

DEPARTMENT OF THE INTERIOR**Fish and Wildlife Service****50 CFR Part 17**

RIN 1018-AU23

Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Sonoma County Distinct Population Segment of the California Tiger Salamander**AGENCY:** Fish and Wildlife Service, Interior.**ACTION:** Final decision in rulemaking process.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), designate and exclude approximately 17,418 acres (ac) (7,049 hectares (ha)) of critical habitat for the Sonoma County distinct population segment of the California tiger salamander (*Ambystoma californiense*) pursuant to the Endangered Species Act of 1973, as amended (Act). We are excluding all critical habitat based on interim conservation strategies and measures being implemented by those local governing agencies with land use authority over the area and also as a result of economic exclusions authorized under section 4(b)(2) of the Act. Therefore, no critical habitat is being designated for the Sonoma County distinct population segment of the California tiger salamander in Sonoma County, California.

DATES: This final decision becomes effective on January 13, 2006.

ADDRESSES: Comments and materials received, as well as supporting documentation used in the preparation of this rulemaking, will be available for public inspection, by appointment, during normal business hours, at the Sacramento Fish and Wildlife Office (SFWO), 2800 Cottage Way, W-2605, Sacramento, CA 95825. The final rule and economic analysis will be available via the Internet at <http://www.fws.gov/sacramento/>.

FOR FURTHER INFORMATION CONTACT: Field Supervisor, Sacramento Fish and Wildlife Office, at the above address, (telephone (916) 414-6600; facsimile (916) 414-6712).

SUPPLEMENTARY INFORMATION:**Designation of Critical Habitat Provides Little Additional Protection to Species**

In 30 years of implementing the Act, the Service has found that the designation of statutory critical habitat provides little additional protection to most listed species, while consuming

significant amounts of available conservation resources. The Service's present system for designating critical habitat has evolved since its original statutory prescription into a process that provides little real conservation benefit, is driven by litigation and the courts rather than biology, limits our ability to fully evaluate the science involved, consumes enormous agency resources, and imposes huge social and economic costs. The Service believes that additional agency discretion would allow our focus to return to those actions that provide the greatest benefit to the species most in need of protection.

Role of Critical Habitat in Actual Practice of Administering and Implementing the Act

While attention to and protection of habitat is paramount to successful conservation actions, we have consistently found that, in most circumstances, the designation of critical habitat is of little additional value for most listed species, yet it consumes large amounts of conservation resources. Sidle (1987) stated, "Because the Act can protect species with and without critical habitat designation, critical habitat designation may be redundant to the other consultation requirements of section 7." Currently, only 466 species or 36.7 percent of the 1,269 listed species in the United States under the jurisdiction of the Service have designated critical habitat.

We address the habitat needs of all 1,269 listed species through conservation mechanisms such as listing, section 7 consultations, the Section 4 recovery planning process, the Section 9 protective prohibitions of unauthorized take, Section 6 funding to the States, and the Section 10 incidental take permit process. The Service believes that it is these measures that may make the difference for the conservation of many species.

We note, however, that two courts found our definition of adverse modification to be invalid (March 15, 2001, decision of the United States Court Appeals for the Fifth Circuit, *Sierra Club v. U.S. Fish and Wildlife Service et al.*, F.3d 434 and the August 6, 2004, Ninth Circuit judicial opinion, *Gifford Pinchot Task Force v. United States Fish and Wildlife Service*). On December 9, 2004, the Director issued guidance to be used in making section 7 adverse modification determinations.

Procedural and Resource Difficulties in Designating Critical Habitat

We have been inundated with lawsuits for our failure to designate

critical habitat, and we face a growing number of lawsuits challenging critical habitat determinations once they are made. These lawsuits have subjected the Service to an ever-increasing series of court orders and court-approved settlement agreements, compliance with which now consumes nearly the entire listing program budget. This leaves the Service with little ability to prioritize its activities to direct scarce listing resources to the listing program actions with the most biologically urgent species conservation needs.

The consequence of the critical habitat litigation activity is that limited listing funds are used to defend active lawsuits, to respond to Notices of Intent (NOIs) to sue relative to critical habitat, and to comply with the growing number of adverse court orders. As a result, listing petition responses, the Service's own proposals to list critically imperiled species and final listing determinations on existing proposals are all significantly delayed.

The accelerated schedules of court ordered designations have left the Service with almost no ability to provide for adequate public participation or to ensure a defect-free rulemaking process before making decisions on listing and critical habitat proposals due to the risks associated with noncompliance with judicially-imposed deadlines. This in turn fosters a second round of litigation in which those who fear adverse impacts from critical habitat designations challenge those designations. The cycle of litigation appears endless, is very expensive, and in the final analysis provides relatively little additional protection to listed species.

The costs resulting from the designation include legal costs, the cost of preparation and publication of the designation, the analysis of the economic effects and the cost of requesting and responding to public comment, and in some cases the costs of compliance with the National Environmental Policy Act (NEPA). None of these costs result in any benefit to the species that is not already afforded by the protections of the Act enumerated earlier, and they directly reduce the funds available for direct and tangible conservation actions.

Background

It is our intent to discuss only those topics directly relevant to the designation of critical habitat in this rule. For more information on the Sonoma County distinct population segment of the California tiger salamander, refer to the final listing rule and proposed critical habitat rule

published in the **Federal Register** on March 19, 2003 (68 FR 13498), and August 2, 2005 (70 FR 44301), respectively.

As previously mentioned in the proposed critical habitat rule published in the **Federal Register** on August 2, 2005 (70 FR 44301), we have been cooperatively working with Federal, State, County, and local officials as well as representatives from local business and environmental groups over the last 18 months to develop a conservation strategy for the California tiger salamander in Sonoma County. The development of the Santa Rosa Plain Conservation Strategy (Conservation Strategy) along with implementation measures has been moving forward and the County of Sonoma along with the cities of Santa Rosa, Rohnert Park, Cotati and Windsor have all passed resolutions supporting the development and agree to work toward implementation of the Conservation Strategy for the protection of the Sonoma County distinct population segment of the California tiger salamander as well as several other Federally listed plant species occurring on the Santa Rosa Plain.

On June 29, 2005, the Service and the California Department of Fish and Game (CDFG) issued interim guidelines which contain project specific conservation measures for projects affecting the California tiger salamander on the Santa Rosa Plain. These interim guidelines are in place and the measures identified in them are currently being implemented by those individuals impacting habitat features considered essential for the conservation of the Sonoma County distinct population segment of the California tiger salamander. These conservation measures have been reviewed by the team developing the Conservation Strategy as well as peer reviewed by biologists knowledgeable of amphibian conservation or ecological conservation in general and are consistent with long-term conservation of the California tiger salamander and other listed plants on the Santa Rosa Plain. As the Conservation Strategy is finalized, the Service and the CDFG intend to continue to implement and or revise these interim guidelines to best conserve the California tiger salamander and other Federally-listed plant species on the Santa Rosa Plain.

Previous Federal Actions

On October 13, 2004, a complaint was filed in the U.S. District Court for the Northern District of California (*Center for Biological Diversity and Environmental Defense Council v. U.S. Fish and Wildlife Service et al.* (Case No.

C-04 4324 FMS)). On February 3, 2005, the District Court required the Service to submit for publication in the **Federal Register**, a final determination on the proposed critical habitat designation on or before December 1, 2005. On August 2, 2005, we noticed in the **Federal Register** a proposed critical habitat designation (70 FR 44301). On August 19, 2005, a court order was filed on the above complaint, which upheld the section 4(d) rule exempting grazing from Section 9 prohibitions, but vacated the downlisting of the Santa Barbara and Sonoma populations and reinstated their endangered distinct population segment status. On October 25, 2005, we noticed in the **Federal Register** the availability of a draft economic analysis on the proposed designation (70 FR 61591). In a November 17, 2005 **Federal Register** notice (70 FR 69717), we requested comments on a refinement of those areas considered to contain the essential features necessary for the conservation of the Sonoma County distinct population segment of the California tiger salamander, and identified the adjusted economic impacts. This final decision associated with the rulemaking process is in accordance with the settlement agreement and court order. For more information on previous Federal actions concerning the California tiger salamander, refer to the proposed rule to designate critical habitat in Sonoma County published in the **Federal Register** on August 2, 2005 (70 FR 44301), as well as the listing notice published in the **Federal Register** on March 19, 2003 (68 FR 13498).

Summary of Comments and Recommendations

We requested written comments from the public on the proposed designation of critical habitat for California tiger salamander in the proposed rule published on August 2, 2005 (70 FR 44301). We also contacted appropriate Federal, State, and local agencies; scientific organizations; and other interested parties and invited them to comment on the proposed rule. In addition, we held two public hearings on September 8, 2005, in Santa Rosa, California.

We had three open comment periods, totaling 91 days, between August 2, 2005 and November 28, 2005. During those periods, we received comments directly addressing the proposed critical habitat designation: three from peer reviewers, six from local government, and 55 from organizations or individuals. We reviewed all comments received from the peer reviewers and the public for substantive issues and

new information regarding critical habitat for the Sonoma County distinct population segment of the California tiger salamander. Comments received were grouped into general issues specifically relating to the proposed critical habitat rulemaking for the Sonoma County distinct population segment of the California tiger salamander, are addressed in the following summary, and incorporated into the final rule as appropriate.

Comments From the State

Section 4(i) of the Act states, “the Secretary shall submit to the State agency a written justification for her failure to adopt regulation consistent with the agency’s comments or petition.” We did not receive any comments from State agencies regarding the proposal to designate critical habitat for the Sonoma County distinct population segment of the California tiger salamander.

Peer Review

In accordance with our policy published on July 1, 1994 (59 FR 34270), we solicited expert opinions from six knowledgeable individuals with scientific expertise that included familiarity with the species, the geographic region in which the species occurs, and conservation biology principles. We received a response from three of the peer reviewers. These reviewers provided specific information regarding species location and habitat as well as information on the areas that could be excluded based on soil information, locations of wetlands, potential breeding habitat, elevation information, and habitat fragmentation. This information was used to assist us in determining the final critical habitat boundaries. Any changes as a result of peer review information are reflected and incorporated in this final rulemaking as appropriate. Specific peer review comments are addressed in the following summary below.

Peer Review Comments

Comment: The critical habitat area should be reduced to approximately 18,000–20,000+ acres of extant occupied habitat and comprised of a 1.3 mile (mi) (2 kilometer (km)) buffer around known breeding locations.

Our Response: As outlined in our notice published in the **Federal Register** on November 17, 2005 (70 FR 69717), we refined the proposed designation to just those areas surrounding known breeding locations, and by applying parameters for dispersal and upland habitat similar to those we used in critical habitat designation for the Santa

Barbara and Central populations of the California tiger salamander. We began mapping habitat by buffering breeding locations by a distance of 0.70 mi (1.1 km) to capture dispersal and upland habitat use by the species. Some research has found that 99 percent of interpond dispersal would be captured using this 0.7 mi (1.1 km) radius around a breeding pond (Trenham *et al.* 2001; Trenham and Shaffer 2005).

Salamanders have been documented dispersing even farther than 0.7 mi (1.1 km) (Sweet 1998) however, and the Conservation Strategy chose a radius of 1.3 mi (2.1 km) to ensure that incidental take coverage would be inclusive of all areas likely to be occupied by salamanders and to establish a broad area in which conservation for salamander would be implemented. Ultimately however, as discussed below, we excluded all areas designation as critical habitat (see Application of Exclusions Under Section 4(b)(2) of the Act).

Comment: Existing urban centers within the historic range of California tiger salamander should be removed from the designation. Retaining these urban centers will bias the economic evaluation of critical habitat.

Our Response: In our final designation, we mapped only those areas which contained the essential features necessary to conserve the Sonoma County distinct population segment of the California tiger salamander. We removed all developed and nonessential areas to the best of our ability, however due to mapping precision we were unable to remove all such development. The scale of the maps prepared under the parameters for publication within the Code of Federal Regulations may not reflect the exclusion of such developed areas. Any such structures and the land under them left inside the critical habitat boundaries shown on the maps of this final rule have been excluded by text in the rule and are not designated as critical habitat. These developed and nonessential habitat areas although within the boundary of the final designation would not contain the primary constituent elements and as such would not be considered critical habitat. We excluded all the final critical habitat based on implementation of local government management strategies and economic cost (see Exclusions Under Section 4(b)(2) of the Act section).

Comment: There is anecdotal evidence of one adult California tiger salamander near Rainsville Road in the 1990s from an amateur herpetologist and the critical habitat boundary should

extend south to Rainsville Road, north of Petaluma.

Our Response: As part of our deliberation over which areas to designate, we used currently known California tiger salamander breeding locations within Sonoma County. We believe that basing our designation on breeding locations would ensure the conservation of the species by providing areas which contain the essential features of aquatic, upland, and dispersal habitats. We lacked adequate documentation of essential features, particularly breeding habitat, that might be associated with this observation to include it in a critical habitat designation. We recognize that designation of critical habitat may not include all of the habitat areas that may eventually be determined to be necessary for the recovery of the species. For these reasons, critical habitat designations do not signal that habitat outside the designation is unimportant or may not be required for recovery. Areas that support populations, but are outside the critical habitat designation, will continue to be subject to the regulatory protections afforded by the section 7(a)(2) jeopardy standard as determined on the basis of the best available information at the time of the action.

Other Comments

Issue 1: Habitat and Species Specific Information

Comment: A few comments stated they were in favor of including the Petaluma area as critical habitat because they have observed salamanders in this area and suitable habitat exists.

Our Response: We have been unable to confirm the claims of these comments. Breeding or individual observations of the species in the Petaluma area have yet to be verified by recognized experts. Since the emergency listing in July, 2002, we have received numerous claims from the public that they have seen salamanders at various locations within the potential range of the species. Upon further investigation by recognized experts in those instances, the arboreal salamander (*Aneides lugubris*) is frequently mistaken for the California tiger salamander and no confirmed breeding areas for the California tiger salamander have been confirmed outside those identified during this rulemaking process.

Issue 2: Unit Designations

Comment: Several comments included specific recommendations on how the critical habitat unit(s) should

be designed including specific areas which should be included and excluded from the final designation.

Our Response: We used the best scientific information available in determining the extent of the critical habitat boundaries and revised our proposed rule based on comments received and peer review. We mapped only those areas which contained the essential features necessary to conserve the Sonoma County distinct population segment of the California tiger salamander. When determining critical habitat boundaries, we made every effort to avoid including within the boundaries of the map contained within this final rule developed areas such as buildings, paved areas, and other structures that lack the primary constituent elements for the California tiger salamander. The scale of the maps prepared under the parameters for publication within the *Code of Federal Regulations* may not reflect the exclusion of such developed areas. Any such structures and the land under them inadvertently left inside critical habitat boundaries shown on the maps of this final rule have been excluded by text in the rule and are not designated as critical habitat. These developed and nonessential habitat areas would not contain the primary constituent elements and as such would not be considered critical habitat. We excluded all the area which would otherwise have been designated as final critical habitat based on implementation of local government management strategies and economic cost (see Exclusions Under Section 4(b)(2) of the Act section).

Comment: One commenter stated that critical habitat unit is too limited and that California tiger salamanders have been observed south to Muir Woods, Marin County.

Our Response: We used the best scientific data available for the designation of critical habitat and alternative considered for the Sonoma County distinct population segment of the California tiger salamander, as per section 3(5)(A)(i) of the Act and regulations at 50 CFR 424.12. We used the California Natural Diversity Database (CNDDB), survey records, and other information to determine the historical and potential range of the species at the time of listing in March 2003. There are no confirmed records of the Sonoma County distinct population segment of the California tiger salamander found in Marin County.

Comment: Several commenters stated that the extension of California tiger salamander critical habitat into the Petaluma area is not justified based on the current known locations of the

species and distribution of California tiger salamander habitats. Several commenters also stated that the Petaluma area is nearly completely developed and lacks the primary constituent elements, the designation would cause significant economic impacts; and that the lands within the Petaluma city limit should be excluded from critical habitat.

