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FINAL REPORT

ECONOMIC ANALYSIS OF CRITICAL HABITAT DESIGNATION FOR THE KECK'S CHECKERMALLOW

Prepared for:

Division of Economics
U.S. Fish and Wildlife Service

Prepared by:

Economic & Planning Systems, Inc.

Under subcontract to:
Industrial Economics, Incorporated
2067 Massachusetts Avenue
Cambridge, MA 02140

September 25, 2002

EPS #12414

BERKELEY
2501 Ninth Street, Suite 200
Berkeley, CA 94710-2515
Phone: 510-841-9190
Fax: 510-841-9190

SACRAMENTO
Phone: 916-649-8010
Fax: 916-649-2070

DENVER
Phone: 303-623-3557
Fax: 303-623-9049

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PREFACE

The U.S. Fish and Wildlife Service has added this preface to all economic analyses of critical habitat designations:

"The standard best practice in economic analysis is applying an approach that measures costs, benefits, and other impacts arising from a regulatory action against a baseline scenario of the world without the regulation. Guidelines on economic analysis, developed in accordance with the recommendations set forth in Executive Order 12866 ("Regulatory Planning and Review"), for both the Office of Management and Budget and the Department of the Interior, note the appropriateness of the approach:

> *'The baseline is the state of the world that would exist without the proposed action. All costs and benefits that are included in the analysis should be incremental with respect to this baseline.'*

"When viewed in this way the economic impacts of critical habitat designation involve evaluating the 'without critical habitat' baseline versus the 'with critical habitat' scenario. Impacts of a designation equal the difference, or the increment, between these two scenarios. Measured differences between the baseline and the scenario in which critical habitat is designated may include (but are not limited to) changes in land use, environmental quality, property values, or time and effort expended on consultations and other activities by federal landowners, federal action agencies, and in some instances, State and local governments and/or private third parties. Incremental changes may be either positive (benefits) or negative (costs).

"In New Mexico Cattle Growers Ass'n v. U.S.F.W.S., 248 F.3d 1277 (10th Cir. 2001), however, the 10th Circuit recently held that the baseline approach to economic analysis of critical habitat designations that was used by the Service for the southwestern willow flycatcher designation was 'not in accord with the language or intent of the ESA.' In particular, the court was concerned that the Service had failed to analyze any economic impact that would result from the designation, because it took the position in the economic analysis that there was no economic impact from critical habitat that was incremental to, rather than merely co-extensive with, the economic impact of listing the species. The Service had therefore assigned all of the possible impacts of designation to the listing of the species, without acknowledging any uncertainty in this conclusion or considering such potential impacts as transaction costs, reinitiations, or indirect costs. The court rejected the baseline approach incorporated in that designation, concluding that, by obviating the need to perform any analysis of economic impacts, such an approach rendered the economic analysis requirement meaningless: 'The statutory language is plain in requiring some kind of consideration of economic impact in the CHD phase.'

"In this analysis, the Service addresses the 10th Circuit's concern that we give meaning to the ESA's requirement of considering the economic impacts of designation by acknowledging the uncertainty of assigning certain post-designation economic impacts (particularly section 7 consultations) as having resulted from either the listing or the designation. The Service believes that for many species the designation of critical habitat has a relatively small economic impact, particularly in areas where consultations have been ongoing with respect to the species. This is because the majority of the consultations and associated project modifications, if any, already consider habitat impacts and as a result, the process is not likely to change due to the designation of critical habitat. Nevertheless, we recognize that the nationwide history of consultations on critical habitat is not broad, and, in any particular case, there may be considerable uncertainty whether an impact is due to the critical habitat designation or the listing alone. We also understand that the public wants to know more about the kinds of costs consultations impose and frequently believe that designation could require additional project modifications.

"Therefore, this analysis incorporates two baselines. One addresses the impacts of critical habitat designation that may be 'attributable co-extensively' to the listing of the species. Because of the potential uncertainty about the benefits and economic costs resulting from critical habitat designations, we believe it is reasonable to estimate the upper bounds of the cost of project modifications based on the benefits and economic costs of project modifications that would be required due to consultation under the jeopardy standard. It is important to note that the inclusion of impacts attributable co-extensively to the listing does not convert the economic analysis into a tool to be considered in the context of a listing decision. As the court reaffirmed in the southwestern willow flycatcher decision, 'the ESA clearly bars economic considerations from having a seat at the table when the listing determination is being made.'

"The other baseline, the lower boundary baseline, will be a more traditional rulemaking baseline. It will attempt to provide the Service's best analysis of which of the effects of future consultations actually result from the regulatory action under review - i.e. the critical habitat designation. These costs will in most cases be the costs of additional consultations, reinitiated consultations, and additional project modifications that would not have been required under the jeopardy standard alone as well as costs resulting from uncertainty and perceptional impacts on markets."

DATED: March 20, 2002

INTRODUCTION & BACKGROUND

1. On June 19, 2002, the U.S. Fish and Wildlife Service (the Service) proposed designating critical habitat for the Keck's checkermallow (*Sidalcea keckii*) on 1,085 acres of land in Fresno and Tulare counties, California. The purpose of this Report is to identify and analyze the potential economic effects that would result from this designation. This report was prepared by Economic & Planning Systems, Incorporated (EPS), under subcontract to Industrial Economics, Incorporated (IEc), under contract to the Service's Division of Economics.

2. Section 4(b)(2) of the Endangered Species Act (the Act) requires that the Service base the designation of critical habitat upon the best scientific and commercial data available, after taking into consideration the economic impact, and any other relevant impact, of specifying any particular area as critical habitat. The Service may exclude areas from critical habitat designation when the benefits of exclusion outweigh the benefits of including the areas as critical habitat, provided the exclusion will not result in extinction of the species.

