



CITY COUNCIL STAFF REPORT

DATE: April 7, 2010

NEW BUSINESS

SUBJECT: RELEASE OF ECONOMIC ANALYSIS OF THE CRITICAL HABITAT DESIGNATION FOR THE CASEY'S JUNE BEETLE

FROM: David H. Ready, City Manager

BY: Planning Department

SUMMARY

On March 31, 2010, the US Fish and Wildlife Service released its report on the economic impacts of designating lands to protect the Casey's June Beetle. Should the beetle be listed as an "endangered species", affected landowners would be required to obtain development permits from the Fish and Wildlife Service, subject to its rules and regulations. Release of the reports opens a 30-day comment period (due April 30, 2010) and staff will prepare a draft letter for Council review at its meeting of April 21st. The City has contacted the Agua Caliente Band of Cahuilla Indians and Smoke Tree Ranch so that they are aware of the report and comment period. Additional notice will be provided to other affected property owners in the City.

RECOMMENDATION:

Receive and file.

FISCAL IMPACT:

No fiscal impact.

Craig A. Ewing, AICP
Director of Planning Services

Thomas J. Wilson
Assistant City Manager, Dev't Svcs

David H. Ready
City Manager

Attached: Economic Analysis (draft, February 22, 2010)

ITEM NO. 56

IEC

ECONOMIC ANALYSIS OF CRITICAL HABITAT DESIGNATION FOR THE CASEY'S JUNE BEETLE

Draft | February 22, 2010

prepared for:

U.S. Fish and Wildlife Service

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Arlington, VA 22203

prepared by:

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LIST OF ACRONYMS

Act	Endangered Species Act
ACTHCP	Agua Caliente Tribal Habitat Conservation Plan
beetle	Casey's June beetle
BIA	Bureau of Indian Affairs
CEQA	California Environmental Quality Act
DOI	U.S. Department of the Interior
EPA	Environmental Protection Agency
FERC	Federal Energy Regulatory Commission
HCP	Habitat Conservation Plan
Iec	Industrial Economics, Incorporated
MDP	Palm Springs Master Drainage Plan
MND	Mitigated Negative Declaration
NAICS	North American Industry Classification System
NFIP	National Flood Insurance Program
OMB	U.S. Office of Management and Budget
RFA	Regulatory Flexibility Act
SBA	Small Business Administration
SBREFA	Small Business Regulatory Enforcement Fairness Act
Service	U.S. Fish and Wildlife Service
the District	Riverside County Flood Control and Water Conservation District
the Tribe	Agua Caliente Band of Cahuilla Indians
USACE	U.S. Army Corps of Engineers

EXECUTIVE SUMMARY

1. The purpose of this report is to identify and analyze the potential economic impacts associated with the designation of critical habitat for the Casey's June beetle (*Dinacoma caseyi*). This report was prepared by Industrial Economics, Incorporated (IEC), under contract to the U.S. Fish and Wildlife Service (Service).

OVERVIEW OF THE PROPOSED DESIGNATION OF CRITICAL HABITAT

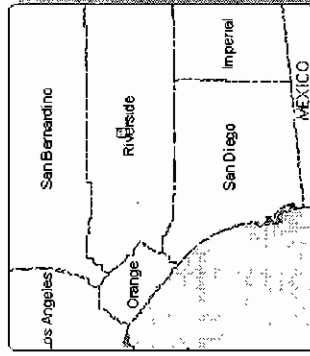
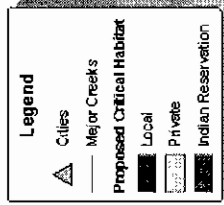
2. On May 12, 2004, the Center of Biological Diversity and the Sierra Club petitioned the Service, requesting the emergency listing of the Casey's June beetle (hereafter, "beetle") in accordance with section 4 of the Endangered Species Act (Act). The Service published a 12-month finding on July 5, 2007. At the time, listing was determined to be warranted but precluded. In response to this finding, the Service published a proposed rule to list the beetle as endangered under the Act on July 9, 2009. Concurrent with listing, the Service also proposed to designate critical habitat for the species. A map of the proposed critical habitat is presented in Exhibit ES-1.
3. Proposed critical habitat consists of a single 777-acre unit located in the City of Palm Springs. Approximately 44 percent of the proposed designation consists of Indian Reservation lands. Another 41 percent is privately-owned. The remaining 14 percent is owned by local entities, including the City of Palm Springs and the Riverside County Flood Control and Water Conservation District, for roads, flood control, and water facilities. No areas have been proposed for exclusion. The proposed unit is currently occupied by the beetle.¹
4. This analysis describes economic impacts of beetle conservation efforts associated with the following categories of activity: (1) residential and commercial development, and (2) flood damage reduction. Forecast impacts are organized into two categories according to "without critical habitat" and "with critical habitat" scenarios. The "without critical habitat" scenario represents the baseline for the analysis, considering protections otherwise accorded the beetle; for example, protections provided under other Federal, State, and local regulations. The "with critical habitat" scenario describes the incremental

¹ U.S. Fish and Wildlife Service. 2009. Endangered and Threatened Wildlife and Plants; Listing Casey's June Beetle (*Dinacoma caseyi*) as Endangered and Designation of Critical Habitat; Proposed Rule. United States Department of the Interior, Fish and Wildlife Service. Published in the *Federal Register* on July 9, 2009, 74 FR 32857.

EXHIBIT ES-1. MAP OF PROPOSED CRITICAL HABITAT FOR THE BEETLE



Proposed Critical Habitat for Casey's June Beetle
1:1,000



INDUSTRIAL ECONOMICS, INCORPORATED



Source:
1. US Fish and Wildlife Service, Carlsbad, CA, USA
2. Environmental Systems Research Institute, Inc (ESRI), Redlands, California, USA

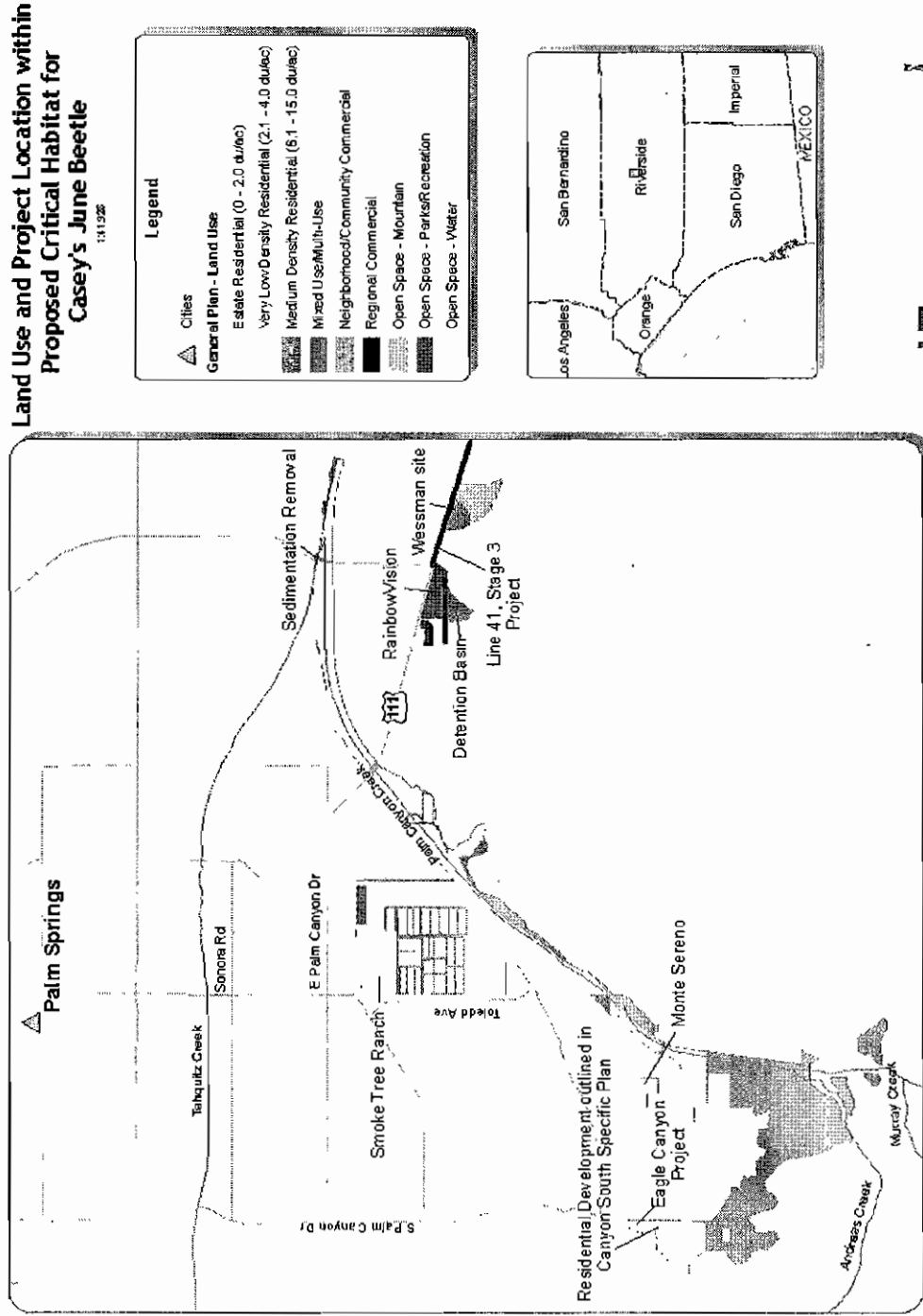
impacts associated specifically with the designation of critical habitat for the species. The incremental conservation efforts and associated economic impacts would not occur but for the designation. This analysis also looks at indirect costs that are the result of the influence of critical habitat designation upon other, non-Federal decision-makers. The Service believes that the direct benefits of the proposed critical habitat designation are best expressed in biological terms that can be weighed against the expected impacts of the proposed designation. However, a discussion of potential categories of economic benefits is provided at the end of the report.

5. Due to the small size of this proposed designation (777 acres), this report analyzes impacts at the project level (see Exhibit ES-2). Exhibit ES-3 identifies development and flood damage reduction projects currently anticipated within areas proposed for critical habitat designation and notes whether a Federal nexus is likely to exist. The Service has indicated that “impacts to suitable Casey’s June beetle habitat should be avoided whenever possible.”² However, the Service has also states that, “Our history of endangered species planning indicates that 100% avoidance of critical habitat is rare. Projects are commonly built in designated critical habitat (with and without a federal nexus) and few examples exist of total avoidance...”³
6. The Service is unable at this time to define the types of recommendations it may make during section 7 consultation on projects with a Federal nexus. Furthermore, for projects lacking a Federal nexus, significant uncertainty existing regarding the actions the City of Palm Springs or Riverside County may take to protect the beetle and its critical habitat through its environmental review of the proposed projects under the California Environmental Quality Act (CEQA). Therefore, this analysis reports the impact of the upper-bound outcome for each project, total avoidance of designated acres. The advantage of this approach is that decision-makers are provided information about the relative value of land and projects within the habitat, allowing for comparisons of potential relative impact within the unit. However, this approach likely overstates the expected absolute cost of future actions to protect critical habitat.
7. In Exhibit ES-3, and throughout the report, all impacts are anticipated to occur after publication of the final rule (2010 – 2029), and represent “post-designation” impacts. Post-designation impacts may occur in the baseline or be attributed as an incremental result of the designation. The methodology used to identify baseline and incremental impacts largely depends on the probability that beetles will be positively identified during project site surveys and is explained in greater detail in Chapters 2 and 3 of this report (see Exhibit 3-2). In areas where beetles may not be identified, this analysis estimates incremental impacts associated with CEQA review (see Section 3.1).

² U.S. Fish and Wildlife Service, “Comments on How the DEA Should Estimate Incremental Costs for Casey’s June Beetle (*Dinacoma caseyi*) Proposed Critical Habitat Designation,” September 8, 2009.

³ Written comments on the first draft of this report, provided by Jon Avery and Carol Roberts, U.S. Fish and Wildlife Service, Carlsbad Office, November 11, 2009.

EXHIBIT ES-2. LAND USE AND PROJECT LOCATION WITHIN PROPOSED CRITICAL HABITAT FOR THE CASEY'S JUNE BEETLE



Sources:
 1. US Fish and Wildlife Service, Carlsbad, CA, USA
 2. City of Palm Springs, Planning Dept
 3. Environmental Systems Research Institute, Inc. (ESRI), Redlands, California, USA

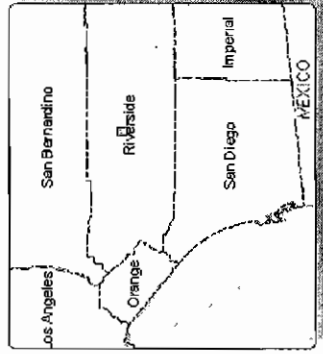
Land Use and Project Location within Proposed Critical Habitat for Casey's June Beetle
 1:11,250

Legend

▲ Cities

General Plan - Land Use

- Estate Residential (0 - 2.0 du/acre)
- Very Low Density Residential (2.1 - 4.0 du/acre)
- Medium Density Residential (5.1 - 15.0 du/acre)
- Mixed Use/Multi-Use
- Neighborhood/Community Commercial
- Regional Commercial
- Open Space - Mountain
- Open Space - Parks/Recreation
- Open Space - Water



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EXHIBIT ES-3. COSTS OF TOTAL AVOIDANCE WITHIN DESIGNATED CRITICAL HABITAT (2009 DOLLARS, SEVEN PERCENT DISCOUNT RATE)

PROJECT NAME	KNOWN FEDERAL NEXUS	PROJECT DESCRIPTION	POTENTIAL IMPACTS	POTENTIAL PROJECT VALUE AND/OR MODIFICATION COSTS
Development Projects				
Wessman development site	No	<ul style="list-style-type: none"> ▪ Proposed commercial development. ▪ 25.6 acres of proposed critical habitat along Highway 111. ▪ Located near several existing shopping complexes. ▪ Previous surveys did not detect the beetle. 	<ul style="list-style-type: none"> ▪ Potential loss of estimated land value. 	Incremental: \$6,530,000
Smoke Tree Ranch	No	<ul style="list-style-type: none"> ▪ Undeveloped parcel at northeast corner of the Smoke Tree Ranch development. ▪ Currently zoned for mixed-use and may be developed for commercial uses. ▪ Site used often used as control area for other beetle surveys due to prevalence of species on this property. 	<ul style="list-style-type: none"> ▪ Potential loss of estimated land value. ▪ Administrative cost of Section 7 consultation. 	Baseline: \$412,000 Incremental: \$4,670
Eagle Canyon (Alturas) Project	No	<ul style="list-style-type: none"> ▪ Located on 56 acres of Indian Reservation fee title lands proposed as critical habitat. ▪ Project expected to consist of 75 single-family homes and 155 townhouses. ▪ Pending review by Palm Springs Planning Commission. 		Baseline: \$2,320,000 Incremental: \$773,000
RainbowVision Retirement Community (or other development project)	No	<ul style="list-style-type: none"> ▪ Indian Reservation fee title lands. ▪ Proposed "campus-style resort/retirement community." ▪ Expected to consist of 184 for-sale condominiums, as well as recreational facilities. ▪ Approved by the Palm Springs City Council in March 2008. 		Baseline: \$4,120,000 Incremental: \$1,370,000
Monte Sereno	No	<ul style="list-style-type: none"> ▪ Indian Reservation fee title lands. ▪ Seven acre undeveloped parcel near large, ongoing development. 		Baseline: \$81,600 Incremental: \$27,200

PROJECT NAME	KNOWN FEDERAL NEXUS	PROJECT DESCRIPTION	POTENTIAL IMPACTS	POTENTIAL PROJECT VALUE AND/OR MODIFICATION COSTS
Residential development project outlined in Canyon South Specific Plan	Potential - located on a combination of Tribal trust and allotment lands	<ul style="list-style-type: none"> ▪ Zoned for estate residential, suggesting a maximum buildout of 14 units. ▪ Indian Reservation allotted trust and Tribal trust lands. ▪ General plan for additional residential development in the area. ▪ Zoned for estate residential, suggesting a maximum buildout of 154 units. 		Baseline: \$3,170,000 Incremental: \$1,060,000
Flood Damage Reduction Projects				
Line 41, Stage 3 Flood Control Project	Yes - Army Corps of Engineers	<ul style="list-style-type: none"> ▪ Construction and maintenance of an underground storm drain and detention basin. 	<ul style="list-style-type: none"> ▪ Administrative cost of section 7 consultation and delay cost ▪ Cost of project avoidance - increased risk of flood damage, increased flood insurance rates OR <ul style="list-style-type: none"> ▪ Cost of project modifications - offsets/mitigation fees, surveys, use of native species in landscaping 	Not quantified
Sedimentation Removal Project	Yes - Army Corps of Engineers	<ul style="list-style-type: none"> ▪ Sedimentation removal within Palm Canyon Wash at S. Gene Autry Trail. 	<ul style="list-style-type: none"> ▪ Administrative cost of section 7 consultation ▪ Cost of project avoidance OR <ul style="list-style-type: none"> ▪ Cost of increasing the height of the levee instead of dredging 	Baseline: \$2,600,000 Incremental: \$27,400

8. Exhibits ES-4 and ES-5, summarize the present value impacts of total avoidance that would occur under the baseline and incremental scenarios, respectively. Present value costs by time period and activity are presented throughout the report applying a discount rate of seven percent; the report tables are repeated in Appendix B applying a discount rate of three percent.⁴ Appendix B also presents the undiscounted stream of impacts. Administrative costs of consultations under section 7 of the Act are incorporated into each Chapter corresponding to the activity for which the consultations are undertaken. Because the Service believes that total avoidance is not a likely outcome of the designation, and the inclusion of such costs in the report is intended to allow for comparison of the relative value of projects within the designation, total costs across all projects are not presented.

**EXHIBIT ES-4. SUMMARY OF ESTIMATED 20-YEAR POST-DESIGNATION BASELINE IMPACTS
ASSUMING TOTAL AVOIDANCE OF CRITICAL HABITAT ACRES (2010-2029)**

PROJECT	3% DISCOUNT RATE		7% DISCOUNT RATE	
	PRESENT VALUE IMPACTS	ANNUALIZED IMPACTS	PRESENT VALUE IMPACTS	ANNUALIZED IMPACTS
Development Projects				
Wessman development site	\$0	\$0	\$0	\$0
Smoke Tree Ranch ³	\$428,000	\$28,800	\$412,000	\$38,900
Eagle Canyon (Alturas) Project	\$2,410,000	\$162,000	\$2,320,000	\$219,000
RainbowVision Retirement Community	\$4,280,000	\$288,000	\$4,120,000	\$389,000
Monte Sereno ³	\$84,700	\$5,700	\$81,600	\$7,700
Residential development project North of Acanto Drive	\$3,290,000	\$221,000	\$3,170,000	\$299,000
Flood Damage Reduction Projects				
Line 41, Stage 3 Flood Control Project	<i>Unquantified costs</i>			
Sedimentation Removal Project	\$3,590,000	\$234,000	\$2,600,000	\$229,000
1. Impact estimates reflect a 20-year time horizon. 2. Estimates are rounded to three significant digits and may not sum to totals reported due to rounding. 3. Parcels have not been assessed since 1975. Available commercial property and home price indexes do not provide index data this far back in time. This analysis adjusts values forward from the earliest available index year, recognizing this may undervalue increases in property value since 1975.				

