

DRAFT REPORT

ECONOMIC ANALYSIS OF CRITICAL HABITAT DESIGNATION FOR THE SAN DIEGO FAIRY SHRIMP

Prepared for:

Division of Economics
U.S. Fish and Wildlife Service
4401 N. Fairfax Drive
Arlington, VA 22203

Prepared by:

Economic & Planning Systems, Inc.

Under subcontract to:

Industrial Economics, Incorporated
2067 Massachusetts Avenue
Cambridge, MA 02140

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EPS #14045

SACRAMENTO

1750 Creekside Oaks Drive, Suite 290
Sacramento, CA 95833-3647
www.eppsys.com

phone: 916-649-8010
fax: 916-649-2070



BERKELEY

phone: 510-841-9190
fax: 510-841-9208

DENVER

phone: 303-623-3557
fax: 303-623-9049

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EXECUTIVE SUMMARY AND REPORT ORGANIZATION

- 1 The purpose of this report is to identify and analyze the potential economic effects of the proposed designation of critical habitat for the San Diego fairy shrimp (*Brachinecta sandiegonensis*). This report has been prepared by Economic & Planning Systems, Inc., (EPS) under subcontract to Industrial Economics, Incorporated, for the Service's Division of Economics.
- 2 Lands potentially affected by the designation include areas proposed for critical habitat in addition to areas essential to the survival of the species but have been excluded from the proposed designation ("essential lands" or "essential but excluded lands"). The U.S. Fish and Wildlife Service (Service) proposed critical habitat for the San Diego fairy shrimp (SDFS) for the second time on April 22, 2003, for 6,098 acres of land in Orange and San Diego Counties in California. Under sections 4(b)(2) and 3(5)(A) of the Endangered Species Act (the Act), the Service proposes to exclude from the designation approximately 6,147 acres that are also essential to the survival of the SDFS. Under section 4(b)(2) only, the Service proposes to exclude from the designation approximately 7,957 acres that are also essential to the survival of the SDFS.
- 3 The lands that the Service deemed essential to the survival of the SDFS and which the Service proposes to exclude under sections 4(b)(2) and 3(5)(A) of the Act consist of areas already protected under existing habitat conservation plans (HCPs) and approved integrated natural resources management plans (INRMPs). The lands that the Service proposes to exclude under section 4(b)(2) encompass only military training areas of Marine Corps Base (MCB) Camp Pendleton where section 7 regulation may impair the nation's military readiness. This report will analyze the costs of both lands proposed for designation and excluded areas, because a decision based on section 4(b)(2) requires a consideration of "the economic impact, and any other relevant impact" of designating critical habitat.
- 4 Before this proposed designation of critical habitat, in October 2000 the Service published a final rule designating critical habitat for the SDFS in Orange and San Diego Counties. On March 8, 2002, the U.S. District Court for the Central District of California (Court) issued an order remanding the critical habitat designation while the Service prepared a new economic analysis. The Court also ruled that the existing critical habitat designation remain in force during remand. This analysis supports the Service's current proposed designation. In other words, the purpose of this analysis is to provide information to the Secretary about costs that will be incurred as a result of the proposal.
- 5 This information is intended to assist the Secretary of the Interior in making a decision about whether the benefits of excluding a particular area from designation outweigh the benefits of

including that area in the designation.¹ The analysis focuses on identifying regulatory costs and indirect impacts associated with the designation; in other words, costs that will occur when particular geographic areas are included in the final designation.

6 This executive summary chapter will first explain the basic analytical framework required by the economic analysis. The report's major results will then be presented by location and land use. The impacts of the economic analysis are separated into impacts from lands proposed for critical habitat (hereafter referred to as Type I lands) and impacts from two categories of lands essential but proposed for exclusion from the designation. One category of excluded lands are those excluded under sections 4(b)(2) and 3(5)(A) of the Act (hereafter referred to as Type II lands), and the second category of excluded lands are those excluded under section 4(b)(2) only (hereafter referred to as Type III lands).

7 Finally, this chapter concludes with an overview of the report's content by chapter.

SUMMARY OF ANALYTIC APPROACH

8 The Draft Economic Analysis (DEA) provides an estimate of the economic effects of the April 22, 2003 proposed designation of critical habitat for the SDFS.² These effects include direct costs that result from the rule, such as administrative costs of completing informal and formal consultations with the Service and the project modification costs occurring as a result of these activities. The DEA also measures indirect effects of the rule, such as costs of project delays and regulatory uncertainty, and costs associated with changes in implementation of other laws such as the California Environmental Quality Act (CEQA).

9 This analysis does not consider any costs that would occur in the absence of the rule, such as cost caused by other land use regulation by Federal, state, or local governments. The direct compliance costs mentioned above represent a reasonable approximation of how society as a whole will be affected by the rule when compliance activity is not expected to significantly affect housing or other markets. Where the DEA finds that the price or quantity of housing may change as a result of the rule, changes in consumer and producer surplus are measured to capture the overall impact of the proposed designation on society.

10 Other economic effects considered in the analysis include the distributional impacts on small entities and energy production, supply, and distribution.

¹ 16 U.S.C. §1533(b)(2).

² Acreage and location of proposed critical habitat analyzed in the FEA are the same as that published by the U.S. Fish and Wildlife Service, Proposed Designation of Critical Habitat for the San Diego Fairy Shrimp, April 22, 2003 (68 FR 77).

In Executive Order 12866, OMB directs Federal agencies to provide an assessment of costs and benefits of a proposed regulatory actions.³ Where possible, the benefits of critical habitat designation should be described on a unit-by-unit basis in order to provide the Service with best available information to finalize critical habitat designations. For example, useful information for policy makers might include whether the benefits of excluding one (or more) critical habitat units outweigh the costs of including one (or more) units. However, in its guidance for implementing Executive Order 12866, OMB acknowledges that often, it may not be feasible to monetize, or even quantify, the benefits of environmental regulations. Where benefits cannot be quantified, OMB directs agencies to describe the benefits of a proposed regulation qualitatively.⁴ *In the case of the SDFS, the Service believes that the benefits of critical habitat designation are best expressed in biological terms that can be weighed against the expected cost impacts of the rulemaking.* Thus, this report does not provide a monetary measure of the benefits of the proposed designation.

- 11 The economic effects estimated in the DEA occur within a 20-year timeframe, beginning on the date the public receives the proposed rule.

GENERAL ANALYTIC STEPS

- 12 This report relies on a sequential methodology and focuses on distilling the salient and relevant aspects of potential economic impacts of the proposed designation. These are the steps followed in this analysis:
- Describe current and projected economic activity in and around the proposed critical habitat area as well as those essential lands that were proposed for exclusion from the proposed designation;
 - Identify whether such activities are likely to involve a Federal nexus;
 - For activities with a Federal nexus, evaluate the likelihood that these activities will require consultations under section 7 of the Act and, in turn, result in any modifications to projects.
 - Estimate the direct costs of expected section 7 consultations, project modifications and other economic impacts;
 - Estimate the likelihood that current or future activities may require additional compliance with other Federal, State, and local laws as a result of new information provided by the proposed designation;

³ Executive Order 12866, "Regulatory Planning and Review," September 30, 1993.

⁴ U.S. Office of Management and Budget, Circular A-4, September 17, 2003.

- Estimate the likelihood that projects will be delayed by the consultation process or other regulatory requirements triggered by the designation;
- Estimate the likelihood that economic activity will be affected by regulatory uncertainty, and/or property values affected;
- Estimate the indirect costs of the designation, as reflected in the cost of compliance with State and local laws, project delays, regulatory uncertainty, and perceived effects on property values;
- Assess the extent to which critical habitat designation and other co-extensive regulations will create costs for small businesses as a result of modifications or delays to projects; and
- Assess the effects of administrative costs and project modifications on the supply, distribution, and use of energy.

13 As noted above, this analysis considers both efficiency effects and distributional effects. It begins by considering direct compliance costs, as well as potential indirect effects, such as those effects associated with compliance with other Federal, State, and local laws, project delays, and impacts to property values. Impacts on small entities are discussed separately, in **Chapter IV**.

KEY FINDINGS

14 The key findings are described below in sections describing the total cost impact, the locations most affected, the land use activities with more than \$500,000 of impacts in a 20-year timeframe, and other indirect effect categories that surpass the same threshold of \$500,000 over 20 years. Economic cost estimates by region, land use, and acreage type are detailed in **Table ES-1**. All dollar amounts represent net present value form unless specified otherwise.

TOTAL ECONOMIC IMPACT

15 The total future potential economic impact is estimated to be \$54.6 million over the next 20 years. On an annual basis, these impacts are approximately \$5.2 million for the two-county region.⁵ These amounts correspond to the entire area of essential habitat, and include land proposed for exclusion under sections 4(b)(2) and 3(5)(A) of the Act.

16 The bulk of this impact—nearly 95 percent—results from avoiding vernal pool impacts from private land development in the Cities of San Marcos, Newport Beach, and in unincorporated Orange County. For all other jurisdictions in the proposed designation, two factors eliminated the role of the rule in imposing significant costs:

⁵ Costs are annualized at a 7 percent discount rate.

Table ES-1
U.S. Fish & Wildlife Service
San Diego Fairy Shrimp Critical Habitat Draft Economic Analysis
Economic Impact Summary by Activity, Land Type, and Region [1]

Region / Land Use Activity	Total Impacts of the Rule			TOTAL, ALL LANDS
	Type I Lands	Type II Lands	Type III Lands	
L.A. Basin/Orange Management Area				
Private land development	\$15,211,998	-	-	\$15,211,998
Other [2]	\$4,136	-	-	\$4,136
Subtotal	\$15,216,134	-	-	\$15,216,134
SD North Coastal Mesa Management Area				
Military activities	-	-	\$14,779	\$14,779
Airport Construction [3]	-	-	\$781,057	\$781,057
Water projects	\$369	-	\$3,326	\$3,695
Other [2]	\$10,050	-	-	\$10,050
Subtotal	\$10,419	-	\$799,161	\$809,580
SD Inland Valley Management Area				
Private land development	\$37,114,948	-	-	\$37,114,948
Airport Construction [3]	\$309,623	-	-	\$309,623
Water projects	\$3,695	-	-	\$3,695
Other [2]	\$34,476	-	-	\$34,476
Subtotal	\$37,462,742	-	-	\$37,462,742
SD Central Coastal Mesa Management Area				
Private land development	\$795	-	-	\$795
Military activities	-	\$133,008	-	\$133,008
Airport Construction [3]	-	\$81,852	-	\$81,852
Water projects	\$185	\$3,510	-	\$3,695
Other [2]	\$2,049	\$38,979	-	\$41,028
Subtotal	\$3,028	\$257,349	-	\$260,377
SD Southern Coastal Mesa Management Area				
Private land development	\$106,619	\$49,378	-	\$155,997
Airport Construction [3]	\$14,861	\$24,615	-	\$39,476
Road Construction	\$208,624	\$345,549	-	\$554,173
Military activities	-	\$7,734	-	\$7,734
Water projects	\$1,391	\$2,304	-	\$3,695
Other [2]	\$18,715	\$30,999	-	\$49,714
Subtotal	\$350,210	\$460,578	-	\$810,788
TOTAL, All Regions	\$53,042,532	\$717,927	\$799,161	\$54,559,621
Annualized Cost, All Regions [4]	\$5,010,000	\$70,000	\$80,000	\$5,150,000

"Summary"

Notes:

- [1] The time horizon analyzed is the next 20 years. All amounts are expressed as present value sums, based on an assumption that land use activities are equally likely to occur over each of the next 20 years. Discounting uses a 7% public investment rate.
- [2] Includes CEQA costs associated with essential habitat mapping. CEQA costs could affect public or private projects sited in any essential habitat region, so the two-county total impact is spread equally over all acres of essential habitat.
- [3] The airport may be located in any one of four locations with vernal pool habitat. Impacts are weighted by the probability that one of these four sites is selected.
- [4] Discounted present value costs are annuitized at a 7% rate.

- The avoidance or mitigation of vernal pool impacts is already required at sufficient levels through pre-existing regulations (provisions of enacted regional natural community conservation plan(NCCCP)/HCPs, local land development code, and policies governing the implementation of the CEQA in the local jurisdiction, for example).
- Landowners have made conservation commitments for vernal pool habitat that predate the first SDFS critical habitat designation.

17 Each subunit of proposed critical habitat and all essential but excluded lands were evaluated for the presence of either of these factors. As a result, the analysis determined the role that the rule would play in determining the costs facing landowners or others with planned projects for the areas.

18 The components of this total economic impact of \$54.5 million are further described below.

LOCATION OF IMPACT

19 The City of San Marcos in the San Diego Inland Valley Management Area is projected to experience a \$37.1 million impact because of the rule, primarily because of lost commercial and industrial development potential. For the sites in question, San Marcos is presently subject to very few regulatory development restrictions other than section 7, which is triggered when the United States Army Corps of Engineers (USACE) asserts jurisdiction over any vernal pool wetlands in the City.

20 Behind San Marcos, the City of Newport Beach and Orange County, both in the L.A. Basin/Orange Management Area, jointly lose nearly \$15.2 million in land development value from the Newport Banning Ranch project. The project is in the Central/Coastal Orange County NCCP/HCP and has a good chance of development in the next 20 years. The project is for the present time located within the planning boundaries of both local governments.

21 San Diego County is also potentially affected by the rule, the implementation of a large public works project is anticipated to be impacted. The County is presently involved with the Federal Aviation Administration (FAA) in the development of a new airport to serve the larger San Diego Metropolitan Area. The lead agency for site selection, the San Diego Association of Governments (SANDAG), has assisted in evaluation of more than ten potential airport sites. Four of these sites contain vernal pool habitat and may be located in proposed critical habitat for SDFS.

22 The site with the largest acreage of potential impacted habitat, MCB Camp Pendleton, is likely to require the additional expenditure of \$781,000 if chosen as the airport site. This amount has been weighted by the probability of selecting one of four sites with vernal pool habitat, a method that is more likely to overestimate rather than underestimate costs.

MAJOR ACTIVITIES IMPACTED

Private Land Development

- 23 A total of 202 acres of commercial, industrial, and residential development is projected to be impacted. Of the \$52.5 million in total impacts to this industry, over 98 percent are caused by losses in fully entitled raw land values because developers avoid impacts to on-site vernal pools or experience delays when attempting to move proposed projects through the consultation process. Because these 202 acres do not have land use approvals that allow for immediate development, the benefits of development are discounted from the future into current year dollars.⁶ Were the land slated for immediate site improvements, the impacts would have occurred immediately as the result of the proposed rule.
- 24 The remaining amount of \$1.1 million, or less than 2 percent of the total, is consultation costs and other administrative costs borne by the developers, the Service, and other Federal agencies.
- 25 As many as 164 acres of SDFS habitat will be set-aside in the next 20 years as a result of consultations associated with projected land development. This quantity represents approximately 0.06 percent of the total projected amount of land development for both counties of 330,000 acres over the same period.⁷ This analysis does not consider this percentage to represent a regionally significant reduction in future development opportunities. As a result, the primary burden of regulation for private land development is anticipated to fall on the regulated landowners. The quantity and price of regional real estate production is expected to remain unchanged, and consumers will not be significantly affected.

Airport Construction

- 26 The County of San Diego is presently involved with the FAA in the development of a new airport to serve the larger San Diego Metropolitan Area. The lead agency for site selection, SANDAG, has assisted in evaluation of more than ten potential airport sites. Four of these sites contain vernal pool habitat and may be located in essential habitat for SDFS.
- 27 Project modifications for the new airport vary in size with the amount of constrained acreage at each airport site. The nominal projected habitat restoration cost impacts range from \$75,000 in the Otay Mesa Area, to \$155,000 at Marine Corps Air Station (MCAS) Miramar, to \$585,000 in unincorporated San Diego County near Ramona, to \$4.7 million at MCB Camp Pendleton.

⁶Costs are annualized at a 7 percent discount rate.

⁷Total land projected for development in San Diego County by the SANDAG by 2020 and in Orange County by the Southern California Association of Governments (SCAG) by 2025.

Small administrative costs (less than \$5,000) also apply to each site. These amounts have been weighted by the probability of selecting one of four sites with vernal pool habitat, a method that is more likely to overestimate rather than underestimate costs associated with the rule.

Road Construction and Maintenance

- 28 California Department of Transportation (Caltrans) has two proposed road-building projects that are likely to impact vernal pool habitat: State Route 905 and State Route 11. Both are located in the Otay Mesa area of unincorporated San Diego County, but only the State Route 905 project has surveyed the site for likely acres impacted by the preferred project alternative. Using vernal pool restoration costs from other Southern California development projects, the total costs for both Caltrans projects over the next 20 years is approximately \$555,000.

ECONOMIC IMPACT FOR PROPOSED VERSUS ESSENTIAL BUT EXCLUDED LANDS

- 29 **Table ES-1** separates the impacts estimated for proposed critical habitat lands from impacts estimated for essential but excluded lands. Because private land development is projected in the next 20 years only for areas proposed for critical habitat and not for essential lands proposed for exclusion from designation, the largest amount of total impacts (97.2 percent) are expected on lands proposed for designation. Essential but excluded lands under sections 3(5)(A) and 4(b)(2) are associated with smaller cost impacts (1.2 percent of total) generated from military activities, potential airport sites, potential highway routes, and potential sites for water projects. Essential but excluded lands under sections 4(b)(2) only are associated with slightly larger cost impacts (1.6 percent of total) generated from military activities, potential airport sites, and potential sites for water projects.
- 30 Total costs associated with the rule and incurred on proposed lands are estimated at \$53.0 million over the next 20 years. On an annualized basis, these impacts will cost private entities or government agencies \$5.0 million.⁸
- 31 Total costs estimated for activities on essential but excluded lands under sections 3(5)(A) and 4(b)(2) are estimated at \$718,000 over the next 20 years. On an annualized basis, these impacts are estimated at approximately \$70,000. Total costs estimated for activities on essential but excluded lands under section 4(b)(2) only are estimated at \$799,000 over the next 20 years. On an annualized basis, these impacts are estimated at approximately \$80,000.

⁸ Costs are annualized using a 7 percent discount rate.

ORGANIZATION OF REPORT

- 32 This report is organized into eight chapters. **Chapter I** provides an introduction to the analysis, describes the species and its habitat, lays out the framework and methodology for the analysis, and provides an overview of the communities affected by the designation. **Chapter II** describes the relevant elements of the regulatory context for the proposed rule and the relationship each element has to section 7 regulation. **Chapter III** evaluates the baseline regulatory context for the designation in greater depth by looking at baseline regulations on an area by area basis. **Chapters IV, V, and VI** estimate the cost impacts of section 7 implementation for private land development, projects affected by CEQA, and public agency projects, respectively. **Chapter VII** presents three types of distributional screening tests for impacts estimated in the analysis.

I. RELEVANT BACKGROUND

33 On April 22, 2003, the U.S. Fish and Wildlife Service (Service) proposed designating critical habitat for the San Diego fairy shrimp (*Brachinecta sandiegonensis*), on approximately 6,098 acres of land in Orange and San Diego Counties, California. In the proposed rule, the Service identified 13,916 acres of land that are not proposed for designation but are essential to the survival of the shrimp (“essential lands” or “essential but excluded lands”). The areas affected by the designation include both those lands proposed for designation and lands essential but proposed for exclusion from the designation. The purpose of this report is to identify and analyze the potential economic impacts associated with the designation of critical habitat for the San Diego fairy shrimp (SDFS). This report was prepared by Economic & Planning Systems, Inc., (EPS) under subcontract to Industrial Economics, Incorporated (IEc), under contract to the Service’s Division of Economics.

34 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 in critical habitat, provided the exclusion will not result in extinction of the species.

35 Upon 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 construed as any direct or indirect alteration that appreciably diminishes the value of critical habitat for conservation of a listed species.

SPECIES DESCRIPTION AND DISTRIBUTION

36 A brief description of the SDFS is provided below. Refer to the proposed rule for a more complete description of each species, associated habitat types, and relevant citations.⁹

37 The SDFS is a small aquatic crustacean restricted to shallow vernal pools in southern California. It has a delicate, long, elongated body, large stalked eyes, and eleven pairs of swimming legs.

⁹ U.S. Fish and Wildlife Service, Endangered and Threatened Wildlife and Plants; Proposed Designation of Critical Habitat for the San Diego fairy shrimp (*Brachinecta sandiegonensis*), April 22, 2003 (68 FR 19888).

Adult species range in size from 8 to 16 millimeters. The hatching period for the SDFS is about 7 to 14 days, depending on water temperature and is usually observed from January to March.

PROPOSED CRITICAL HABITAT DESIGNATION

38 On February 3, 1997, the SDFS was listed as an endangered species pursuant to the Act. When a species is listed as threatened or endangered, the Act stipulates that the Service must also “to the maximum extent prudent and determinable...designate critical habitat.” On October 2000 the Service published a final rule designating critical habitat for the SDFS in Orange and San Diego Counties. On March 8, 2002, the U.S. District Court for the Central District of California issued an order remanding the critical habitat designation while the Service prepared a new economic analysis. The Court also ruled that the existing critical habitat designation remain in force during remand.

39 On April 22, 2003, the Service published in the Federal Register a proposed rule outlining its proposed critical habitat designation for the SDFS. The proposed rule delineated five critical habitat units, and the following is a brief description of each unit and, in the same region, the essential but excluded lands identified in the proposed rule. **Table 1** summarizes the approximate area of proposed critical habitat by jurisdiction, and shows the total acres of essential lands that were proposed for exclusion from the proposed designation.

- Unit 1 encompasses approximately 363 acres of land in the Recovery Plan’s Los Angeles Basin-Orange Management Area. The proposed acres for Unit 1 include public parkland and private land in the Cities of Costa Mesa and Newport Beach or the County of Orange. Of the private land proposed for designation, a portion has been dedicated for conservation, while other subunits may be preserved as part of planning processes underway for new development.
- Unit 2 encompasses approximately 883 acres in the Recovery Plan’s North Coastal Mesa management area. This unit includes a small portion of Marine Corps Base (MCB) Camp Pendleton and an area in the City of Carlsbad. The area proposed on MCB Camp Pendleton includes lands leased by the Marine Corps to the California Department of Parks and Recreation (CDPR) and private interests; Cockleburr preserve; and non-training lands around the Wire Mountain housing area. In the City of Carlsbad, one vernal pool complex located at Poinsettia Lane train station is proposed as critical habitat. Proposed for exclusion from the designation on MCB Camp Pendleton, in areas used for military training exercises, are 7,957 acres of vernal pool habitat that the Service has identified as essential to the survival of the SDFS. These vernal pools are located in the mission critical training areas and were proposed for exclusion from critical habitat designation under section 4(b)(2) of the Act. This report refers to lands proposed for exclusion from designation under section 4(b)(2), but no other section, as

Table 1
U.S. Fish & Wildlife Service
San Diego Fairy Shrimp Critical Habitat Draft Economic Analysis
Essential Habitat Land Area by Region and Jurisdiction

Region and Jurisdiction of Proposed or Excluded Land	Acres
Los Angeles Basin/Orange Management Area	
City of Costa Mesa	80
City of Newport Beach	17
Unincorporated Orange County	266
Proposed for Exclusion [1]	0
Subtotal	363
North Coastal Mesa Management Area	
City of Carlsbad	32
City of Oceanside	13
Unincorporated San Diego County	838
Proposed for Exclusion [2]	7,957
Subtotal	8,840
San Diego Inland Valley Management Area	
City of San Marcos	161
Unincorporated San Diego County	2,867
Proposed for Exclusion [1]	0
Subtotal	3,027
San Diego Central Coastal Mesa Management Area	
City of San Diego	180
Proposed for Exclusion [1]	3,424
Subtotal	3,604
San Diego Southern Coastal Mesa Management Area	
Chula Vista	245
Imperial Beach	10
City of San Diego	405
Unincorporated San Diego County	984
Proposed for Exclusion [1]	2,723
Subtotal	4,367
Total Proposed Acres for Critical Habitat	6,098
Total Acres Proposed for Exclusion [1] [2]	14,104
TOTAL ACRES EVALUATED IN ECONOMIC ANALYSIS	20,202

"acres_by_city"

Notes:

- [1] TYPE II lands. These acres contain lands that were previously identified as essential for critical habitat designation, but have been proposed for exclusion under sections 3(5)A and 4(b)2 of the ESA because the lands were not biologically essential to the conservation of the SDFS, are covered by a legally operative individual (project-specific) or regional habitat conservation plan (HCPs) that cover the SDFS, are covered by a completed and approved Integrated Natural Resource Management Plan (INRMP) for specific Dept.of Defense (DoD) installations, or are covered by an adequate conservation management plan or agreement.
- [2] TYPE III lands. These acres contain lands that were previously identified as essential for critical habitat designation, but have been proposed for exclusion under section 4(b)2 of the ESA because of national security reasons related to military readiness, among other reasons.

