

DRAFT



United States Department of the Interior

U.S. FISH AND WILDLIFE SERVICE

Ecological Services
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DRAFT GENERAL CONSERVATION PLAN FOR THE DESERT TORTOISE IN CALIFORNIA

The U.S. Fish and Wildlife Service (Service) has prepared this draft of the general conservation plan (Plan) to accompany our notice of intent to prepare a draft environmental impact statement for use of this means of issuing incidental take permits, pursuant to section 10(a)(1)(B) of the Endangered Species Act of 1973, as amended, for desert tortoises in California. This document is a product of numerous internal discussions and coordination with other agencies, including the Bureau of Land Management (Bureau) and California Department of Fish and Wildlife (Department). The Service does not consider this to be the final Plan. Our goals in developing the Plan to this degree were to provide a detailed description to the public of what we propose to analyze in the draft environmental impact statement and to obtain from the public comments and suggestions on the draft Plan.

The Service would approve this Plan and begin to issue incidental take permits under its guidance once it:

1. Receives and addresses public comments on the draft environmental impact statement;
2. Completes an internal consultation under section 7(a)(2) of the Endangered Species Act to assess the effects of use of the Plan on the desert tortoise and its critical habitat and on any other listed species or critical habitat that it may affect;
3. Completes a record of decision for the National Environmental Policy Act process; and
4. Signs the Plan.

General Conservation Plan Approval

This general conservation plan for the issuance of Endangered Species Act section 10(a)(1)(B) incidental take permits for the desert tortoise in California is approved and is in effect as of the date below.

Authorization:

Field Supervisor
Carlsbad Fish and Wildlife Office

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GLOSSARY OF TERMS

Many of the terms used in the California Desert Conservation Area Plan, as amended by the Desert Renewable Energy Conservation Plan (Bureau of Land Management 2016) are relevant to this general conservation plan. Consequently, we have used numerous definitions from that land use plan amendment and added others that are specifically pertinent to this document.

A

Acquired lands. Lands in federal ownership that are not public domain and that have been obtained by the government by purchase, exchange, donation, or condemnation. Acquired lands are normally dedicated to a specific use or uses.

Acquisition. The activity of obtaining land and/or interest in land through purchase, exchange, donation, or condemnation.

Activity. Development, operation, and maintenance that has no federal nexus conducted by permittees with a section 10(a)(1)(B) incidental take permit issued under the auspices of this general conservation plan.

Adaptive management. A process for assimilating new information, including, but not limited to, from monitoring and research, and assessing if adjustments to the general conservation plan or individual incidental take permits are needed.

Applicant. A public or private entity, or an individual, that applies to the U.S. Fish and Wildlife Service for an incidental take permit, pursuant to section 10(a)(1)(B) of the Endangered Species Act of 1973, as amended.

Area of critical environmental concern. An area designated by the Bureau of Land Management (Bureau) within public lands where special management attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources or other natural systems or processes, or to protect life and safety from natural hazards.

C

California Desert Conservation Area. As designated by Congress in 1976 through the Federal Land and Policy Management Act and defined in section 601 of that act, the California Desert Conservation Area is a 25-million-acre expanse of land in southern California. The Bureau administers approximately 10 million acres of the California Desert Conservation Area under its California Desert Conservation Area Plan.

California Desert National Conservation Lands. The land use plan amendment for the Desert Renewable Energy Conservation Plan identified California Desert National Conservation Lands, in accordance with the Omnibus Public Land Management Act of 2009 (Omnibus Act), which are nationally significant landscapes within the California Desert Conservation Area with outstanding cultural, ecological, and scientific values. The California Desert National Conservation Lands are a permanent addition to the National Landscape Conservation System, as per the direction to Bureau in the Omnibus Act.

Clearance survey. Clearance surveys are surveys conducted immediately prior to activities that can kill or injure desert tortoises. Qualified biologists conduct these surveys and translocate or move desert tortoises from harm's way prior to disturbance, as per the minimization measures in the general conservation plan and individual incidental take permits issued under the auspices of the general conservation plan. Clearance surveys must be conducted in accordance with the Service's most up-to-date survey protocol or as specified individual incidental take permits issued under the auspices of the general conservation plan.

Conservation easement. A partial interest in land that can be transferred to a qualified land conservancy or government entity. The purpose is to conserve or protect the land. Conservation easements typically restrict allowable uses of the land by prohibiting development and sometimes restricting or requiring particular management activities. A conservation easement is legally binding for a specified term, which may be in perpetuity.

Conservation lands. Administrative designations by the Bureau that include California Desert National Conservation Land, areas of critical environmental concern, and wildlife allocation designations on Bureau-administered land.

Critical habitat. Critical habitat is defined in section 3(5)(A) of the Endangered Species Act of 1973 as (1) the specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the Endangered Species Act, on which are found those physical or biological features essential to the conservation of the species, and which may require special management considerations or protection; and (2) specific areas outside the geographical area occupied by the species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. Through section 7(a)(2) of the Endangered Species Act, federal agencies must ensure that any action they fund, authorize, or carry out is not likely to result in the destruction or adverse modification of critical habitat.

D

Desert Renewable Energy Conservation Plan. The Desert Renewable Energy Conservation Plan resulted from an interagency planning effort of the Bureau, Service, California Department of Fish and Wildlife, and California Energy Commission to address a biological conservation framework and renewable energy strategy for the California desert. The Bureau completed a land use plan amendment for the public lands portion of the Desert Renewable Energy Conservation Plan; the Service and Bureau completed formal consultation, pursuant to section 7(a)(2) of the Endangered Species Act, on the land use plan amendment in 2016.

Desert tortoise conservation areas. Desert tortoise conservation areas are areas where the management goals of the landowner or manager are compatible with the recovery of the desert tortoise. The recovery plan for the desert tortoise (2011, Box 2) generally describes conservation lands as desert tortoise habitat within critical habitat, areas of critical environmental concern, national monuments, national wildlife refuges, National Park Service lands, and other conservation areas or easements managed for desert tortoises.

F

Federal lands. Land or interest in land owned and/or administered by the United States. Activities on federal lands in the plan area are administered by the Secretary of the Interior through the Bureau, National Park Service, and Bureau of Reclamation. The Department of Defense administers other federal lands in the planning area.

H

Harm. Harm is a form of “take,” as defined in section 3(19) of the Endangered Species Act. Regulations at 50 Code of Federal Regulations 17.3 further define “harm” as “an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns such as breeding, feeding or sheltering.”

Incidental take. “Incidental taking” means any taking otherwise prohibited, if such taking is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity.

L

Land use plan amendment. The land use plan amendment is a set of decisions that establishes management direction for Bureau-administered land within an administrative area through amendment to existing land use plans.

M

Maximum extent practicable. Section 10(a)(2)(B)(ii) of the Endangered Species Act requires that an applicant minimize and mitigate the impacts of the taking “to the maximum extent practicable.” To meet this statutory standard, the applicant must demonstrate that minimization and mitigation measures proposed in the conservation plan represent the most the applicant can practicably accomplish (Service and National Oceanic and Atmospheric Administration 2016, page 9-28).

Mitigation area. Mitigation area refers to areas within the planning area where mitigation resulting from issuance of incidental take permits under the auspices of the general conservation plan applicants would occur; these areas would also serve as recipient sites for desert tortoises that are translocated from development sites.

N

National Landscape Conservation System. In accordance with and as defined by Public Law 111-11 in the Omnibus Public Land Management Act of 2009, sections 2002(a),(b)(1)(A–F), and (b)(2)(D), the National Landscape Conservation System is a Bureau land use designation to conserve, protect, and restore nationally significant landscapes that have outstanding cultural, ecological, and scientific values for the benefit of current and future generations. Areas specially designated as part of the National Landscape Conservation System in Public Law 111-11 are wilderness, wilderness study areas, national monuments, national scenic trails, national historic trails, and national and wild and scenic rivers. Public Law 111-11 also directed the Bureau to designate public land within the California Desert Conservation Area administered for

conservation purposes as part of the National Landscape Conservation System. These lands are the California Desert National Conservation Lands and are part of the land use plan amendment's conservation designations. The California Desert National Conservation Lands designated in the land use plan amendment for the Desert Renewable Energy Conservation Plan are an addition to the other components of the National Landscape Conservation System.

Non-federal lands. Land owned by state agencies, local jurisdictions (e.g., cities or counties), non-governmental organizations, or private citizens, or otherwise not under federal ownership or management.

P

Permit area. The permit area refers to areas within the planning area where applicants could use the general conservation plan to apply for incidental take permits for the desert tortoise under the auspices of the general conservation plan.

Planning area. The planning area includes the entire area covered by this general conservation plan. The permit area and the mitigation area comprise the planning area.

Pre-project surveys. Pre-project surveys are surveys conducted prior to a project or an activity to determine whether desert tortoises are likely to be present. Such surveys will assist an applicant in determining whether an application for an incidental take permit is advisable. They may consist of the standard protocol surveys developed by the Service or other methods of detecting desert tortoises developed in cooperation with the Service for specific circumstances.

Protocol survey. The Service has developed a standard protocol survey for desert tortoises that recommends the timing and methodology for such surveys and contains a model that estimates the likely number of desert tortoises present, based on the results of the field work and monitoring of transmittered desert tortoises.

Public domain. Vacant, unappropriated, and unreserved public lands, or public lands withdrawn by Executive Order 6910 of November 26, 1934, as amended, or Executive Order 6964 of February 5, 1935, as amended, and not otherwise withdrawn or reserved, or public lands within grazing districts established under section 1 of the Taylor Grazing Act of June 28, 1934, as amended, and not otherwise withdrawn or reserved.

Public land. Land or interest in land owned by the United States and administered by the U.S. Secretary of the Interior through the Bureau, without regard to how the United States acquired ownership, but not including (1) lands on the outer continental shelf and (2) lands held for the benefit of Indians, Aluets, and Eskimos.

T

Take. Section 3(19) of the Endangered Species Act defines “take” as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct” (16 USC 1532(3)(19)). Take of endangered animals is prohibited by section 9 of the Endangered Species Act; the Service extended the take prohibitions of section 9 to the desert tortoise, a threatened species, through federal regulation pursuant to section 4(d) of the Endangered Species Act.

W

Wildlife allocation. A Bureau conservation designation on Bureau-administered lands where management emphasizes wildlife values, but the area does not contain the same sensitive values or management limitations as an area of critical environmental concern.

COVER SHEET

TITLE: General Conservation Plan for Issuance of Endangered Species Act Section 10(a)(1)(B) Permits for the Desert Tortoise in California

SPECIES: Mojave distinct population segment of the desert tortoise (*Gopherus agassizii*)

PLANNING AREA: Figure 1 depicts the planning area. The planning area generally encompasses the range of the desert tortoise in California. Incidental take permits deriving from the general conservation plan (Plan) would be available on non-federal lands outside of desert tortoise conservation areas as described in the recovery plan for the desert tortoise (Service 2011). Mitigation associated with implementation of the Plan would occur within desert tortoise conservation areas, where they overlap with Bureau of Land Management conservation lands (California Desert National Conservation Lands and areas of critical environmental concern) as identified in the California Desert Conservation Area Plan, as amended by the Desert Renewable Energy Conservation Plan (see Figure 2 in Bureau 2016), National Park Service lands, or on non-federal lands that are being managed for conservation (Figure 3). Additionally, the Plan also covers activities along existing rights-of-way through federal lands in the California desert where the federal agency no longer has discretionary authority. The Plan does not include lands within military bases or the area covered by the Coachella Valley Multiple Species Habitat Conservation Plan. Any regional or local habitat conservation plan can supersede this general conservation plan upon issuance by the U.S. Fish and Wildlife Service (Service) of a section 10(a)(1)(B) incidental take permit for that specific area.