3. Under the listing of a species, section 7(a)(2) of the Act requires Federal agencies to consult with the Service in order to ensure that activities they fund, authorize, permit, or carry out are not likely to jeopardize the continued existence of the species. The Service defines jeopardy as any action that would appreciably reduce the likelihood of both the survival and recovery of the species. For designated critical habitat, section 7(a)(2) also requires Federal agencies to consult with the Service to ensure that activities they fund, authorize, permit, or carry out do not result in destruction or adverse modification of critical habitat. Adverse modification of critical habitat is currently construed as as any direct or indirect alteration that appreciably diminishes the value of critical habitat for conservation of a listed species.

DESCRIPTION OF SPECIES AND HABITAT

4. The Keck's checkermallow is an annual herb of the Mallow family (Malvaceae).[1] Plants range in height from 6 to 14 inches tall, with slender, erect stems that are hairy along their entire length. The plant flowers in April and early May, producing five petalled flowers that are either solid pink or pink with a maroon center. Keck's checkermallow may be distinguished from other checkermallows by the maroon lines on its sepals, by its much shorter bracts, and by stems that are hairy along their entire length.

5. The Service published a final rule listing the Keck's checkermallow as an endangered species on February 16, 2000 (65 FR 7757). The Keck's checkermallow is not listed under the California Endangered Species Act.

[1] Information on the Keck's checkermallow and its habitat comes from the *Proposed Designation of Critical Habitat for the Keck's checkermallow*, June 19, 2002 (67 *FR* 41669).

6. The Keck's checkermallow is endemic to California and grows in relatively open areas on grassy slopes of the Sierra foothills in Fresno and Tulare counties. Based on field surveys and research, the Service has identified physical and biological habitat features, referred to as primary constituent elements that are essential for the survival and recovery of the Keck's checkermallow. Primary constituent elements for the Keck's checkermallow include the following:

    1. Minimally shaded annual grasslands in the Sierra foothills containing open patches in which competing vegetation is relatively sparse; and

    2. Serpentine soils, or other soils which tend to restrict competing vegetation.

PROPOSED CRITICAL HABITAT

7. The Service has proposed the following three units of critical habitat for the Keck's checkermallow on approximately 1,085 acres of land in Fresno and Tulare counties:

- **Unit 1 (Piedra Unit) —** Located in Fresno County near the town of Piedra, this unit comprises 503 acres of private land and 7 acres of Federal land managed by the Bureau of Reclamation. Of the privately-owned land, 189 acres are in a preserve owned by the Sierra Foothill Conservancy (SFC) for the conservation of the Keck's checkermallow and other rare plants. An additional 16 acres are in a conservation easement held by the SFC on privately owned land adjacent to the preserve. Surveys in 1998 and 2000 found between 500 and 1,000 plants in eight separate patches in Unit 1.

- **Unit 2 (Mine Hill Unit) —** Located in Tulare County, approximately three miles east of Porterville, this unit contains 213 acres of privately owned land. A 1992 survey identified approximately 60 plants in one patch. At the request of the landowner, it has not been resurveyed since that time.

- **Unit 3 (White River Unit) —** Located near the town of White River in southern Tulare County, this unit consists of 362 acres of private land. This unit contains no known current individuals, but contained the original "type" population, specimens of which were used to first describe the species in 1940.

8. Lands within the boundaries of the proposed critical habitat that are not occupied by the species and do not possess one or more of the primary constituent elements will not be subject to any additional consultations beyond those that would be required under the listing of the Keck's checkermallow.[2]

[2] Ibid.

FRAMEWORK FOR ANALYSIS

9. The focus of this economic analysis is on section 7 of the Act, which requires Federal agencies to ensure that any action authorized, funded, or carried out will not likely jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of critical habitat. Federal agencies are required to consult with the Service whenever they propose an action that may affect a listed species or its designated critical habitat. Aside from the protection that is provided under section 7, the Act does not provide other forms of protection to lands designated as critical habitat. Because consultation under section 7 only applies to activities that are carried out, permitted, or funded by Federal agencies, the designation of critical habitat will not afford any additional protections for species with respect to such strictly private activities.

10. This analysis first identifies land use activities within or in the vicinity of those areas being proposed for critical habitat that are likely to be affected by section 7 of the Act. To do this, the analysis evaluates a "without section 7" scenario and compares it to a "with section 7" scenario. The "without section 7" scenario constitutes the baseline of this analysis. It represents the level of protection that would be afforded the species under the Act if section 7 protective measures were absent. This level of protection would include other Federal, State, and local laws. The "with section 7" scenario identifies land-use activities likely to involve a Federal nexus that may affect the species or its designated critical habitat, which accordingly have the potential to be subject to future consultations under section 7 of the Act.

11. Economic activities identified as likely to be affected under section 7 and the resulting impacts that section 7 can have on such activities constitute the upper-bound estimate of the proposed critical habitat economic analysis. By defining the upper-bound estimate to include both jeopardy and adverse modification impacts, the analysis recognizes the difficulty in sometimes differentiating between the two in evaluating only the critical habitat effects associated with the proposed rulemaking. This step is adopted in order to ensure that any critical habitat impacts that may occur co-extensively with the listing of the species (i.e., jeopardy) are not overlooked in the analysis.

12. Upon identifying section 7 impacts, the analysis proceeds to consider the subset of impacts that can be attributed exclusively to the critical habitat designation. To do this, the analysis adopts a "with and without critical habitat approach." This approach is used to determine those effects found in the upper-bound estimate that may be attributed solely to the proposed designation of critical habitat. Specifically, the "with and without critical habitat" approach considers section 7 impacts that will likely be associated with the implementation of the *jeopardy* provision of section 7 and those that will likely be associated with the implementation of the *adverse modification* provision of section 7. In many cases, impacts associated with the jeopardy standard remain unaffected by the designation of critical habitat and thus would not normally be considered an effect of a critical habitat rulemaking. The subset of section 7 impacts likely to be affected solely by the designation of critical habitat represent the lower-bound estimate of this analysis.