Our Response: We used the best scientific information available in determining the extent of the critical habitat boundaries and revised our proposed rule based on comments received and peer review. The area which otherwise would have received a designation as critical habitat is based on known breeding locations for the species. As a result, the area south of Pepper Road in Cotati was not considered essential to the conservation of the species. In addition, as a result of analyzing the benefits of designating critical habitat versus benefits of not designating critical habitat we excluded all the final critical habitat based on implementation of local government management conservation strategies and economic costs (see Exclusions Under Section 4(b)(2) of the Act section). Although the area considered essential in the final determination does not include the Petaluma area, this does not mean that the area does not contain appropriate habitat for the California tiger salamander or that the area may be needed for recovery of the species. We continue to encourage all local governmental municipalities to work closely with State and Federal resource agencies to conserve and protect endangered and sensitive species and their habitats.

Comment: One commenter recommends excluding the areas north of Santa Rosa Creek; within the 100 year flood plain; east of Highway 101 from Rohnert Park Expressway north; and south of Pepper Road to Lichau Creek.

Our Response: We have revised the areas considered as critical habitat based on scientific information, peer review, and comments received. As a result, we have removed many areas from the proposed rule that did not contain the essential features. Also our final determination has excluded all the remaining area which otherwise would have been designated as critical habitat based on implementation of local government management strategies and economic cost (see Exclusions Under Section 4(b)(2) of the Act section).

Issue 3: Social and Economic Costs/Regulatory Burden

Comment: Several commenters requested excluding the lands in the

City of Santa Rosa's urban grown boundary as critical habitat because of their concerns of high economic impacts.

Our Response: Section 4 of the Endangered Species Act of 1973, as amended, and our implementing regulations, state that critical habitat shall be designated for species listed under the Act. We have excluded all areas which otherwise would have been designated as critical habitat, including areas within the City of Santa Rosa urban growth boundary (UGB), after taking into consideration the economic impact and conservation measures being implemented by local governmental agencies (see Exclusions Under Section 4(b)(2) of the Act section).

Comment: One commenter expressed concern about the burden on agricultural practices such as plowing fields, planting new vines, and the removal of existing vines.

Our Response: Designation of critical habitat in areas occupied by the species does not necessarily result in a regulatory burden above that already in place due to the presence of the listed species. The Service works with private landowners to identify activities and modifications to activities that will not result in take, to develop measures to minimize the potential for take, and to provide authorizations for take through Sections 7 and 10 of the Act. One intention of critical habitat is to inform people of areas that contain the features that are essential for the conservation of the species. We encourage landowners to work in partnership with us to develop plans that allow their land management and development practices to proceed in a manner consistent with the conservation of listed species. The California tiger salamander is already a Federally-listed species, and as such, projects that may result in take of the species are already required to consult with the Service under Section 7 or Section 10 of the Act. However, we excluded all areas which otherwise would have been designated as critical habitat based on implementation of local government management strategies and economic cost (see Exclusions Under Section 4(b)(2) of the Act section).

Issue 4: Notification and Comment Period Comments

Comment: One commenter stated that the comment period was too short and the information about the Conservation Strategy was not available until just recently.

Our Response: The proposed critical habitat designation was published in the **Federal Register** on August 2, 2005 (70

FR 44301), and we accepted comments from all interested parties for a 60-day comment period, until October 3, 2005. On October 25, 2005, we reopened the comment period for 21 days until November 14, 2005, and made available the draft economic analysis (70 FR 61591). On November 17, 2005, we reopened the comment period for 12 days until November 28, 2005 (70 FR 69717), and requested comments on a refinement of those areas considered to contain the essential features necessary for the conservation of the Sonoma County distinct population segment of the California tiger salamander. The Conservation Strategy was released for public comment on August 17, 2005. The document was posted on the websites of the City of Santa Rosa and the Sacramento Fish and Wildlife Office of the U.S. Fish and Wildlife Service. The Service issued a press release and local media reported the event. A public meeting to accept comments and provide information was held in Santa Rosa on September 12, 2005. The public comment period closed on the Conservation Strategy on September 17, 2005.

Issue 5: Designation Process

Comment: One commenter stated that the proposed rule's boilerplate position statement that critical habitat provides no additional benefit to listed species violates the Act's requirement that the Service base its determinations solely on the best available science.

Our Response: The Service's statements regarding the general protections provided by critical habitat does not change the method in which we make our final critical habitat determinations. We used the best scientific data available in determining the extent of the area which would be designated as critical habitat absent exclusions and in identifying areas which contain the features essential to the conservation of the species.

Comment: One commenter stated that the proposed rule implies that if the Service does not receive justification for inclusion of an area during the public comment period, then that area will be dropped from the final critical habitat designation. The commenter also stated that the Service needs to make its decision on the basis of the best available scientific information and where the information is not completely clear or incomplete, the benefit of the doubt should go toward actions which would benefit conservation of the species.

Our Response: It was not our intent to suggest that areas would be removed from the designation if information was

not received to justify their inclusion. We based the final critical habitat on the best scientific information available as well as incorporated appropriate peer review information. We believe that the final area identified as critical habitat prior to exclusion under section 4(b)(2) represents the best scientific information as to what areas contain the essential features necessary for conservation of the Sonoma County distinct population segment of the California tiger salamander considering the economic and other relevant impacts.

Comment: One commenter stated that the Service needs to narrow the scope of the proposed critical habitat and not include the entire geographical area that can be occupied by the threatened or endangered species.

Our Response: The final boundaries of that area which would be designated as critical habitat prior to exclusion under section 4(b)(2) for the Sonoma County distinct population segment of the California tiger salamander has been greatly reduced from the proposed designation. Based on the best scientific data available, we removed those areas from the proposed designation which did not contain the essential habitat features, were already developed, or were outside the current range of the species. The final area which would be designated as critical habitat absent exclusion under section 4(b)(2) is based on the aquatic, upland and dispersal habitat surrounding known breeding locations.

Issue 6: Cooperative Efforts

Comment: One commenter expressed their support of the cooperative/partnership approach being used by the Conservation Strategy members. They stated that designating critical habitat would provide disincentives to private landowners by requiring farmers and ranchers obtaining funds from the U.S. Department of Agriculture through the Farm Bill to complete the consultation process, which hinders the completion of conservation activities on these lands.

Our Response: We support all cooperative/partnership efforts to conserve federally listed threatened and endangered species. Federal agencies already consult with us on activities (i.e., permitting or funding of projects) in areas currently occupied by the species or if the species may be affected by the action to ensure that their actions do not jeopardize the continued existence of the species. Therefore, we believe that the designation of critical habitat would not likely result in significant additional regulatory burden above that already in place due to the

presence of the listed species. However, we excluded all the area which would otherwise be designated as critical habitat based on implementation of local government management strategies and economic cost (see Application of Exclusions Under Section 4(b)(2) of the Act section).

Issue 8: Conservation Strategy

Comment: One commenter stated that identifying the Conservation Strategy as an alternative to designating critical habitat is not appropriate or lawful under the Endangered Species Act.

Our Response: We did not propose the Conservation Strategy to be an alternative to designating critical habitat. However, Section 4(b)(2) of the Act states that "The Secretary may exclude any area from critical habitat if [s]he determines that the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat, unless [s]he determines, based on the best scientific data available, that the failure to designate such area as critical habitat will result in the extinction of the species concerned." We excluded all the area which would otherwise have been designated as critical habitat based on implementation of local government management strategies and economic cost (see Application of Exclusions Under Section 4(b)(2) of the Act section).

Comment: Several commenters expressed support of the Conservation Strategy, but had reservations because it was not finalized and that it needs improvement in order to conserve the Sonoma County distinct population segment of the California tiger salamander and four Federally-listed plants.

Our Response: In development of the Conservation Strategy, the Federal, State, County and local government agencies, as well as representatives from the building industry and environmental organizations, received similar comments regarding issues with the Conservation Strategy. The Conservation Strategy has been independently peer reviewed and comments received from peer reviewers have been incorporated into the current version of the plan. The Conservation Strategy focuses on establishing large, contiguous preserves and a coordinated region-wide restoration and management strategy, species research, endowment funding, administration of preserve management, and implementation that will contribute to the recovery of the California tiger salamander and four Federal and State listed plants in Sonoma County. The

County of Sonoma, the City of Santa Rosa, the City of Cotati, the Town of Windsor, the City of Rohnert Park, the California Department of Fish and Game, and the Service have signed a planning agreement and the local jurisdictions adopted individual resolutions that agree to implement an interim conservation strategy while the Conservation Strategy is fully adopted and implemented. We have outlined those reasons why we believe the current Conservation Strategy would provide a benefit above that of designating critical habitat (see Exclusion Under Section 4(b)(2) of the Act section). However, the Conservation Strategy is still under development and subject to final approval. Should the current Conservation Strategy not be implemented or changed to such an extent as it no longer provides for the conservation of the Sonoma County distinct population segment of the California tiger salamander, we would revisit our current determination on designating critical habitat for the species and repropose critical habitat.

Comment: One commenter stated that the Service needs to protect the areas where the California tiger salamander reside rather than relocate them as is identified in the Conservation Strategy.

Our Response: The designation of critical habitat does not prescribe management actions but does define areas which contain the essential features described as primary constituent elements. We agree that protection of areas where California tiger salamanders are endemic should be the priority of the strategy, and this is demonstrated by the conservation areas identified in the Conservation Strategy. The Conservation Strategy identifies areas that support potential habitat but is not currently occupied by the California tiger salamander and recommends translocation of the species to be an option only under certain circumstances. These areas may be suitable for translocation of individuals to aid in the recovery of the species. Some projects authorized under Section 7 or 10 of the ESA may have unavoidable impacts to the species. These unavoidable impacts may be minimized by salvaging individuals and relocating them to suitable habitat on a case by case basis. Preliminary data has demonstrated that this management technique may be successful. The Conservation Strategy has been peer reviewed by recognized experts and the comments regarding translocation have been incorporated into the current version of the plan.

Issue 9: Economic Analysis

Comment: One commenter states that the Draft Economic Analysis (DEA) fails to evaluate benefits associated with conserving the California tiger salamander. Further, this commenter states that the DEA should review the benefits of conserving open space and riparian areas.

Our Response: In the context of a critical habitat designation, the primary purpose of the rulemaking (i.e., the direct benefit) is to designate areas in need of special management that contain the features essential to the conservation of listed species. While a listed species may be the primary beneficiary of designated critical habitat, the designation of critical habitat may also result in two distinct categories of benefits to society: (1) Use, and (2) non-use benefits. Use benefits are the social benefits that accrue from the physical use of a resource. Visiting critical habitat to see endangered species in their natural habitat would be a primary example. Non-use benefits, in contrast, represent welfare gains from just knowing that a particular listed species' natural habitat is being specially managed for the conservation of that species. Both use and non-use benefits may occur unaccompanied by any market transactions.

A primary reason for conducting this analysis is to provide information regarding the economic impacts associated with a proposed critical habitat designation. Section 4(b)(2) of the Act requires the Secretary to designate critical habitat based on the best scientific data available after taking into consideration the economic impact, and any other relevant impact, of specifying any particular area as critical habitat. Economic impacts can be both positive and negative and by definition, are observable through market transactions.

Where data are available, this analysis attempts to recognize and measure the net economic impact of the proposed designation. For example, the DEA investigates whether conserved open space at designated mitigation sites results in increased property values. The DEA did not find any evidence that housing price was influenced by proximity to the nearest conservation area. The authors hypothesize that this may be attributable to the large amount of open space in Sonoma County. While section 4(b)(2) of the Act gives the Secretary discretion to exclude certain areas from the final designation, she is authorized to do so only if an exclusion does not result in the extinction of the species. In terms of carrying out its

responsibilities under section 4(b)(2) then, the Service need only to consider whether the economic impacts (both positive and negative) or any other impact are significant enough to merit exclusion of any particular area without causing the species to go extinct.

Comment: One commenter states that the DEA overestimates costs associated with conserving California tiger salamander, because it includes economic impacts attributable to listing under the Act. The commenter further states that the DEA confuses the economic costs by including costs of conservation efforts to protect the species (not its critical habitat) with conservation of the proposed critical habitat. For this reason, the commenter questions why the DEA includes pre-designation costs, as these costs are associated with listing of the species.

Our Response: This analysis identifies those economic activities believed to most likely threaten the California tiger salamander and its habitat and, where possible, quantifies the economic impact to avoid, mitigate, or compensate for such threats within the boundaries of the critical habitat. In instances where critical habitat is being proposed after a species is listed, some future impacts may be unavoidable, regardless of the final designation and exclusions under 4(b)(2). However, due to the difficulty in making a credible distinction between listing and critical habitat effects within critical habitat boundaries, this analysis considers all future conservation-related impacts to be coextensive with the designation.

Comment: Several commenters state that the DEA should incorporate the recent ruling in the Ninth Circuit Court of Appeals, *Gifford Pinchot Task Force v. U.S. Fish and Wildlife Service*.

Our Response: The DEA acknowledges that the Ninth Circuit judicial opinion, *Gifford Pinchot Task Force v. United States Fish and Wildlife Service*, invalidated the Service's regulation defining destruction or adverse modification of critical habitat. The Service is currently reviewing the decision to determine what affect it (and to a limited extent *Center for Biological Diversity v. Bureau of Land Management* (Case No. C-03-2509-SI, N.D. Cal.)) may have on the outcome of consultations pursuant to section 7 of the Act. As a result of this ruling, the DEA assumes that efforts to mitigate impacts to the habitat must occur within the boundaries of critical habitat. Consistent with this requirement, zonal mitigation sites assumed in the DEA are those identified in the Santa Rosa Plain Conservation Strategy.

Comment: Several commenters state that the DEA underestimates the impact of critical habitat on transportation projects in Sonoma County.

Our Response: Planned transportation projects are captured in the DEA using the California Department of Transportation's California Transportation Investment System (CTIS) tool that includes information for interstates, principal arterials, and rural minor arterials. The CTIS tool incorporates information about projects overseen by the State Transportation Improvement Program, the State Highway Operations and Protection Program, the Interregional Transportation Strategic Plan, the California Aviation System Plan, and various regional transportation planning organizations. Version 1.3.2 of this tool is used in the DEA as the updated Version 2.0 had not been released at the time the report was prepared. Accordingly, the DEA is prepared using the most current publicly available information on planned transportation projects. Public comments received were inadequate to update impact calculations.

Based on the public comments received, the Service's contractor for completing the economic analysis contacted the Sonoma County Transportation Authority (Authority) to request more detailed information on the nature, location and scope of additional planned projects. The Authority was unable to provide the needed information in time to revise the impact analysis within the court-directed timeframe. However, since no critical habitat is being designated, the impacts asserted by the commenter will not be incurred.

Comment: Several commenters state that mitigation prices used in the DEA are too low. The comments further cite a wide range of current market prices for mitigation in Sonoma County.

Our Response: The DEA calculates mitigation prices as the cost of land assembly in the various California tiger salamander mitigation zones plus the cost of required improvements to land to make the site suitable for California tiger salamander occupation. This approach is consistent with the welfare-theoretic underpinnings of the impact model, in particular its focus on efficiency effects. One social cost of using land for mitigation is the value of the foregone alternative uses of the land. These values are approximately equal to the purchase price of the land. Another social cost of mitigation is the value of the resources used to modify the land to make it suitable for California tiger salamander occupation.

Mitigation prices may rise above the supply price of mitigation, for example when the supply of mitigation is constrained by permitting delays or other factors. However, prices above supply cost are a transfer between agents and net out of an efficiency impact.

Comment: Two commenters state that the DEA should not use mitigation formulas described in the Conservation Strategy since it is not a legally binding document. Further, the commenters state that the DEA should not assume that critical habitat has no impacts outside of a 1.3-mile buffer around breeding habitat.