COORDINATION WITH THE CALIFORNIA DEPARTMENT OF FISH AND

WILDLIFE: We will discuss compliance with the California Endangered Species Act later in this Plan. However, regardless of how applicants comply with the California Endangered Species Act, close coordination between the Service and Department will be a key component of maximizing the efficiency of this Plan and conservation of the desert tortoise. In almost every situation where an applicant is seeking a section 10(a)(1)(B) permit from the Service, they would need to comply with the California Endangered Species Act. We envision that, at every step in the process of applying for a federal incidental take permit, the applicant would engage the Department at the same time. We did not insert this important concept throughout this document, but the Service fully intends to work with the Department closely on every project where the applicant is seeking incidental take permits from both agencies.

COVERED ACTIVITIES: The Plan covers otherwise lawful commercial, agricultural, residential, industrial, and infrastructure development. It will also cover operations and maintenance of these activities.

AMOUNT OF INCIDENTAL TAKING: Incidental taking means any taking otherwise prohibited, if such taking is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity [50 Code of Federal Regulations (CFR) 17.3]. Resource agencies do not conduct systematic surveys to estimate the number of desert tortoises that reside outside of conservation areas. Given the results of numerous surveys for specific projects, we conclude that desert tortoises are not abundant on non-federal lands where the Plan would permit covered activities. To ensure that we have not underestimated the abundance of desert tortoises on these lands, the Service will establish a threshold system as part of its review process (Section 4). Incidental take

is likely to occur in the form of killing, wounding, harming, and capturing desert tortoises during the conduct of covered activities.

FUNDING PLAN: Applicants must commit to funding full implementation of the measures listed in their project-specific application, which would be based on the minimization, mitigation, and monitoring programs described more generally in this Plan. Applicants will minimize and mitigate, to the maximum extent practicable, for all incidental take of desert tortoises that occurs under the authority of this Plan (Section 6). Applicants will provide funding assurances with their individual project package application.

MONITORING PLAN: Each permittee will provide an annual report on March 31 each year that its incidental take permit is in effect or until the Service agrees that an annual report is no longer needed.

DURATION OF PERMITS ISSUED UNDER THE PLAN: The duration of permits issued under the Plan will vary according to the nature of the specific proposed action for which an applicant requests an incidental take permit.

Chapter 1. Introduction

1.1 PURPOSE AND NEED

Section 9 of the Endangered Species Act of 1973, as amended (Act), and federal regulation pursuant to section 4(d) of the Act prohibit the taking of any federally listed endangered or threatened fish or wildlife species. Section 10(a)(1)(B) of the Act allows non-federal entities to apply for incidental take permits to take listed fish or wildlife species in the course of otherwise legal activities.

The Service (2007) developed the concept of general conservation plans to streamline the habitat conservation planning process. This process streamlines the application for a section 10(a)(1)(B) incidental take permit by allowing the Service to develop a single general conservation plan for a local area. The Service then completes all documents required by the Act and National Environmental Policy Act (NEPA). Individual non-federal entities may apply for an incidental take permit, provided they commit to complying with the monitoring, minimization, and mitigation measures in the general conservation plan.

The Service developed this Plan to provide a streamlined mechanism for applicants engaged in covered activities to meet the statutory and regulatory requirements of the Act, while promoting conservation of federally threatened desert tortoise. Covered activities include commercial, agricultural, residential, industrial, and infrastructure development.

This Plan is a conservation plan as required in section 10(a)(2)(A) of the Act for issuance of an incidental take permit pursuant to section 10(a)(1)(B). Participation in the Plan and applying for authorization to take desert tortoises are voluntary. To obtain an incidental take permit for the desert tortoise through this streamlined process, applicants must:

- Meet the issuance criteria found at 50 Code of Federal Regulations 13 and 17;
- Document that their projects meet various qualifying criteria (described below);
- Agree to implement the minimization, mitigation, and monitoring generally described in this document and described in detail in the project-specific application and comply with the terms and conditions of any incidental take permit issued under this Plan; and
- Provide documentation that they have met all incidental take permitting requirements for their project as described in this document.

After the Service has completed the Plan and compliance with the Act and NEPA, applicants may obtain incidental take permits for covered activities in a streamlined manner. To use the Plan, applicants must submit an individual project package for the Service's approval. If approved, the Service will issue an individual incidental take permit for the covered activity. Section 6 of this Plan describes the process for submission and approval of an individual project package.

The Service recognizes that covered activities may result in take of the desert tortoise. Equipment and vehicles may crush or strike them; habitat degradation or loss could impair their breeding, feeding, or sheltering to the extent that they are reasonably certain to die; and the entities implementing a project may capture them (with authorization from the Service) for

translocation. Section 4 discusses the potential impacts on the desert tortoise of the issuance of incidental take permits under this Plan. This Plan also describes actions that can serve to minimize and mitigate the impacts of such taking to the maximum extent practicable.

The Service is required by statute to provide public notice before issuing an incidental take permit under section 10(a)(1)(B) of the Act. Our Federal Register notice of the finalization of this general conservation plan will serve as notice to the public, in accordance with 50 CFR 17.32(b)(1)(ii), that we intend to issue individual incidental take permits for desert tortoises, provided that the applicants meet the general issuance criteria in our regulations and the specific criteria described in this Plan. Annually, the Service will publish notices of individual incidental take permits that we have issued through this general conservation plan.

We developed this document to meet the Service’s statutory and regulatory requirements.

Despite the best efforts of responsible agencies and project proponents, some projects may have the potential to take desert tortoises in a manner that we did not foresee during the development of this Plan or affect federal candidate, proposed, or listed species not covered by the Plan. If covered activities may result in take of non-covered federally listed species, the Service would recommend that project proponents apply for an incidental take permit for the non-covered species. The Service may suspend or revoke an incidental take permit for noncompliance with its conditions or with any applicable laws or regulations governing the conduct of the permitted activity (50 CFR 13.27, 13.28). Revocation can further disqualify an applicant from receiving or exercising the privileges of a similar permit for a period of 5 years from date of agency decision on the revocation (50 CFR 13.21(c)(2)).

1.2 PLANNING AREA

The planning area includes a large portion of the range of the desert tortoise in California (**Figure 1**). In this document, we use “planning area” to mean the entire area covered by this Plan.

Because of the large sizes of the proposed planning, permit, and mitigation areas, the maps in this document are unlikely to precisely match on-the-ground boundaries. During application of the Plan, if the Service adopts it, the Service will abide by and rely on the spirit and intent of the Plan. Specifically, we intend the general conservation plan to be available to facilitate the issuance of incidental take permits for the desert tortoise for activities that lack a federal nexus and are outside of desert tortoise conservation areas; the Plan would also be available for activities along existing non-federal rights-of-way that traverse federal lands, provided that the activities are within the original purpose of the right-of-way. Mitigation required for the issuance of an incidental take permit would occur within a mitigation area, as defined in the Plan.

The two components of the planning area consist of the permit area and the mitigation area.

We will use the term “permit area” to refer to areas where applicants could use the general conservation plan to apply for incidental take permits (**Figure 2**).

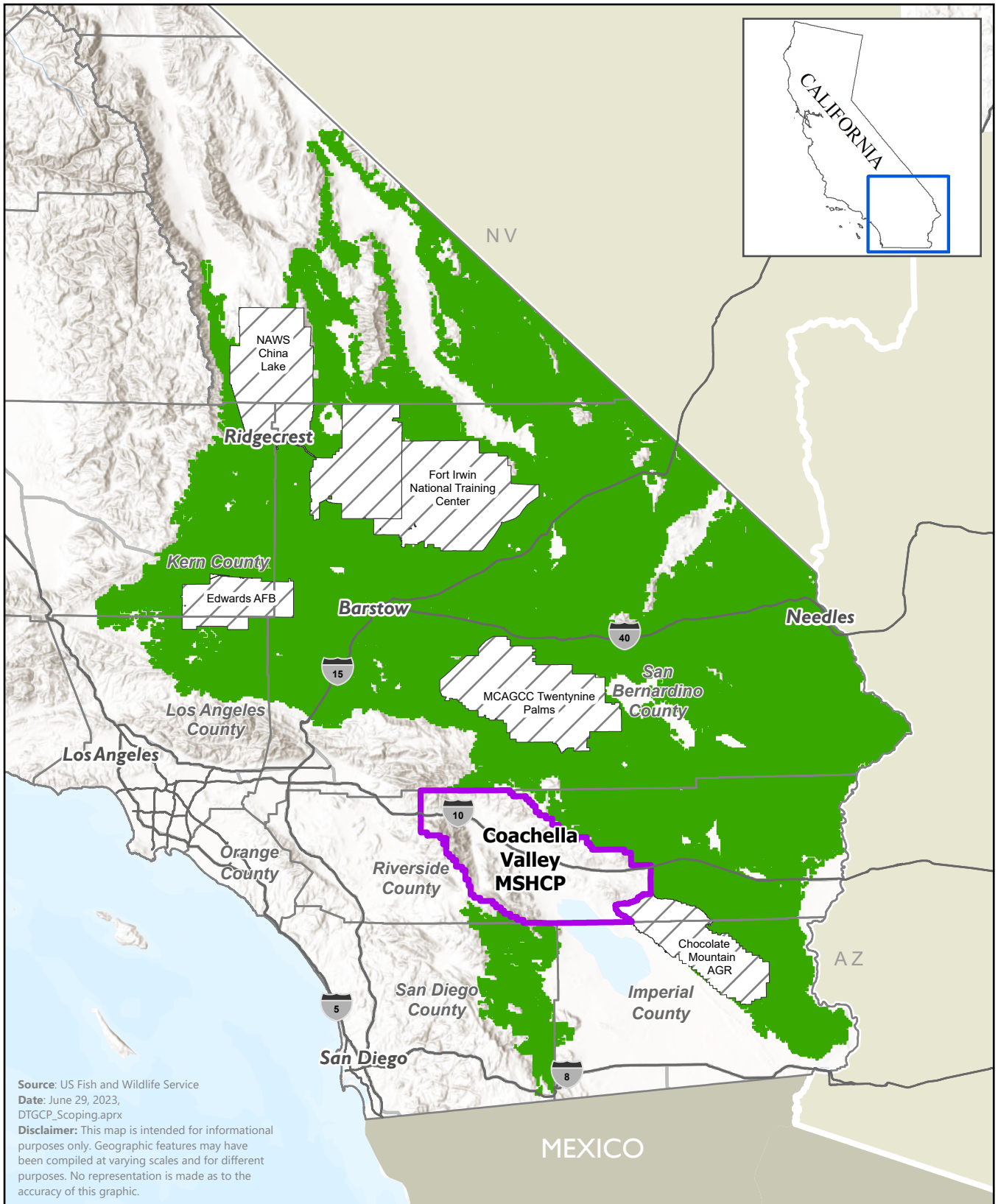
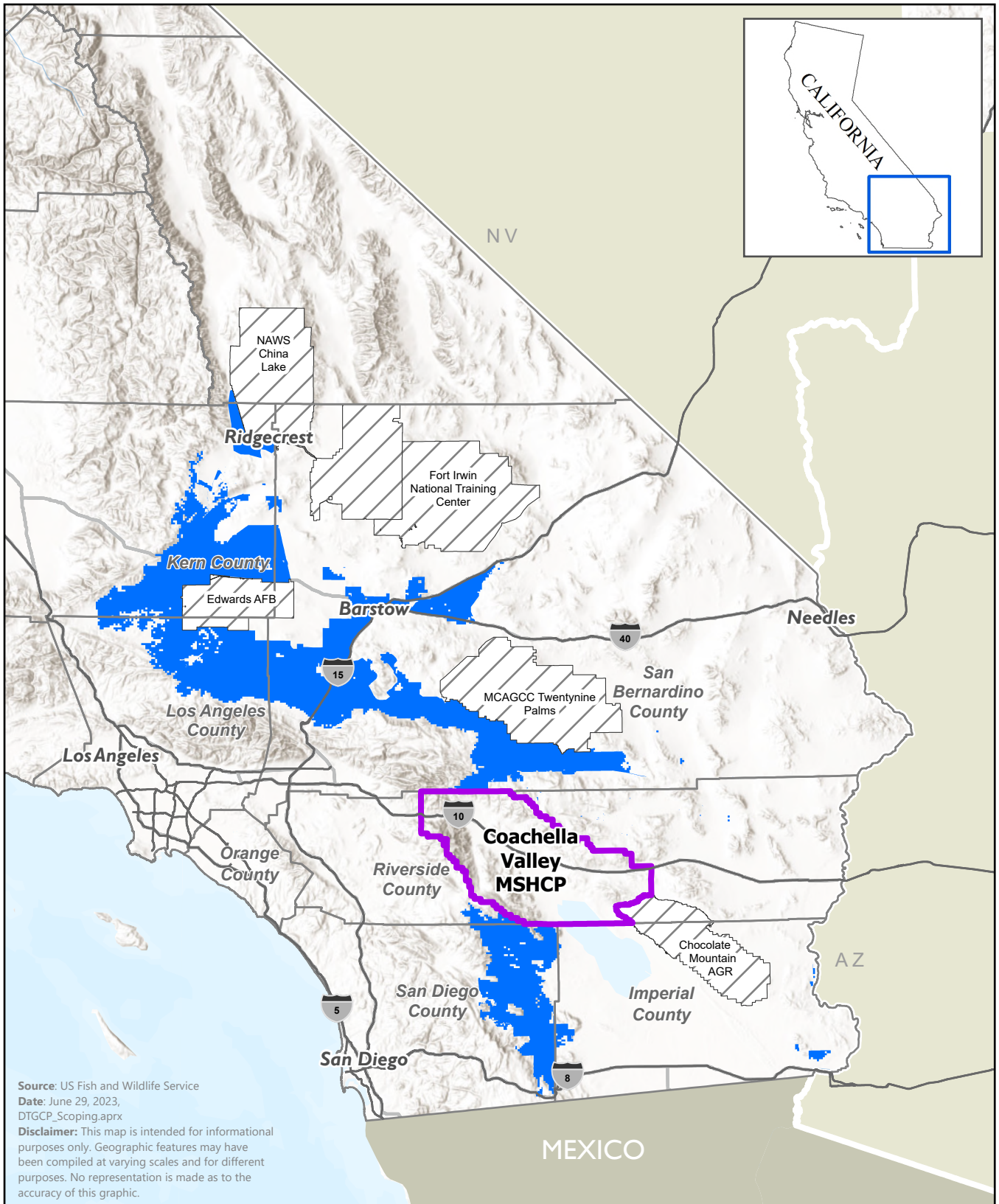