⁴ Discount rates are used to express future costs at today's equivalent value. The discount rate used represents the opportunity cost to the landowner of not applying these funds elsewhere.

EXHIBIT ES-5. SUMMARY OF ESTIMATED 20-YEAR POST-DESIGNATION INCREMENTAL IMPACTS ASSUMING TOTAL AVOIDANCE OF CRITICAL HABITAT ACRES (2009-2028)

PROJECT	3% DISCOUNT RATE		7% DISCOUNT RATE	
	PRESENT VALUE IMPACTS	ANNUALIZED IMPACTS	PRESENT VALUE IMPACTS	ANNUALIZED IMPACTS
Development Projects				
Wessman development site	\$6,780,000	\$456,000	\$6,530,000	\$616,000
Smoke Tree Ranch ³	\$4,850	\$326	\$4,670	\$441
Eagle Canyon (Alturas) Project	\$803,000	\$54,000	\$773,000	\$73,000
RainbowVision Retirement Community	\$1,430,000	\$95,900	\$1,370,000	\$130,000
Monte Sereno ³	\$28,200	\$1,900	\$27,200	\$2,570
Residential development project North of Acanto Drive	\$1,100,000	\$73,700	\$1,060,000	\$99,700
Flood Damage Reduction Projects				
Line 41, Stage 3 Flood Control Project	<i>Unquantified administrative costs</i>			
Sedimentation Removal Project	\$37,700	\$2,460	\$27,400	\$2,420
<p>1. Impact estimates reflect a 20-year time horizon.</p> <p>2. Estimates are rounded to three significant digits and may not sum to totals reported due to rounding.</p> <p>3. Parcels have not been assessed since 1975. Available commercial property and home price indexes do not provide index data this far back in time. This analysis adjusts values forward from the earliest available index year, recognizing this may undervalue increases in property value since 1975.</p>				

DISCUSSION OF RESULTS

9. The identification of baseline and incremental impacts is dependent on the results of future surveys for the beetle. If beetles have not previously been detected at specific project sites, or no Federal nexus exists, project proponents are likely to undertake additional surveys in an attempt to prove the beetle is extirpated from the site. Given the potential for habitat to be temporarily unoccupied (e.g., soon after a flood or similar disturbance), Service biologists expect that negative results are possible. In addition, a small, relatively insignificant, number of false negative survey findings are possible. Service biologists anticipate that negative and false negative survey findings will occur approximately 25 percent of the time. Given the site-specific nature of this analysis, and because the outcome of future surveys is unknown, costs are attributed probabilistically. For projects more than 300 meters from a known beetle location, the analysis assigns 75 percent of the costs to the baseline and 25 percent of the costs to the incremental scenario. In other words, it assumes that 75 percent of the time, impacts are attributable to the presence of the beetle, and the other 25 percent of the time, when beetles are not detected, impacts would not occur but for the critical habitat designation.

RESIDENTIAL AND COMMERCIAL DEVELOPMENT

10. As discussed above, the Service has indicated that “impacts to suitable Casey’s June beetle habitat should be avoided whenever possible.”⁵ This analysis considers the cost of avoidance as an upper-bound estimate of impacts to development activities. At this upper-bound, the cost of avoidance can be calculated as current value of the land, which reflects its options for future development.⁶
11. This assumption likely leads to an overstatement of impacts where project modifications that avoid a jeopardy or adverse modification finding are feasible, or where the CEQA process does not result in indirect impacts. While the City of Palm Springs recognizes that available habitat for the beetle is so constrained “that the designation may well remove any economic value to these properties,” historically the Service notes the City of Palm Springs has not mandated changes in a project’s design as a result of critical habitat designation for other species.^{7,8} As a result, the outcome of the CEQA process for future projects is uncertain. Moreover, it is likely that the Service will be able to work with landowners to develop feasible project modifications. Information on likely project-specific modifications is not available at this time. Therefore, the potential loss in land value should be considered as an upper-bound impact estimate with the understanding that these values likely overstate actual impacts.
12. As a proxy for the market value of the relevant parcels, this analysis uses the assessed value of the land adjusted to 2009 dollars, using: (1) for residential properties, the Office of Federal Housing Enterprise Oversight’s home price index for the Riverside-San Bernardino-Ontario, CA metropolitan statistical area; or (2) for commercial developments, the Moody’s/REAL Commercial Property Price Index for Southern California retail property. The use of these indexes adjusts the assessed values for fluctuations in the real estate market over time to better reflect current market value.

FLOOD DAMAGE REDUCTION

13. It is difficult to quantify costs associated with impacts to flood damage reduction projects. In the worst-case situation, flood damage reduction projects may not be able to move forward within beetle habitat. If the Service recommends that flood damage reduction projects be altered to a degree that renders the project infeasible, impacts to health and human safety could result from increased flood risk. This analysis considers two flood damage reduction projects within beetle critical habitat: (1) the Line 41, Stage 3 Flood Control Project; and (2) a sedimentation removal project. The impact of project avoidance is not quantified for the Line 41, Stage 3 Project; a low-end estimate of project

⁵ U.S. Fish and Wildlife Service, “Comments on How the DEA Should Estimate Incremental Costs for Casey’s June Beetle (*Dinacoma caseyi*) Proposed Critical Habitat Designation,” September 8, 2009.

⁶ This analysis applies the simplifying assumption that the value of non-development uses of these properties is negligible (i.e., they do not have the potential for agricultural or other uses that may be compatible with beetle habitat). Thus, removing the potential for residential or commercial development effectively reduces the value of these parcels to zero.

⁷ Email communication from Craig Ewing, City of Palm Springs, Planning Department, on September 23, 2009.

⁸ Email communication with Carol Roberts, US Fish and Wildlife Service, Carlsbad Field Office, November 13, 2009.

avoidance is calculated for the sedimentation removal project. Similar to the development projects, the Service is likely to recommend project modifications that would have less serious economic impacts than project avoidance.

KEY SOURCES OF UNCERTAINTY

14. In proposed critical habitat areas, the key factor determining whether incremental impacts are expected is the likelihood that project proponents will detect the beetle during pre-activity assessments and surveys. This analysis relies on past positive beetle occurrences, as well as an estimated probability that the beetle will be detected 75 percent of the time. To the extent that past survey identifications do not map to future detections, or beetles are detected more or less often than estimated, this analysis may under- or overstate incremental impacts.
15. Another key source of uncertainty is the estimated value of each project. Without specific information on the value of each project to the relevant stakeholders, this analysis forecast potential values based on assessed land values. While these assessed values were adjusted using market indices to approximate current market value, to the extent that these adjusted assessor's data do not accurately reflect the land's current market value, this analysis may over- or underestimate total impacts.
16. Finally, this analysis assumes that complete avoidance of critical habitat is a possible outcome for future projects, resulting in the complete loss of the value of affected parcels. However, the Service plans to work with affected stakeholders where possible to develop alternatives to conducting the proposed project within habitat identified as essential for the species, or to determine other reasonable and prudent alternatives. In addition, the City of Palm Springs may not recommend avoidance as part of the CEQA process. To the extent that projects are able to utilize alternative conservation efforts or otherwise move forward in the originally proposed location, this analysis likely overestimates project impacts.

CHAPTER 1 | INTRODUCTION AND BACKGROUND

1.1 INTRODUCTION

1. Under the provisions of the Act, the Service proposes to list the Casey's June beetle (*Dinacoma caseyi*) as endangered and to designate critical habitat for the species. The known beetle population primarily inhabits desert chaparral plant communities associated with gently sloping, depositional surfaces formed at the base of the Santa Rosa Mountains within the Palm Canyon alluvial floodplain in the Coachella Valley region.¹
2. On July 9, 2009, the Service proposed critical habitat for the beetle, identifying approximately 777 acres organized in a single unit.² The areas proposed as critical habitat encompass locations within the Palm Canyon alluvial floodplain, including all suitable habitat areas adjacent to and between areas where the beetle have been detected. Exhibit 1-1 maps the areas proposed as critical habitat, showing areas of Indian Reservation and off-Reservation lands (i.e., local and private).
3. Section 4(b)(2) of the ESA requires the Service to consider the economic, national security, and other impacts of designating a particular area as critical habitat. The Service may exclude an area from critical habitat if it determines that the benefits of exclusion outweigh the benefits of specifying the area as part of the critical habitat, unless it also determines that the failure to designate the area as critical habitat will result in the extinction of the species concerned.
4. As described more fully in Chapter 2, this analysis relies on the best available data to estimate the baseline (without critical habitat) and incremental (engendered by critical habitat) economic impacts of designating particular areas as critical habitat for the beetle. This chapter begins with an overview of the proposed designation, followed by a description of the area's regional demographics. It then describes the economic activities that may be conservation threats to the beetle and its habitat that are considered in this report. The chapter finishes with an overview of the organization of the rest of the report.

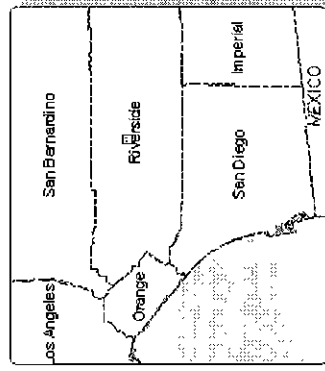
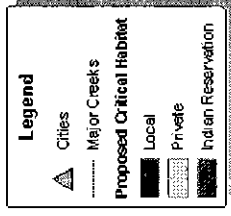
¹ 74 FR 32857.

² 74 FR 32857.

EXHIBIT 1-1. MAP OF PROPOSED CRITICAL HABITAT FOR THE BEETLE



Proposed Critical Habitat for Casey's June Beetle
1:4,000



Source:
 1. US Fish and Wildlife Service, Carlsbad, CA, USA
 2. Environmental Systems Research Institute, Inc. (ESRI), Redlands, California, USA



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1.2 OVERVIEW OF PROPOSED CRITICAL HABITAT AREA

5. All of the 777 acres of proposed critical habitat are located within Riverside County and most fall within the Palm Springs city limits. Of these lands, nearly half are Indian Reservation lands. These Indian Reservation lands consist of approximately 86 acres of tribal trust, 67 acres of fee-title, and 193 acres of allotted trust. Another 323 acres of the proposed designation are in private ownership off-Reservation, with the remaining 111 acres owned by local entities (also off-Reservation) such as the City of Palm Spring and Riverside County Flood Control and Water Conservation District. Exhibit 1-2 describes ownership of the areas proposed as critical habitat.

EXHIBIT 1-2. DISTRIBUTION OF PROPOSED CRITICAL HABITAT RESERVATION STATUS

RESERVATION STATUS	LAND TENURE TYPE	ACREAGE	% OF TOTAL
Reservation: Agua Caliente Tribe	Tribal Trust	86	11.1%
Reservation: Agua Caliente Tribe	Fee-title	67	8.6%
Reservation: Agua Caliente Tribe	Tribal Allotment	193	24.8%
Off-Reservation: Private ownership	Private	323	41.6%
Off-Reservation: Local entities	Local Public	111	14.3%
Total		777	100%
Notes and Sources:			
(1) Acreage values may not sum to individual unit totals and grand totals due to rounding.			
(2) 2009 Proposed Rule, 74 FR 32857.			

1.3 BRIEF OVERVIEW OF REGIONAL DEMOGRAPHICS

6. The proposed designation is located immediately adjacent to and within the City of Palm Springs. The area is highly developed with approximately 450 persons per square mile within the city and an estimated permanent population of 47,806. Palm Springs is also a popular tourist destination, with the seasonal population estimated to be approximately 74,000 at the height of tourist season. Median household income appears to be relatively high at approximately \$35,973 in 2000.³
7. At the writing of this report, information about the specific economic demographics on tribal trust and allotted trust lands on the Agua Caliente Indian Reservation is not available. Should relevant information be provided by the Tribe during public comment, it will be added to this section.

³ US Census Bureau, City Quickfacts: City of Palm Springs, accessed at: <http://quickfacts.census.gov/qfd/states/06/0655254.html> on October 1, 2009.

1.4 ECONOMIC ACTIVITIES CONSIDERED IN THIS ANALYSIS

8. Review of the Proposed Rule and discussions with the Service identified the following economic activities as being potentially affected by conservation efforts for the beetle and its habitat. The predominant risk factors associated with these activities are direct injury or mortality to beetles and habitat destruction, disturbance, and degradation. It is important to note that consideration of the economic impacts identified in this document is only appropriate in the context of analyzing the potential impacts of the proposed critical habitat designation. Section 4(b)(1) of the Act makes clear that listing decisions under the Act must be made solely on the basis of the best available scientific and commercial data without regard to potential economic impacts. Each of the following economic activities are addressed in Chapters 3 and 4 of the economic analysis.
- **Commercial and Residential Development.** The Proposed Rule states that “habitat modification for recreational, residential and urban development reduces an already limited range for Casey’s June beetle and poses a substantial threat to this species’ survival.”⁴ Furthermore, it states that “projecting development at the current rates within the extant range of the beetle suggests that in 20 years almost all remaining habitat may be lost on private or [Indian Reservation] land.”⁵ Chapter 3 considers the potential impacts of beetle conservation on development on private and Indian Reservation lands.
 - **Flood Damage Reduction Projects.** Chapter 4 of the analysis discusses potential impacts of beetle conservation activities on future flood damage reduction projects expected to occur within the proposed designation and managed by Riverside County Flood Control and Water Conservation District and the City of Palm Springs.
9. The Proposed Rule also indicates that recreational activities may affect habitat through land disturbance. The Service notes that unregulated off-road vehicle activity occurs near the State Route 111 bridge and Araby drive, as well as sites adjacent to Whitewater Wash and the Palm Springs Airport. Other recreational activities include horseback riding near the Smoke Tree Ranch development. However, the nature of these threats makes them hard to track and enforce. Without a clear Federal nexus or other local permitting, potential impacts to these activities from the designation of critical habitat are expected to be limited.
10. Finally, the Proposed Rule identifies other natural or anthropogenically influenced factors such as climate change, increased intensity and frequency of scouring events in wash habitat, and indirect events associated with adjacent development as threats. However, the Proposed Rule states that “there is little species-specific scientific information

⁴ U.S. Fish and Wildlife Service. 2009. Endangered and Threatened Wildlife and Plants; Listing Casey’s June Beetle (*Dinacoma caseyi*) as Endangered and Designation of Critical Habitat; Proposed Rule. United States Department of the Interior, Fish and Wildlife Service. Published in the *Federal Register* on July 9, 2009, Vol. 74, No. 130.

⁵ The Service intends to change the wording in the Proposed Rule from “tribally owned” to “Indian Reservation” land.

describing or predicting the potential for these threats to be realized.”⁶ Therefore, these threats are not analyzed in this report.

1.5 ORGANIZATION OF THE REPORT

11. The remainder of this report proceeds through three additional chapters. Chapter 2 discusses the analytic framework employed in the analysis. Chapters 3 and 4 then describe the assessment of potential economic impacts, organized by economic activity:
 - Chapter 3 – Commercial and Residential Development;
 - Chapter 4 – Flood Damage Reduction Projects; and
 - Chapter 5 – Economics Benefits.
12. In addition, the report includes two appendices: Appendix A, which considers potential impacts on small entities and the energy industry; and Appendix B, which provides information on the sensitivity of the economic impact estimates to alternative discount rates.

⁶ U.S. Fish and Wildlife Service. 2009. Endangered and Threatened Wildlife and Plants; Listing Casey’s June Beetle (*Dinacoma caseyi*) as Endangered and Designation of Critical Habitat; Proposed Rule. United States Department of the Interior, Fish and Wildlife Service. Published in the *Federal Register* on July 9, 2009, 74 FR 32863.

CHAPTER 2 | FRAMEWORK FOR THE ANALYSIS

13. The purpose of this report is to estimate the economic impact of actions taken to protect the beetle and its habitat. This analysis examines the impacts of restricting or modifying specific land uses or activities for the benefit of the species and its habitat within the proposed critical habitat area. This analysis employs "without critical habitat" and "with critical habitat" scenarios. The "without critical habitat" scenario represents the baseline for the analysis, considering protections otherwise accorded the beetle; for example, under the Federal listing and other Federal, State, and local regulations. The "with critical habitat" scenario describes the incremental impacts associated specifically with the designation of critical habitat for the species. The incremental conservation efforts and associated impacts are those not expected to occur absent the designation of critical habitat for the beetle. The analysis forecasts both baseline and incremental impacts likely to occur after the proposed critical habitat is finalized (post-designation impacts).
14. This information is intended to assist the Secretary of the U.S. Department of the Interior (DOI) in determining whether the benefits of excluding particular areas from the designation outweigh the benefits of including those areas in the designation.⁷ 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).⁸
15. This chapter describes the framework for this analysis. First, it describes the case law that led to the selection of the framework applied in this report. It then describes in economic terms the general categories of economic effects that are the focus of regulatory impact analysis, including a discussion of both efficiency and distributional effects. Next, this chapter defines the analytic framework used to measure these impacts in the context of critical habitat regulation and the consideration of benefits. It concludes with a presentation of the information sources relied upon in the analysis.

⁷ 16 U.S.C. §1533(b)(2).

⁸ Executive Order 12866, Regulatory Planning and Review, September 30, 1993 (as amended by Executive Order 13258 (2002) and Executive Order 13422 (2007)); Executive Order 13211, Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use, May 18, 2001; 5. U.S.C. §8601 *et seq*; and Pub Law No. 104-121.