Our Response: The cities of Santa Rosa, Rohnert Park, and Cotati, the town of Windsor, Sonoma County, the local development community, environmental organizations, the Service, and other federal and state agencies have undertaken a process to support California tiger salamander conservation at a regional level. This effort has involved extensive scientific research and analysis of the biological and ecological issues relating to California tiger salamander and of its specific circumstances in the region. During the week of November 7, 2005, all of the local jurisdictions formally approved execution of a planning agreement that commits them to work with the Service and other parties to finalize and implement the Conservation Strategy. Indeed, one economic cost of critical habitat may be to disrupt and impose additional costs on this collaborative effort.

Comment: Two commenters state that the DEA underestimates or ignores potential impacts to agriculture. In particular, commenters are concerned that the DEA does not quantify impacts to the wine grape industry and does not quantify increases in production costs or decreases in agricultural land values resulting from critical habitat.

Our Response: The DEA quantifies the reduction in agricultural land values resulting from foregone or constrained land development opportunities. A review of available biological opinions did not reveal any evidence of limitations on crop production practices resulting from listing of the California tiger salamander.

The DEA acknowledges that critical habitat may increase the costs and reduce the economic optimality of vineyard development within critical habitat. However, given the relative abundance of substitute vineyard sites within Sonoma County relative to the forecasted increase in vineyard acreage, it is speculative at present to assign costs to this potential impact.

Summary of Changes From Proposed Rule

In the proposed critical habitat rule for the Sonoma County distinct population segment of the California tiger salamander, we identified the historical and potential range of the species in Sonoma County, utilizing all known breeding and adult locality data and GIS resources available to the Service. Based on comments received from the public and from peer review, and a refinement of our parameters for dispersal and upland habitat use by the species, we revised the final designation of critical habitat for the Sonoma County distinct population segment of the California tiger salamander, as follows:

(1) As outlined in our notice published in the **Federal Register** on November 17, 2005 (70 FR 69717), we refined the proposed designation by applying parameters for dispersal and upland habitat similar to those we used in critical habitat designation for the Santa Barbara and Central populations of the California tiger salamander. We began mapping habitat by buffering known salamander breeding locations by a distance of 0.70 mi (1.1 km) to capture dispersal and upland habitat use by the species. We adjusted the 0.70 mi (1.1 km) area around breeding sites depending on habitat availability, dispersal barriers, and development and removed areas which did not contain the essential features. See Methodology and Criteria Sections below for more information.

(2) We revised the proposed critical habitat unit based on comments and biological information and peer review received during the public comment periods.

(3) Collectively, we excluded or removed the entire designation. Some areas in the proposed rule were removed because they did not contain the primary constituent elements. Other areas were excluded based on conservation measures being implemented by the local government agencies, or because of disproportionately high economic costs, as authorized under section 4(b)(2) of the Act (see "Application of Exclusions Under Section 4(b)(2) of the Act" section below).

Critical Habitat

Critical habitat is defined in section 3 of the Act as—(i) the specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features (I) essential to the conservation

of the species and (II) that may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. "Conservation" means the use of all methods and procedures that are necessary to bring an endangered or a threatened species to the point at which listing under the Act is no longer necessary.

Critical habitat receives protection under section 7 of the Act through the prohibition against destruction or adverse modification of critical habitat with regard to actions carried out, funded, or authorized by a Federal agency. Section 7 requires consultation on Federal actions that are likely to result in the destruction or adverse modification of critical habitat. The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. Such designation does not allow government or public access to private lands.

To be included in a critical habitat designation, the habitat within the area occupied by the species must first have features that are essential to the conservation of the species. Critical habitat designations identify, to the extent known using the best scientific data available, habitat areas that provide essential life cycle needs of the species (i.e., areas on which are found the primary constituent elements, as defined at 50 CFR 424.12(b)).

Habitat occupied at the time of listing may be included in critical habitat only if the essential features thereon may require special management or protection. Thus, we do not include areas where existing management is sufficient to conserve the species (as discussed below, such areas may also be excluded from critical habitat pursuant to section 4(b)(2)). Accordingly, when the best available scientific data do not demonstrate that the conservation needs of the species so require, we will not designate critical habitat in areas outside the geographical area occupied by the species at the time of listing. An area currently occupied by the species but was not known to be occupied at the time of listing will likely be essential to the conservation of the species and, therefore, included in the critical habitat designation.

The Service's Policy on Information Standards Under the Endangered Species Act, published in the **Federal Register** on July 1, 1994 (59 FR 34271), and Section 515 of the Treasury and General Government Appropriations

Act for Fiscal Year 2001 (Pub. L. 106–554; H.R. 5658) and the associated Information Quality Guidelines issued by the Service, provide criteria, establish procedures, and provide guidance to ensure that decisions made by the Service represent the best scientific and commercial data available. They require Service biologists to the extent consistent with the Act and with the use of the best scientific and commercial data available, to use primary and original sources of information as the basis for recommendations to designate critical habitat. When determining which areas are critical habitat, a primary source of information is generally the listing package for the species. Additional information sources include the recovery plan for the species, articles in peer-reviewed journals, conservation plans developed by States and counties, scientific status surveys and studies, biological assessments, or other unpublished materials and expert opinion or personal knowledge. All information is used in accordance with the provisions of Section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Pub. L. 106–554; H.R. 5658) and the associated Information Quality Guidelines issued by the Service.

Section 4 of the Act requires that we designate critical habitat on the basis of the best scientific data available. Habitat is often dynamic, and species may move from one area to another over time. Furthermore, we recognize that designation of critical habitat may not include all of the habitat areas that may eventually be determined to be necessary for the conservation of the species. For these reasons, critical habitat designations do not signal that habitat outside the designation is unimportant or may not be required for recovery.

Areas that support populations, but are outside the critical habitat designation, will continue to be subject to conservation actions implemented under section 7(a)(1) of the Act and to the regulatory protections afforded by the section 7(a)(2) jeopardy standard, as determined on the basis of the best available information at the time of the action. Federally funded or permitted projects affecting listed species outside their designated critical habitat areas may still result in jeopardy findings in some cases. Similarly, critical habitat designations made on the basis of the best available information at the time of designation will not control the direction and substance of future recovery plans, habitat conservation plans, or other species conservation

planning efforts if new information available to these planning efforts calls for a different outcome.

Methods

As required by section 4(b)(1)(A) of the Act, we use the best scientific data available in determining areas that contain the features that are essential to the conservation of the Sonoma County distinct population segment of the California tiger salamander. In determining the areas to designate critical habitat for the California tiger salamander, we used the best scientific data available. We have reviewed the overall approach to the conservation of the Sonoma County distinct population segment of the California tiger salamander undertaken by local, State, and Federal agencies operating within the species' range since its listing in 2003 (68 FR 13498).

We have also reviewed available information that pertains to the habitat requirements of this species. The material included data in reports submitted during section 7 consultations and by biologists holding section 10(a)(1)(A) recovery permits; research published in peer-reviewed articles and presented in academic theses and agency reports; and regional Geographic Information System (GIS) coverages.

Primary Constituent Elements

In accordance with section 3(5)(A)(i) of the Act and regulations at 50 CFR 424.12, in determining which areas to propose as critical habitat, we are required to base critical habitat determinations on the best scientific data available and to consider those physical and biological features (primary constituent elements (PCEs)) that are essential to the conservation of the species, and that may require special management considerations and protection. These include, but are not limited to: Space for individual and population growth and for normal behavior; food, water, air, light, minerals, or other nutritional or physiological requirements; cover or shelter; sites for breeding, reproduction, and rearing (or development) of offspring; and habitats that are protected from disturbance or are representative of the historic geographical and ecological distribution of a species.

The specific primary constituent elements required for the California tiger salamander are derived from the biological needs of the California tiger salamander as described below and in the Background section of this designation and previous listing or

critical habitat designation for the species.

The areas determined to contain the features essential for the conservation of the California tiger salamander are designed to provide sufficient aquatic habitat for breeding and upland habitat as refugia for adults to maintain and sustain populations of California tiger salamanders throughout their range, and provide those habitat components necessary for the species. Conserving California tiger salamanders over the long term requires a three-pronged approach: (1) Protecting the hydrology and water quality of breeding pools and ponds; (2) retaining or providing for connectivity between breeding locations for genetic exchange and recolonization; and (3) protecting sufficient upland habitat around each breeding location to allow for enough adult survival to maintain a breeding population over the long term. In our determination of the amount of critical habitat to designate, we focused on identifying those areas which contained the features which would provide the breeding and upland habitat to maintain and sustain existing populations of salamanders in documented breeding sites (vernal pool complexes) identified within Sonoma County. Due to the complex life history and dispersal capabilities of California tiger salamanders, and the dynamic nature of the environments in which they are found, the primary constituent elements described below should be found throughout the unit that is being identified as critical habitat. Critical habitat for the Sonoma County distinct population segment of the California tiger salamander will provide for breeding and nonbreeding habitat and for dispersal between these habitats, as well as allowing for an increase in the size of the Sonoma County distinct population segment of the California tiger salamander.

Space for Individual and Population Growth and Normal Behavior

California tiger salamanders require a combination of aquatic habitat and upland habitat in order to successfully maintain normal population growth and behavior. Aquatic habitat is essential for California tiger salamander breeding and for providing space, food, and cover necessary to sustain early life history stages of California tiger salamanders. Breeding habitat consists of fresh water bodies, including natural and man-made ponds, vernal pools, or other ephemeral or permanent wetland features which allow California tiger salamanders to complete their aquatic portion of their lifecycle. To be considered essential, aquatic habitats must have the potential

to hold water for a minimum of 12 weeks in the winter or spring in a year of average rainfall. This is the amount of time needed for juveniles to complete metamorphosis and become capable of surviving in upland habitats. During periods of drought or less-than average rainfall, these breeding sites may not hold water long enough for individuals to complete metamorphosis, but these sites would still be considered because they constitute breeding habitat in years of average rainfall. Without its essential aquatic habitat features, the California tiger salamander would not survive, because breeding could not occur.

Upland Habitat

Associated upland habitat containing underground refugia is essential for the survival of adult California tiger salamanders and juveniles that have recently undergone metamorphosis. Adult and juvenile California tiger salamanders are terrestrial, and they enter aquatic habitats only for short periods of time to breed. For the majority of their life cycle, California tiger salamanders depend for survival on upland habitats containing underground or covered refugia where they are protected from desiccation. Juveniles have been found in soil cracks and rodent burrows and adults almost exclusively in rodent burrows. These underground refugia provide protection from the hot, dry weather in the nonbreeding season (Shaffer and Trenham 2005). California tiger salamanders also find food in small mammal burrows and rely on the burrows for protection from predators. The upland areas also regulate the hydrological functioning and protect water quality of the aquatic habitat (Hanes and Stromberg 1998). As described in previous rules (69 FR 68572; 70 FR 49380), California tiger salamanders have been found up to 1.3 mi (2 km) from occupied occurrences (Sweet, 1998). The only known study we are aware of that specifically investigated movement of California tiger salamanders between breeding ponds projected that 0.70 mi (1.1 km) would encompass 99 percent of interpond dispersal (Trenham *et al.* 2001; Trenham and Shaffer 2005). As we did for the Santa Barbara and Central populations, we used the 0.70 mi (1.1 km) away from breeding location to identify those upland habitat features essential for the Sonoma County distinct population segment of the California tiger salamander.

Food

California tiger salamanders use both aquatic and terrestrial habitat during

their lifecycle. As a result California tiger salamanders require areas which support a prey base of both aquatic (e.g., zooplankton, aquatic larvae, aquatic invertebrates, tadpoles, etc.) and terrestrial (e.g., terrestrial invertebrates, insects, frogs, worms, etc.) species. The aquatic and upland habitat features would support the necessary prey base in all aspects of the California tiger salamander lifecycle.

Reproduction

Lifetime reproductive success for California and other tiger salamanders is low. Trenham *et al.* (2000) found the average female bred 1.4 times and produced 8.5 young that survived to metamorphosis per reproductive effort. This resulted in roughly 11 metamorphic offspring over the lifetime of a female. In part, this low reproductive success is due to the extended time it takes for California tiger salamanders to reach sexual maturity: Most do not breed until 4 or 5 years of age. While individuals may survive for more than 10 years, many breed only once. Combined with low survivorship of metamorphosed individuals (in some populations, less than 5 percent of marked juveniles survive to become breeding adults (Trenham *et al.* 2000)), reproductive output in most years is not sufficient to maintain populations. This trend suggests that the species requires occasional "boom" breeding events to prevent extirpation (temporary or permanent loss of the species from a particular habitat) or extinction (Trenham *et al.* 2000). With such low recruitment, isolated populations are susceptible to unusual, randomly occurring natural events as well as from human-caused factors that reduce breeding success and individual survival. Factors that repeatedly lower breeding success in isolated pools can quickly extirpate a population. California tiger salamanders would require an interconnected network of ponds and upland areas so that they can disperse from one pond to nearby ponds in order to augment or recolonize locally extirpated ponds and uplands.

Dispersal Habitat

Protecting the ability of California tiger salamanders to move freely across the landscape in search of breeding ponds is essential in maintaining gene flow and for recolonization of sites that are temporarily extirpated and is essential in preserving the California tiger salamander's population structure. The life history and ecology of the California tiger salamander make it likely that this species has a

metapopulation structure (Hanski and Gilpin 1991). A metapopulation is a set of local populations or breeding sites within an area, where typically migration from one local population or breeding site to other areas containing suitable habitat is possible, but not routine. Movement between areas containing suitable habitat (i.e. dispersal) is restricted due to inhospitable conditions around and between areas of suitable habitat. Because many of the areas of suitable habitat may be small and support small numbers of salamanders, local extinction of these small units may be common.

A metapopulation's persistence depends on the combined dynamics of these local extinctions and the subsequent recolonization of these areas through dispersal (Hanski and Gilpin 1991; Hanski 1994). The essential dispersal habitat feature generally consists of upland areas adjacent to essential aquatic habitat that are not isolated from breeding ponds by barriers that California tiger salamanders cannot cross. Essential dispersal habitat features provide connectivity among California tiger salamander breeding ponds. While California tiger salamanders can bypass many obstacles, and do not require a particular type of habitat for dispersal, the habitat connecting essential aquatic habitat features must be free of barriers (e.g. a physical or biological feature that prevents salamanders from dispersing beyond the feature). Examples of barriers are areas of steep topography devoid of soil or vegetation and State Highway 101. Agricultural lands such as row crops, orchards, vineyards, and pastures do not constitute barriers to the dispersal of California tiger salamanders. Therefore, a critical element for successful conservation is the maintenance of sets of interconnected sites that are within the "rescue" distance of other ponds (Trenham *et al.* 2001).

Primary Constituent Elements for the Sonoma County Distinct Population Segment of the County California Tiger Salamander

Based on our current knowledge of the life history, biology, and ecology of the species and the requirements of the habitat to sustain the essential life history functions of the species, we have determined that the Sonoma County distinct population segment of the California tiger salamander's primary constituent elements (PCEs) are:

(1) Standing bodies of fresh water, including natural and manmade ponds, vernal pools, and other ephemeral or

permanent water bodies that typically become inundated during winter rains and hold water for a sufficient length of time (i.e., 12 weeks) necessary for the species to complete the aquatic portion of its life cycle;

(2) Barrier-free uplands adjacent to breeding ponds (within 0.7 mi (1.1 km)) that contain small mammal burrows. Small mammals are essential in creating the underground habitat that adult California tiger salamanders depend upon for food, shelter, and protection from the elements and predation; and

(3) Accessible upland areas between breeding locations (PCE 1) and areas with small mammal burrows (PCE 2) that allow for dispersal among such sites.

Criteria Used To Identify Critical Habitat

In determining the areas we would consider as critical habitat, we first looked at those breeding locations identified as being occupied at the time of listing and which contain the habitat features (primary constituent elements, PCEs) essential for the conservation of the species. We then looked at those additional areas found to be occupied subsequent to listing which also contained those essential habitat features determined to provide for the conservation of the Sonoma County distinct population segment of the California tiger salamander.