13. The critical habitat designation for the Keck's checkermallow encompasses land under private and Federal ownership. For private lands subject to critical habitat designation, section 7 consultations and modifications to land uses and activities can only be required when a Federal nexus, or connection, exists. A Federal nexus arises if the activity or land use of concern involves Federal permits, Federal funding, or another form of Federal involvement. Section 7 consultations are not required for activities on non-Federal lands that do not involve a Federal nexus. In addition to the lands contained within the proposed critical habitat designation, this report will examine adjacent activities sponsored or permitted by Federal agencies that may affect the Keck's checkermallow and/or adversely modify the proposed critical habitat area.

14. This Report estimates impacts of listing and critical habitat designation on activities that are "reasonably foreseeable," including, but not limited to, activities that are currently authorized, permitted, or funded, or for which proposed plans are currently available to the public. Accordingly, the analysis focuses on activities that are likely to occur within a ten-year time horizon.

METHODOLOGICAL APPROACH

15. This Report is based on a sequential methodology and focuses on distilling the salient and relevant aspects of potential economic impacts of designation. The methodology consists of:

- Determining the current and projected economic activity within and around the proposed critical habitat area;
- Considering how current and future activities that take place or will likely take place on the Federal and private land could adversely affect proposed critical habitat;
- Identifying whether such activities taking place on privately-owned property within the proposed critical habitat boundaries are likely to involve a Federal nexus;
- Evaluating the likelihood that identified Federal actions and non-Federal actions having a Federal nexus will require consultations under section 7 of the Act and, in turn, that such consultations will result in modifications to projects;
- Estimating per-unit costs of expected section 7 consultations, project modifications and other economic impacts associated with activities in or adjacent to areas proposed as critical habitat;
- Estimating the upper bound of total costs associated with the area proposed for the designation (including costs that may be attributed co-extensively with the listing of the species) and the lower bound of costs (i.e., costs attributable solely to critical habitat);
- Determining the benefits that may be associated with the designation of critical habitat; and,
- Assessing the extent to which critical habitat designation will create costs for small businesses and/or affect property values as a result of modifications or delays to projects.

INFORMATION SOURCES

16. The methodology outlined above relies on input and information supplied by staff from the Service, Bureau of Reclamation (BOR), U.S. Army Corps of Engineers (ACOE), Federal Energy Regulatory Commission (FERC), Pacific Gas and Electric (PG&E), and Fresno and Tulare County Planning Departments. Comments and information on land uses and the effects of critical habitat designation were not available from private landowners, so this analysis uses information from the sources listed above regarding activities occurring on private land and the likelihood of Federal nexuses being associated with these activities.

LAND USE EFFECTS AND ECONOMIC COSTS

17. The primary land use activity in the three units is grazing. Powerline maintenance is also conducted periodically in Unit 1. The proposed rule identified a number of other activities that could threaten the Keck's checkermallow, including urban development, agricultural land conversion, and the introduction of non-native grasses. It also recognizes that cattle grazing may be an important factor in protecting the plant from encroachment by non-native grasses. Finally, the proposed rule identified additional activities that might destroy or adversely modify critical habitat when carried out, funded, or authorized by a Federal Agency, including: clearing, tilling, grading, construction, road building, and mining; herbicide application, heavy off-road vehicle use, introductions of non-native herbivores, and significant unmanaged increases in grazing when the plant is producing seeds or flowering; fertilizer application and unmanaged decreases in grazing regimes; and activities that may significantly damage or destroy pollinator populations.

18. With the exception of stigma effects (discussed below), section 7 and critical habitat designation will only result in consultation and project modification costs when an activity is both reasonably foreseeable (expected to occur in the next ten years) and has a Federal nexus (the land use activity is carried out, authorized, or funded by a Federal agency). As a result, this section is organized by the type of Federal nexus that might occur. Each section identifies the type of Federal nexus to be examined and determines whether any relevant activities with a Federal nexus are reasonably foreseeable, and thus whether a consultation would be likely to occur. Finally, economic costs are estimated using the consultation cost model for all activities that are expected to require future section 7 consultations. No project modifications or associated costs are expected.

19. Activities listed in the proposed rule with no potential Federal nexus (e.g., herbicide/fertilizer application; heavy off-road vehicle use; private activities without a Federal nexus) were not evaluated. The final section addresses stigma effects, which are the only category of potential impacts that can occur absent a Federal nexus.

CONSULTATION COST MODEL

20. Estimates of the cost of an individual consultation were developed from a review and analysis of historical section 7 files from a number of Service field offices around the country. These files addressed consultations conducted for both listings and critical habitat designations.

Cost figures were based on an average level of effort for consultations of low, medium, or high complexity, multiplied by the appropriate labor rates for staff from the Service and other Federal agencies. Estimates take into consideration the level of effort of the Service, the Action agency, and the applicant during both formal and informal consultations, as well as the varying complexity of consultations. Informal consultations are assumed to involve a low to medium level of complexity. Formal consultations are assumed to involve a medium to high level of complexity. The cost of a formal consultation includes the cost of the informal consultation that likely began the section 7 consultation process.

21. Section 7 consultation costs include the administrative costs associated with conducting the consultation, such as the cost of time spent in meetings, preparing letters, and in some cases, developing a biological assessment and biological opinion. The costs of reinitiating a consultation are assumed to be similar to conducting the original consultation, because the re-initiation generally involves time spent in meetings and preparing letters. This analysis assumes that the economic impact associated with a non-substantive reinitiation is similar to the cost of an informal consultation and the economic impact associated with a substantive re-initiation is similar to the cost of a formal consultation. The cost of internal consultation, where the Service is the Action agency, depends on the activity under consideration and may be similar to the costs of either informal or formal consultations.