Figure 1 Planning Area

- Planning area
- Coachella Valley MSHCP boundary
- Department of Defense Lands

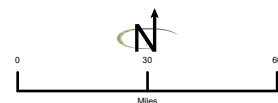




Source: US Fish and Wildlife Service
 Date: June 29, 2023,
 DTGCP_Scoping.aprx
 Disclaimer: This map is intended for informational purposes only. Geographic features may have been compiled at varying scales and for different purposes. No representation is made as to the accuracy of this graphic.

Figure 2 Potential Permit Area

- Potential permit area
- Coachella Valley MSHCP boundary
- Department of Defense Lands



We will use the term “mitigation area” to refer to areas where mitigation resulting from issuance of incidental take permits under the auspices of the Plan would occur; we also propose to translocate desert tortoises into this area from development sites. The mitigation area generally includes “desert tortoise conservation areas” as described in the recovery plan for the desert tortoise (2011, Box 2). Conservation areas include conservation lands managed by the Bureau (California Desert National Conservation Lands and areas of critical environmental concern) as identified in the California Desert Conservation Area Plan, as amended by the Desert Renewable Energy Conservation Plan (Bureau 2016, National Park Service lands, and other conservation areas or easements managed for desert tortoises. The general conservation plan would not be available to applicants in mitigation areas, even if the proposed action is on non-federal land.

Figure 3 depicts desert tortoise conservation areas as described in the previous paragraph that overlay areas with a habitat potential of 0.5 or above for desert tortoises, as described by Nussear et al. (2009). The Service is currently refining the boundaries of the potential mitigation area through the use of additional, more recent models.

We will use “project area” to refer to the area covered by an individual project for which an applicant is seeking an incidental take permit under this Plan.

Additionally, the Plan would cover activities along existing rights-of-way in the California desert where the federal agency no longer has discretionary authority; consequently, interagency consultation, pursuant to section 7(a)(2) of the Endangered Species Act, does not apply in these areas. The general conservation plan would apply to such rights-of-way that cross federal lands, whether they are within or outside of mitigation areas. Within conservation areas, the Plan would be available only for projects that intended to improve the safety and functionality of the existing right-of-way; the Service will not consider its use appropriate if the proposed action changes the basic function of the existing right-of-way. For example, the holder of such a right-of-way could apply for an incidental take permit under the Plan for the excavation of sand and gravel from the right-of-way to repair its utility in the right-of-way. However, we would not consider use of the Plan if the purpose was to sell the sand and gravel off site.

The general conservation plan does not include the area covered by the Coachella Valley Multiple Species Habitat Conservation Plan. Also, the potential exists that the Service may issue incidental take permits for regional or local areas in the future. The Service and stakeholders can decide during those planning processes whether applicants for incidental take permits in those areas can rely on the general conservation plan or if the new plan would supersede this general conservation plan.

The planning area includes undeveloped land, active and fallow agricultural lands, and rural and urban development. The undeveloped land encompasses various types of desert scrub habitat; human activities have disturbed some areas of scrub habitat. Desert tortoises occur primarily within undeveloped land but occasionally use fallow agricultural lands.

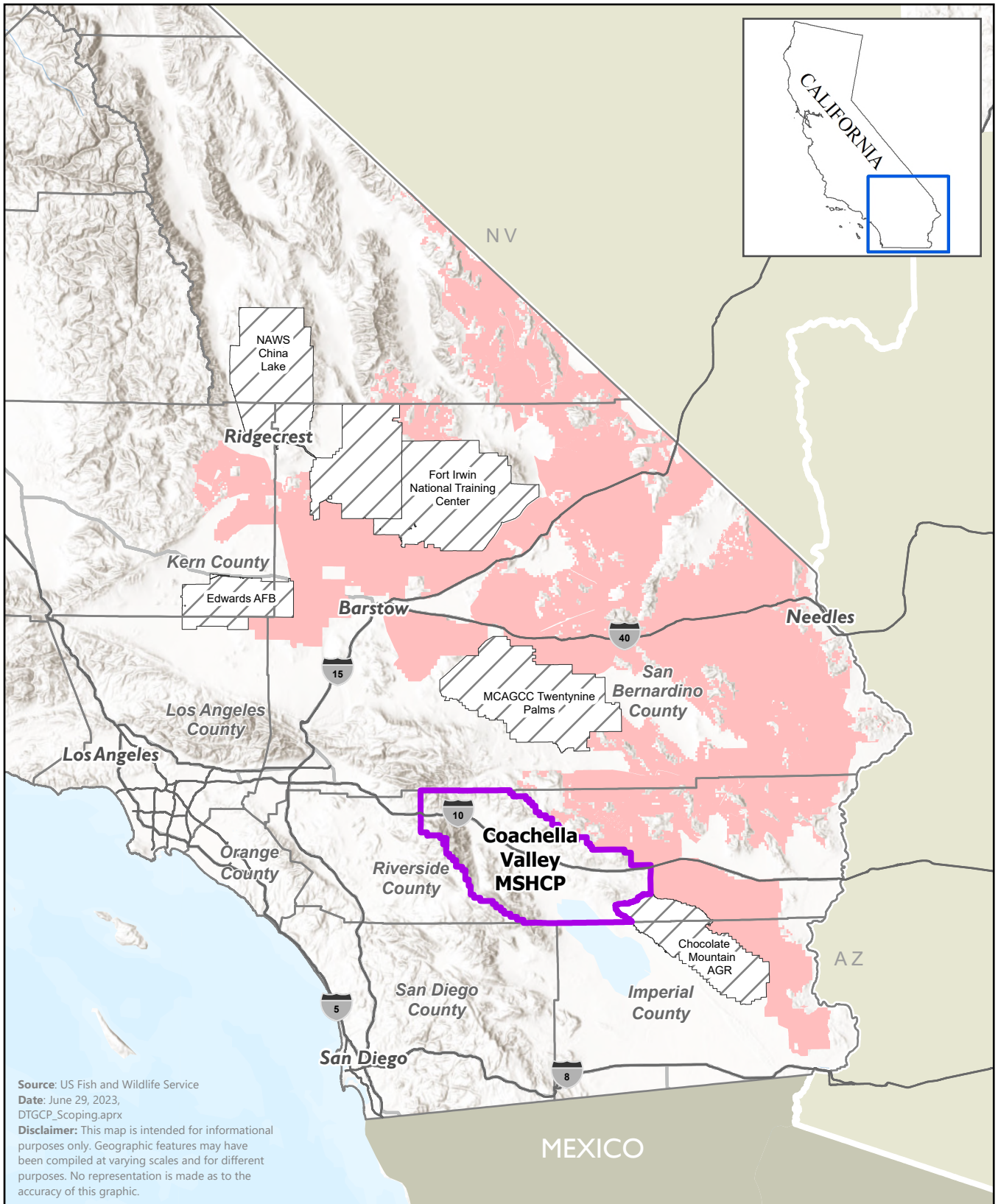
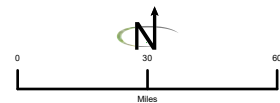


Figure 3 Potential Mitigation Area

- Potential mitigation area
- Coachella Valley MSHCP boundary
- Department of Defense Lands



1.3 APPLICANTS AND PERMITTEES

Project proponents who wish to engage in covered activities (as identified in Section 2) within the planning area may be eligible for an incidental take permit, if they commit to implement the specific minimization and mitigation measures for the desert tortoise identified in the Plan; we will refer to them as applicants throughout this document. We will refer to project proponents who receive an incidental take permit from the Service as permittees.

1.4 DURATION OF INCIDENTAL TAKE PERMITS ISSUED UNDER THE PLAN

The duration of permits issued under the general conservation plan will vary according to the nature of the specific proposed action for which an applicant requests an incidental take permit. For example, if the proposed action would involve the incidental take of desert tortoises and the permittee can fully implement the mitigation and monitoring over a brief time, the duration of that incidental take permit would be relatively short. For projects where incidental take and the implementation of mitigation are likely to be require a long time, the incidental take permit for that project could extend for decades.