In our determination of critical habitat for the Sonoma County distinct population segment of the California tiger salamander, we selected areas that possess the physical and biological features that are essential to the conservation of the species and that may require special management considerations or protection. After identifying the PCEs that are essential to the conservation of the California tiger salamander, we used the PCEs in combination with occurrence data; confirmed breeding information; geographic distribution; GIS data layers for habitat mapping; vegetation, topography, watersheds, and current land uses; scientific information on the biology and ecology of the California tiger salamander; and accepted conservation principles for threatened or endangered species.

In our proposed designation and in our refinement of that proposal, we identified areas that contain those features which are essential to the conservation of the California tiger salamander within the occupied range of the Sonoma County distinct population segment of the California tiger salamander, as was reported and mapped by biologists who had

conducted California tiger salamander surveys throughout the range of the species. The range boundaries were developed based on the principles of conservation science, genetics of the species, topography, geology, soils, vernal pool type distribution, historic distribution, and survey information (CNDDDB 2005). In the proposed designation, we purposefully included a broad area that after further review included some areas which were developed and or did not contain the essential features or lacked the documented occurrence information.

In order to map only those areas containing the essential features, we refined the proposed designation to just those areas surrounding known breeding locations in Sonoma County. In addition, we applied parameters for upland dispersal and habitat use similar to those used in the critical habitat designations for the Central and Santa Barbara populations of California tiger salamander. Our refined designation and associated economic impacts were published in the **Federal Register** on November 17, 2005 (70 FR 69717).

In the development of the final designation, we revised the critical habitat boundaries to better identify those areas containing the essential features for conservation of species. We focused on areas within the range where we had credible records of breeding (reports filed by biologists holding section 10(a)(1)(A) recovery permits) indicating California tiger salamander presence (CNDDDB 2005). Our conservation strategy for the Sonoma population focuses on those breeding locations that provide sufficient aquatic and upland habitats to ensure high enough adult survival to maintain and sustain extant occurrences of California tiger salamander within the range of the Sonoma County distinct population segment.

We then identified the amount of upland habitat surrounding these breeding occurrences where adult California tiger salamanders live during the majority of their life cycle. To determine a general guideline for the amount of upland habitat necessary to support an occurrence of adult California tiger salamander, we reviewed the primary literature regarding California tiger salamander upland habitat use, including Trenham (2000), Trenham *et al.* (2000 and 2001), and Trenham and Shaffer (2005).

The best scientific peer-reviewed data indicate that California tiger salamander do not remain primarily in burrows close to aquatic habitats and breeding ponds, but instead move some distance out into the surrounding upland

landscapes. As described in previous rules (69 FR 68572; 70 FR 49380), California tiger salamander have been found up to 1.3 mi (2 km) from occupied occurrences (Sweet 1998). The only known study we are aware of that specifically investigated movement of California tiger salamanders between breeding ponds projected that 0.70 mi (1.1 km) would encompass 99 percent of interpond dispersal (Trenham *et al.* 2001; Trenham and Shaffer 2005). As we did for the Santa Barbara and Central populations, we used a 0.70 mi (1.1 km) dispersal distance (radius) as a guide for the amount of upland habitat around known occupied extant occurrences to be mapped as critical habitat for the purposes of preserving the Sonoma County distinct population segment of the California tiger salamander within small mammal burrows (PCE 2). However, we recognize that (as with movements in search of suitable underground refugia) upland habitat features influence California tiger salamander movements within a particular landscape. As a result, we made adjustments to the upland areas to include additional areas containing the PCEs. In other cases, the critical habitat was reduced so as not to include non-habitat areas (those not exhibiting the PCEs) from the designation. Some agricultural and other lands were included if they were within the 0.7 mi (1.1 km) distance and the essential feature for upland refugia or connectivity between occurrences and were not considered a barrier to movement.

When determining critical habitat boundaries, we made every effort to avoid the designation of developed areas such as buildings, paved areas, and other structures that lack PCEs for the California tiger salamander. Any such structures inadvertently left inside critical habitat boundaries are not considered part of the critical habitat unit. This also applies to the land on which such structures sit directly. Therefore, Federal actions limited to these areas would not trigger section 7 consultations, unless activities within these areas affect the species and/or primary constituent elements in adjacent critical habitat.

A brief discussion of the area that would have been designated as critical habitat had it not been excluded is provided in the unit descriptions below. Additional detailed documentation concerning the essential nature of this area is contained in our supporting record for this rulemaking.

Special Management Considerations or Protections

When designating critical habitat, we assess whether the areas determined to be occupied at the time of listing and contain the PCEs may require special management considerations or protections. Threats which may warrant special management within the area being identified as critical habitat for the California tiger salamander include activities such as: Habitat destruction and fragmentation (e.g. urban and agricultural development); sedimentation, introduction of nonnative predators such as bullfrogs and fish and non-native salamanders; activities that could disturb aquatic breeding habitats and water quality, such as heavy equipment operation, ground disturbance, maintenance projects (e.g. pipelines, roads, powerlines), off-road travel or recreation; activities that would reduce small mammal populations to the point that there is insufficient underground refugia used by salamanders for foraging, protection from predators, and shelter from the elements; activities that create barriers impassable for salamanders or increase mortality in upland habitat between extant occurrences in breeding habitat; and, activities that disrupt vernal pool complexes' ability to support California tiger salamander breeding function. A detailed discussion of threats to the Sonoma County distinct population segment of the California tiger salamander and its habitat can be found in the final listing rule (68 FR 13498, March 19, 2003) and the proposed

critical habitat designation (70 FR 44301, August 2, 2005).

Critical Habitat Designation

In the development of the critical habitat for the Sonoma County distinct population segment of the California tiger salamander, we determined which lands have features essential to the conservation of the species by defining the physical and biological features essential to the species' conservation and delineating the specific areas containing them. We then evaluated those lands determined to have essential features to ascertain if any specific areas are appropriate for exemption or exclusion from critical habitat pursuant to either sections 3(5)(A), 4(a)(3), or 4(b)(2) of the Act. On the basis of our evaluation, we have determined that the benefits of excluding lands under appropriate management for the Sonoma County distinct population segment of the California tiger salamander outweighs the benefits of their inclusion. We also evaluated the economic costs of the designation and identified those areas which had disproportionately high cost and evaluated whether those high cost areas also warranted exclusion. We have subsequently excluded the entire lands from the Sonoma County distinct population segment of the California tiger salamander critical habitat pursuant to section 4(b)(2) of the Act (refer to Exclusions under Section 4(b)(2) of the Act section below) based on both the ongoing management being implemented by local governing agencies and high economic costs.

The area which would be designated as critical habitat absent exclusions under section 4(b)(2), described below, constitute our best assessment of the areas: (1) Within the geographical area occupied by the species at the time of listing; (2) that contain the PCEs; and (3) that may require special management. Although all of the areas are within the geographical area known to be occupied by the species at the time of listing, we are not designating all of the areas known to be occupied by the Sonoma County distinct population segment of the California tiger salamander. We provide separate discussions on: (1) The reasons why these areas contain features essential for the conservation of the Sonoma County distinct population segment of the California tiger salamander and (2) special management considerations for these areas. All of the areas containing features determined to be essential for the conservation of the Sonoma County distinct population segment of the California tiger salamander were known to be occupied at the time of listing.

The tables below show the lands being excluded from critical habitat pursuant to section 4(b)(2) of the Act (Table 1), a summary of the areas containing the features that are essential to the Sonoma County distinct population segment of the California tiger salamander (Table 2) and the approximate area that would be designated as critical habitat absent exclusion under section 4(b)(2) for the Sonoma County distinct population segment of the California tiger salamander by land ownership (Table 3).

TABLE 1.—APPROXIMATE AREA ACRES (AC)/HECTARES (HA) EXCLUDED FROM CRITICAL HABITAT FOR THE SONOMA COUNTY DISTINCT POPULATION SEGMENT OF THE CALIFORNIA TIGER SALAMANDER PURSUANT TO SECTION 4(b)(2) OF THE ACT

Excluded area total	California	
	ac	ha
Unit 1	17,418	7,049

TABLE 2.—AREAS DETERMINED TO CONTAIN FEATURES ESSENTIAL TO CONSERVATION OF THE SONOMA COUNTY DISTINCT POPULATION SEGMENT FOR THE CALIFORNIA TIGER SALAMANDER AND THE AREA EXCLUDED FROM THE FINAL CRITICAL HABITAT DESIGNATION [AC (HA)]

Unit	Definitional area		Excluded area		Total	
	ac	ha	ac	ha	ac	ha
1a	1,313	531	1,313	531	0	0
1b	12,887	5,215	12,887	5,215	0	0
1c	2,442	988	2,442	988	0	0
1d	776	314	776	314	0	0
Total	17,418	7,049	17,418	7,049	0	0

TABLE 3.—CRITICAL HABITAT UNITS DESIGNATED BUT EXCLUDED FOR THE SONOMA COUNTY DISTINCT POPULATION SEGMENT FOR THE CALIFORNIA TIGER SALAMANDER

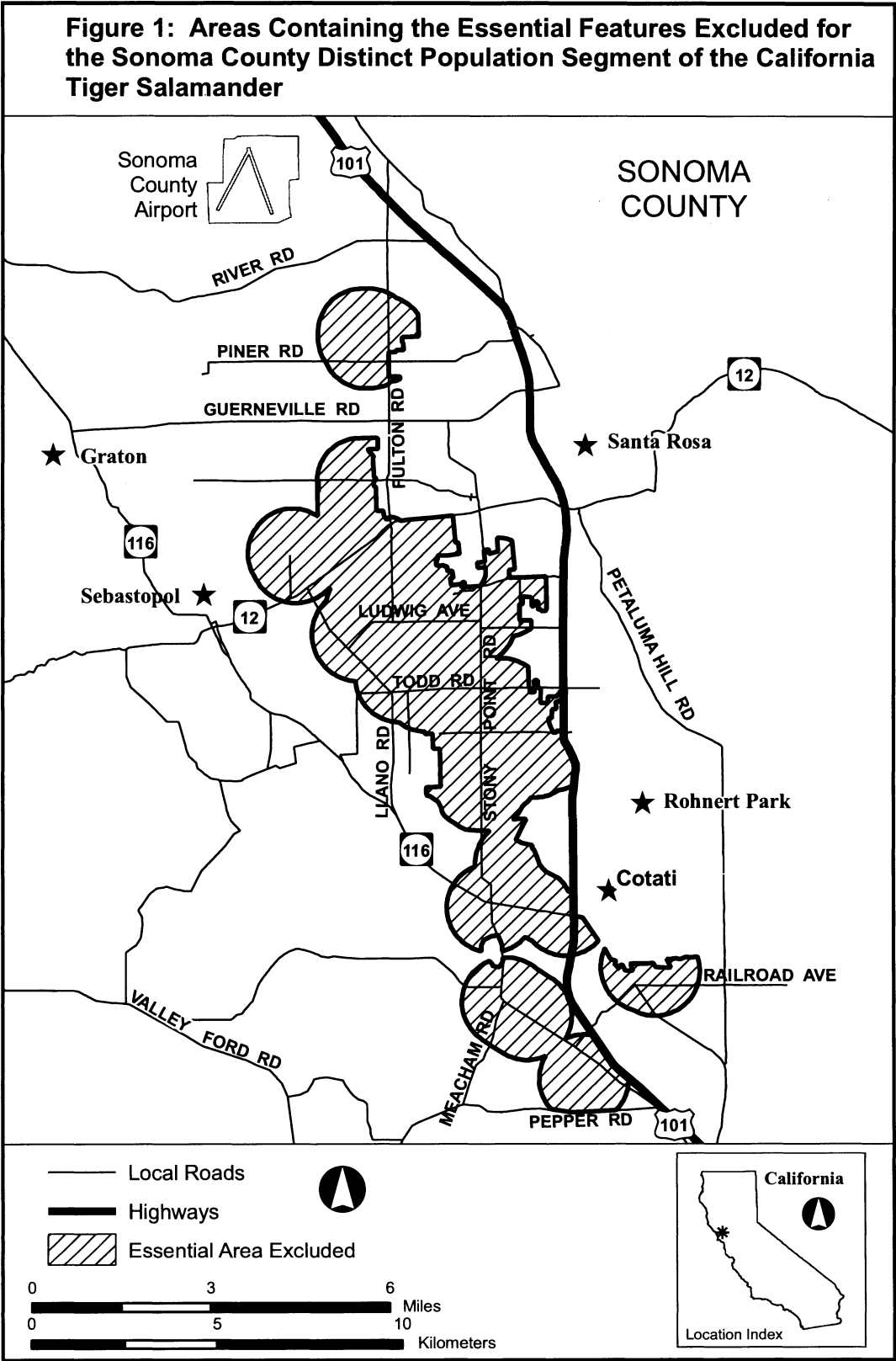
Unit	Federal		State		Local		Other		Total	
	ac	ha	ac	ha	ac	ha	ac	ha	ac	ha
1a	8	3	.....	.....	1,305	528	1,313	531
1b	260	105	.....	.....	12,627	5,110	12,887	5,215
1c	2,442	988	2,442	988
1d	776	314	776	314
Total	268	108	.....	.....	17,150	6,941	17,418	7,049

Figure 1 below represents the area which would otherwise be designated as critical habitat for the Sonoma County distinct population segment of the California tiger salamander absent exclusions under section 4(b)(2). We have excluded the entire final critical

habitat for the species based on economic impacts and the conservation benefits of implementation of interim and long-term conservation measures for the California tiger salamander being adopted and implemented by local governing agencies. We present brief

descriptions of the unit, and reasons why it meets the definition of critical habitat for the Sonoma County distinct population segment for the California tiger salamander, below.

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Santa Rosa Plain Unit

The Santa Rosa Plain unit consists of 17,418 ac (7,049 ha) in four subunits distributed in the Santa Rosa Plain south of Mark West Spring Creek and north of Pepper Road. The area is located mostly west of the developed portions of Santa Rosa, Rohnert Park and Cotati. Each one of the subunits represents a breeding center for the species. All four of these areas were considered occupied at the time of listing and contain the features considered essential for the conservation of the species. The special management required for this unit includes management of introduction of nonnative predators and other species to ponds; management of off-road vehicle use; management of construction, installation and maintenance of roads, pipelines, powerlines, and telecommunication lines; small mammal populations management; management of activities that create barriers impassable for salamanders; and management of activities that disrupt vernal pool complexes' ability to support California tiger salamanders.

Subunit 1a; (1,313 ac (531 ha))

This subunit is located in the northern portion of the designation near Fulton and Piner Roads. Land ownership within the subunit includes approximately 8 ac (3 ha) of CDFG land within the Alton Lane Preserve. Land within the remainder of this subunit is privately owned. The subunit is determined to be critical habitat because it contains features essential to the conservation of the California tiger salamander, it is occupied by the species, it represents the northernmost distribution of California tiger salamander in Sonoma County, and it is one of four breeding centers for the species. This subunit contains the essential habitat features of ponded areas which stay inundated for the minimum amount of time for the species to complete its aquatic lifecycle (PCE 1) and provides a prey base as well as space for growth and development; and upland areas which contain underground mammal burrows and similar refugia for food and shelter (PCE 2), and accessible upland habitats for dispersal (PCE 3). Special management for this subunit includes those activities outlined above. This subunit has been excluded from the final designation due to both the conservation measures being implemented by local governing agencies as well as having disproportionately high economic costs (see "Exclusion Under Section 4(b)(2) section" below).