2.1 BACKGROUND

16. The U.S. Office of Management and Budget's (OMB) guidelines for conducting economic analysis of regulations direct Federal agencies to measure the costs of a regulatory action against a baseline, which it defines as the "best assessment of the way the world would look absent the proposed action."⁹ In other words, the baseline includes the existing regulatory and socio-economic burden imposed on landowners, managers, or other resource users potentially affected by the designation of critical habitat. Impacts that are incremental to that baseline (i.e., occurring over and above existing constraints) are attributable to the proposed regulation. Significant debate has occurred regarding whether assessing the impacts of the Service's proposed regulations using this baseline approach is appropriate in the context of critical habitat designations.
17. In 2001, the U.S. Tenth Circuit Court of Appeals instructed the Service to conduct a full analysis of all of the economic impacts of proposed critical habitat, regardless of whether those impacts are attributable co-extensively to other causes.¹⁰ Specifically, the court stated,
- "The statutory language is plain in requiring some kind of consideration of economic impact in the CHD [critical habitat designation] phase. Although 50 C.F.R. 402.02 is not at issue here, the regulation's definition of the jeopardy standard as fully encompassing the adverse modification standard renders any purported economic analysis done utilizing the baseline approach virtually meaningless. We are compelled by the canons of statutory interpretation to give some effect to the congressional directive that economic impacts be considered at the time of critical habitat designation.... Because economic analysis done using the FWS's [Fish and Wildlife Service's] baseline model is rendered essentially without meaning by 50 C.F.R. § 402.02, we conclude Congress intended that the FWS conduct a full analysis of all of the economic impacts of a critical habitat designation, regardless of whether those impacts are attributable co-extensively to other causes. Thus, we hold the baseline approach to economic analysis is not in accord with the language or intent of the ESA [Endangered Species Act]."¹¹
18. Since that decision, however, courts in other cases have held that an incremental analysis of impacts stemming solely from the critical habitat rulemaking is proper.¹² For example, in the March 2006 ruling that the August 2004 critical habitat rule for the Peirson's milk-vetch was arbitrary and capricious, the United States District Court for the Northern District of California stated,

⁹ OMB, "Circular A-4," September 17, 2003, available at <http://www.whitehouse.gov/omb/circulars/a004/a-4.pdf>.

¹⁰ *New Mexico Cattle Growers Assn v. United States Fish and Wildlife Service*, 248 F.3d 1277 (10th Cir. 2001).

¹¹ *Ibid.*

¹² *Cope Hatteras Access Preservation Alliance v. Department of Interior*, 344 F. Supp. 2d 108 (D.D.C.); *Center for Biological Diversity v. United States Bureau of Land Management*, 422 F. Supp. 2d 1115 (N.D. Cal. 2006).

“The Court is not persuaded by the reasoning of *New Mexico Cattle Growers*, and instead agrees with the reasoning and holding of *Cape Hatteras Access Preservation Alliance v. U.S. Dep’t of the Interior*, 344 F. Supp 2d 108 (D.D.C. 2004). That case also involved a challenge to the Service’s baseline approach and the court held that the baseline approach was both consistent with the language and purpose of the ESA and that it was a reasonable method for assessing the actual costs of a particular critical habitat designation *Id* at 130. ‘To find the true cost of a designation, the world with the designation must be compared to the world without it.’”¹³

19. In order to address the divergent opinions of the courts and provide the most complete information to decision-makers, this economic analysis reports both:
 - a. The baseline impacts of beetle conservation from protections afforded the species absent critical habitat designation; and
 - b. The estimated incremental impacts precipitated specifically by the designation of critical habitat for the species.

20. Incremental effects of critical habitat designation are determined using the Service's December 9, 2004 interim guidance on “Application of the ‘Destruction or Adverse Modification’ Standard Under Section 7(a)(2) of the Endangered Species Act” and information from the Service regarding what potential consultations and project modifications may be imposed as a result of critical habitat designation over and above those associated with the listing.¹⁴ Specifically, in *Gifford Pinchot Task Force v. United States Fish and Wildlife Service*, the Ninth Circuit invalidated the Service’s regulation defining destruction or adverse modification of critical habitat, and the Service no longer relies on this regulatory definition when analyzing whether an action is likely to destroy or adversely modify critical habitat.¹⁵ Under the statutory provisions of the Act, the Service determines destruction or adverse modification on the basis of whether, with implementation of the proposed Federal action, the affected critical habitat would remain functional to serve its intended conservation role for the species. A detailed description of the methodology used to define baseline and incremental impacts is provided later in this Chapter.

¹³ *Center for Biological Diversity et al, Plaintiffs, v. United States Bureau of Land Management et. al, Defendants and American Sand Association, et al, Defendant Intervenors*. Order re: Cross Motions for Summary Judgment, Case 3:03-cv-02509 Document 174 Filed 03/14/2006, pages 44-45.

¹⁴ Director, U.S. Fish and Wildlife Service, Memorandum to Regional Directors and Manager of the California-Nevada Operations Office, Subject: Application of the “Destruction or Adverse Modification” Standard under Section 7(a)(2) of the Endangered Species Act, dated December 9, 2004.

¹⁵ *Gifford Pinchot Task Force v. United States Fish and Wildlife Service*, No. 03-35279 (9th Circuit 2004).

2.2 CATEGORIES OF POTENTIAL ECONOMIC EFFECTS OF SPECIES CONSERVATION

21. This economic analysis considers both the economic efficiency and distributional effects that may result from efforts to protect the beetle and its habitat (hereinafter referred to collectively as “beetle conservation efforts”). Economic efficiency effects generally reflect “opportunity costs” associated with the commitment of resources required to accomplish species and habitat conservation. For example, if the set of activities that may take place on a parcel of land is limited as a result of the designation or the presence of the species, and thus the market value of the land is reduced, this reduction in value represents one measure of opportunity cost or change in economic efficiency. Similarly, the costs incurred by a Federal action agency to consult with the Service under section 7 represent opportunity costs of beetle conservation efforts.
22. This analysis also addresses the distribution of impacts associated with the designation, including an assessment of any local or regional impacts of habitat conservation and the potential effects of conservation efforts on small entities and the energy industry. This information may be used by decision-makers to assess whether the effects of species conservation efforts unduly burden a particular group or economic sector. For example, while conservation efforts may have a small impact relative to the national economy, individuals employed in a particular sector of the regional economy may experience relatively greater impacts. The differences between economic efficiency effects and distributional effects, as well as their application in this analysis, are discussed in greater detail below.

2.2.1 EFFICIENCY EFFECTS

23. At the guidance of 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. In the context of regulations that protect beetle habitat, these efficiency effects represent the opportunity cost of resources used or benefits foregone by society as a result of the regulations. Economists generally characterize opportunity costs in terms of changes in producer and consumer surpluses in affected markets.¹⁶
24. In some instances, compliance costs may provide a reasonable approximation for the efficiency effects associated with a regulatory action. For example, a Federal land manager may 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 is 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

¹⁶ For 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>.

measurement of compliance costs can provide a reasonable estimate of the change in economic efficiency.

25. Where habitat protection measures are expected to significantly impact a market, it may be necessary to estimate changes in producer and consumer surpluses. For example, protection measures that reduce or preclude 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 (i.e., social welfare) can be measured by considering changes in producer and consumer surplus in the market.

2.2.2 DISTRIBUTIONAL AND REGIONAL ECONOMIC EFFECTS

26. Measurements of changes in economic efficiency focus on the net impact of conservation efforts, without consideration of how certain economic sectors or groups of people are affected. Thus, a discussion of efficiency effects alone may miss important distributional considerations. OMB encourages Federal agencies to consider distributional effects separately from efficiency effects.¹⁷ 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 and Energy Supply, Distribution, and Use

27. This analysis considers how small entities, including small businesses, organizations, and governments, as defined by the RFA, might be affected by future species conservation efforts.¹⁸ In addition, in response to Executive Order 13211 "Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use," this analysis considers the future impacts of conservation efforts on the energy industry and its customers.¹⁹

Regional Economic Effects

28. Regional economic impact analysis can provide an assessment of the potential localized effects of conservation efforts. 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 represent the relationship between a change in one sector of the economy (e.g., expenditures by recreators) and the effect of that change on economic output, income, or employment in other local industries (e.g., suppliers of goods and services to recreators).

¹⁷ U.S. Office of Management and Budget, "Circular A-4," September 17, 2003, available at <http://www.whitehouse.gov/omb/circulars/a004/a-4.pdf>.

¹⁸ 5 U.S.C. §5601 *et seq.*

¹⁹ Executive Order 13211, Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use, May 18, 2001.

These economic data provide a quantitative estimate of the magnitude of shifts of jobs and revenues in the local economy.

29. The use of regional input/output models in an analysis of the impacts of species and habitat conservation efforts 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 or other adaptive responses by impacted businesses. In addition, the flow of goods and services across the regional boundaries defined in the model may change as a result of the regulation, compensating for a potential decrease in economic activity within the region.
30. 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. Thus, these types of distributional effects are reported separately from efficiency effects (i.e., not summed). In addition, measures of regional economic impact cannot be compared with estimates of efficiency effects, but should be considered as distinct measures of impact.
31. Impacts associated with beetle conservation activities largely include compliance and delay costs; the quantity of housing supplied in the broader region is not anticipated to be affected. Therefore, measurable impacts of the type typically assessed with input-output models are not anticipated.

2.3 ANALYTIC FRAMEWORK AND SCOPE OF THE ANALYSIS

32. This analysis identifies those economic activities most likely to threaten the listed species and its habitat and, where possible, quantifies the economic impact to avoid or minimize such threats within the boundaries of the proposed critical habitat area, as described in Chapter 1.
33. This section provides a description of the methodology used to separately identify baseline impacts and incremental impacts stemming from the proposed designation of critical habitat for the beetle. This evaluation of impacts in a "with critical habitat designation" versus a "without critical habitat designation" framework effectively measures the net change in economic activity associated with the proposed designation of critical habitat.

2.3.1 IDENTIFYING BASELINE IMPACTS

34. The baseline for this analysis is the existing state of regulation, prior to the designation of critical habitat, which provides protection to the species under the Act, as well as under other Federal, State and local laws and guidelines. This "without critical habitat designation" scenario also considers a wide range of additional factors beyond the compliance costs of regulations that provide protection to the listed species. As

recommended by OMB, the baseline incorporates, as appropriate, trends in market conditions, implementation of other regulations and policies by the Service and other government entities, and trends in other factors that have the potential to affect economic costs and benefits, such as the rate of regional economic growth in potentially affected industries.

35. Baseline impacts include sections 7, 9, and 10 of the Act, and economic impacts resulting from these protections to the extent that they are expected to occur absent the designation of critical habitat for the species.
- Section 7 of the Act, absent critical habitat designation, 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. The portion of the administrative costs of consultations under the jeopardy standard, along with the impacts of project modifications resulting from consideration of this standard, are considered baseline impacts. Baseline administrative costs of section 7 consultation are summarized later in Exhibit 2-2.
 - Section 9 defines the actions that are prohibited by the Act. In particular, it prohibits the "take" of endangered wildlife, where "take" means to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."²⁰ The economic impacts associated with this section manifest themselves in sections 7 and 10.
 - Under section 10(a)(1)(B) of the Act, an entity (e.g., a landowner or local government) may develop a Habitat Conservation Plan (HCP) for a listed 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.²¹ The requirements posed by the HCP may have economic impacts associated with the goal of ensuring that the effects of incidental take are adequately avoided, minimized, or mitigated. The development and implementation of HCPs is considered a baseline protection for the species and habitat unless the HCP is determined to be precipitated by the designation of critical habitat, or the designation influences stipulated conservation efforts under HCPs.

Enforcement actions taken in response to violations of the Act are not included in this analysis.

36. The protection of listed species and habitat is not limited to the Act. Other Federal agencies, as well as State and local governments, may also seek to protect the natural resources under their jurisdiction. If compliance with the Clean Water Act or State environmental quality laws, for example, protects habitat for the species, such protective efforts are considered to be baseline protections and costs associated with these efforts

²⁰ 16 U.S.C. 1532.

²¹ U.S. Fish and Wildlife Service, "Endangered Species and Habitat Conservation Planning," August 6, 2002, accessed at <http://endangered.fws.gov/hcp/>.

are categorized accordingly. Of note, however, is that such efforts may not be considered baseline in the case that they would not have been triggered absent the designation of critical habitat. In these cases, they are considered incremental impacts and are discussed below.

2.3.2 IDENTIFYING INCREMENTAL IMPACTS

37. This analysis separately quantifies the incremental impacts of this proposed designation of critical habitat. The focus of the incremental analysis is to determine the impacts on land uses and activities from the designation of critical habitat that are above and beyond those impacts due to required or voluntary conservation efforts undertaken due to other Federal, State, and local regulations or guidelines.
38. When critical habitat is designated, section 7 requires Federal agencies to ensure that their actions will not result in the destruction or adverse modification of critical habitat (in addition to considering whether the actions are likely to jeopardize the continued existence of the species). The added administrative costs of including consideration of critical habitat in section 7 consultations, and the additional impacts of implementing project modifications resulting from the protection of critical habitat are the direct compliance costs of designating critical habitat. These costs are not in the baseline and are considered incremental impacts of the rulemaking. Additionally, incremental impacts may include indirect impacts resulting from reaction to the potential designation of critical habitat (e.g., implementing beetle management direction in an effort to avoid designation of critical habitat), triggering of additional requirements under State or local laws intended to protect sensitive habitat, and uncertainty and perceptual effects on markets.

Direct Impacts

39. The direct, incremental impacts of critical habitat designation stem from the consideration of the potential for destruction or adverse modification of critical habitat during section 7 consultations. The two categories of direct, incremental impacts of critical habitat designation are: 1) the administrative costs of conducting section 7 consultation; and 2) implementation of any project modifications requested by the Service through section 7 consultation to avoid or minimize potential destruction or adverse modification of critical habitat.

Administrative Section 7 Consultation Costs

40. Parties involved in section 7 consultations include the Service, a Federal "action agency," and in some cases, a private entity involved in the project or land use activity. The action agency (i.e., the Federal nexus necessitating the consultation) serves as the liaison with the Service. While consultations are required for activities that involve a Federal nexus and may jeopardize the continued existence of the species regardless of whether critical habitat is designated, the designation may increase the effort for consultations in the case that the project or activity in question may adversely modify critical habitat. Administrative efforts for consultation may therefore result in both baseline and incremental impacts.

41. In general, where critical habitat is designated concurrently with the listing of the species, two different scenarios associated with the designation of critical habitat may trigger incremental administrative consultation costs:
1. **Additional effort to address adverse modification in a new consultation** - New consultations taking place after critical habitat designation may require additional effort to address critical habitat issues above and beyond the listing issues. In this case, only the additional administrative effort required to consider critical habitat is considered an incremental impact of the designation.
 2. **Incremental consultation resulting entirely from critical habitat designation** - Critical habitat designation may trigger additional consultations that may not occur absent the designation (e.g., for an activity for which adverse modification may be an issue, while jeopardy is not). Such consultations may, for example, be triggered in critical habitat areas that are not occupied by the species. All associated administrative and project modification costs of incremental consultations are considered incremental impacts of the designation.
42. The administrative costs of these consultations vary depending on the specifics of the project. One way to address this variability is to show a range of possible costs of consultation, as it may not be possible to predict the precise outcome of each future consultation in terms of level of effort. Review of consultation records and discussions with Service field offices resulted in a range of estimated administrative costs of consultation. For simplicity, the average of the range of costs in each category is applied in this analysis.
43. Exhibit 2-1 provides estimated administrative consultation costs representing effort required for all types of consultation, including those that considered both adverse modification and jeopardy. To estimate the fractions of the total administrative consultation costs that are baseline and incremental, the following assumptions were applied.
- The greatest effort will be associated with consultations that consider both jeopardy and adverse modification. Depending on whether the consultation is precipitated by the listing or the critical habitat designation, part or all of the costs, respectively, will be attributed to the proposed designation of critical habitat.
 - Efficiencies exist when considering both jeopardy and adverse modification at the same time (e.g., in staff time saved for project review and report writing), and therefore incremental administrative costs of considering adverse modification in consultations precipitated by the listing result in the least incremental effort, roughly one-quarter of the cost of the entire consultation. The remaining three-quarters of the costs are attributed to consideration of the jeopardy standard in the baseline scenario. This latter amount also represents the cost of a consultation that only considers adverse modification (e.g., an incremental consultation for activities in unoccupied critical habitat) and is attributed wholly to critical habitat.

EXHIBIT 2-1. RANGE OF ADMINISTRATIVE CONSULTATIONS COSTS (2009 DOLLARS)

BASELINE ADMINISTRATIVE COSTS OF CONSULTATION					
CONSULTATION TYPE	SERVICE	FEDERAL AGENCY	THIRD PARTY	BIOLOGICAL ASSESSMENT	TOTAL COSTS
CONSULTATION CONSIDERING JEOPARDY (DOES NOT INCLUDE CONSIDERATION OF ADVERSE MODIFICATION)					
Technical Assistance	\$420	n/a	\$788	n/a	\$1,130
Informal	\$1,840	\$2,330	\$1,540	\$1,500	\$7,130
Formal	\$4,090	\$4,610	\$2,630	\$3,600	\$15,000
Programmatic	\$12,300	\$10,200	n/a	\$4,200	\$26,700
INCREMENTAL ADMINISTRATIVE COSTS OF CONSULTATION					
CONSULTATION TYPE	SERVICE	FEDERAL AGENCY	THIRD PARTY	BIOLOGICAL ASSESSMENT	TOTAL COSTS
NEW CONSULTATION RESULTING ENTIRELY FROM CRITICAL HABITAT DESIGNATION (TOTAL COST OF A CONSULTATION CONSIDERING BOTH JEOPARDY AND ADVERSE MODIFICATION)					
Technical Assistance	\$560	n/a	\$1,050	n/a	\$1,500
Informal	\$2,450	\$3,100	\$2,050	\$2,000	\$9,500
Formal	\$5,450	\$6,150	\$3,500	\$4,800	\$20,000
Programmatic	\$16,400	\$13,700	n/a	\$5,600	\$35,700
NEW CONSULTATION CONSIDERING ONLY ADVERSE MODIFICATION (UNOCCUPIED HABITAT)					
Technical Assistance	\$420	n/a	\$788	n/a	\$1,130
Informal	\$1,840	\$2,330	\$1,540	\$1,500	\$7,130
Formal	\$4,090	\$4,610	\$2,630	\$3,600	\$15,000
Programmatic	\$12,300	\$10,200	n/a	\$4,200	\$26,700
ADDITIONAL EFFORT TO ADDRESS ADVERSE MODIFICATION IN A NEW CONSULTATION (ADDITIVE WITH BASELINE COSTS, SHOWN ABOVE, OF CONSIDERING JEOPARDY)					
Technical Assistance	\$140	n/a	\$263	n/a	\$375
Informal	\$613	\$775	\$513	\$500	\$2,380
Formal	\$1,360	\$1,540	\$875	\$1,200	\$5,000
Programmatic	\$4,100	\$3,410	n/a	\$1,400	\$8,910
Source: IEC analysis of full administrative costs is based on data from the Federal Government Schedule Rates, Office of Personnel Management, 2008, and a review of consultation records from several Service field offices across the country conducted in 2002.					
Notes:					
1. Estimates are rounded to three significant digits and may not sum due to rounding.					
2. Estimates reflect average hourly time required by staff.					

Section 7 Project Modification Impacts

44. Section 7 consultation considering critical habitat may also result in additional project modification recommendations specifically addressing potential destruction or adverse modification of critical habitat. For forecast consultations considering jeopardy and adverse modification, the economic impacts of project modifications undertaken to avoid or minimize adverse modification are considered incremental impacts of critical habitat designation. For consultations that are forecast to occur specifically because of the designation (incremental consultations), impacts of all associated project modifications are assumed to be incremental impacts of the designation. This is summarized below.