1.5 REGULATORY CONTEXT

Permits issued under this Plan cover only take incidental to, and not the purpose of, the carrying out of an otherwise lawful activity (50 CFR 17.3). Applicants seeking an incidental take permit under this Plan must comply with all applicable Federal, State, and local statutes and regulations to ensure that the action is otherwise lawful.

1.6 REGULATORY FRAMEWORK

1.6.1 Federal Endangered Species Act

The Service’s responsibilities include administering the Act. Section 9 of the Act and federal regulation pursuant to section 4(d) of the Act prohibit the taking of any federally listed endangered or threatened fish or wildlife species. Take is defined in Section 3(19) of the Act as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct” (16 USC 1532(3)(19)). Regulations at 50 CFR 17.3 further define harm as “an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns such as breeding, feeding or sheltering.” The Act provides for civil and criminal penalties for the unlawful taking of listed species.

Exemptions to the prohibitions against take are available through coordination with the Service in two ways. If a Federal agency has discretion with regard to funding, authorizing, or carrying out an action that may affect a listed species, the Federal agency must consult with the Service pursuant to section 7(a)(2) of the Act. Private individuals, State and local agencies, or other entities who propose an action that is reasonably certain to result in the take of federally listed fish or wildlife species, and for which no Federal nexus exists, may comply with the Act by applying for, and receiving, an incidental take permit pursuant to section 10(a)(1)(B) of the Act. A conservation plan must accompany the application for an incidental take permit.

Section 7(a)(2) of the Act requires that Federal agencies ensure that their actions are not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of designated critical habitat. Pursuant to 50 CFR 402.2, “Jeopardize the continued

existence of...” means “to engage in an action that would reasonably be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species.” Destruction or adverse modification means “a direct or indirect alteration that appreciably diminishes the value of critical habitat as a whole for the conservation of a listed species.” Issuance of an incidental take permit by the Service, pursuant to section 10(a)(1)(B), constitutes a Federal action that is subject to the requirements of section 7(a)(2) and the Service must prepare an internal consultation to address the effects of the permit issuance.

1.6.2 Incidental Take Permit Process

The conservation planning process has four primary phases: (1) pre-application; (2) development of a conservation plan; (3) processing of the permit; and (4) post-issuance compliance. First, the Service provides the potential applicant guidance in deciding if an incidental take permit is appropriate and, if so, what type and scale of conservation plan would fit the applicant’s needs. During the second phase, the applicant prepares a plan that integrates the proposed project or action with conservation of listed species. Every conservation plan submitted in support of an application for an incidental take permit must specify:

1. The impact that will likely result from such taking;
2. What steps the applicant will take to monitor, minimize, and mitigate such impacts, the funding that will be available to implement such steps, and the procedures to be used to deal with unforeseen circumstances;
3. What alternative actions to such taking the applicant considered and the reasons why such alternatives are not proposed to be utilized; and
4. Such other measures that the Service may require as being necessary or appropriate for purposes of the plan (50 CFR 17.32(b)(1)(iii)(C)).

Development of a conservation plan concludes and the permit processing phase begins when the applicant submits a complete application package to the appropriate permit-issuing office. A complete application package consists of a conservation plan, a permit application, and payment of a \$100 fee by the applicant. The Service will publish a notice of availability of the package in the Federal Register to allow for public comment and issue its incidental take permit when it determines that all the statutory requirements have been met. The statutory criteria for issuance of the permit specify that:

1. the taking will be incidental;
2. the applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking;
3. the applicant will ensure that adequate funding for the plan will be provided;
4. the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild; and
5. the applicant will meet measures, if any, required by the Service as necessary or appropriate for purposes of the plan.

The Service must also determine that it has received any other assurances that it may require that the applicant will implement the plan. The permit will contain such terms and conditions as the Service deems necessary or appropriate to carry out the purposes of the issuance criteria, including, but not limited to, reporting requirements necessary to determine whether the applicant is complying with the terms and conditions of the incidental take permit. The Service will prepare a set of findings that evaluates the application for the section 10(a)(1)(B) in the context of these issuance criteria.

During the post-issuance phase, the permittee and any other responsible entities are required to implement the conservation plan in accordance with the terms and conditions of the incidental take permit. The Service monitors compliance with the conservation plan and its long-term progress and success.

1.6.3 National Environmental Policy Act

Federal agencies must comply with NEPA when they undertake discretionary actions. The purpose of NEPA is to ensure that Federal agencies “consider the environmental impacts of their actions in the decision-making process” (40 CFR 1500.1). In this case, the Federal action is deciding whether to issue an incidental take permit; the Service’s NEPA compliance consists of an environmental impact statement.

1.6.4 National Historic Preservation Act

Section 106 of the National Historic Preservation Act requires Federal agencies consider the effects of projects they carry out, approve, or fund on historic properties. This process requires consultation with the State Historic Preservation Office and appropriate American Indian tribes.

The implementing regulations for section 106 of the National Historic Preservation Act allow for the federal agency to authorize an applicant or group of applicants to initiate consultation regarding compliance with section 106 of the National Historic Preservation Act with the State Historic Preservation Office and Tribal historic preservation offices and others (36 CFR 800.2(c)(4)). Pursuant to the statute and regulations, the Service would remain legally responsible for all findings and determinations regarding historic properties. The Service will notify the State Historic Preservation Office and Tribal historic preservation offices of our intent to apply this authorization under the Plan. The Service will continue to follow its policies regarding government-to-government relationships with federally recognized tribes. We will describe the specific mechanism that the Service will use to comply with section 106 in Section 6 of this Plan.

1.6.5 Other Relevant Laws and Regulations

California Endangered Species Act: The California Endangered Species Act generally parallels the main provisions of the Act and provides for the designation of native species or subspecies of plants, fish, and wildlife as endangered or threatened. Section 2080 of the California Endangered Species Act prohibits the take of state-listed endangered or threatened species but allows for the incidental take of such species resulting from otherwise lawful development projects under section 2081(a) and (b). The desert tortoise is also listed as threatened, candidate endangered, under the California Endangered Species Act by the State of California. Individual permittees who obtain a Federal incidental take permit for the desert tortoise, pursuant to section 10(a)(1)(B), may request that the Director of the Department find the Federal documents

consistent with the California Endangered Species Act. Applicants under this plan are encouraged to coordinate with the Department early in the federal permitting process prior to submitting requests for individual section 2080.1 consistency determinations for the desert tortoise to the Department.

California Environmental Quality Act: The California Environmental Quality Act is generally analogous to NEPA in that it requires the completion of an environmental review for projects that may significantly impact environmental resources. It requires public agencies in California to evaluate the environmental impacts of proposed projects, prepare negative declarations, mitigated negative declarations, or environmental impact reports and to consider feasible alternatives and mitigation measures that would substantially reduce significant adverse environmental effects; it also requires state and local agencies to notify the public and review its comments on proposed actions. It applies to a broad range of environmental resources, such as air quality, water, traffic, state and federally listed wildlife and plant species, and sensitive natural communities. We expect that local state land use agencies will review most projects for which applicants propose to use the general conservation plan under the California Environmental Quality Act.

Local land use agencies within the planning area include, but are not limited to, the counties of San Bernardino, Kern, Los Angeles, Riverside, and Imperial; the cities of Lancaster, Palmdale, California City, Ridgecrest, Hesperia, Adelanto, Barstow, Victorville, and Twentynine Palms; and the towns of Yucca Valley, Joshua Tree and Apple Valley. Several school and water districts also occur within this area. Other agencies of the State of California (e.g., the Department of Water Resources and State Lands Commission) may undertake activities in the planning area.

1.7 COVERED SPECIES

The desert tortoise is the only species covered under this plan; therefore, we will only address impacts to and conservation of this species. We describe the desert tortoise further in section 3 of this plan.

The Service considered whether covered activities could affect other federally listed species, candidate or proposed species, eagles, and migratory birds within the planning area (section 2). In the past, we have had few instances where a single project in the permit area had the potential to affect federally listed species or critical habitat in addition to the desert tortoise. Applicants must avoid or receive separate authorization to take other federally protected species that occur within their project areas to meet issuance criteria for participation in the plan. Failure to comply with the Act for other federally listed species may constitute a violation of section 9; it also could result in suspension or revocation of incidental take permits issued under the plan. Failure to comply with other Federal laws and regulations with regard to other federally protected species may also result in prosecution.

1.8 ALTERNATIVES TO THE TAKING

Section 10(a)(2)(A)(iii) of the Act requires that the applicant describe “what alternative actions to the taking the applicant considered, and the reasons why such alternatives are not being utilized.” The only alternative to the proposed incidental taking is for project proponents to avoid any actions that could result in take of the desert tortoise. Under this alternative, proponents could modify projects to avoid the take of desert tortoises. Such modifications would likely range from

insignificant to substantial changes in project design, timing, or location. For at least some cases, such modifications would not meet the needs of project proponents. Also, desert tortoises move over time; an animal that is outside the project boundary during resource surveys may move to within the project's boundary at the time of implementation. Complete avoidance of desert tortoises in the planning area is neither practical nor feasible for many activities.

Chapter 2. Covered Activities

The Plan covers commercial, agricultural, residential, industrial, and infrastructure development within the planning area that a federal agency does not fund, authorize, or carry out; we also intend for the Plan to cover operations and maintenance associated with such activities. The Service intends the covered activities to be inclusive; that is, it will consider for coverage any future activity that has the same general effects on the desert tortoise as those described in this general conservation plan. The Service retains the right to recommend that the non-federal entity pursue an individual incidental take permit if the scope of the proposed activity is likely to affect desert tortoises in a manner that we have not considered in this general conservation plan.

We expect that portions of projects that are reasonably certain to take desert tortoises may occur outside the planning area as described in this Plan. For example, a proponent could propose a project that includes suitable desert tortoise habitat within the planning area but extends outside the planning area into areas where desert tortoises are highly unlikely to occur because the habitat is unsuitable. A second example would occur when a project proponent detects desert tortoises beyond areas we consider to be within their current range. In such cases, we would recommend that the project proponent contact us early in their planning process to determine whether use of the Plan is appropriate. To determine whether use of the Plan is appropriate, we would consider whether the proposed action would constitute more than a negligible effect on the desert tortoise. We would also evaluate the extent of the covered activities regarding their potential effects on the human environment. If the overall effect on the desert tortoise is negligible and the Service has adequately evaluated the potential effects on the human environment through NEPA, the Service may allow for use of the Plan. If we determine otherwise, we will recommend that project proponent seek incidental take authorization independent of the Plan, if needed.

All covered activities associated with each project must comply with all the requirements of local and state jurisdictions.

Chapter 3. Environmental Setting and Covered Species

We derived the following information regarding climate; topography; hydrology and drainages; and existing and surrounding land uses from the California Energy Commission et al. (2014).

3.1 CLIMATE

The planning area generally experiences hot, dry summers and mild to cold winters. Annual precipitation ranges from approximately 3 inches in the low deserts (Colorado/Sonoran) to approximately 8 inches in the high deserts and desert ranges (Mojave). The Mojave Desert is a “cold” or winter desert, with about 50 to 70 percent of rainfall occurring during the winter. The Colorado/Sonoran Desert is lower in elevation overall and hotter and drier than the Mojave Desert. In contrast with the Mojave Desert, the lower elevations of the Colorado/Sonoran Desert seldom experience subfreezing temperatures and frost. A substantial portion of the annual rainfall in the Colorado/Sonoran Desert occurs during monsoons from July to late September.

3.2 TOPOGRAPHY

The topography within the planning area generally ranges from near sea level to approximately 8,700 feet. Most of the planning area ranges from approximately 1,500 to 3,500 feet above mean sea level. The westernmost portion of the planning area is relatively flat (Antelope Valley); most of the planning area contains mountain ranges, alluvial fans, and valleys.