Subunit 1b: (12,887 ac (5,215 ha))

This subunit is located south of Guerneville Road to Sierra Road in the central portion of the designation. Land ownership within the subunit includes approximately 260 ac (105 ha) of CDFG land. Land within the remainder of this subunit is privately owned. The subunit is determined to be critical habitat because it contains features essential to the conservation of the California tiger salamander, it is occupied by the species, it represents the largest contiguous area, it is in the center of the distribution of the Sonoma County distinct population segment of the California tiger salamander, contains the most known occurrences of breeding, and it is one of four breeding centers for the species. This subunit contains the essential habitat features of ponded areas which stay inundated for the minimum amount of time for the species to complete its aquatic lifecycle (PCE 1) and provides a prey base as well as space for growth and development; and upland areas which contain underground mammal burrows and similar refugia for food and shelter (PCE 2), and accessible upland habitats for dispersal (PCE 3). Special management for this subunit includes those activities outlined above. This subunit has been excluded from the final designation due to both the conservation measures being implemented by local governing agencies as well as having disproportionately high economic costs (see "Exclusion Under Section 4(b)(2) section" below).

Subunit 1c: (2,442 ac (988 ha))

This subunit is located in the southern portion of the designation near Stoney Point Road near Roblar Road and north of Pepper Road. Land within the area is privately owned. The subunit is determined to be critical habitat because it contains features essential to the conservation of the California tiger salamander, it is occupied by the species, it represents the southernmost distribution of the Sonoma County distinct population segment of the California tiger salamander, and it is one of four breeding centers for the species. This subunit contains the essential habitat features of ponded areas which stay inundated for the minimum amount of time for the species to complete its aquatic lifecycle (PCE 1) and provides a prey base as well as space for growth and development; and upland areas which contain underground mammal burrows and similar refugia for food and shelter (PCE 2), and accessible upland habitats for dispersal (PCE 3). Special management

for this subunit includes those activities outlined above. This subunit has been excluded from the final designation due to both the conservation measures being implemented by local governing agencies as well as having disproportionately high economic costs (see "Exclusion Under Section 4(b)(2) section" below).

Subunit 1d: (776 ac (314 ha))

This subunit is located in the southern portion of the designation near Old Redwood Highway south of Cotati. Land within the area is privately owned. The subunit is determined to be critical habitat because it contains features essential to the conservation of the California tiger salamander, it is occupied by the species, it represents the southeastern most distribution of California tiger salamander in Sonoma County, and it is one of four breeding centers for the species. This subunit contains the essential habitat features of ponded areas which stay inundated for the minimum amount of time for the species to complete its aquatic lifecycle (PCE 1) and provides a prey base as well as space for growth and development; and upland areas which contain underground mammal burrows and similar refugia for food and shelter (PCE 2), and accessible upland habitats for dispersal (PCE 3). Special management for this unit includes those activities outlined above. This subunit has been excluded from the final designation due to both the conservation measures being implemented by local governing agencies as well as having disproportionately high economic costs (see "Exclusion Under Section 4(b)(2)" section below).

Effects of Critical Habitat Designation*Section 7 Consultation*

Section 7 of the Act requires Federal agencies, including the Service, to ensure that actions they fund, authorize, or carry out are not likely to destroy or adversely modify critical habitat. Such alterations include, but are not limited to: Alterations adversely modifying any of those physical or biological features that were the basis for determining the habitat to be critical. We are currently reviewing the regulatory definition of adverse modification in relation to the conservation of the species.

Section 7(a) of the Act requires Federal agencies, including the Service, to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat, if any is proposed or designated. Regulations implementing this interagency

cooperation provision of the Act are codified at 50 CFR Part 402.

Section 7(a)(4) of the Act requires Federal agencies to confer with us on any action that is likely to jeopardize the continued existence of a proposed species or result in destruction or adverse modification of proposed critical habitat. Conference reports may include reasonable and prudent alternatives or reasonable and prudent measures to assist the agency in eliminating conflicts that may be caused by the proposed action. We may issue a formal conference report if requested by a Federal agency. Formal conference reports on proposed critical habitat contain an opinion that is prepared according to 50 CFR 402.14, as if critical habitat were designated. We may adopt the formal conference report as the biological opinion when the critical habitat is designated, if no substantial new information or changes in the action alter the content of the opinion (see 50 CFR 402.10(d)). Until such time as a proposed designation is finalized, any reasonable and prudent alternatives or reasonable and prudent measures included in a conference report are advisory.

If a species is listed or critical habitat is designated, section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of such a species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency (action agency) must enter into consultation with us. Through this consultation, the action agency ensures that their actions do not destroy or adversely modify critical habitat.

When we issue a biological opinion concluding that a project is likely to result in the destruction or adverse modification of critical habitat, we also provide reasonable and prudent alternatives to the project, if any are identifiable. "Reasonable and prudent alternatives" are defined at 50 CFR 402.02 as alternative actions identified during consultation that can be implemented in a manner consistent with the intended purpose of the action, that are consistent with the scope of the Federal agency's legal authority and jurisdiction, that are economically and technologically feasible, and that the Director believes would avoid destruction or adverse modification of critical habitat. Reasonable and prudent alternatives can vary from slight project modifications to extensive redesign or relocation of the project. Costs associated with implementing a

reasonable and prudent alternative are similarly variable.

Regulations at 50 CFR 402.16 require Federal agencies to reinitiate consultation on previously reviewed actions in instances where critical habitat is subsequently designated and the Federal agency has retained discretionary involvement or control over the action or such discretionary involvement or control is authorized by law. Consequently, some Federal agencies may request reinitiation of consultation or conference with us on actions for which formal consultation has been completed, if those actions may affect designated critical habitat or adversely modify or destroy critical habitat.

Federal activities that may affect the Sonoma County distinct population segment of the California tiger salamander or any critical habitat would require section 7 consultation. Activities on private or State lands requiring a permit from a Federal agency, such as a permit from the U.S. Army Corps of Engineers under section 404 of the Clean Water Act, a section 10(a)(1)(B) permit from the Service, or some other Federal action, including funding (e.g., Federal Highway Administration or Federal Emergency Management Agency funding), will also continue to be subject to the section 7 consultation process. Federal actions not affecting listed species or critical habitat and actions on non-Federal and private lands that are not federally funded, authorized, or permitted do not require section 7 consultation.

Section 4(b)(8) of the Act requires us to briefly evaluate and describe in any proposed or final regulation that designates critical habitat those activities involving a Federal action that may adversely modify such habitat, or that may be affected by such designation. Activities that may destroy or adversely modify critical habitat may also jeopardize the continued existence of the Sonoma County distinct population segment of the California tiger salamander. Federal activities that, when carried out, would adversely affect any critical habitat for the Sonoma County distinct population segment of the California tiger salamander include, but are not limited to:

(1) Actions that would regulate activities affecting waters of the United States by the Army Corps of Engineers under section 404 of the Clean Water Act;

(2) Actions by any Federal agency that change water flow regimes, or that dam, divert, or channel water;

(3) Road construction and maintenance funded or authorized by the Federal Highway Administration;

(4) Conservation measures by private landowners funded by the Natural Resources Conservation Service;

(5) Airport construction regulated by the Federal Aviation Administration;

(6) Construction of communication facilities licensed by the Federal Communications Commission; and

(7) Other activities funded by the U.S. Environmental Protection Agency, Department of Energy, Federal Emergency Management Agency, or other Federal agency.

Special management that may be needed for the Sonoma County distinct population segment of the California tiger salamander and its habitat is briefly summarized below:

(1) Manage hydrologic functioning of vernal pools and ponds. Restore and maintain natural hydrologic regimes to prevent hydrologic changes to aquatic habitats to maintain their suitability as California tiger salamander breeding habitat and restore such habitats in areas where they have become altered or destroyed.

(2) Manage water quality. Manage actions that significantly and detrimentally alter the water chemistry in the aquatic salamander habitat. Possible actions requiring such management would include intentional or unintentional release of chemical or biological pollutants into the surface water or connected groundwater at a point source or by dispersed release (non-point).

(3) Upland Habitat Management. Actions that significantly and detrimentally alter the characteristics of the upland habitat surrounding aquatic areas may need special management. Possible actions which may require special management include vegetation manipulation, road construction and maintenance, gravel mining, and urban and suburban development and infrastructure. We note that such alteration and or destruction of the surrounding upland areas which results in alteration of the hydrologic functioning of the aquatic habitat may destroy or adversely modify the aquatic habitat associated with the upland areas. As a result, these activities could eliminate or reduce the habitat necessary for the reproduction, sheltering or growth of the Sonoma County distinct population segment of the California tiger salamander.

(4) Manage nonnative aquatic species. Manage the introduction, spreading, or augmenting of detrimental nonnative aquatic species into salamander aquatic habitat. Possible actions requiring such

management would include fish stocking for sport, aesthetics, biological control, or other purposes; and release of live bait fish and nonnative tiger salamanders.

(5) Manage On- and Off-Road Use. Protect aquatic and upland areas from off-road vehicle use. Manage trails, road maintenance, and off-road vehicle access to prevent habitat degradation in order to maintain, protect, and restore California tiger salamander habitat.

(6) Manage small mammal control activities. Activities that would reduce small mammal populations to the point that there is insufficient underground refugia used by the Sonoma County distinct population segment of the California tiger salamander for foraging, protection from predators, and shelter from the elements may ultimately be detrimental to salamanders.

(7) Manage creation of dispersal barriers. Activities that create barriers impassable for salamanders, increase mortality in upland habitat between extant occurrences, or disrupt dispersal behavior may be detrimental to the salamander and may require special management. Activities that may require such management include highway and other urban infrastructure, building development, and intensively managed agricultural development (annual crops).

We consider the entire area which would be designated as critical habitat, absent exclusion under section 4(b)(2), to be occupied by the species at the time of listing based on information provided from 10(a)(1)(A) reports and occurrence data (CNDDDB 2005). We consider the entire area which would be designated as critical habitat, absent exclusion under section 4(b)(2), to contain the features essential to the conservation of the Sonoma County distinct population segment of the California tiger salamander.

Exclusion Under Section 4(b)(2) of the Act

Section 4(b)(2) of the Act states that critical habitat shall be designated, and revised, on the basis of the best available scientific data after taking into consideration the economic impact, national security impact, and any other relevant impact of specifying any particular area as critical habitat. An area may be excluded from critical habitat if it is determined that the benefits of exclusion outweigh the benefits of specifying a particular area as critical habitat, unless the failure to designate such area as critical habitat will result in the extinction of the species.

In our critical habitat designations, we use the provision outlined in section 4(b)(2) of the Act to evaluate those specific areas that contain the features essential to the conservation of the species to determine which areas to propose and subsequently finalize (i.e. designate) as critical habitat. On the basis of our evaluation, we have determined that the benefits of excluding certain lands from the designation of critical habitat for the Sonoma County distinct population segment of the California tiger salamander outweigh the benefits of their inclusion, and have subsequently excluded all lands within Sonoma County from this designation pursuant to section 4(b)(2) of the Act as discussed below.

Areas excluded pursuant to section 4(b)(2) may include those covered by the following types of plans/programs if the plans/programs provide assurances that the conservation measures they outline will be implemented and effective: (1) Legally operative Habitat Conservation Plans (HCPs) that cover the species; (2) draft HCPs that cover the species and have undergone public review and comment (i.e., pending HCPs); (3) Tribal conservation plans/programs that cover the species; (4) State conservation plans/programs that cover the species; (5) National Wildlife Refuges with Comprehensive Conservation Plans (CCPs) or other applicable programs that provide assurances that the conservation measures for the species will be implemented and effective, and; (6) Partnerships, conservation plans/easements, or other type of formalized relationship/agreement on private lands. The relationship of critical habitat to these types of areas is discussed in detail in the following paragraphs.

After consideration under section 4(b)(2), the entire area of habitat has been excluded from critical habitat for the Sonoma County distinct population segment of the California tiger salamander as a result of both conservation measures being implemented and developed by local governing agencies and disproportionately high economic costs. A detailed analysis of our exclusion of these lands under section 4(b)(2) of the Act is provided in the paragraphs that follow.

General Principles of Section 7 Consultations Used in the 4(b)(2) Balancing Process

The most direct, and potentially largest regulatory benefit to the species of critical habitat is that federally authorized, funded, or carried out

activities require consultation pursuant to section 7 of the Act to ensure that they are not likely to destroy or adversely modify critical habitat. There are two limitations to this regulatory effect. First, it only applies where there is a Federal nexus—if there is no Federal nexus, designation itself does not restrict actions that destroy or adversely modify critical habitat. Second, it only limits destruction or adverse modification. By its nature, the prohibition on adverse modification is designed to ensure those areas that contain the physical and biological features essential to the conservation of the species or unoccupied areas that are essential to the conservation of the species are not eroded. Critical habitat designation alone, however, does not require specific steps toward recovery.

Once consultation under section 7 of the Act is triggered, the process may conclude informally when the Service concurs in writing that the proposed Federal action is not likely to adversely affect the listed species or its critical habitat. However, if the Service determines through informal consultation that adverse impacts may occur, then formal consultation would be initiated. Formal consultation concludes with a biological opinion issued by the Service on whether the proposed Federal action is likely to jeopardize the continued existence of a listed species or result in destruction or adverse modification of critical habitat, with separate analyses being made under both the jeopardy and the adverse modification standards. For critical habitat, a biological opinion that concludes in a determination of no destruction or adverse modification may contain discretionary conservation recommendations to minimize adverse effects to primary constituent elements, but it would not contain any mandatory reasonable and prudent measures or terms and conditions. Mandatory reasonable and prudent alternatives to the proposed Federal action would only be issued when the biological opinion results in a jeopardy or adverse modification conclusion.

We also note that for 30 years prior to the Ninth Circuit Court's decision in *Gifford Pinchot*, the Service equated the jeopardy standard with the standard for destruction or adverse modification of critical habitat. The Court ruled that the Service could no longer equate the two standards and that adverse modification evaluations require consideration of impacts on the recovery of species. Thus, under the *Gifford Pinchot* decision, critical habitat designations may provide greater benefits to the recovery of a species. However, we

believe the conservation achieved through implementing larger scale management plans is typically greater than would be achieved through multiple site-by-site, project-by-project, section 7 consultations involving consideration of critical habitat. Management plans commit resources to implement long-term management and protection to particular habitat for at least one, and possibly other, listed or sensitive species. Section 7 consultations only commit Federal agencies to prevent adverse modification to designated critical habitat caused by the particular project and they are not committed to provide conservation or long-term benefits to areas not affected by the proposed project. Thus, any management plan which considers enhancement or recovery as the management standard will always provide as much or more benefit than a consultation for critical habitat designation conducted under the standards required by the Ninth Circuit in the *Gifford Pinchot* decision.

The information provided in this section applies to all the discussions below that discuss the benefits of inclusion and exclusion of critical habitat in that it provides the framework for the consultation process.

Educational Benefits of Critical Habitat

A benefit of including lands in critical habitat is that the designation of critical habitat serves to educate landowners, State and local governments, and the public regarding the potential conservation value of an area. This helps focus and promote conservation efforts by other parties by clearly delineating areas of high conservation value for the Sonoma County distinct population segment of the California tiger salamander. In general the educational benefit of a critical habitat designation always exists, although in some cases it may be redundant with other educational effects. For example, habitat conservation plans (or in the case here, the Conservation Strategy) have significant public input and may largely duplicate or exceed the educational benefit of a critical habitat designation. This benefit is closely related to a second, more indirect benefit; in that designation of critical habitat would inform State agencies and local governments about areas that could or should be conserved under State laws or local ordinances.

However, we believe that there would be little additional informational benefit gained from the designation of critical habitat for the exclusions we are making in this rule because these areas were included in the proposed rule as

constituting essential California tiger salamander habitat. Consequently, we believe that the informational benefits are already provided even though these areas are not designated as critical habitat. Additionally, the purpose of informing State agencies and local governments about areas which would benefit from protection and enhancement of habitat for the California tiger salamander normally served by the designation of critical habitat is already well established among State and local governments, and Federal agencies for those areas which we are excluding in this rule on the basis of other implemented conservation measures and the on-going development and implementation of the Conservation Strategy.