22. Estimated administrative costs associated with section 7 consultations and reinitiations are presented in **Exhibit 1** (these are per effort estimates). The low and the high scenarios represent a reasonable range of costs for each type of interaction. For example, when the Service participates in an informal consultation with a third party regarding a particular activity, the cost of the Service's effort is expected to be approximately $1,000 to $3,100. The cost of the third party's effort is expected to be approximately $1,200 to $2,900. A description of the number of anticipated consultations by project and resulting consultation costs is shown in **Exhibit 2**.

23. Project modifications may be agreed upon during both informal and formal consultations. However, as described for each relevant activity in the main report text, no project modification costs are anticipated to be required.

Exhibit 1

ESTIMATED ADMINISTRATIVE COSTS OF CONSULTATION AND TECHNICAL ASSISTANCE EFFORTS FOR THE KECK'S CHECKERMALLOW (PER EFFORT)

Critical Habitat Impact	Scenario	Service	Action Agency	Third Party	Biological Assessment[a]
Informal Consultation	Low	$1,000	$1,300	$1,200	$0
	High	$3,100	$3,900	$2,900	$4,000
Formal Consultation	Low	$3,100	$3,900	$2,900	$4,000
	High	$6,100	$6,500	$4,100	$5,600

[a] A third party bears the cost of a biological assessment. When no third party is involved, the Action agency bears the cost.

Notes: Low and high estimates primarily reflect variations in staff wages and time involvement by staff. Technical assistance also has educational benefits to the landowner or manager and to the Service.

Sources: IEc analysis based on data from the Federal Government General Schedule Rates, Office of Personnel Management, 2002, a review of consultation records from several Service field offices across the country, and communications with Biologists in the Service.

Exhibit 2
SUMMARY OF ACTIVITIES AND LAND USES IMPACTED BY THE DESIGNATION OF CRITICAL HABITAT FOR THE KECK'S CHECKERMALLOW

Potentially Affected Party	Reasonably Foreseeable Activities and Land Uses within Proposed Critical Habitat	Number of Future Consultations		Total Estimated Section 7 Costs			Estimated Costs Due Solely to Critical Habitat Designation	
				Administrative Consultation Cost[a]		Project Modification Costs		
		Informal	Formal	Low	High		Low	High
Bureau of Land Management	Regulation of oil pipeline operation and maintenance	0	1	$3,900	$6,500	$0	$3,900	$6,500
Bureau of Reclamation	Federal funding of private land acquisition	5	0	$6,500	$19,500	$0	$0	$0
U.S. Fish & Wildlife Service	Regulation of oil pipeline operation and maintenance	0	1	$3,100	$6,100	$0	$3,100	$6,100
	Federal funding of private land acquisition	5	0	$5,000	$15,500	$0	$0	$0
	Habitat Conservation Plan compliance	1	0	$1,000	$3,100	$0	$0	$0
TOTAL				**$19,500**	**$50,700**	**$0**	**$7,000**	**$12,600**

[a]Action agency consultation costs include costs borne by the U.S. Fish and Wildlife Service. Totals are rounded.

Source: EPS analysis based on conversations with personnel from the U.S. Fish & Wildlife Service, Bureau of Land Management, Bureau of Reclamation, and Sierra Foothills Conservancy, June through September 2002.

FEDERAL WATER MANAGEMENT

No activities related to federally controlled water will result in new land use activities in the proposed critical habitat area.

24. This analysis investigated the possibility that federally managed water projects might provide water for agricultural intensification and/or rural residential development within the proposed critical habitat area. Federally managed water in the vicinity of the critical habitat area is stored within two reservoirs that the ACOE manages for flood control purposes. Pine Flat Dam regulates the flow of the King's River east of Fresno and of Unit 1, while Success dam regulates the flow of the Tule River east of Porterville and north of Units 2 and 3.

25. While these dams are associated with ACOE flood control, when released, the water is sold and distributed to local water districts under long-term water contracts between the local water districts and the BOR and ACOE. Because the water is used to support agriculture and development, the BOR is the lead agency in establishing and overseeing the contracts. The ACOE simply releases water at the request of the water districts at levels determined by the contracts, subject to flood control requirements. All water governed by these contracts is sold and delivered within the boundaries of the local water districts. Water for any developments outside the water district boundaries must be obtained either from ground water wells or by rights to surface water that pre-date the construction of the Federal water projects, neither of which involves a Federal nexus.

26. None of the proposed critical habitat units resides within an existing local water district boundary. Furthermore, BOR personnel indicate that no proposals to expand any of the local districts have been submitted that would include any of the proposed critical habitat units.[3] Therefore, it is not reasonably foreseeable that developments within any of the proposed critical habitat units will receive federally managed water, so no Federal nexus exists with respect to water management. As a result, no section 7 consultations are expected.

FEDERAL OIL PIPELINE MANAGEMENT

The BLM will reinitiate one programmatic section 7 consultation regarding authorization of oil pipeline operation, maintenance and construction by the Southern California Gas Company.

27. The BLM requested formal consultation with the Service in August 1996 regarding its proposed authorization for Southern California Gas Company (SCGC) to conduct operations and maintenance on 1,400 miles of existing pipelines, and to construct new facilities within SCGC's Northern Service Territory, in Fresno, Kings, Tulare, and Kern counties. Following formal consultation, the Service issued a programmatic/conference biological opinion in January 1998, which included a programmatic incidental take permit for certain types and classes of activity. The Keck's checkermallow was proposed for listing at the time of the consultation, and was specifically addressed in the biological opinion; though as a plant species, no incidental take was authorized for the species.

[3] Personal communication with Bureau of Reclamation staff, Fresno, California, July 3, 2002.

28. The biological opinion recognizes only one known population of the Keck's checkermallow, corresponding to proposed critical habitat Unit 2 (Mine Hill Unit). Unit 2 is the only proposed critical habitat unit within the SCGC's Northern Service Territory. The biological opinion identifies no SCGC facilities that overlap with the known population or associated habitat, though new construction outside existing rights of way could potentially overlap with these areas in the future. Because all known Keck's checkermallow occurrences were thought to occur within the boundaries of the Northern Service Territory, the biological opinion expressly prohibits disturbance of any occupied habitat.