Type III lands. Finally, updated surveys suggest that a 35 acres site near the Palomar Airport in the City of Carlsbad, previously believed to contain the primary constituent elements (PCEs) for SDFS habitat, actually does not contain them, and the property was removed from the proposed designation.

- Unit 3 encompasses approximately 3,027 acres of land in the Recovery Plan's San Diego Inland Valley Management Area. The proposed acres for this unit are located inside the jurisdiction of the City of San Marcos and the community of Ramona. In the community of Ramona, one of the complexes is within the boundaries of the Ramona Airport.
- Unit 4 encompasses approximately 180 acres of land in Recovery Plan's San Diego Central Coastal Mesa Management Area. The proposed acres for this unit contain vernal pool complexes inside the jurisdiction of the City of San Diego, State of California, Service, Marine Corps Air Station (MCAS) Miramar, and private lands. This management area also contains 3,424 acres of lands determined to be essential but proposed for exclusion. This report refers to the acres that are proposed for exclusion using the provisions of both sections 4(b)(2) and 3(5)(A) of the Act as Type II lands. These areas were proposed for exclusion because of approved integrated natural resource management plans (INRMPs) (for Marine Corps Air Station [MCAS] Miramar and the Naval Radio Receiving Facility), or coverage under the multi-species conservation plan (MSCP). MCAS Miramar, for instance, is successfully implementing its INRMP, and habitat on the air station no longer meets the Act's definition of critical habitat as shown in section 3(5)(A).
- Unit 5 encompasses approximately 1,634 acres of land in the Recovery Plan's San Diego: Southern Coastal Mesa Management Area. Vernal pool complexes on this unit's proposed acres are inside the jurisdiction of the Service, Cities of San Diego and Chula Vista, County of San Diego, United States Immigration and Naturalization Service (INS), and United States Navy (Naval Radio Facility). The land is predominantly in private ownership. This management area also contains approximately 2,723 acres of land determined to be essential but proposed for exclusion, and these acres were proposed for exclusion using the provisions of sections 4(b)(2) and 3(5)(A) of the Act. Similar to the areas proposed for exclusion described in the previous unit, these lands are classified as Type II lands for analytic purposes. Much of this habitat acreage is in the Multiple Habitat Preserve Area (MHPA), and like other areas of vernal pool habitat located in reserve, preserve, or other conservation areas in approved habitat conservation plans (HCPs), were proposed for exclusion pursuant to sections 3(5)(A) and 4(b)(2) of the Act.

40 Section 3 (5) (A) of the Act defines critical habitat as "the specific areas within the geographic area occupied by a species ... on which are found those physical or biological features ... essential to the conservation of the species and ... specific areas outside the geographic area occupied by a species ... upon a determination that such areas are essential for the conservation of the species." To delineate potential critical habitat boundaries, the Service must first use the

“best available scientific information” to identify those physical and biological features—or PCEs—that are essential to the conservation of the species. PCEs for the SDFS include the following elements:

- Small to large vernal pools with shallow to moderate depths that hold water for sufficient lengths of time necessary for SDFS incubation and reproduction;
- Associated watersheds and hydrology for vernal pool basins and their related vernal pool complexes;
- Ephemeral depressional wetlands, flat or gently sloping topography, and any soil type with a clay component and/or an impermeable surface or subsurface layer known to support vernal pool habitat.

REGIONAL SOCIOECONOMIC PROFILES

ORANGE COUNTY AREA JURISDICTIONS

41 Orange County includes either lands proposed for SDFS critical habitat or proposed for exclusion in two cities, (the City of Costa Mesa and the City of Newport Beach), as well as some unincorporated lands. Orange County is the second most populated county in California, with over 2.8 million people, and its population is expected to increase by 25 percent to approximately 3.5 million people by 2020.¹⁰

City of Costa Mesa

42 The City of Costa Mesa, located in central Orange County, is 37 miles southeast of Los Angeles, 88 miles north of San Diego, and encompasses a total of 16 square miles. As its southernmost border is only one mile from the Pacific Ocean, Costa Mesa’s 110,000 residents enjoy a climate of mild winters, warm summers, and year-round sunshine. The City of Costa Mesa has grown tremendously since it was incorporated in 1953, housing only 16,840 residents at the time. Costa Mesa’s enormous population growth is due to its simultaneous shift from a semi-rural farming community to a large economic retail and commercial base that also specializes in light manufacturing of electronics, pharmaceuticals, and plastics.

43 Costa Mesa offers diverse land uses. Residential use occupies approximately 48 percent of the City’s land, while 14 percent is designated for commercial uses, 14 percent for industrial uses, and 24 percent is allocated for public and semi-public uses. About half of Costa Mesa’s

¹⁰County Snapshot, Orange County, Employment Development Department, State of California, 2002:<http://www.calmis.ca.gov/file/COsnaps/oranSNAP.pdf>

residents live in multifamily housing, and about half live in single-family homes. Because of the growth success of nearby cities such as Irvine, Costa Mesa has enjoyed a steady increase in residential values. The average home sales price in 1997 was \$232,000, which rose to \$363,195 only 3 years later.

- 44 Retail trade dominates as the City's major industry, followed by services and manufacturing. The City's labor force is approximately 69,730 persons, and is projected to increase by nearly 250,000 persons by 2010. Costa Mesa's largest employers include Orange Coast Community College, The Fairview Development Center, and South Coast Plaza.¹¹ One of the more economically prosperous cities in Southern California, the median household income in 2000 was close to \$50,750, and nearly one-third of the City's households earned \$75,000 or greater, representing the largest income category for the region.

City of Newport Beach

- 45 The City of Newport Beach spans an area just over 36 square miles and is located right on the California coastline, southwest of Costa Mesa, and north of the City of Laguna Beach. The city was incorporated in 1906 and housed approximately 70,000 people in 2000. More than 60 percent of its residents live in single-family homes.

- 46 Technical professions dominate the city's employment base, and major employers in the city include Haog Hospital, Rockwell Semiconductor Systems, and Pacific Mutual Life Insurance Company. Approximately 27 percent of the city's jobs are classified as "executive, administrative, or management" positions, while 22 percent make up "sales" jobs, and another 22 percent of "professional specialty" jobs. This type of employment has led the City to experience a prosperous economy. Average household income in Newport Beach was nearly \$61,900 in 1999, while the median value of a home was about \$381,150 in the same year¹².

County of Orange (Unincorporated Area)

- 47 Orange County is situated along 42 miles of the California coastline, with Los Angeles County to the north, San Diego County to the south, and Riverside and San Bernardino Counties to the east. The entire county is over 505 acres in size, and reported a population of approximately 3.0 million in 2002, with only about 5 percent residing in the unincorporated areas of the county in 2002, or about 163,000 people. Of the proposed critical habitat subunits and essential lands for the SDFS in unincorporated Orange County, two areas are located east of the City of San Juan Capistrano, and another is located further south, just east of the City of Tustin.

- 48 New construction in the unincorporated parts of the county has led to steady population growth. From January 2001 to January 2002, unincorporated Orange County grew by

¹¹ City of Costa Mesa Official Website: <http://www.ci.costa-mesa.ca.us/>

¹² <http://www.newportbeachonline.com/cityinfo.htm>

5.6 percent (4,500 people), which marked the third highest growth rate for the region. Orange County has a diverse economy, with no single sector accounting for more than 30 percent of its economic output or labor market.¹³

San Diego County Area Jurisdictions

49 The San Diego county region has 6 major areas which contain proposed critical habitat or essential but excluded land for the SDFS: the cities of San Marcos, Carlsbad, Coronado, Chula Vista, Imperial Beach, and San Diego, as well as portions of the unincorporated County lands. According to the Center for the Continuing Study of the California Economy (CCSCE), the population for the San Diego County area is expected to increase at more than double the rate for the State at large.¹⁴

City of San Marcos

50 The City of San Marcos, incorporated in 1963, is located in the northern portion of the County. Its 2002 population was approximately 60,000 people, living in around 20,000 housing units, covering 24 square miles. The majority of homes in San Marcos are single-family homes (about 50 percent in 1995), with the remaining half being split almost evenly between mobile homes and multifamily housing. The area adds around 1000 dwelling units per year, with the median home price just over \$250,000. The San Diego Association of Governments (SANDAG), which makes demographic projections for various subareas in the County of San Diego, predicts the 2020 population at 87,960, with over 30,000 housing units.

51 San Marcos' economy employs approximately 21,000 people, the majority of which work in the services sector. Other large employment sectors include retail, wholesale trade, and government. The three largest employers in the city are the San Marcos Unified School District, California State University at San Marcos (with approximately 6,600 students), and Palomar Community College (with approximately 27,000 part- and full-time students). San Marcos is also home to Coleman College (250 students) and a branch of the University of Phoenix (approximately 370 students). Median household income was just under \$46,000 in 2000.

City of Carlsbad

52 The City of Carlsbad, located to the west of San Marcos and 35 miles north of the San Diego, covers approximately 42 square miles, and was incorporated in 1952. Since then its population has increased to 88,013 people in 2002, living in just over 37,000 housing units (with a median home value of \$330,100¹⁵). While the city continues to grow, the land size is not expected to increase, as all surrounding county islands have been annexed, and the city currently has a

¹³ Orange County Community Indicators, 2003. http://www.oc.ca.gov/ceo/Comm_Indicators/Comm_Indi.asp

¹⁴ CCSCE, page 3-42

¹⁵ 2000 Census.

growth moratorium that is triggered by a maximum city population. It was voted into effect by residents in 1986 and cannot be changed without a majority vote of the people. Some time after 2010, the city expects a buildout population of approximately 135,000 residents, living in almost 55,000 housing units.

- 53 Carlsbad has various industries including high technology and biomedical business, electronics, and residential housing development, which employ approximately 40,000 people. According to the 2000 Census, median household income is approximately \$65,000.

City of Coronado

- 54 The City of Coronado, surrounded by the Pacific Ocean, the Glorietta Bay and the San Diego Bay, connects directly to San Diego via the San Diego-Coronado bay bridge. Incorporated in 1890, it remains a small city with a population close to 29,000 people who inhabit 13.5 square miles. According to DOF estimates, housing in Coronado is almost evenly split between single-family (55 percent) and multifamily (46 percent) housing. Over 1,200 of these homes were recorded as vacation/temporary use homes by the 2000 Census, further indicating the prevalence of the tourism industry. SANDAG predicts small growth rates for population, increasing to only 25,500 persons in the next 30 years and adding just 400 housing units.

- 55 The City of Coronado has a strong tourist base, attracting over 2 million visitors per year. It also has a very strong military influence, with over 32 percent of the labor force employed by one of the two naval bases located on the peninsula (North Island Naval Air Station and the Naval Amphibious Base). Other major areas of employment include rental and leasing, education, health services, and public administration. Median household income for the city is approximately \$67,000.

City of Chula Vista

- 56 The City of Chula Vista, incorporated in 1911, covers an area of approximately 52 square miles and has a population of over 190,000 people. Over the past few years, it has seen growth rates ranging from 3.0 percent to the most recent 5.4 percent. Current SANDAG population estimate that by the year 2020, the city's population will have increased to over 275,000 residents. The majority (58 percent) of homes in Chula Vista is single-family, and the city has a median home sale price of \$204,500.

- 57 Chula Vista supports a labor force of just over 76,000, with an unemployment rate of approximately 4 percent and a median household income of just under \$45,000 per year. As of 2002, the largest employment sector was medical/health related jobs, followed by retail, manufacturing, and government. The largest portion of workers (29 percent) is employed by firms with 19 or fewer employees, and small businesses make up 85 percent of total firms in the city. SANDAG predicts strong employment growth in the area, with total civilian employment rising 75 percent between 2000 and 2020.

City of Imperial Beach

- 58 The city of Imperial Beach, incorporated in 1956, is located along the border with Mexico and south of the city of Coronado. It covers an area of less than 5 square miles, and is home to a population of just under 30,000 people. City population is expected to increase almost 20 percent over the next 20 years. Housing in the area is just under 10,000 units, which are almost equally split between single-family and multiple family housing, with a small percentage being mobile homes. The median household income for the area is approximately \$33,000 per year. The city has a civilian employment base of around 3,500, which SANDAG predicts will increase to 4,300 by 2020.

City of San Diego

- 59 The City of San Diego, by far the largest of all cities containing critical habitat or essential but excluded lands. Also the second largest city in California, San Diego covers over 340 square miles, and is home to over 1.2 million residents living in almost 470,000 homes. From 1990 to 2000, the City saw a population increase of approximately 10 percent. However, SANDAG predicts its population will grow much faster in the future, reaching 1.5 million residents in 2020 (an increase of 23 percent) and a housing unit count of almost 560,000. The median home price as of May 2002 was \$315,000, an increase of over 18 percent from the past year, causing the city housing market to be ranked fifth least affordable by the National Association of Homebuilders.¹⁶
- 60 The City of San Diego has experienced increasing economic prosperity and advancement because of select growing industries. The largest industries driving the economy are manufacturing, defense, agriculture, and tourism. It also has major industry clusters, including biotechnology, defense, space, and electronics manufacturing, as well as software and telecommunications industries. The University of California at San Diego, another major source of employment, covers 1,200 acres along the coast of California, receives annual funding of over \$550 million for research, and employ over 20,000 employees. San Diego is also home to one third of the top environmental design firms in the country. The economy supports over 700,000 employees, and the median household income in 2000 was just under \$46,000.
- 61 Critical habitat has been proposed in part in the southern portions of the city, adjacent to the Mexican border, proximate to or in the community planning areas of Otay Mesa and San Ysidro. Otay Mesa, located in the southeastern corner of the city, covers approximately 9,300 acres—with a population of 1,700 people living in just under 500 housing units, almost all of

¹⁶ San Diego Housing Commission Report, as available February 2003 online from http://clerkdoc.sannet.gov/RightSite/getcontent/local.pdf?DMW_OBJECTID=0900145180098755

which are single-family units. The median household income for the area is \$27,000. San Ysidro covers a much smaller section of ground, only 1,805 acres, but houses over 28,000 residents in almost 7,200 units, of which over 4,000 are multiple family units. The median household income for the area is just over \$24,000.

- 62 Smaller than Otay Mesa, San Ysidro covers approximately 1,805 acres. However, it houses over 28,000 residents in almost 7,200 units, of which 4,000 are multifamily units. The median household income for the area is just over \$24,000.

County of San Diego

- 63 Sections of critical habitat and essential lands are also found in the portions of the unincorporated county. The full unincorporated area of San Diego County itself covers over 3,500 square miles, and has a population of just under 470,000 people living in over 150,000 housing units. Almost 110,000 of these are single-family homes, and around 25,000 are multiple family homes. SANDAG predicts that by 2020 the area will see a population increase of over 150,000 people and 50,000 housing units.
- 64 Much of the southwestern portion of the unincorporated county is inside the county planning area of Otay, which covers almost 30,000 acres. According to SANDAG, the area has a very small number of mobile homes. The median household income for the area is almost \$50,000 per year.
- 65 Other portions of critical habitat are found further north in the unincorporated region of Ramona. Ramona covers approximately 100,000 acres, and houses a population of almost 35,000 people. Of the community's 11,000 housing units, over 8,500 are single-family homes. The median income for the area is approximately \$60,000 per year.
- 66 Finally, critical habitat is also found on the military base MCB Camp Pendleton, located in the northwestern corner of San Diego County. The base falls in the County Planning Area called Pendleton-De Luz, an area which covers over 160,000 acres, and has a population of almost 40,000 people living in over 6,000 housing units. Housing is split approximately 60/40 between single and multiple family housing. Median income for the area is just under \$34,000 per year.

II. ANALYTIC FRAMEWORK

- 67 The primary purpose of this analysis is to estimate the economic impact associated with the designation of critical habitat for the SDFS.¹⁷ This information is intended to assist the Secretary in making decisions about whether the benefits of excluding particular areas from the designation outweigh the benefits of including those areas in the designation.¹⁸ In addition, this information allows the Service to address the requirements of Executive Orders 12866 and 13211 and the Regulatory Flexibility Act (RFA), as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA).¹⁹
- 68 This chapter provides the framework for this analysis. First, it defines the economic effects considered in the analysis. Second, it establishes the baseline against which these effects are measured. Third, it describes the measurement of direct compliance costs, which include costs associated with, and generated as a result of, section 7 consultations. Fourth, it identifies potential indirect economic effects of the rule resulting from (1) compliance with other parts of the Act potentially triggered by critical habitat, (2) compliance with other laws, and (3) time delays and regulatory uncertainty. Fifth, it discusses the need for an economic assessment of the benefits of critical habitat designation. Finally, the section concludes by discussing the timeframe for the analysis and the general steps followed in the analysis.

TYPES OF ECONOMIC EFFECTS CONSIDERED

- 69 This economic analysis considers both the economic efficiency and distributional effects. In the case of critical habitat designation, economic efficiency effects generally reflect the “opportunity costs” associated with the commitment of resources required to comply with the Act. For example, if the activities that can take place on a parcel of private land are limited as a result of a designation, and thus the market value of the land reduced, this reduction in value represents one measure of opportunity cost or change in economic efficiency. Similarly, the resources expended and costs incurred by a Federal action agency to consult with the Service under section 7 represent opportunity costs of the designation.
- 70 This analysis also addresses how the impacts are distributed, including an assessment of any local or regional economic impacts and the potential effects on small entities, and the energy industry. This information can be used by decision-makers to assess whether the effects might unduly burden a particular group or economic sector.

¹⁷This analysis considers the effects of the regulatory action as proposed in the Federal Register on September 24, 2002 (66 *Federal Register* 133, September 24, 2002)

¹⁸16 U.S.C. § 1533(b)(2)

¹⁹Executive Order 12866, “Regulatory Planning and Review,” September 30, 1993; Executive Order 13211, “Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use,” May 18, 2001; 5 U.S.C. §§ 601 *et seq.*; and Pub Law No. 104-121.

71 For example, while the designation may have a relatively small impact when measured in terms of changes in economic efficiency, individuals employed in a particular sector of the economy in the geographic area of the designation may experience relatively greater effects. The difference between economic efficiency effects and distributional effects, as well as their application in this analysis, are discussed in greater detail below.

EFFICIENCY EFFECTS

72 At the guidance of the Office of Management and Budget (OMB) and in compliance with Executive Order 12866 “Regulatory Planning and Review,” Federal agencies measure changes in economic efficiency in order to understand how society, as a whole, will be affected by a regulatory action.²⁰ In the context of this regulatory action, these efficiency effects represent the opportunity cost of resources used or benefits foregone by society as a result of critical habitat designation and other co-extensive regulations. Economists generally characterize opportunity costs in terms of changes in producer and consumer surpluses in affected markets.²¹

73 In some instances, compliance costs may provide a reasonable approximation for the efficiency effects associated with a regulatory action. For example, a landowner or manager may need to enter into a consultation with the Service to ensure that a particular activity will not adversely modify critical habitat. The effort required for the consultation represents an economic opportunity cost, because the landowner or manager’s time and effort would have been spent in an alternative activity had the parcel not been included in the designation. When compliance activity is not expected to significantly affect markets—that is, not result in a shift in the quantity of a good or service provided at a given price, or in the quantity of a good or service demanded given a change in price—the measurement of compliance costs can provide a reasonable estimate of the change in economic efficiency.

74 Where a designation is expected to significantly impact a market, it may be necessary to estimate changes in producer and consumer surpluses. For example, a designation that precludes the development of large areas of land may shift the price and quantity of housing supplied in a region. In this case, changes in economic efficiency can be measured by considering changes in producer and consumer surplus in the real estate market.

²⁰Executive Order 12866, “Regulatory Planning and Review,” September 30, 1993; Executive Order 13211, “Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution, or Use,” issued May 18, 2001; OMB, “Circular A-4,” September 17, 2003.

²¹For additional information on the definition of “surplus” and an explanation of consumer and producer surplus in the context of regulatory analysis, see Gramlich, Edward M., *A Guide to Benefit-Cost Analysis (2nd Ed.)*, Prospect Heights, Illinois: Waveland Press, Inc., 1990; and U.S. Environmental Protection Agency, *Guidelines for Preparing Economic Analyses*, EPA 240-R-00-003, September 2000, available at <http://yosemite.epa.gov/ee/epa/eed.nsf/webpages/Guidelines.html>.

75 This analysis begins by measuring reasonably foreseeable compliance costs. As noted above, in some cases, compliance costs can provide a reasonable estimate of changes in economic efficiency. However, if the designation is expected to significantly impact markets, the analysis will consider potential changes in consumer and/or producer surplus in affected markets.

DISTRIBUTIONAL AND REGIONAL ECONOMIC EFFECTS

76 Measurements of changes in economic efficiency focus on the net impact of the regulation, without consideration for how certain economic sectors or groups of people are affected. Thus, a discussion of efficiency effects alone may miss important distributional considerations concerning groups that may be disproportionately affected. OMB encourages Federal agencies to consider distributional effects separately from efficiency effects.²² This analysis considers several types of distributional effects, including impacts on small entities; impacts on energy supply distribution and use; and regional economic impacts. It is important to note that these are fundamentally different measures of economic impact than efficiency effects, and thus cannot be added to or compared with estimates of changes in economic efficiency.

IMPACTS ON SMALL ENTITIES, ENERGY SUPPLY, DISTRIBUTION AND USE

77 This analysis considers how small entities, including small businesses, organizations, and governments, as defined by the RFA, might be affected by critical habitat designation and other co-extensive regulations.²³ In addition, in response to Executive Order 13211 "Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use," this analysis considers the impacts of critical habitat on the energy industry and its customers.²⁴

Regional Economic Effects

78 Regional economic impact analysis provides an assessment of the potential localized effects. Specifically, regional economic impact analysis produces a quantitative estimate of the potential magnitude of the initial change in the regional economy resulting from a regulatory action. Regional economic impacts are commonly measured using regional input/output models. These models rely on multipliers that mathematically represent the relationship between a change in one sector of the economy (e.g., hydroelectric power generation) and the effect of that change on economic output, income, or employment in other local industries (e.g., manufacturers relying on the electricity generated). These economic data provide a quantitative estimate of the magnitude of shifts of jobs and revenues in the local economy.

