has been revised to include the common, wide-ranging Baja California treefrog (*Pseudacris hypochondriaca*) and the Northern Pacific treefrog (*Pseudacris regilla*), which only occurs in the extreme northwestern portion of California (Crother 2008, CaliforniaHerps 2011).

modeled habitat on site that would be lost in relation to modeled habitat and known occurrences of the species that would be conserved and managed on Covered Lands under the TU MSHCP, as well as the effect in the context of the species' rangewide distribution and populations.

As described in Chapter 2, Proposed TU MSHCP and Alternatives, the Proposed TU MSHCP Alternative would preserve approximately 116,523 acres (approximately 82%) of the Covered Lands (consisting of 93,522 acres of Established Open Space Areas and 23,001 acres of TMV Planning Area Open Space). Additionally, the Existing Conservation Easement Areas (12,795 acres) would be permanently protected and managed as open space pursuant to the Ranchwide Agreement. In total, approximately 129,318 (91%) of the Covered Lands would be permanently preserved as open space under the Proposed TU MSHCP Alternative. As described in Section 4.1, Biological Resources, in Volume I of this Supplemental Draft EIS, and Section 7, Conservation Plan for Other Covered Species in the TU MSHCP, 96% of modeled habitat for the Tehachapi salamander would be conserved in the TU MSHCP Mitigation Lands and Existing Conservation Easement Areas; 97% of modeled habitat for the yellow-blotched salamander would be conserved in these areas; and 90% of modeled habitat for western spadefoot would be conserved in these areas. Documented occurrences of Tehachapi slender salamander and yellow-blotched salamander in the Covered Lands would be avoided; there are no documented occurrences of western spadefoot in the Covered Lands.

The Proposed TU MSHCP Alternative would include several development-related and long-term operations-related conservation measures to further avoid and minimize effects on covered amphibian species and their associated habitats. These conservation measures are stated as biological goals and objectives for each of the species in Section 7, Conservation Plan for Other Covered Species, of the TU MSHCP (Dudek 2011), and summarized in Table 2-4 in Chapter 2, Proposed TU MSHCP and Alternatives, in Volume I of this Supplemental Draft EIS. For short-term construction-related effects, these measures would include preconstruction surveys and a reasonable effort by a Service-approved Tejon Ranch Biologist to capture and relocate any observed individuals to suitable habitat that is the closest distance to the Disturbance Area from where the individuals were removed; preconstruction meetings with the contractor and other key construction personnel; ongoing biological construction monitoring, flagging or fencing of disturbance/grading perimeters to ensure the approved construction area is properly identified in the field; and implementation of best management practices (BMP) to protect surface water quality from pollutants, sedimentation, and erosion, as required under the Federal Clean Water Act (CWA) and the Porter-Cologne Water Quality Control Act. Conservation measures that would avoid and minimize potential long-term operations-related effects would include implementation of project design features such as setbacks to avoid and minimize introduction of nonnative species and directing lighting away from open space areas to reduce glare; preparation of a grazing management plan to maintain existing habitats for salamanders and western spadefoot; provision of educational information to Home Owners Associations regarding acceptable recreational activities, pets, wildlife, and open space areas; minimization of infrastructure effects on open space areas; and selection of appropriate locations for public access, trails, and facilities in open space areas.

In summary, although the Proposed TU MSHCP Alternative would not result in complete avoidance of modeled habitat for amphibian species in the Covered Lands, it would include avoidance, minimization, and mitigation measures to reduce potential construction and operations-related effects on those species, as well as provisions for conserving in perpetuity approximately 96% of the modeled habitat for Tehachapi slender salamander, 97% of modeled habitat for yellow-blotched salamander, and 90% of modeled habitat for western spadefoot in the Covered Lands. All known occurrences of these amphibian species would be avoided and preserved in open space areas. It is anticipated that these measures would also benefit common native amphibian species found within the Covered Lands.

2.2.2 Overview: Identification of Effects and Mitigation Measures

A commenter suggested that because a decline in amphibians in the San Joaquin Valley was reported more than 10 years ago (Fisher and Schaffer 1996), careful evaluation of the proposed action and effective avoidance, minimization, and mitigation must be incorporated for this suite of rare amphibian species.

Both quantitative and qualitative methods were used to analyze effects on the amphibian Covered Species. Section 4.1, Biological Resources, in Volume I of this Supplemental Draft EIS, and Section 6, Potential Biological Impacts / Take Assessment, in the TU MSHCP (Dudek 2011), provide a comprehensive assessment of the potential effects of the Covered Activities on the Tehachapi slender salamander, yellow-blotched salamander, and western spadefoot. Quantitative methods used in the assessment included modeling suitable habitat and calculating direct permanent effects on modeled habitat from Commercial and Residential Development Activities using a geographic information system (GIS)-based approach; overlaying documented occurrences of the species within the commercial and residential Development Envelope; estimating potential additional occurrences in modeled habitat (to the extent feasible based on life history information) and estimating potential effects on the species based on this extrapolation; estimating effects on individuals to the extent feasible; and estimating the reduction in effects on individuals and modeled habitat, to the extent feasible, with application of avoidance, minimization, and mitigation measures.

A qualitative discussion of potential short-term construction-related effects and long-term operational effects on amphibians are provided in Section 4.1, Biological Resources, in Volume I of this Supplemental Draft EIS and Section 6.2.1, Amphibians, of the TU MSHCP. These documents qualitatively describe potential direct construction-related effects on amphibian habitat and individuals (including western spadefoot breeding ponds); potential effects associated with urban development, such as water quality degradation, dust and other pollutant generation, exotic plant and animal introductions, and adverse effects associated with lighting; grazing-related effects; and effects associated with maintenance of culverts and drainages, utility lines, film production, and public recreation (e.g., habitat degradation, collection, and possible mortality of individuals). The analysis of these potential effects is qualitative (in contrast to the calculation of the permanent modeled habitat loss in the predefined commercial and residential development planning envelope) because a discrete impact footprint for these activities has not been delineated.

Prior to making a decision on the proposed action, the Service will review the conservation strategy for compliance with the Federal Endangered Species Act (ESA) (Section 1.4.1.1, Federal Regulatory Provisions Relating to Issuance of an Incidental Take Permit, in Volume I of this Supplemental Draft EIS). This evaluation will be used to determine if an incidental take permit (ITP) will be issued to TRC for take of any or all of the Covered Species included in the TU MSHCP.