As discussed in the "Summary of Changes from the Proposed Rule" section above, we have determined that all habitat in Sonoma County for the California tiger salamander (Unit 1) will not be designated as critical habitat as a result of this rulemaking process. We have reached this determination because we believe the benefits of excluding this unit from as critical habitat outweigh the benefits of designating the unit as critical habitat.

After the Sonoma County distinct population segment of the California tiger salamander was listed as an endangered species (68 FR 13498), we as well as other resource and regulatory agencies (U.S. Army Corps of Engineers, CDFG, U.S. Environmental Protection Agency) were contacted by local governmental officials from Sonoma County and the Cities of Windsor, Santa Rosa, Rohnert Park, and Cotati to strategize on how best to conserve State and Federally listed species on the Santa Rosa Plain. The Conservation Strategy is intended to direct conservation efforts for the Sonoma County distinct population segment of the California tiger salamander and several other Federally listed plant species. Although a recovery plan has not yet been prepared, recovery activities for the Sonoma County distinct population segment of the California tiger salamander would likely parallel those conservation measures identified in the Conservation Strategy. We believe that the best way to achieve the objectives outlined in the Conservation Strategy will be to use the authorities under section 4(b)(2) to exclude these lands.

Application of Exclusions Under Section 4(b)(2) of the Act

Section 4(b)(2) of the Act states that critical habitat shall be designated, and revised, on the basis of the best

available scientific data after taking into consideration the economic impact, national security impact, and any other relevant impact of specifying any particular area as critical habitat. An area may be excluded from critical habitat if it is determined that the benefits of exclusion outweigh the benefits of specifying a particular area as critical habitat, unless the failure to designate such area as critical habitat will result in the extinction of the species.

The Secretary exercises her discretion under section 4(b)(2) to exclude all essential areas from a final critical habitat designation for the following reasons: (1) The adverse impacts associated with the likely economic costs of the proposed final designation outweigh the likely conservation benefits provided by a final designation, and (2) it is highly probable that the Santa Rosa Plain Conservation Strategy will be implemented, and this strategy would provide conservation benefits that are superior to a final critical habitat designation. A final designation may also work at cross purposes to the Conservation Strategy by discouraging the involvement of local jurisdictions and private landowners without providing any counterbalancing, proactive conservation benefit.

The following discussion describes the analysis of the relative costs and benefits of a critical habitat designation. Section 4(b)(2) of the Act allows the Secretary to exclude areas from critical habitat for economic reasons or other relevant impacts if she determines that the benefits of such exclusion exceed the benefits of designating the area as critical habitat, unless the exclusion will result in the extinction of the species concerned. This is a discretionary authority Congress has provided to the Secretary with respect to critical habitat. Although economic and other impacts may not be considered when listing a species, Congress has expressly required their consideration when designating critical habitat.

Relationship of Critical Habitat to Economic Impacts—Exclusions Under Section 4(b)(2) of the Act

In conducting economic analyses, we are guided by the 10th Circuit Court of Appeal's ruling in the New Mexico Cattle Growers Association case (248 F.3d at 1285), which directed us to consider all impacts, "regardless of whether those impacts are attributable co-extensively to other causes." As explained in the analysis, due to possible overlapping regulatory schemes and other reasons, there are also some

elements of the analysis that may overstate some costs.

Conversely, the Ninth Circuit has recently ruled (*Gifford Pinchot*, 378 F.3d at 1071) that the Service's regulations defining "adverse modification" of critical habitat are invalid because they define adverse modification as affecting both survival and recovery of a species. The Court directed us to consider that determinations of adverse modification should be focused on impacts to recovery. While we have not yet proposed a new definition for public review and comment, compliance with the Court's direction may result in additional costs associated with the designation of critical habitat (depending upon the outcome of the rulemaking). In light of the uncertainty concerning the regulatory definition of adverse modification, our current methodological approach to conducting economic analyses of our critical habitat designations is to consider all conservation-related costs. This approach would include costs related to sections 4, 7, 9, and 10 of the Act, and should encompass costs that would be considered and evaluated in light of the *Gifford Pinchot* ruling.

In addition, we have received several credible comments on the economic analysis contending that it underestimates, perhaps significantly, the costs associated with this critical habitat designation. Both of these factors are a balancing consideration against the possibility that some of the costs shown in the economic analysis might be attributable to other factors, or are overly high, and so would not necessarily be avoided by excluding the area for which the costs are predicted from this critical habitat designation.

We recognize that we have excluded all of the proposed critical habitat. Congress expressly contemplated that exclusions under this section might result in such situations when it enacted the exclusion authority. House Report 95-1625, stated on page 17: "Factors of recognized or potential importance to human activities in an area will be considered by the Secretary in deciding whether or not all or part of that area should be included in the critical habitat. In some situations, no critical habitat would be specified. In such situations, the Act would still be in force and prevent any taking or other prohibited act * * *" (emphasis supplied). We accordingly believe that these exclusions, and the basis upon which they are made, are fully within the parameters for the use of section 4(b)(2) set out by Congress.

We provided notice of availability of a DEA on October 25, 2005 (70 FR 61591) and requested comment on the potential exclusion of high cost areas. We published a subsequent notice on November 17, 2005 (70 FR 69717) in which we disclosed revised economic impacts based on a refinement of the proposed designation on which we solicited public comment. The DEA estimated the foreseeable economic impacts of the proposed critical habitat designation on government agencies and private businesses and individuals. The economic analysis identified potential costs over a 20-year period as a result of the proposed critical habitat designation, including those costs coextensive with listing. The analysis measured lost economic efficiency associated with residential and commercial development, and public projects and activities, such as economic impacts on transportation projects, the energy industry, and Federal lands. However, no Federal lands are within the proposed critical habitat boundary. The economic analysis considered the potential economic effects of actions relating to the conservation of the Sonoma County distinct population segment of the California tiger salamander, including costs associated with sections 4, 7, and 10 of the Act, and including those attributable to designating critical habitat. It further considered the economic effects of protective measures taken as a result of other Federal, State, and local laws that aid habitat conservation for the California tiger salamander in essential habitat areas. The economic analysis considered both economic efficiency and distributional effects. In the case of habitat conservation, efficiency effects generally reflect the "opportunity costs" associated with the commitment of resources to comply with habitat protection measures (e.g., lost economic opportunities associated with restrictions on land use). This analysis also addressed how potential economic impacts are likely to be distributed, including an assessment of any local or regional impacts of habitat conservation and the potential effects of conservation activities on small entities and the energy industry. This information can be used by decision makers to assess whether the effects of the designation might unduly burden a particular group or economic sector. Finally, the analysis looked retrospectively at costs that have been incurred since the date the species was listed as an endangered species and considers those costs that may occur in

the 20 years following a designation of critical habitat.

A copy of the final economic analysis with supporting documents are included in our administrative record and may be obtained by contacting U.S. Fish and Wildlife Service, Branch of Endangered Species (see **ADDRESSES** section).

We have considered, but are excluding from critical habitat for the Sonoma County distinct population segment of the California tiger salamander all essential habitat in the four highest cost census tracts which cumulatively account for approximately 94% of the economic impacts of the designation (Table 4).

TABLE 4.—EXCLUDED CENSUS TRACTS AND COSTS

Census tract	Adjusted welfare impact in final EA (\$)
06097153300	125,612,192
06097153200	30,148,184 (including transportation costs)
06097151201	18,746,038
06097153005	9,863,633

(1) Benefits of Inclusion of the 4 Excluded Census Tracts

The principal benefit of designating critical habitat is that Federal activities that may affect such habitat are subject to consultation pursuant to section 7 of the Act. Such consultation requires every Federal agency to ensure that any action it authorizes, funds, or carries out is not likely to result in the destruction or adverse modification of critical habitat. The most direct, and potentially largest, regulatory benefit of critical habitat is that federally authorized, funded, or carried out activities require consultation pursuant to section 7 of the Act to ensure that these activities are not likely to destroy or adversely modify critical habitat.

There are two limitations to this regulatory effect. First, it only applies where there is a Federal nexus—if there is no Federal nexus, designation itself does not restrict actions that destroy or adversely modify critical habitat. Second, it only limits destruction or adverse modification. It does not encourage proactive or "interventionist" conservation efforts. By its nature, the prohibition on adverse modification is designed to ensure those areas that contain the physical and biological features essential to the conservation of the species or unoccupied areas that are essential to the conservation of the species are maintained. Critical habitat designation alone, however, does not

require specific steps toward recovery, especially on non-federal lands.

Once consultation under section 7 of the Act is triggered, the process may conclude informally when the Service concurs in writing that the proposed Federal action is not likely to adversely affect the listed species or its critical habitat. However, if the Service determines through informal consultation that adverse impacts are likely to occur, then formal consultation would be initiated. Formal consultation concludes with a biological opinion issued by the Service on whether the proposed Federal action is likely to jeopardize the continued existence of a listed species or result in destruction or adverse modification of critical habitat, with separate analyses being made under both the jeopardy and the adverse modification standards. For critical habitat, a biological opinion that concludes in a determination of no destruction or adverse modification may contain discretionary conservation recommendations to minimize adverse effects to primary constituent elements, but it would not contain any mandatory reasonable and prudent measures or terms and conditions. Mandatory reasonable and prudent alternatives to the proposed Federal action would only be issued when the biological opinion results in a jeopardy or adverse modification conclusion.

We also note that the decision of the Ninth Circuit in *Gifford Pinchot Task Force v. USFWS* must be considered in weighing the effects of designation of critical habitat. In that case, the court held the Service's regulatory definition of "destruction or adverse modification" was contrary to the Act because it required an analysis of the effect of the proposed Federal action on the survival of the species in addition to an analysis of the effect on recovery of the species. To the extent compliance with *Gifford Pinchot* would lead to more determinations that Federal actions destroy or adversely modify critical habitat than had previously been the case, designation of critical habitat would provide greater regulatory protections to the species' habitat.

Significant portions of the lower Santa Rosa Plain within or adjacent to the urban growth boundary are documented to be occupied by California tiger salamander. Other portions are not surveyed and may or may not be occupied. Also, there are large upland areas near breeding ponds where California tiger salamander aestivate underground. Any Federal activity adversely affecting California tiger salamander in these occupied areas will require section 7 consultations with

the Service, and any non-Federal action that may take a California tiger salamander will require a Section 10 permit if the action is not already covered under a section 7 consultation.

In general, regulatory benefits of a critical habitat designation would be highest on Federal lands where most actions would be subject to section 7 review. There are no Federal lands in the Santa Rosa Plain. However, section 7 consultation likely will have a regulatory effect on many proposed actions that directly affect California tiger salamander breeding habitat due to a Federal nexus with the Clean Water Act and consultation with the Army Corps of Engineers. As described above, these consultations are likely to result in determinations of "no jeopardy" to the species and "no destruction or adverse modification" of critical habitat under the *Gifford Pinchot* standard. Upland areas or private lands where California tiger salamander have not been surveyed or observed will be subject to less and sometimes no regulation under the Act. This outcome depends on whether local jurisdictions require California tiger salamander surveys on private lands and, if so, whether California tiger salamanders are actually found on the property. If California tiger salamander are found on these upland areas, and the proposed action may take California tiger salamander, then a section 10 permit is required and consultation on critical habitat will also occur. In contrast, if California tiger salamander are not found or the landowner declines to survey for California tiger salamander, then the proposed action may occur without a section 7 or section 10 permit and there is no consultation under the Act. Under this process, it is likely that a significant amount of potential upland aestivation habitat will not be regulated under the Act because of a lack of a Federal nexus and the low likelihood that portions of these areas are currently occupied by the species. It is in cases such as this where a critical habitat designation provides little positive regulatory benefit.

Designation of critical habitat for the Sonoma County distinct population segment of the California tiger salamander would confer some limited additional regulatory benefits beyond the status quo because the Service would apply the *Gifford Pinchot* recovery standard to section 7 consultations on proposed Federal activities. This standard would ensure that the Service looks beyond the jeopardy standard when assessing a project's impact on a species' critical habitat. We determined in the economic

analysis that designation of critical habitat could result in approximately \$184 million in costs in these four census tracts, the majority of which are directly related to residential development impacts. We believe that the potential decrease in residential housing development that could be caused by this designation of critical habitat for the Sonoma County distinct population segment of the California tiger salamander would minimize impacts to and potentially provide some additional protection to the species, the vernal pool complexes and ponds where they reside, and the physical and biological features essential to the species' conservation (i.e., the primary constituent elements). Thus, this decrease in residential housing development would directly translate into a potential benefit to the species that would result from this designation.

However, these benefits are likely to be quite limited in relation to what the California tiger salamander requires for successful conservation on the Santa Rosa Plain. This consultation benefit would not apply to all critical habitat lands because of a lack of a Federal nexus for large portions of unsurveyed private uplands that are not immediately adjacent to breeding ponds. It would also be applied in a piecemeal, project-by-project fashion. Application of section 7 on these private lands would depend on an unpredictable combination of several factors, including the presence of a section 7 Federal nexus, the likelihood or certainty of California tiger salamander occupancy on the project site, the willingness of the landowner to survey for California tiger salamander if occupancy is unknown, the legal ability and political desire of local jurisdictions to require surveys and/or some form of consultation with the Service, and the ability to require compensatory mitigation if impacts to California tiger salamander are anticipated.

Therefore, it is reasonable to conclude that only a portion of the area that otherwise would be designated as critical habitat will likely be regulated or conserved. Some areas of potential critical habitat would be conserved through the direct regulation of Federal actions and associated private activities (e.g., a Clean Water Act permit concerning a proposed development that would fill wetlands). On the other hand, large portions of critical habitat on private lands will not be regulated under section 7 or section 10 of the Act where direct take is not likely to occur or is undeterminable, and no other Federal nexus exists. We are unable to calculate at this time the relative

amounts of land in these two respective categories. At best, a critical habitat designation, in conjunction with section 9 take prohibitions, is most likely to protect known occupied breeding sites or occupied upland areas. A critical habitat designation is least likely to protect unoccupied habitat and unsurveyed private lands with no Federal nexus and, as we discuss below, may serve to discourage California tiger salamander conservation on these areas.

Another potential benefit is that the designation of critical habitat can serve to educate the public regarding the potential conservation value of an area and thereby focus and contribute to conservation efforts by clearly delineating areas of high conservation value for certain species. Such a benefit could be substantial in geographic areas where the presence of the California tiger salamander was a relatively new or unknown phenomenon, and there was a need to educate the local community to the species' presence and conservation needs. However, such a situation does not exist anywhere in the Santa Rosa Plain. Due in large part to the extensive media attention applied to the high-profile conflicts that accompanied the listing of the species and the critical habitat proposal, there is widespread knowledge of the species' local status and conservation needs. Therefore, it is unlikely that a final critical habitat designation would provide any significant new or additional educational benefit beyond the status quo.

In sum, a final critical habitat designation would confer some additional, but limited, regulatory benefits on portions of the critical habitat above and beyond those already provided through the listing of the species. Most of these limited additional benefits would be a consequence of section 7 consultation on critical habitat to the *Gifford Pinchot* standard.

(2) Benefits of Exclusion of the Four Census Tracts

The economic analysis conducted for the refined proposal estimates that the costs associated with designating these four census tracts would be approximately \$184 million. By excluding these census tracts, some of these costs will be avoided. Additionally, important public sector transportation projects will avoid the costs associated with critical habitat designation.

We believe that the required future recovery planning process would provide at least equivalent educational value to the public, State and local governments, scientific organizations,

and Federal agencies by providing information about habitat that contains features considered essential to the conservation of the Sonoma County distinct population segment of the California tiger salamander, and in facilitating conservation efforts through heightened public awareness of the plight of the listed species. Recovery plans would contain explicit objectives for ongoing public education, outreach, and collaboration at local, State, and Federal levels, and between the private and public sectors to guide recovery of the Sonoma County distinct population segment of the California tiger salamander.