1. **Additional effort to address adverse modification in a new consultation** - Only project modifications above and beyond what would be requested to avoid or minimize jeopardy are considered incremental.
2. **Incremental consultation resulting entirely from critical habitat designation** - Impacts of all project modifications are considered incremental.

Indirect Impacts

45. The designation of critical habitat 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. Indirect impacts are those unintended changes in economic behavior that may occur outside of the Act, through other Federal, State, or local actions, and that are caused by the designation of critical habitat. This section identifies common types of indirect impacts that may be associated with the designation of critical habitat. Importantly, these types of impacts are not always considered incremental. In the case that these types of conservation efforts and economic effects are expected to occur regardless of critical habitat designation, they are appropriately considered baseline impacts in this analysis.

Habitat Conservation Plans

46. Under section 10 of the Act, landowners seeking an incidental take permit must develop an HCP to counterbalance the potential harmful effects that an otherwise lawful activity may have on a species. As such, the purpose of the habitat conservation planning process is to ensure that the effects of incidental take are adequately avoided, minimized, or 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.
47. Application for an incidental take permit and completion of an HCP are not required or necessarily recommended by a critical habitat designation. However, in certain situations the information provided by the proposed critical habitat rule may prompt a landowner to apply for an incidental take permit. For example, a landowner may have been previously unaware of the potential presence of the species on his or her property, and expeditious completion of an HCP may offer the landowner regulatory relief in the form of exclusion from the final critical habitat designation. In this case, the effort involved in creating the HCP and undertaking associated conservation efforts are considered an incremental effect

of designation. No specific plans to prepare HCPs in response to this proposed designation were identified.

Other State and Local Laws

48. Under certain circumstances, critical habitat designation 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 impacts would not have been triggered absent critical habitat designation, they are considered indirect, incremental impacts of the designation.

Additional Indirect Impacts

49. In addition to the indirect effects of compliance with other laws or triggered by the designation, project proponents, land managers and landowners may face additional indirect impacts, including the following:
- **Time Delays** - Both public and private entities may experience incremental time delays for projects and other activities due to requirements associated with the need to initiate the section 7 consultation process and/or compliance with other laws triggered by the designation. To the extent that delays result from the designation, they are considered indirect, incremental impacts of the designation.
 - **Regulatory Uncertainty** - 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 consult with the Service under section 7 may face uncertainty concerning 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. Where information suggests that this type of regulatory uncertainty stemming from the designation may affect a project or economic behavior, associated impacts are considered indirect, incremental impacts of the designation.
 - **Stigma** - In some cases, the public may perceive that critical habitat designation may result in limitations on private property uses above and beyond those associated with anticipated project modifications and regulatory uncertainty described above. Public attitudes about the limits or restrictions that critical habitat may impose can cause real economic effects to property owners, regardless of whether such limits are actually imposed. All else equal, a property that is designated as critical habitat may have a lower market value than an identical property that is not within the boundaries of critical habitat due to perceived limitations or restrictions. As the public becomes aware of the true regulatory burden imposed by critical habitat, the impact of the designation on property markets may decrease. To the extent that potential stigma effects on markets are probable and identifiable, these impacts are considered indirect, incremental impacts of the designation.

2.3.3 BENEFITS

50. Under Executive Order 12866, OMB directs Federal agencies to provide an assessment of both the social costs and benefits of proposed regulatory actions.²² OMB's Circular A-4 distinguishes two types of economic benefits: *direct benefits and ancillary benefits*. Ancillary benefits are defined as favorable impacts of a rulemaking that are typically unrelated, or secondary, to the statutory purpose of the rulemaking.²³
51. In the context of critical habitat, the primary purpose of the rulemaking (i.e., the direct benefit) is the potential to enhance conservation of the species. The published economics literature has documented that social welfare benefits can result from the conservation and recovery of endangered and threatened species. In its guidance for implementing Executive Order 12866, OMB acknowledges that it may not be feasible to monetize, or even quantify, the benefits of environmental regulations due to either an absence of defensible, relevant studies or a lack of resources on the implementing agency's part to conduct new research.²⁴ *Rather than rely on economic measures, the Service believes that the direct benefits of the proposed rule are best expressed in biological terms that can be weighed against the expected cost impacts of the rulemaking.*
52. Critical habitat designation may also generate ancillary benefits. Critical habitat aids in the conservation of species specifically by protecting the primary constituent elements on which the species depends. To this end, critical habitat designation can result in maintenance of particular environmental conditions that may generate other social benefits aside from the preservation of the species. That is, management actions undertaken to conserve a species or habitat may have coincident, positive social welfare implications, such as increased recreational opportunities in a region. While they are not the primary purpose of critical habitat, these ancillary benefits may result in gains in employment, output, or income that may offset the direct, negative impacts to a region's economy resulting from actions to conserve a species or its habitat. The potential ancillary benefits of critical habitat designation are described qualitatively in a separate chapter at the end of this report.

2.3.4 GEOGRAPHIC SCOPE OF THE ANALYSIS

53. Economic impacts of beetle conservation are considered across the entire area proposed for critical habitat designation, as defined in Chapter 1. Given the small amount of acreage proposed for designation, results are presented separately for each of the known future projects located within proposed critical habitat.

²² Executive Order 12866, Regulatory Planning and Review, September 30, 1993.

²³ U.S. Office of Management and Budget, "Circular A-4," September 17, 2003, available at <http://www.whitehouse.gov/omb/circulars/a004/a-4.pdf>.

²⁴ *Ibid.*

2.3.5 ANALYTIC TIME FRAME

54. The analysis 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 plans are currently available. Given the small amount of acreage proposed for designation, the analysis will focus on specific projects planned for these areas and documented through interviews with existing landowners and city and county planning officials.

2.4 INFORMATION SOURCES

55. The primary sources of information for this report are communications with, and data provided by, personnel from the Service, local governments and other stakeholders. A complete list of references is provided at the end of this document.

CHAPTER 3 | POTENTIAL ECONOMIC IMPACTS TO RESIDENTIAL AND COMMERCIAL DEVELOPMENT

56. This chapter discusses the economic impacts to development activities potentially resulting from the proposed critical habitat designation for the beetle. Exhibit 3-1 summarizes known future development projects taking place within the study area. These projects, and how they may be affected by the critical habitat designation, are discussed in detail in Sections 3.1 through 3.3. Total, upper-bound post-designation baseline and incremental impacts are provided in Section 3.4, followed by a discussion of the key sources of uncertainty in Section 3.5.

3.1 METHODOLOGY

57. Future impacts related to residential and commercial development are estimated using the following five steps.

- **Step 1: Identify future projects.** Future projects are forecast based on discussions with city planners, GIS data received from the Tribe, and public comments submitted in response to the proposed rule. Identified projects are listed in Exhibit 3-1, and mapped in Exhibit ES-2.
- **Step 2: Identify whether a Federal nexus exists.** For projects located on private lands, the presence of a Federal nexus is uncertain. Interviews with planners for the City of Palm Springs and a review of project plans suggest that for most, the existence of a Federal nexus compelling consultation with the Service is unlikely. For proposed projects located on Indian Reservation lands, the existence of a Federal nexus largely depends on the land tenure type (e.g., allotted trust, Tribal trust, fee title) of the land to be affected. As discussed in greater detail below, a Federal nexus may be triggered through the Bureau of Indian Affairs (BIA) for projects located on Tribal trust or allotted trust lands.²⁵ On fee title lands within the Indian Reservation a Federal nexus is less likely.
- **Step 3: Identify whether the beetle will likely be detected in the unit at the project site.** As described in the Proposed Rule, the proposed critical habitat unit is considered occupied at the population level, but occupancy within a population distribution may vary over time at the project scale.²⁶ Exhibit 3-2 shows positive

²⁵ Email communication with Alison Anderson, U.S. Fish and Wildlife Service, Carlsbad Office, September 23, 2009; provided in response to IEC questions on U.S. Fish and Wildlife Service, "Comments on How the DEA Should Estimate Incremental Costs for Casey's June Beetle (*Dinacoma caseyi*) Proposed Critical Habitat Designation," September 8, 2009.

²⁶ 74 FR 32857.

survey locations within the unit. However, if beetles have not previously been detected at specific project sites, or no Federal nexus exists, project proponents are likely to undertake additional surveys in an attempt to prove the beetle is extirpated from the site.²⁷ Given the potential for habitat to be temporarily unoccupied (e.g., soon after a flood or similar disturbance), negative survey results may occur. In addition, there is the potential for false negative survey results where beetles are likely present but unavailable to be detected using surveys. Service biologists anticipate that negative and false negative survey findings will occur approximately 25 percent of the time.²⁸

- **Step 4: Distinguish between incremental and baseline impacts.** This analysis uses the methodology outlined in Exhibit 3-3 to distinguish between baseline and incremental impacts. Delineation of baseline and incremental costs is related to the detection of the presence of the beetle. The Service states that it will evaluate the potential for a project to jeopardize the beetle's existence in terms of acres of suitable habitat, as it also will to evaluate the potential for a project to destroy or adversely modify critical habitat. Because it is difficult to estimate Casey's June beetle density and distribution within a site, conservation measures for the beetle are generally habitat-based, and project modifications to minimize impacts to critical habitat will also minimize impacts to individuals. Therefore, it is not possible for the Service to differentiate measures implemented solely to minimize impacts to critical habitat from those implemented to minimize impacts to individuals. As a result, potential economic impacts from conservation efforts that may be necessary to avoid adverse modification of critical habitat under these circumstances are considered to be part of the baseline.^{29,30} In the absence of a Federal nexus at sites where the beetle is present, the project proponents are likely to seek a section 10 incidental take permit. Therefore, all forecast costs at sites with beetles are likely to be incurred regardless of whether critical habitat is designated.

Historically, when the beetle has not been identified in surveys, project modifications intended to protect beetle habitat have not been required by the City

²⁷ Personal communication with Service Biologist, October 8, 2009.

²⁸ Email communication with Alison Anderson, U.S. Fish and Wildlife Service, Carlsbad Office, September 23, 2009; provided in response to IEC questions on U.S. Fish and Wildlife Service, "Comments on How the DEA Should Estimate Incremental Costs for Casey's June Beetle (*Dinacoma caseyi*) Proposed Critical Habitat Designation," September 8, 2009.

²⁹ "Economic impacts are expected to be co-extensive if beetles are present (based on surveys during a good-quality survey year) [...] An adverse modification decision would likely be coincident in a jeopardy determination for the same action because we would likely estimate impacts for this species in terms of acres of suitable habitat. [...] Because any potential project modifications to avoid destruction or adverse modification of critical habitat or to minimize impacts to Casey's June beetle will be habitat based, it is not possible for us to differentiate any measures implemented solely to minimize impacts to the critical habitat from those implemented to minimize impacts to the beetle." (U.S. Fish and Wildlife Service, "Comments on How the DEA Should Estimate Incremental Costs for Casey's June Beetle (*Dinacoma caseyi*) Proposed Critical Habitat Designation," September 8, 2009.)

³⁰ Personal communication with Service Biologist, January 11, 2010.

of Palm Springs (for example, during its review of building permits under CEQA). However, the City may be more proactive in such situations if the area is federally-designated critical habitat.³¹ Thus, project modifications recommended at sites where the beetle is not detected are attributed incrementally to critical habitat.

Given the site-specific nature of this analysis, and because the outcome of future surveys is unknown, costs are attributed probabilistically based on the logic discussed above and presented visually in Exhibit 3-3. For projects more than 300 meters from a known beetle location, the analysis will assign 75 percent of the costs to the baseline and 25 percent of the costs to the incremental scenario. In other words, it assumes that 75 percent of the time, impacts are attributable to the presence of the beetle, and the other 25 percent of the time, when beetles are not detected, impacts would not occur but for the critical habitat designation.

- **Step 5: Estimate impacts.** The Service indicates that “impacts to suitable Casey’s June beetle habitat should be avoided whenever possible.”³² Furthermore, it states, “[l]ocal government planning departments should eliminate urban expansion within or adjacent to Casey’s June beetle and provide linkage to corridors between habitat patches to address the protection necessary for this species at this time.”³³ Therefore, this analysis considers the cost of avoidance as an upper-bound estimate of impacts.

This assumption likely leads to an overstatement of impacts where reasonable and prudent alternatives are feasible. The Service notes an existing development, Smoke Tree Ranch (see Exhibit ES-2) where the beetle occurs in abundance and suggests the development may provide an example where “the spatial scale of human disturbance or fragmentation can coexist with this species’ occupancy.”³⁴ Where no Federal nexus exists, the City of Palm Springs may request project modifications via its review under CEQA. For example, the Monte Sereno project located on Indian Reservation (fee title) lands previously affected approximately 39 acres of occupied habitat, and the City required mitigation payments of \$600 per acre for 41 acres (a total of \$24,780) to the City or a habitat conservation entity designated by the City.³⁵ At the Smoke Tree Commons shopping center,

³¹ Email communication with Jennifer Norris, U.S. Fish and Wildlife Service, Region 8, October 15, 2009; provided in response to IEC questions on U.S. Fish and Wildlife Service, “Comments on How the DEA Should Estimate Incremental Costs for Casey’s June Beetle (*Dinacoma caseyi*) Proposed Critical Habitat Designation,” September 8, 2009. However, the Service notes that the City of Palm Springs has not mandated changes in a project’s design as a result of critical habitat designation for other species. For example, the City did not require changes to the Palm Hills and Shadowrock projects, which were located within critical habitat for the Peninsular bighorn sheep, during the CEQA process. (Email communication with Carol Roberts, US Fish and Wildlife Service, Carlsbad Field Office, November 13, 2009.)

³² U.S. Fish and Wildlife Service, “Comments on How the DEA Should Estimate Incremental Costs for Casey’s June Beetle (*Dinacoma caseyi*) Proposed Critical Habitat Designation,” September 8, 2009.

³³ 74 FR 32868.

³⁴ Ibid.

³⁵ 74 FR 32860. The Service notes that to its knowledge, no appropriate habitat has yet been conserved.

which affected 18 acres of habitat, the City required a conservation easement and the development of a management plan for the beetle. The Proposed Rule notes that a number of these project modifications recommended during the CEQA process have not been undertaken. For example, while an easement was established, a management plan was not drafted for the Smoke Tree Commons shopping center project.³⁶

EXHIBIT 3-1. SUMMARY OF KNOWN PROPOSED FUTURE DEVELOPMENT PROJECTS

PROJECT NAME	KNOWN FEDERAL NEXUS	POSITIVE DETECTION FOR BEETLE IN PAST SURVEYS?
Projects on Private Lands		
Wessman development site - commercial property	No	No
Smoke Tree Ranch (additional development)- residential and commercial property	No	Yes
Projects on Indian Reservation Lands		
Eagle Canyon (Alturas) - residential property	No	Yes
RainbowVision Retirement Community (or other development project)	No	Yes
Monte Sereno (additional development)- residential property	No	Yes
Residential development project outlined in Canyon South Specific Plan	Potential - located on a combination of Tribal trust and allotted trust lands	No

³⁶ 74 FR 32860.

