

Master Response 6 Surveys

Table MR6-1. Comments Addressed in Master Response 6

Comment Number	Commenter
G2-25	U.S. Environmental Protection Agency (Goforth, Kathleen)
G2-26	U.S. Environmental Protection Agency (Goforth, Kathleen)
01-3	California Native Plant Society (Suba, Greg)
01-4	California Native Plant Society (Suba, Greg)
01-5	California Native Plant Society (Suba, Greg)
01-6	California Native Plant Society (Suba, Greg)
01-7	California Native Plant Society (Suba, Greg)
01-10	California Native Plant Society (Suba, Greg)
01-11	California Native Plant Society (Suba, Greg)
04-54	Center for Biological Diversity (Keats, Adam)
04-55	Center for Biological Diversity (Keats, Adam)
04-166	Center for Biological Diversity (Keats, Adam)
04-167	Center for Biological Diversity (Keats, Adam)
04-177	Center for Biological Diversity (Keats, Adam)
04-218	Center for Biological Diversity (Keats, Adam)
04-220	Center for Biological Diversity (Keats, Adam)
04-221	Center for Biological Diversity (Keats, Adam)
04-224	Center for Biological Diversity (Keats, Adam)
04-227	Center for Biological Diversity (Keats, Adam)
04-229	Center for Biological Diversity (Keats, Adam)
04-231	Center for Biological Diversity (Keats, Adam)
04-232	Center for Biological Diversity (Keats, Adam)
04-234	Center for Biological Diversity (Keats, Adam)
04-235	Center for Biological Diversity (Keats, Adam)
05-24	Defenders of Wildlife (Flick, Pamela)

6.1 Summary of Substantive Comments

The following summarizes the substantive comments received on the Draft EIS and Draft TU MSHCP specific to biological surveys conducted on the Covered Lands. Table MR6-1 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.

- The design, location, and implementation of the plant and wildlife surveys were not published or disclosed to the public. (Response provide in Section 6.2.1, Design, Location, and Implementation of Surveys.)
- Adequate surveys (over 1 year) should have been done to identify the habitat needs of the Covered Species and to evaluate project effects, mitigation, and the adequacy of the proposed conservation areas. (Response provided in Section 6.2.2, Identification of Habitat Needs and Adequacy of Surveys.)
- Additional data sets should have been used. (Response provided in Section 6.2.3, Sufficiency of Data Sets.)
- Preconstruction surveys (e.g., for songbirds) should not be limited to the development area and should include all of the Covered Lands. (Response provided in Section 6.2.4, Scope of Preconstruction Surveys.)
- Species-specific comments regarding surveys for burrowing owl, two-striped garter snake, Fort Tejon woolly sunflower, round-leaved filaree, striped adobe lily, Tehachapi buckwheat, and Tejon poppy. (Responses to the species-specific comments are provided in Sections 6.2.5, Burrowing Owl; 6.2.6, Two-Striped Garter Snake; and 6.2.7, Fort Tejon Woolly Sunflower, Round-Leaved Filaree, Striped Adobe Lily, Tehachapi Buckwheat, and Tejon Poppy.)

6.2 Responses to Substantive Comments

6.2.1 Design, Location, and Implementation of Surveys

Commenters indicated that the TU MSHCP and EIS rely on presence/absence surveys for special-status plants and wildlife for which design, location, and implementation details have not been published, making their validity uncertain. Commenters stated that the extent of the surveys on the Covered Lands and in modeled habitat is unclear. Commenters indicated that these factors raise questions about the validity and accuracy of the survey results, habitat suitability models, and Draft EIS findings. A commenter stated that these flaws illustrate that the public is unable to interpret results and emphasized the need for transparency in the environmental review process.

The TU MSHCP and EIS do not rely exclusively on the field surveys that were conducted in the TMV Planning Area to analyze effects and mitigation. Rather, for analyses related to the other Covered Species in the much broader landscape of the Covered Lands, the TU MSHCP and EIS rely on the habitat suitability models, the sufficiency of which is discussed in Master Response 5, Habitat Suitability Model. The survey information collected in the TMV Planning Area provides background information about species' use and occupation of the Covered Lands and supports the modeling efforts.