²²OMB, "Circular A-4," September 17, 2003.

²³5 U.S.C. § 601 *et seq.*

²⁴5 U.S.C. § 601 *et seq.*

79 The use of regional input/output models can overstate the long-term impacts of a regulatory change. Most importantly, these models provide a static view of the economy of a region. That is, they measure the initial impact of a regulatory change on an economy but do not consider long-term adjustments that the economy will make in response to this change. For example, these models provide estimates of the number of jobs lost as a result of a regulatory change, but do not consider re-employment of these individuals over time. In addition, the flow of goods and services across the regional boundaries defined in the model may change as a result of the designation, compensating for a potential decrease in economic activity in the region.

80 Despite these and other limitations, in certain circumstances regional economic impact analysis may provide useful information about the scale and scope of localized impacts. It is important to remember that measures of regional economic effects generally reflect shifts in resource use rather than efficiency losses. These types of distributional effects, therefore, should be reported separately from efficiency effects (i.e., not summed). In addition, measures of regional economic impacts cannot be compared with estimates of efficiency effects.

DEFINING THE BASELINE

81 The purpose of this analysis is to measure the economic impact of compliance with the protections derived from the designation of critical habitat, including habitat protections that may be co-extensive with the listing of the species. Economic impacts to land use activities may exist in the absence of co-extensive protections. These impacts may result from, for example:

- Local zoning laws;
- State natural resource laws; and
- Enforceable management plans and best management practices applied by other State and Federal agencies.

82 Economic impacts that result from these types of protections are not included in this assessment; they are considered to be part of the "baseline." Existing laws, regulations, and policies are described in greater detail in **Chapter III** of this analysis.

DIRECT COMPLIANCE COSTS ASSOCIATED WITH SECTION 7 OF THE ACT

83 The measurement of direct compliance costs focuses on the implementation of section 7 of the Act. This section requires Federal agencies to consult with the Service 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. The administrative costs of these consultations, along with the costs of project modifications resulting from these consultations, represent direct compliance costs.

84 This analysis does not differentiate between consultations that result from the listing of the species (i.e., the jeopardy standard) and consultations that result from the presence of critical habitat (i.e., the adverse modification standard). Consultations resulting from the listing of the species, or project modifications meant specifically to protect to the species as opposed to its habitat, may occur even in the absence of critical habitat. However, in 2001, the U.S. 10th Circuit Court of Appeals instructed the Service to conduct a full analysis of all of the economic impacts of critical habitat designation, regardless of whether those impacts are attributable co-extensively to other causes.²⁵ Given the similarity in regulatory definitions between the terms “jeopardy” and “adverse modification,” in practice it can be difficult to pre-determine the standard that drives a section 7 consultation. Consequently, in an effort to ensure that this economic analysis complies with the instructions of the 10th Circuit as well as to ensure that no costs of the proposed designation are omitted, the potential effects associated with all section 7 impacts in or near proposed critical habitat are fully considered. In doing so, the analysis ensures that any critical habitat impacts that are co-extensive with the listing of the species are not overlooked.

INDIRECT COSTS

85 A designation may, under certain circumstances, affect actions that do not have a Federal nexus and thus are not subject to the provisions of section 7 under the Act. The potential exists for several types of such indirect effects: three examples are discussed in this section. First, some landowners may voluntarily elect to complete a HCP in response to having their land designated as critical habitat. Second, some State laws may require landowners and managers to consider the effects of their actions on sensitive species and habitat. Thus, designation of critical habitat could trigger additional regulatory burden because of new information provided by the designation. Third, the consultation process may result in time delays for upcoming or ongoing projects, and the designation may foster regulatory uncertainty for prospective projects. The three most common categories of indirect effects are discussed further below.

CREATION OF HCPS

86 Under section 10(a)(1)(B) of the Act, a non-Federal entity (i.e., a landowner or local government) may develop an HCP for an endangered animal species in order to meet the conditions for issuance of an incidental take permit in connection with the development and management of a property.²⁶ The HCP intends to counterbalance potential harmful effects that a proposed activity may have on a species, while allowing the otherwise lawful activity to proceed. As

²⁵*New Mexico Cattle Growers Ass'n v. U.S.F.W.S.*, 248 F.3d 1277 (10th Cir. 2001).

²⁶U.S. Fish and Wildlife Service, “Endangered Species and Habitat Conservation Planning.” From: <http://endangered.fws.gov/hcp/>, as viewed on August 6, 2002. Sections 9 and 10(a)(1)(B) of the Act do not apply to plants.

such, the purpose of the habitat conservation planning process is to ensure that the effects of incidental take are adequately minimized and mitigated. Thus, HCPs are developed to ensure compliance with section 9 of the Act and to meet the requirements of section 10 of the Act.

87 However, a connection may exist between the creation of HCPs and the costs these plans impose and the designation of critical habitat. The Service, being a Federal entity, must formally consider whether an HCP will jeopardize a listed species or adversely modify its designated critical habitat before approving the plan. This review process may be a direct impact under section 7 of the Act. However, in certain circumstances, the effort involved in creating the HCP and associated conservation actions may also generate indirect effects associated with the designation of critical habitat. For example, in one past instance, landowners preemptively developed HCPs in an effort to avoid having their property designated as critical habitat.²⁷ In this case, the effort involved in creating the HCP and undertaking associated conservation actions were considered to be an effect of designation.

88 The following scenarios regarding HCP creation provide general guidance regarding the degree to which associated costs should be considered in the context of a critical habitat economic analysis.

89 In cases in which an HCP existed prior to a proposed designation, the costs of developing the HCP and the added costs of management imposed by the HCP should not be considered in the analysis of the effects of the designation. These costs are appropriately considered to be part of the regulatory baseline, because their creation was driven by the listing of the species and the need to avoid take, which is prohibited under section 9 of the Act. However, in cases where designated critical habitat overlaps with completed HCPs, the economic analysis will need to consider the cost to the Service to reconsult on the plan's impact to critical habitat and whether or not this process may result in additional conservation actions.

90 In cases in which an HCP is proposed, or reasonably foreseeable absent the designation of critical habitat, the administrative costs associated with the required internal section 7 consultation should be included in the economic analysis of total section 7 costs, because the Service will need to consider the effects of the plan on designated critical habitat. In addition, if as a result of the designation additional project modifications will 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 in the economic analysis of critical habitat.²⁸

²⁷See Industrial Economics, Incorporated, Economic Analysis of Critical Habitat Designation for the Nine Bexar County Texas Invertebrate Species, prepared for the U.S. Fish and Wildlife Service, March 3, 2003.

²⁸Project modification costs associated with the jeopardy standard are not considered for the following reason. 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."

91 In cases in which development of one or more HCPs can be documented as being precipitated by critical habitat designation (i.e., to avoid designation or to reduce the costs of the designation), the costs of development of the HCP and the added costs of management imposed by the HCP should be included in the critical habitat economic analysis. In such cases the analysis should be presented with appropriate caveats as to the uncertainty regarding the extent to which the HCP would have existed absent critical habitat designation.

OTHER STATE AND LOCAL LAWS

92 Under certain circumstances, the designation of critical habitat may provide new information to a community about the sensitive ecological nature of a geographic region, potentially triggering additional economic impacts under other State or local laws. In cases where these costs would not have been triggered “but for” the designation of critical habitat, they are included in this economic analysis.

93 For example, the California Environmental Quality Act (CEQA) requires that lead agencies—public agencies responsible for project approval—consider the environmental effects of proposed projects that are considered discretionary in nature and not categorically or statutorily exempt. Among other effects, the CEQA statutes specifically require lead agencies to consider a project’s effects on rare or endangered plant and animal communities. To approve qualifying projects, lead agencies must require applicants, who are not “categorically exempt,” to mitigate effects to less than significant levels for projects that are not granted a “statement of overriding considerations.”²⁹

94 In some instances, the designation of critical habitat can have an indirect effect on CEQA-related requirements. This is most likely to occur in areas where the Federal designation provides clearer information on the importance of particular areas as habitat for a listed species.

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. Therefore, in circumstances where an HCP is reasonable foreseeable absent the designation of critical habitat, these actions are considered to be part of the baseline of this economic analysis.

²⁹Article 19 of CEQA provides a list of categorical exemptions, which are descriptions of types of projects that usually do not have a significant effect on the environment (e.g., replacement or reconstruction of existing facilities, actions taken by regulatory agencies as authorized by State law or local ordinance to assure the maintenance, restoration, or enhancement of a natural resource.) (<http://ceres.ca.gov/ceqa/flowchart/exemptions/categorical.html>, as viewed on April 21, 2003.)

In addition, applicants who were “categorically exempt” from preparing an environmental impact report (EIR) under CEQA may no longer be exempt once critical habitat is designated. In cases where the designation triggers the CEQA significance test or results in a reduction of categorically exempt activities, associated costs are considered to be an indirect effect of the designation.

- 95 In these and other cases in which costs are incurred by landowners and managers above and beyond what would be required under State or local law and policy in the absence of the designation, these costs are considered to be an indirect effect of the designation. As such, these economic effects are reported in the analysis.

TIME DELAYS AND REGULATORY UNCERTAINTY

- 96 In addition to the indirect effects of compliance with other laws triggered by the designation, project proponents, land managers and landowners may face additional indirect impacts. These can include costs because of project delays associated with the consultation process or compliance with other regulations, or, in the case of land location in or adjacent to the designation, loss in property values because of regulatory uncertainty, and loss in property values resulting from public perceptions regarding the effects of critical habitat. These categories of potential effects are described in greater detail below.

Time Delays

- 97 Both public and private entities may experience incremental time delays for projects and other activities because of requirements associated with the section 7 consultation process and/or compliance with other laws triggered by the designation. The need to conduct a section 7 consultation will not necessarily delay a project, as often the consultation may be coordinated with the existing baseline regulatory approval process. However, depending on the schedule of the consultation, a project may experience additional delays, resulting in an unanticipated extension in the time needed to fully realize returns from the planned activity. To the extent that delays result from the designation, they are considered in the analysis. Specifically, the analysis considers costs associated with any incremental time delays associated with section 7 consultation or other requirements triggered by the designation above-and-beyond project delays resulting from baseline regulatory processes.

Regulatory Uncertainty

- 98 The Service conducts each section 7 consultation on a case-by-case basis and issues a biological opinion on formal consultations based on species-specific and site-specific information. As a result, government agencies and affiliated private parties who need to consult with the Service under section 7 may face uncertainty about whether project modifications will be recommended by the Service and what the nature of these modifications will be. This uncertainty may diminish as consultations are completed and additional information becomes available on the

effects of critical habitat on specific activities. However, a degree of regulatory uncertainty may persist. In some cases, this uncertainty may be incorporated by the project proponent into the costs of completing a proposed activity. Where appropriate, the analysis considers the potential costs associated with regulatory uncertainty.

Stigma

- 99 In some cases, the public may perceive that critical habitat designation may result in incremental changes to private property values, above and beyond those associated with anticipated project modifications and regulatory uncertainty described above. That is, the public may perceive that, all else being equal, a property that is designated as critical habitat will have lower market value than an identical property that is not within the boundaries of critical habitat. Public attitudes about the limits and costs that critical habitat may impose can cause real economic effects to the owners of property, regardless of whether such limits are actually imposed.

BENEFITS

- 100 In Executive Order 12866, OMB directs Federal agencies to provide an assessment of costs and benefits of a proposed regulatory actions.¹⁵ Where possible, the benefits of critical habitat designation should be described on a unit-by-unit basis in order to provide the Service with best available information to finalize critical habitat designations. For example, useful information for policy makers might include whether the benefits of excluding one (or more) critical habitat units outweigh the costs of including one (or more) units. However, in its guidance for implementing Executive Order 12866, OMB acknowledges that often, it may not be feasible to monetize, or even quantify, the benefits of environmental regulations. Where benefits cannot be quantified, OMB directs agencies to describe the benefits of a proposed regulation qualitatively.¹⁶ *In the case of the SDFS, the Service believes that the benefits of critical habitat designation are best expressed in biological terms that can be weighed against the expected cost impacts of the rulemaking.* Thus, this report does not provide a monetary measure of the benefits of the proposed designation.

ANALYTIC TIMEFRAME

- 101 The analysis examines activities taking place both in and adjacent to the proposed designation. It estimates impacts based on activities that are “reasonably foreseeable,” including, but not limited to, activities that are currently authorized, permitted, or funded, or for which proposed

¹⁵ Executive Order 12866, “Regulatory Planning and Review,” September 30, 1993.

¹⁶ U.S. Office of Management and Budget, Circular A-4, September 17, 2003.

plans are currently available to the public. Accordingly, the analysis bases estimates on activities that are likely to occur within a 20-year timeframe, beginning on the day that the current proposed rule becomes available to the public.

102 Twenty years is an appropriate timeframe for this analysis for several reasons. First, the scale of the proposed critical habitat designation requires the use of regional and county level growth data. In the State of California, this data is readily available beyond the 10-year horizon. A 20-year timeframe is very common among several planning and development tools including California state-mandated jurisdictional general plans, population and employment projections by regional associations of governments, and project planning and the calculation of absorption rates and financial rates of return by real estate developers.

103 Second, speculative real estate transactions in high growth communities in Southern California, for instance, frequently involve land not yet annexed into cities and land upon which development is not likely to occur for 15 to 20 years. Master planned communities consisting of hundreds if not thousands of acres of raw land increasingly require more than 10 years to receive planning approvals from local, state and Federal agencies. Certain land development interests that precede the ownership by the eventual land developer, therefore, often financially control property more than a decade in advance of the first project application. Farming or ranching may continue, but critical habitat designation has the potential to affect development potential and associated speculative land value at a very early stage in the development process. Changes in these land values are a major focus of this analysis and establish the value of a 20-year interval for growth impacts.

GENERAL ANALYTIC STEPS

104 This report relies on a sequential methodology and focuses on distilling the salient and relevant aspects of potential economic impacts. The steps followed in this analysis are these:

- Describe current and projected economic activity in and around the proposed critical habitat area as well as those essential lands that are proposed for exclusion from the proposed designation;
- Identify whether such activities are likely to involve a Federal nexus;
- For activities with a Federal nexus, evaluate the likelihood that these activities will require consultations under section 7 of the Act and, in turn, result in any modifications to projects.
- Estimate the direct costs of expected section 7 consultations, project modifications and other economic impacts;

- Estimate the likelihood that current or future activities may require additional compliance with other Federal, State, and local laws as a result of new information provided by the proposed designation;
- Estimate the likelihood that projects will be delayed by the consultation process or other regulatory requirements triggered by the designation;
- Estimate the likelihood that economic activity will be affected by regulatory uncertainty, and/or property values affected;
- Estimate the indirect costs of the designation, as reflected in the cost of compliance with State and local laws, project delays, regulatory uncertainty, and effects on property values;
- Assess the extent to which critical habitat designation and other co-extensive regulations will create costs for small businesses as a result of modifications or delays to projects; and
- Assess the effects of administrative costs and project modifications on the supply, distribution, and use of energy.

105 As noted above, this analysis considers both efficiency effects and distributional effects. It begins by considering direct compliance costs, as well as potential indirect effects, such as those effects associated with project delays. Impacts on energy production and consumption are discussed in **Chapter VII**, and impacts on small entities are evaluated in **Chapter VII**.

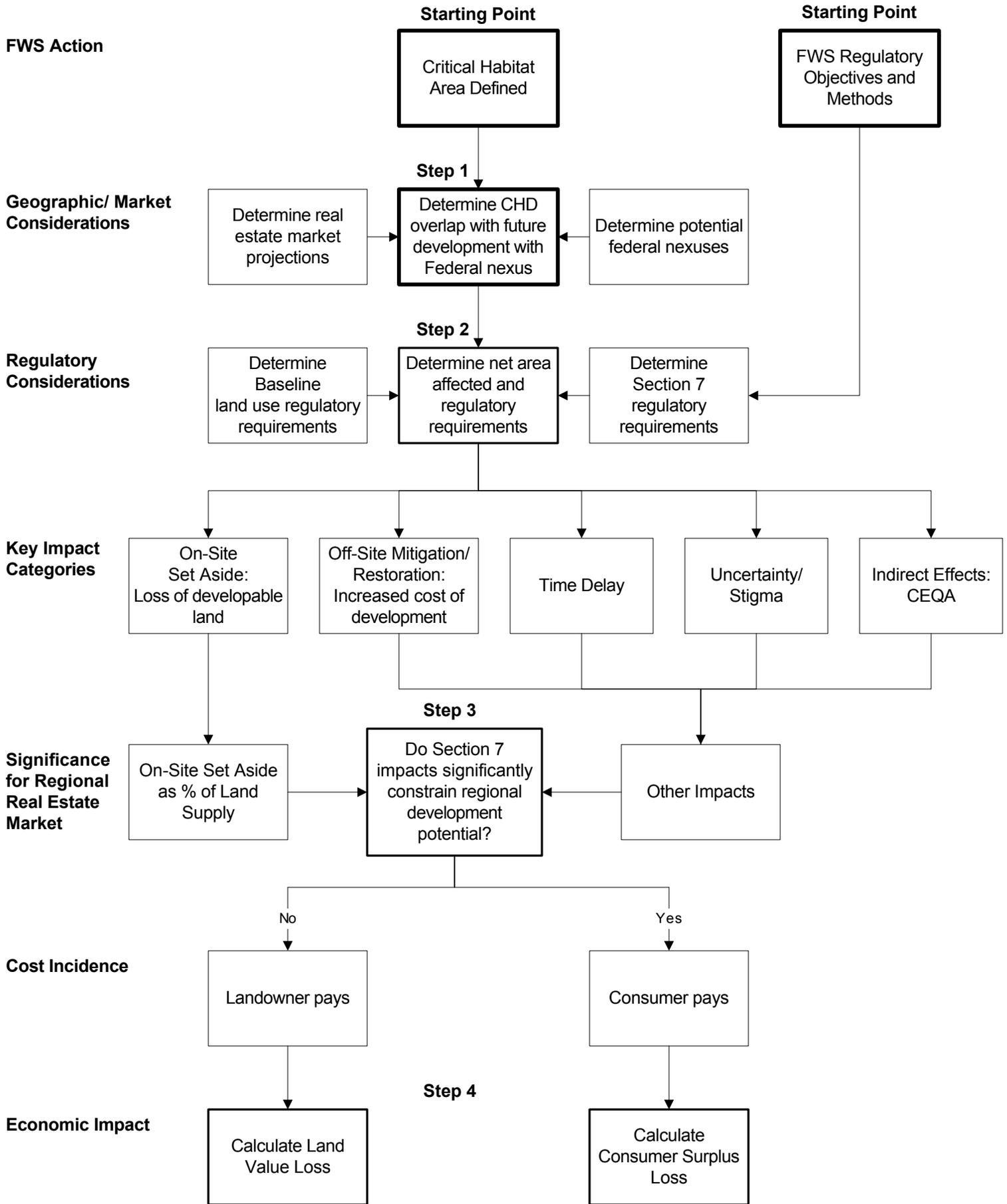
METHODS USED FOR AFFECTED REAL ESTATE ACTIVITIES

106 The regulation of land use through section 7 and the designation of critical habitat can potentially affect landowners, consumers, and real estate markets in general. The total economic impact will depend on the scope and intensity of section 7 consultations and project modifications, the pre-existing regulatory framework in the region, and the nature of regional land and real estate markets. In order to accurately account for all of these factors, and to estimate the corresponding economic impacts, this analysis employs a series of methodological tasks, as described below and summarized in **Figure 1**.

DETERMINE PRIVATE LAND AFFECTED

107 The first step in evaluating impacts on private development is to identify the amount, type and location of land included in the designation. The effect on private development should only include private land that can be developed during the timeframe of the analysis and those development projects that are likely to have a federal nexus.

Figure 1. Private Land Development - Conceptual Framework for Economic Analysis of Economic Effects



DETERMINE REGULATORY REQUIREMENTS AND IMPACT CATEGORIES

- 108 The actual effects of the rule on applicable land development projects will be determined by the type and level of project modifications likely to result from consultations. Thus, the second step in the evaluation process is to estimate the compliance requirements and costs associated with the rule, including required wetlands compensation and administrative costs. This step must also deduct the requirements or costs associated with pre-existing regulations or land use restrictions, including other federal regulations and state, local, or regional laws and agreements. As part of this step, the type of impacts associated with each regulatory requirement should be clearly identified.
- 109 For projects without full development approvals, the impacts are typically expected to occur over a period of time as projects are built in phases. Hence, the benefits that land receives from development—or the impacts on land prices from acreage set aside from development through regulation—are discounted from the future into current year dollars.³⁰ Were the land slated for immediate site improvements, a regulatory impact that changes the density of development would appear immediately as a change in the value of the land used in the project.

EVALUATE REGIONAL REAL ESTATE MARKET DYNAMICS AND COST INCIDENCE

- 110 The incidence or burden of section 7 compliance requirements and costs estimated in Step Two will be determined by the nature of regional real estate markets. The economic impacts are likely to extend beyond individually regulated landowners and affect the real estate market as a whole, including consumers of real estate products (e.g., homes and commercial buildings) if the following circumstances exist:
- The on-site set-aside requirements associated with consultation are high relative to the developable land in the region, and/or
 - The total compliance costs are high relative to real estate development value and cover a significant proportion of developable land.
- 111 Conversely, if compliance costs are low or the rule only affects a small fraction of the total developable land supply in a region, then the economic effects are likely to be limited to the small subset of individual landowners or projects with a federal nexus. These landowners will not be able to pass on their increased costs to consumers and their development projects will either relocate to other available sites or proceed at a reduced value. Thus, the third step in this analysis is to determine the significance of the additional designation-related constraints relative to local real estate demand and supply dynamics.

³⁰ Future costs are discounted at a 7 percent rate.

ESTIMATE ECONOMIC IMPACTS

112 Following Steps 1 through 3, the potential economic impacts of project modifications can be determined. If the real estate market as a whole is unaffected by the rule and the burden falls on individual property owners or projects, the analysis will focus on the net loss in land or project value resulting from increased project modification costs. If the rule is expected to have an appreciable effect on the regional real estate market, resulting in a marketwide increase in price or decline in production, for example, then the burden will fall primarily on consumers. In this case, the task will be to estimate the loss in consumer surplus to the degree possible.³¹

³¹Consumer surplus is the difference between the total value consumers receive from a particular good and the total amount they pay for that good. When the price of a good rises, consumer surplus falls since some consumers seek other options for housing and the consumers who remain in the market pay a higher price for the same good. for the same good at a higher price.

III. REGULATORY CONTEXT BY REGION AND JURISDICTION

- 113 This chapter describes existing regulations for the SDSF in Orange and San Diego Counties. These regulations include regional HCPs, county and city ordinances and development policies, and local CEQA practices are described. Using information about the subregion's regulatory context, this section isolates requirements associated with implementation of section 7 and net out requirements from pre-existing regulation. The array of existing regulatory requirements relevant to the SDSF by subregion is summarized in **Table 2** and further described below.
- 114 For each land use identified with possible section 7 cost impacts, consultation costs and project modifications are detailed in **Chapters IV, V, and VI**.