EXHIBIT 3-2. POSITIVE SURVEY LOCATIONS WITHIN PROPOSED CRITICAL HABITAT FOR THE CASEY'S JUNE BEETLE

**Positive Survey Locations within
Proposed Critical Habitat for
Casey's June Beetle**
(11/15/20)

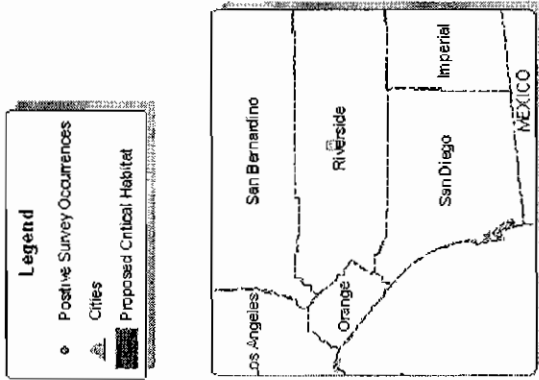
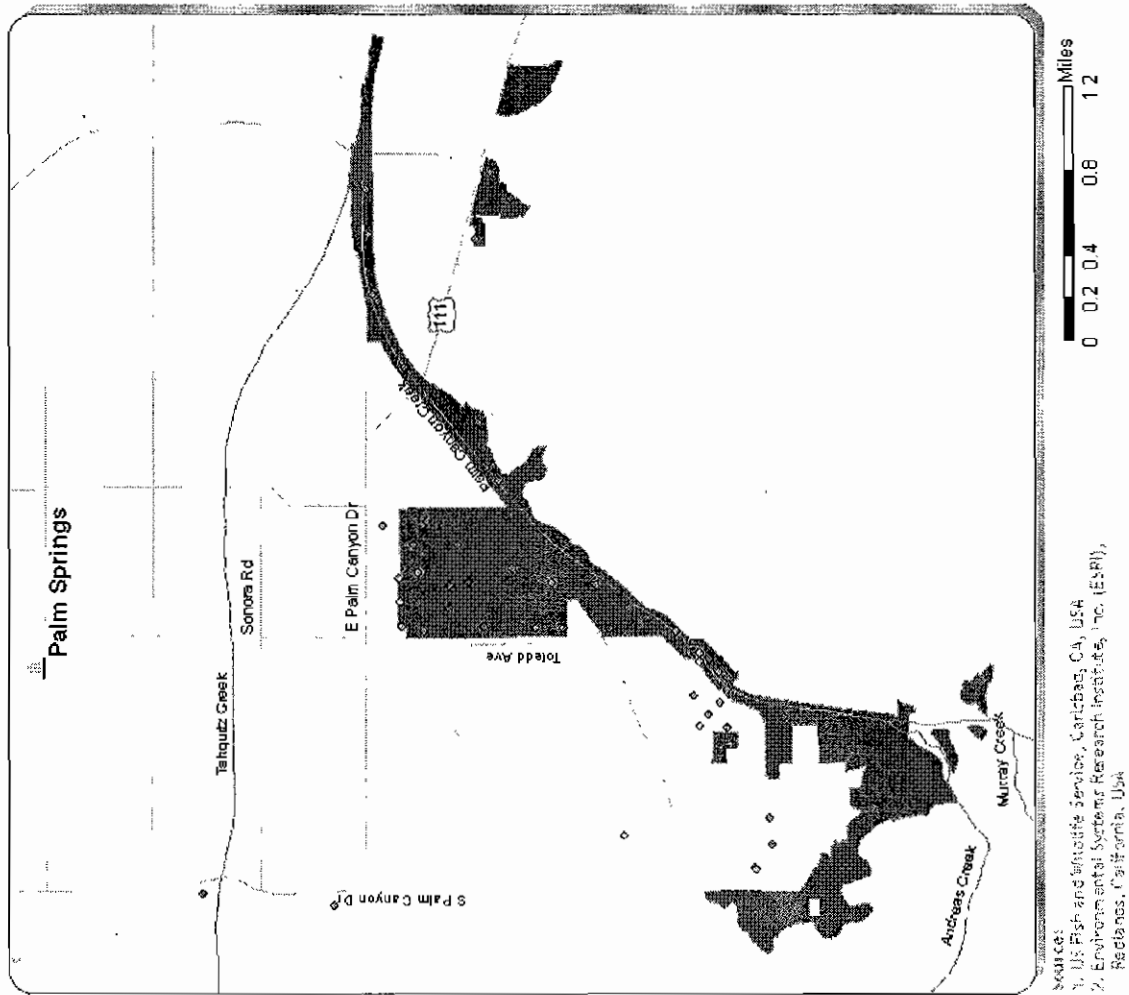
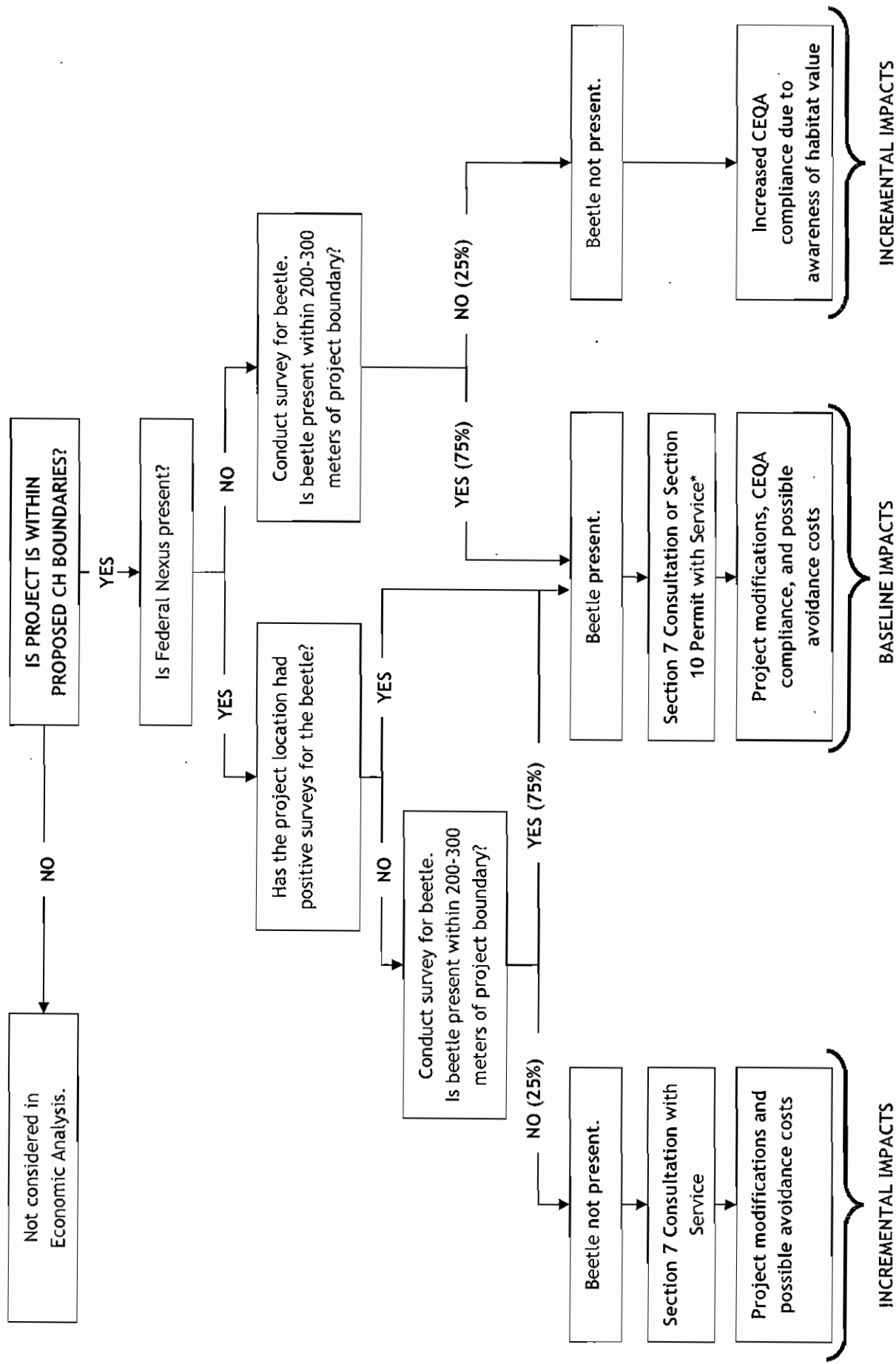


EXHIBIT 3-3. STEPS USED TO IDENTIFY AND SEPARATE BASELINE AND INCREMENTAL IMPACTS



*Minor administrative costs of adding adverse modification to consultation are counted as incremental impacts.

3.2 DEVELOPMENT PROJECTS ON PRIVATE LANDS

58. Two future development projects on private lands are anticipated based on discussions with city planners and public comments received on the Proposed Rule (see Exhibit 3-4).³⁷ The city notes that private lands proposed for designation “are of significant economic value to the community.” Moreover, “given the limited range of the Casey’s June beetle, the availability of replacement habitat is likely to be so constrained that the designation may well remove any economic value to these properties.”³⁸
59. Accordingly, this analysis assesses the potential land value that may be lost if development is precluded. For undeveloped land, the current market value of a parcel reflects its options for future development. That is, the value of the land is a function of its possible future uses. The analysis assumes that the value of non-development uses of these properties is negligible (i.e., they do not have the potential for agricultural or other uses that may be compatible with beetle habitat).
60. In the absence of data on sales transactions for these or similar parcels, this analysis relies on assessment values developed by the County Assessor, which estimate the taxable value of the property. In California, the assessment process is governed by certain key provisions. Specifically:

- **Proposition 13.** Passed in June 1978, Proposition 13 significantly changed the method of property assessment. Prior to this measure, annual assessments for real and personal property were based on the market value of the property in the current year. Under the current system, real property is assessed based on its market value at the date of acquisition. That is, real property is assessed to its current market value only when there is a change in ownership or new construction.³⁹

Under Proposition 13, each property receives an unadjusted base year value reflecting the current market value at the time the property was last assessed. For example, a parcel sold in 2001 will have a base year value that reflects its market value in 2001. Properties that have not sold or undergone new construction since February 1975 have a 1975 base year value.⁴⁰

This unadjusted base year value is then adjusted forward each year to reflect inflation as measured by the California Consumer Price Index. This upward adjustment cannot exceed two percent.⁴¹ Therefore, in cases where increases in real property values have exceeded two percent per year, the assessment value may not reflect the market value of the property in the current year.

³⁷ Personal communication with Ken Lyon, City of Palm Springs, Planning Department, on September 15, 2009.

³⁸ Email communication from Craig Ewing, City of Palm Springs, Planning Department, on September 23, 2009.

³⁹ California State Board of Equalization, *Assessor’s Handbook: Section 501, Basic Appraisal*, January 2002. Accessed at: <http://www.boe.ca.gov/proptaxes/pdf/ah501.pdf>.

⁴⁰ Ibid.

⁴¹ Ibid.

- **Proposition 8.** Passed in November 1978, this proposition amended Article XII of the California Constitution to provide for declines in value. It allows the assessor to record either: (1) the property’s adjusted base year value; or (2) its market value as of lien date, *whichever is lower*. These reductions in value are considered temporary reductions. When and if the market value of a Proposition 8 property increases above its adjusted base year value, the assessor again records the adjusted base year value.⁴² Thus, the assessment value of the property may be considered its lowest possible market value.

61. To better reflect parcels’ current market value, this analysis adjusts the assessed land values to estimated 2009 market prices, using: (1) for residential properties, the Office of Federal Housing Enterprise Oversight’s home price index for the Riverside-San Bernardino-Ontario, CA metropolitan statistical area; or (2) for commercial developments, the Moody’s/REAL Commercial Property Price Index for Southern California retail property. These adjusted land values are shown in Exhibit 3-4.

EXHIBIT 3-4. SUMMARY OF KNOWN FUTURE DEVELOPMENT PROJECTS ON PRIVATE LANDS

PROJECT NAME	FEDERAL NEXUS	PARCEL NUMBERS	ASSESSMENT BASE YEAR	2009 ASSESSED LAND VALUE ¹	ESTIMATED MARKET VALUE OF THE PARCEL (2009\$) ²
Wessman development site - commercial property	No	681480001	2005	\$1,375,000	\$1,494,000
		681480002	2005	\$1,559,000	\$1,694,000
		681480003	2008	\$3,873,000	\$3,797,000
Smoke Tree Ranch - residential and commercial property	No	510020071	1975 ³	\$227,000	\$426,000

Notes:

1. As discussed in greater detail in Section 3.2, the assessed land value reflects the market value in the assessment base year, inflated forward at a rate of no more than two percent per year. Dollars rounded to the nearest thousand.
2. Land values adjusted assuming a two percent annual assessment increase and using Moody’s/REAL Commercial Property Price Index (CPPI) for Southern California retail property. Note, the CPPI is only available through the third quarter of 2008; therefore, land values are as of September 2008. Dollars rounded to the nearest thousand.
3. Available commercial property indexes do not provide index data this far back in time. This analysis adjusts forward from the earliest available year (2001), recognizing this may undervalue increases in property value between 1975 and 2001.

Source: Personal communication with Ken Lyon, City of Palm Springs, Planning Department, on September 15, 2009. Public comments of Ealy, Hemphill, and Blasdel, LLP on behalf of Wessman Development Company, dated September 3, 2009. Riverside County Assessor’s Office, Property Information Center Search, accessed through: <http://pic.asrclrec.com/Search.aspx/default.aspx>.

⁴² Ibid.

3.2.1 WESSMAN DEVELOPMENT SITE

62. The Wessman Project is located on approximately 25.6 acres of proposed critical habitat along Highway 111. Consisting of three parcels, the land is currently valued at approximately \$7.0 million (based on the county's current assessment, and adjusted to 2009 values using the Moody's/REAL Commercial Property Price Index). Owned by the Wessman Development Company, the property is located near several existing shopping complexes, including the Rimrock and Canyon Plaza Shopping Centers. Wessman Development plans to develop the site for commercial uses.⁴³
63. Previous surveys have not detected the beetle within the boundaries of this project.⁴⁴ Without a Federal nexus, the project may only incur impacts as a result of compliance with CEQA. Previous CEQA recommendations for other projects have included the development of a management plan for the beetle or mitigation payments to a habitat conservation entity designated by the City. However, given that the City of Palm Springs (the entity issuing the building permit) believes the availability of replacement habitat is constrained, avoidance of habitat areas may be recommended. The worst-case cost would be complete loss of the value of the property.

3.2.2 SMOKE TREE RANCH

64. Smoke Tree Ranch is a medium-sized suburban residential community and luxury guest ranch located on nearly 150 acres in the center of the designation. The guest ranch portion consists of 49 guest cottages, the main Ranch House, and extensive recreational facilities, including a croquet lawn, hiking trails, horseshoe pit, lawn bowling green, basketball court, nine tennis courts, three-hole practice golf course, Olympic-size swimming pool, and an outdoor jacuzzi.⁴⁵
65. Based on discussions with city planners, the northeast corner of the complex may undergo future development, either as part of the Smoke Tree Commons shopping center or for other commercial purposes.⁴⁶ It is located immediately adjacent to Smoke Tree Commons, and is currently zoned for mixed/multi-use in the Palm Springs General Plan. Specific uses intended for mixed-use lands include community-serving retail commercial, professional offices, service businesses, restaurants, daycare centers, public and quasi-public uses.⁴⁷ The parcel is currently valued at approximately \$499,000 (based on the county's current assessment, and adjusted to 2009 values using the Moody's/REAL Commercial Property Price Index). Costs to protect the beetle and its habitat at this site

⁴³ Public comments of Ealy, Hemphill, and Blasdel, LLP on behalf of Wessman Development Company, dated September 3, 2009.

⁴⁴ Ibid.

⁴⁵ Smoke Tree Ranch, Services and Facilities, accessed at: <http://www.smoketreeranch.com/services.html> on October 19, 2009.

⁴⁶ Personal communication with Ken Lyon, City of Palm Springs, Planning Department, on September 15, 2009.

⁴⁷ City of Palm Springs, Palm Springs General Plan, 2007. Accessed at: <http://www.ci.palm-springs.ca.us/index.aspx?page=558> on August 11, 2009.

should not exceed the value of the parcel. Given that this site is surrounded by previous, positive beetle surveys, costs are attributed entirely to the baseline.

3.3 DEVELOPMENT PROJECTS ON INDIAN RESERVATION LANDS

66. The Service proposes as critical habitat 346 acres of the Agua Caliente Indian Reservation, home of the Agua Caliente Band of Cahuilla Indians. Tribes in the United States govern their reservations and are responsible for the provision of public services to reservation residents in the same manner that county and city governments serve their constituents. Tribal governments, however, generally have far fewer resources to draw from and often serve especially disadvantaged populations. As a result, impacts due to critical habitat designation may have a disproportionately negative effect on Tribes, particularly when a designation would affect future development on Tribal trust or allotted trust lands.

67. On Indian Reservation lands, the existence of a Federal nexus is largely dependent on the tenure of the land affected. The proposed designation includes:

- **86 acres of Tribal trust lands.** The Federal government holds the legal title of these lands in trust for the beneficial interest of the Tribe. Tribal trust land is held communally by the tribe and is managed by the Tribal government.⁴⁸ A Federal nexus may exist on trust lands through the BIA.
- **193 acres of allotted trust lands.** Allotted trust lands are held in trust for the use of individual Indians (or their heirs). The Federal government holds the title, and the individual Indian (or heirs) holds the beneficial interest.⁴⁹ A Federal nexus may exist on trust lands through the BIA.
- **67 acres of fee-title lands.** Fee-title lands on the Reservation are held by an owner, whether Indian or non-Indian. This type of land tenure often does not have a Federal nexus via BIA.

Exhibit 3-5 provides the location of these various land tenure types within the proposed critical habitat designation.

68. Based on discussions with city planners, and GIS data received from the Tribe, four future development projects may occur on Indian Reservation lands (see Exhibit 3-6).⁵⁰ This exhibit shows both the parcel's assessment value and the estimated market price in 2009 using the Office of Federal Housing Enterprise Oversight's home price index for the Riverside-San Bernardino-Ontario, CA metropolitan statistical area.

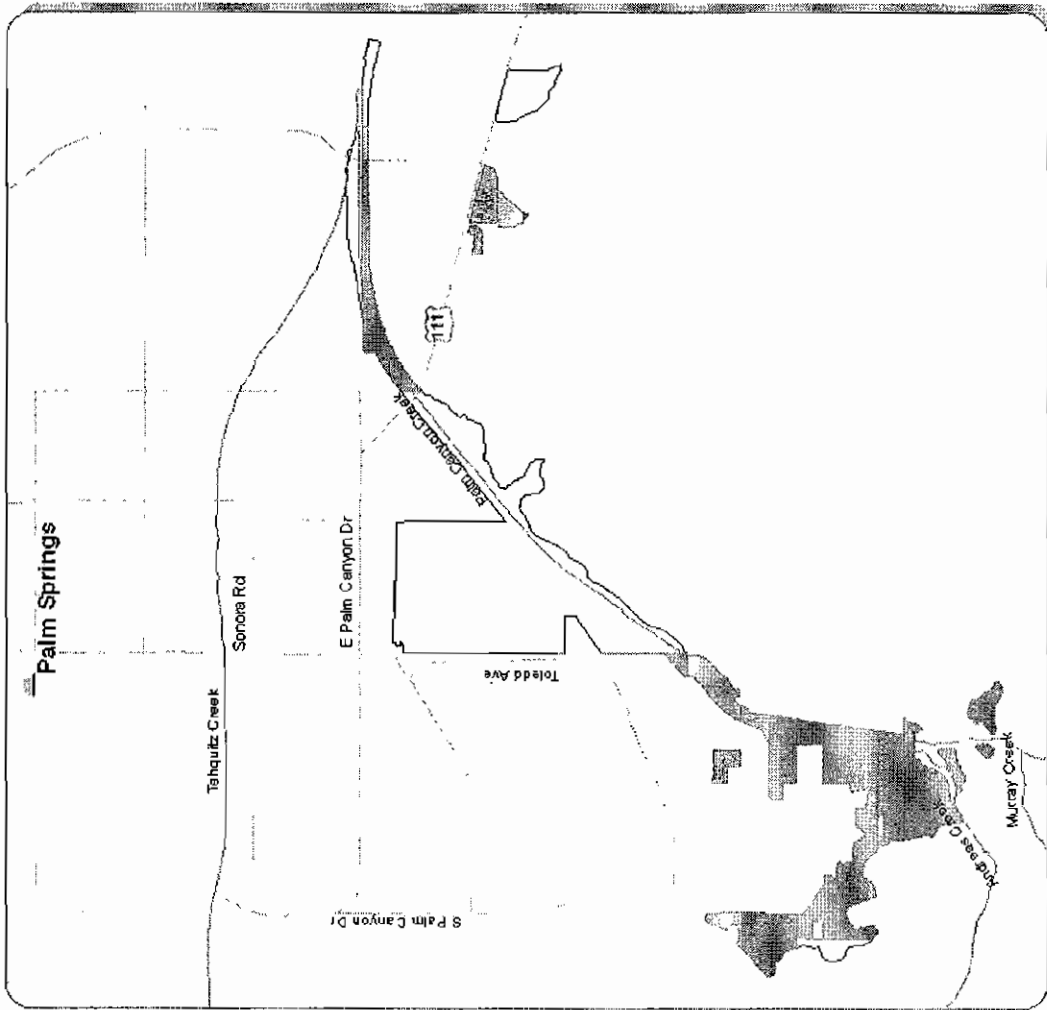
⁴⁸ Tribal Energy and Environmental Information Clearinghouse, *Tribal and Indian Lands: Definitions of common terminology related to tribal and Indian land ownership*, accessed at: <http://teeic.anl.gov/triballand/index.cfm> on October 16, 2009.

⁴⁹ United States Department of Agriculture, *Definition of Indian Country*, accessed at: ftp://ftp-fc.sc.egov.usda.gov/MI/AI/Al_land_def.pdf on October 19, 2009.

⁵⁰ Personal communication with Ken Lyon, City of Palm Springs, Planning Department, on September 15, 2009.

