Economic &
Planning Systems
Real Estate Economics
Regional Economics
Public Finance
Land Use Policy

ADDENDUM TO DRAFT ECONOMIC ANALYSIS OF CRITICAL HABITAT DESIGNATION FOR THE CALIFORNIA TIGER SALAMANDER, SANTA BARBARA COUNTY

Prepared for:

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

Prepared by:

Economic & Planning Systems, Inc.
2501 Ninth Street, Suite 200
Berkeley, CA 94710

January 2005

EPS #14142

BERKELEY
2501 Ninth St., Suite 200
Berkeley, CA 94710-2515
www.epsys.com
Phone: 510-841-9190
Fax: 510-841-9208

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

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

ESTIMATED COST OF THE FINAL DESIGNATION

The August 2004 Draft Economic Analysis of Critical Habitat Designation for the California Tiger Salamander, Santa Barbara County (DEA) is consistent with the proposed rule published January 2004.[1] However, in establishing the final designation for the California Tiger Salamander (CTS), the Service excluded some proposed areas from the final designation.[2] The purpose of this addendum is to summarize the changes to the proposed designation and discuss the implication of these changes on estimates of economic impacts.

In preparing the final critical habitat designation (CHD), the Service reviewed comments and made changes to proposed CHD. Major changes affecting cost estimates are as follows:

- Under section 4(b)(2) of the Act, the Service excluded properties with adequate management plans addressing CTS.
- The Service excluded a vineyard in Unit 6 that had been included due to mapping error.
- The Service refined critical habitat boundaries to more closely correspond with actual landscape features.

In sum, the Service excluded 2,740 acres from proposed CHD. This represents approximately 20 percent of the proposed designation. **Table 1** presents a detailed comparison of the proposed and final CHDs. In addition, **Table 1** describes the method relied upon to adjust DEA cost estimates to reflect the final CHD.

[1] U.S. Fish and Wildlife Service, *Endangered and Threatened Wildlife and Plants; Proposed Designation of Critical Habitat for the Santa Barbara County Distinct Population Segment of the California Tiger Salamander; Proposed Rule*, January 22, 2004.

[2] U.S. Fish and Wildlife Service, *Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the California Tiger Salamander in Santa Barbara County; Final Rule*, November 24, 2004.

Table 1
Proposed and Final Critical Habitat Acreages
Addendum to Draft Economic Analysis of CHD for the California Tiger Salamander, Santa Barbara County

Unit	Unit Description	Proposed Acreage	Final Acreage	Acreage Change	Final Acreage as a Proportion of Proposed Acreage	Description of Change	Revision of Cost Estimate
1	Western Santa Maria/Orcutt	4,349	4,135	(214)	95%	Revised boundary mapping	Proportional to Acreage
2	Eastern Santa Maria	2,985	2,909	(76)	97%	Revised boundary mapping	Proportional to Acreage
3	Western Los Alamos/Careaga	2,181	1,451	(730)	67%	4(b)(2) exclusion	Vineyard Cost Adjustment
4	Eastern Los Alamos	1,302	90	(1,212)	7%	4(b)(2) exclusion	Vineyard Cost Adjustment
5	Purisma Hills	2,359	1,957	(402)	83%	4(b)(2) exclusion	No Adjustment
6	Santa Rita Valley	744	638	(106)	86%	Revised mapping (1)	Vineyard Cost Adjustment
Total		13,920	11,180	(2,740)	80%		

(1) Revised mapping of Unit 6 removes a vineyard that was included in proposed CHD due to mapping error.

Source: U.S. Fish and Wildlife Service, *Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the California Tiger Salamander in Santa Barbara County; Final Rule,* November 24, 2004.

Tables 2 and **3** summarize the economic impact of the final CHD, by unit, for the time period 2005 through 2025. The cost associated with the final designation, discounted to present value (2004$) using a discount rate of 7 percent, is estimated to be between $95 million and $398 million. Annual costs attributable to the final designation of CHD for the CTS in Santa Barbara County are estimated to be between $8 million and $34 million.

The results presented in **Tables 2** and **3** are calculated by adjusting existing DEA cost estimates to reflect changes to CHD. Two different methods are used to amend cost estimates presented in the DEA.

1. For those critical habitat units where the final designation reflects refined mapping throughout the unit, the cost reduction resulting from exclusion of critical habitat is assumed to be proportional the reduction in acreage. Cost adjustments in units 1 and 2 follow this procedure.

2. For units in which specific parcels are excluded (e.g., 4(b)(2)) from CHD, cost adjustments are made to the relevant cost categories. Adjustments to specific economic impacts resulting from exclusions described in the final rule are presented in **Tables 2** and **3** and discussed in greater detail below.