CENTRAL ORANGE COUNTY CRITICAL HABITAT SUBUNITS

- 115 Of the three subareas of Orange County with essential habitat, only Newport Banning Ranch contains land projected to urbanize in the next 20 years. The ranch is an Existing Use Area in the Central/Coastal Orange County NCCP/HCP, and previous development plans submitted to local government have not made clear whether any long-term protection will be extended to the vernal pool habitat.³² In Existing Use Areas, current land uses are permitted, and no take authorization would be required unless landowners request a rezone to allow for other uses. Recent development proposals have included requests for rezoning to accommodate residential and commercial land uses.
- 116 If development of the vernal pool habitat is proposed, the project applicant could choose to satisfy NCCP/HCP's criteria for mitigation of impacts to SDSF. In reality, this outcome is the most advantageous option that can be selected by the landowners, because the NCCP/HCP was designed to address multiple habitats with multiple listed species. For projects of this type, section 7 consultations may not address the full range of habitats and species.³³
- 117 With regard to costs associated with critical habitat designation, this analysis assumes that the presence of critical habitat will not add to the costs of complying with terms of an HCP that had been prepared in the absence of critical habitat. That is, measures required to conserve the species as outlined in a project-specific HCP will be the same measures incorporated into an HCP after critical habitat is designated on the project site.

³² Personal communication with Ken Corey, Habitat Conservation Branch, Carlsbad Field Office, U.S. Fish & Wildlife Service, Carlsbad, California, March 31, 2003.

³³ Personal communication with Tim Neeley, Planning Department, County of Orange, Anaheim, California, April 3, 2003.

Table 2
U.S. Fish & Wildlife Service
San Diego Fairy Shrimp Critical Habitat Draft Economic Analysis
Summary of Baseline Regulations in Selected Areas Affected by the Regulation

Regulation	City of San Diego	County of San Diego	City of San Marcos	City of Newport Beach / Orange County	MCAS Miramar	MCB Camp Pendleton
Baseline [1] Easements or Other Protections Based on Ownership	X	X	-	X [2]	-	-
Local Ordinances	X [3]	X [4]	-	-	-	-
MSCP [5]	X	X	-	-	-	-
MHCP	-	X	-	-	-	-
Central/Coastal Orange County HCP/NCCP [6]	-	-	-	X	-	-
CEQA	X [7]	X [7]	X [8]	X	-	-
INRMP	-	-	-	-	X	-

SDFS Critical Habitat Designation
Net of all Baseline Regulations

X [9] X [9] X [10] X [9] X [9] X [9]

Sources: USFWS, EPS, Cities of San Diego, San Marcos, and Newport Beach, MCAS Miramar, MCS Camp Pendleton, and Orange and San Diego Counties
"City SD"

Notes:

- [1] Baseline regulations pre-date the April 2003 proposed SDFS designation and thus would cause all or a portion of cost impacts in the absence of section 7 regulation.
- [2] Such as public parks, conservation easements, and proposed land use plans.
- [3] Environmentally Sensitive Lands Ordinance.
- [4] Resource Protection Ordinance. Responsible for major cost impacts in areas not part of the MSCP.
- [5] Refers to the sum total of requirements imposed on development by the MSCP's Implementing Agreement with the City or County. Includes Federal wetland policies, definitions of Biological Resource Core Areas, and other findings of conformance required by the City or County's Subarea Plan. Does not apply to lands in the City excluded from the MSCP.
- [6] The Newport Banning Ranch site is an Existing Use Area where take authorization will be required when a rezone is requested for the property. HCP/NCCP impacts do not apply to the North Ranch Policy Area, Fairview Park, or Rancho Mission Viejo, which are not part of the HCP/NCCP.
- [7] CEQA review is assumed to be driven by the findings of conformance required by the MSCP.
- [8] CEQA review assumed to defer to section 7 processes to define project impacts and mitigation.
- [9] Refers to costs of section 7 implementation for land proposed for designation, lands proposed for exclusion under 4(b)2 alone, and land proposed for exclusion under 3(5)(A) and 4(b)(2).
- [10] Refers to costs of section 7 implementation for land proposed for designation, lands proposed for exclusion under 4(b)2 alone, and land proposed for exclusion under 3(5)(A) and 4(b)(2). Assumes Army Corps of Engineers asserts jurisdiction over vernal pool wetlands in all large projects.

- 118 Alternatively, if the Newport Banning Ranch does not pursue adoption of NCCP/HCP preservation measures, impacts to vernal pool habitat could potentially be addressed in a section 7 consultation. Depending on wetlands jurisdiction issues, the project may require 404b permits from United States Army Corps of Engineers (USACE), but no other Federal nexus is likely for these property.
- 119 To be more likely to overestimate rather than underestimate costs, this analysis estimates the loss in raw land values that would occur if the project was required to consult with the Service under section 7. That is, impacts are estimated assuming a Federal nexus will be present in the development of the property, and the biological opinion will require the applicant to avoid all 23 acres of proposed critical habitat. The regulatory context for this subregion is depicted in **Table 2**. The calculation of this particular impact is explained fully in **Chapter IV**.

SOUTHERN ORANGE COUNTY CRITICAL HABITAT SUBUNITS

- 120 The property is the centerpiece of what may become the Southern Orange County NCCP/HCP, one potential means for developers to win approval of Rancho Mission Viejo and other, smaller projects in unincorporated Orange County and other participating cities. The other major option for project applicants is to prepare smaller scale HCPs on a project by project basis once the raw land is sold to homebuilders³⁴. Chiquita Ridge has already been dedicated to conservation of the vernal pools as part of the Ladera Open Space area, which was one of Rancho Mission Viejo's first phases of development.
- 121 Radio Tower Road has been committed to permanent protection in the current preferred alternative of the developers, known as the Ranch Plan³⁵. The site has also been included for preservation in a recently completed planning exercise jointly undertaken by the state and federal wildlife agencies and the developers, in which hydrogeological characteristics of the site were used in generating possible scenarios of final land uses in Rancho Mission Viejo³⁶.
- 122 Thus, habitat for SDFS is likely to be conserved regardless of critical habitat designation, and regardless of whether the habitat is conserved formally through the regional HCP process or project-specific HCP preparation. Aside from an administrative consultation conducted on the expected HCP adoption, therefore, the amount of section 7 cost attributable to critical habitat is effectively zero.

³⁴Personal communication, Tim Neeley, Planning Department, County of Orange, Anaheim, California, April 3, 2003.

³⁵Personal communication, Ken Corey, Habitat Conservation Branch, Carlsbad Field Office, U.S. Fish & Wildlife Service, Carlsbad, California, March 31, 2003.

³⁶Personal communication, Tim Neely, Planning Department, County of Orange, Anaheim, California, April 3, 2003.

SAN DIEGO COUNTY CRITICAL HABITAT SUBUNITS OWNED BY THE UNITED STATES MILITARY

MCB CAMP PENDELTON

- 123 MCB Camp Pendleton provides training facilities for many active-duty and reserve Marine, Army, and Navy units, as well as national, state, and local agencies. More than 60,000 military and civilian personnel are employed at the base, and is home to the 1st Marine Expeditionary Force, the 1st Marine Division, the 1st Force Service Support Group, and many tenant units, including elements of Marine Aircraft Group 39 and Marine Corps Tactical Systems Support Activity.
- 124 The training exercises on MCB Camp Pendleton range from small isolated activities to those including several thousand personnel, and include infantry operations, amphibious landings, live fire operations and field maneuvers using wheeled and tracked vehicles. While the base contains housing developments and recreational areas, its main purpose remains for the foreseeable future military training.
- 125 The Service considers approximately 8,693 acres of land on MCB Camp Pendleton as essential to the biological survival of SDFS critical habitat. Of this amount, approximately 851 acres have been proposed for critical habitat, and they include a park site leased by Marines to the CDPR and private interests, Cockleburr Preserve, and non-training land around the Wire Mountain housing area. The remaining 7,842 acres are located on mission-essential training areas of the base and have been proposed for exclusion under the section 4(b)(2) of the Act. The 851 acres of proposed critical habitat on MCB Camp Pendleton are located in Subunits 2A through 2F of the proposed designation.
- 126 MCB Camp Pendleton operates an amphibious training base that promotes the combat readiness of military forces and is the only West Coast Marine Corps facility where amphibious operations can be combined with air, sea, and ground assault training activities year-round. Currently, the Marine Corps has no alternative installation available for the types of training that occur on MCB Camp Pendleton.
- 127 The Service considers a considerable portion of training lands, approximately 8,802 acres as essential to the survival of the SDFS. However, training lands were proposed for exclusion because the Service is already in formal consultation with the Marine Corps on their upland activities to ensure that current and proposed actions will not jeopardize the species' continued existence. The Service therefore believes that the benefits of proposing MCB Camp Pendleton's training areas do not outweigh the benefits of their exclusion. Furthermore, the Service believes that the exclusion of training lands from the proposed designation will not result in the extinction of the SDFS.

128 Despite the proposed exclusion of MCB Camp Pendleton training lands from the proposed designation, this report nevertheless analyzes potential costs of both proposed and proposed exclusion lands. Therefore, several section 7 consultations may be necessary for Camp Pendleton in the next 20 years. As the installation's housing areas are renovated or expanded, training exercises featuring the deployment of new weapon systems are initiated, and infrastructure to support munitions, equipment, vehicles, and other utility and transportation needs is built, projects that may affect the SDFS or may adversely modify critical habitat will likely result in some kind of consultation activity. The regulatory context for this area is depicted in **Table 2**. Details about these activities are provided in **Chapter VI**.

MCAS MIRAMAR

129 The Service has determined that approximately 2,466 acres of lands on MCAS Miramar are biologically essential for the conservation of the SDFS. While these acres are proposed for exclusion from critical habitat designation, the report nevertheless analyzes cost impacts for Miramar lands. MCAS Miramar supports naval air operations on the west coast, and is home to the 3d Marine Aircraft Wing and Marine Aircraft Group 46, as well as various other Naval aviation units.

130 Similar to MCB Camp Pendleton, the major advantage of the base is its strategic location. Close proximity to both water and desert allows for a wide array of training terrain, as well as quick and efficient deployment of troops. The base, which covers over 23,000 acres, is a major economic force in the area with over 12,500 service members and civilian employees whose combined salaries totaled over \$175,000,000 in 1999. The economic impact of the base is a part of the total Department of Defense financial impact on San Diego County, which is estimated at over \$9.5 billion dollars.³⁷

131 Despite having SDFS habitat, Miramar lands are proposed to be excluded from the fairy shrimp habitat designation. The Service feels that the base has completed and approved an INRMP which adequately addresses the needs of the protected species. In order to be excluded, the base must possess the following criteria:

- Current and complete INRMP that allows for conservation of the species;
- Assurance that the conservation management strategies will be followed; and
- Assurance that the management strategies will be effective.

132 As the Service has found Miramar to be in compliance with all criteria listed above, the lands under the plan are proposed to be excluded from critical habitat for the SDFS, as they feel that any official designation would not provide further protection for the species. In addition,

³⁷Miramar Web site.

designation would require that the base consult under section 7 on any activity that may affect habitat, thereby adding additional burden above and beyond the effort required to construct the INRMP, and may hinder military training and readiness. The regulatory context for this subregion is depicted in **Table 2**.

NAVAL RADIO RECEIVING FACILITY

- 133 The Service has identified 192 acres of land in the City of Coronado as essential to the survival of the SDFS. The 192 acres of essential lands are located primarily on military property belonging to the U.S. Navy. The Service decided to propose excluding these lands from the proposed designation because they already receive environmental protection under an approved INRMP. Despite their proposed exclusion from the proposed designation, this analysis estimates cost impacts for these lands. The Navy facility is known as the Naval Radio Receiving Facility, and personnel from the Navy's Regional Southwest Environment Department identify the area as a primary site used by Navy Seal units to conduct training. SDFS was not known to occur at this site until recently, and no consultations have taken place regarding military operations. The training site is very important to the Navy, because other sites in the region that meet training criteria have been eliminated from usage because of negative impacts on other listed species.³⁸
- 134 Much of the essential but excluded habitat is in the Management and Acquisition Boundary of the South San Diego Bay National Wildlife Refuge unit, and some discussion with the Navy has taken place to explore whether the Service might provide habitat management for the area. However, the Services has no fee title to any of the proposed critical habitat land, and no agreement has been reached on its management.³⁹
- 135 If the Naval Radio Receiving Facility were proposed for critical habitat, the Navy would be required to initiate a single formal consultation in the next 20 years to address impacts to SDFS or its habitat, and project modifications may result. The costs associated with these requirements are explained in detail in **Chapter VI**.

NAVY LAND ADJACENT TO THE TIAJUANA SLOUGH NATIONAL WILDLIFE REFUGE

- 136 The 10 acres of critical habitat proposed for this southwestern portion of the City of Imperial Beach is owned by the U.S. Navy and adjacent to the Tijuana Slough National Wildlife Refuge.

³⁸Personal communication with Tamara Conkle, Environment Department, Navy Regional Southwest Office, San Diego, California, April 3, 2003.

³⁹Personal communication with Tom Pitalkski, Tijuana Slough National Wildlife Refuge, Imperial Beach, California, April 2, 2003.

These 10 acres make up Subunit 5E of the proposed designation. The Service, using staff and other resources located at the refuge, manages this Navy land under a 1984 Memorandum of Understanding (MOU) with the United States Navy.

- 137 Military craft maneuvers and training operations historically have taken place without the requirement for consultation with the Service, although Navy personnel suggest that future military activities may change and alter the management required of Navy lands.⁴⁰ At the present time, staff members at the Refuge unit believe that management activities spelled out in the MOU are protective of the vernal pool habitat.⁴¹ Without stronger evidence that a consultation will take place regarding military operations in proposed critical habitat, this analysis assumed that no section 7 costs are likely to apply to this subunit over the next 20 years.

CRITICAL HABITAT SUBUNITS IN THE CITY OF SAN MARCOS

- 138 The City of San Marcos is not a party to any regional HCP, and its land use authority is subject to section 7 regulation only if a Federal nexus is present. Project applicants have the greatest likelihood of requiring a Federal permit if USACE assumes jurisdiction over wetlands impacted by the project. USACE officials in the Los Angeles district estimate that no more than 75 percent of projects impacting vernal pools will be considered jurisdictional.

Alternatively, projects with anticipated take of listed species may prepare a project-specific HCP regardless of whether a Federal nexus is present on the project site. Normally, the section 7 process is preferred by developers, because the time required to achieve a section 7 incidental take permit can be shorter. However, in cases where project applicants pursue a project-specific HCP, this analysis assumes that the presence of critical habitat will not add to the costs of complying with provisions of an HCP that had been prepared in the absence of critical habitat. That is, measures required to conserve the species as outlined in a project-specific HCP will be the same measures incorporated into an HCP after critical habitat is designated on the project site.

- 139 Finally, the City of San Marcos has neither development ordinances nor general plan policies requiring project modifications when impacts to vernal pool habitat are likely, so it is assumed that no baseline costs exist for development in this city.⁴² To be more likely to overestimate

⁴⁰Personal communication with Tamara Conkle, Environment Department, Navy Regional Southwest Office, San Diego, California, April 3, 2003.

⁴¹Personal communication with Brian Collins, Tiajuana Slough National Wildlife Refuge, Imperial Beach, California, April 2, 2003.

⁴²Personal communication with Jerry Backoff, Planning Department, City of San Marcos, San Marcos, California, November 20, 2002.

rather than underestimate costs of critical habitat designation, this analysis estimates the loss in raw land values that would occur if 75 percent of proposed San Marcos projects were required to consult with the Service under section 7. That is, impacts are estimated assuming a Federal nexus will be present in the development of properties in San Marcos, and the biological opinion will require the applicant to avoid all vernal pool habitat on the project site. The regulatory context for this subregion is depicted in **Table 2**. The estimate of land value losses resulting from section 7 implementation in San Marcos are fully explained in **Chapter IV**.

CRITICAL HABITAT SUBUNITS IN THE CITY OF SAN DIEGO

- 140 Development in the City of San Diego is subject to land use regulations at the federal, state, and local level. The City's⁴³ Land Development Code, and the Environmentally Sensitive Lands Ordinance in particular, requires that projects with potential impacts to vernal pool habitat be designed according to a three-part process that first emphasizes avoidance, then minimization, and, if necessary, mitigation of negative effects on SDFS. Inside the MHPA, city code favors avoidance of impacts to vernal pools, and any deviation from development regulations must achieve a project with a no-net-less outcome with retention of in-kind wetland values. Outside the MHPA, projects may choose from a variety of measures that mitigate for habitat impacts, including enhancement, restoration, or transplantation of vernal pools and their species.
- 141 When mitigation is a chosen measure, the City's Biology Guidelines, a part of the City's Land Development Code, stipulate that applicants must achieve a mitigation ratio between 2:1 and 4:1 for vernal pool impacts.⁴⁴ The ESLO was adopted in late 1997, while the guidelines were adopted in late 1999. Both likely will apply to all projects in the City during the next 20 years.
- 142 Project applicants who propose projects in compliance with the ESLO and the Biology Guidelines then will undergo CEQA review. The City may conditionally accept of the applicant's CEQA responses to project impacts, pending completion of a section 7 consultations or the creation of an individual HCP.⁴⁵ A project applicant typically will offer CEQA mitigation alternatives in a way that meets both ESLO and Service (section 7 or HCP) objectives. As a result, the project's actual mitigation costs are likely to be set at the level required by the most stringent level regulation, whether local or federal in origin.
- 143 In projects where no Federal nexus is present, however, CEQA assessment of impacts and the required measures to avoid or mitigate those impacts will not refer to the results of a section 7, but instead to local requirements only. In addition, litigation between the parties to the MSCP

⁴³San Diego Municipal Code §143.0141 (amended October 1999; effective January 2000).

⁴⁴*Biology Guidelines*, part of the Land Development Code, San Diego Municipal Code, Table 2: "Wetlands Mitigation Ratios."

⁴⁵Personal communication with Holly Chong, Planning Department, City of San Diego, March 21, 2003.

is underway that may resolve whether the MSCP authorizes the City of San Diego to provide take of the species when the USACE does not assert jurisdiction in a project with impacts to vernal pools. If courts find that the City does not have authority to permit take of SDFS, then it is possible that projects without a Federal nexus will have no obligation to consult with the Service under section 7 and must instead prepare an individual HCP. The consultation would be a full consultation accompanied by a project-specific biological opinion in these cases.

- 144 If, however, courts find that the MSCP effectively grants the City the authority to approve projects with take if the projects meet criteria specified by the MSCP, then City Land Development Code and general MSCP provisions will determine the project modifications required before the project can gain the entitlements required to proceed.⁴⁶ The Service would implement a routine administrative process to recognize the MSCP's approvals in these cases.
- 145 Regardless of whether federal or local regulatory processes are in place, this analysis finds that project modifications are no different when comparing the outcome associated with section 7 consultations or the preparation of an individual HCP to the outcome associated with the City of San Diego's land use authority. Because the City's Land Development Code was adopted before critical habitat will be designated, project modifications in cases where a Federal nexus or an individual HCP is present are assumed to be part of the regulatory baseline for the project applicant.
- 146 In summary, for any future land development activities in this subregion requiring a section 7 consultation, the baseline level of regulation provided by the City through the ESLO is approximately identical to that required by the Service through section 7 implementation. No costs associated with section 7, aside from internal administrative consultations related to compliance between the project and terms of the MSCP, are included. The regulatory context for this subregion is depicted in **Table 2**.

CRITICAL HABITAT SUBUNITS IN UNINCORPORATED SAN DIEGO COUNTY

- 147 Projects proposed for unincorporated areas of San Diego County, if located in areas governed by the MSCP, are either part of the MSCP reserve area known as the MHPA or must be added to the MHPA through a major or minor amendment process governed by the MSCP. Similarly, for areas that will be governed by a North County MSCP (likely to be enacted in the next 2–4 years), project areas not included in the habitat preserve must be added by an amendment process.

⁴⁶Personal communication with Keith Greer, Planning Department, City of San Diego, March 26, 2003.

- 148 County officials believe that both the MSCP and the regional plan that will become the North County MSCP do not provide for take of the SDFS. However, other county, state, and federal regulations apply to projects with impacts to SDFS's habitat while the applicant seeks County entitlements for the project.
- 149 Also, San Diego County is preparing an update to its General Plan and is expected to adopt this update, known as General Plan 2020, within the year. Policies regarding vernal pools have not yet been drafted, and no information is available that might indicate whether future land use regulation by the County will be different from the recent past. As a result, the Economic Analysis for SDFS is based on regulatory practices from the recent past.
- 150 According to the County's Land Use and Environment Department, when a project is located in the MHPA or in the future North County habitat preserve, San Diego County's Biological Mitigation Ordinance (BMO) defines the project modifications required before the project can be authorized. This ordinance requires that tiered mitigation based on biologically core resource areas be performed for loss of vernal pool habitat.⁴⁷ In practice, applicants agree to protect or restore one to three acres of vernal pool habitat for each acre filled by a development project located in the MHPA or future North County preserve. This regulatory standard for San Diego County predates and operates independently of the section 7 process.
- 151 When a project is located outside the MHPA or the habitat preserve envisioned for the North County MSCP, an applicant must ask for an amendment of the preserve boundary. In some cases, this amendment is minor and requires involvement by the County of San Diego and, through comments made during the County's CEQA process, the State and Federal wildlife agencies. In other cases, the amendment requires federal rulemaking and the agreement of the original signatories to the MSCP or the North County MSCP, including state and federal agencies.⁴⁸ Each amendment subjects the project to CEQA and an administrative section 7 consultation.
- 152 For projects located outside the MHPA or the habitat preserve envisioned for the North County MSCP, the project is subject to the County's Resource Protection Ordinance (RPO) prohibiting all grading, filling, construction, or placement of structures in vernal pool wetlands unless the economic use of the property is precluded by such a restriction.⁴⁹ Until the North County MSCP is adopted, the RPO plays an important role in this analysis' treatment of section 7 consultations. Projects located in the North County subregion must consult with the Service when the project takes place on Federal land or when a Federal agency funds or issues permits

⁴⁷*Biological Mitigation Ordinance*, Attachment M or "Table of Mitigation Ratios," as revised by the San Diego County Board of Supervisors, October 2000.

⁴⁸Personal communication with Tracy Cline, Land Use and Environment Department, County of San Diego, San Diego, California, April 2, 2003.

⁴⁹*The Resource Protection Ordinance*, Article 4, adopted by the San Diego County Board of Supervisors, October 1991.

for the project. In San Diego County, private landowners will need Federal permits only when the USACE assumes jurisdiction over wetlands impacted by the project. USACE officials estimate that no more than 75 percent of projects impacting vernal pools will be considered jurisdictional.