3.3 HYDROLOGY AND DRAINAGES

Major hydrologic features in the planning area include the Mojave River and numerous closed watersheds that drain to dry lake beds. The planning area also contains numerous washes, some of which are wide and deep.

3.4 EXISTING LAND USES

The planning area includes undeveloped land, active and fallow agricultural lands, and rural and urban development. The undeveloped land encompasses various types of desert scrub habitat; human activities have disturbed some areas of scrub habitat.

Various types of uses and facilities occur in areas where desert tortoises occur. These uses and facilities include but are not limited to mines, compost facilities, renewable energy facilities, communication sites, solid waste disposal facilities, wastewater treatment plants, transmission lines, residences, and prisons.

Numerous roads traverse the planning area. These roads include interstate and state highways, local roads, unpaved but maintained roads, and unpaved and unmaintained roads. Hiking, equestrian, and mountain bike trails also occur in the planning area.

The planning area also includes state and local parks. Non-federal lands also support motorized recreation, at least some of which is unauthorized, and other staged recreation events.

3.5 COVERED SPECIES

The Mojave population of the desert tortoise is the only species addressed in this Plan. This section provides a concise review of pertinent information on the desert tortoise, including a history of its listing, goals for recovery, status and distribution, reasons for its decline, and its recovery needs.

3.5.1 Listing History

The Service listed the Mojave population of desert tortoise (all desert tortoises north and west of the Colorado River in Arizona, Utah, Nevada, and California) as threatened on April 2, 1990 [55 Federal Register 12178].

3.5.2 Recovery Plan

In the revised recovery plan for the desert tortoise, the Service (2011) identified the need for “conservation areas” to protect existing desert tortoise populations and habitat. Box 2 and Figure 2 in the recovery plan (Service 2011) describe and depict these areas in a generalized manner, respectively.

The revised recovery plan lists three objectives and associated criteria to achieve delisting. The first objective is to maintain self-sustaining populations of desert tortoises within each recovery unit into the future. The criterion is that the rates of population change for desert tortoises are increasing over at least 25 years (i.e., a single generation), as measured by extensive, range-wide monitoring across conservation areas within each recovery unit and by direct monitoring and estimation of vital rates (recruitment, survival) from demographic study areas within each recovery unit.

The second objective addresses the distribution of desert tortoises. The goal is to maintain well-distributed populations of desert tortoises throughout each recovery unit; the criterion is that the distribution of desert tortoises throughout each conservation area increase over at least 25 years.

The final objective is to ensure that habitat within each recovery unit is protected and managed to support long-term viability of desert tortoise populations. The criterion is that the quantity of desert tortoise habitat within each conservation area be maintained with no net loss until population viability is ensured.

The revised recovery plan (Service 2011) also recommends connecting blocks of desert tortoise habitat, such as critical habitat units and other important areas, to maintain gene flow between populations. Linkages defined using least-cost path analysis (Averill-Murray *et al.* 2013) illustrate a minimum connection of habitat for desert tortoises between blocks of habitat and represent priority areas for conservation of population connectivity.

3.5.3 Threats

The threats described in the listing rule and both recovery plans (Service 1994, 2011) continue to affect the species. The most apparent threats to the desert tortoise are those that result in mortality and permanent habitat loss across large areas, such as urbanization and large-scale renewable energy projects and those that fragment and degrade habitats, such as proliferation of roads and highways, off-highway vehicle activity, wildfire, and habitat invasion by non-native invasive plant species.

We remain unable to precisely quantify how particular threats affect desert tortoise populations relative to other threats. The assessment of the original recovery plan emphasized the need for a better understanding of the implications of multiple, simultaneous threats facing desert tortoise populations and of the relative contribution of multiple threats on demographic factors (i.e., birth rate, survivorship, fecundity, and death rate; Tracy *et al.* 2004).

For example, we have long known that the construction of a transmission line can result in the death of desert tortoises and loss of habitat. We have also known that common ravens (*Corvus corax*), known predators of desert tortoises, use transmission line pylons for nesting, roosting, and perching and that the access routes associated with transmission lines provide a vector for the introduction and spread of invasive weeds and facilitate increased human access into an area. Increased human access can accelerate illegal collection and release of desert tortoises and their deliberate maiming and killing, as well as facilitate the spread of other threats associated with human presence, such as vehicle use, garbage and dumping, and invasive plants (Service 2011). Changes in the abundance of native plants, because of invasive weeds, can compromise the physiological health of desert tortoises, making them more vulnerable to drought, disease, and predation.

3.5.4 Five-Year Reviews

Section 4(c)(2) of the Endangered Species Act requires the Service to conduct a status review of each listed species once every 5 years. The purpose of a 5-year review is to evaluate whether the species' status has changed since listing (or since the most recent 5-year review); these reviews, at the time of their completion, provide the most up-to-date information on the range-wide status of the species.

The Service's (2022) second 5-year review of the status of the desert tortoise summarizes the information from its initial 5-year review (Service 2010) and "describes substantive new information since 2011 (from the release of the updated recovery plan) relative to changes in threats, conservation measures, and regulatory mechanisms that pertain to the five listing factors outlined in section 4(a)(1) of the (Endangered Species) Act. For this reason, we are incorporating the [5-year review](#) of the status of the desert tortoise (Service 2022) by reference to provide most of the information needed for this section of the biological opinion; because it contains background information that is not in the recent document, we have also incorporated the [2010 5-year review](#) by reference. The following paragraphs provide a summary of the relevant information in the most recent 5-year review. All references to "the 5-year review" in this section of the biological opinion are to the most recent document (Service 2022), unless otherwise noted.

The 5-year review is replete with references to numerous studies and reports. We have not included references to those studies and reports in the following summary; the full citations are available in the 5-year review.

In the 5-year review, the Service discusses the status of the desert tortoise as a single distinct population segment and summarizes that "... habitat occupied by the Mojave (distinct population segment) is relatively continuously distributed, and genetic differentiation within the (distinct population segment) is consistent with isolation-by-distance in a continuous-distribution model of gene flow." The 5-year review also notes that the Mojave distinct

population segment of the desert tortoise was elevated to species status as *Gopherus agassizii*, with most desert tortoises east of the Colorado River recognized as *G. morafkai*. The 5-year review notes that “nine local populations that include *G. agassizii* or hybrids with *G. morafkai* have been genetically identified east of the Colorado River in Arizona.” The 5-year review recommends evaluating the federal listing status of the Mojave desert tortoise relative to its current taxonomy and distribution.

In the revised 5-year review, the Service concluded that the “condition of most threats is similar to that described in the previous (2010) status review” and summarized the new information within the context of the five listing factors outlined in section 4(a)(1) of the Endangered Species Act. We summarize that information below.

Factor A: Present or Threatened Destruction, Modification, or Curtailment of Habitat or Range

Various types of anthropogenic impacts continue to cause the loss of desert tortoise habitat. The Service has issued biological opinions or incidental take permits for approximately 74,000 acres of utility-scale solar energy development in occupied desert tortoise habitat. Solar development has largely occurred outside of desert tortoise conservation areas, as described in the recovery plan (Service 2011).

The 5-year review also describes the Marine Corps’ expansion of training onto approximately 167,982 acres of public and private land and the Department of Army’s plans to expand activities onto approximately 62,045 acres of its western training area in the near future. These activities are in the Western Mojave Recovery Unit.

Legal and illegal cannabis cultivation is causing smaller scale, more widely distributed losses of habitat, particularly in the Western Mojave Recovery Unit; illegal operations are likely to indirectly affect additional habitat because of various types of waste they generate.

Wildfires fueled by invasive grasses have burned extensive areas of desert tortoise habitat. For example, fires in 2020 occurred in desert tortoise habitat in the Mojave National Preserve (Dome Fire, 43,273 acres), Nevada (Meadow Valley Fire, 23,500 acres), and the Red Cliffs Desert Reserve in the Upper Virgin River Recovery Unit (11,000 acres in several fires). The latter fire killed at least 25 desert tortoises.

The 5-year review notes that desert tortoises are “essentially absent” from habitat within 1 kilometer of areas with greater than 10 percent development; “development” includes urban areas, cultivated agriculture, energy facilities, mines and quarries, pipelines, transmission lines, roads and railroads. Approximately 5 percent of modelled desert tortoise habitat within conservation areas had development levels that exceeded this threshold. See Table 3 and Figure 7 in the 5-year review. Desert tortoise populations declined in conservation areas where the density of paved and unpaved roads exceeded 0.75 kilometer per square kilometer; population trends varied at lower densities of roads. See Figure 8 in the 5-year review.

Factor B: Overutilization for Commercial, Recreational, Scientific, or Educational Purposes

The 5-year review notes that the Service has little new information on threats related to this factor. Mortalities on paved and unpaved roads and the collection and deliberate maiming of desert tortoises remain threats.

Of the purposes listed under factor B, solar development likely directly affects the largest number of desert tortoises. Since approximately 2010, the Service (unpublished data) has estimated that solar development would affect approximately 19,900 desert tortoises in its biological opinions and incidental take permits. We used various methodologies to arrive at that estimate. In some cases, we included the estimated number of small desert tortoises, which likely far exceeded the numbers of individuals present. To date, 661 desert tortoises have been observed at these project sites; the potential exists that some desert tortoises, particularly small individuals died during construction of the projects, but were not detected.

Factor C: Disease or Predation

The 5-year review notes that “current research suggests that direct disease management of wild (desert) tortoise populations is less important ... than managing factors that affect their habitat and its capacity to support healthy (desert) tortoises.” However, management of disease when translocating desert tortoises between populations remains important. As an example of managing habitat, red brome (*Bromus rubens*), which is a non-native invasive plant, negatively affects the health and survival of juvenile desert tortoises.

Badgers (*Taxidea taxus*), coyotes (*Canis latrans*), kit foxes (*Vulpes macrotis*), dogs (*Canis familiaris*), common ravens, and red-tailed hawks (*Buteo jamaicensis*) prey on desert tortoises. Badgers can have severe effects on desert tortoise populations at the local level; DNA analysis of scats suggest that badgers, coyotes, kit foxes, dogs, and red-tailed hawks may prey on desert tortoises more frequently than previously thought.

Common ravens, because their populations have greatly increased through human subsidies, severely affect the recruitment of desert tortoises into the breeding population through predation on small individuals. In California, management includes the broad-scale removal of common ravens from critical habitat of the desert tortoise.

Factor D: Inadequacy of Existing Regulatory Mechanisms

The Bureau continues to face challenges in managing compliance with use of its off-highway vehicle network in the Western Mojave Recovery Unit. As of 2019, the Bureau documented 24,518 kilometers of ground transportation linear features in this area, which is more than 2.5 times the 9,651 kilometers designated as open or limited. The Bureau has an active program of restoring unauthorized routes and signing open routes.

Unauthorized cattle grazing continues within the Gold Butte National Monument in Nevada. We discussed cannabis cultivation in California previously in this section.

Factor E: Other Natural or Manmade Factors Affecting its Continued Existence

The 5-year review notes that, in the southwestern United States, 2000 through 2021 was the driest 22-year period in over 1,200 years; drought is likely to continue beyond 2022.

Drought reduces the amount of annual plant forage for desert tortoises and, over longer times, will kill shrubs that desert tortoises rely on for cover.