29. This analysis assumes that the BLM will reinitiate a formal section 7 consultation to update the opinion following the designation of critical habitat. Because no pipelines or rights of way are currently located within Unit 1, this reinitiation is expected to be administrative in nature, and no project modifications are expected to be required. Furthermore, the probability that any future section 7 consultations might be required due to the construction of new pipelines in the next 10 years within Unit 2 is considered extremely low based on the size of Unit 2 relative to the total size of the Northern Service Territory. The total administrative cost of the reinitiated programmatic consultation is estimated to range from $7,000 to $12,600, which will be borne by the BLM and the Service. As shown in **Exhibit 2**, the cost to the BLM ranges from $3,900 to $6,500 and to the Service from $3,100 to $6,100. These costs are attributable solely to critical habitat designation because the consultation would be reinitiated based on new information provided by the designation.

FEDERAL ELECTRICITY MANAGEMENT

Although operations and maintenance activities will occur on powerlines in Unit 1, no Federal nexus is present because no Federal re-licensing or new ownership transfer proposals are expected to occur in the next ten years.

30. Two power lines transect proposed critical habitat Unit 1. These powerlines are both owned by PG&E and are currently operating under licenses from FERC as federally regulated transmission lines. They include the 230 kilovolt (KV) Bulch-McCall line and the 115 KV Bulch-Sanger line. The FERC license includes the requirement that PG&E perform routine maintenance activities on the lines and towers (e.g., washing each insulator annually), and perform any necessary emergency repairs to ensure continued power delivery.

31. The lines must be re-licensed by FERC periodically. The process of re-licensing is a Federal agency act of authorization and constitutes a Federal nexus with respect to section 7. Other Federal actions, such as shifts in jurisdiction over powerlines from FERC to other entities, may also represent Federal nexuses with respect to section 7 under certain circumstances.

32. The two lines traversing the Critical Habitat have both recently been re-licensed and will not require renewed licenses within the next ten years. The Bulch-Sanger line was re-licensed in 1984 (FERC license number 175), prior to both the listing and the proposed critical habitat designation for the Keck's checkermallow. It is not due for re-licensing until 2026. The Bulch-McCall line was re-licensed in 2001 (FERC license number 1988), after the listing of the species but prior to the proposed critical habitat designation. It is not due for re-licensing until 2041.

33. In May 2000, FERC participated in a section 7 consultation when it relicensed the Bulch-McCall line. Although that consultation addressed the potential for adverse biological effects to a number of threatened/endangered species (the bald eagle, red-legged frog, valley elderberry longhorn beetle, and orange lupine, for example), it did not address potential effects to the Keck's checkermallow despite its

listing. According to FERC personnel, in April 2000 the Service indicated that the Biological Assessment (BA) prepared as part of that section 7 consultation contained adequate information for the Service to prepare a Biological Opinion, even though it did not consider the Keck's checkermallow. A Biological Opinion was never issued by the Service and the powerline was relicensed in March 2001.

34. In April 1998, PG&E submitted a request to FERC for an amendment to remove the Bulch-McCall line from FERC jurisdiction because it no longer qualified as a primary transmission line.[4] In an Order dated December 22, 1998, FERC granted the requested license amendment pending PG&E's receipt of requisite authorization from the BLM and the U.S. Forest Service (USFS) – the Federal agencies that will retain oversight of the line where it traverses their land. In that same Order, FERC also concluded that the deletion of the line from the FERC license was "administrative or ministerial in nature," and was thus categorically excluded from environmental review under NEPA because "no construction or change in land use is either proposed or known to [FERC] to be contemplated for the land affected."[5] According to FERC personnel, FERC published public notice of this Order and solicited comment from the relevant resource agencies, including the Service. Based on input from those processes, and the solely administrative nature of FERC's license amendment, FERC concluded that no section 7 consultation would be required, and does not anticipate any additional administrative action on this project.[6]

35. The ultimate transfer of jurisdiction is still pending final approval by the BLM and USFS, both of which are currently engaged in section 7 consultation with the Service due to the presence of other listed species. Because none of the Federal lands traversed by the powerline in question have been proposed for critical habitat designation, no Federal nexus is present with respect to the Keck's checkermallow.[7] Finally, the other powerline in the proposed critical habitat area, the Bulch-Sanger line, is not anticipated to be removed from FERC jurisdiction as it continues to qualify as a primary transmission line.

PRIVATE LAND DEVELOPMENT/ AGRICULTURAL INTENSIFICATION-RELATED FEDERAL NEXUS

Access, topography, soils, and market forces limit the number of private land development activities taking place in all units. No rural residential development or agricultural intensification is foreseeable in the next ten years, and no Federal nexuses would be present were these activities to occur.

[4] According to FERC regulations, FERC regulates "primary lines" from the point of generation to the "point of junction with the distribution system," but does not regulate the distribution lines that transmit power 'downstream' from that junction (16 U.S.C. 796 & 797). PG&E argued that the identified lines no longer qualified as primary lines because they "carry flows from other electric generating sources when their licensed generating units are down," meaning they are by definition located 'downstream' from the junction with the distribution system (PG&E application letter, April 3, 1998).

[5] Order Granting License Amendments, December 22, 1998 (FERC Issuance: 19981223-0361-3).

[6] Personal communication with Branch Chief and Project Engineer, Federal Energy Regulatory Commission, September 18, 2002.

[7] While none of the areas proposed as critical habitat that are also traversed by the powerline are federally owned or managed, BLM personnel familiar with the ongoing section 7 consultation indicate that the Service is requesting that the BLM and USFS retain jurisdiction of all powerline rights of way formerly managed by FERC, including those on private land. To date this issue remains unresolved, though BLM personnel affirm that their agency is unwilling to accept regulatory responsibility for rights of way on private land.