- 153 Projects without a Federal nexus may pursue an individual HCP for the SDFS under section 10(a) of the Act if the project may result in take of the species. While section 7 consultations may be completed or an individual HCP prepared by the applicant in the North County subregion, the RPO would require equivalent project modifications in the absence of any federal regulation. That is, the County's RPO asks for a range of 1–3 acres protected or restored for each acre filled by the development.⁵⁰ Hence, these ordinances should be considered as part of the regulatory baseline, even if concurrent section 7 consultations take place for certain projects and the documentation for project modifications originates through section 7 activities
- 154 In summary, for any future land development activities in this subregion requiring a section 7 consultation, the baseline level of protection provided by the County BMO (for sites in the MHPA) or the County RPO (for sites outside the MHPA) ESLO is approximately identical to that which would be required by the Service through section 7 implementation. No additional costs associated with section 7, aside from internal administrative consultations related to compliance between the project and terms of the MSCP, are anticipated. The regulatory context for this subregion is depicted in **Table 2**.

⁵⁰Personal Communication with Susan Wynn, Listing Branch, Carlsbad Fish & Wildlife Office, Carlsbad, California, April 2, 2003.

IV. IMPACTS TO PRIVATE LAND DEVELOPMENT

- 155 This chapter evaluates how private real estate development is impacted by the rule in the next 20 years. The chapter is split into two sections so that cost estimates are segregated by land type, with one section for each of the proposed rule's land types. Type I lands are those proposed for designation, and Type II lands are those proposed for exclusion under sections 4(b)(2) and 3(5)(A) of the Act. No private land development will occur on Type III lands (those proposed for exclusion from designation under section 4(b)(2) only) because Type III acreage is exclusively located on Marine Corps Base Camp Pendleton. In each land type, private land development projects are discussed both by location and by type of cost impact. The impacts include consultation or administrative costs, project modification costs, and project delay costs.
- 156 No costs associated with regulatory uncertainty on affected landowners have been included in this DEA. Regulatory uncertainty presupposes that implementation of rule produces a range of regulatory outcomes, and that land buyers will discount the value of properties to protect themselves from the uncertainty of section 7 costs. Because of the low probability that potentially lower cost, off-site conservation measures will be an alternative to on-site avoidance in RSFS habitat, the analysis of regulatory uncertainty has assumed that landowners anticipate the use of the strictest conservation measures in the implementation of section 7. As a result, no range of regulatory outcomes will be anticipated by affected landowners, and the uncertainty cost is zero.

TYPE I LANDS

- 157 Implementation of the rule in Orange and San Diego Counties is likely to impose one or more types of consultation or administrative costs, project modification costs, and delay costs on landowners, Federal action agencies, and the Service. Private land development impacts are expected in all but one essential habitat subarea, namely the North Coastal Management Area of San Diego County. This subarea consists of military land and conserved land in the City of Carlsbad, and no private land development activities will occur in essential habitat. **Tables 3 through 7** show the detail involved in estimating the costs for the other affected lands, in particular those in the City of San Marcos (San Diego County) and in the vicinity of Newport Banning Ranch (Orange County), where private land development is likely to occur over the next 20 years.

SUMMARY OF IMPACTS

- 158 Total costs associated with private development in proposed critical (Type I) habitat for the SDFS are estimated to be \$15.2 million over 20 years in the Newport Banning Ranch area of Orange County. These costs are estimated at \$37.1 million over 20 years in the City of San Marcos, located in the San Diego Inland Valley Management Area. Cost impacts are much

more limited on other Type I lands because of the presence of local development ordinances that predate the critical habitat designation and provide comparable levels of protection to the habitat. These site-specific conditions were outlined by essential habitat subregion in **Chapter IV**.

159 Most of the larger impacts estimated for Orange County and the City of San Marcos result from losses in land value associated with the reduction in development potential required by section 7 consultation. The bulk of these costs are borne by regulated landowners.

160 Very little of the total costs for the two county region are caused by consultation costs that are administrative in nature. The next sections will explain the assumptions used in calculating each cost.

ESTIMATED ADMINISTRATIVE COSTS

161 Administrative costs occur through two regulatory mechanisms. One type of cost is generated from meetings, paperwork, and other staff work related to an individual project's section 7 consultation or related technical assistance. The second type of cost is generated from the Service's section 7 filings of letters of concurrence with provisions of regional HCP if requested by an action agency.

Project-Specific Consultation Costs

162 This analysis assumes that 63 future development projects will require section 7 consultation in the next 20 years, based on an analysis of each habitat subunit's development status. Each of these projects is expected to be a formal consultation, and consultations are assumed to be distributed evenly throughout the time period. This even time distribution was chosen because the exact year during which each consultation will take place is unknown.

163 Based on unit costs shown in **Table 3** for each of the parties involved, **Table 4** shows the estimated administrative costs for these consultations.

164 To derive the number of consultations likely to occur, an average project size was calculated where no information was available about project acreage. For instance, for San Marcos industrial/commercial projects, a 2-acre average size was selected. Listings of land for sale zoned for industrial or commercial uses were consistent with this property size. The project applicant is assumed to require a USACE 404(b)(1) permit in each project, generating a single formal consultation.

165 Estimates of the cost of individual consultations and technical assistance were developed from a review and analysis of historical section 7 files from several Service field offices around the country. These files addressed consultations conducted for both listings and critical habitat

Table 3
U.S. Fish & Wildlife Service
San Diego Fairy Shrimp Critical Habitat Draft Economic Analysis
Consultation and Technical Assistance Unit Costs [1]

Category	Technical Assistance		Informal Consultations		Formal Consultations	
	<i>Low</i>	<i>High</i>	<i>Low</i>	<i>High</i>	<i>Low</i>	<i>High</i>
USFWS	\$260	\$680	\$1,000	\$3,100	\$3,100	\$6,100
Action Agency	\$0	\$0	\$1,300	\$3,900	\$3,900	\$6,500
Third Party	\$600	\$1,500	\$1,200	\$2,900	\$2,900	\$4,100
Biological Assessment	\$0	\$0	\$0	\$4,000	\$4,000	\$5,600

"Unit_costs"

Notes:

[1] A low to high cost range is specified for each action.

Table 4

**U.S. Fish & Wildlife Service
San Diego Fairy Shrimp Critical Habitat Draft Economic Analysis
Consultation Costs for Private Land Development**

Type I

Region/Jurisdiction/Planning Area	Formal Consultations [1] <i>over 20 years</i>	Cost per Formal Consultation [2]		Total Costs
		<i>low</i>	<i>high</i>	
L.A. Basin/Orange Management Area				
Orange County and City of Newport Beach Newport Banning Ranch	1	\$13,900	\$22,300	\$13,900 \$22,300
SD Inland Valley Management Area				
City of San Marcos Four Subunits	62	\$13,900	\$22,300	\$854,850 \$1,371,450
TOTAL	63			\$868,750 \$1,393,750

"Private_admin"

Notes:

- [1] Assumes that one consultation will address issues posed by the entire project of Newport Banning Ranch. For San Marcos commercial and industrial projects, the analysis assumes that the average project size is 2 acres and is consistent with properties listed by LoopNet.com.
- [2] Includes the costs borne by the U.S. Fish & Wildlife Service, the Federal action agency, and the developer in completing the consultation and a Biological Assessment.

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.

- 166 Estimates take into consideration the level of effort of the Service, the action agency, and the applicant during informal consultations, consultations that proceed to the formal stage, and technical assistance, as well as the varying complexity of consultations. Costs associated with consultations include the administrative costs associated with conducting the consultation, such as the cost of time spent in meetings and preparing letters, and the development of a biological opinion.
- 167 Cost estimates for technical assistance are based on analysis of past technical assistance efforts provided by a field office in southern California. Technical assistance costs represent the estimated economic costs of informational conversations, letters, and meetings between third parties or an agency and the Service regarding the designation of critical habitat for the vernal pool species.
- 168 Per-effort costs associated with formal consultations, informal consultations, and technical assistance calls are presented as low and the high scenarios that represent a reasonable range of costs for each type of interaction. For example, when the Service participates in technical assistance with a third party regarding a particular activity, the cost of the Service's effort is expected to be approximately \$260 to \$680. The cost of the third party's effort is expected to be approximately \$600 to \$1,500.
- 169 The cost of biological assessments may be borne by the Service when it consults on its own activities (e.g., management activities in national wildlife refuges), by the action agency when there is no third party, and by the project applicant (a private company or landowner in most cases) in all other cases.
- 170 Total costs were calculated by multiplying the number of consultations by the low and high costs per participant. Because this calculated value essentially represents the administrative costs assuming all consultations occurred in Year 1 (an undiscounted total cost), it is adjusted in **Table 13**.

Regional HCP-Related Administrative Costs

- 171 For projects located in certain areas of central to southern San Diego County, consultation is unlikely to occur unless a Federal nexus is present and no take authorization is available from the local government under the regional HCP known as the MSCP.⁵¹ In every other case, a

⁵¹**Chapter IV** introduces the lawsuit involving the question of whether parties to the MSCP may legally provide take authorization to projects in cases where the USACE does not claim jurisdiction over vernal pool habitat. It is possible that the local government will be allowed to provide this take under the section 10(a) permit that is the heart of the MSCP.

Federal agency issuing a permit to a project that involves take of SDFS must also seek concurrence from the Service that conservation measures for the project are consistent with the biological opinion written for the MSCP.

172 This action is assumed by this analysis to be a routine matter costing the agencies involved no more than a collective \$500 per concurrence letter. To calculate the number of projects likely to generate such an action (and be more likely to overestimate rather than underestimate these administrative costs), this analysis assumes that:

- The full area designated for critical habitat in each MSCP jurisdiction, net of ownership for conservation purposes, is potentially developable.⁵²
- Each project is 10 acres in size. Small development projects are likely to have this small size, while larger projects will be many times this size. This assumption allows DEA estimates to more likely overstate rather than understate the true cost of preparing concurrence letters.

173 **Table 5** assembles these factors—the number of projects seeking concurrence and the cost for the Service and the action agency to complete the action—into a partial estimate for Type I lands. This amount is part of the Private Land Development line’s Administrative Cost calculation and is discounted in **Table 13**. The remainder of the Administrative Cost calculation refers to the costs incurred by individual project consultations, as explained in the discussion above.

ESTIMATED PROJECT MODIFICATION COSTS

174 Habitat units where private land development may be impacted by the implementation of the rule were evaluated to determine how likely a Federal nexus is for lands in each project. Considerations include these:

- Is the project likely to prepare a project specific HCP or does it lay within the boundary of a regional HCP? If so, section 7 costs will be administrative in nature only (see below for a full explanation).
- Is the area likely to contain jurisdictional wetlands for the USACE? If so, a nexus is present, and the project modifications required net of Clean Water Act (CWA) mitigation will be attributed to critical habitat designation?

⁵²Except for half of the East Otay Mesa Specific Plan (just now beginning large scale industrial development) and Habitat Subunit 5I on the U.S.-Mexican Border. Also, only a single inholding near Habitat Subunit 4A is likely to seek a federal permit by impacting habitat with access road through the subunit; the remaining acreage is not developable.

Types I and II

Table 5
U.S. Fish & Wildlife Service
San Diego Fairy Shrimp Critical Habitat Draft Economic Analysis
Regional HCP Administrative Costs for Private Land Development [1]

Region/Jurisdiction/Planning Area	Total Acres Proposed for Designation <i>acres</i>	Maximum Acres Developed by 2023 [2] <i>acres</i>	Projects Seeking FWS Concurrence [3]	Cost per Letter of Concurrence [4]	Total Costs <i>undiscounted 2003\$</i>	Type I Acreage <i>percent</i>	Type I Costs <i>undiscounted 2003\$</i>	Type II Acreage <i>percent</i>	Type II Costs <i>undiscounted 2003\$</i>
SD Inland Valley Management Area									
San Diego County	2,866	2,866	287	\$500	\$143,500				
Ramona									
Subtotal	2,866	2,866	287		\$143,500	100%	\$143,500		
SD Central Coastal Management Area									
City of San Diego									
Bowtie, Del Mar Mesa, and Copp Properties [5]	371	371	1	\$500	\$500				
Arjon	20	20	2	\$500	\$1,000				
Subtotal	390	390	3		\$1,500	100%	\$1,500		
SD Southern Coastal Mesa Management Area									
San Diego County									
Olay Ranch Vicinity	2,219	1,708	171	\$500	\$85,500				
East Olay Mesa Specific Plan Area [6]	586	293	29	\$500	\$14,500				
East Mexican Border	37	0	0	\$500	\$0				
City of San Diego	1,547	994	99	\$500	\$49,500				
Olay Mesa									
Subtotal	4,389	2,995	300		\$49,500	38%	\$56,281	62%	\$93,219
TOTAL	3,257	3,257	290		\$294,500		\$201,281		\$93,219

"MSCP_letter_TypeI"

Notes:
 [1] Applies to projects either within the MSCP or within the as yet unapproved North Subarea Amendment to the MSCP.
 [2] Employs land consumption assumptions most likely to overstate growth in order to avoid underestimation of the cost impact. The acreage held as federal property or vernal pool conserved habitat has been netted out when appropriate.
 [3] A letter of project concurrence with provisions of the MSCP is issued by the Service upon request by an action agency before the pending Federal permit is issued.
 [4] Because the administrative activity consists of a two page letter from the Service in response to a 1 page letter from an action agency, the cost was estimated at \$500 for both agencies. For purposes of the analysis, these letters are not considered as an informal consultation.
 [5] According to City planning officials, this subunit may produce no more than one 3-unit residential project related to a private inholding among many properties dedicated into conservation.
 [6] The East Olay Mesa Specific Plan is assumed to build to 50% of land capacity by 2023 since few projects have been built in the large area to date. No development is assumed for subunits east of this specific plan.

- 175 In interviews with personnel from the Los Angeles District of the USACE, it was suggested that a nexus would be present in 75 percent of acreage associated with applications for Federal permits⁵³. This high rate of jurisdiction was given despite the reduction in jurisdiction likely for vernal pools caused by the January 9, 2001, U.S. Supreme Court decision in *Solid Waste Agency of Northern Cook County (SWANCC) v. United States Army Corps of Engineers (SWANCC Decision)*. The decision changes the protection given to isolated wetlands under Section 404 of the CWA by ruling that the use of migratory birds to assert jurisdiction over the site exceeded the authority that Congress had granted the USACE under CWA.
- 176 Applied to the two habitat units, this information suggests that Newport Banning Ranch in the City of Newport Beach and in unincorporated Orange County, with a large project area thousands of acres in size, will have a certain Federal nexus, while the multiple commercial and industrial properties in the City of San Marcos (Northern San Diego County) are likely to have a Federal nexus in three of four (75 percent of the) projects.
- 177 Next, the Service's section 7 requirements at a site level were established. For both project areas, this analysis assumes that the Service asks the applicant for 100 percent avoidance of vernal pool impacts in the project design. For the acres of proposed critical habitat, this stipulation translates to zero percent development if the assumption is made that all acreage is either vernal pool uplands or wetted area where the pools themselves are located.
- 178 Finally, a land value was determined for each habitat acre that will not be developed, and the section 7 requirements were assumed to reduce that value to zero.⁵⁴ Various methods were used:
- For residential land uses, the average price of new homes was obtained from industry sources⁵⁵. The price was multiplied by a median density of four units per acre, and 25 percent of land in the project was assumed to be dedicated to public uses that generate zero value for the raw landowner. Then, the raw land component of the finished real estate sold in the project was assumed to be one-third of the total.
 - For commercial and industrial land uses, real estate listings of vacant land were gathered and averaged to generate a price per acre.⁵⁶

⁵³Personal communication with Mark Durham, Los Angeles District of the USACE, Los Angeles, California, November 2002.

⁵⁴In reality, the landowner would have residual agricultural or other open space value even if development were not possible, but this assumption simplified the estimate without risking an underestimate of section 7 impacts.

⁵⁵The Meyers Group provided adequate data for the communities surrounding Newport Banning Ranch, an area likely to develop into higher end neighborhoods set into contrasting topography.

⁵⁶For the San Marcos area, LoopNet.com generated numerous listing in the commercial and industrial categories.

179 In **Table 6**, these factors—the amount of land with habitat, the value of that land, the chance that land is affected by a nexus, and the restrictions of section 7—are multiplied to generate project modification costs. **Table 13** discounts the total impacts calculated in **Table 6**.

TIME-DELAY COSTS

180 Critical habitat designation for the SDFS adds regulatory requirements to private land development projects with a Federal nexus. These requirements include the completion of section 7 technical assistance, or informal or formal consultations. The need to complete section 7 consultations in and of itself does not automatically delay private development projects, as these consultations can generally be coordinated with baseline land use regulatory processes (such as tentative map approvals or action on project EIRs) and do not necessarily increase the time to obtain approvals.

181 Critical habitat designation, however, could cause delays to some private land development projects that have completed section 7 consultations prior to critical habitat designation but have not yet been issued final development approvals by local government. Usually, these applicants must re-initiate the consultation to address the potential of adverse modification of habitat modification before final approvals occur.

182 This analysis assumes that the private land development projects whose timing is affected by critical habitat are those within 1 year of final project entitlements and permitting. Because the timeframe of this analysis is 20 years, and if projects are assumed to be equally spread over that time period, 5 percent of all projects (1 year's worth) are impacted by delays. The delay is estimated at 12 months, a reasonable amount of time required to complete the re-initiated consultation with the Service.

183 To estimate the additional costs of delay for these land development projects, the following method was used:

- An average project size and price per acre is determined using listings of vacant, entitled land for sale in the affected habitat units.⁵⁷ For commercial projects, the project size is the same assumed for the consultation and project modification costs explained earlier.
- The value of 5 percent of the amount of developable land proposed for designation is calculated in the affected habitat units.

⁵⁷The land use was matched to the for sale listing, i.e., critical habitat containing developable industrial land uses was assigned a project size and price for industrial property on the market. A different method was used when residential land is the subject of the calculation. See **Table 5** for details.

Type I

Table 6
U.S. Fish & Wildlife Service
San Diego Fairy Shrimp Critical Habitat Draft Economic Analysis
Private Land Development Project Modifications from the Proposed Rule

Region / Jurisdiction / Planning Area	Total Acres Proposed for Designation	Maximum Acres Developed by 2023 [1]	Percent of Land Area Subject to the Rule [2]	Percent of Site Allowed for Development under the Rule [3]	Source of Data	Entitled, Raw Land Value [4]	Undiscounted Total Costs, 2003-2023 [5]
	<i>acres</i>	<i>acres</i>				<i>price per acre, 2003</i>	<i>nominals</i>
L.A. Basin/Orange Management Area							
Orange County	24.0	24.0	100%	0%	FWS	\$700,000	The Meyers Group
Newport Banning Ranch							\$16,800,000
City of Newport Beach							
Newport Banning Ranch	17.0	17.0	100%	0%	FWS	\$700,000	The Meyers Group
SD Inland Valley Management Area							
City of San Marcos	161.0	123.0	75%	0%	ACOE	\$740,000	Loopnet.com
Four Subunits							\$68,265,000
TOTAL	202.0	164.0					\$96,965,000

"Private_land"

- Notes:
- [1] Reflects potential land consumption based on growth projections and land supply conditions in each jurisdiction.
 - [2] Assumes that a Federal nexus exists for Newport Banning Ranch but that it exists in 75% of projects proposed in San Marcos.
 - [3] Given the potential for jeopardy opinions for these outlying populations of this species, it is assumed that the Service will ask for 100% avoidance in each situation. Moreover, it is assumed that the designated critical habitat consists entirely of wetted areas of the pools or pool uplands, and any development footprint would adversely modify the habitat.
 - [4] Estimate of the market value of unimproved land zoned for either residential (Orange County jurisdictions) or industrial/commercial uses (San Marcos). Actual "for sale" prices were used for industrial and commercial land, and home prices were used to generate a raw land value for residential use. For the residential value, 25% of land is assumed to be required for public uses, and 4 homes were assumed to be built per acre. In addition, raw land prices were assumed to be 33% of the price of the finished home.
 - [5] Assumes that landowners lose all development value of their land if 100% avoidance requirements are imposed. In reality, some residual value would remain in the land affected by the regulation.

- A carrying cost is calculated for these properties using a typical 12 percent lending rate for the land acquisition stage of private projects. The length of the delay is assumed to be 1 year. Additional carrying cost is 1 year's worth of interest on these properties.

184 **Table 7** summarizes the results of the economic cost of delay by unit. As shown, three projects in the City of San Marcos on land worth \$4.5 million are projected to be affected by delays while section 7 consultations are completed. The delay itself causes landowners to pay an extra \$546,000 in financing for this industrial/commercial property.

185 In the Other Costs column of the San Diego Inland Valley Management Area's economic activities, **Table 13** displays the undiscounted delay cost from **Table 7** and discounts the figure as part of the Private Land Development line total.

TYPE II LANDS

REGIONAL HCP-RELATED ADMINISTRATIVE COSTS

186 For projects located in certain areas of central to southern San Diego County, consultation is unlikely to occur unless a Federal nexus is present and no take authorization is available from the local government under the regional HCP known as the MSCP.⁵⁸ In every other case, a Federal agency issuing a permit to a project that involves take of SDFS must also seek concurrence from the Service that conservation measures for the project are consistent with the biological opinion written for the MSCP.

187 Assuming a \$500 cost for the Service and the action agency to file a concurrence letter, **Table 12** calculates the number of projects likely to generate such an action for Type II lands. This amount is entered in the Private Land Development line's Administrative Cost calculation and is discounted in **Table 13**.

⁵⁸Chapter II introduces the lawsuit involving the question of whether parties to the MSCP may legally provide take authorization to projects in cases where the USACE does not claim jurisdiction over vernal pool habitat. It is possible that the local government will be allowed to provide this take under the section 10(a) permit that is the heart of the MSCP.

Type I

Table 7
U.S. Fish & Wildlife Service
San Diego Fairy Shrimp Critical Habitat Draft Economic Analysis
Private Land Development Time Delay Costs from Implementation of the Rule

Region/Jurisdiction/Planning Area	Number of Development Projects [1] <i>over 20 years</i>	Percent Subject to section 7 Re-Initiation [2] <i>over 20 years</i>	Projects Subject to Re-Initiation <i>over 20 years</i>	Land Value of Affected Projects [3]	Additional Time Required to Complete Consultation <i>months</i>	Private Sector Lending Rate	Additional Carrying Costs [4]
L.A. Basin/Orange Management Area Orange County and City of Newport Beach Newport Banning Ranch	1	5%	0	\$0	12 months	12%	\$0
SD Inland Valley Management Area City of San Marcos Four Subunits	62	5%	3	\$4,551,000	12 months	12%	\$546,120
TOTAL	63		3	\$4,551,000			\$546,120

Notes:
 [1] Assumes that no more than one section 7 consultation may be needed for the Newport Banning Ranch project. Also assumes each commercial or industrial project in San Marcos is 2 acres in size, consistent with property listings on LoopNet.com.
 [2] Projects affected by the designation of critical habitat are those that are ready for final development approvals within a year of the designation. If projects are spread evenly over a 20 year period, those ready for development in the first 12 months are affected. This amounts to 5% of the 20 year volume.
 [3] From Table 5.
 [4] These are investor costs paid to lenders as the loan term is extended to allow for completion of a section 7 consultation.

V. INDIRECT IMPACTS FROM CEQA IMPLEMENTATION

188 This chapter will discuss whether implementation of CEQA may indirectly impose costs attributable to the rule. It also will explain how CEQA functions to protect species and habitat and to what degree any CEQA-imposed costs may be linked to the rule. Special attention will be paid to the distinction that CEQA makes between projects with impacts to state or federally listed species and projects with impacts to federally designated critical habitat.