2.2.3 Evaluation of Operational Effects and Associated Avoidance, Minimization, and Mitigation Measures

A commenter stated that Goal 5 for the Tehachapi slender salamander and yellow-blotched salamander and Goal 4 for the western spadefoot fail to identify long-term (operational) effects from roads, including roadkill and runoff, and that more comprehensive mitigation is needed to reduce potential road-related effects, including requiring tunnels under roadways with drift fences. The commenter indicated that mitigation proposed under the Draft TU MSHCP would leave operational effects to be mitigated by unidentified design features, incorporated at the boundary between modeled habitat and development areas, and that because these design features are not identified in

the Draft TU MSHCP, it is impossible to determine if they would adequately avoid, minimize, and/or mitigate for these effects.

A discussion of potential effects on amphibians from road construction and use are described in Section 4.1, Biological Resources, in Volume I of this Supplemental Draft EIS and Section 6.2, Amphibians of the TU MSHCP . As described in those sections, urban runoff may result in the transport of sediment and toxins into water bodies in the Covered Lands, which may both directly and indirectly affect amphibians. Amphibians are susceptible to changes or degradation of water quality because of integument (skin) permeability. There is clear evidence that chemical contamination such as pesticides and herbicides can affect amphibian development, reproduction, and survival (e.g., Hayes et al. 2003; Bridges and Semlitsch 2000). Section 7.1, Biological Goals and Objectives for Covered Species, of the TU MSHCP provides objectives for each of the amphibian species covered under the TU MSHCP, including the requirement for design features to avoid and minimize the effects of runoff (Objective 5.1 for the Tehachapi slender salamander and yellow-blotched salamander and Objective 4.1 for the western spadefoot). As discussed below, design features would be developed on a project-specific basis. For example, urban runoff design requirements for the TMV Project, as provided in the Tejon Mountain Village Environmental Impact Report (TMV EIR), require stenciling storm drain inlets with dumping prohibitions and installing inserts to collect trash (Mitigation Measure 4.8-9); designing, constructing, and maintaining water quality basins to provide adequate treatment controls (Mitigation Measure 4.8-25); using vegetated and open area buffers, including roadside swales and vegetated strips, to the maximum extent practicable (Mitigation Measures 4.8-33 and 4.8-28); assigning an entity for water quality facility management and compliance requirements to implement an operations and management system (Mitigation Measure 4.8-29); preserving open space to the extent feasible, while reducing use of impervious surfaces (Mitigation Measure 4.8-34); and designing crossings of drainages to adequately protect flows, span natural streams, and protect embankments (Mitigation Measure 4.8-39). Appendix J to this Supplemental Draft EIS includes a table summarizing mitigation measures required as part of the TMV EIR, including the measures listed above.

With respect to effects from roadkill, it is important to understand that the TU MSHCP conservation strategy is primarily based on avoidance and that the large majority of modeled habitat for the amphibian Covered Species would be protected and managed as open space. The intersection of roads with suitable habitat would affect a very small percentage of the total modeled habitat for these species, and, therefore, the potential for significant roadkill would be small. For the TMV Project, road design features would include culverts under road connections in Tehachapi slender salamander suitable habitat, and all roads would be designed in coordination with a Service-approved biologist to prevent this species from entering roads (Kern County 2009; Mitigation Measures 4.4-38). This mitigation measure for Tehachapi slender salamander would also benefit the western spadefoot and yellow-blotched salamander, as well as other common amphibian species, in areas where their suitable habitat overlaps that of the Tehachapi slender salamander.

With respect to the commenter's concern that specific project design features were not enumerated, making it impossible to determine whether the features would adequately avoid, minimize, and mitigate effects, it is important to recognize that design features would be required to meet specific parameters (i.e., reduce effects from introduction of exotic plant and animal species and urban runoff) and would be location-specific (i.e., they would be established when specific development is planned). The requirement for design features that meet specific parameters is commensurate with the specificity of the Covered Activities described in Chapter 2, Proposed TU MSHCP and Alternatives, in Volume I of this Supplemental Draft EIS. For the TMV Specific Plan Area, the analysis assumes that the 5,082 acres of development could occur anywhere within the potential Development Envelope of approximately 7,860 acres. Because the actual location of the home sites and roads has not been determined, it is not possible to describe detailed project and site-specific design features, with the exception of lighting (refer to Objective 5.2 for Tehachapi slender

salamander and yellow-blotched salamander and Objective 4.2 for western spadefoot in Section 7.1, Biological Goals and Objectives for Covered Species, of the TU MSHCP). Objective 5.1 for Tehachapi slender salamander and yellow-blotched salamander and Objective 4.1 for western spadefoot specifically require design features that would avoid and minimize the introduction of exotic plant and animal species, such as Argentine ant, and urban runoff in adjacent natural areas, and are intended to minimize potential adverse effects (e.g., increased urban runoff and introduction of invasive species) on amphibians as a result of proposed action. Such design features are not open-ended and are likely to include setbacks, urban runoff controls like water quality basins, use of swales, plant and landscape requirements, and lighting controls at the boundary of open space. The use of design features would be enumerated through the compliance monitoring program associated with the TU MSHCP (i.e., the program that verifies that TRC is carrying out the terms of the TU MSHCP and Implementing Agreement) and tracked through the effectiveness monitoring program for the TU MSHCP (i.e., the program used to determine the effectiveness of the TU MSHCP management measures in promoting species survival and recovery) (Section 7.3, Monitoring Measures, in the TU MSHCP discussion of Compliance and Effectiveness Monitoring in the TU MSHCP).

Additionally, this Supplemental Draft EIS and the TU MSHCP recognize that design requirements and restrictions would likely be required of development activities through separate, project-specific permitting processes, including those associated with the CWA, Porter-Cologne Water Quality Control Act, California Endangered Species Act (CESA), and various local approval processes for Kern County. Although the exact nature of any terms and conditions prescribed during those processes are unknown, it is anticipated that TRC would be required to avoid and minimize effects on jurisdictional waters, beneficial uses, and special-status species habitats. These requirements are described as required mitigation, where appropriate, in the effects analysis provided in Chapter 4, Environmental Consequences, in Volume I of this Supplemental Draft EIS.

2.2.4 Evaluation of Grazing Effects and Associated Avoidance, Minimization, and Mitigation Measures

One commenter stated that Goal 6 for the Tehachapi slender salamander and yellow-blotched salamander and Goal 5 for the western spadefoot fail to identify effects on amphibian species from grazing and fail to adequately mitigate those effects by relying on a “future grazing plan,” which is not included as a component of the TU MSHCP. The commenter stated that this makes it impossible to identify if the unidentified effects would be adequately avoided, minimized, and mitigated.