36. Field inspection, along with conversations with the Service and local planning agencies, reveal that, on the whole, little activity other than grazing takes place on the private land proposed as critical habitat for the Keck's checkermallow. Personnel from the Fresno and Tulare County Planning Departments report that the private lands within the boundaries of the proposed critical habitat are zoned as Agricultural and Rural Residential, and that no applications have been received to date for any projects within these areas.[8]

37. Although these zoning designations mean that, in the future, areas of private land within the proposed critical habitat could potentially experience agricultural uses more intensive than cattle grazing or have new private residences built, it is unlikely that critical habitat designation will result in any new consultations for activities on private land. Typically, a Federal nexus does not exist for agricultural intensification or residential home development on private land, so it is expected that no new consultations will be required for this activity. It is possible that a Federal nexus could exist through ACOE section 404 permitting required for activities in wetlands. Generally, however, 404 permits are not required for agricultural intensification, and wetlands are not known to occur in the proposed critical habitat area, so it is unlikely that such a nexus would occur.

FEDERALLY FUNDED PRIVATE LAND ACQUISITION

The BOR will initiate five informal section 7 consultations regarding future land acquisitions by the Sierra Foothills Conservancy using Central Valley Project Conservation Program funds.

38. As mentioned earlier, the SFC owns 189 acres, and holds a conservation easement on an additional 16 acres, within the proposed critical habitat Unit 1. The SFC manages these lands as a preserve for the conservation of the Keck's checkermallow and other rare plant species. The SFC is actively involved in the identification of additional nearby parcels for future acquisition and expansion of their preserve.

39. Historically, SFC has used a combination of private and Federal funding sources to purchase land and conservation easements. The most significant source of Federal funds is the Central Valley Project Conservation Program (CVPCP), administered by the BOR and funded by Congressional appropriations to the BOR. The CVPCP is administered as a competitive grant process, and is intended as a proactive environmental management approach to be implemented alongside the ongoing Central Valley Project. According to SFC personnel, approximately 90 percent of the funding for acquired preserve land containing Keck's checkermallow individuals or habitat came from the CVPCP fund. Since the listing of the species, the BOR has initiated an informal section 7 consultation with the Service each of the four times it awarded CVPCP funds to the SFC for land acquisition in the vicinity of known Keck's checkermallow locations, even when the parcel was not known to be occupied by the species. Because preserve land acquisition is beneficial to the species, the extent of each consultation was typically limited to one letter of notification by the BOR followed by a letter of concurrence from the Service.

40. The SFC expects that it will identify and acquire future parcels and easements in Keck's checkermallow habitat using CVPCP funds. Although funds are awarded on a competitive basis, the BOR also expects that future funds will be allocated to the SFC based on the quality of their previous applications. Based on the frequency of past applications, the BOR estimates that approximately five CVPCP grants will be awarded to the SFC in the next 10 years, resulting in five informal section 7 consultations. The total administrative cost of these consultations would be borne by the BOR and the Service, and is estimated to range from $11,500

[8] Personal communication with Associate Planner, Fresno County Planning Department, on July 11, 2002, and Planner, Tulare County Planning Department on May 14, 2002.

to $35,000. As shown in **Exhibit 2**, the cost to the BOR ranges from $6,500 to $19,500 and to the Service from $5,000 to $15,500. It should be noted that these estimates are based on costs of a standard informal consultation as described in the cost model, which are more likely to overestimate than underestimate the actual consultation costs of less complex informal consultations such as those predicted by the BOR. These costs would be attributable co-extensively to the listing because the BOR was already consulting for the acquisition of parcels not known to be occupied by the species.

CRITICAL HABITAT DESIGNATION AND HABITAT CONSERVATION PLANS (HCPS)

One internal section 7 consultation will be required within the Service to ensure compatibility of PG&E's San Joaquin Valley Habitat Conservation Plan with the proposed critical habitat designation.

41. Under section 10 of the Act, incidental take permits are required when non-Federal activities will result in "take" of threatened or endangered species. A Habitat Conservation Plan (HCP) must accompany each incidental take permit application.[9] The purpose of the habitat conservation planning process is to ensure that the effects of incidental take are adequately minimized and mitigated. As such, HCPs are generally developed to meet the requirements of section 10 of the Act, and thus the costs associated with HCPs are generally distinct from those associated with a designation. However, because the HCP process includes the issuance of a Federal permit (i.e., the incidental take permit), the Service is required to conduct an intra-agency (i.e., internal) section 7 consultation as part of the process. The administrative costs associated with such an internal section 7 consultation should be included in the economic analysis. In addition, as a result of the designation of critical habitat, additional project modifications may be recommended by the Service and incorporated into the HCP in order to avoid adversely modifying critical habitat, the costs of these project modifications should also be included.

42. According to the Service's Sacramento Office, the area proposed as critical habitat for the Keck's checkermallow may overlap with two Habitat Conservation Plans (HCPs) currently under development. One HCP, for PG&E Operations and Maintenance of the San Joaquin Valley Transmission Line, was initiated in 1996 and is under active development. Service personnel indicate that this HCP will include over 9 million acres in the San Joaquin Valley, and that preliminary drafts have specifically addressed the Keck's checkermallow, both before and after its listing. The second potential HCP, the Tulare County Multi-Species HCP, may involve some agricultural land in the vicinity of proposed critical habitat Unit 2. This HCP, however, is not currently under active development.