For large-scale plans such as the TU MSHCP, it is common for a permit applicant to retain a qualified biological consultant to conduct surveys on a representative portion of the lands that would be

covered by an incidental take permit (ITP) to obtain species occurrence information. Typically, surveys are completed within the area that would be affected by the proposed action, as well as a representative area that would be conserved. Tejon Ranchcorp (TRC) completed surveys for the proposed Covered Species within the 28,253-acre TMV Planning Area, which includes the TMV Specific Plan Development Envelope and a portion of the TMV Planning Area Open Space, which accounts for a portion of the TU MSHCP Mitigation Lands. Focused surveys for Covered Species were not conducted outside of the TMV Planning Area. Because the survey efforts cover only a portion (approximately 20%) of the Covered Lands, as noted above, the TU MSHCP and EIS analyses rely heavily on habitat suitability models, rather than occurrence data, to obtain the most accurate portrayal of biological resources and Covered Species habitats on the entirety of the Covered Lands. See Master Response 5, Habitat Suitability Model.

The methods to construct the habitat models for the Covered Species are described in detail in Appendix D, Habitat Suitability Criteria Methods, of this Supplemental Draft EIS, and were made available to the public for review and comment as part of the Draft TU MSHCP. In response to comments, Section 1.2.1 of this appendix has been modified to include the survey methods for the Covered Species occurrence data collected during the various surveys in portions of the Covered Lands (Dudek 2007a and 2007b). Thus, all of the information related to the modeling assumptions as well as the survey methods is included in Appendix D, Habitat Suitability Criteria Methods, of this Supplemental Draft EIS. The survey methods are also generally described in 3.1, Biological Resources, of this Supplemental Draft EIS, and in Section 5.1, Methods Used to Analyze Potential Biological Impact to Other Covered Species, of the TU MSHCP.

With respect to specific questions regarding the methods used in the plant surveys, the field survey methods conformed to California Native Plant Society (CNPS) botanical survey guidelines (2001) and *Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities* (California Department of Fish and Game 2000). Prior to surveys of the TMV Planning Area, surveys were conducted at reference locations for federally and state-listed species. Surveys were also conducted for several of the CNPS List 1B species potentially occurring in the vicinity of the TMV Planning Area. All plant species encountered during the field surveys were identified to subspecies or variety, if applicable, to determine sensitivity status. See Appendix E, Covered Species Survey Methods, of this Supplemental Draft EIS for a description of the survey methodology.

6.2.2 Identification of Habitat Needs and Adequacy of Surveys

A commenter stated that surveys are needed to identify habitat needs for the Covered Species to ensure that the best available information is available for development of the TU MSHCP. Another commenter stated that the field surveys conducted for individual species in a single year are inadequate to evaluate the project effects, mitigation, and adequacy of proposed conservation areas and suggested that additional surveys should be conducted as a basis for modeling, development of preserve areas, and evaluating take.

As noted above, for large-scale plans, such as the TU MSHCP, it is common for a permit applicant to retain a qualified biological consultant to conduct surveys on a representative portion of the lands covered by the ITP to obtain species occurrence information. Accordingly, surveys were completed for the 28,253-acre TMV Planning Area, as discussed above. Requiring surveys on the additional 113,633 acres of the Covered Lands, of which all would be conserved as permanently protected open space, would impose an unreasonable burden beyond that of comparable conservation planning efforts.

Moreover, such studies could still result in inappropriately eliminating potential habitat that could be occupied or used in the future by a species. For example, if verification studies were conducted for Tejon poppy or striped adobe lily, for which surveys in 2007 were negative (Dudek 2007a), and the species were absent during the verification surveys, a conclusion could be reached that this habitat was unsuitable. Instead, it is reasonable to assume that the Tejon poppy and striped adobe lily could occur on the Covered Lands in the future; thus, including them as Covered Species is important. The habitat modeling was intended, by design, to be conservative and inclusive of all potential habitat for the Covered Species to inform the effects analysis in this Supplemental Draft EIS and the take and conservation analysis in the TU MSHCP. Please refer to Master Response 5, Habitat Suitability Model, for a discussion of the modeling approach.