Section 4.1, Biological Resources, in Volume I of this Supplemental Draft EIS, and Section 6.2.1, Amphibians, of the TU MSHCP, describe potential effects on amphibians from cattle use on the Covered Lands. As described in those sections, cattle may graze and congregate in areas used by amphibians, including wetland or aquatic breeding areas and adjacent uplands where amphibians may forage, aestivate, and hibernate. In these locations, cattle may trample soils, riparian and wetland vegetation, burrows, or amphibian individuals, and may disturb breeding pools that support egg masses and tadpoles at critical phases of their life cycle. Cattle congregating in wetland and aquatic habitat can also impair water quality (e.g., via turbidity, urine, and feces). These effects may both degrade habitat quality and directly affect amphibian reproductive success and recruitment into the local population.

Grazing has been ongoing at the ranch for over 100 years. The Tejon Ranch Conservancy approved and adopted the Interim Ranchwide Management Plan (RWMP) in September 2009 (Tejon Ranch Company 2009), which includes the initial grazing, pest management, and public access plans for the Established Open Space Areas and Existing Conservation Easement Areas; the same grazing and pest management plans have also been adopted for the TMV Planning Area Open Space. Pursuant to the

Ranchwide Agreement, all subsequent RWMPs would be required to similarly BMPs that protect the conservation values of the land, as reflected in the conservation easements required by the Ranchwide Agreement. These initial plans set forth the BMPs that have helped create the current mix of habitat types and species diversity on the Covered Lands. General grazing BMPs described in the Interim RWMP (Section 3.3.1.3) include appropriate numbers and balance of livestock (sex, breed, and type) related to movement and distribution on the ranch to ensure acceptable environmental and grazing conditions; water resources management; and maintenance of a reasonable amount of residual dry matter, with a light-to-moderate grazing regime and seasonal rotation. BMPs to reduce grazing effects on riparian and stream resources include planning and distribution of water resources across the land to reduce demand from stream and riparian areas and to avoid or minimize cattle congregating in streambank riparian and wetland areas, thus preventing soil erosion and compaction and protecting water quality from sediments, manure, and urine; and widespread distribution and placement of salt and mineral supplement blocks away from water sources to draw away livestock and distribute them more evenly across the landscape, thus avoiding or minimizing livestock effects on riparian and stream resources. The Interim RWMP preserves the practices currently employed on the ranch to manage grazing actions, all of which TRC will continue to implement as a condition of the Ranchwide Agreement.

As noted in Master Response 15, Procedural Considerations, these plans have been incorporated into the TU MSHCP. Nonetheless, to ensure that the ongoing grazing practices continue to support the Covered Species, Section 7.2.1, Measures to Avoid and Minimize Impacts, of the TU MSHCP provides for adoption of a grazing management plan. Specifically, a grazing management plan would be submitted to the Service for review and approval and would incorporate two main principles:

1. Cattle grazing would be consistent with light-to-moderate grazing levels comparable to past and current grazing practices (existing grazing operations accommodates approximately 14,500 head of cattle that are seasonally rotated).
2. Grazing practices would be consistent with those practices that maintain high levels of biodiversity and species populations and may include specific protective measures, such as establishing exclusion fencing in riparian areas and implementing seasonal grazing and related rotational practices, to protect resources.

The Service-approved grazing management plan would implement the conservation measures set forth in the TU MSHCP. If, as a result of effectiveness monitoring, corrective actions are identified, the adaptive management program in the TU MSHCP allows for adjustments to grazing management to ensure protection of the Covered Species, including amphibians, as necessary.

2.2.5 Evaluation of Human Recreation and Pet Effects and Associated Avoidance, Minimization, and Mitigation Measures

A commenter stated that Goal 7 for the Tehachapi slender salamander and yellow-blotched salamander and Goal 6 for the western spadefoot fail to identify effects from human recreation and pets, and the requirement to provide educational information regarding restrictions on activities and pets is not an adequate mitigation measure. The commenter further stated that domestic pets have been documented to affect native wildlife, including amphibians, on a significant scale. Meaningful mitigation would reduce predation by domesticated animals and animals that benefit from human development (e.g., ravens, skunks, coyotes). Additionally, the commenter stated that pets must be confined to preclude take, cats must be kept indoors, and domestic dogs must be confined to a yard when unattended or leashed and not allowed in salamander habitat.

Section 4.1, Biological Resources, in Volume I of this Supplemental Draft EIS, and Sections 5.2.1, Amphibians, and 6.2, Potential Take and Impacts to Other Covered Species, of the TU MSHCP, describe potential effects on amphibians from human recreation and pets in the Covered Lands. Specifically, the EIS and TU MSHCP state that urban development may result in an increase in urban-related predators, such as cats and dogs, and that increased human activity in open space areas could affect essential behaviors and physiology of wildlife. In addition, the use of recreation trails could result in effects on vegetation communities, wildlife habitats, and wildlife species, including trampling of vegetation, creation of unauthorized trails, increased human presence and potential harassment of or harm to wildlife (e.g., causing abandonment of nest sites, collection of animals, crushing by bicycles and horses), potential harassment of or harm to wildlife by pets, contact with pet fecal material, and potential for transmission of diseases and parasites as well as trash and debris.

For each of the amphibian Covered Species, the primary mitigation associated with the proposed action is the dedication and preservation of the TU MSHCP Mitigation Lands, which are comprised of 93,522 acres in Established Open Space Areas and 23,001 acres in the TMV Planning Area Open Space (see Chapter 2, Proposed TU MSHCP and Alternatives, in Volume I of this Supplemental Draft EIS). In addition, the Existing Conservation Easement Areas would be managed in accordance with the terms of the applicable conservation easement. These areas contain 96% of modeled habitat for Tehachapi slender salamander (3,921 acres[2]), 97% of modeled habitat for yellow-blotched salamander (33,988 acres), and 90% of modeled habitat for western spadefoot (1,055 acres). Unconstrained public access for recreation, including pets, is currently not permitted on the Covered Lands and would continue to be restricted under the TU MSHCP. Nevertheless, potential effects from human presence and recreational use are possible, and would be minimized through implementation of Objective 7.1 in the TU MSHCP for Tehachapi slender salamander and yellow-blotched salamander and Objective 6.1 in the TU MSHCP for western spadefoot. These objectives require that Home Owners Associations be provided with educational materials regarding acceptable recreation activities, pets, wildlife, and open space areas. As noted in Section 2.1, Plan Description, of the TU MSHCP, individual residential and commercial development covered under the TU MSHCP would require individual project approvals from the local jurisdiction. For example, the TMV Project, which was approved by Kern County on October 5, 2009, requires additional restrictions on pets, including that pets must be leashed while using the designated trail system and/or in any areas adjacent to open space, and that stray and feral cats and dogs may be trapped and deposited with the local Society for the Prevention of Cruelty to Animals, the Kern County Department of Animal Control, or Shelter on the Hill Humane Society (Kern County 2009; Mitigation Measure 4.4-17). Restrictions similar to these would be included in the educational material required by the TU MSHCP, would be developed on a project-specific basis, and would be tracked through the Compliance and Effectiveness Monitoring programs for the TU MSHCP.