[9] Section 10(a)(2)(B) of the Act requires that for the issuance of an incidental take permit, the HCP must assure that "the taking will not appreciably reduce the likelihood of survival and recovery of the species in the wild." According to the Service's *Habitat Conservation Planning and Incidental Take Permit Processing Handbook*, "the wording of this criterion is identical to the "jeopardy" definition under the section 7 regulations (50 CFR Part 402.02)...Congress was explicit about this link, stating in the Conference Report on the 1982 ESA amendments that the Services will determine whether or not to grant a permit, 'in part, by using the same standard as found in section 7(a)(2) of the ESA, as defined by the [Services'] regulations.'" (U.S. Department of the Interior and U.S. Department of Commerce, *Habitat Conservation Planning and Incidental Take Permit Processing Handbook*, November 4, 1996. As a result, during the HCP process, actions undertaken to meet the jeopardy provision of section 7 are also required under section 10 of the Act and are therefore considered to be part of the baseline of this economic analysis.

43. As mentioned above, the Service is required to initiate an internal section 7 consultation when an HCP overlaps with critical habitat. This analysis assumes that only the PG&E HCP is reasonably forseeable, and therefore estimates that one future informal consultation will be required. As shown in **Exhibit 2**, the estimated administrative costs of this consultation range from $1,000 to $3,100. These costs will be borne solely by the Service and are attributable co-extensively to the listing because the Service's section 10 branch would have had to engage the section 7 branch due to the presence of the listed species within proposed HCP boundaries.

44. Furthermore, it is not anticipated that the proposed critical habitat designation for the Keck's checkermallow will result in any additional or more stringent mitigation measures under the HCP than would have originally been developed prior to the listing and/or designation. Unit 1 is the only proposed critical habitat unit in which PG&E transmission lines are present. Based on conversations with PG&E maintenance personnel, future operation and maintenance activities on these lines may include periodic washing of insulators at each tower, and repairs as need to damaged or malfunctioning lines.[10] Both of these activities would require access to the transmission towers by maintenance trucks, and may require the use of pressure washers and/or line-hauling equipment. Because the areas underneath and surrounding all transmission towers within Unit 1 are known to be occupied by the Keck's checkermallow, it is expected that section 10 requirements that limit takings to those that will not appreciably reduce the likelihood of survival and recovery of the species will impose limitations to such activities that also prevent jeopardy and/or adverse modification. It is therefore not anticipated that any additional mitigation measures will be required in the context of internal section 7 consultation.

FEDERAL LAND MANAGEMENT

No land use activities that may jeopardize the species or adversely modify critical habitat are foreseeable on federally owned land.

45. Seven acres in Unit 1 are owned and managed by the BOR, while all other land in the proposed critical habitat area is privately owned. These seven acres were owned by the BLM, but ownership was withdrawn to the BOR in the 1950s to develop a quarry for construction of the Success Dam on the Tule River in Tulare County. Although the quarry is no longer in operation, the BOR retains land ownership. Currently, cattle grazing is the only activity that takes place on these seven acres. Cattle grazing is expected to continue at current levels following the designation of critical habitat, due in part to the beneficial nature of grazing in culling vegetation that might otherwise compete with the Keck's checkermallow. As a result, no section 7 consultation is expected.

COUNTY ROAD MAINTENANCE-RELATED FEDERAL NEXUS

No County road construction activities are foreseeable in the next ten years in the proposed critical habitat area, and no Federal funding is available for potential county road improvements.

46. Fresno County owns and maintains Elwood Road, which forms the northern boundary of critical habitat Unit 1. The road also forms the southern boundary of the abandoned BOR quarry, which may have destabilized sections of the road near Unit 1, and may ultimately require road maintenance or repairs. This

[10] Personal communication with Senior Land Project Specialist, Pacific Gas & Electric Company, July 16, 2002.

analysis investigated the potential that Fresno County would perform road maintenance activities along Elwood Road in the vicinity of Unit 1 using Federal funds. County staff indicated that the only road maintenance currently planned for Elwood Road is several miles east of the proposed critical habitat area, and that these activities would not use any Federal funds.[11] This analysis therefore concludes that no Federal nexus exists with respect to road maintenance activities.

STIGMA EFFECTS

Stigma effects may result in a reduced land sale value, though the uncertain nature of stigma effects and the minimal number of reasonably foreseeable land transactions in the proposed critical habitat area make significant stigma impacts unlikely.

47. Stigma impacts can derive from uncertainty concerning the scope and impact of critical habitat designation. Stigma associated with the proposed designation may reduce aggregate willingness-to-pay for the land, which, in turn, results in a reduced land value. By definition, stigma effects are associated with *perceived* regulatory or land-value effects as opposed to *actual* regulatory or land-value effects. As such, Federal lands are less likely to be subject to stigma effects than private land. When present, the impacts on private land are generally difficult to quantify. Stigma effects are generally considered to be solely attributable to critical habitat designation.

SUMMARY OF IMPACTS

48. This analysis estimates that there will be seven future section 7 consultations related to the proposed critical habitat designation for the Keck's checkermallow. These seven consultations include one reinitiated programmatic consultation for oil pipeline maintenance, five informal consultations for private land acquisition using BOR funds, and one internal consultation by the Service to insure compliance with an HCP that is currently under development. As summarized in **Exhibit 3**, the administrative cost of these consultations is estimated to range from $19,500 to $50,700. No project modifications are expected to occur as a result of these consultations. As shown in **Exhibit 3**, between $7,000 and $12,600 of the total cost is estimated to be attributable solely to the proposed critical habitat designation, with the remainder attributable co-extensively to the listing. This analysis did not identify any additional reasonably foreseeable activities with a Federal nexus that may jeopardize the species or adversely modify critical habitat.

[11] Personal Communication, East Side Superintendent, Fresno County Road Maintenance Department, June 19, 2002.