Additionally, with respect to the analysis of species' potential presence and effects described in the TU MSHCP, it should be noted that the biological survey information incorporated into the conservation analysis represent a culmination of data collected over more than 1 year. As stated in Section 5.1, Methods Used to Analyze Potential Biological Impacts to Other Covered Species, of the TU MSHCP:

Species occurrence data were reviewed and used to develop various sections of this Plan that require an understanding of the general distribution and relative abundance of species covered in the Plan. Two primary sources of spatial (GIS-based) data were used: (1) species occurrence data collected during various surveys in portions of the Covered Lands (Dudek 2007a; Dudek 2007b) and (2) California Natural Diversity Database (CNDDDB) occurrence data (CDFG 2007c).

This methodology is similarly described in Section 3.1.3.1, Mapping Methods, in Volume 1 of this Supplemental Draft EIS.

Data incorporated by Dudek (2007a) for rare plants included floristic surveys in 2003 and 2004 by Vollmar Consulting in approximately 4,500 acres of the TMV Planning Area. Jones & Stokes (2006) conducted floristic surveys in 2005 and 2006 that included the previously surveyed areas and additional portions of the TMV Planning Area. Data collected prior to 2007 were used to prepare a target list of special-status plant species that could potentially occur in the TMV Planning Area for comprehensive surveys conducted on the Covered Lands in 2007. The data collected from these earlier surveys were also mapped on field maps used during the 2007 surveys. Data incorporated for wildlife by Dudek (2007b) also used information developed prior to 2007 from previous evaluations of the TMV Planning Area for special-status amphibians, reptiles, and birds (Impact Sciences 2004) and small mammal trapping (Compliance Biology 2003). Please refer to Appendix E, Covered Species Survey Methods, of this Supplemental Draft EIS for a more detailed description of the survey methods.

6.2.3 Sufficiency of Data Sets

A commenter suggested additional data sets should have been used and specifically cited studies done by the Conservation Biology Institute (CBI) (2003a, 2003b), South Coast Wildlands (SC Wildlands) (2003), and CBI and SC Wildlands (2006).

The reports identified in the comment do not provide specific information that would improve the conservation analysis conducted for the TU MSHCP. The primary purposes of the studies cited by commenter were to characterize the relative conservation values on the entire Tejon Ranch to help direct reserve design and to identify important landscape-level habitat linkages. The data sets used by CBI (2003a) were publicly available information that were either the same data used for the TU MSHCP (e.g., the Soil Survey Geographic [SSURGO] database, digital terrain models) or similar data, such as the U.S. Geological Survey (USGS) 30-meter digital elevation model compared to the Intermap Technologies (2005) digital elevation model used for the TU MSHCP. For vegetation communities, CBI (2003a) used coarser data than used in the TU MSHCP, such as Fire and Resource

Assessment Program (FRAP) vegetation data, and updated these land coverages using satellite imagery and aerial photography. The TU MSHCP vegetation data are more detailed than the FRAP data and are based on the Tejon-wide vegetation composite map (1980 through 1994 and updated in 2007) and on-the-ground vegetation mapping for the TMV Planning Area in 2007 (Section 1.2.1 in Appendix D, Habitat Suitability Criteria Methods, of this Supplemental Draft EIS). CBI (2003a) also used Tiger road density data from the U.S. Census Bureau, but this database is not particularly relevant to the TU MSHCP because this study was conducted at the scale of the entire 270,000-acre Tejon Ranch, whereas the Covered Lands cover a much smaller spatial scale (141,886 acres) that has very little existing road development (other than unpaved ranch roads).

Identification of the open space in the Covered Lands was based on scientific analysis of conservation values on Tejon Ranch using ranch-specific information and the expertise of biologists with direct ground-based knowledge of the biological resources on the ranch. The planning effort incorporated the general principles of conservation biology, such as conserving large blocks of habitat, minimizing fragmentation of sensitive lands, and ensuring connectivity. The planning effort evolved from a single species (the California condor) habitat conservation plan (HCP) to a multispecies conservation plan for other federally listed species and other species that may be considered for listing in the future.

Addressing each of the reports in turn, CBI (2003a) did conduct habitat suitability models for two of the plant Covered Species—striped adobe lily and Tejon poppy—using vegetation, elevation, and soils data in a manner similar to the models described in Appendix D, Habitat Suitability Criteria Methods, of this Supplemental Draft EIS. CBI (2003a) also modeled habitat for Tehachapi pocket mouse using the same elevation parameter but somewhat different vegetation community parameters. For these models, CBI used regional-scale FRAP vegetation coverage updated with satellite imagery and aerial photography. Nonetheless, FRAP is still a regional vegetation coverage and does not have the detail and mapping precision of the vegetation data used for the TU MSHCP modeling, which was based on ground surveys.