Regarding mesopredators such as opossum, raccoon, and skunks around residential areas, if long-term monitoring reveals the need to control native and/or nonnative animals, such control would be conducted in accordance with the integrated pest management plan (IPMP) and/or adaptive management plan, as described in Section 7.3.2, Effectiveness Monitoring, of the TU MSHCP.

[2] The habitat model for TSS was revised to include vegetation communities that contain yucca based on new information (e.g., Sweet 2011).

2.2.6 Evaluation of Nonpermanent Activity Effects and Associated Avoidance, Minimization, and Mitigation Measures

A commenter stated that Goal 8 for the Tehachapi slender salamander and yellow-blotched salamander and Goal 7 for the western spadefoot are confusing and inappropriate in that they reference "nonpermanent activities" and include inappropriate activities, such as infrastructure and public trails, and fail to adequately identify potential effects on amphibian species. The commenter further stated that surveys should not be considered a mitigation strategy, and that surveys should have been done to inform what the commenter considered an "inadequate" modeling effort. The commenter stated that the usefulness of the surveys is unclear. Finally, the commenter stated that the Draft TU MSHCP failed to identify what infrastructure, access, trails, and facilities are proposed in the areas identified as amphibian Covered Species habitat, making an evaluation of the impacts and identification of mitigation measures not possible.

Goal 8 for the Tehachapi slender salamander and yellow-blotched salamander and Goal 7 for the western spadefoot relate to the Plan-Wide Activities, including passive recreation, and use, maintenance, repair, replacement, and construction of new of utility infrastructure (see Section 7, Conservation Plan for Other Covered Species, in the TU MSHCP). Recreation activities would include equestrian activities, such as horseback riding, breeding, boarding, feeding, training, and events at the equestrian facility located near the southern end of Castac Lake; non-motorized biking on roads or trails; camping; hiking; walking; climbing; bird and wildlife watching; photography; astronomy; archery and target shooting; cross-country, snow skiing, snow shoeing, and sledding; fishing and water-based recreational activities under the control of TRC; and all travel on the Covered Lands associated with these recreational activities. Covered Activities associated with utility infrastructure would include maintenance or replacement of utilities in existence as of the effective date of the ITP throughout the Covered Lands in their current locations; relocation of two existing utilities within 1,000 feet of existing locations in the TMV Planning Area; development of new and expanded utilities other than above ground transmission lines in the commercial and residential development areas (i.e., undergrounded powerlines and aboveground water tanks, electrical substations, and water and sewage treatment facilities); and maintenance of underground utilities within roadways or disturbed areas in the TMV Planning Area Open Space that are in existence as of the effective date of the ITP. These activities may have temporary or permanent effects on amphibian species in the Covered Lands.

With respect to the adequacy of the conservation strategy, Objective 8.1 in the TU MSHCP for Tehachapi slender salamander and yellow-blotched salamander and Objective 7.1 in the TU MSHCP for western spadefoot propose to establish the resource baseline for open space areas from which effectiveness monitoring can be measured (Section 7.1.1.1, Tehachapi Slender Salamander in the TU MSHCP). Additionally, Objectives 8.2 and 8.3 in the TU MSHCP for Tehachapi slender salamander and yellow-blotched salamander and Objectives 7.2 and 7.3 in the TU MSHCP for western spadefoot require efforts to minimize footprints, implement construction BMPs during installation of infrastructure within open space areas, and select appropriate locations for siting public access trails and facilities within open space areas. Because specific infrastructure and trails locations are not currently known, more specific requirements would be developed as the design of these facilities evolve.

In addition, as described in Chapter 2, Proposed TU MSHCP and Alternatives, in Volume I of this Supplemental Draft EIS, the Proposed TU MSHCP Alternative would include provisions to underground most powerlines, limit relocation and construction of existing overhead powerlines, communication towers, and other utility infrastructure, and would require review and approval by the Service prior to the construction of any above ground powerlines. For trails and related

facilities, a public access plan would be developed as part of the Tejon Ranch Conservancy's public access program for the ranch (and possibly by an other easement holder, if applicable, for the TMV Planning Area Open Space). The public access plan(s) would be subject to review and approval by the Service for consistency with the TU MSHCP, the ESA, and applicable conservation easement restrictions. If the public access plan activities are determined to be beyond the scope of the authorized Covered Activities, further ESA authorization may be required at that time. The future public access plan would also be required to comply with all applicable legal requirements, including compliance with environmental and land use laws.

2.2.7 Additional Effects on Modeled Habitat May Occur

A commenter stated that Section 7, Conservation Plan for Other Covered Species, in the TU MSHCP shows additional effects on conserved modeled habitat for the amphibian Covered Species beyond those previously analyzed in Section 6, Potential Take and Impacts to Other Covered Species, in the TU MSHCP, including 3% of modeled habitat for the Tehachapi slender salamander, yellow-blotched salamander, and western spadefoot.

Objective 3.1 in the TU MSHCP for the Tehachapi slender salamander states:

> Construction in modeled suitable habitat in riparian/wetland areas will be avoided to the extent practicable (generally anticipated to be limited to road crossings and culverts and not anticipated to exceed 3% of modeled suitable habitat)(Section 7.1.1.1.1, Tehachapi Slender Salamander in the TU MSHCP).

Likewise, Objective 3.1 in the TU MSHCP for the yellow-blotched salamander states:

> Construction in modeled suitable habitat on north-facing (0° to 90° and 0° to 270°) slopes and canopy cover greater than 40% will be avoided to the extent practicable (generally anticipated to be limited to road crossings and culverts and not anticipated to exceed 3% of modeled suitable habitat) (Section 7.1.1.1.3, Yellow-blotched Salamander in the TU MSHCP).

The 3% referred to in Objective 3.1 for these two species is based on the estimated 143 acres (3.4% rounded to 3%) of permanent effects on the 4,071 acres of modeled habitat for the Tehachapi slender salamander and the estimated 1,179 acres (3.3% rounded to 3%) of permanent effects on the 33,988 acres of modeled habitat for the yellow-blotched salamander; these effects would not be in addition to those described in Section 6.2.1, Amphibians, in the TU MSHCP for these species. Furthermore, these calculations are based on a "worst-case assumption" that all of the area within the commercial and residential Development Envelope (i.e., 8,817 acres) would be affected, in addition to 200 acres of disturbance related to implementation of the Plan-Wide Activities, when the actual development footprint under the TU MSHCP would be 5,533 acres. With a smaller construction footprint than that analyzed in the TU MSHCP and implementation of the avoidance, minimization, and mitigation measures, it is likely that permanent effects on modeled habitat for the Tehachapi slender salamander and yellow-blotched salamander would be less than 3% of the total modeled habitat estimated to be lost under the worst-case assumption.