189 CEQA is a California state statute that requires state and local agencies (known here as “lead agencies”) to identify the significant environmental impacts of their actions and to avoid or mitigate those impacts, if feasible. Projects carried out by Federal agencies are not subject to CEQA provisions. CEQA regulations require a lead agency to initially presume that a project will result in a potentially significant adverse environmental impact and to prepare an EIR if the project may produce certain types of impacts, including when

[t]he project has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory.⁵⁹

190 State law instructs the lead agency (typically a county or city community development or planning department in the case of land development projects) to examine impacts from a very broad perspective, taking into account the value of animal and plant habitats to be modified by the project. The lead agency must determine which, if any, project impacts are potentially significant and, for any such impacts identified, whether feasible mitigation measures or feasible alternatives will reduce the impacts to a level less than significant. It is within the power of a lead agency to decide that negative impacts are acceptable in light of economic, social, or other benefits generated by the project.

191 Projects without a mandatory finding of significance and in which the applicant finds no significant impact according to CEQA regulations may be approved by a lead agency in what is known as a negative declaration. Alternative project scenarios are not examined in a negative declaration, and the expenditures are typically much lower than what would be required to complete an EIR.

192 Alternatively, an applicant may request that a lead agency issue a permit or some other discretionary approval for a project that is redesigned to either avoid or mitigate all impacts to the environment. Typically, the project is accompanied by mitigation measures in the form of a

⁵⁹California Natural Resources Code §15065(a).

mitigation negative declaration. Similar to a negative declaration, the expenditures required for the approval of a project with a mitigated negative declaration are on average much lower than costs associated with an EIR.

193 Finally, minor projects that fit one of eleven classifications as defined by the CEQA statutes may be found to have no significant effect on the environment. Some of these classifications are listed here.

- Certain alterations of existing facilities
- Replacement or reconstruction of existing structures
- Smaller development projects such as restaurants smaller than 2500 square feet
- Certain projects involving landscaping or temporary trenching
- Lot line adjustments
- Experimental management or research
- Habitat restoration
- Certain safety inspections and mortgage lending
- Signs and small parking lots

194 Many of these types of minor projects are eligible for a categorical exemption from the provisions of CEQA altogether, and project applicants usually have minimal costs to comply with the paperwork required with the lead agency.

BASELINE CEQA REQUIREMENTS AND COSTS

195 One method for assessing the baseline levels of CEQA protections for vernal pool habitat is to examine what occurs in projects where no federal nexus is present. Using this method, it is possible to describe what kinds of regulatory activities undertaken and state and local government will NOT be attributable to critical habitat designation through section 7 regulation, but instead would be expected if critical habitat designation did not occur.

196 For state level regulation applicable in situations where no section 7 protection is afforded to vernal pool species or habitat, it is possible that CEQA regulation of vernal pool impacts may occur through regulatory powers vested in nine regional entities known as the Regional Water Quality Control Boards (RWQCBs). Because the SWANCC Decision, referenced earlier in this report, is likely over time to remove several types of water features from the jurisdiction of the USACE, regulation of discharge to water bodies jurisdictional to the State of California by the RWQCBs is evolving.

- 197 Officials at the regional board with the largest overlap of jurisdiction with proposed critical habitat assert that provisions of the state Water Code and CEQA provides the means through which the board is likely to address vernal pool fill activity. Just over half of the regional boards are expected to initiate review of proposed fill activity for projects in which no Federal nexus exists. As part of regional board participation in the CEQA process, including permitting that would authorize impacts to vernal pool wetlands, these boards may ask that project applicants replicate.
- 198 This analysis considers this level of state regulation to be part of the regulatory baseline and wholly dependent on the regional boards' response to jurisdictional changes following the SWANCC decision. This assumption is dependent on the statutory authority for RWQCBs to regulate the fill of vernal pools if vernal pools are considered waters of the State of California in the future.
- 199 Other agencies besides the RWQCBs may influence baseline CEQA outcomes as well. In areas of California where vernal pool wetlands represent a unique habitat type with few remaining examples, the California Department of Fish and Game (DFG) may also ask that the lead agency impose baseline mitigation conditions through CEQA. These conditions would also be requested if the project had significant impacts to any state or federal listed species. In the absence of a Federal nexus, it is not known what DFG's recommended conditions would be, but it is possible that they would be similar to the Service's compensation, restoration and avoidance requirements currently supported by DFG in the CEQA process each time a Federal nexus is present.
- 200 It is important to recognize that DFG and RWQCB recommendations may or may not be implemented by the lead agency, because lead agencies may find the project's negative impacts to be acceptable given the project's benefits. The result is that the actual costs faced by project applicants that resulted from CEQA review vary widely between jurisdictions in California. Jurisdictions with strong citizen interest in the evaluation of certain kinds of project impacts through CEQA can be expected to require the development and implementation of more extensive mitigation measures.
- 201 Because this analysis adopts methods more likely to overestimate rather than underestimate cost impacts, the level of the CEQA-related costs imposed on project applicants in a world without section 7 will be considered to be zero. Setting the CEQA baseline to zero reflects the likely outcome in some jurisdictions where the impacts on SDFS habitat are deemed to be acceptable in light of the project's benefits. More important, instead of suggesting that CEQA is the process by which critical habitat imposes costs on a project, this assumption attributes 100 percent of the costs imposed on a project with a federal nexus to section 7 processes. This is a key economic assumption of the analysis of the proposed rule.

202 The next subsection covers costs associated with provisions of CEQA that may be triggered by the presence of a map of critical habitat for vernal pool species. This kind of map would be produced each time the Service designates critical habitat for a species.

INDIRECT EFFECTS ON LARGE PROJECTS THROUGH CEQA

203 The development projects that are responsible for nearly all housing construction and a large share of industrial and commercial construction in California counties are required under CEQA to submit an EIR for public review and consider project alternatives. A lower level of CEQA review, perhaps taking the route of a negative declaration, is highly unlikely. In the process of doing this analysis, a series of consultants who specialize in EIRs were asked whether the presence of critical habitat on the project site added to the cost of preparing the EIR and moving the EIR through public hearings as part of the project's entitlement process.

204 The consensus view in the consultant community is that critical habitat designation adds no measurable CEQA-related cost for the project applicant above the CEQA baseline.⁶⁰ First, where listed species are present on the project site, the EIR's biological component will be required to discuss and evaluate habitat impacts, as well as present project alternatives. This requirement is unchanged after federal designation of critical habitat.

205 Second, where species are not present on the project site, CEQA directs the EIR to inventory the important natural resources on the project site and characterize project impacts to important habitat types. CEQA makes no reference to critical habitat, and methods used by EIR biologists are unlikely to change if critical habitat is designated. In fact, according to state officials, state agency oversight of the quality and completeness of a project EIR concentrates wholly on the biological values of habitat in proximity to the project and on potential project impacts to that habitat, and not on the property's status as federally designated critical habitat.

206 In conclusion, this analysis finds that critical habitat designation for vernal pool species is unlikely to increase EIR costs above those required under CEQA for any large projects in the counties included in the designation.

INDIRECT EFFECTS ON SMALLER PROJECTS THROUGH CEQA

207 The question of whether critical habitat designation can change the public review process for a smaller project that requires a discretionary action by lead agencies in California does not appear to have been answered either by the implementation of CEQA or litigation over the

⁶⁰Personal communication with senior staff from RBF Consulting (San Jose, California), EDAW (Sacramento, California) and HT Harvey & Associates (Watsonville, California), February 24–28, 2003.

allowable extent of CEQA's exemption language. It is likely that the next 10–20 years will establish a regulatory record or the judicial review required for an adequate assessment of critical habitat designation's actual effects.

208 In the absence of empirical evidence, this analysis will adopt an approach that is likely to overestimate rather than underestimate the additional critical habitat-related costs imposed on small project applicants through CEQA. The first necessary assumption is that state law will disqualify certain classifications of projects from claiming a categorical exemption, if the project is located in designated critical habitat. The exemption does not apply

*where a project may impact an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, state, or local agencies.*⁶¹

209 As a result of this first assumption, projects similar to the following classifications, if located in critical habitat, will be required to file a negative declaration or a mitigation negative declaration instead of a less costly categorical exemption:

- Smaller development projects such as restaurants smaller than 2500 square feet
- Certain projects involving landscaping or temporary trenching
- Lot line adjustments
- Experimental management or research
- Signs and small parking lots⁶²

210 Project applicants will pay the difference between CEQA-related consultant costs for a categorical exemption and the consultant costs for a mitigated negative declaration or a negative declaration. These costs apply to all categorical exemption projects that are disqualified by the designation of critical habitat on the project site.

211 The second necessary assumption for the analysis is that projects that would have submitted either a mitigated negative declaration or a negative declaration under CEQA prior to critical habitat designation must now complete an EIR because of assumed unavoidable impacts to an environmental resource of critical concern. As a result, there will be additional time and effort required for EIR consultants to complete documents evaluating biological, air quality, traffic, and many other types of impacts, across a range of project alternatives. The EIR will not be a large one compared to an average EIR in California, because were it not for critical habitat

⁶¹California Natural Resources Code, §15300.2(a).

⁶²The categorical exemption classes referenced in the statute are 3, 4, 5, 6, and 11. Other project examples fall in the classes but are not mentioned in the bulleted list.

designation, the project would have no impacts across all impact categories. Hence, few impacts are likely to require evaluation and mitigation in the EIR.

The change in costs for project applicants in this case equals the difference between consultant costs for a mitigation negative declaration or a negative declaration and a EIR of lesser complexity. To estimate the CEQA-related additional costs for smaller projects that result from the SDFS critical habitat designation on Type I lands, the following method was used:

- Determine the annual number of EIRs and mitigated negative declarations or negative declarations considered by all lead agencies in counties where critical habitat is proposed.
- Project the number of categorical exemptions and mitigated negative declarations or negative declarations that will occur in these counties over the next 20 years.
- Multiply a fraction of the projected number of negative declarations or mitigation negative declarations by the incremental cost between them and a low complexity EIR that results from critical habitat designation.
- Multiply a fraction of the projected number of categorical exemptions by the incremental cost between them and a negative declaration or mitigation negative declaration.
- Apportion the total cost between Type I and II lands.

212 **Table 8** provides the basic calculation of indirect CEQA effects resulting from SDFS critical habitat designation for San Diego and Orange Counties. As shown in **Table 13**, the increase in CEQA costs over 20 years on Type I lands for projects that would otherwise have qualified as categorical exemptions or mitigated negative declarations is \$128,000, while the increase in CEQA costs on Type II lands for projects that would otherwise have qualified as categorical exemptions or mitigated negative declarations is \$132,000.

Table 8
 U.S. Fish & Wildlife Service
 San Diego Fairy Shrimp Critical Habitat Draft Economic Analysis
 CEQA-Related Cost Impacts [1]

Types I, II, and III

Item	Units	Assumption or Calculation	Source
ASSUMPTIONS			
Project Applicant Cost for a CE	2003\$	\$500	EIR Consultants
Project Applicant Cost for an ND or MND	2003\$	\$7,500	EIR Consultants
Project Applicant Cost for an EIR of Low Complexity	2003\$	\$50,000	EPS Estimate
Incremental Cost for Applicants Now Claiming a CE	2003\$	\$7,000	EIR Consultants
Incremental Cost for Applicants Now Claiming a ND/MND	2003\$	\$42,500	EIR Consultants and EPS Estimate
Percent of Future CEs Affected	percent of total	0.015%	EPS Estimate [2]
Percent of Current NDs or MNDs Affected	percent of total	0.025%	EPS Estimate [2]
Annual Number of EIRs in Affected Counties [3]	EIRs per year	2,068	California Planner's 2000 Book of Lists
Annual Number of NDs or MNDs in Affected Counties [3]	NDs or MNDs per year	1,034	California Planner's 2000 Book of Lists
Ratio of CEs to ND/MNDs in Affected Counties [4]	CE:ND/MND	2	EPS Estimate
Years in Analysis Horizon	years	20	DEA Assumption
Total Number of CEs Impacted by Critical Habitat	CEs	6	Calculated
Total Number of ND/MNDs Impacted by Critical Habitat	NDs or MNDs	5	Calculated
INCREMENTAL COSTS TO APPLICANTS [5]			
Subtotal, CE-related Incremental Costs	nominal dollars	\$43,428	Calculated
Subtotal, ND- or MND-related Incremental Costs	nominal dollars	\$219,725	Calculated
Total CEQA-Related Costs over 20 years, All Regions	nominal dollars	\$263,153	Calculated
Undiscounted	2003\$	\$139,392	Calculated
Discounted [6]			

Notes: "CEQA"

[1] Abbreviations used here include: CE=Categorical Exemption, ND=Negative Declaration, MND=Mitigated Negative Declaration, and EIR=Environmental Impact Statement.

[2] Percentages are in part based on the size of the designation (roughly 12,000 acres) in comparison to the amount of urbanizing land expected by regional planning agencies SANDAG and SCAG for both counties (330,000 acres). Sites where MNDs or CEs occur are not likely to contain large amounts of habitat, according to prominent California EIR consultants.

[3] From the California Planner's 2000 Book of Lists, pp. 55-57. EIR and ND/MND values are based on a survey of all CA counties and cities. All jurisdictions in California Counties (including the counties themselves) where critical habitat has been proposed have been included.

[4] There are assumed to be two categorical exemptions for every negative declaration or mitigated negative declaration.

[5] These costs are the applicant's additional costs due to critical habitat designation. The costs are grouped by CEQA action that the applicant would have had in the absence of critical habitat.

[6] Assumes that land use activities are equally likely to occur over each of the next 20 years. The discounted scenario uses a 7% public investment discount rate.

VI. IMPACTS TO PUBLIC PROJECTS

- 213 This chapter evaluates the impacts associated with the rule on a variety of public agency projects likely to have a Federal nexus in the coming 20 years, including military operations, airport construction, road construction and maintenance, and water supply and delivery infrastructure.

MILITARY ACTIVITIES

- 214 This section estimates the likely impacts of the implementation of section 7 on Department of Defense operations in Type II areas affected by the designation. Military lands affected by the designation include parts of MCB Camp Pendleton, MCAS Miramar and the Naval Radio Receiving Facility. MCB Camp Pendleton acreage includes Type I and III lands, while MCAS Miramar and the Naval Radio Receiving Facility include Type II lands only.
- 215 It is important to note that the economic cost estimate does not account for the potential effect, if any, on military readiness. Essential habitat includes training areas where military readiness issues have been noted by personnel contacted for this analysis. An evaluation of changes to military readiness is outside the scope of this economic analysis and is therefore not addressed.

SUMMARY OF SECTION 7 IMPACTS

- 216 Based on previous section 7 consultation history and current consultation costs, this analysis estimates a total of 11 formal and 20 informal consultations for the three military installations over the next 20 years, resulting in total costs of \$294,000. No details were provided on the training projects likely to result in consultations, and no project modifications have been estimated.

MCB CAMP PENDLETON

- 217 The Marine Corps Base (MCB) Camp Pendleton has approximately 8,808 acres of essential habitat. Of this total, 7,957 acres are training lands. The current INRMP for Camp Pendleton was completed in October 2001. The INRMP meets the requirements of the Sikes Act, but has not been approved by the Service. Consequently, for the purposes of estimating the economic costs of critical habitat designation, this analysis assumes that the INRMP does not serve as a baseline regulatory requirement for the SDFS. This is a conservative approach (e.g., more likely to over-estimate than under-estimate to actual costs) because in reality the INRMP articulates guidelines and protection measures for the vernal pool habitat, as do existing biological opinions.

- 218 There have been a total of two biological opinions issues for the SDFS since 1999.
- Biological Opinion on Helicopter Outlying Landing Field, Camp Pendleton, completed on July 6, 1999, and
 - Biological Opinion on the Advanced Amphibious Assault Vehicle Development and Operation Testing, Camp Pendleton, completed on August 31, 2000

219 Both biological opinions focused on projects that were to occur on military training areas.

Estimated Economic Costs

220 Lands proposed for designation (Type I) on MCB Camp Pendleton are non-training areas and include a park site leased by the CDPR and private interests, the Cockleburr Preserve, and other non-training land around the Wire Mountain housing area.

221 Both the park site and Cockleburr Preserve are unlikely to be the subject of any section 7 implementation actions in the next 20 years, as the planned land uses for these sites are identical to current uses. The housing areas on MCB Camp Pendleton include SDFS habitat preserves, and future projects are unlikely to change the protected status of those preserves. In total, Type I lands subject to military activities are unlikely to generate section 7 implementation costs.

222 For training land (Type III), because the analysis assumes that the existing INRMP and biological opinions provide no baseline protection for the SDFS, all future consultations and project modifications costs are associated with the designation. These future costs are based on the assumption the total number of consultations will assume a ratio of 2:1 informal to formal consultations. According to Service staff familiar with the base and its resource-impacting activities, MCBCP will complete a total of three consultations over the next 20 years. One of the three will be formal and the remainder will be informal. The total average administrative costs for Camp Pendleton Type III acreage is approximately \$30,000 as shown in **Table 9**.

223 Project modification costs for MCB Camp Pendleton training lands were not calculated because no details were provided on training activities likely to result in consultations. The deployment of new weapon systems, initiation of new training exercises, and construction of facilities required for these exercises are likely events that may trigger section 7 consultations. Project modifications for the two consultations detailed above were minimal, so it is unclear what project modifications would result from additional consultations on new activities taking place at the installation.

Table 9

U.S. Fish & Wildlife Service
 San Diego Fairy Shrimp Critical Habitat Draft Economic Analysis
 Total Costs for Department of Defense Activities

Types I, II, and III

Region/Jurisdiction/Planning Area	Number of Consultations		Consultation Unit Cost [1]		Consultation Cost Total		Total average [2]
	Formal over 20 years	Informal over 20 years	Formal low	Informal high	Formal low	Informal high	
SD North Coastal/Mesa Management Area							
USMC Camp Pendleton Training	1	2	\$11,000	\$18,200	\$4,600	\$18,200	\$22,000
SD Central Coastal/Mesa Management Area							
City of San Diego							
MCAS Miramar	9	18	\$11,000	\$18,200	\$41,400	\$163,800	\$198,000
SD Southern Coastal/Mesa Management Area							
Cities of Coronado and Imperial Beach							
Naval Radio Receiving Facility	1	0	\$11,000	\$18,200	\$0	\$11,000	\$0
TOTAL	11	20	\$121,000	\$200,200	\$46,000	\$220,000	\$293,600

"DOD_public_type2"

Notes:

[1] Includes the costs borne by the U.S. Fish & Wildlife Service and the military branch in completing the consultation and any Biological Assessment.

[2] This is an average of the range of total formal consultation costs and the range of total informal consultation costs.

MCAS MIRAMAR

- 224 MCAS Miramar contains approximately 2,570 acres of essential habitat. The current INRMP for Miramar was completed in May 2000.⁶³
- 225 Miramar has completed three other biological opinions that articulate standards and obligations for the protection of vernal pool and the SDFS.
- Biological Opinion / Conference Opinion for the Realignment of Naval Air Station Miramar to MCAS Miramar completed on April 11, 1996,
 - Biological Opinion on the Restoration of Damaged Vernal Pools at the Marine Corps Air Station, Miramar, completed on September, 10, 1998, and
 - Biological Opinion on the proposed maintenance, improvements, and use of existing roads, lots, driveways, and loading docks at MCAS Miramar, completed on September 21, 1999.
- 226 The standards and commitments outlined in these documents include, but are not limited to, these:
- A commitment to develop and implement land management practices consistent with the guidelines that established for other subarea plans through the MSCP adopted by several San Diego County jurisdictions,
 - Mitigation at a 3:1 replacement ratio (1:1 preservation and 2:1 restoration) for the authorized destruction of suitable SDFS vernal pool habitat. The unauthorized destruction of vernal pool habitat will be mitigated or restored at a 5:1 ratio.
 - Monitoring of the vernal pool restoration sites carried out over a 5-year period, with flexibility to extend the monitoring program by an additional 5 years if necessary.
- 227 EPS has identified a total of three biological opinions related in part or in whole to the SDFS and vernal pool habitat on Miramar since 1996 (slightly less than 1 occurring every 2 years), which if continued over the next 20 years would result in nine new formal consultations per year. As suggested by Miramar staff, roughly two informal consultations are expected for each formal consultation.

Estimated Economic Costs

- 228 As described above, the Miramar INRMP, past biological opinions, and other documents represent a strong set of existing commitments, standards, and obligations for the protection and mitigation of vernal pool and SDFS habitat. Consequently, this analysis assumes these

⁶³ Conversation with CFWO staff in March 2003.

documents constitute regulatory protections for future measures designed to protect SDFS habitat, such as vernal pool mitigation or restoration. In other words, these mitigation costs will be incurred independent of future implementation of section 7.

229 However, this economic analysis assumes that the administrative costs associated with future section 7 consultations are associated with the rule. At an average cost of \$14,600 per formal consultation and \$6,600 per informal consultation, there will be 9 estimated formal consultations and 18 informal consultations over the next 20 years with a total administrative cost of \$251,000 (see **Table 9**).

230 Even if the existing documents listed above do not qualify as regulatory protections, project modification costs were not calculated because no details were provided on the nontraining projects likely to result in consultations. Little is known about the acreage associated with future projects that may affect critical habitat, and as a result, no comparable project modification costs can be estimated.

NAVAL RADIO RECEIVING STATION

231 Navy Seal training activities may be impacted by the designation of critical habitat on the Naval Radio Receiving Station, although in the proposed rule the station's land is proposed for exclusion from the proposed designation. Personnel in the Navy have suggested that, if the land is designated, the most significant effects would be on military readiness. An evaluation of changes to military readiness is outside the scope of this economic analysis and is therefore not addressed. Instead, this analysis estimates in **Table 9** that, if Naval Radio Receiving Station land is designated, minor consultation costs (less than \$20,000) will result.

AIRPORT CONSTRUCTION

232 The County of San Diego is presently involved with the FAA in the development of a new airport to serve the larger San Diego Metropolitan Area. The lead agency for site selection, SANDAG, has assisted in evaluation of more than ten potential airport sites. Four of these sites, including Otay Mesa, Ramona, MCB Camp Pendleton, and MCAS Miramar, contain vernal pool habitat and may be located in essential habitat for SDFS.

233 To estimate total project modification costs for each airport site, the analysis assumes that the cost to restore 1 acre of vernal pools is \$500,000 per acre.⁶⁴ This restoration cost is then multiplied by the total impacted acres for each site.

⁶⁴Personal communication with Barry Jones and Tom Huffman, HELIX Environmental Consulting, Poway, California, November 2002.