Exhibit 3

SUMMARY OF POTENTIAL COSTS BY PROPOSED CRITICAL HABITAT UNIT

Proposed Critical Habitat Unit	Affected Activities and/or Land Uses	Total section 7 Costs[a]		Costs Due Solely to Critical Habitat Designation	
		Low	High	Low	High
Unit 1: Piedra Unit	BOR funding of land acquisition	$5,406	$16,452	$0	$0
	Habitat Conservation Plan compliance	$470	$1,457	$0	$0
Unit 2: Mine Hill Unit	Oil pipeline O&M	$7,000	$12,600	$7,000	$12,600
	BOR funding of land acquisition	$2,258	$6,871	$0	$0
	Habitat Conservation Plan compliance	$196	$609	$0	$0
Unit 3: White River Unit	BOR funding of land acquisition	$3,837	$11,677	$0	$0
	Habitat Conservation Plan compliance	$334	$1,034	$0	$0
TOTAL		$19,500	$50,700	$7,000	$12,600

[a] All projects could potentially occur in any of the three proposed critical habitat units. Costs are rounded and are allocated among units based on the share of total land area proposed for designation within each unit for the purpose of demonstrating a theoretical cost distribution. In reality, the number of assumed consultations, and thus the total cost, would not change if a Federal nexus were not present in one or more of the units (the total cost would simply be reallocated between the remaining units).

Source: EPS analysis based on conversations with personnel from the U.S. Fish & Wildlife Service, Bureau of Land Management, Bureau of Reclamation, and Sierra Foothills Conservancy, June through September 2002.

POTENTIAL IMPACTS TO SMALL BUSINESSES

49. Under the Regulatory Flexibility Act (as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996), whenever a Federal agency is required to publish a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effect of the rule on small entities (i.e., small businesses, small organizations, and small government jurisdictions).[12] However, no regulatory flexibility analysis is required if the head of an agency certifies that the rule will not have a significant economic impact on a substantial number of small entities.[13] SBREFA amended the Regulatory Flexibility Act to require Federal agencies to provide a statement of the factual basis for certifying that a rule will not have a significant economic impact on a substantial number of small entities. Accordingly, the following represents a screening level analysis of the potential effects of critical habitat designation on small entities to assist the Secretary in making this certification.

50. This analysis determines whether critical habitat potentially affects a "substantial number" of small entities in counties supporting critical habitat areas. It also quantifies the probable number of small businesses that experience a "significant effect." While SBREFA does not explicitly define either "substantial number" or "significant effect," the Small Business Administration (SBA) and other Federal agencies have interpreted these terms to represent an impact on 20 percent or more of the small entities in any industry and an effect equal to three percent or more of a business' annual sales.[14]

51. The primary land use activity in the three units is grazing. PG&E also maintains two powerlines in Unit 1. The SCGC operates and maintains oil pipelines within the boundaries of its Northern Service Territory, which include Unit 3, though no pipelines are known to occur within the proposed unit. The SFC continues to pursue land acquisition opportunities in the vicinity of the proposed critical habitat areas, particularly Unit 1. The proposed rule identified a number of additional activities that could threaten the Keck's checkermallow, including urban development, agricultural land conversion, and the introduction of non-native grasses. The
proposed rule also identified additional activities that might destroy or adversely modify critical habitat when carried out, funded, or authorized by a Federal Agency, including: clearing, tilling, grading, construction, road building, mining, herbicide application, heavy off-road vehicle use, introductions of non-native herbivores, significant unmanaged increases in grazing when plant is producing seeds or flowering, and pesticide applications. Finally,

52. This analysis identified three categories of activity that will potentially require section 7 consultation with the Service in the next 10 years. The BLM will likely be required to reinitiate a programmatic consultation regarding oil pipeline operation and maintenance by the SCGC; the BOR will likely initiate five informal consultations regarding funds provided to the SFC to acquire land and/or conservation easements; and the Service will likely be required to initiate an internal consultation to insure that an HCP currently under development will comply with the proposed designation. The costs associated with these consultations will be borne solely by the Service and the Federal agencies initiating consultation; no project modifications are expected, and no third parties are anticipated to bear any costs.

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[12] 5 U.S.C. 601 et. seq.

[13] Thus, for a regulatory flexibility analysis to be required, impacts must exceed a threshold for "significant impact" **and** a threshold for a "substantial number of small entities." See 5 U.S.C. 605 (b).

[14] See U.S. Small Business Administration, The Regulatory Flexibility Act: An Implementation Guide for Federal Agencies, 1998, accessed at http://www.sba.gov/advo/laws/ rfaguide.pdf on December 3, 2001.

53. None of the remaining activities are foreseeable, have a Federal nexus, and are harmful to the plant or its habitat. Grazing, the only use on federally-owned land, is considered beneficial to the survival of the species. No actions are foreseeable by FERC concerning power lines over the next ten years; urban development and agricultural land conversion are not foreseeable, and if they do occur will happen on private land without a Federal nexus. Further, there are no plans for Federal involvement in any clearing, tilling, grading, construction, road building, mining, herbicide application, heavy off-road vehicle use, introductions of non-native herbivores, and significant unmanaged increases in grazing when plant is producing seeds or flowering, or pesticide applications.

54. The only economic costs that are likely to occur as a result of the proposed critical habitat designation will be borne solely by Federal agencies, which do not qualify as small business entities. This screening level analysis therefore concludes that no "small entities" are likely to be affected by the proposed designation.

BENEFITS OF CRITICAL HABITAT DESIGNATION

55. There is little disagreement in the published economics literature that real social welfare benefits can result from the conservation and recovery of endangered and threatened species (Bishop (1978, 1980), Brookshire and Eubanks (1983), Boyle and Bishop (1986), Hageman (1985), Samples et al. (1986), Stoll and Johnson (1984). Such benefits have also been ascribed to preservation of open space and biodiversity (see examples in Pearce and Moran (1994) and Fausold and Lilieholm (1999) both of which are associated with species conservation. Likewise, a regional economy can benefit from the preservation of healthy populations of endangered and threatened species, and the habitat on which these species depend.

56. In the case of the Keck's checkermallow, no project modifications or associated land use activity changes are expected. As a result, no benefits can be quantified.

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