Objective 2.1 for the western spadefoot provided in the Draft TU MSHCP stated that ground disturbance in modeled habitat was "…not anticipated to exceed 10% of modeled habitat". This statement was made in error. The correct value is 3%, which is the percent estimated for loss of western spadefoot modeled habitat reported in Section 6.2.1.2.1, Discussion of Potential Take of Western Spadefoot, of the TU MSHCP (i.e., 30 acres of 1,175 acres of modeled habitat, or 2.6%, rounded to 3%). This has been corrected in the current draft of the TU MSHCP. As with the Tehachapi slender salamander and yellow-blotched salamander, this is not an additional effect beyond that reported in Section 6.2.1, Amphibians, of the TU MSHCP for the western spadefoot, and effects would likely be less with the anticipated smaller construction footprint and application of avoidance measures.

2.2.8 Measures to Minimize the Spread of Disease

A commenter stated that the Draft TU MSHCP failed to include measures to minimize the spread of disease among amphibian populations by humans and recommended that the guidance by the Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon (U.S. Fish and Wildlife Service 2005) be included in the proposed action.

The design features (e.g., setbacks) and educational materials prescribed in TU MSHP are intended to reduce contact between humans and amphibians. These measures are described in Section 7, Conservation Plan for Other Covered Species, of the TU MSHCP. In addition, the TU MSHCP has been revised to include Objective 4.3 for Tehachapi slender salamander, Objective 3.3 for western spadefoot, and Objective 4.3 for yellow-blotched salamander, which state:

> To ensure that diseases are not conveyed between work sites by the project biologist or his or her assistants, the fieldwork code of practice developed by the Declining Amphibian Populations Task Force (DAPTF 2009) will be followed at all times.

The following row was also added to Table 7-1 of the TU MSHCP:

Action	Species	Assumptions / Notes
At the discretion of the Tejon staff project biologist, during surveys prior to grading, relocation of observed individual may be undertaken consistent with the appropriate scientific collection permits; all handling of amphibians shall be conducted in accordance with the fieldwork code of practice developed by the Declining Amphibian Populations Task Force (DAPTF 2009)	All amphibians	Species to be surveyed upon habitat suitability.

2.2.9 Preconstruction Surveys

A commenter stated that preconstruction surveys for the amphibian Covered Species and animal removal must be required to avoid and minimize potential effects on Tehachapi slender salamander, yellow-blotched salamander, and western spadefoot. The commenter also stated that this requirement cannot be at the discretion of the project biologist.

The TU MSHCP proposes to conduct preconstruction surveys for the amphibian Covered Species at the discretion of the Service-approved Tejon Staff Biologist because the success of preconstruction survey methods, such as visual surveys and pitfall trapping, would depend on several factors such as season and weather conditions. All three of the amphibian Covered Species remain underground and inactive for much of the year, as described in Section 5.2.1, Amphibians, of the TU MSHCP. Therefore, visual surveys and pitfall trapping are only effective when environmental conditions are conducive to aboveground activity. Visual surveys or pitfall trapping for these species in late summer, for example, would likely be ineffectual because the chance of detecting or capturing individuals would be minimal.

For those species that are state-listed (e.g., Tehachapi slender salamander), it is likely that the parameters for determining when preconstruction surveys are justified and likely to be effective would be refined in coordination with the California Department of Fish and Game (CDFG)(e.g., under some combination of season, precipitation, and temperature).

Of note, the effects analysis in Section 4.1, Biological Resources, in Volume I of this Supplemental Draft EIS assumes full loss of modeled habitat in the Commercial and Residential Development Areas. Thus, while preconstruction surveys may further reduce loss of individuals, the conservation strategy for this species does not depend on 100% avoidance of individuals.

2.2.10 Tehachapi Slender Salamander

2.2.10.1 Federal Listing Status in Relation to Development and Other Threats

A commenter raised several related issues regarding the Federal listing status of the Tehachapi slender salamander in relation to proposed development on Tejon Ranch and continuing threats, as follows:

- The Service recently found slender salamander to be warranted for protection under the ESA (*Federal Register* [FR] E9-9220, Filed 4-21-09).
- The best available scientific information shows that the Tehachapi slender salamander has declined due to habitat loss and degradation and faces ongoing threats.
- The Tehachapi slender salamander has already become extirpated from the Tehachapi Pass area, likely as a result of highway construction, and the remaining populations in the Tehachapi Mountains are primarily on private lands, including Tejon Ranch.
- Rapid human population growth in the region is reported to be a significant threat to the Tehachapi slender salamander.
- Quoting Hansen and Wake (2005, p. 693): "Plans exist for the development of several new communities on the vast Tejon Ranch property. Owing to the small size and nature of Tehachapi slender salamander population, the Tejon Ranch sites appear especially vulnerable to habitat disturbance."
- Construction activities when coupled with other ranch activities such as cattle grazing; film production; culvert, drainage, and utility maintenance; and human presence constitute potentially significant cumulative impacts that could result in habitat degradation and possible mortality of the Tehachapi slender salamander.

With respect to the first issue, on April 22, 2009, the Service issued a 90-day finding (74 FR 18336) concluding that the petition presented substantial scientific or commercial information to indicate that listing the Tehachapi slender salamander *may be* warranted and initiated a status review of the species. The Service subsequently issued a 12 month finding that listing of the Tehachapi slender salamander as an endangered or threatened species under the ESA is not warranted. (76 FR 62900, October 11, 2011).

With respect to the second, third, and fourth issues, the Service disagrees that available scientific information indicates that the Tehachapi slender salamander has declined in population. The Service does not have demographic information or population size information to determine whether the species is declining, remaining stable, or increasing in number, nor does the best available scientific information indicate the Tehachapi slender salamander faces significant threats from habitat loss and degradation. The Service only has evidence that one occurrence has likely been extirpated from a particular known locality.