Increased temperatures may affect hatchling sex ratios. Changes in climate may shift the timing of egg production and extend the egg-laying period. This change in egg production may not compensate for changes in the environment, such as the length of time eggs spend above their critical thermal maximum temperature and whether forage is available to support the production of eggs and forage for hatchlings. If climate change results in an overall decrease in reproduction, human-subsidized predation on young desert tortoises, particularly by common ravens, would exacerbate issues with the recruitment of desert tortoises into the breeding population.

Synthesis

The Management Oversight Group for the desert tortoise “has taken steps to prioritize and implement actions that would be most effective at facilitating recovery across the range.” The Departments of Defense and the Interior have initiated a Recovery and Sustainment Partnership with the goal of implementing actions that would accelerate recovery of the desert tortoise while reducing the regulatory burden on military installations. The action plan focuses on identifying ways to accelerate habitat restoration, fencing conservation areas and roadways, and addressing unauthorized routes in the Western Mojave Desert Recovery Unit.

In California, the Bureau’s (2016) Desert Renewable Energy Conservation Plan Land Use Plan Amendment to the California Desert Conservation Act Plan included numerous conservation and management actions that addressed issues relevant to the desert tortoise. As part of the land use plan amendment, the Bureau established new limits on ground-disturbing activities of 0.1–1.0 percent relative to its lands within desert tortoise conservation areas and mapped linkages between these areas. The land-use plan amendment also increased the amount of land that the Bureau manages for conservation in California (e.g., areas of critical environmental concern, California Desert National Conservation Lands, etc.) from 6,118,135 to 8,689,669 acres. Not all of these areas are within desert tortoise habitat; however, management as conservation areas will likely benefit desert tortoises indirectly because conservation management would limit subsidies to common ravens and other indirect effects.

The threats that led to the listing of the desert tortoise (i.e., the five-factor analysis required by section 4(a)(1) of the Endangered Species Act) continue. The status of the desert tortoise has continued to decline and most of the previously identified threats continue to affect populations. Given the reproductive ecology of the desert tortoise, measurable increases in the size of populations will require years.

In the 5-year review, the Service concluded by recommending that the status of the desert tortoise as a threatened species be maintained because of the large extent of its range and a total number in the “hundreds of thousands of individuals (all size classes) at last estimation.”

Recommendations for Future Actions

The 5-year review provided eight recommendations for the highest priority actions over the next 5 years. These recommendations are from the revised recovery plan (Service 2011); their full text is in the 5-year review.

1. More aggressive implementation of habitat restoration, targeted predator control and limitation of subsidies, fencing priority stretches of highways, fire management planning and implementation, and environmental education;
2. Maintaining landscape connectivity and the resilience of desert tortoise conservation areas by managing all desert tortoise habitat for persistence and connectivity, limiting landscape-level disturbance across habitat managed for the desert tortoise by extending surface-disturbance caps similar to those enacted by the Bureau in California to the rest of the Mojave desert tortoise's range, maximizing passage under roads, and adapting management based on information from research on: the effects of climate change on desert tortoise habitat, distribution, and population connectivity; the effects of large-scale fires, especially within repeatedly burned habitat, on desert tortoise distribution and population connectivity; the ability of solar energy facilities or similar developments to support desert tortoise movement and presence by leaving washes and native vegetation intact; and the design and frequency of underpasses necessary to maintain functional demographic and genetic connectivity across roads and highways;
3. Increasing law enforcement efforts across the range of the desert tortoise, especially within conservation areas to minimize impacts of habitat destruction and degradation as a result of unauthorized off-highway vehicle use, unpermitted cannabis farms, and trespass grazing;
4. Using population augmentation to help achieve recovery criteria in each of the five recovery units according to the Service's population augmentation strategy;
5. Updating the taxonomy, distribution, and listed status of the species, which we discussed previously in this section;
6. Incorporating updated population trend analysis and climate change and land-use modeling into the next 5-year review to inform management strategies under a framework for ecological adaptation;
7. Sustaining and more fully implementing range-wide monitoring efforts; and
8. Developing a revised spatial decision support system to improve models of threats, recovery actions, and demographics, using up-to-date underlying geospatial data, evaluation of prior conceptual models, and improved operationalization of recovery action terminology.

3.5.5 Core Criteria for Determining Whether the Proposed Action Will Appreciably Reduce the Likelihood of the Survival and Recovery of the Species in the Wild

Section 10(a)(2)(B) of the Endangered Species Act requires, among other issuance criteria for an incidental take permit, that the Service determine whether the taking associated with the proposed action will appreciably reduce the likelihood of the survival and recovery of the species in the wild. The Service conducts this analysis through an internal consultation, pursuant to section 7(a)(2) of the Endangered Species Act. Through the consultation process, when determining whether a proposed action is likely to jeopardize the continued existence of a species, we are required to consider whether the action would “reasonably be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species” (50

Code of Federal Regulations 402.02). We consider the requirement at section 10(a)(2)(B) to function the same as the jeopardy analysis conducted under section 7(a)(2). Consequently, we have used the best available information to summarize the status of the desert tortoise with respect to its reproduction, numbers, and distribution.

Reproduction

In the previous 5-year review, the Service (2010) notes that desert tortoises increase their reproduction in high rainfall years; more rain provides desert tortoises with more high-quality food (i.e., plants that are higher in water and protein), which, in turn, allows them to lay more eggs. Conversely, the physiological stress associated with foraging on food plants with insufficient water and nitrogen may leave desert tortoises vulnerable to disease and the reproductive rate of diseased desert tortoises is likely lower than that of healthy animals. Young desert tortoises also rely upon high-quality, low-fiber plants (e.g., native annual plants) with nutrient levels not found in the invasive weeds that have increased in abundance across its range. Compromised nutrition of young desert tortoises likely represents an effective reduction in reproduction by reducing the number of animals that reaches adulthood. Consequently, although we do not have quantitative data that show a direct relationship, the abundance of weedy species within the range of the desert tortoise has the potential to affect the reproduction of desert tortoises and recruitment into the adult population in a negative manner.

Various human activities have introduced numerous species of non-native invasive plants into habitat of the desert tortoise. Routes that humans use to travel through the desert (paved and unpaved roads, railroads, motorcycle trails, etc.) serve as pathways for new species to enter habitat of the desert tortoise and for species that currently occur there to spread. Other disturbances of the desert substrate also provide invasive species with entry points into the desert. The abundance and distribution of invasive weeds may compromise, at least to some degree in localized areas across its range, the reproductive capacity of the desert tortoise; the continued increase in human access across the desert likely continues to facilitate the spread of weeds and further affect the reproductive capacity of the species.

Numbers

In the previous 5-year review, the Service (2010) discussed various means by which researchers have attempted to determine the abundance of desert tortoises and the strengths and weaknesses of those methods. Due to differences in area covered and especially to the non-representative nature of earlier study sites, data gathered by the Service's current range-wide monitoring program cannot be reliably compared to information gathered through other means at this time.

Range-wide monitoring from any single year samples a portion of the desert tortoise conservation areas; the conservation areas comprise only a portion of the recovery units. Additionally, any single-year estimate of the number of desert tortoises should be viewed as a snapshot that several variables likely influence. Consequently, considering trends derived from years of range-wide monitoring provides a more accurate view of the status of desert tortoise populations.

Allison and McLuckie (2018) used annual density estimates obtained from range-wide monitoring from 2004 through 2014 to evaluate range-wide trends in the density of desert

tortoises over time. Allison and McLuckie (2018) extrapolated the densities of large desert tortoises derived by range-wide monitoring in the conservation areas to all modeled habitat in the recovery unit; the abundance columns in **Table 1** contain these extrapolated numbers, which overestimate the number of desert tortoises.

Table 1. Change in desert tortoise abundance in recovery units (Allison and McLuckie 2018)*

Recovery Units	Modeled Habitat (km ²)	Conservation Area (km ²)	2004 Abundance	2014 Abundance	Annual Trend (percent)
Western Mojave	23,139	6,873	131,540	64,871	-7.1
Colorado Desert	18,024	13,530	103,675	66,097	-4.5
Northeastern Mojave	10,664	4,889	12,610	46,701	13.1
Eastern Mojave	16,061	3,720	75,342	24,664	-11.2
Upper Virgin River	613	115	13,226	10,010	-3.2
Total	68,501	29,127	336,393	212,343	–

* Allison and McLuckie (2018) used modeled habitat within the entire range of the desert tortoise for this estimate. In other discussions in this biological opinion, we used information only from areas of monitored habitat within desert tortoise conservation areas to estimate the number of desert tortoises in the recovery unit.

Distribution

We discussed specific activities that have resulted or will result in the loss of desert tortoise habitat in the Factor A portion of this section of the biological opinion. Here, we summarize their overall effect on the distribution of the desert tortoise.

The 5-year review notes that the absolute amount of desert tortoise habitat range-wide decreased by approximately 163,700 acres between 2005 and 2017, based on changes in LandSat imagery. However, several utility-scale solar energy developments have been approved or constructed since 2017; additionally, LandSat imagery would not detect areas from which desert tortoises have been or will be translocated that have not undergone changes in vegetation to date.

Attempting to quantify the amount of habitat lost is difficult because of the varying methods used in studies. Also, models depicting desert tortoise habitat cannot differentiate between areas where desert tortoise populations maintain the ability to recruit young animals to breeding age and areas where recruitment has likely not occurred for years.

In summary, human activities have continued to reduce the distribution of the desert tortoise. Most of the losses of habitat have occurred outside of desert tortoise conservation areas, with the exception of those associated with Fort Irwin. The large size of the potential range of the desert tortoise and difficulties associated with determining areas that it actually occupies within that area (i.e., not including areas from which it has been extirpated or that are unsuitable habitat) precludes quantifying its distribution with precision.

Critical Habitat of the Desert Tortoise

The permit area for the Plan does not include any areas that the Service designated as critical habitat for the desert tortoise. Consequently, the Service would not issue any incidental take permits based on this Plan for proposed actions that occur within the boundaries of critical habitat of the desert tortoise.

The potential exists that a proposed action outside the boundaries of critical habitat could affect off-site critical habitat in some manner. We will evaluate every application for an incidental take permit with regard to this potential. If we identify the potential for such an effect, we will discuss it with the applicant. If we cannot remove or mitigate the adverse effect through these discussions, the Service would decline to evaluate that proposed action under the Plan and would recommend that the applicant pursue a separate incidental take permit. The nature of the effects to adjacent critical habitat would influence whether mitigation of the adverse effects at a higher ratio (such as that in effect for the land management plan for that area) or applying for a separate incidental take permit would be appropriate.

Some proposed actions are likely to occur along non-federal rights-of-way within the boundaries of critical habitat of the desert tortoise. In our experience, past activities in these rights-of-way have disturbed the physical and biological features of critical habitat. During our review of specific proposed actions along non-federal rights-of-way within critical habitat, we would consider the condition of the physical and biological features. In areas where habitat conditions are not now suitable for the conservation of desert tortoises, use of the Plan by applicants would be appropriate. As noted previously in this document, the Service would decline the use of the Plan in any situation that falls outside its standards and sideboards.

Mitigation for the incidental take of desert tortoises will occur within desert tortoise conservation areas (Service 2011), including critical habitat. These actions would include the acquisition and management of lands and various other activities designed to conserve desert tortoises. The acquisition of lands would not cause the take of desert tortoises; the management of acquired lands and the implementation of other mitigation activities (e.g., restoration of habitat, fencing of roads, etc.) have some potential to take limited numbers of desert tortoises and may be addressed through a recovery permitting process (i.e., section 10(a)(1)(A) of the Endangered Species Act) or consultation under section 7 of the Act associated with this Plan, through existing permits and consultations, or through separate project-specific processes.