The CBI modeling results were generally similar to those considered in the Draft EIS and described in Section 5, Other Covered Species, of the TU MSHCP. The modeled habitat for Tehachapi pocket mouse (Figure 3.1-26 of this Supplemental Draft EIS) shows a more restricted distribution on Covered Lands compared to Figure 4d in the CBI (2003a) report, but in both cases, the entire modeled habitat on Covered Lands is located in the Antelope-Fremont Valley watershed where relatively few effects would occur. The modeled habitat distributions for striped adobe lily are similar for the Covered Lands, with the modeled habitat in both the TU MSHCP (Figure 3.1-32) and CBI report (Figure 4a) primarily occurring in the northern portion of the Covered Lands. The TU MSHCP habitat model, however, shows more modeled habitat (mostly smaller, scattered patches) in the southern portion of Covered Lands. The modeled habitat distributions for Tejon poppy are also similar for the Covered Lands, with the modeled habitat in both the TU MSHCP (Figure 3.1-34) and CBI report (Figure 4b) primarily occurring in the northern portion of the Covered Lands. Because the modeled habitat distributions are similar, and because the CBI models were based on more general regional vegetation parameters, the CBI report does not provide site-specific information that would supplement or improve the conservation analysis. Please see Master Response 5, Habitat Suitability Model, for more detail on the data used for habitat modeling.

CBI (2003b) primarily focused on the conservation value of Tejon Ranch, with the goal of raising the awareness of the public and decision-makers about the significance of the ranch and the need to conduct comprehensive, landscape-level resource planning. As noted on page 1 of that report, CBI does not advocate a particular open space design. It describes the high biological diversity and high species endemism of the ranch and the importance of the ranch for evolutionary processes such as divergence and speciation. As such, the report does not provide specific information that would

supplement or improve the effects analysis in this Supplemental Draft EIS or the conservation analysis in the TU MSHCP.

The focus of the SC Wildlands (2003) study was to identify a landscape habitat linkage across Tejon Ranch using landscape permeability analyses¹ for nine focal species: mountain lion, American badger, San Joaquin kit fox, mule deer, western gray squirrel, Tipton kangaroo rat, Tehachapi pocket mouse, California spotted owl, and blunt-nosed leopard lizard. Of these, the mountain lion, badger, deer, squirrel, pocket mouse, and spotted owl occur on the Covered Lands, but only the Tehachapi pocket mouse is a Covered Species under the TU MSHCP. As noted above, the models for Tehachapi pocket mouse used the same elevation parameter but somewhat different vegetation parameters. Because the focus of the SC Wildlands (2003) study was on identifying landscape linkages using a specific analytic technique (the permeability analysis), it is not relevant to the habitat models for the Covered Species. The reader is directed to Master Response 7, Edge Effects, Fuel Modification, and Wildlife Habitat Connectivity, for a discussion of the landscape habitat linkage.

CBI and SC Wildlands (2006) identify conservation objectives and propose a reserve design for Tejon Ranch using the information developed by CBI (2003a) and SC Wildlands (2003), as discussed above.

The habitat suitability modeling used in the TU MSHCP provides more up-to-date and thorough information related to the Covered Lands and other Covered Species than these cited references. Therefore, the TU MSHCP modeling data are the best scientific information available.

6.2.4 Scope of Preconstruction Surveys

A commenter stated that baseline surveys should have been conducted for the Covered Species and that surveys do not constitute mitigation. The commenter also indicated that surveys should not be limited to construction areas and should be used to evaluate the status of the Covered Species, such as the songbirds (i.e., least Bell's vireo, willow flycatcher, yellow warbler, and western yellow-billed cuckoo).