With respect to the final two issues, Section 7.1.1.1.1, Tehachapi Slender Salamander, in the TU MSHCP outlines biological goals and objectives for the Tehachapi slender salamander that are

intended to avoid, minimize, and mitigate the effects of the Covered Activities on this species. As described in that section, 96% (3,921 acres) of modeled habitat for Tehachapi slender salamander in the Covered Lands would be protected in perpetuity in Established Open Space Areas, the TMV Planning Area Open Space, and Existing Conservation Easement Areas. As described above, the potential loss of modeled habitat is based on a worst-case assumption that all of the area within the commercial and residential Development Envelope (i.e., 8,817 acres) would be affected, in addition to 200 acres of disturbance related to implementation of the Plan-Wide Activities, when the actual development footprint under the TU MSHCP would be 5,533 acres. With a smaller construction footprint, it is likely that fewer acres of modeled habitat would be affected. In addition, a variety of conservation measures would be implemented to address potential effects on the species related to the Covered Activities, and would apply to existing uses, such as grazing and film production, that are not currently regulated by such measures. Prior to making a decision on the proposed action, the Service will review the conservation strategy for compliance with the ESA (Section 1.4.1.1, Federal Regulatory Provisions Relating to Issuance of an Incidental Take Permit in Volume I of this Supplemental Draft EIS). This evaluation will be used to determine if an ITP will be issued to TRC for take of any or all of the Covered Species included in the TU MSHCP, including Tehachapi slender salamander.

2.2.10.2 Open Space Discrepancies

A commenter stated that according to the Draft TU MSHCP Section 6, Potential Biological Impacts / Take Assessment, 3,797 acres of potential modeled habitat for the Tehachapi slender salamander occurs in the Covered Lands and 108 acres would be permanently affected, thus affecting 216 individuals. Per the Draft TU MSHCP, conservation areas include 2,717 acres of Tehachapi slender salamander modeled habitat in Established Open Space Areas and 790 acres in the TMV Planning Area Open Space, totaling 3,507 acres of modeled habitat (92% of the Covered Lands). The commenter noted that the total conservation proposed in Section 7, Conservation Plan for Other Covered Species, of the TU MSHCP is 3,687 acres, not 3,507 acres. The commenter stated that this discrepancy in acreages needs to be clarified.

There was no discrepancy between Sections 6 and 7 in the Draft TU MSHCP. Both sections stated that 3,507 acres of Tehachapi slender salamander modeled habitat would be conserved within Established Open Space Areas and the TMV Planning Area Open Space. In addition, Objective 1.2 in Section 7 of the TU MSHCP providedthat an additional 180 acres of modeled habitat would be avoided within the area that was then referred to as the Potential Open Space Areas. . The conservation easements for these areas (which encompass 12,795 acres) have since been recorded. Additionally, the habitat models for the Tehachapi slender salamander have been updated in light of new information regarding its habitat requirements. As a result, a total of 3,921 acres (96%) of modeled habitat for Tehachapi slender salamander would be conserved under the current Proposed TU MSHCP Alternative. The acreages of modeled habitat preserved and modeled habitat lost for Tehachapi slender salamander are also provided in Section 4.1, Biological Resources, in Volume I of this Supplemental Draft EIS.

2.2.10.3 Other Effects Identified But Not Analyzed

A commenter stated that while Section 5, Other Covered Species, of the Draft TU MSHCP acknowledges a variety of threats, including feral pigs, road construction, mining, logging, cattle grazing, and flood control projects, only road construction is partially analyzed for its effect on the Tehachapi slender salamander. The commenter further stated that, even in the proposed conservation lands within Established Open Space Areas and the TMV Planning Area Open Space, many of these threats still remain; however, the Draft TU MSHCP failed to identify the potential effects on the Tehachapi slender salamander and to propose ways to avoid, minimize, or mitigate those effects.

Section 7.1.1.1.1, Tehachapi Slender Salamander, of the TU MSHCP presents biological goals and objectives for the threats to Tehachapi slender salamander that are associated with the Covered Activities, including cattle grazing. The objectives prescribed in that section are intended to avoid, minimize, and mitigate those threats. Existing threats identified in Section 5.2.1.1 for Tehachapi slender salamander that are not within the scope of the Covered Activities are not directly addressed in Section 7 of the TU MSHCP. For Tehachapi slender salamander, these threats include feral pigs, mining, logging, and flood control projects. Of those, only feral pigs could be considered relevant to the Covered Lands. However, the existence of feral pigs is an existing condition and feral pigs are hunted through the ranch's commercial hunting program, which is not a Covered Activity. Under the continuation of the hunting program, feral pigs would continue to be controlled. However, it is also recognized that this species may be addressed through the adaptive management program and the RWMP.

Please see Master Response 4, Covered Species Threats and Potential Effects from Covered Activities, for more detail.

2.2.11 Western Spadefoot

2.2.11.1 Failure to Analyze Effects on Nonriparian Habitats

A commenter stated the Draft TU MSHCP does not analyze effects on nonriparian habitat that may be used by western spadefoot, which spends most of its time away from breeding pools.

The commenter is accurate in stating that the western spadefoot spends much of its life history in terrestrial habitat. As described in Section 3.1, Biological Resources, in Volume I of this Supplemental Draft EIS, the species occurs in open areas with sandy or gravelly soils in a variety of habitats, including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, river floodplains, alluvial fans, playas, and alkali flats (Stebbins 2003, Holland and Goodman 1998), and riparian habitats with suitable water resources (Holland and Goodman 1998). However, the species is most common in grasslands with vernal pools or mixed grassland/coastal sage scrub areas (Holland and Goodman 1998). Within these habitats, the species requires rain pools with water temperatures of between 9°C and 30°C (Brown 1966, 1967) that persist with more than 3 weeks of standing water in which to reproduce (Feaver 1971). Jennings and Hayes (1994) report that rain pools must lack fish, bullfrogs, and crayfish in order for successful reproduction and metamorphosis to occur; it is reasonable to assume that this predator-free condition would also apply to waters (e.g., backwater areas) within riparian areas used for breeding. Though little is known of the spatial behavior of western spadefoots, they likely do not move far from their breeding pool during the year (Zeiner et al. 1990, p. 56), and it is likely that their entire post-metamorphic home range is situated around a few pools.

The negative survey results for the western spadefoot in the TMV Planning Area (Dudek 2007) indicate that if it does occur on site, it is expected to occur in a very sporadic and patchy distribution in modeled habitat. It is fairly certain, therefore, that most, if not all, of the 1,175 acres of modeled riparian/wetland breeding habitat for western spadefoot is not actually occupied. The effect estimate of 30 acres of modeled habitat, therefore, is a conservative, worst-case scenario for this species and would accommodate any terrestrial habitat that may be affected at an occupied site; that is, it is highly unlikely that more than 30 acres of occupied habitat, including breeding and terrestrial habitat areas, would be affected by the Covered Activities associated with the TU MSHCP.

2.2.11.2 Preconstruction Surveys and Avoidance of Metamorphs

A commenter indicated that the Draft TU MSHCP is unclear about how effects on western spadefoot would be avoided if construction activities are postponed until larvae (tadpoles) have metamorphosed because the metamorphs could move onto the construction site.