- 234 Project modifications for the new airport vary in size with the amount of constrained acreage at each airport site. At this point in the planning process, no information is available on the relative likelihood that any one site will be chosen over any other site. As shown in **Table 10**, estimates of constrained Type I acreage range from a low of 0.6 wetted acres at the Otay Mesa site to 4.7 wetted acres at the Ramona site.⁶⁵ To estimate project modification costs, this report assumes that each airport site is equally likely to be chosen, and that one of the four sites affected by the proposed rule will be chosen. Each dollar of impact, therefore, is weighted by a 0.25 probability factor that reflects that site's likelihood of being selected. This assumption is more likely to result in an overestimate of section 7 costs than an underestimate of those costs, because in reality the new airport may be located in an area of San Diego County without SDFS essential habitat.
- 235 Given these caveats, habitat restoration cost impacts range from \$70,000 in the Otay Mesa Area (of which 38 percent or \$26,000 is allocated to Type I lands given that the precise airport site in the subarea is unknown), to \$580,000 in the unincorporated community of Ramona. Small consultation costs (less than \$5,000 after being weighted by probability of site selection) also apply to each site. **Table 13** shows these costs in their equivalent, discounted form for both sites.
- 236 **Table 10** also shows estimates of constrained Type II acreage range from a low of 0.6 wetted acres at the Otay Mesa site to 1.2 wetted acres at the Miramar site.⁶⁶ Given these caveats, habitat restoration cost impacts range from \$70,000 in the Otay Mesa Area (of which 62 percent or \$44,000 is allocated to Type II lands given that the precise airport site in the subarea is unknown), to \$150,000 if sited at MCAS Miramar. Small consultation costs (less than \$5,000 after being weighted by probability of site selection) also apply to each site. **Table 13** shows these costs in their equivalent, discounted form for both sites.
- 237 Project modifications for a new airport located on Type III lands are the most costly of any airport site, given the constrained acreage located on MCBCP. At this point in the planning process, no information is available on the relative likelihood that any one site will be chosen over any other site. As shown in **Table 10**, the estimate of constrained Type III acreage on MCBCP is 11.8 wetted acres.⁶⁷
- 238 Given these caveats, habitat restoration cost impacts would be \$1.5 million if sited at MCBCP. Small consultation costs (less than \$5,000 after being weighted by probability of site selection) also apply to this site. **Table 13** shows these costs in their equivalent, discounted form for the San Diego North Coastal Mesa Management Area where MCB Camp Pendleton is located.

⁶⁵Personal communication with Tom Huffman, HELIX Environmental Consulting, Poway, California, January 2003.

⁶⁶Personal communication with Tom Huffman, HELIX Environmental Consulting, Poway, California, January 2003.

⁶⁷Personal communication with Tom Huffman, HELIX Environmental Consulting, Poway, California, January 2003.

Types I, II, and III

Table 10
U.S. Fish & Wildlife Service
San Diego Fairy Shrimp Critical Habitat Draft Economic Analysis
San Diego Metropolitan Area Airport Costs, by Potential Site

Region/Potential Airport Site [1]	Project Modifications					Percent of Total Costs [6]		
	Formal Consultation Cost [2] [5]	Vernal Pool Wetted Acres Impacted [3]	Restoration Cost [4]	Total Cost, Probability Weighted [5]	Total Costs undiscounted	Type I percent	Type II percent	Type III percent
<i>SD North Coastal Mesa Management Area</i> Camp Pendleton	\$4,525	11.8	\$500,000	\$1,470,000	\$1,474,525			100%
<i>SD Inland Valley Management Area</i> Ramona	\$4,525	4.7	\$500,000	\$580,000	\$584,525	100%		
<i>SD Central Coastal Management Area</i> MCAS Miramar	\$4,525	1.2	\$500,000	\$150,000	\$154,525		100%	
<i>SD Southern Coastal Mesa Management Area</i> Otay Mesa	\$4,525	0.6	\$500,000	\$70,000	\$74,525	38%	62%	
Total	\$18,100	18.2		\$2,270,000	\$2,288,100			

"FAA_master"

Notes:

- [1] Four proposed airport sites have the potential for SDFS impacts. To overestimate rather than underestimate impacts from the proposed rule, the project modification costs for each site will be included in full to estimate habitat unit by habitat unit impacts. Although the table includes the administrative cost for four formal consultations, there will only be one consultation once a site is selected.
- [2] This cost assumes one formal consultation per project and consists of the total average cost borne by the FWS, FAA, and San Diego County, in addition to the cost of producing a biological assessment. The cost is an average of a low to high consultation cost range.
- [3] Assumes that each wetted acre of pools has 8 acres of upland associated with it.
- [4] Based on average of cost estimates typically seen in Southern California by HELIX Environmental Consulting, Inc. and RECON Environmental Consulting, Inc.
- [5] Assumes that each airport site is equally likely to serve as the chosen location for the airport project. Impacts are reduced accordingly by the probability of selection.
- [6] Without a finalized new airport site, analysis assumes that project is equally likely to occur in each acre of essential habitat within a given subregion, whether the acre is Type I, II, or III. Percentages shown reflect the distribution of acres by type for each subregion.

ROAD CONSTRUCTION AND MAINTENANCE (CALIFORNIA DEPARTMENT OF TRANSPORTATION)

- 239 The California Department of Transportation (Caltrans) has two proposed road-building projects likely to impact Type I vernal pool habitat: State Route 905 and State Route 11. Both are located in the Otay Mesa area of unincorporated San Diego County, but according to Caltrans officials, only the State Route 905 project has surveyed the site for likely acres impacted by the preferred project alternative. State Route 905 is reported to impact 0.02 acres of wetted vernal pools. After the DEA is made available, EPS solicits comment from the public regarding the most likely Caltrans project modifications for this category of economic activity
- 240 If State Route 11 impacts the amount vernal pools seen in other Caltrans project impacts, an estimated 2.0 acres of wetted pools will be require for mitigation.⁶⁸ Using vernal pool restoration costs from other Southern California development projects,⁶⁹ the total costs for both Caltrans projects over the next 20 years is approximately \$1.0 million, of which 38 percent or \$390,000 is allocated to Type I acreage and 62 percent or \$346,000 is allocated to Type II acreage. A minor amount of consultation costs are included in this estimate, as shown in **Table 11**. The impacts are presented in their equivalent discounted form in **Table 13**.

WATER STORAGE AND DELIVERY INFRASTRUCTURE PROJECTS

- 241 The San Diego County Water Authority (SDCWA) has recently completed a 25-year Water Facilities Master Plan which outlines planned or approved projects likely to occur in that timeframe. SDCWA staff estimate that approximately two future planned projects will require formal section 7 consultations after critical habitat designation for SDFS. At this point in time, no information about the precise locations of the projects is available.
- 242 Assuming that for every formal consultation, two informal consultations will be conducted, SDCWA will engage in approximately four informal consultations over the next 20 years. Without more specific information about the projects themselves, an estimate of project modifications is not possible at this time. The consultation costs, on the other hand, have been spread equally over four Vernal Pool Species Recovery Plan management areas in the service territory of SDCWA. After the DEA is made available, EPS solicits comment from the public regarding the most likely SDCWA project descriptions and corresponding project modifications for this category of economic activity.

⁶⁸Draft Economic Analysis for Vernal Pool Species, Economic & Planning Systems, October 28, 2002.

⁶⁹Personal communication with Barry Jones, HELIX Environmental Consulting, Inc., Poway, California, November 2002.

Table 11

U.S. Fish & Wildlife Service
 San Diego Fairy Shrimp Critical Habitat Draft Economic Analysis
 Total Cost Impacts for Road Construction and Maintenance

Types I and II

Region/Road Project	Project Modifications				Share of Total Costs [3]		
	Formal Consultation Cost [1]	Area Impacted	Restoration Cost [2]	Total Project Modifications	Total Costs	Type I Land	Type II Land
	<i>undiscounted</i>	<i>wetted acres</i>	<i>\$/wetted acre</i>	<i>undiscounted</i>	<i>undiscounted</i>	<i>percent</i>	<i>percent</i>
SD Southern Coastal Mesa Management Area							
State Route 905 [4]	\$18,100	0.02	\$500,000	\$10,000	\$28,100	38%	62%
State Route 11 [5]	\$18,100	2.00	\$500,000	\$1,000,000	\$1,018,100	38%	62%
TOTAL	\$36,200			\$1,010,000	\$1,046,200		

Notes: "Caltrans_public"

- [1] This cost assumes one formal consultation per project and consists of the total cost borne by the FWS, Caltrans, and the local transportation agency and the cost of producing a biological assessment. The cost is an average of a low to high consultation cost range.
- [2] Based on average of cost estimates typically seen in Southern California by HELIX Environmental Consulting, Inc. and RECON Environmental Consulting, Inc.
- [3] Absent data on exact alignments of road facilities, analysis assumes that project is equally likely to occur in each acre of essential habitat, whether Type I or II. Percentages shown reflect the distribution of acres across each type.
- [4] Acres impacted derived from agency surveys and preliminary EIR/EIS documents.
- [5] Acres impacted based on statewide average impact to wetted vernal pool acres by Caltrans projects.

243 The consultation costs shown in **Table 12** are also distributed between Type I, II, and III lands based on the distribution of acreage of each land type in essential habitat. Total Type I undiscounted administrative consultation costs for the six consultations are approximately \$10,100. Total Type II undiscounted administrative consultation costs for the six consultations are approximately \$11,000. Total Type III undiscounted administrative consultation costs for the six consultations are approximately \$6,300. The calculations are summarized in **Table 13**.

Table 12
 U.S. Fish & Wildlife Service
 San Diego Fairy Shrimp Critical Habitat Draft Economic Analysis
 Consultation Costs for Municipal Water Projects

Types I, II, and III

Region	Number of Consultations		Consultation Unit Cost [1]		Consultation Cost Total		Share of Total Costs [2]			
	Formal	Informal	Formal	Informal	Formal	Informal	Total Costs	Type I	Type II	Type III
<i>SD North Coastal Mesa Management Area [3]</i>	0.25	0.50	\$14,600	\$6,650	\$3,650	\$3,325	\$6,975	10%		90%
<i>SD Inland Valley Management Area [3]</i>	0.25	0.50	\$14,600	\$6,650	\$3,650	\$3,325	\$6,975	100%		
<i>SD Central Coastal Management Area [3]</i>	0.25	0.50	\$14,600	\$6,650	\$3,650	\$3,325	\$6,975	5%	95%	
<i>SD Southern Coastal Mesa Management Area [3]</i>	0.25	0.50	\$14,600	\$6,650	\$3,650	\$3,325	\$6,975	38%	62%	
Total	1.00	2.00			\$14,600	\$13,300	\$27,900			

"Water_public"

Notes:
 [1] This cost assumes one formal consultation per project and consists of the total average cost borne by the USFWS, SDCWA, and the Federal action agency. If the consultation is formal, the cost of preparing a biological assessment is included as well.
 [2] Absent data on locations of planned water projects, analysis assumes that project is equally likely to occur in each acre of essential habitat, whether Type I, II, or III. Percentages shown reflect the distribution of acres across each type.
 [3] The actual location of potential water projects is unknown. The total section 7 costs have therefore been divided among the four jurisdictions that contain proposed critical habitat in San Diego County.

Table 13
U.S. Fish & Wildlife Service
San Diego Fairy Shrimp Critical Habitat Draft Economic Analysis
Economic Impacts by Activity, Land Type, and Region [1]

Region/Land Use Activity	TYPE I LANDS - PROPOSED FOR CRITICAL HABITAT DESIGNATION				TYPE II LANDS - PROPOSED FOR EXCLUSION UNDER 3(5)A AND 4(B)2				TYPE III LANDS - PROPOSED FOR EXCLUSION UNDER 4(9)2 ONLY			
	Administrative Costs [2]	Project Modification Costs	Other Costs [3]	Total Impacts	Administrative Costs [2]	Project Modification Costs	Other Costs [3]	Total Impacts	Administrative Costs [2]	Project Modification Costs	Other Costs [3]	Total Impacts
	undiscounted	undiscounted	undiscounted	undiscounted	undiscounted	undiscounted	undiscounted	undiscounted	undiscounted	undiscounted	undiscounted	undiscounted
L.A. Basin/Orange Management Area												
Private land development	\$18,100	\$28,700,000	-	\$28,718,100	-	-	-	\$15,211,998	-	-	-	\$15,211,998
Other [5]	-	\$7,808	\$4,136	\$7,808	-	-	-	\$4,136	-	-	-	\$4,136
Subtotal	\$18,100	\$28,700,000	\$7,808	\$28,725,908	\$15,211,998	\$15,211,998	\$15,211,998	\$15,211,998	\$15,211,998	\$15,211,998	\$15,211,998	\$15,211,998
SD North Coastal Mesa Management Area												
Military activities	-	-	-	-	-	-	-	-	\$27,900	-	-	\$27,900
Airport Construction [6]	-	-	-	-	-	-	-	-	\$4,525	\$1,470,000	-	\$1,474,525
Water projects	\$697	-	\$369	\$697	-	-	-	\$6,278	-	-	-	\$3,326
Other [5]	-	\$18,973	\$10,050	\$18,973	-	-	-	-	-	-	-	\$10,050
Subtotal	\$697	\$18,973	\$10,050	\$19,670	\$10,419	\$10,419	\$10,419	\$10,419	\$38,703	\$1,470,000	\$1,508,703	\$799,161
SD Inland Valley Management Area												
Private land development	\$1,256,650	\$68,265,000	\$546,120	\$70,067,770	\$37,114,948	\$37,114,948	\$37,114,948	\$37,114,948	-	-	-	\$37,114,948
Airport Construction [6]	\$4,525	\$580,000	-	\$584,525	\$309,623	\$309,623	\$309,623	\$309,623	-	-	-	\$309,623
Water projects	\$6,975	-	\$3,695	\$6,975	\$3,695	\$3,695	\$3,695	\$3,695	-	-	-	\$3,695
Other [5]	-	-	\$65,086	\$65,086	\$34,476	\$34,476	\$34,476	\$34,476	-	-	-	\$34,476
Subtotal	\$1,268,150	\$68,845,000	\$611,206	\$70,724,356	\$37,462,742	\$37,462,742	\$37,462,742	\$37,462,742	\$37,462,742	\$37,462,742	\$37,462,742	\$37,462,742
SD Central Coastal Mesa Management Area												
Private land development	\$1,500	-	-	\$1,500	\$795	\$795	\$795	\$795	-	-	-	\$795
Military activities	-	-	-	-	-	-	-	-	\$251,100	\$133,008	-	\$133,008
Airport Construction [6]	\$348	-	-	\$348	\$185	\$185	\$185	\$185	\$154,525	\$81,852	-	\$81,852
Water projects	-	-	-	-	\$2,049	\$2,049	\$2,049	\$2,049	\$6,627	\$3,510	-	\$3,510
Other [5]	-	\$3,868	\$3,868	\$3,868	\$3,028	\$3,028	\$3,028	\$3,028	\$73,586	\$38,979	-	\$41,028
Subtotal	\$1,848	\$3,868	\$3,868	\$5,717	\$3,028	\$3,028	\$3,028	\$3,028	\$262,252	\$150,000	\$73,586	\$485,838
SD Southern Coastal Mesa Management Area												
Private land development	\$201,281	\$26,352	-	\$227,633	\$106,619	\$106,619	\$106,619	\$106,619	\$93,219	\$49,378	-	\$155,997
Airport Construction [6]	\$1,703	\$380,224	-	\$381,927	\$14,861	\$14,861	\$14,861	\$14,861	\$46,469	\$24,615	-	\$39,476
Road Construction	\$13,628	-	-	\$13,628	\$22,572	\$22,572	\$22,572	\$22,572	\$652,348	\$345,549	-	\$554,173
Military activities	-	-	-	-	\$14,600	\$14,600	\$14,600	\$14,600	\$14,600	\$7,734	-	\$7,734
Water projects	\$2,626	-	-	\$2,626	\$1,391	\$1,391	\$1,391	\$1,391	\$4,349	\$2,304	-	\$3,695
Other [5]	-	\$35,332	\$35,332	\$35,332	\$18,715	\$18,715	\$18,715	\$18,715	\$58,521	\$30,999	-	\$49,714
Subtotal	\$219,238	\$406,577	\$35,332	\$661,146	\$350,210	\$350,210	\$350,210	\$350,210	\$137,562	\$673,423	\$58,521	\$460,578
TOTAL, All Regions	\$1,508,033	\$97,951,577	\$677,187	\$100,136,796	\$53,042,532	\$53,042,532	\$53,042,532	\$53,042,532	\$399,814	\$823,423	\$132,107	\$717,927
Annualized Cost, All Regions [7]	\$75,000	\$4,898,000	\$34,000	\$5,010,000	\$5,010,000	\$5,010,000	\$5,010,000	\$5,010,000	\$20,000	\$41,000	\$7,000	\$70,000
TOTAL, All Regions	\$1,508,033	\$97,951,577	\$677,187	\$100,136,796	\$53,042,532	\$53,042,532	\$53,042,532	\$53,042,532	\$399,814	\$823,423	\$132,107	\$717,927
Annualized Cost, All Regions [7]	\$75,000	\$4,898,000	\$34,000	\$5,010,000	\$5,010,000	\$5,010,000	\$5,010,000	\$5,010,000	\$20,000	\$41,000	\$7,000	\$70,000
TOTAL, All Regions	\$1,508,033	\$97,951,577	\$677,187	\$100,136,796	\$53,042,532	\$53,042,532	\$53,042,532	\$53,042,532	\$399,814	\$823,423	\$132,107	\$717,927
Annualized Cost, All Regions [7]	\$75,000	\$4,898,000	\$34,000	\$5,010,000	\$5,010,000	\$5,010,000	\$5,010,000	\$5,010,000	\$20,000	\$41,000	\$7,000	\$70,000
TOTAL, All Regions	\$1,508,033	\$97,951,577	\$677,187	\$100,136,796	\$53,042,532	\$53,042,532	\$53,042,532	\$53,042,532	\$399,814	\$823,423	\$132,107	\$717,927
Annualized Cost, All Regions [7]	\$75,000	\$4,898,000	\$34,000	\$5,010,000	\$5,010,000	\$5,010,000	\$5,010,000	\$5,010,000	\$20,000	\$41,000	\$7,000	\$70,000
TOTAL, All Regions	\$1,508,033	\$97,951,577	\$677,187	\$100,136,796	\$53,042,532	\$53,042,532	\$53,042,532	\$53,042,532	\$399,814	\$823,423	\$132,107	\$717,927
Annualized Cost, All Regions [7]	\$75,000	\$4,898,000	\$34,000	\$5,010,000	\$5,010,000	\$5,010,000	\$5,010,000	\$5,010,000	\$20,000	\$41,000	\$7,000	\$70,000
TOTAL, All Regions	\$1,508,033	\$97,951,577	\$677,187	\$100,136,796	\$53,042,532	\$53,042,532	\$53,042,532	\$53,042,532	\$399,814	\$823,423	\$132,107	\$717,927
Annualized Cost, All Regions [7]	\$75,000	\$4,898,000	\$34,000	\$5,010,000	\$5,010,000	\$5,010,000	\$5,010,000	\$5,010,000	\$20,000	\$41,000	\$7,000	\$70,000
TOTAL, All Regions	\$1,508,033	\$97,951,577	\$677,187	\$100,136,796	\$53,042,532	\$53,042,532	\$53,042,532	\$53,042,532	\$399,814	\$823,423	\$132,107	\$717,927
Annualized Cost, All Regions [7]	\$75,000	\$4,898,000	\$34,000	\$5,010,000	\$5,010,000	\$5,010,000	\$5,010,000	\$5,010,000	\$20,000	\$41,000	\$7,000	\$70,000
TOTAL, All Regions	\$1,508,033	\$97,951,577	\$677,187	\$100,136,796	\$53,042,532	\$53,042,532	\$53,042,532	\$53,042,532	\$399,814	\$823,423	\$132,107	\$717,927
Annualized Cost, All Regions [7]	\$75,000	\$4,898,000	\$34,000	\$5,010,000	\$5,010,000	\$5,010,000	\$5,010,000	\$5,010,000	\$20,000	\$41,000	\$7,000	\$70,000
TOTAL, All Regions	\$1,508,033	\$97,951,577	\$677,187	\$100,136,796	\$53,042,532	\$53,042,532	\$53,042,532	\$53,042,532	\$399,814	\$823,423	\$132,107	\$717,927
Annualized Cost, All Regions [7]	\$75,000	\$4,898,000	\$34,000	\$5,010,000	\$5,010,000	\$5,010,000	\$5,010,000	\$5,010,000	\$20,000	\$41,000	\$7,000	\$70,000
TOTAL, All Regions	\$1,508,033	\$97,951,577	\$677,187	\$100,136,796	\$53,042,532	\$53,042,532	\$53,042,532	\$53,042,532	\$399,814	\$823,423	\$132,107	\$717,927
Annualized Cost, All Regions [7]	\$75,000	\$4,898,000	\$34,000	\$5,010,000	\$5,010,000	\$5,010,000	\$5,010,000	\$5,010,000	\$20,000	\$41,000	\$7,000	\$70,000
TOTAL, All Regions	\$1,508,033	\$97,951,577	\$677,187	\$100,136,796	\$53,042,532	\$53,042,532	\$53,042,532	\$53,042,532	\$399,814	\$823,423	\$132,107	\$717,927
Annualized Cost, All Regions [7]	\$75,000	\$4,898,000	\$34,000	\$5,010,000	\$5,010,000	\$5,010,000	\$5,010,000	\$5,010,000	\$20,000	\$41,000	\$7,000	\$70,000
TOTAL, All Regions	\$1,508,033	\$97,951,577	\$677,187	\$100,136,796	\$53,042,532	\$53,042,532	\$53,042,532	\$53,042,532	\$399,814	\$823,423	\$132,107	\$717,927
Annualized Cost, All Regions [7]	\$75,000	\$4,898,000	\$34,000	\$5,010,000	\$5,010,000	\$5,010,000	\$5,010,000	\$5,010,000	\$20,000	\$41,000	\$7,000	\$70,000
TOTAL, All Regions	\$1,508,033	\$97,951,577	\$677,187	\$100,136,796	\$53,042,532	\$53,042,532	\$53,042,532	\$53,042,532	\$399,814	\$823,423	\$132,107	\$717,927
Annualized Cost, All Regions [7]	\$75,000	\$4,898,000	\$34,000	\$5,010,000	\$5,010,000	\$5,010,000	\$5,010,000	\$5,010,000	\$20,000	\$41,000	\$7,000	\$70,000
TOTAL, All Regions	\$1,508,033	\$97,951,577	\$677,187	\$100,136,796	\$53,042,532	\$53,042,532	\$53,042,532	\$53,042,532	\$399,814	\$823,423	\$132,107	\$717,927
Annualized Cost, All Regions [7]	\$75,000	\$4,898,000	\$34,000	\$5,010,000	\$5,010,000	\$5,010,000	\$5,010,000	\$5,010,000	\$20,000	\$41,000	\$7,000	\$70,000
TOTAL, All Regions	\$1,508,033	\$97,951,577	\$677,187	\$100,136,796	\$53,042,532	\$53,042,532	\$53,042,532	\$53,042,532	\$399,814	\$823,423	\$132,107	\$717,927
Annualized Cost, All Regions [7]	\$75,000	\$4,898,000	\$34,000	\$5,010,000	\$5,010,000	\$5,010,000	\$5,010,000	\$5,010,000	\$20,000	\$41,000	\$7,000	\$70,000
TOTAL, All Regions	\$1,508,033	\$97,951,577	\$677,187	\$100,136,796	\$53,042,532	\$53,042,532	\$53,042,532	\$53,042,532	\$399,814	\$823,423	\$132,107	\$717,927
Annualized Cost, All Regions [7]	\$75,000	\$4,898,000	\$34,000	\$5,010,000	\$5,010,000	\$5,010,000	\$5,010,000	\$5,010,000	\$20,0			

VII. EVALUATION OF OTHER POTENTIAL IMPACTS

244 This chapter covers three screening analyses for the designation's impact on various groups, including the energy industry and small entities such as small businesses and governments. An evaluation is required by Executive Order No. 13211 first, and then an evaluation required by the RFA.