(3) Benefits of Exclusion Outweigh the Benefits of Inclusion

We believe that the benefits from excluding these four census tracts from the designation of critical habitat—avoiding the potential economic and human costs, both in dollars and jobs, predicted in the economic analysis—exceed the educational and regulatory benefits which could result from including those lands in this designation of critical habitat.

We have evaluated and considered the potential economic costs on the residential development industry and public sector transportation projects relative to the potential benefit for the Sonoma County distinct population segment of the California tiger salamander and its primary constituent elements derived from the designation of critical habitat. We believe that avoiding the potential economic impact of up to approximately \$184 million on the development industry and public sector projects significantly outweighs the potential conservation and protective benefits for the species and the primary constituent elements that would be derived from the designation of these four census tracts as critical habitat.

Additionally, we believe that the recovery planning process provides equivalent educational value to the public, State and local governments, scientific organizations, and Federal agencies in providing information about habitat that contains those features considered essential to the conservation of the Sonoma County distinct population segment of the California tiger salamander, and in facilitating conservation efforts through heightened public awareness of the plight of the listed species. Recovery plans would contain explicit objectives for ongoing public education, outreach, and collaboration at local, State, and Federal levels, and between the private and public sectors to guide recovery efforts

for the Sonoma County distinct population segment of the California tiger salamander and would bring funding for these efforts. We therefore find that the benefits of excluding the four census tracts from this designation of critical habitat outweigh the benefits of including them in the designation.

Relationship of Critical Habitat to Current and Proposed Conservation Efforts—Application of Section 4(b)(2)

We have considered, but are excluding, lands within the refined designation that fall within the boundaries of the draft Conservation Strategy. We believe the benefits of excluding lands within this draft Conservation Strategy outweigh the benefits of including them. The following represents our rationale for excluding these areas. Taken together with the four census tracts excluded above for economic reasons, the result is that we are not designating any critical habitat for the Sonoma County distinct population segment of the California tiger salamander at this time on the basis of both economics and the proactive conservation benefits conferred by the locally developed conservation strategy.

Since the listing of the Sonoma County distinct population segment of the California tiger salamander, Federal, State, and local officials have struggled with how best to manage the unique conservation challenge posed by this species. The salamander occurs almost exclusively on undeveloped, privately owned lands within an approved urban growth boundary (UGB) or within areas adjacent to the UGB. Prior to the listing, significant local planning efforts had been completed, and much of the remaining salamander habitat within or adjacent to the UGB had been designated for various types of development.

Pursuant to section 4(b)(2), we analyzed whether the benefits of designating these lands as critical habitat were outweighed by the benefits of excluding these lands from a final designation. In the following section, we evaluate a “without critical habitat” scenario and compare it to a “with critical habitat” scenario. The difference between the two scenarios measured the net negative or positive impacts attributable to the designation of critical habitat. We paid particular attention to the following issues:

- The degree to which a critical habitat designation would confer regulatory conservation benefits on these species (e.g. high, medium, low);

- Whether the designation would educate members of the public such that conservation efforts would be enhanced;

- Whether a critical habitat designation would have a positive, neutral, or negative impact on local support for salamander conservation, including the finalization and implementation of the Conservation Strategy;

- To what extent a critical habitat designation is likely to encourage or discourage future cooperative efforts with local landowners and officials; and,

- The degree to which the Conservation Strategy provides a better conservation alternative to critical habitat and the likelihood it will be implemented.

If a critical habitat designation results in a quantifiable reduction in the likelihood that existing or future voluntary, cooperative conservation activities will be carried out on non-federal lands, and at the same time fails to confer a counter-balancing positive regulatory or educational benefit to the conservation of the species, then the benefits of excluding such areas from critical habitat outweigh the benefits of including them.

The designation of critical habitat on non-federal lands can have both negative and positive impacts on the conservation of listed species (Bean 2002). There is a growing body of documentation that some regulatory actions by the Federal government, while well-intentioned and required by law, can under certain circumstances have unintended negative consequences for the conservation of species on non-federal lands (Bean 2002; Brook *et al.* 2003; James 2002; Koch 2002; Wilcove *et al.* 1996). Some landowners fear a decline in value of their properties because of their belief that the Act may restrict future land-use options where threatened or endangered species are found. Consequently, endangered species are perceived by many landowners as a financial liability, which sometimes results in anti-conservation incentives to these landowners (Brook *et al.* 2003, Main *et al.* 1999).

According to some researchers, the designation of critical habitat on private lands significantly reduces the likelihood that many landowners will support and carry out conservation actions (Bean 2002; Brook *et al.* 2003; Main *et al.* 1999). The magnitude of this negative outcome is greatly amplified in conservation situations, such as on privately-owned lands, where it is insufficient simply to prohibit harmful activities. Instead, it is necessary in

most cases to encourage and carry out active management measures to prevent extinctions and promote recovery (Bean 2002). Consideration of this concern is especially important in areas where recovery efforts require access and landowner permission for survey and restoration efforts. Simply preventing "harmful activities" will not slow the extinction of listed species or promote their recovery. Proactive, voluntary conservation efforts are necessary to prevent the extinction and promote the recovery of these species (Wilcove and Lee 2004, Shogren *et al.* 1999). It is widely acknowledged that conservation of the Sonoma County distinct population segment of the California tiger salamander will require proactive restoration efforts.

(1) Benefits of Inclusion of the Excluded Areas

The benefits of inclusion of the excluded areas as critical habitat were described in the preceding section.

(2) Benefits of Exclusion of the Excluded Areas—Other Relevant Impacts

The salamander occurs almost exclusively on undeveloped, privately owned lands within an approved urban growth boundary in Sonoma County. Prior to the listing, significant local planning efforts had been completed, and much of the remaining salamander habitat within the growth boundary had been designated for various types of development. Because of the salamander's occurrence on private lands mostly designated for development, the primary challenge facing Federal, State, and local officials is how best to reconcile the goals and requirements of the Federal Endangered Species Act with the economic and social needs of the local communities in Sonoma County.

Approximately two years ago, a group of Federal, State, and local officials and stakeholders initiated an effort to address this challenge. Local biologists with the Service, the U.S. Army Corps of Engineers, the U.S. Environmental Protection Agency, and the California Department of Fish and Game joined with local representatives of the cities of Santa Rosa, Cotati, Rohnert Park, Sonoma County, the North Coast Regional Water Quality Control Board, and the environmental and development communities. All parties recognized that a court-ordered Federal designation of critical habitat would likely further polarize local conservation efforts, and that a regional scientific effort with broad local support of private landowners had the highest likelihood of achieving conservation of

the California tiger salamander and other listed species on the Santa Rosa Plain.

This group developed the Conservation Strategy, a comprehensive plan to provide for California tiger salamander conservation while also identifying a predictable process whereby certain public and private development projects can proceed. The Conservation Strategy was published in draft form and provided to the public for review and comment earlier in 2005. The Conservation Strategy also received extensive peer review from knowledgeable scientists. For the sake of brevity, the Conservation Strategy document (August 3, 2005) is incorporated herein by reference, while the main objectives of the Conservation Strategy are described below:

(1) Provide for the long-term survival and recovery of the California tiger salamander and listed plant species by establishing and supporting a system of preserves, mitigation banks, and restoration areas.

(2) Ensure that projects impacting extant California tiger salamander subpopulations are minimized and mitigated to the maximum extent possible.

(3) Identify and maximize the potential for restoration of degraded habitat areas, and add these to the preserve system.

(4) Fund monitoring efforts to make sure that California tiger salamander conservation areas are adaptively managed to account for changing conditions and new information.

(5) Fund monitoring efforts to make sure that the provisions of the Conservation Strategy are properly implemented and that its terms are enforced.

(6) Provide for a cost effective, predictable, and streamlined process for private and public development projects under the Act, and;

(7) Ensure that the Conservation Strategy for California tiger salamander is compatible with local urban planning efforts and, likewise, ensure that changes to local planning efforts are compatible with ongoing California tiger salamander conservation.

Final completion and implementation of the Conservation Strategy will require several more steps to comply with State and local government approval processes. We have some concern that the strategy is not yet completed and under implementation, but these concerns are alleviated by the passage of resolutions by the local jurisdictions (November 9, 2005) and subsequent approval of a planning agreement committing them to complete and

implement the strategy within the next 18–24 months as these approval processes are completed. In addition, these jurisdictions have agreed to implement interim conservation measures until the Conservation Strategy is implemented to ensure that current or initiated actions proceed consistent with the biological objectives of the Conservation Strategy. These interim measures subject actions affecting California tiger salamander and its habitat to Service and CDFG review, and they provide mitigation for unavoidable impacts to California tiger salamander. These measures are described in greater detail later in this section.

Implementation of the Conservation Strategy offers the best possible opportunity to reconcile the goals of the Federal Endangered Species Act with the economic and social planning goals of the local communities. We are encouraged by the passage of the resolutions and the approval of the planning agreement by all of the affected local jurisdictions and believe that final implementation of the Conservation Strategy is very likely. We are also encouraged by the tremendous show of good faith by all of the agencies and local entities that have participated in this process as part of the Conservation Strategy team, and the generous commitment of their time and effort over the last two years. This large investment of personnel resources by these many entities reflects a serious commitment and implies a high likelihood that the strategy will be finalized and implemented.

Further, it is likely that a designation of critical habitat in the face of this planning effort would have a chilling effect on the participation of at least some of these local entities and stakeholders. Several comments received from various jurisdictions expected that a critical habitat designation would encourage participants to leave the cooperative process that has been established and may cause the breakdown of the Conservation Strategy. Likewise, it is probable that local landowners affected by a final critical habitat designation process would revert to the more traditional “permit-by-permit” approval process, which would make planning for long-term California tiger salamander conservation much more difficult on a landscape scale, as described earlier.

In summary, we conclude that the designation of critical habitat for the Sonoma County distinct population segment of the California tiger salamander would have negative

impacts on the finalization and implementation of the Santa Rosa Plain Conservation Strategy. Avoiding these negative impacts is a benefit of excluding these lands from the final critical habitat designation.

(3) Benefits of Exclusion Outweigh the Benefits of Inclusion for Proposed Critical Habitat

As discussed in the overview to this section, we analyzed whether the benefits of designating these lands as critical habitat were outweighed by the benefits of excluding these lands from a final designation. We evaluated a “without critical habitat” scenario and compared it to a “with critical habitat” scenario. The difference between the two scenarios measured the net negative or positive impacts attributable to the designation of critical habitat.

In general, we believe the conservation achieved through implementing habitat conservation plans (HCPs), approved conservation agreements, or other applied habitat management strategies such as the Conservation Strategy is typically greater than would be achieved through multiple site-by-site, project-by-project, section 7 consultations involving consideration of critical habitat. Management plans commit resources to implement long-term management and protection to particular habitat for at least one and possibly other listed or sensitive species. Section 7 consultations only commit Federal agencies to prevent adverse modification to critical habitat caused by the particular project, and they are not committed to provide conservation or long-term benefits to areas not affected by the proposed, site-specific project. Thus, any HCP or conservation strategy which establishes long-term enhancement or recovery as the management standard, and that ensures implementation of compensatory mitigation where appropriate, will always provide as much or more benefit than a consultation for critical habitat designation conducted under the standards required by the Ninth Circuit in the *Gifford Pinchot* decision.

Therefore, we assign relatively little weight to the benefits of designating this area as critical habitat when compared to the approach embodied by the Conservation Strategy. This strategy provides the highest likelihood of conserving habitat for California tiger salamander and listed plants in Sonoma County. The need to maintain and expand recent gains in cooperative conservation efforts in Sonoma County for the California tiger salamander and listed plants is crucial to the long-term

effectiveness of California tiger salamander recovery. Under the best of circumstances, a critical habitat designation would only provide piecemeal, project-by-project conservation benefits to California tiger salamander by prohibiting adverse modification of designated critical habitat. It would not provide a proactive or distinct population segment-wide recovery benefit to the species achievable under larger-scale conservation plans, which benefit from economies of scale through participation of multiple landowners and project proponents in partnership with one or more local jurisdictions in a relatively large geographic area. Such larger-scale plans are more effective at protecting and managing strategically situated habitat areas of a size that can achieve long-term conservation for the species than a project-by-project approach. The most important benefits provided by the Conservation Strategy, in comparison to a designation of critical habitat, can be summarized as follows:

(1) The Conservation Strategy reconciles local growth plans (e.g., an approved urban growth boundary) with the conservation goals of the Federal Endangered Species Act. A critical habitat designation has not been reconciled with local plans, and according to multiple public comments by knowledgeable officials is likely to not be supported by local landowners and government officials. Therefore, the Conservation Strategy has a higher likelihood of successfully providing for the conservation of California tiger salamander because it has been embraced by the local community through their elected officials.

(2) A tremendous amount of local planning resources and public participation has already been expended in completing the most recent round of urban growth planning in Sonoma County. A decision such as a Federal critical habitat designation could dramatically affect these boundaries and should, wherever possible and appropriate, be flexible to accommodate locally developed and approved planning processes. This flexibility makes economic, social, and conservation sense.

(3) The Conservation Strategy has created an atmosphere of partnership by bringing together a broad coalition of government officials, local developers, environmentalists, and landowners. A critical habitat designation will likely polarize many of these stakeholders and decrease the likelihood that meaningful cooperative conservation will be

achieved for the California tiger salamander.

(4) The Conservation Strategy provides a “proactive” conservation strategy that actively encourages California tiger salamander conservation for all types of California tiger salamander lands, including unoccupied or unsurveyed lands and agricultural lands. Critical habitat provides “prohibitive” protections in portions of the species’ range, but it does not encourage proactive activities. Therefore, the Conservation Strategy has a higher likelihood of achieving conservation of California tiger salamander on private lands, and it has a higher likelihood of helping re-establish California tiger salamander on unoccupied lands.

(5) The Conservation Strategy has a higher likelihood of achieving broader landscape-level conservation for the California tiger salamander and listed plants. The critical habitat designation, in contrast, would likely result in piecemeal conservation efforts that would be influenced by the order in which permit requests are submitted to Federal and other agencies.

(6) The Conservation Strategy will identify funding mechanisms to provide for California tiger salamander mitigation and conservation. Critical habitat has no funding mechanisms for California tiger salamander mitigation costs and proactive conservation activities.

(7) The Conservation Strategy provides ongoing educational benefits that surpass any of those that would be provided by a final critical habitat designation.

For the reasons described above, we have determined that the benefits of designating critical habitat for the Sonoma County distinct population segment of the California tiger salamander are relatively small, while the benefits of not designating proposed critical habitat and proceeding with the Conservation Strategy are more significant.

(4) Exclusion Will Not Result in Extinction of the Species

We believe that exclusion of these lands will not result in the extinction of the Sonoma County distinct population segment of the California tiger salamander. Many of these areas are considered occupied habitat. Actions which might adversely affect the species are expected to have a Federal nexus, and would thus undergo a section 7 consultation with the Service. The jeopardy standard of section 7, and routine implementation of habitat preservation through the section 7

process, as discussed in the economic analysis, provide assurance that the species will not go extinct. In addition, the species is protected from take under section 9 of the Act. The exclusion leaves these protections unchanged from those that would exist if the excluded areas were designated as critical habitat.

In fact, we believe the exclusion of these areas from a critical habitat designation will actually improve both its short term and long term conservation opportunities and will reduce its likelihood of extinction. Implementation of the “interim measures” and the Conservation Strategy will provide an opportunity for maintaining and increasing salamanders in certain portions of the Santa Rosa Plain, while a critical habitat designation will likely not prevent the continued slow demise of the population as unmanaged fragmentation occurs due to piecemeal development.

(5) Reconsideration of This Decision

Necessarily, in balancing the benefits of inclusion against the benefits of exclusion, we must make forecast about future occurrences. Our forecasts are based on the best information currently available. We recognize that our information is imperfect, and therefore our forecasts may be imperfect. To the extent that our analysis is not borne out, we will consider further rulemaking in the future. For example, if the Conservation Strategy is not finalized or implemented in a reasonable amount of time, or the interim measures prove to be less effective at conserving the California tiger salamander than expected, our current analysis will likely prove to have significantly understated the benefits of inclusion. Therefore, if we subsequently determine, based on new information, that the benefits of including a particular area are not outweighed by the benefits of excluding it, we will promptly publish a proposed rule to revise the critical habitat to add that area, and after public comment, add that area to the designation, if appropriate.