Objective 3.1 for the western spadefoot, provided in Section 7.1.1.1.2, Western Spadefoot, of the TU MSHCP, describes how preconstruction surveys and setbacks (300 feet) from occupied areas would be implemented if egg masses and/or larvae are detected. In a situation where western spadefoots are breeding in proximity to construction activities, per Objective 3.2, construction monitoring would be included, and exclusionary fencing to prevent spadefoot from entering construction areas after they metamorphose would be erected, as necessary. In addition, avoidance monitoring measures during construction would be implemented, as necessary, to reduce the likelihood of spadefoots entering construction areas. The setbacks from modeled habitat that would be incorporated into the design of commercial and residential development at the boundary of open space areas would provide western spadefoot with nonriparian upland habitat for aestivation and hibernation after they metamorphose. The above measures are intended to minimize effects on western spadefoot metamorphs that may be located in close proximity to construction areas.

2.2.11.3 Noise and Vibration Effects

A commenter stated that the potential effect of low frequency noise and vibration during construction could result in premature emergence of the western spadefoot. While this potential effect is identified in Section 5, Other Covered Species, of the TU MSHCP, it is not addressed in Section 7.1.1.1.2, Western Spadefoot, which identifies the biological goals and objectives for the species.

With respect to noise and vibration impacts, visual surveys and pitfall trapping for amphibians would be ineffective at times of the year when the western spadefoot is below ground and, therefore, would not address the issue of premature emergence due to noise and vibration. The avoidance, minimization, and mitigation measures that addresses this potential effect are described under Objective 3.2, which provides for biological monitoring of construction activities located in modeled habitat. The Service-approved biologist or qualified monitoring biologist would be on site during construction so that if spadefoots do emerge from burrows, the biologist could prevent them from entering construction areas either directly or by erecting exclusion fencing.

2.2.11.4 Other Effects Identified But Not Analyzed

A commenter stated that while Section 5, Other Covered Species, of the Draft TU MSHCP acknowledges a variety of threats to the western spadefoot, including direct loss of aquatic and upland habitat, mosquito fish, predators (e.g., bullfrogs, crayfish, and fish) and urban-related predators (e.g., pets, strays, feral cats and dogs), the spread of predatory species into breeding sites, artificial lighting, noise, grazing, off-road vehicles, exotic plants, alteration of hydrology, other human-related degradation of habitat, insecticides that reduce insect prey, and rodenticides that reduce the number of burrowing animals and consequently the burrows for spadefoots, none of these issues are comprehensively analyzed in the Draft TU MSHCP. The commenter further stated that, even in the proposed conservation lands in Established Open Space Areas and the TMV Planning Area Open Space, many of these threats still remain; however, the Draft TU MSHCP failed to identify the potential effects on the western spadefoot and propose ways to avoid, minimize, or mitigate those effects.

The reasons for decline of western spadefoot identified in Section 5.2.1.2.1, Status and Distribution, of the TU MSHCP are based on the literature for the western spadefoot and represent the suite of

threats that have been identified for the species throughout its range. Based on the negative survey results for the TMV Planning Area (Dudek 2007) and the determination that the western spadefoot has a low potential to occur on site below 3,000 feet above mean sea level (amsl) and very low potential to occur above 3,000 feet amsl, a more detailed analysis of these threats from activities covered by the TU MSHCP would be speculative.

In general, and as described in Section 4.1, Biological Resources, in Volume I of this Supplemental Draft EIS, the TU MSHCP would preserve 90% of modeled habitat for western spadefoot within Established Open Space Areas, the TMV Planning Area Open Space, and Existing Conservation Easement Areas. Section 7.1.1.1.2, Western Spadefoot, of the TU MSHCP identifies other goals and objectives intended to avoid, minimize, and mitigate long-term operational effects on the species resulting from implementation of the Covered Activities. Objective 4.1 for western spadefoot refers to design features, such as setbacks, that would be incorporated into the boundary between suitable habitat and development. These setbacks would minimize the introduction of exotic plant and animal species into open apace areas, and reduce urban runoff into suitable habitat for the western spadefoot and other Covered Species. BMPs for water quality protection would be incorporated into the project-specific designs, as required by the CWA and Porter-Cologne Water Quality Control Act. Lighting for commercial and residential development in the boundary between development and suitable habitat would be directed away from suitable habitat (Objective 4.2). Because grading plans and other details for residential and commercial development are not available, the specifications of these design features, which would be site-specific, cannot be provided in the TU MSHCP, but would be anticipated to be consistent with the general guidelines provided in the TU MSHCP, and subject to approval by other regulatory agencies, including the U.S. Army Corps of Engineers (USACE), State Water Resources Control Board (SWRCB), CDFG, and Kern County.

Objectives 5.1 and 5.2 in the TU MSHCP refer to the grazing management plan and protection of resources and habitat potentially used by western spadefoot, including pre-activity surveys to determine presence/absence of western spadefoot prior to grazing operations and/or ranch activities that could adversely affect breeding habitat for the species, such as eliminating stock ponds. The grazing management plan would be subject to review and approval by the Service for consistency with the TU MSHCP, ESA, and applicable conservation easement restrictions.

Objective 6.1 in the TU MSHCP refers to human recreation and pets and requires that Home Owners Associations be provided with educational information regarding acceptable recreational activities, pets, wildlife, and open areas. Objective 7.3 refers to the selection of appropriate locations for access, trails, and facilities in open space areas per a public access plan, which would minimize effects on western spadefoot habitat located in or adjacent to public access areas. The public access plan would also be subject to review and approval by the Service for consistency with the TU MSHCP, the ESA, and applicable conservation easement restrictions.

An IPMP would be also prepared and implemented in the Covered Lands. The IPMP would be developed and implemented in conjunction with development, ranchwide operations, and management of open space. The IPMP would provide guidelines for the eradication of non-native, invasive species including bullfrogs and Argentine ant. A framework IPMP would be followed by project-specific pest management plans for specific development uses (commercial, residential, golf courses) and for specific ranch operations and open space management. The project-specific pest management plans would be prepared prior to initiation of related Covered Activities. The framework IPMP would include the guidelines and standards for subsequent project-specific pest management plans and would identify specific Covered Activities for which project-specific pest management plans would be prepared.

With respect to pesticides, Section 6.2.1, Amphibians, in the TU MSHCP identifies pesticides as a factor that can affect amphibians given their reliance on the aquatic or more mesic environment, and how the quality of the water in which they live can affect their growth, development, and survival.

As a result, BMPs to protect surface water quality, as well as design features to address urban runoff as discussed in Section 2.2.3, Evaluation of Operational Effects and Associated Avoidance, Minimization, and Mitigation Measures, above, are important. Additionally, although not identified as a specific objective for western spadefoot, the IPMP would address fertilizers and pesticides, as described in Section 7.2.1, Measures to Avoid and Minimize Impacts, of the TU MSHCP.