Baseline surveys that would occur in the open space areas under the TU MSHCP are not intended to be mitigation in and of themselves. They are an essential element in ensuring a meaningful adaptive management program, and the TU MSHCP has been revised to clarify this approach. The open space resource baseline surveys and effectiveness monitoring described in Section 7.3.2, Effectiveness Monitoring, of the TU MSHCP provide the link between the biological goals and objectives and the proposed adaptive management strategy. Effectiveness monitoring would be used to assess the biological conditions in the open space system and the effectiveness of the avoidance and minimization measures prescribed in the TU MSHCP, and would provide the information needed to identify and implement adaptive management measures, as appropriate.

Preconstruction surveys are required as mitigation, however, for construction and ground-disturbing activities, such as utility installation in open space areas. In addition to habitat conservation, which is the primary conservation strategy under the TU MSHCP, preconstruction surveys are intended to minimize and mitigate, to the maximum extent practicable, the effects of incidental take.

As described in Section 7.1, Biological Goals and Objectives for Other Covered Species, of the TU MSHCP, preconstruction surveys would be conducted for all of the Covered Species except valley

¹ As defined by SC Wildlands (2003, p. 8), "Landscape permeability analysis is a GIS technique that models the relative cost for species to move between core areas based on how each species is affected by habitat characteristics such as slope, elevation, vegetation, and road density."

elderberry longhorn beetle.² If individuals are detected within or adjacent to development areas, species-specific avoidance and minimization measures would be implemented. For example, any detected salamander, reptile, or mammal Covered Species in disturbance zones would be collected, trapped, or relocated to suitable habitat outside the construction area, and exclusion fencing would be erected to prevent animals from entering the Disturbance Area. Western spadefoot breeding sites would be protected by a 300-foot setback. Preconstruction surveys during the breeding season would be conducted for nesting raptor Covered Species (except bald eagle, which is only a winter visitor), and appropriate setbacks would be established from active nests (Master Response 3, Raptors, for details of avoidance and minimization measures). Preconstruction surveys during the breeding season would also be conducted for breeding birds and, with the exception of purple martin and yellow warbler, active nesting areas would be protected with a 500-foot setback or noise-attenuating measures until young have fledged. If purple martins or yellow warblers are observed breeding in a construction area, construction activities would be avoided during the breeding season. Preconstruction surveys would also be completed for ringtail and coast horned lizard, and a live trapping program for Tehachapi pocket mouse may be completed depending on the existence of essential habitat elements and/or known occurrences.

For plant Covered Species, surveys would include the construction zone and areas within 150 feet of the Disturbance Areas. Detected populations of plant Covered Species would be marked with a protective barrier and construction monitoring would be conducted as deemed appropriate by a Service-approved biologist. In addition, if striped adobe lily or Tehachapi buckwheat is detected, construction activities within 325 feet of populations would be avoided to limit permanent effects on pollinators of the adobe lily and indirect effects on the buckwheat; the Service-approved biologist may reduce the 325-foot setback depending on site conditions.

6.2.5 Burrowing Owl

A commenter stated that preconstruction surveys for burrowing owl should be conducted prior to land-disturbing activities (e.g., grading, tilling, and disking), including activities associated with fire safety, in open space areas within the Covered Lands.

Under the TU MSHCP, preconstruction surveys for burrowing owl would be conducted prior to construction activities associated with commercial and residential development (Objective 4.1 in Section 7.1.1.2.3, Burrowing Owl, of the TU MSHCP). To avoid effects on burrowing owl resulting from fuel management activities, Goal 4 of the TU MSHCP has been modified, as follows, so that Objectives 4.1 through 4.3 would be implemented for fuel modification activities associated with the fire prevention plan (FPP) around development areas:

Goal 4: Impacts to breeding burrowing owls will be avoided and effects that cannot be avoided will be minimized to the extent practicable during construction activities for commercial and residential Covered Activities, and fuel modification activities related to implementing any ground-disturbing fuel modification activities under the FPP.

In addition, the use restrictions and best management practices (BMP) that protect the conservation values of the ranch would apply, pursuant to the Ranchwide Agreement. Such limitations are currently reflected in the Interim Ranchwide Management Plan (RWMP), which includes preconstruction surveys for all sensitive resources prior to ground disturbing activities in open space (Tejon Ranch Company 2009). Subsequent RMWPs and conservation easements must

² Preconstruction surveys would not be completed for valley elderberry longhorn beetle because the Covered Lands are located south of the documented range of this species and no modeled habitat for this species would be permanently lost. Based on the negative survey results in the TMV Planning Area, the probability of this species occurring on the Covered Lands and being affected by Covered Activities is low.

similarly protect conservation values and, pursuant to the ITP, subsequent RWMPs would be subject to the Service's review and approval.