ENERGY IMPACT ANALYSIS

245 Pursuant to Executive Order No. 13211, "Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution, or Use," issued May 18, 2001, Federal agencies must prepare and submit a "Statement of Energy Effects" for all "significant energy actions." The purpose of this requirement is to ensure that all Federal agencies "appropriately weigh and consider the effects of the Federal government's regulations on the supply, distribution, and use of energy." OMB has provided guidance for implementing this executive order that outlines nine outcomes that may constitute "a significant adverse effect" when compared with the regulatory action under consideration:

- Reductions in crude oil supply in excess of 10,000 barrels per day;
- Reductions in fuel production in excess of 4,000 barrels per day;
- Reductions in coal production in excess of 5 million tons per year;
- Reductions in natural gas production in excess of 25 million mcf;
- Reductions in electricity production in excess of 1 billion kilowatt-hours per year or in excess of 500 megawatts of installed capacity;
- Increases in energy use required by the regulatory action that exceed given thresholds above;
- Increases in the cost of energy production in excess of 1 percent;
- Increases in the cost of energy distribution in excess of 1 percent; or
- Other similarly adverse outcomes.

246 The analysis finds that no project modifications are anticipated to occur in any energy producing industries from the implementation of the rule. Furthermore, no additional energy use is likely to be required as a result of designation.

247 Based on information from Federal agencies involved in the construction of new energy production facilities or the maintenance of energy facilities, there is no expected impact on energy producing industries over 20 years. Because of this minimal impact, this analysis concludes that the designation is unlikely to cause a significant adverse effect on the industry as measured by any of the nine screening criteria.

SBREFA

248 Under the RFA (as amended by the 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 comments a regulatory flexibility analysis that describes the effect of the rule on small entities (i.e., small businesses, small organizations, and small government jurisdictions).⁷⁰ 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.⁷¹ SBREFA amended the RFA to require Federal agencies to provide a statement of the factual basis for certifying that a rule will not have 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.

249 Federal courts and Congress have indicated that a RFA/SBREFA analysis should be limited to direct and indirect impacts on entities subject to the requirements of the regulation. As such, entities indirectly impacted by the SDFS listing and designation of critical habitat, and, therefore, not directly regulated by the listing or critical habitat designation, are not considered in this screening analysis.

This analysis estimates the number of small entities potentially affected by the designation of critical habitat for SDFS in counties supporting critical habitat areas. It also estimates the level of effect the designation will have on small entities. For both estimates, this analysis conservatively examines the total estimated section 7 costs calculated in earlier sections of this report.

250 This analysis begins by identifying all formal and informal consultation activities generated by the proposed rule that may involve small entities (business or governments). The analysis, then, estimates the number of small entities that are potentially affected. Finally, the level of impacts on those entities is examined.

251 **Table 14** summarizes the number of consultations for all activities that pertain to the SBREFA analysis, on both a 20-year basis and an annual basis. Please note that the consultations for road projects administered by the Federal Highway Administration (FHWA) are assumed to occur over a 7-year period instead of a 1-year period.

⁷⁰ 5 U.S.C. 601 et. seq.

⁷¹ 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).

Table 14
U.S. Fish & Wildlife Service
San Diego Fairy Shrimp Critical Habitat Draft Economic Analysis
Estimated Number of Future section 7 Consultations on Land Uses Affecting SDFS Species or Critical Habitat

Project Type	Potentially Affected Activities	Type of Affected Entity	Number of Consultations			
			Over 20 years		Annually	
			Formal	Informal	Formal	Informal
Army Corps of Engineers	Private Land Development	private business	62.5	0.0	3.1	0.0
Federal Aviation Administration	Airport [1]	local government	1.0	0.0	0.1	0.0
Federal Highway Administration	Roads	local government	Over 7 years 2.0	0.0	Annually 0.3	0.0
Total Private Business			62.5	0.0	3.1	0.0
Total Local Government			3.0	0.0	0.4	0.0

"SBREFA_consult."

Notes:

[1] As the San Diego County airport site may be one of four sites, the cost analysis of this report includes the administrative costs for four formal consultations for the airport project to be conservative. In reality, however, only one formal consultation will be done with the FAA. Therefore, the SBREFA section of this report assumes only one consultation for the San Diego County airport project.

IDENTIFICATION OF ACTIVITIES THAT MAY INVOLVE SMALL ENTITIES

- 252 *All references to section 7 in this chapter include economic costs associated with both proposed critical habitat and essential but excluded lands.*
- 253 **Chapters IV, V, and VI** of this report identify land use activities that are in the proposed critical habitat designation for SDFS as well as essential, but excluded lands. For purposes of this analysis, both categories of land are assumed to have the potential to be impacted by section 7 implementation (i.e., requiring consultations or project modifications).
- 254 Of the projects that are potentially affected, the military projects do not have third party involvement (i.e., only the Department of Defense and the Service are expected to be involved). Thus, no small entities are directly regulated on affected projects with the Department of Defense.
- 255 In addition, water utility projects are potentially affected by section 7 implementation. These projects involve the SDCWA, which is a large public agency, meaning it exceeds the Small Business Administration's annual sales threshold for small utility corporations or population threshold for small governments. Therefore, the SDCWA does not fit the category of a small entity.
- 256 After excluding these two agencies and their respective consultations noted above from the total universe of impacts identified in the body of the analysis, one action agency and 62 associated consultations remain. This subset represents the action agency and consultations subject to this screening analysis. Specifically, these actions feature activities that do not occur exclusively on Federal lands and may involve administrative project modifications costs as a result of section 7 implementation: USACE (private land development).

Description of Affected Entities

- 257 This section describes the industries most likely to be affected by section 7 implementation for SDFS. More information about the affected projects can be found in **Chapter IV** of this report.

Land Development and Real Estate (SIC 6552)

- 258 The Small Business Administration defines small businesses in the land development and real estate industry as having less than \$6 million in average annual receipts (also referred to as sales or revenues). Projects permitted by USACE that involve section 7 consultations for SDFS species may affect small businesses under Standard Industrial Classification (SIC) code 6552. In order to determine whether small businesses in the land development and real estate industry are affected by USACE projects, the \$6 million threshold must be considered in the analysis.

259 Significant levels of Federal agency review and permitting are often required for land development projects by public and private entities. This analysis assumes that the primary Federal nexus for future private development activities is the issuance of section 404(b)(1) permits by the USACE under CWA for impacts to “waters of the U.S.” If the project is located in proposed critical habitat, the nexus through a 404(b)(1) permit from the USACE would trigger a section 7 consultation with the Service.

Small Governments Analysis

260 The SBREFA defines a “small governmental jurisdiction” as “governments of counties with a population of less than fifty thousand.”⁷² All small governments for cities and counties that have a population that is less than 50,000 persons in the total study area constitute the universe of small governments in this analysis. The FAA and the FHWA are estimated to be involved in formal a total of 3 formal consultations with small government entities over the next 20 years.

Estimated Number of Affected Entities that are Small

261 To be conservative, (i.e., more likely to overstate impacts than understate them), this analysis assumes that each of the consultations in a given year is undertaken by a unique small entity, so the number of businesses/governments affected annually is equal to the total annual number of consultations (both formal and informal). This analysis also limits the universe of potentially affected entities to include only those in the counties in which critical habitat units lie; this interpretation produces a more conservative analysis than including all entities nationwide.

Activities of USACE and Effects on the Land Development and Real Estate Industry (SIC 6552)

262 First, the number of affected small businesses for the land development and real estate industry is estimated. As shown in **Table 15**, the following calculations are used to arrive at this estimate:

- **Estimate the annual number of businesses in the study area affected by section 7 implementation (assumed to be equal to the number of annual consultations).** A total of 61 formal consultations, over a 20-year time period, are estimated for USACE projects that are likely to affect businesses in the land development and real estate industry. This equates to approximately three formal consultations on an annual basis.
- **Calculate the percentage of businesses in the affected industry that are likely to be small.** This is calculated by dividing the total number of small businesses in the study area for the SIC code (using the annual sales thresholds from the Small Business

⁷² U.S.C § 601.

Table 15
U.S. Fish & Wildlife Service
San Diego Fairy Shrimp Critical Habitat Draft Economic Analysis
Estimated Annual Number of Small Businesses Affected by
the Proposed Rule

Industry Name	Land Development SIC 6552
Annual number of affected businesses in the industry (equal to the number of annual consultations)	By Formal Consultation 3
	By Informal Consultation 0
Number of small businesses in industry within study area	1,197
Total number of all businesses in industry within study area	1,340
Percent of businesses that are small (number of small businesses) / (total number of businesses)	89%
Annual number of small businesses affected (number of affected businesses) * (percent of small businesses)	3
Annual percentage of small businesses affected (number of small businesses affected) / (total number of small businesses)	0.3%
<i>"bus_number"</i>	

Sources: Dun and Bradstreet; Economic & Planning Systems, Inc.

Administration described in the previous section) by the total number of businesses in the study area that fall under the same SIC code.⁷³ The analysis shows that 89 percent of the land development and real estate (SIC 6552) businesses in the study area are small.

- **Calculate the number of affected small businesses.** This is calculated by multiplying the percentage of small businesses in the affected industry by the total number of annual consultations. According to this calculation, 3 small businesses in the land development and real estate industry are expected to be affected annually.
- **Calculate the percentage of small businesses likely to be affected by critical habitat.** This is done by dividing the number of affected small businesses by the total number of small businesses in the study area. This analysis reveals that less than 1 percent of all the small businesses in the study area for the land development and real estate industry is likely to be affected by SDFS consultation activities.

Activities of USACE and Effects on Small Governments

263 First, the number of affected small governments in the study area is estimated.⁷⁴ As shown in **Table 16**, the following calculations are used to arrive at this estimate:

- **Estimate the annual number of governments in the study area affected by section 7 implementation (assumed to be equal to the annual number of consultations).** A total of one formal consultation is estimated for FAA that involves a government entity, over a 20-year period. An estimated two formal consultations for FHWA activities involving government entities are likely to occur over a 7-year time period. The FAA, therefore, will engage in 0.1 consultations with government entities annually, while the FHWA is likely to be involved in 0.3 formal consultations per year. This results in a total of 0.4 annual consultations involving government entities for road and airport projects.
- **Calculate the percentage of governments in the study area that are likely to be small.** This is calculated by dividing the number of small governments by the total number of governments in the study area. The analysis shows that 26 percent of the governments in the study area are small.

⁷³ Dun Market Identifiers, File 516: Dun and Bradstreet, March 2003.

⁷⁴ Population count for the study area was obtained from California County Profiles—A Companion to the 2000 California Statistical Abstract, California Department of Finance, 2002. All cities and counties in the study area that have a total population less than or equal to 50,000 persons was considered small (according to Small Business Administration guidelines).

Table 16
U.S. Fish & Wildlife Service
San Diego Fairy Shrimp Critical Habitat Draft Economic Analysis
Estimated Annual Number of Small Governments Affected by Critical Habitat Designation

Industry Name	Small Governments
Annual number of affected governments (equal to the annual number consultations)	0.4
Number of small governments in industry within study area	11
Total number of all governments	43
Percent of governments that are small (Number of small governments) / (Total number of governments)	26%
Annual number of small governments affected (Number of affected governments) * (Percent of small governments)	0.1
Annual percentage of small governments affected (Number of small governments affected) / (Total number of small governments)	1.0%

"gov_num"

Sources: 2001 California County Profiles, California Department of Finance, EPS.

- **Calculate the number of affected small governments in the study area.** This is calculated by multiplying the percentage of small governments by the total number of annual consultations. This analysis shows that less than one unique small government in the study area is affected annually.
- **Calculate the percentage of small governments likely to be affected by critical habitat.** This is done by dividing the number of affected small governments in the study area by the total number of small governments in the study area. This analysis reveals that approximately 1 percent of the small governments in the study area is likely to be affected annually by SDFS consultation activities.

ESTIMATED EFFECTS ON SMALL ENTITIES

Activities of USACE and Effects on the Land Development and Real Estate Industry (SIC 6552)

- 264 As concluded in the previous section, less than 1 percent of small businesses (three businesses) for land development and real estate industry in the study area is expected to be affected by section 7–consultation activities annually. Costs to small businesses consist primarily of the cost of participating in section 7 consultations and the cost of project modifications.
- 265 **Table 17** estimates the level of effect a small business will experience from critical habitat designation for vernal pools. **Table 17** lays out assumptions that distinguish large development projects from small development projects (those undertaken by small businesses). The following steps were taken to estimate the effects on small business revenues:
- **Calculate the Project Size (Acres).** Based on historical consultation rates, this analysis assumes that the average project size for large development projects is 1,000 acres. For small developers, the average project size is calculated by multiplying the per-business Annual Gross Revenue by the Project Duration, and dividing the result by the improved land value per acre. This calculation reveals that the average project size for small developers is approximately 4 acres.
 - **Calculate the Average Entitled Land Value.** Entitled land value per square foot is calculated by taking the average of entitled land values for both counties in the study area shown in Table 5. This calculation shows that the average entitled land value per acre for the study area in this analysis is \$720,000.
 - **Estimate an Average Project Duration.** This analysis assumes that a large development project takes an average of 10 years to complete, while a small development project takes an average of 2 years to complete.

Table 17
U.S. Fish & Wildlife Service
San Diego Fairy Shrimp Critical Habitat Draft Economic Analysis
Estimated Annual Effects on Small Businesses in Land Development and Real Estate Industry

Industry Name	Land Development SIC 6552	Small Businesses Subset of SIC 6552
Project Size (acre) [1]	300	4
Entitled Land Value/Acre [2]	\$720,000	\$720,000
Project Duration [3]	10	2
Per-business Annual Gross Revenue [4]	\$21,600,000	\$1,240,000
Per-business Cost [5]	\$17,737,500	\$212,850
Per-business Effect (per-business cost/annual gross revenue) [6]	82%	17%

"bus_effects_T17"

- [1] This analysis assumes that the average project size for large land development projects is 1000 acres. For small land developers, the average project size is calculated by multiplying the Per-business Annual Gross Revenue by the project duration and dividing the result by the improved land value per acre.
- [2] Entitled land value per square foot is a calculated average of all entitled land values by county seen in Table 6.
- [3] Large development projects are assumed to take an average of 10 years to complete, while small development projects are assumed to be completed in an average of 2 years.
- [4] For large development projects, this is calculated by multiplying the average project size by the entitled land value per acre and dividing the result by the average project duration of 10 years. For small development projects, this is derived by taking a weighted average of the product of the number of consultations in each RMA revenue bin and their respective average annual revenue.
- [5] The Per-business cost for large development projects is calculated by taking the sum of the project modification costs for land development projects, the costs for time delay, and costs for uncertainty, and dividing by the number of consultations, and then dividing that result by the average project duration of 10 years. For small development projects, Per-business cost is derived by multiplying the Per-business cost of a large development project by the ratio of project duration to project size for large development projects.
- [6] This analysis shows that small businesses in the land development industry are likely to experience an impact to their annual revenues that is approximately 80% of annual gross revenues as a result of critical habitat designation.

- **Calculate the per-business Annual Gross Revenue.** For large development projects, the per-business Annual Gross Revenue is derived by multiplying the average project size (1,000 acres) by the entitled land value per acre and dividing the result by the project duration (10 years). For small development projects, the per-business annual gross revenue consists of a weighted average of the product of the number of consultations in each RMA revenue bin⁷⁵ and their respective average annual revenue. For large land development businesses, the annual gross revenues per business are estimated to be \$22 million. For small land development businesses, the annual gross revenues per business are estimated to be \$1.2 million.
- **Calculate the per-business cost.** The per-business cost for large development projects is calculated by dividing the sum of the total project modification costs, discounted time delay costs, and undiscounted uncertainty costs, by the number of formal consultations. This analysis assumes that all time delay costs, unlike uncertainty costs, will be incurred in the first year of a development project and are therefore discounted. This result is further divided by the project duration of 10 years. The per-business cost for large development projects is approximately \$18 million. For small development projects, the per-business cost is calculated by multiplying the per-business cost of a large development project by the ratio of project duration to project size for large development projects and dividing the result by the ratio of project duration to project size for small development projects. The per-business cost for small development projects is approximately \$213,000.
- **Calculate the per-business Effect on Annual Revenues.** The ratio of per-business cost to per-business annual gross revenues shows that small businesses in the land development industry are likely to experience a 17 percent impact on their annual revenues as a result of SDFS critical habitat designation.

Activities of USACE, and Effects on Small Governments

266 Given that less than 1 percent of the small governments in the study area is estimated to be affected by section 7–consultation activities, the following steps describe the methodology used to estimate the effect of section 7–consultation activities on the revenues of small governments in the study area (see **Table 18**).

⁷⁵ The annual number of affected small businesses are distributed into different revenue bins as categorized by RMA Annual Statement Studies: 2001–2002, which provides data on the distribution of annual sales in an industry within the following ranges: \$0–1 million, \$1–3 million, \$3–5 million, \$5–10 million, \$10–25 million, and \$25+ million. As mentioned above, the Small Business Administration defines small businesses within the land development and real estate industry as having less than \$6 million in average revenue. As such, the affected small businesses in this industry are distributed into four bins: \$0–1 million, \$1–3 million, \$3–5 million, and \$5–6 million.

Table 18
U.S. Fish & Wildlife Service
San Diego Fairy Shrimp Critical Habitat Draft Economic Analysis
Estimated Annual Effects on Small Governments

Item	Scenario A [1]	Scenario B [2]
Median revenue of all affected small governments[3]	\$19,163,430	\$19,163,430
Total Cost of Project Modifications = X	\$1,104,867	\$1,104,867
Total Number of Formal Consultations = Y	3	3
Project Lifetime (years) = Z	1	7
Per-government cost = (X/Y) / Z	\$368,289	\$52,613
Per-government effect (per-government cost/median revenue)	2%	0%

"gov_cost_T18"

- [1] Scenario A assumes that the life of a local government project requiring a consultation is one year. Therefore, local government will bear the total cost of each consultation within a one-year period.
- [2] Scenario B assumes that the life of a local government project requiring a consultation will span a period of seven years. While Scenario A takes a conservative approach to calculating section 7 cost impacts borne by local governments, Scenario B assumes a more realistic time frame over which costs are spread.
- [3] The median is calculated based on 1999 Cities Annual Report, California State Controller.

267 Two scenarios were generated for the examination of section 7 effects on the annual revenues of small governments. Scenario A assumes that the life of a local government project requiring a consultation is 1 year. Therefore, Scenario A assumes that a local government will bear the total cost of each consultation in a 1-year period. Scenario B, on the other hand, assumes that the life of a government project will span a period of 7 years. While Scenario A takes a conservative approach to calculating section 7 cost impacts borne by local governments, Scenario B assumes a more realistic timeframe over which costs are spread. Conducting both scenarios for this analysis is helpful to determine the range of impacts on local government revenues.

- **Calculate the per-government costs.** This calculation starts with an estimation of total project modification costs. Total project modification costs consist of a third party's cost to participate in a section 7 consultation as well as all project modification costs associated with public development projects. Section 7 project modification costs for future public development projects are estimated at approximately \$1.1 million. Per-government costs for Scenario A and Scenario B differ. For Scenario A, this estimate is derived by dividing total consultation costs for the small governments by the total number of consultations. For Scenario B, the consultation costs for the small governments are divided by the total number of consultations, and then dividing that total by seven (to spread the costs over a 7-year timeframe).
- **Determine the per-government revenue for the small governments in the study area.** This is derived by listing the revenues of all 11 small governments in the study area in ascending order and taking the mid-point—i.e., the median.⁷⁶
- **Estimate the level of effect on small governments.** This is calculated by taking the per-government cost and dividing it by the median revenue to determine the percentage of revenue represented by the per-government cost of a consultation. As presented in Table 18, small governments are likely to experience impacts to their median revenue equal to 2 percent in Scenario A, and 0 percent in Scenario B.

SUMMARY

268 Small businesses in the land development and real estate industry (SIC 6552) and small governments are likely to be affected by the rule. According to the calculations above, three small businesses in the land development and real estate industry are likely to be affected annually, representing less than 1 percent of the total number of small businesses in the industry for the study area. These affected small businesses are likely to experience an impact of 17 percent on their annual revenues as a result of the vernal pool critical habitat designation.

⁷⁶ The 11 small governments in the study area have a wide range of revenue from \$9 million to \$39 million. Because the specifics of small governments likely to be affected by future section 7-consultation activities are unknown, the analysis uses the median to represent the per-government revenue.

269 For the small governments in the study area, less than one unique small government is likely to be affected annually, or about 8 percent of the total number of small governments in the study area. Affected small governments are likely to experience impacts that fall in the range of 1 percent to 5 percent of the median revenue of small governments in the study area. However, for a small government to experience more than 1 percent impact to its annual revenues, the project must be funded and completed in a year. Transportation infrastructure projects will typically span anywhere from 3 to 10 years, suggesting that most of the small governments in this analysis will experience closer to a 1-percent impact to their annual revenues.

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ACRONYMS

Act	The Endangered Species Act of 1973, as amended
BMO	Biological Mitigation Order
Caltrans	California Department of Transportation
CCSCE	Center for the Continuing Study of the California Economy
CDPR	CDPR
CEQA	California Environmental Quality Act
CH	critical habitat
CHD	critical habitat designation
CWA	CWA
CSS Restoration	Costal Sage Scrub Restoration Bank
DFG	California Department of Fish and Game
DoD	Department of Defense
EIR	environmental impact report
EPS	Economic & Planning Systems, Inc.
EUA	existing use area (under the Central/Coastal NCCP/HCP)
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
HCP	habitat conservation plan
IEc	Industrial Economics, Inc.
INRMP	integrated natural resource management plan
INS	U.S. Immigration and Naturalization Service
MHCP	multi-habitat conservation plan (Northern San Diego County)
MHPA	multi-habitat planning area (under the MSCP)
MOU	memorandum of understanding
MPHA	multiple habitat planning area
MSCP	multi-species conservation plan (San Diego County)
MSCP	Multiple Species Conservation Program
MWB	Metropolitan Water Board

NCCP	natural community conservation plan
NRPPA	North Ranch Policy Plan Area (under the Central/Coastal HCP/NCCP)
OMB	Office of Management and Budget
PCE	Primary constituent elements
RPO	Resource Protection Ordinance
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SAIA	Sikes Act Improvement Act
SANDAG	San Diego Association of Governments
SDCWA	San Diego County Water Authority
SDFS	San Diego fairy shrimp
SBREFA	Small Business Regulatory Enforcement Fairness Act
Service	U.S. Fish and Wildlife Service
SCAG	Southern California Association of Governments
SCGC	Southern California Gas Company
SDG&E	San Diego Gas & Electric
SIC	Standard Industrial Classification
SLA	special linkage area (under the Central/Coastal HCP/NCCP)
USACE	United States Army Corps of Engineers