These avoidance, minimization, and mitigation measures, in combination with the conservation of the majority of modeled habitat for the western spadefoot, are intended to avoid, minimize, and mitigate any adverse effects on western spadefoot if it is found to occur on Covered Lands.

2.2.12 Yellow-Blotched Salamander

2.2.12.1 Analysis of Effects on Suitable Habitat

A commenter stated that the yellow-blotched salamander uses oak woodlands and that the Draft TU MSHCP is unclear how only 1,001 acres of effects on yellow-blotched salamander suitable habitat would occur, as stated in Section 6.2.1, Amphibians, of the TU MSHCP, when 4,381 acres of oak savannah and woodlands would be affected, as reported in the Draft EIS. The commenter quotes the species account in the Draft TU MSHCP that a major threat to this species is "development and cutting of oak woodlands in the Tehachapi Mountains."

The reference to development and cutting of oak woodland in the Tehachapi Mountains is to general threats and reasons for the decline of species, as provided in Jennings and Hayes (1994, p. 24); threats associated with development and cutting of oak woodland is not a specific reference to the potential effects of the activities proposed under the TU MSHCP. There is no direct correlation between modeled habitat for the yellow-blotched salamander and oak-dominated habitats. The analysis of effects on modeled habitat for the yellow-blotched salamander is based on the habitat model developed for the species, which incorporates parameters other than just oak communities, as described in Section 3.1.7.2, Amphibians, in the subsection entitled Yellow-Blotched Salamander, in Volume I of this Supplemental Draft EIS, and Section 5.2.1.3.2, Habitat Characteristics and Use, of the TU MSHCP. That is, the yellow-blotched salamander does not occur in all oak communities and also may occur in non-oak communities with adequate canopy cover on north-facing slopes (Hansen and Wake, pers. comm. 2008). Therefore, the modeled habitat acreage for the species includes a subset of oak woodlands on the Covered Lands, as well as all other vegetation communities with north-facing slopes (0° to 90° and 0° to 270°) and canopy cover of 40% or greater. Oak communities that do not meet the 40% canopy cover requirement, and/or do not occur on north-facing slopes, were not included in the habitat suitability model for the species. For this reason, the estimated effects on yellow-blotched salamander modeled habitat would be substantially less than the effects on oak savannah and oak woodlands reported in the Draft EIS.

2.2.12.2 Other Effects Identified But Not Analyzed

A commenter stated that while Section 5, Other Covered Species, of the Draft TU MSHCP acknowledges a variety of threats to yellow-blotched salamanders including development in and cutting of oak woodland in the Tehachapi Mountains, cattle grazing, hunting, camping, agriculture, mining, and feral pigs, none of these issues are comprehensively analyzed in the Draft TU MSHCP. The commenter further states that even in the proposed conservation lands in Established Open Space Areas and the TMV Planning Area Open Space, many of these threats still remain; however, the Draft TU MSHCP failed to identify the potential effects on the yellow-blotched salamander and propose ways to avoid, minimize, or mitigate those impacts.

Section 7.1.1.1.3, Yellow-blotched Salamander, of the TU MSHCP presents biological goals and objectives for the threats to yellow-blotched salamander that are associated with the Covered

Activities, including cattle grazing and public access, which may include camping. Implementation of the objectives prescribed in that section would avoid, minimize, and mitigate for those threats. Existing threats identified in Section 5.2.1.3, Yellow-blotched Salamander, of the TU MSHCP for yellow-blotched salamander that are not within the scope of the proposed action are not directly addressed in Section 7 of the TU MSHCP. For yellow-blotched salamander, these threats include hunting, feral pigs, agriculture, and mining. With respect to hunting and feral pigs, please refer to Section 2.2.10.3, Other Effects Identified But Not Analyzed, above. With regard to effects associated with agriculture, farming and irrigation systems are existing activities on Tejon Ranch, less than 15 acres of the Covered Lands support noncommercial, experimental grape and tree crops (most of TRC's farming activities area located in the San Joaquin Valley floor and are not located on Covered Lands). These activities would continue on the Covered Lands, but no new surface water diversions that could significantly impair habitat for the yellow-blotched salamander would be allowed. For trails and related facilities, a public access plan would be developed as part of the Tejon Ranch Conservancy's public access program for the ranch and would be required to comply with the TU MSHCP, ESA, and applicable conservation easement restrictions. Camping would be addressed by the public access plan, which would be subject to review and approval by the Service.

Please see Master Response 4, Covered Species Threats and Potential Effects from Covered Activities, for more detail.

The commenter states that of the 35,213 acres of modeled habitat for the yellow-blotched salamander, 1,001 acres would be permanently affected, 27,679 acres would be conserved in "potentially" unfragmented Established Open Space Areas, and 4,961 acres would be conserved in the "fragmented" TMV Planning Area Open Space. A total of 33,988 acres (96%) of modeled habitat for yellow-blotched salamander would be conserved in open space. As described in TU MSHCP and Chapter 2, Proposed TU MSHCP and Alternatives, in Volume I of this Supplemental EIS, the Established Open Space Areas account for 93,522 acres (66%) of existing undeveloped, natural lands within the 141,886 acres of Covered Lands. The TMV Planning Area Open Space includes 23,001 acres, bringing the total TU MSHCP Mitigation Lands to the 116,523 acres (82%). As described above, the current Proposed TU MSHCP Alternative would add management of the 12,795 acres of Existing Conservation Easement Areas (i.e., the Potential Open Space in the TU MSHCP) as open space in accordance with the TU MSHCP, resulting in approximately 129,318 acres (91%) of the Covered Lands in permanently preserved open space. Further, the TMV Planning Area Open Space includes two large habitat blocks of 6,660 acres and 7,550 acres and is generally contiguous with the Established Open Space Areas. Within the 129,318-acre open space system, the total conservation of modeled habitat for yellow-blotched salamander species would be 33,988 acres, or 96% of the total modeled habitat for the species. In addition, all currently known occurrences of yellow-blotched salamander would be conserved.

It should be noted that 24 acres of modeled habitat for yellow-blotched salamander are within the 145 acres of nondisturbance areas in the Lebec/Existing Headquarters Area. These 24 acres of modeled habitat are not included in the Established Open Space Areas, TMV Planning Area Open Space, or the Existing Conservation Easement Areas, but are expected to remain undeveloped due to the allowed development densities associated with the general plan land use designations. See Section 2.2.2.2, Activities Considered in the Analysis, of this Supplemental Draft EIS for a more detailed description of the nondisturbance areas. Refer also to Master Response 5, Habitat Suitability Model, regarding edge effects and wildlife connectivity.