EXHIBIT 3-5. INDIAN RESERVATION LAND TENURE TYPES WITHIN THE PROPOSED DESIGNATION

**Types of Indian Reservation
Land Tenure within
Proposed Critical Habitat for
Casey's June Beetle**
14.10.08



Source:
1. US Fish and Wildlife Service, Carlsbad, CA, USA
2. Environmental Systems Research Institute, Inc. (ESRI), Redlands, California, USA

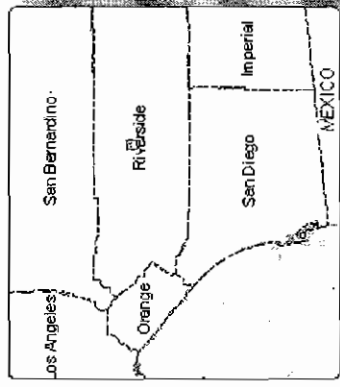
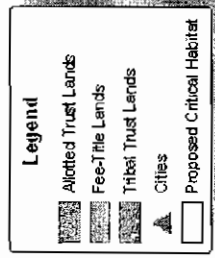


EXHIBIT 3-6. SUMMARY OF KNOWN PROPOSED FUTURE DEVELOPMENT PROJECTS ON INDIAN RESERVATION LANDS

PROJECT NAME	FEDERAL NEXUS	PARCEL NUMBERS	ASSESSMENT BASE YEAR	2009 ASSESSED LAND VALUE ¹	ESTIMATED MARKET VALUE OF PARCEL (2009\$) ²
Eagle Canyon (Alturas) Project	No - located largely on fee lands	513460033	2007	\$6,825,000	\$3,290,000
RainbowVision Retirement Community (or other development project)	No - located on fee lands	681170038	2009	\$4,563,000	\$4,563,000
		681170039	2008	\$1,963,000	\$1,293,000
Monte Sereno - residential development	No - located on fee lands	512190038	1975	\$144,000	\$96,000
Residential development project outlined in Canyon South Specific Plan	Potential - located on a combination of Tribal trust and allotted trust lands	513460032	Not assessed ³		

Notes:

- As discussed in greater detail in Section 3.2, the assessed land value reflects the market value in the assessment base year, inflated forward at a rate of no more than two percent per year. Dollars rounded to the nearest thousand.
- Land values adjusted to 2009 assuming a two percent annual assessment increase and using the Office of Federal Housing Enterprise Oversight's home price index for the Riverside-San Bernardino-Ontario, CA metropolitan statistical area. Dollars rounded to the nearest thousand.
- All property owned by the United States, including certain Tribal lands and personal property, are immune from taxation from States and counties unless authorized by Congress. Therefore, Tribal trust and allotted trust lands where the Federal government holds the legal title are not assessed.

Source: Riverside County Assessor's Office, Property Information Center Search, accessed through: <http://pic.asrckrec.com/Search.aspx/default.aspx>.

3.3.1 EAGLE CANYON (ALTURAS) PROJECT

69. The proposed Eagle Canyon project is composed of 56 acres of fee-title lands near the intersection of South Palm Canyon Drive and Murray Canyon Drive. If developed as proposed, it would consist of 75 single family homes and 155 townhouses; the undeveloped land has a market value of approximately \$3.3 million (based on the county's current assessment, and adjusted to 2009 values using the Office of Federal Housing Enterprise Oversight's home price index). A 5.4 acre portion of this proposed project site is within the proposed critical habitat. The project is pending review by the Planning Commission.⁵¹
70. While no beetles have been previously detected in the immediate project footprint, there have been positive surveys within approximately 300 meters of the project. Moreover, the Service notes that the project may require the alteration of a drainage feeding into

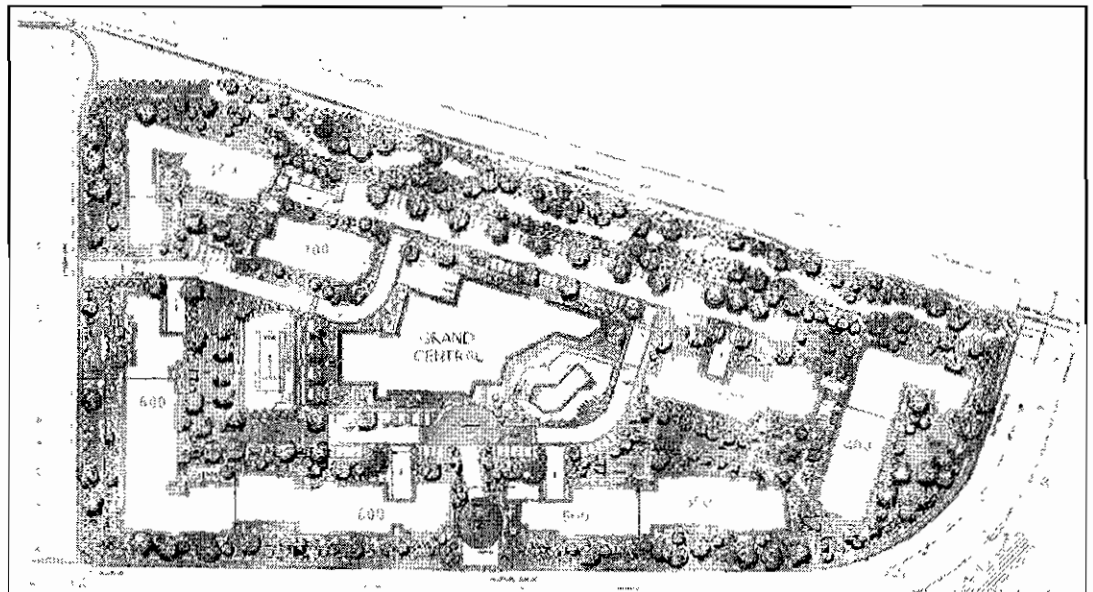
⁵¹ City of Palm Springs, Department of Planning Services, *Development Projects Updater - July 2009*, June 30, 2009. Accessed at: <http://www.palmsprings-ca.gov/index.aspx?page=491> on August 20, 2009.

critical habitat. As a result, if feasible project modifications cannot be identified, the total avoidance of critical habitat areas would be a worst-case outcome.⁵²

3.3.2 RAINBOWVISION RETIREMENT COMMUNITY

71. Rainbow Vision is a proposed “campus-style resort/retirement community” located on approximately 12.7 acres of fee-title land along Highway 111. It is expected to consist of 184 for-sale condominiums, and provide amenities such as home healthcare service, a fitness center, tennis center, two pools, and concierge service (see Exhibit 3-7).⁵³ The project was approved by the City Council on March 19, 2008.⁵⁴ Due to the economic downturn, the likelihood of completion of this project is uncertain. If the Rainbow Vision project does not go forward, however, another development project may be proposed on these parcels due to development pressures in the area.

EXHIBIT 3-7. SITE PLANS FOR THE RAINBOW VISION COMMUNITY



Source: Rainbow Vision: Palm Springs, Site Plans, accessed at: <http://www.rainbowvisionprop.com/images/PS-images/PS-Site-Plan-1g.jpg> on October 19, 2009.

72. The land has an estimated market value of approximately \$5.9 million (based on the county’s current assessment, and adjusted to 2009\$ using the Office of Federal Housing Enterprise Oversight’s home price index). Because beetles have been detected in the immediate vicinity of this potential project, the total avoidance of critical habitat areas

⁵² Personal communication with the Service, Carlsbad Field Office, on October 8, 2009.

⁵³ Rainbow Vision: Palm Springs, Amenities, accessed at: <http://www.rainbowvisionprop.com/ps-amenities.html> on October 19, 2009.

⁵⁴ City of Palm Springs, Department of Planning Services, *Development Projects Updater - July 2009*, June 30, 2009. Accessed at: <http://www.palmsprings-ca.gov/index.aspx?page=491> on August 20, 2009.

represents the worst-case outcome.⁵⁵ If no beetles are identified in future surveys, it is unclear whether the City would re-evaluate this project given that it has already been approved. Given the potential for another project to be developed in place of Rainbow Vision and thus require additional approvals, this analysis assumes that under such circumstances, re-evaluation would occur, with a worst-case outcome of total avoidance of critical habitat.

3.3.3 MONTE SERENO

73. Immediately adjacent to this seven-acre parcel of fee-title lands, a gated, 89-unit single-family subdivision currently is undergoing construction. Based on discussions with the city planners, the Monte Sereno parcel also may be subject to similar development in the future. While no specific plans are in place, the parcel is zoned for estate residential development at a maximum buildout of two dwelling units per acre (or approximately 14 units total).⁵⁶ This land has an estimated value of approximately \$96,400 (based on the county's current assessment, and adjusted to 2009 using the Office of Federal Housing Enterprise Oversight's home price index).⁵⁷

3.3.4 RESIDENTIAL DEVELOPMENT PROJECT OUTLINED IN CANYON SOUTH SPECIFIC PLAN

74. The Canyon South Specific Plan outlines general plans for additional residential development in the areas west of South Palm Canyon Drive, in the vicinity of Acanto Drive. The plan expects the potential developments to range from "standard, large-lot single-family subdivisions to cluster designs emphasizing common open space and recreation facilities."⁵⁸ While no specific plans are in place, the parcel is zoned for estate residential development at a maximum buildout of two dwelling units per acre (or approximately 154 units total).
75. This development's proposed location appears to fall on a parcel that is composed of approximately equal parts Tribal trust and allotted trust lands; therefore, the county has not assessed its value for tax purposes. In the absence of an assessment value, this analysis developed an estimated per-acre land value of \$58,300 per acre based on the Eagle Canyon project (which is zoned for a similar level of residential buildout and is located directly to the north of this project). Assuming the same per-acre value for this project's 77 acres, it has a potential land value of \$4.5 million.

⁵⁵ Personal communication with the Service, Carlsbad Field Office, on October 8, 2009.

⁵⁶ City of Palm Springs, Palm Springs General Plan, 2007. Accessed at: <http://www.ci.palm-springs.ca.us/index.aspx?page=558> on August 11, 2009.

⁵⁷ Note that because the County's assessment is based on 1975 information, the estimate of market value presented in this analysis may understate the true value of the parcel.

⁵⁸ Terra Nova Planning & Research, Inc, for the City of Palm Springs, *Canyon South Specific Plan*, adopted July 16, 2003.

3.4 TOTAL POST-DESIGNATION IMPACTS

76. It is difficult to predict in advance the outcome of future section 7 consultations on projects occurring within proposed critical habitat, or project modifications that may be required by the City of Palm Springs. Therefore, this analysis reports the upper-bound on potential impacts, complete loss in the value of parcels slated for development. To the extent that modifications are possible that do not affect the feasibility of development, these impact estimates are overstated. Costs provided below also include the administrative costs associated with five formal section 7 consultations.⁵⁹
77. As shown in Exhibit 3-2, impacts are identified as either baseline or incremental based on positive identification of the beetle. Because the outcome of future surveys is unknown, for projects more than 300 meters from a known beetle locations or projects without a Federal Nexus, the analysis will assign 75 percent of the costs to the baseline and 25 percent of the costs to the incremental scenario. In other words, it assumes that 75 percent of the time, impacts are attributable to the presence of the beetle, and the other 25 percent of the time, impacts would not occur but for the critical habitat designation.
78. Exhibit 3-9 below presents the assumptions used to forecast total impacts for each project, and Exhibit 3-10 summarizes total estimated baseline and incremental impacts by project.

EXHIBIT 3-9. ASSUMPTIONS UNDERLYING IMPACT ESTIMATES

PROPOSED PROJECT NAME	ASSUMPTIONS
Projects on Private Lands	
Wessman development site - commercial property	<ul style="list-style-type: none"> ▪ Complete loss of estimated land value in 2010 (year of final critical habitat designation). ▪ No section 7 consultation because no Federal nexus and no previous positive surveys. ▪ All impacts considered incremental.
Smoke Tree Ranch - residential and commercial property	<ul style="list-style-type: none"> ▪ Complete loss of estimated land value in 2010 (year of final critical habitat designation). ▪ One section 7 consultation occurring in 2010. ▪ Given that this site is surrounded by previous, positive beetle surveys, impacts attributed entirely to the baseline, except for the minor costs of adding adverse modification to section 7 consultation that are considered incremental.
Projects on Indian Reservation Lands	
Eagle Canyon (Alturas) Project	<ul style="list-style-type: none"> ▪ Complete loss of estimated land value in 2010 (year of final critical habitat designation). ▪ One section 7 consultation occurring in 2010. ▪ Impacts split between baseline and incremental because of previous positive surveys.
RainbowVision Retirement Community (or other development project)	
Monte Sereno - residential development	

⁵⁹ See Exhibit 2-1 for administrative costs of consultation. Note that although a Federal nexus through a non-Service Action agency is not present for most of these projects, the presence of the beetle may necessitate the completion of an HCP. In that case, the Service will conduct an internal section 7 consultation prior to granting the applicant an incidental take permit.

PROPOSED PROJECT NAME	ASSUMPTIONS
Residential development project outlined in Canyon South Specific Plan	<ul style="list-style-type: none"> ▪ Complete loss of estimated land value in 2010 (year of final critical habitat designation). ▪ One section 7 consultation occurring in 2010. ▪ Impacts split between baseline and incremental because of potential for positive identification of beetles.

EXHIBIT 3-10. UPPER-BOUND POST-DESIGNATION IMPACTS TO PROPOSED RESIDENTIAL DEVELOPMENT PROJECTS (2010 - 2029, 2009 DOLLARS, SEVEN PERCENT DISCOUNT RATE)

PROJECT NAME	BASELINE IMPACTS		INCREMENTAL IMPACTS	
	TOTAL PRESENT VALUE	ANNUALIZED	TOTAL PRESENT VALUE	ANNUALIZED
Projects on Private Lands				
Wessman development site - commercial property	\$0	\$0	\$6,530,000	\$616,000
Smoke Tree Ranch - residential and commercial property	\$412,000	\$38,900	\$4,670	\$441
Projects on Indian Reservation Lands				
Eagle Canyon (Alturas) Project	\$2,320,000	\$219,000	\$773,000	\$73,000
RainbowVision Retirement Community (or other development project)	\$4,120,000	\$389,000	\$1,370,000	\$130,000
Monte Sereno - residential development	\$81,600	\$7,700	\$27,200	\$2,570
Residential development project outlined in Canyon South Specific Plan	\$3,170,000	\$299,000	\$1,060,000	\$99,700

3.5 KEY SOURCES OF UNCERTAINTY

79. A key source of uncertainty in this analysis is the estimated value of each potentially affected parcel. Without such information, this analysis estimates potential market values based on assessed land values. To the extent that the estimates in this report do not accurately reflect the land's current market value, this analysis may over or underestimate total impacts.
80. In addition, this analysis assumes that a total loss in land value will result from the listing and critical habitat designation for the beetle. However, the Service plans to work with affected stakeholders where possible to develop alternatives to conducting the proposed project within habitat identified as essential for the species, or to determine other reasonable and prudent alternatives. In addition, the City of Palm Springs may not

recommend avoidance as part of the CEQA process. To the extent that projects are able to utilize alternative conservation efforts or otherwise move forward with projects in the originally proposed location, this analysis overestimates project impacts.

CHAPTER 4 | POTENTIAL ECONOMIC IMPACTS TO FLOOD DAMAGE REDUCTION ACTIVITIES

81. This chapter discusses the economic impacts to flood damage reduction activities resulting from the proposed critical habitat designation for the beetle. Two flood damage reduction projects are covered in this chapter:
- 1) The Palm Springs Master Drainage Plan Line 41, Stage 3 Flood Control Project, and;
 - 2) Sedimentation removal within Palm Canyon Wash at S. Gene Autry Trail.
82. Exhibit 4-1 summarizes the two known future flood damage reduction projects. These projects, and how they may be affected by the critical habitat designation, are discussed in detail in Sections 4.1 and 4.2. Post-designation baseline and incremental impacts are provided when quantifiable.

EXHIBIT 4-1. SUMMARY OF KNOWN FUTURE FLOOD DAMAGE REDUCTION PROJECTS

PROJECT NAME	KNOWN FEDERAL NEXUS	POSITIVE DETECTION FOR BEETLE IN PAST SURVEY?	POTENTIAL PROJECT MODIFICATIONS
Line 41, Stage 3 Flood Control Project	Yes - Army Corps of Engineers	Yes	Avoidance OR project modifications including: offsets/mitigation fees, surveys, use of native species in landscaping
Sedimentation Removal Project	Yes - Army Corps of Engineers	Yes	Avoidance OR increase height of levee instead of dredging

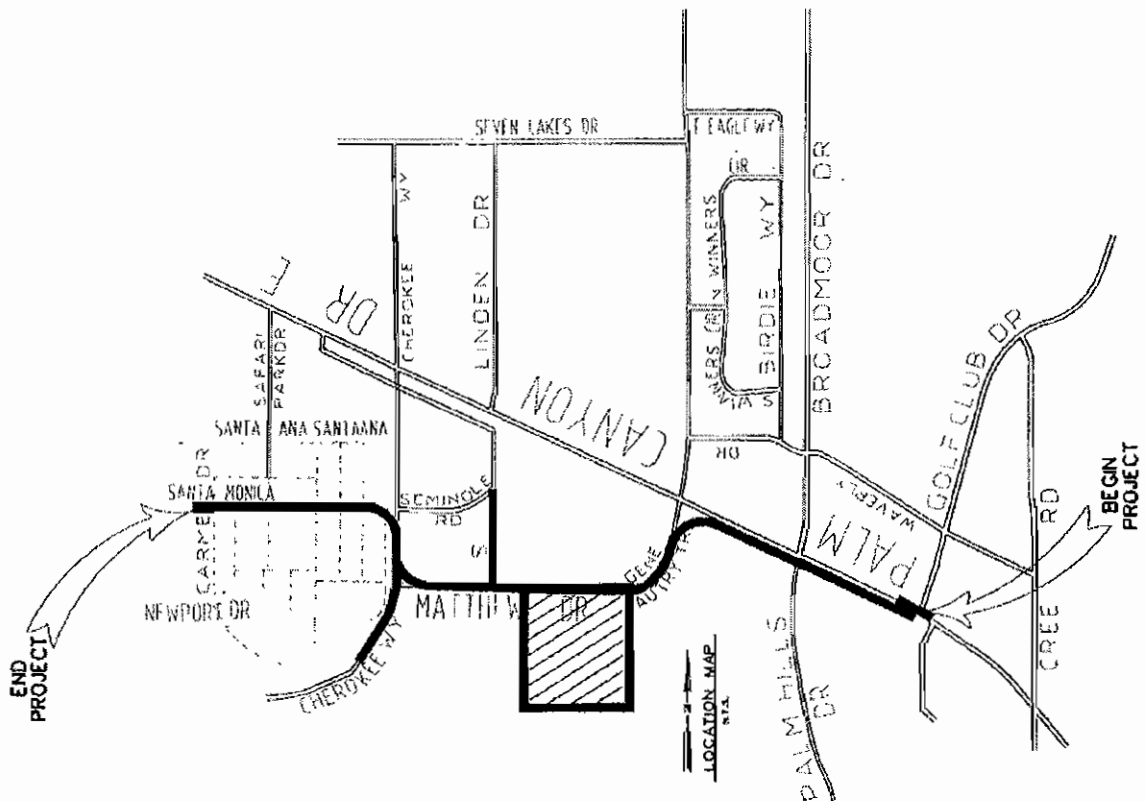
4.1 LINE 41, STAGE 3 FLOOD CONTROL PROJECT

83. The Palm Springs Master Drainage Plan (MDP) Line 41, Stage 3 project is a flood control project consisting of the “construction and maintenance of an underground storm drain in Golf Club Drive, an earthen 6.7 acre detention basin and approximately 6,000 lineal feet of underground reinforced concrete pipe storm drain ranging from 66 inches to 96 inches in diameter.”⁶⁰ The proposed storm drain facility will begin at the terminus of the existing Palm Springs MDP Line 41, Stage 2 inlet (Golf Club Drive and East Palm

⁶⁰ Riverside County Flood Control and Water Conservation District, August 2008. “Final Subsequent CEQA Initial Study Mitigated Negative Declaration: Palm Springs Master Drainage Plan Line 41, Stage 3 Flood Control Project.”