For these reasons, the Plan does not address effects to critical habitat of the desert tortoise. Consequently, we have not included a review of the status of critical habitat in this document.

Chapter 4. Biological Impacts and Take Assessment

The development of land is likely to kill or injure any desert tortoises that reside in the area where work would occur. The Service and other agencies that have worked with the desert tortoise since its listing have developed measures to minimize the number of animals that development activities are likely to kill or injure.

In the following paragraphs, we will evaluate the potential effects on the desert tortoise of the issuance of incidental take permits under this general conservation plan and assess the amount of incidental take that we anticipate may occur.

4.1 LOSS OF INDIVIDUALS DURING THE DISTURBANCE OR CONVERSION OF HABITAT

The disturbance or conversion of habitat for various uses in the desert usually involves heavy equipment. This equipment can crush desert tortoises that are either above ground or in their underground burrows. It can also collapse occupied burrows and trap desert tortoises inside. The collapse of unoccupied burrows removes shelter sites upon which desert tortoises depend; the loss of shelter sites leaves desert tortoises vulnerable to temperature extremes and predators.

Based on our experience with past development projects, biologists are able to translocate or move most desert tortoises to outside work areas. If surveys fail to detect desert tortoises prior to the onset of ground-disturbing activities, they are likely to die during construction, although project workers occasionally detect individuals during construction. Smaller desert tortoises (i.e., those smaller than 180 millimeters) are more difficult to detect; therefore, project activities are more likely to kill or injure smaller individuals. We will discuss these potential outcomes in the following sections.

4.2 MOVING DESERT TORTOISES FROM HARM'S WAY AND TRANSLOCATION

Moving desert tortoises from harm's way involves transporting individuals from the immediate area of an activity that is likely to injure or kill the animals to nearby habitat that is likely within or very near the individual's territory; that is, the moved desert tortoise very likely is familiar with the area to which it was moved. Depending on the nature of the activity, biologists monitoring the project approved by the Service may move desert tortoises up to several hundred feet from the activity.

No one has studied the effects of moving desert tortoises from harm's way. We expect that the placement of the desert tortoise up to several hundred feet from its original location is not likely to adversely affect individuals because they are likely still within their home range. (That is, they remain where they are familiar with local resources, such as areas to forage and seek shelter.)

Handling desert tortoises can cause them to void their bladders, which they use to store water. Averill-Murray (2002) found that desert tortoises that voided their bladders had lower survival rates than those that did not. Careful handling while moving desert tortoises from harm's way can reduce the likelihood of their voiding their bladders. Because moving desert tortoises from harm's way does not involve excessive handling and anyone who does so will receive instruction beforehand, we expect that desert tortoises voiding their bladders is likely to occur infrequently.

Also, approved biologists can provide desert tortoises with water if they void their bladders; many desert tortoises readily accept provided water.

This method of protecting desert tortoises from project activities is more likely to occur along existing rights-of-way where Federal discretionary authority is not present. We expect that permittees would rarely use this method within the western Mojave Desert because Federal agencies do not manage most lands in that area; in such areas, permittees would be unable to move desert tortoises from harm's way without placing them on another landowner's property.

Translocation involves the movement of desert tortoises from their territories within the work area to suitable habitat outside of their home ranges; the recipient sites for translocated desert tortoises may be miles from the project site. Permittees in the western Mojave Desert are likely to translocate numbers of desert tortoises to augmentation sites on lands managed for conservation.

One of the strategic elements in the recovery plan for the desert tortoise (Service 2011) is the augmentation of depleted populations within conservation areas. The Service is currently working with the U.S. Geological Survey to identify specific augmentation sites that meet specific criteria; we discuss augmentation later in this section. In the interim, prior to the establishment of specific augmentation sites, the Service would direct applicants to translocate desert tortoises to general areas that meet these criteria on a case-by-case basis, in coordination with the land manager.

In recent years, agencies and permittees have translocated numerous desert tortoises from military training areas, solar projects, and construction sites. Many of these translocations involved various studies to evaluate how the movement affected resident and translocated desert tortoises in relation to control animals. Resident desert tortoises are those animals within their home ranges with translocated individuals nearby; control desert tortoises are animals within their home ranges with no translocated individuals nearby. The Service (2017a, b) has summarized various studies regarding the effects of translocation on desert tortoises and Dickson et al. (2019) evaluated the results of a multi-year study of translocation on desert tortoises from the site of a solar project. We have incorporated those analyses into this general conservation plan and will not repeat that information here.

In general, studies demonstrate that translocated, resident, and control desert tortoises do not differ significantly in survival rates, levels of stress hormones, movements, susceptibility to predation, and other aspects of behavior. In some cases (*e.g.*, movement patterns), the behavior pattern of translocated desert tortoises resembled those of controls and residents after 2 to 3 years. Consequently, we conclude that translocation is an effective tool for protecting desert tortoises, if those conducting the translocation follow specific protocols designed to increase the chance of success. These protocols include translocating desert tortoises only during appropriate times of the year (*i.e.*, when they are active), only into suitable habitat, and with appropriate consideration of disease issues.

The Service will consider disease when directing permittees to translocate desert tortoises. To the best of our knowledge, no wild desert tortoise population is free of disease; Rideout (2015) notes that no wildlife populations are completely free of disease. Consequently, the Service's goal is to ensure that translocated desert tortoises do not affect the prevalence of disease in a negative

manner among recipient populations. To achieve this goal, we will use our most recent protocol with regard to management of disease, including the use of an algorithm to determine whether translocation of any individual is appropriate and an evaluation of the recipient sites to ensure that the sites do not show evidence of an active outbreak of disease (Figure 4; Service 2019).

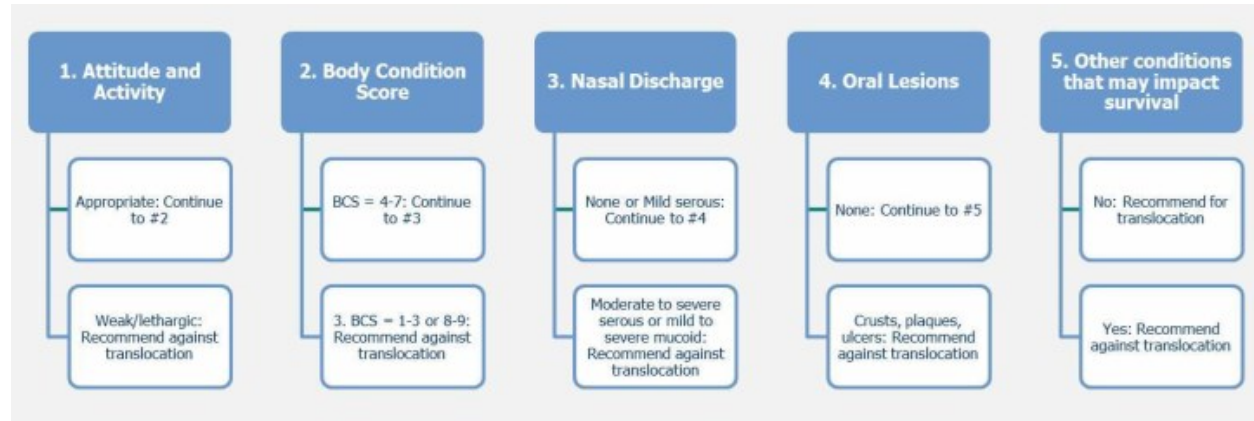


Figure 4. Translocation algorithm from Service (2019)

We expect that new information regarding the management of diseases will emerge over time. We will modify the management of disease when new information is available, through coordination with the Service’s Desert Tortoise Recovery Office.

4.3 AUGMENTATION OF DEPLETED POPULATIONS

The revised recovery plan for the desert tortoise (Service 2011) notes that the Service considers population augmentation as a necessary recovery tool because of “appreciable declines of ... populations across the range.” We have proposed to approach this strategy experimentally, “in terms of both the continued development and evaluation of techniques and through the use of augmentation to help assess specific threats and recovery actions (Service 2011).” In situations where we can achieve greater conservation benefit for the desert tortoise, the terms and conditions of our incidental take permits will require permittees to move desert tortoises to designated augmentation sites within conservation areas.

Relatively few desert tortoises are likely to undergo translocation because of this Plan. We have reached this conclusion because, since the listing of the desert tortoise in 1990, we have issued few incidental take permits for the desert tortoise in California. With the exception of the incidental take permit for the Hyundai Test Facility in Kern County (Sundance Biology 2006; 27 desert tortoises), our issuance of incidental take permits has resulted in the translocation of few desert tortoises. Since its listing, the Service has issued approximately 14 incidental take permits for the desert tortoise within the area covered by this general conservation plan; in several cases, the permittees either did not proceed with the permitted project or did not take any desert tortoises during implementation. **Table 2** depicts the incidental take permits that the Service issued that resulted in the take of desert tortoises. Most of the take was in the form of capture to move individuals from harm’s way or to translocate them.

Table 2. Section 10(a)(1)(B) Projects That Resulted in the Incidental Take of Desert Tortoises in California

Project	Year Issued	Location and County	Acres	Number of Desert Tortoises Found Onsite ¹
Borax	1999	Boron, Kern	3,465	1
Hyundai Test Track	2004	California City, Kern	4,498	27
Copper Mountain College	2007	Near Joshua Tree, San Bernardino	267	~5
Cinco Solar	2013	Near Cantil, Kern	500	3
High Desert Solar	2019	Victorville, San Bernardino	580	8
Pacific Gas and Electric	2019	Near Hinkley, San Bernardino	1,379 ²	0
California City Prison	1998	California City, Kern	425	1
AGCON	2010	Oro Grande, San Bernardino	120	2
Bellefield Solar Energy Project ¹	2022	Mojave, Kern	8,571	0 ³
Total	-	-	19,805	~43

¹ This column represents the number of desert tortoises that were found onsite and translocated or moved from harm's way. We are unaware of any desert tortoises that have died because of project activities conducted under section 10(a)(1)(B) permits in California.

² This acreage reflects the acreage of anticipated habitat disturbance over the life of the incidental take permit (CH2MHill Engineers 2019). No desert tortoises have been killed, injured, or captured to date (Arcadis U.S. 2022).

³ The permittee has not cleared the entire site to date. Biologists found five large desert tortoises during surveys (Stantec 2022).

We expect that incidental take permits issued through this Plan may cause an increase in the number of translocations to a small degree as developers use the expedited process to take desert tortoises, primarily in the form of capture, rather than altering project boundaries to avoid a few individuals. For this reason, we expect that the issuance of this Plan is likely to have a minor and possibly undetectable positive effect on the augmentation of depleted populations.

Because this Plan will also apply to the maintenance of infrastructure by public works agencies, we also expect that permittees may move desert tortoises from project sites onto adjacent federal lands. We may not consider such short-distance movements as augmentation of depleted populations.

4.4 IMPACT ANALYSIS REGARDING INCIDENTAL TAKE OF DESERT TORTOISES

No one conducts comprehensive monitoring of desert tortoises on non-federal lands in the permit area. Consequently, the Service does not have information on the abundance of desert tortoises in this area. However, the permit area likely supports relatively few desert tortoises. We have reached that conclusion based on the results of surveys conducted for incidental take permits that

we have issued in the past and the results of other surveys. In general, the permit area is closer to existing development. Desert tortoises in those areas have been subject to the direct and indirect effects of numerous human activities for decades.