   - Units 3 and 4—Approximately 1,942 acres (730 and 1,212 acres, respectively) have been removed from CHD due to development of conservation strategies (i.e., 4(b)(2) exclusion). These conservation strategies address vineyard conversion/development. The DEA estimates economic impacts associated with vineyard conversion on 1,760 acres in units 3 and 4 (545 and 1,213 acres, respectively). Therefore, vineyard-related impacts in units 3 and 4 of the final CHD are estimated to be zero.

   - Unit 5—Approximately 402 acres have been removed from CHD due to the development of a conservation strategy (i.e., 4(b)(2) exclusion). The conservation strategy addresses livestock grazing practices. Because no grazing costs were estimated in Unit 5, no adjustment to the DEA cost estimate for unit 5 is made.

   - Unit 6—A specific vineyard included in proposed CHD unit 6 by error has been excluded from the final designation. The DEA estimates costs associated with one vineyard project in unit 6. Due to the exclusion of the unit 6 vineyard, vineyard-related impacts in unit 6 of the final CHD are estimated to be zero.

In addition to total economic impacts, the DEA discusses impacts to small businesses associated with proposed CHD. Impacts to small businesses are expected in the real estate development and viticulture sectors. While small business impacts in the real estate development sector are expected to be only slightly less than those estimated in the DEA, impacts to small viticulture firms are expected to be significantly less than those reported in the DEA.

Exclusions have removed three viticulture projects from CHD. As shown in **Tables 2** and **3** and discussed above, costs associated with viticulture projects in units 3, 4, and 6 will be avoided. The three excluded viticulture projects account for 50 percent of the total number of viticulture projects and 99 percent of total viticulture impacts described by the DEA. Thus, exclusion of these viticulture areas from CHD reduces small business impacts on the viticulture sector. In particular, less than 0.4 percent of small viticulture firms in Santa Barbara County are expected to be affected annually. Further, the per-project impact as a percent of annual sales is estimated to be only 0.02 percent.

Table 2
Summary of Upper-Bound Future Impacts Within Proposed Critical Habitat (1)
Addendum to Draft Economic Analysis of CHD for the California Tiger Salamander, Santa Barbara County

CH Unit	Viticulture	Road Construction	Utilities & Infrastructure	Airport District	Real Estate Development: Project Costs	Real Estate Development: CEQA	Real Estate Development: Delay	Total
1	$15,398	$136,299	$285,154	$483,736	$157,492,147	$2,922,056	$22,071	$161,356,860
2	$15,782	$0	$449,745	$0	$227,364,530	$4,608,670	$0	$232,438,727
3	$0	$0	$0	$0	$0	$0	$0	$0
4	$0	$0	$16,207	$0	$4,350,571	$166,074	$54	$4,532,905
5	$16,195	$0	$0	$0	$0	$0	$0	$16,195
6	$0	$40,949	$0	$0	$0	$0	$0	$40,949
Total	$47,375	$177,248	$751,105	$483,736	$389,207,248	$7,696,799	$22,125	$398,385,636
Annualized Future Impacts (2)	$4,006	$14,988	$63,514	$40,905	$32,911,765	$650,849	$1,871	$33,687,899

(1) Future impacts (2005-2030) are discounted at 7 percent and presented in present value terms using 2004 dollars.
(2) Annualized impacts are calculated using a discount rate of 7 percent and a 26 year time horizon.

Table 3
Summary of Lower-Bound Future Impacts Within Proposed Critical Habitat (1)
Addendum to Draft Economic Analysis of CHD for the California Tiger Salamander, Santa Barbara County

CH Unit	Viticulture	Road Construction	Utilities & Infrastructure	Airport District	Real Estate Development: Project Costs	Real Estate Development: CEQA	Real Estate Development: Delay	Total
1	$15,398	$136,299	$736,713	$483,736	$92,284,891	$1,600,471	$22,071	$95,279,578
2	$15,782	$0	$0	$0	$0	$0	$0	$15,782
3	$0	$0	$0	$0	$0	$0	$0	$0
4	$0	$0	$192	$0	$15,563	$416	$4	$16,175
5	$16,195	$0	$0	$0	$0	$0	$0	$16,195
6	$0	$40,949	$0	$0	$0	$0	$0	$40,949
Total	$47,375	$177,248	$736,905	$483,736	$92,300,454	$1,600,887	$22,075	$95,368,680
Annualized Future Impacts (2)	$4,006	$14,988	$62,313	$40,905	$7,805,021	$135,373	$1,867	$8,064,474

(1) Future impacts (2005-2030) are discounted at 7 percent and presented in present value terms using 2004 dollars.
(2) Annualized impacts are calculated using a discount rate of 7 percent and a 26 year time horizon.