Canyon Drive) and generally extend in a westerly direction along East Palm Canyon Drive, Gene Autry Trail, Matthew Drive, Cherokee Way, and Santa Monica Drive. Exhibits 4-2 and 4-3 illustrate the project plan and location. The project intersects with the proposed critical habitat along the northern border of the Wessman development site and below the Rainbow Vision property. The detention basin will be located within proposed critical habitat to the south of Matthew Drive, which is within fee-title land on the Indian Reservation.⁶¹ See Exhibit ES-2 for map of project location.

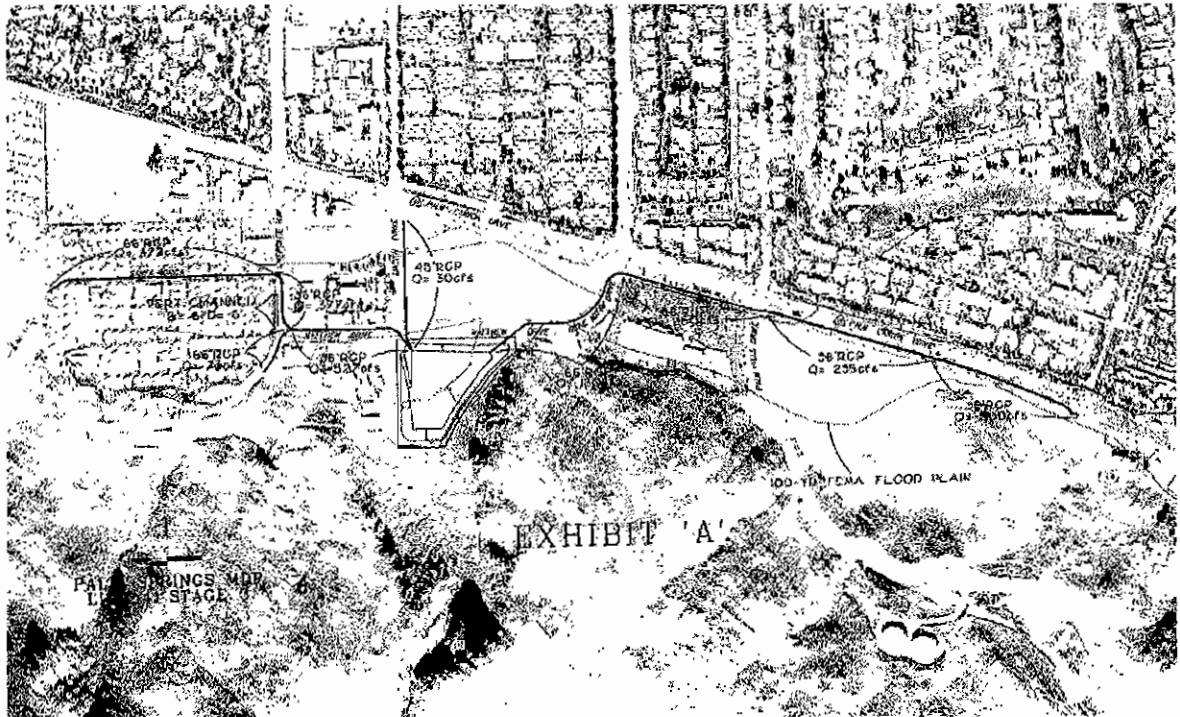
EXHIBIT 4-2. PALM SPRINGS MDP LINE 41, STAGE 3 PROJECT PLAN



Source: Riverside County Flood Control and Water Conservation District, August 2008. "Final Subsequent CEQA Initial Study Mitigated Negative Declaration: Palm Springs Master Drainage Plan Line 41, Stage 3 Flood Control Project."

⁶¹ The property south of Matthew Drive was originally planned for a residential development, but was taken by the Riverside County Flood Control and Water Conservation District under eminent domain in 2008 for use as a detention basin (Personal Communication between Service and Jeff Pain of Tahiti Partners Real Estate Development Corp., October 29, 2009).

EXHIBIT 4-3. PALM SPRINGS MDP LINE 41, STAGE 3 PROJECT LOCATION



Source: Riverside County Flood Control and Water Conservation District, July 2008. "Subsequent CEQA Initial Study Mitigated Negative Declaration: Palm Springs Master Drainage Plan Line 41, Stage 3 Flood Control Project."

84. The proposed project was initially approved under the CEQA in April 2006. A Subsequent Mitigated Negative Declaration was prepared in August 2008 to address potential impacts to the beetle. The General Manager-Chief Engineer of the Riverside County Flood Control and Water Conservation District (the District) found that the proposed project will not have a significant adverse effect on the environment, conditional upon the adoption of mitigation measures included in the Subsequent Mitigated Negative Declaration (MND).⁶² Work has not yet begun on this project.
85. The District laid out two sets of mitigation measures in the MND. The first set of measures assumes that the beetle is incorporated into the Agua Caliente Tribal Habitat Conservation Plan (ACTHCP) and relies on conditions contained in the ACTHCP to ensure that potential impacts remain less than significant. Although the beetle was proposed as a "Covered Species" in the draft version of the ACTHCP, the Tribe later informed the Service that it "decided to remove Casey's June beetle from the list of species for which it is seeking take authority under its Tribal Habitat Conservation"

⁶² Riverside County Flood Control and Water Conservation District, August 2008. "Final Subsequent CEQA Initial Study Mitigated Negative Declaration: Palm Springs Master Drainage Plan Line 41, Stage 3 Flood Control Project."

plan.⁶³ Thus, the second set of mitigation measures outlined in the MND would need to be implemented for CEQA purposes. These measures include:

- Restoration of temporarily impacted suitable habitat at a 1:1 ratio onsite OR mitigation fee of \$2,865 per acre of temporarily impacted suitable habitat for the purpose of acquiring, creating, and/or enhancing suitable offsite habitat,
- Replacement of permanently impacted suitable habitat at a 2:1 ratio with offsite habitat creation or enhancement OR mitigation fee of \$5,730 per acre of permanently impacted suitable habitat for the purpose of acquiring, creating, and/or enhancing suitable offsite habitat,
- Incorporation of onsite restored habitat areas and offsite created or enhanced habitat areas into a Habitat Mitigation and Monitoring Plan to ensure the long-term preservation of the habitat areas,
- Surveying of soils within occupied habitat prior to grading, and
- Usage of native species for landscaping or revegetation near beetle habitat.

86. The mitigation measures described above reflect suggestions made by the Service in comment on the Notice of Intent to Adopt MND. In their comment letter, the Service also suggests that the project be redesigned to directly avoid most of the occupied habitat as mapped in the Bruyca 2006 report. This redesign would include a modified detention basin footprint. The District responds that “avoidance of the proposed basin site and portions thereof were considered by the District and Cities, but found to be infeasible due to hydrologic, hydraulic, right of way, and topographic constraints.”⁶⁴ The District goes on to say that the location and sizing of the basin is based on the need to provide sufficient hydraulic storage volume to achieve 100-year flood protection. The Service’s suggested redesign of the proposed basin would result in a loss of storage capacity that could not be recovered elsewhere due to depth restrictions and adjacent physical barriers.
87. The listing of the beetle and designation of critical habitat would necessitate that the U.S. Army Corps of Engineers (USACE) undertake section 7 consultation for this project prior to granting the District a permit under section 404 of the Clean Water Act. If USACE determines that only a portion of the project falls within waters of the United States, it would only take jurisdiction of this portion of the project. For simplicity this analysis assumes that the entire project falls under the jurisdiction of USACE, but if this is not the case, impacts associated with listing and critical habitat designation may be overstated. The Service has indicated that project modifications recommended during section 7 consultation would be very similar to those suggested by the Service under CEQA.⁶⁵ Public comments from the District on the listing and critical habitat designation indicate

⁶³ 74 FR 32871.

⁶⁴ Riverside County Flood Control and Water Conservation District, August 2008. “Final Subsequent CEQA Initial Study Mitigated Negative Declaration: Palm Springs Master Drainage Plan Line 41, Stage 3 Flood Control Project.”

⁶⁵ Personal Communication with Service Biologist, October 9, 2009.

that including the project within the designated critical habitat area would result in significant adverse economic, public health and safety impacts. In their comment letter the District lists impacts including:

- Costs associated with species surveys and section 7 consultation process,
- Cost associated with project modifications recommended by the Service during section 7 consultation,
- Increased risk that flood control system may fail to provide 100-year flood protection due to lengthy section 7 consultation process and any project modifications imposed through that process,
- Increased insurance rates imposed on the local community through the National Flood Insurance Program (NFIP) as a result of not meeting FEMA requirements, and
- Increased risk of flood damage caused by delay due to section 7 consultation.⁶⁶

88. Three possible scenarios with a range of economic impacts could result from the listing and critical habitat designation. Data was not available to quantify these impacts. Because a Federal nexus is present and the project location has had positive surveys for the beetle in the past, all costs, except for a portion of the administrative costs of consultation related to adding adverse modification to the consultation, are considered baseline (see flowchart in Exhibit 3-3). The three possible impact scenarios are as follows:

1. The Service recommends complete avoidance of the critical habitat and the project is not able to be redesigned to avoid critical habitat. Economic impacts would include: cost of surveying, administrative cost of section 7 consultation, increased risk to health and human safety from floods, and increased cost of insurance.
2. The Service recommends complete avoidance of critical habitat and the project is redesigned to avoid critical habitat. Economic impacts would include: cost of surveying, administrative cost of section 7 consultation, cost of delay due to section 7 consultation, and the difference in cost between the redesigned and original project plans.
3. The Service recommends project modifications similar to the ones listed above which include project offsets or mitigation fees. Economic impacts would include: cost of surveying, administrative cost of section 7 consultation, cost of delay due to section 7 consultation, and cost of project modifications.

⁶⁶ Riverside County Flood Control and Water Conservation District, Public Comment on the Listing of Casey's June Beetle as Endangered and Designation of Critical Habitat, September 8, 2009.

4.2 SEDIMENTATION REMOVAL PROJECT

89. The District routinely removes sedimentation within Palm Canyon Wash at S. Gene Autry Trail. See Exhibit ES-2 for map of project location. Sedimentation must be removed from the wash in order for the existing levee to provide adequate flood protection. If the sedimentation can not be removed, then the levee height must be increased. Because a bridge exists where S. Gene Autry Trail crosses Palm Canyon Wash, the levee can only be extended to the height of the bridge. If sedimentation build-up requires that the height of the levee be increased higher than the bridge, the bridge would have to be modified. The District has indicated that extending the levee and modifying the bridge is not a viable option due to the high cost.⁶⁷
90. The District was not able to estimate the cost of increasing the height of the levee and modifying the bridge, but they were able to give recent costs of sedimentation removal. The cost of sedimentation removal represents a low-end estimate of the value of the sedimentation removal. The underlying assumption is that the District would not be willing to pay for sedimentation removal if the cost did not at least equal the benefits. In most cases, benefits will exceed costs. Therefore, this cost represents a low-end estimate of the lost value that would result if the District is not allowed to remove sediment and increasing the height of the levee is no longer practicable.
91. The need for sedimentation removal depends on the number of storms in a given year. Removal can happen as frequently as once per year.⁶⁸ The District either removes sediment themselves or issues encroachment permits to private companies who remove the sediment for their own use (e.g., concrete production). In 1993, 1995, and 1998 the District removed sedimentation from the Wash at costs ranging between \$28,000 and \$700,000 per removal project. There have also been years in which the District wanted to remove sedimentation, but had to reject bids because it was too expensive.⁶⁹
92. Based on the rate and cost of sedimentation removal between 1993 and 1998, this analysis assumes that sediment is removed once every two years at an average cost of \$460,000.⁷⁰ Because the removal takes place in the Palm Canyon Creek Wash area, a permit under section 404 of the Clean Water Act is required from the USACE. Through this Federal nexus, section 7 consultation with the Service will be required.⁷¹ The analysis assumes that formal consultations will be necessary. Due to the fact that consultation for sedimentation removal has never occurred before and the beetle is an extremely rare species, a formal consultation will likely be necessary each time the

⁶⁷ Personal Communication, Teresa Tung, Engineering Project Manager in the Environmental Regulatory Services Section of the Riverside County Flood Control and Water Conservation District, October 15, 2009.

⁶⁸ Personal Communication, Zully Smith, Chief of Operations and management with the Riverside County Flood Control and Water Conservation District, October 15, 2009.

⁶⁹ Ibid.

⁷⁰ Average cost calculated by converting \$28,000 and \$700,000 from 1995 dollars to 2009 dollars using GDP Inflation Calculator (available <http://cost.jsc.nasa.gov/inflateGDP.html>) and then taking the average of the result.

⁷¹ See Exhibit 2-1 for administrative costs of consultation.

District wants to remove sediment. Because a Federal nexus is present and the project location has had positive surveys for the beetle in the past, all costs, except for a portion of the administrative costs of consultation related to adding adverse modification to the consultation, are considered occur in the baseline scenario (see flowchart in Exhibit 3-3). Estimated post-designation baseline and incremental impacts are reported in Exhibits 4-4. As discussed above, baseline costs may be understated because the value of sediment removal projects likely exceeds the costs of undertaking such efforts.

EXHIBIT 4-4. POST-DESIGNATION IMPACTS TO SEDIMENTATION REMOVAL PROJECT (2010-2029, 2009 DOLLARS, SEVEN PERCENT DISCOUNT RATE)

PRESENT VALUE COST	ANNUALIZED COST
Post-Designation Baseline Impacts (2010 - 2029)	
\$2,600,000	\$229,000
Incremental Impacts (2010 - 2020)	
\$27,400	\$2,420

CHAPTER 5 | ECONOMIC BENEFITS**5.1 INTRODUCTION**

93. The primary intended benefit of critical habitat is to support the conservation of threatened and endangered species, such as the Casey's June beetle. Thus, attempts to develop monetary estimates of the benefits of this proposed critical habitat designation would focus on the public's willingness to pay to achieve the conservation benefits to the beetle resulting from this designation.
94. Quantification and monetization of species conservation benefits requires information on the incremental change in the probability of Casey's June beetle conservation that is expected to result from the designation. No studies exist that provide such information for this species. Even if this information existed, the published valuation literature does not support monetization of incremental changes in conservation probability for this species.
95. Numerous published studies estimate individuals' willingness to pay to protect endangered species. The economic values reported in these studies reflect various groupings of benefit categories (including both use and non-use values). For example, these studies assess public willingness to pay for wildlife-viewing opportunities, for the option for seeing or experiencing the species in the future, to assure that the species will exist for future generations, and simply knowing a species exists, among other values. Unfortunately, this literature addresses a relatively narrow range of species and circumstances compared to the hundreds of species and habitats that are the focus of the Act. Specifically, existing studies focus almost exclusively on large mammal, bird, and fish species, and generally do not report values for incremental changes in species conservation. Importantly for this analysis, no studies estimate the value the public places on preserving a species of insect.
96. Other benefits may also be achieved through designation of critical habitat. For example, the public may hold a value for habitat conservation, beyond its willingness to pay for conservation of a specific species. Studies have been done that estimate the public's willingness to pay to preserve wilderness areas, for wildlife management and preservation programs, and for wildlife protection in general. These studies address categories of benefits (e.g., ecosystem integrity) that may be similar to the types of benefits provided by critical habitat, but do not provide values that can be used to establish the incremental values associated with this proposed critical habitat designation (i.e., the ecosystem and species protection measures considered in these studies are too dissimilar from the habitat protection benefits that may be afforded by this designation).

97. Similarly, economists have conducted research on the economic value of open space. Open space can provide aesthetic benefits, with subsequent positive impacts on property values in the surrounding community. Such benefits are not the purpose of critical habitat designation. In addition, applying this literature would involve transferring research results from other parts of the country and other contexts to the Palm Springs area and the specific context of this rulemaking. More importantly, it is not possible to estimate the likelihood that open space will be preserved as a result of this proposed designation. Thus, because open space preservation is not the goal of the designation, and because it is not possible to determine the probability that such benefits will occur in this instance, the Service has decided not to include such estimates in the Economic Analysis.⁷² The remainder of this chapter includes a qualitative benefits discussion, summarizing the beetle conservation efforts described in Chapters 3 and 4 of this report and linking them with potential categories of economic benefit that may derive from their implementation.

5.2 POTENTIAL BENEFITS OF CASEY'S JUNE BEETLE CONSERVATION

98. This section describes the categories of benefits potentially resulting from beetle conservation efforts within the study area. Exhibit 5-1 summarizes potential benefits associated with the specific beetle conservation efforts described in Chapters 3 and 4 of this report. The first column lists the project name; the second column lists the conservation effort(s) associated with that project. The third column identifies potential categories of benefits that may derive from implementation of these conservation efforts. A description of these categories of benefit is provided below. The final columns of the exhibit identify whether baseline or incremental benefits may occur. Whether the benefits deriving from the conservation efforts are baseline or incremental depends on the reason for implementing the effort. The baseline or incremental status of the conservation effort summarized in the exhibit is as described for each activity in Chapters 3 and 4 of this report.

99. The categories of economic benefit that may derive from the beetle conservation efforts described in this report include:

- **Property value benefits:** Open space or decreased density of development resulting from beetle conservation may increase adjacent or nearby property values.
- **Aesthetic benefits:** Social welfare gains may be associated with enhanced aesthetic quality of habitat. Preferences for aesthetic improvements may be measured through increased willingness-to-pay to visit a habitat region for recreation or increased visitation.

⁷² We note that the evaluation of the indirect costs of this proposed critical habitat designation is appropriate, as the actions resulting in these costs support the primary goal of critical habitat, the conservation of the species.