Economic Analysis

Section 4(b)(2) of the Act requires us to designate critical habitat on the basis of the best scientific information available and to consider the economic and other relevant impacts of designating a particular area as critical habitat. We may exclude areas from critical habitat upon a determination that the benefits of such exclusions outweigh the benefits of specifying such areas as critical habitat. We cannot exclude such areas from critical habitat

when such exclusion will result in the extinction of the species concerned.

Following the publication of the proposed critical habitat designation, we conducted an economic analysis to estimate the potential economic effect of the designation. The draft analysis was made available for public review on October 25, 2005 (70 FR 61591), and we accepted comments on the draft economic analysis until November 14, 2005. We reopened the comment period on November 17, 2005 to allow all interested parties an opportunity to comment simultaneously on the proposed rule and a refinement of the original which we were considering (70 FR 69717). We accepted comments until November 28, 2005.

The primary purpose of the economic analysis is to estimate the potential economic impacts associated with the designation of critical habitat for the Sonoma County distinct population segment of the California tiger salamander. This information is intended to assist the Secretary in making decisions about whether the benefits of excluding particular areas from the designation outweigh the benefits of including those areas in the designation. This economic analysis considers the economic efficiency effects that may result from the designation, including habitat protections that may be co-extensive with the listing of the species. It also addresses distribution of impacts, including an assessment of the potential effects on small entities, the energy industry, transportation projects, and Federal lands. This information can be used by the Secretary to assess whether the effects of the designation might unduly burden a particular group or economic sector.

This analysis focuses on the direct and indirect costs of the rule. However, economic impacts to land use activities can exist in the absence of critical habitat. These impacts may result from, for example, local zoning laws, State and natural resource laws, and enforceable management plans and best management practices applied by other State and Federal agencies. Economic impacts that result from these types of protections are not included in the analysis as they are considered to be part of the regulatory and policy baseline.

We received comments on the draft economic analysis of the proposed designation. Following the close of the comment period, we considered those comments and prepared responses to comments (see Responses to Comments section above).

The November 17, 2005, notice (70 FR 69717) reopening the comment period provides a detailed economics section that shows an economic impact on land development of \$195,863,729. The revised impact on transportation projects is \$426,000. The total revised cost of designation is thus \$196,289,729, or \$17,316,226 annualized over 20 years. In the event that portions of critical habitat with the urban growth boundaries are excluded, the cost drops to \$128,008,620.

We are not designating any critical habitat for the Sonoma County distinct population segment of the California tiger salamander. We are excluding all areas under 4(b)(2) (see Exclusions section) so there are no costs associated with this rulemaking process.

A copy of the economic analysis with supporting documents are included in our administrative record and may be obtained by contacting U.S. Fish and Wildlife Service, Branch of Endangered Species (see **ADDRESSES** section) or for downloading from the Internet at <http://www.fws.gov/sacramento>.

Required Determinations

Regulatory Planning and Review

In accordance with Executive Order 12866, this document is a significant rule in that it may raise novel legal and policy issues, but will not have an annual effect on the economy of \$100 million or more or affect the economy in a material way. Due to the tight timeline for publication in the **Federal Register**, the Office of Management and Budget (OMB) has not formally reviewed this rule. As explained above, we prepared an economic analysis of this action. We used this analysis to meet the requirement of section 4(b)(2) of the Act to determine the economic consequences of designating specific areas as critical habitat. We also used it to help determine whether to exclude any area from critical habitat, as provided for under section 4(b)(2), if we determine that the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat, unless we determine, based on the best scientific and commercial data available, that the failure to designate such area as critical habitat will result in the extinction of the species.

Regulatory Flexibility Act (5 U.S.C. 601 et seq.)

Under the Regulatory Flexibility Act (RFA) (as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996), whenever an agency is required to

publish a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effect of the rule on small entities (i.e., small businesses, small organizations, and small government jurisdictions). However, no regulatory flexibility analysis is required if the head of an agency certifies the rule will not have a significant economic impact on a substantial number of small entities. The SBREFA amended the RFA to require Federal agencies to provide a statement of factual basis for certifying that the rule will not have a significant economic impact on a substantial number of small entities. The SBREFA also amended the RFA to require a certification statement.

Small entities include small organizations, such as independent nonprofit organizations; small governmental jurisdictions, including school boards and city and town governments that serve fewer than 50,000 residents; as well as small businesses. Small businesses include manufacturing and mining concerns with fewer than 500 employees, wholesale trade entities with fewer than 100 employees, retail and service businesses with less than \$5 million in annual sales, general and heavy construction businesses with less than \$27.5 million in annual business, special trade contractors doing less than \$11.5 million in annual business, and agricultural businesses with annual sales less than \$750,000. To determine if potential economic impacts to these small entities are significant, we consider the types of activities that might trigger regulatory impacts under this rule, as well as the types of project modifications that may result. In general, the term "significant economic impact" is meant to apply to a typical small business firm's business operations.

To determine if the rule could significantly affect a substantial number of small entities, we consider the number of small entities affected within particular types of economic activities (e.g., housing development, grazing, oil and gas production, timber harvesting). We apply the "substantial number" test individually to each industry to determine if certification is appropriate. However, the SBREFA does not explicitly define "substantial number" or "significant economic impact." Consequently, to assess whether a "substantial number" of small entities is affected by this designation, this analysis considers the relative number of small entities likely to be impacted in an area. In some circumstances,

especially with critical habitat designations of limited extent, we may aggregate across all industries and consider whether the total number of small entities affected is substantial. In estimating the number of small entities potentially affected, we also consider whether their activities have any Federal involvement.

Designation of critical habitat only affects activities conducted, funded, or permitted by Federal agencies. Some kinds of activities are unlikely to have any Federal involvement and so will not be affected by critical habitat designation. In areas where the species is present, Federal agencies already are required to consult with us under section 7 of the Act on activities they fund, permit, or implement that may affect the California tiger salamander. Federal agencies also must consult with us if their activities may affect critical habitat. Designation of critical habitat, therefore, could result in an additional economic impact on small entities due to the requirement to reinstate consultation for ongoing Federal activities.

Had we designated critical habitat, it would not have been expected to result in significant small business impacts since revenue losses would have been less than one percent of total small business revenues in affected areas. Large businesses greatly dominate greenfield development, and it was estimated that no more than a single small business would be affected annually as a consequence of designation.

In general, two different mechanisms in section 7 consultations could lead to additional regulatory requirements for the single small business, on average, that may be required to consult with us each year regarding their project's impact on California tiger salamander and its habitat. First, if we conclude, in a biological opinion, that a proposed action is likely to jeopardize the continued existence of a species or adversely modify its critical habitat, we can offer "reasonable and prudent alternatives." Reasonable and prudent alternatives are alternative actions that can be implemented in a manner consistent with the scope of the Federal agency's legal authority and jurisdiction, that are economically and technologically feasible, and that would avoid jeopardizing the continued existence of listed species or result in adverse modification of critical habitat. A Federal agency and an applicant may elect to implement a reasonable and prudent alternative associated with a biological opinion that has found jeopardy or adverse modification of

critical habitat. An agency or applicant could alternatively choose to seek an exemption from the requirements of the Act or proceed without implementing the reasonable and prudent alternative. However, unless an exemption were obtained, the Federal agency or applicant would be at risk of violating section 7(a)(2) of the Act if it chose to proceed without implementing the reasonable and prudent alternatives.

Second, if we find that a proposed action is not likely to jeopardize the continued existence of a listed animal or plant species, we may identify reasonable and prudent measures designed to minimize the amount or extent of take and require the Federal agency or applicant to implement such measures through non-discretionary terms and conditions. We may also identify discretionary conservation recommendations designed to minimize or avoid the adverse effects of a proposed action on listed species or critical habitat, help implement recovery plans, or to develop information that could contribute to the recovery of the species.

Based on our experience with consultations pursuant to section 7 of the Act for all listed species, virtually all projects—including those that, in their initial proposed form, would result in jeopardy or adverse modification determinations in section 7 consultations—can be implemented successfully with, at most, the adoption of reasonable and prudent alternatives. These measures, by definition, must be economically feasible and within the scope of authority of the Federal agency involved in the consultation. We can only describe the general kinds of actions that may be identified in future reasonable and prudent alternatives. These are based on our understanding of the needs of the species and the threats it faces, as described in the final listing rule and this notice of rulemaking. The types of Federal actions or authorized activities that we have identified as potential concerns are:

(1) Regulation of activities affecting waters of the United States by the Corps of Engineers under section 404 of the Clean Water Act;

(2) Regulation of water flows, damming, diversion, and channelization implemented or licensed by Federal agencies;

(3) Road construction and maintenance, right-of-way designation, and regulation of agricultural activities;

(4) Hazard mitigation and post-disaster repairs funded by the FEMA; and

(5) Activities funded by the EPA, U.S. Department of Energy, or any other Federal agency.

It is likely that a developer or other project proponent could modify a project or take measures to protect California tiger salamander. The kinds of actions that may be included if future reasonable and prudent alternatives become necessary include conservation set-asides, management of competing nonnative species, restoration of degraded habitat, and regular monitoring. These are based on our understanding of the needs of the species and the threats it faces, as described in the final listing rule and proposed critical habitat designation. These measures are not likely to result in a significant economic impact to project proponents.

In summary, we have considered whether this action would result in a significant economic effect on a substantial number of small entities. We have determined that it would not affect a substantial number of small entities because we are excluding areas which otherwise would be designated. A regulatory flexibility analysis is not required.

Small Business Regulatory Enforcement Fairness Act (5 U.S.C 801 et seq.)

Under SBREFA, this action is not a major rule. We are excluding all areas from critical habitat, so there are no economic impacts attributable to a critical habitat designation.

Executive Order 13211

On May 18, 2001, the President issued Executive Order (E.O.) 13211 on regulations that significantly affect energy supply, distribution, and use. E.O. 13211 requires agencies to prepare Statements of Energy Effects when undertaking certain actions. This final rule does not designate critical habitat for the California tiger salamander and is not expected to significantly affect energy supplies, distribution, or use. Therefore, this action is not a significant energy action, and no Statement of Energy Effects is required.

Unfunded Mandates Reform Act (2 U.S.C. 1501 et seq.)

In accordance with the Unfunded Mandates Reform Act (2 U.S.C. 1501 et seq.), we make the following findings:

(a) This action will not produce a Federal mandate. In general, a Federal mandate is a provision in legislation, statute, or regulation that would impose an enforceable duty upon State, local, Tribal governments, or the private sector and includes both “Federal intergovernmental mandates” and

“Federal private sector mandates.” These terms are defined in 2 U.S.C. 658(5)–(7). “Federal intergovernmental mandate” includes a regulation that “would impose an enforceable duty upon State, local, or tribal governments” with two exceptions. It excludes “a condition of federal assistance.” It also excludes “a duty arising from participation in a voluntary Federal program,” unless the regulation “relates to a then-existing Federal program under which \$500,000,000 or more is provided annually to State, local, and tribal governments under entitlement authority,” if the provision would “increase the stringency of conditions of assistance” or “place caps upon, or otherwise decrease, the Federal Government’s responsibility to provide funding” and the State, local, or Tribal governments “lack authority” to adjust accordingly. (At the time of enactment, these entitlement programs were: Medicaid; AFDC work programs; Child Nutrition; Food Stamps; Social Services Block Grants; Vocational Rehabilitation State Grants; Foster Care, Adoption Assistance, and Independent Living; Family Support Welfare Services; and Child Support Enforcement.) “Federal private sector mandate” includes a regulation that “would impose an enforceable duty upon the private sector, except (i) a condition of Federal assistance; or (ii) a duty arising from participation in a voluntary Federal program.”

The designation of critical habitat does not impose a legally binding duty on non-Federal government entities or private parties. Under the Act, the only regulatory effect is that Federal agencies must ensure that their actions do not destroy or adversely modify critical habitat under section 7. While non-Federal entities who receive Federal funding, assistance, permits or otherwise require approval or authorization from a Federal agency for an action may be indirectly impacted by the designation of critical habitat, the legally binding duty to avoid destruction or adverse modification of critical habitat rests squarely on the Federal agency. Furthermore, to the extent that non-Federal entities are indirectly impacted because they receive Federal assistance or participate in a voluntary Federal aid program, the Unfunded Mandates Reform Act would not apply; nor would critical habitat shift the costs of the large entitlement programs listed above on to State governments.

(b) We do not believe that this action will significantly or uniquely affect small governments because it will not produce a Federal mandate of \$100

million or greater in any year, that is, it is not a “significant regulatory action” under the Unfunded Mandates Reform Act. The designation of critical habitat imposes no obligations on State or local governments. As such, a Small Government Agency Plan is not required.

Federalism

In accordance with Executive Order 13132, the action does not have significant Federalism effects. The rule does not designate any critical habitat, and a Federalism assessment is not required.

Civil Justice Reform

In accordance with Executive Order 12988, the Office of the Solicitor has determined that the action does not unduly burden the judicial system and meets the requirements of sections 3(a) and 3(b)(2) of the Order. We are not designating any critical habitat with this action.

Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.)

This rule does not contain any new collections of information that require approval by OMB under the Paperwork Reduction Act. This rule will not impose recordkeeping or reporting requirements on State or local governments, individuals, businesses, or organizations. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

National Environmental Policy Act

It is our position that, outside the Tenth Circuit, we do not need to prepare environmental analyses as defined by the NEPA in connection with designating critical habitat under the

Endangered Species Act of 1973, as amended. We published a notice outlining our reasons for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244). This assertion was upheld in the courts of the Ninth Circuit (*Douglas County v. Babbitt*, 48 F.3d 1495 (9th Cir. Ore. 1995), cert. denied 116 S. Ct. 698 (1996)).

Government-to-Government Relationship With Tribes

In accordance with the President’s memorandum of April 29, 1994, “Government-to-Government Relations with Native American Tribal Governments” (59 FR 22951), Executive Order 13175, and the Department of Interior’s Manual at 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with recognized Federal Tribes on a government-to-government basis. We are not designating any critical habitat in this rule, and no Tribal lands are involved.

References Cited

A complete list of all references cited in this rulemaking is available upon request from the Field Supervisor, Sacramento Fish and Wildlife Office (see **ADDRESSES** section).

Author(s)

The primary author of this package is the staff of the Sacramento Fish and Wildlife Office.

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, Transportation.

Regulation Promulgation

■ Accordingly, we amend Part 17, subchapter B of chapter I, title 50 of the

Code of Federal Regulations, as set forth below:

PART 17—[AMENDED]

■ 1. The authority citation for part 17 continues to read as follows:

Authority: 16 U.S.C. 1361–1407; 16 U.S.C. 1531–1544; 16 U.S.C. 4201–4245; Pub. L. 99–625, 100 Stat. 3500; unless otherwise

■ 2. In § 17.95, amend paragraph (d) by adding an entry for California tiger salamander (*Ambystoma californiense*) in Sonoma County following the entries for “California tiger salamander in Santa Barbara County” and “Central Population of California tiger salamander” read as follows:

§ 17.95 Critical habitat—fish and wildlife.

* * * * *

(d) *Amphibians.*

* * * * *

California Tiger Salamander
(*Ambystoma californiense*)

* * * * *

California Tiger Salamander in Sonoma County

Pursuant to section 4(b)(2) of the Act, we have excluded all areas determined to meet the definition of critical habitat under section 4(b)(2) of the Act for California tiger salamander in Sonoma County. Therefore, no specific areas are designated as critical habitat for this species.

* * * * *

Dated: December 1, 2005.

Craig Manson,

Assistant Secretary for Fish and Wildlife and Parks.

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