6.2.6 Two-Striped Garter Snake

A commenter stated that two-striped garter snakes were found in certain areas associated with the proposed TMV Project, but that the document is not clear if the whole project site was surveyed for the species.

As described in Section 3.1, Biological Resources, in Volume I of this Supplemental Draft EIS, surveys for the two-striped garter snake were conducted as part of directed searches for aquatic reptiles and amphibians in all suitable habitat in the entire TMV Planning Area, including riparian scrub, riparian woodland, riparian wetland, wetland areas, and washes. Two-striped garter snake was observed in the southwestern and central portions of the TMV Planning Area east of Rising Canyon, in Dry Field Canyon, and in Bear Trap Canyon. The species has also been observed in oak savannah and chaparral habitats near water sources (Dudek 2007b, Tejon Ranch Company 2007).

The effects analysis for this species in this Supplemental Draft EIS primarily relies on the habitat suitability model and not on observed occurrences. Two-striped garter snake is expected to occur throughout modeled habitat within Covered Lands with distributions similar to those found within the TMV Planning Area. Habitat was modeled for all of the Covered Lands (Appendix D, Habitat Suitability Criteria Methods, of this Supplemental Draft EIS). It is unlikely, however, that all modeled habitat would be saturated because some modeled habitat may not contain the microhabitat used by this species, including rocky or sandy beds with willows or dense vegetation. Therefore, not all modeled habitat is expected to be occupied by this species. As discussed in Master Response 5, Habitat Suitability Model, the habitat modeling approach for completing the effects analysis was designed with the goal of including the vast majority of potentially occupied habitat.

6.2.7 Fort Tejon Woolly Sunflower, Round-Leaved Filaree, Striped Adobe Lily, Tehachapi Buckwheat, and Tejon Poppy

A commenter indicated that the comprehensiveness of the surveys for Fort Tejon woolly sunflower, round-leaved filaree, striped adobe lily, Tehachapi buckwheat, and Tejon poppy is not discussed. The commenter also correctly noted that no striped adobe lily or Tejon poppy plants were observed during botanical surveys. The commenter stated that bulbiferous plants like *Fritillaria* (the genus for striped adobe lily) are challenging to survey for because aboveground plants are not always present if growing conditions are not appropriate (e.g., too little rain).

Appendix D, Habitat Suitability Criteria Methods, and Appendix E, Covered Species Survey Methods, to this Supplemental Draft EIS describe the survey methods and modeling assumptions considered in this EIS and in the TU MSHCP. Focused surveys were conducted for plant Covered Species in 2007 in the entire TMV Planning Area (Dudek 2007a); focused surveys for these and other special-status plants were not conducted in the remainder of the Covered Lands. As noted above, previous surveys conducted by Vollmar Consulting (2004) and Jones & Stokes (2006) were incorporated into the database for special-status plants that were used for the effects analysis in this Supplemental Draft EIS. As noted in Section 2.6, Sampling Methods, of Appendix E, Covered Species Survey Methods, to this Supplemental Draft EIS, field survey methods conformed to CNPS botanical survey guidelines (California Native Plant Society 2001) and *Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities* (California Department of Fish and Game 2000). In particular, prior to field surveys in the TMV Planning Area, reference populations were surveyed for all potentially occurring federally or state-listed species, including

striped adobe lily, and many of the CNPS List 1B species that could occur on the Covered Lands and that were at peak phenology. Striped adobe lily was observed at a reference location just prior to the TMV Planning Area surveys, so environmental conditions in 2007 were appropriate for the above-ground growth of this species. The Tejon poppy was not observed at reference locations surveyed by Dudek, but was observed at another reference site by Jones & Stokes prior to the TMV Planning Area surveys (B. Schafer pers. comm. 2007). The first of two survey passes was conducted from mid-April through May, which covers the flowering period for the striped adobe lily and Tejon poppy. On average, coverage rates varied from 50 to 75 acres per botanist per day. Coverage rates varied depending on presence of special-status species, topography, and suitability of habitat being surveyed. Meandering transects were walked, and transect paths were recorded on field maps.