- **Educational benefits:** Surveying of project areas for the beetle confers educational benefits in that more is known about the species and where populations exist. This knowledge could help direct future conservation efforts.

100. In addition to these categories of potential benefit, all of the conservation efforts described in Exhibit 5-1 are related to the broader conservation and recovery of the species. For example, monitoring and surveying for the species is undertaken to better understand the effects of projects on species, and therefore inform the avoidance or minimization of those effects. All conservation efforts therefore relate to the maintenance or enhancement of the use and non-use value (e.g., existence value) that the public may hold specifically for the beetle. Further, many of the conservation efforts undertaken for the beetle may also result in improvements to ecosystem health that are shared by other, coexisting species. The maintenance or enhancement of use and non-use values for these other species, or for biodiversity in general, may also result from these beetle conservation efforts.

EXHIBIT 5-1. BEETLE CONSERVATION EFFORTS AND POTENTIAL ASSOCIATED ANCILLARY BENEFITS (NOT INCLUDING CONSERVATION AND RECOVERY BENEFITS)

PROJECT	CONSERVATION EFFORT	POTENTIAL ASSOCIATED BENEFITS	BASELINE BENEFIT	INCREMENTAL BENEFIT
DEVELOPMENT				
Wessman development site	Avoidance	None*	No	No*
Smoke Tree Ranch	Avoidance	None*	Yes	Incremental impacts limited to administrative costs.
RainbowVision Retirement Community Monte Sereno	Avoidance	None*	Yes	No*
Eagle Canyon (Alturas) Project Residential development project outlined in Canyon South Specific Plan	Avoidance	<ul style="list-style-type: none"> Property value benefits—decreased density of development and/or open space preservation resulting from beetle conservation may increase adjacent or nearby property values. Aesthetic benefits—due to open space preservation 	Yes	Yes
All Projects	Surveys	<ul style="list-style-type: none"> Educational benefits 	Yes	Yes
FLOOD CONTROL				
Line 41, Stage 3 Flood Control Project	Avoidance	None*	No	Incremental impacts limited to administrative costs.
	Offsets/mitigation fees	<ul style="list-style-type: none"> Aesthetic benefits—due to open space created by offset purchases 	Yes	Incremental impacts limited to administrative costs.
	Surveys	<ul style="list-style-type: none"> Educational benefits 	Yes	Incremental impacts limited to administrative costs.
Sedimentation Removal project	Avoidance— increase height of levee instead of dredging	None*	Yes	Incremental impacts limited to administrative costs.
<p>Note: * As stated above, all conservation efforts provide broader conservation and recovery benefits.</p>				

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16 U.S.C. 1532.

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APPENDIX A | SMALL BUSINESS ANALYSIS AND ENERGY IMPACTS ANALYSIS

1. This appendix considers the extent to which incremental impacts from critical habitat designation may be borne by small entities and the energy industry. The analysis presented in Section A.1 is conducted pursuant to the RFA as amended by the SBREFA. Information for this analysis was gathered from the Small Business Administration (SBA), the Service, and from interviews with stakeholders contacted in the development of the economic analysis. The energy analysis in Section A.2 is conducted pursuant to Executive Order No. 13211.
2. The analyses of impacts to small entities and the energy industry rely on the estimated incremental impacts resulting from the proposed critical habitat designation. The incremental impacts of the rulemaking are most relevant for the small business and energy impacts analyses because they reflect costs that may be avoided or reduced based on decisions regarding the composition of the final rule. The post-designation baseline impacts associated with the listing of the beetle and other Federal, State, and local regulations and policies, as quantified in Chapters 3 and 4 of this report, are expected to occur regardless of the outcome of this rulemaking.

A.1 SBREFA ANALYSIS

3. When a Federal agency proposes regulations, the RFA requires the agency to prepare and make available for public comment an analysis that describes the effect of the rule on small entities (i.e., small businesses, small organizations, and small government jurisdictions as defined by the RFA).¹ No initial 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. 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. To assist in this process, this appendix provides a screening level analysis of the potential for beetle critical habitat to affect small entities.
4. To ensure broad consideration of impacts on small entities, the Service has prepared this small business analysis without first making the threshold determination in the proposed rule regarding whether the proposed critical habitat designation could be certified as not having a significant economic impact on a substantial number of small entities. This small business analysis will therefore inform the Service's threshold determination.

¹ 5 U.S.C. § 601 et seq.

A.1.1 SUMMARY OF IMPACTS TO SMALL ENTITIES

5. This screening analysis is based on the estimated incremental impacts associated with the proposed rulemaking. Potential baseline and incremental impacts depend on the presence of the beetle and the existence of a Federal nexus. As previously discussed, this analysis uses the methodology outlined in Exhibit 3-3 to distinguish between baseline and incremental impacts. The major incremental costs considered in this analysis are associated with the probability that developable parcels of land will lose value as a result of critical habitat designation. Chapter 3 describes the methodology for estimating these impacts in greater detail. The analysis also highlights quantified and unquantified costs associated with modifications to flood control projects.
6. Small entities may participate in section 7 consultation as a third party (the primary consulting parties being the Service and the Federal action agency). It is therefore possible that the small entities may spend additional time considering critical habitat during section 7 consultation for beetle. These incremental administrative impacts to third parties are also considered in this analysis. Additional incremental costs of consultation that would be borne by the Federal action agency and the Service are not relevant to this screening analysis as these entities (Federal agencies) are not small.
7. Exhibit A-1 describes entities that potentially may be affected by critical habitat designation. For each entity, it presents the relevant small entity threshold by North American Industry Classification System (NAICS) code, annual revenues or total population, whether the entity is considered small, and estimated incremental impacts as a percentage of annual revenues.

EXHIBIT A-1. SUMMARY OF UPPER-BOUND POTENTIAL IMPACTS ON INDIVIDUAL SMALL BUSINESSES

ACTIVITY	INDUSTRY/COMPANY AND NAICS CODES	SMALL ENTITY SIZE STANDARD	ANNUAL REVENUES/ TOTAL POPULATION	SMALL ENTITY UNDER THE RFA	ANNUALIZED INCREMENTAL ECONOMIC IMPACTS TO SMALL BUSINESSES (7%)	IMPACTS AS % OF ANNUAL REVENUES
Development	Wessman Development Company (NAICS code 237210)	\$7.0 million	\$1.4 million	Yes	\$616,000	44.0%
	Smoke Tree Ranch (NAICS code 721110)	\$7.0 million	\$5.5 million	Yes	\$72	0.01%
	Rainbow Vision Properties (or similar firm)	\$7.0 million	\$400,000	Yes	\$130,000	32.4%
Flood Control	Agua Caliente Tribe	n/a	n/a	No	n/a	n/a
	Riverside County Flood Control and Water Conservation District	50,000 people	2.1 million	No	n/a	n/a

Source: Dialog search of File 516, Dun and Bradstreet, "Duns Market Identifiers," on October 20, 2009.

A.1.2 DETAILED ANALYSIS OF IMPACTS TO SMALL BUSINESSES

8. This analysis is intended to improve the Service's understanding of the potential effects of the proposed rule on small entities and to identify opportunities to minimize these impacts in the final rulemaking. The Act requires the Service to designate critical habitat for threatened and endangered species to the maximum extent prudent and determinable. Section 4(b)(2) of the Act requires that the Service designate critical habitat "on the basis of the best scientific data available and after taking into consideration the economic impact, the impact on national security, and any other relevant impact, of specifying any particular areas as critical habitat." The Secretary's discretion is limited as (s)he may not exclude areas if so doing "will result in the extinction of the species."
9. Three types of small entities are defined in the RFA:
- **Small Business** - Section 601(3) of the RFA defines a small business as having the same meaning as small business concern under section 3 of the Small Business Act. This includes any firm that is independently owned and operated and is not dominant in its field of operation. The SBA has developed size standards to carry out the purposes of the Small Business Act, and those size standards can be found in 13 CFR 121.201. The size standards are matched to NAICS industries. The SBA definition of a small business applies to a firm's parent company and all affiliates as a single entity.
 - **Small Governmental Jurisdiction** - Section 601(5) defines small governmental jurisdictions as governments of cities, counties, towns, townships, villages, school districts, or special districts with a population of less than 50,000. Special districts may include those servicing irrigation, ports, parks and recreation, sanitation, drainage, soil and water conservation, road assessment, etc. When counties have populations greater than 50,000, those municipalities of fewer than 50,000 can be identified using population reports. Other types of small government entities are not as easily identified under this standard, as they are not typically classified by population.
 - **Small Organization** - Section 601(4) defines a small organization as any not-for-profit enterprise that is independently owned and operated and not dominant in its field. Small organizations may include private hospitals, educational institutions, irrigation districts, public utilities, agricultural co-ops, etc.
10. The courts have held that the RFA/SBREFA requires Federal agencies to perform a regulatory flexibility analysis of forecast impacts to small entities that are directly regulated. In the case of *Mid-Tex Electric Cooperative, Inc., v. Federal Energy Regulatory Commission (FERC)*, FERC proposed regulations affecting the manner in which generating utilities incorporated construction work in progress in their rates. The generating utilities that expected to be regulated were large businesses; however, their customers -- transmitting utilities such as electric cooperatives -- included numerous small entities. In this case, the court agreed that FERC simply authorized large electric generators to pass these costs through to their transmitting and retail utility customers,

and FERC could therefore certify that small entities were not directly impacted within the definition of the RFA.²

11. Similarly, *American Trucking Associations, Inc. v. Environmental Protection Agency* (EPA) addressed a rulemaking in which EPA established a primary national ambient air quality standard for ozone and particulate matter.³ The basis of EPA's RFA/SBREFA certification was that this standard did not directly regulate small entities; instead, small entities were indirectly regulated through the implementation of state plans that incorporated the standards. The court found that, while EPA imposed regulation on states, it did not have authority under this rule to impose regulations directly on small entities and therefore small entities were not directly impacted within the definition of the RFA.
12. The SBA in its guidance on how to comply with the RFA recognizes that consideration of indirectly affected small entities is not required by the RFA, but encourages agencies to perform a regulatory flexibility analysis even when the impacts of its regulation are indirect.⁴ "If an agency can accomplish its statutory mission in a more cost-effective manner, the Office of Advocacy [of the SBA] believes that it is good public policy to do so. The only way an agency can determine this is if it does not certify regulations that it knows will have a significant impact on small entities even if the small entities are regulated by a delegation of authority from the Federal agency to some other governing body."⁵
13. The regulatory mechanism through which critical habitat protections are enforced is section 7 of the Act, which directly regulates only those activities carried out, funded, or permitted by a Federal agency. By definition, Federal agencies are not considered small entities, although the activities they may fund or permit may be proposed or carried out by small entities. Given the SBA guidance described above, this analysis considers the extent to which this designation could potentially affect small entities, regardless of whether these entities would be directly regulated by the Service through the proposed rule or by a delegation of impact from the directly regulated entity.
14. This screening analysis focuses on small entities that may bear the incremental impacts of this rulemaking quantified in Chapters 3 and 4 of this economic analysis. Although businesses affected indirectly are considered, this analysis considers only those entities for which impact would not be measurably diluted.

² 773 F. 2d 327 (D.C. Cir. 1985).

³ 175 F. 3d 1027, 1044 (D.C. Cir. 1999).

⁴ Small Business Administration, Office of Advocacy. May 2003. *A Guide for Government Agencies: How to Comply with the Regulatory Flexibility Act*, pg. 20.

⁵ *Ibid.*, pg. 21.

Potential Administrative Costs of Section 7 Consultation that May be Borne by Small Entities

15. As described above and detailed in Chapters 3 and 4 of this report, estimated incremental costs are associated with the probability that the Service or the City of Palm Springs may request project modifications as a result of the critical habitat designation. Chapter 3 discusses residential and commercial development, with incremental costs incurring in the form of potential lost land value. In Chapter 4, this analysis forecasts potential costs associated with flood control activities; the only incremental costs are a portion of the Section 7 administrative costs. These potential impacts are described in greater detail below.
- **Residential and Commercial Development.** Potential incremental costs are expected to vary by project, depending on the size and the value of the land. As discussed in Chapter 3, total annualized incremental impacts are forecast at approximately \$965,000 (discounted at seven percent). Where possible, this analysis identified current landowners by project to determine whether they would be considered small (see Exhibit A-1). These landowners include:
 - **Wessman Development Company.** With estimated sales of \$1.4 million, the company falls below its small business threshold of \$7.0 million. The company may incur annualized incremental impacts of \$616,000, or approximately 44.0 percent of its annual revenues.
 - **Smoke Tree Ranch.** With estimated sales of \$5.5 million, the company falls below its small business threshold of \$7.0 million. The company may incur annualized incremental impacts of \$72, or about 0.01 percent of its annual revenues.
 - **Rainbow Vision Properties.** This company was planning to develop the Rainbow Vision project. With estimated annual sales of \$400,000, the company falls below its small business threshold of \$7.0 million. Due to the economic downturn, the likelihood of completion of this project is uncertain. If the Rainbow Vision project does not go forward, however, a similar firm is likely to develop these parcels based on development pressures in the area. While the landowner is expected to bear any potential land value loss, developers may lose some sunk costs (i.e., costs already incurred that cannot be recovered) in the event development is precluded on these parcels. For example, a developer may have already made payments on an option to purchase the land, paid for development plans, and incurred other costs to market the development.
 - **The Agua Caliente Tribe.** Although incremental impacts stemming from various development projects may be borne by the Agua Caliente Tribe, these impacts are not included in this screening analysis because the Tribe is not considered to be a small entity under the RFA.

- **Flood Control Projects.** Based on the number of known future projects, this analysis forecasts that approximately ten formal consultations on flood control projects will occur over the next 20 years. However, these consultations are expected to be with Riverside Flood Control District, which is not considered a small entity based on the county's population.

A.2 POTENTIAL IMPACTS TO THE ENERGY INDUSTRY

16. 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."⁶
17. The Office of Management and Budget provides guidance for implementing this Executive Order, outlining 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 (bbls);
 - 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 per year;
 - Reductions in electricity production in excess of 1 billion kilowatts-hours per year or in excess of 500 megawatts of installed capacity;
 - Increases in energy use required by the regulatory action that exceed the thresholds above;
 - Increases in the cost of energy production in excess of one percent;
 - Increases in the cost of energy distribution in excess of one percent; or
 - Other similarly adverse outcomes.⁷
18. As none of these criteria is relevant to this analysis, energy-related impacts associated with conservation efforts within the potential critical habitat are not expected.

⁶ Memorandum For Heads of Executive Department Agencies, and Independent Regulatory Agencies, Guidance For Implementing E.O. 13211, M-01-27, Office of Management and Budget, July 13, 2001, <http://www.whitehouse.gov/omb/memoranda/m01-27.html>.

⁷ Ibid.

**APPENDIX B | THREE PERCENT DISCOUNT RATE EXHIBITS AND
UNDISCOUNTED STREAM OF IMPACTS**

**EXHIBIT B-1 TOTAL POST-DESIGNATION IMPACTS TO RESIDENTIAL DEVELOPMENT PROJECTS
(2010 - 2029, 2009 DOLLARS, THREE PERCENT DISCOUNT RATE)**

PROJECT NAME	BASELINE IMPACTS		INCREMENTAL IMPACTS	
	TOTAL PRESENT VALUE	ANNUALIZED	TOTAL PRESENT VALUE	ANNUALIZED
Projects on Private Lands				
Wessman development site - commercial property	\$0	\$0	\$6,780,000	\$456,000
Smoke Tree Ranch - residential and commercial property	\$428,000	\$28,800	\$4,850	\$326
Projects on Indian Reservation Lands				
Eagle Canyon (Alturas) Project	\$2,410,000	\$162,000	\$803,000	\$54,000
RainbowVision Retirement Community (or other project)	\$4,280,000	\$288,000	\$1,430,000	\$95,900
Monte Sereno - residential development	\$84,700	\$5,700	\$28,200	\$1,900
Residential development project outlined in Canyon South Specific Plan	\$3,290,000	\$221,000	\$1,100,000	\$73,700

**EXHIBIT B-2 POST-DESIGNATION IMPACTS TO SEDIMENTATION REMOVAL PROJECT
(2010-2029, 2009 DOLLARS, THREE PERCENT DISCOUNT RATE)**

PRESENT VALUE COST	ANNUALIZED COST
Post-Designation Baseline Impacts (2010 - 2029)	
\$3,590,000	\$234,000
Incremental Impacts (2010 - 2020)	
\$37,700	\$2,460

**EXHIBIT B-3 POST-DESIGNATION BASELINE IMPACTS TO DEVELOPMENT PROJECTS
(UNDISCOUNTED)**

PROJECT	YEAR(S)	IMPACT	DESCRIPTION
Wessman development site	2010	\$0	No baseline impacts anticipated.
Smoke Tree Ranch		\$425,563	Potential land value lost.
		\$15,000	Administrative costs of section 7 consultation
Eagle Canyon (Alturas) Project		\$2,467,586	Potential land value lost.
		\$15,000	Administrative costs of section 7 consultation
RainbowVision Retirement Community (or other project)		\$4,392,462	Potential land value lost.
		\$15,000	Administrative costs of section 7 consultation
Monte Sereno		\$72,291	Potential land value lost.
		\$15,000	Administrative costs of section 7 consultation
Residential development project outlined in Canyon South Specific Plan		\$3,374,431	Potential land value lost.
		\$15,000	Administrative costs of section 7 consultation

**EXHIBIT B-4 POST-DESIGNATION INCREMENTAL IMPACTS TO DEVELOPMENT PROJECTS
(UNDISCOUNTED)**

PROJECT	YEAR(S)	IMPACT	DESCRIPTION
Wessman development site	2010	\$6,986,132	Potential land value lost.
Smoke Tree Ranch		\$5,000	Administrative costs of section 7 consultation
Eagle Canyon (Alturas) Project		\$822,529	Potential land value lost.
		\$5,000	Administrative costs of section 7 consultation
RainbowVision Retirement Community (or other project)		\$1,464,154	Potential land value lost.
		\$5,000	Administrative costs of section 7 consultation
Monte Sereno		\$24,097	Potential land value lost.
		\$5,000	Administrative costs of section 7 consultation
Residential development project outlined in Canyon South Specific Plan		\$1,124,810	Potential land value lost.
		\$5,000	Administrative costs of section 7 consultation

EXHIBIT B-5 POST-DESIGNATION BASELINE IMPACTS TO SEDIMENTATION REMOVAL PROJECT (UNDISCOUNTED)

YEAR(S)	IMPACT	DESCRIPTION
2010-2029	\$4,600,000	Sedimentation Removal
	\$150,000	Administrative costs of section 7 consultation

EXHIBIT B-6 POST-DESIGNATION INCREMENTAL IMPACTS TO SEDIMENTATION REMOVAL PROJECT (UNDISCOUNTED)

YEAR(S)	IMPACT	DESCRIPTION
2010-2029	\$50,000	Administrative costs of section 7 consultation