Overall, implementation of the Plan would likely not result in the incidental take of numerous desert tortoises because relatively few desert tortoises remain in the permit area. We also anticipate that most incidental take under the Plan would occur in the form of capture (i.e., capture is a form of take defined in the Act) when permittees translocate desert tortoises from project sites to conservation areas or move them from harm's way along non-federal rights-of-way within conservation areas.

Experience from range-wide monitoring for desert tortoises demonstrates that surveyors generally detect most individuals that are 180 millimeters or more in length when they are above ground. For the purposes of this discussion, we will refer to individuals that have a midline carapace length of 180 millimeters or longer as "large" desert tortoises; we will refer to desert tortoises with shorter midline carapace lengths as "small" desert tortoises.

Based on our experience, we expect that the implementation of projects under the Plan is likely to result in death or injury of few large desert tortoises because biologists find and translocate most of those individuals. Small desert tortoises are more likely to escape detection; hatchlings, which are approximately 50 millimeters long, are especially difficult to detect. If biologists do not find a desert tortoise during a project's clearance surveys, it is likely to be killed or injured by construction equipment.

However, we expect that the permit area supports relatively few small desert tortoises. For example, 8minute Solar Energy found 5 desert tortoises on approximately 8,000 acres of the site of the Bellefield Solar Energy Project from 2019 to 2021. This site is located northwest of the town of Mojave. The smallest desert tortoise found in this effort was a female that was 240 millimeters long. A female desert tortoise of this size is likely to be from 30 to 45 years old, although some females never reach this size (Medica et al. 2012). Given that age range, we can calculate that she hatched between 1976 and 1991. No desert tortoises between 180 and 240 millimeters were found in this same survey of Bellefield, even though detection probability among these size-age classes is uniform (Alison and McLuckie 2018). This gap in demography indicates that consistent recruitment into adult age classes at the Bellefield site has been intermittent or nonexistent since at least 1990, evidenced by the lack of individuals observed in the size-age classes of 17 to 20, 20 to 35, and possibly 35 to 45 years.

At the Hyundai site, which is located immediately to the east of the Bellefield site, Vaughn (2006) translocated 28 desert tortoises from approximately 4,290 acres in 2003 and 2004. The smallest desert tortoise found in this effort was a 227-millimeter female. In 2017 and 2018, the site of the High Desert Solar Project, which is located north of Victorville, supported 7 large desert tortoises and a hatchling; the smallest large individual was 236 millimeters long (Guigliano 2021). Considered collectively, survey results from 2004 and 2021 most likely indicate that relatively few small desert tortoises occur in the permit area.

The Service cannot predict how many desert tortoises are reasonably certain to be taken by projects under the Plan because we do not know how many project proponents will apply for incidental take permits, the specific locations of those projects, or the number of desert tortoises

on each project site. Of the desert tortoises taken, we do not know how many are likely to be killed or injured. To ensure that the Plan succeeds in terms of minimizing the number of desert tortoises that are killed during project activities, the Service will evaluate the circumstances of each reported mortality to determine whether the permittee was fully implementing the minimization measures. If our evaluation demonstrates that the minimization measures were not fully implemented, the Service will work with the permittee to resolve the pertinent issue; if the permittee is not responsive, the Service will initiate procedures to suspend or revoke that specific incidental take permit. If we determine, through the evaluation, that the project proponent was fully implementing the minimization measures, but additional or somewhat different measures are needed, the Service will work with the permittee to develop supplementary minimization measures to correct the identified issue.

To date, we are unaware of any large desert tortoises that have died during the implementation of a project covered by an incidental take permit in California. The lack of mortalities likely reflects the few desert tortoises that biologists have encountered while implementing the projects and the effectiveness of the minimization measures permittees use to protect desert tortoises. We acknowledge that a few desert tortoises, likely smaller ones, were likely killed but were not detected.

Given the uncertainties we have outlined in this section of the Plan, we cannot predict the number of desert tortoises that projects may kill under the Plan. We fully expect the cumulative number to be low because of the relatively few desert tortoises that occur in the permit area and the fact that qualified biologists will find most large desert tortoises and remove them from the project sites. To ensure that implementation of the Plan meets our expectations in terms of protecting desert tortoises, the Service will track the amount of incidental take permitted for each activity under the Plan through the approval of incidental take permits. If five large desert tortoises die because of activities permitted under this Plan in any calendar year, the Service will first assess the adequacy of the minimization measures in the Plan and the individual incidental take permits. If modifying the minimization measures in the Plan and the individual incidental take permits is not practical, we will not approve additional incidental take permits unless it revises the Plan. We will notify the public of any revisions to the Plan that may involve additional impacts to the desert tortoise through a notice in the Federal Register.

Consequently, the Service will evaluate each individual incidental take permit with regard to the results of surveys for desert tortoises and the nature of the proposed action and include a limit on the number of desert tortoises that it authorizes as take in the form of mortality. We will then track the amount of take that occurs through each project's reporting and cumulatively by evaluating annual reports.

Permittees may injure desert tortoises during the implementation of their projects. Each incidental take permit will include directions to provide veterinary care to injured desert tortoises at the expense of the permittee. Injured desert tortoises that recover fully will be returned to the wild. The Service will consider injured desert tortoises that cannot be returned to the wild after treatment as mortalities that accrue under the project's incidental take permit. Permittees must contact the Service to determine the final disposition of all injured desert tortoises.

In summary, the implementation of the Plan would likely result in the translocation of a relatively small number of desert tortoises from project areas; an even smaller number of desert

tortoises are likely to die as result of projects that receive an incidental take permit from the Service under the Plan. The few desert tortoises that are likely to die would comprise a small fraction of the number of desert tortoises within the range of the species.

Prior to the issuance of incidental take permits through this Plan, the Service must consult internally, pursuant to section 7(a)(2) of the Endangered Species Act, regarding the effects of the proposed action (i.e., the use of the Plan) on the desert tortoise. The purpose of that formal consultation is to determine whether use of the Plan is likely to jeopardize the continued existence of the desert tortoise or result in the destruction or adverse modification of critical habitat of its critical habitat. We will base the analysis in the internal consultation on the definitions and metrics described in the implementing regulations for section 7(a)(2) of the Act (50 Code of Federal Regulations 402).

4.4.1 Jeopardy Analysis

When considering the effects of the approval of the use of the Plan on the desert tortoise during the internal section 7(a)(2) process, we will consider whether the proposed action (i.e., the Service's use of the Plan) is likely to jeopardize its continued existence. "Jeopardize the continued existence of means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species" (50 CFR 402.02). We will complete the internal biological opinion prior to reaching a decision regarding whether to approve the Plan for use.

4.4.2 Analysis regarding the Destruction or Adverse Modification of Critical Habitat of the Desert Tortoise

When considering the effects of the approval of the use of the Plan on critical habitat of the desert tortoise during the internal section 7(a)(2) process, we will consider whether the proposed action (i.e., the Service's use of the Plan) is likely to result in the destruction or adverse modification of its critical habitat. "Destruction or adverse modification means a direct or indirect alteration that appreciably diminishes the value of critical habitat as a whole for the conservation of a listed species" (50 CFR 402.02). We will include this analysis in the internal biological opinion we discussed in the previous paragraph.

Chapter 5. Conservation Program/Measures to Minimize and Mitigate for Impacts

5.1 BIOLOGICAL GOALS AND OBJECTIVES

Section 10(a)(2)(A) of the Act requires that a general conservation plan specify the measures that the permittee will take to minimize and mitigate to the maximum extent practicable the impacts of the taking of any federally listed wildlife species as a result of covered activities addressed by the plan.

Conservation plans must establish biological goals and objectives. The purpose of the biological goals is to ensure that the operating conservation program in the conservation plan is consistent with the conservation and recovery goals established for the species. The goals are also intended to provide to the applicant an understanding of why these actions are necessary. We developed these goals based upon the biology of the desert tortoise, threats to the species, the potential effects of the covered activities, and the scope of the conservation plan.

Goal 1: Minimize take of desert tortoises within the project areas.

Objective 1.1 Minimize the potential for the take of desert tortoises because of covered activities.

Objective 1.2 Remove any desert tortoises from impact areas by performing surveys prior to and, if necessary, during implementation of the activity, and translocate any individuals to approved suitable habitat within conservation areas.

Goal 2: Mitigate the effects of take to help meet recovery criteria and/or support long-term viability of the desert tortoise.

Objective 2.1 To mitigate impacts on the desert tortoise, applicants will acquire, restore, and/or manage habitat to ensure conservation benefits for the desert tortoise within conservation areas. Conservation benefits include measures to reduce the mortality of desert tortoises (e.g., installation of highway fencing, etc.) and to improve habitat conditions (e.g., restoration of disturbed habitat within conservation areas, etc.).

5.2 MINIMIZATION AND MITIGATION MEASURES

Section 10(a)(1)(B) of the Endangered Species Act requires that conservation plans demonstrate how an applicant will “minimize and mitigate” the impacts of take authorized by an incidental take permit and that issuance of the permit does not “appreciably reduce the likelihood of the survival and recovery of the species in the wild.” In general, the minimization and mitigation measures in conservation plans should be based on sound biological rationale and be practicable and commensurate with the impacts of the project on species for which take is requested.

In accordance with these guidelines and the requirements of the Federal Endangered Species Act, the conservation program of this Plan is intended to achieve its biological goals and objectives

and to ensure that the impacts of covered activities are minimized and mitigated to the maximum extent practicable.

5.3 MEASURES TO MINIMIZE IMPACTS

Measures 1, 2, and 4 through 11 implement Objective 1.1. Measure 3 implements Objective 1.2.

1. Depending on the nature and location of the proposed action, the permittee may conduct pre-project surveys of the action area according to the Service's current protocol or a modified protocol agreed upon by the Service for the specific action; it may also use the regional density as determined by the Service's range-wide monitoring. The permittee and Service will determine the appropriate course of action through discussions prior to submitting an application package. The purpose of these surveys is to assess the number of desert tortoises that may be present.
2. The permittee will employ authorized biologists, monitors, and/or fencing, as necessary and appropriate, to protect desert tortoises during implementation of the proposed project. Biologists requesting designation as authorized biologists for each activity must have sufficient training and experience to resolve any issue that may arise regarding the specific activity on which they are working. For example, if the activity involves the translocation of desert tortoises, at least one authorized biologist must have sufficient training and experience to conduct full health assessments and implement the translocation according to the Service's guidance. For an activity where translocation is not needed, the authorized biologist need not have that specific training and experience. Monitors may work under the supervision of authorized biologists. Monitors may handle desert tortoises as determined to be appropriate by the authorized biologist; the authorized biologist will determine the protective measures the monitors may conduct and the level of supervision the monitors need to complete each task. The permittee will submit the credentials of biologists they propose as authorized biologists to the Service for review and approval at least 30 days prior to the onset of activities that could take a desert tortoise.
3. The permittee will employ authorized biologists and monitors to conduct clearance surveys to remove desert tortoises from work areas prior to the onset of ground-disturbing activities. Desert tortoises in work areas will be translocated (i.e., moved longer distances to suitable protected habitat on public or designated conservation lands); the translocation sites may include regional augmentation sites, as discussed in the recovery plan (Service 2011). The permittee will follow the Service's most recent guidance for handling, moving, and translocating desert tortoises; because of specific circumstances, we may recommend changes in the guidance that is in place at the time of a specific activity. In all cases, the permittee must obtain the Service's review and approval of the project-specific translocation plan. If the proposed recipient site is on land managed by a federal, state, or local agency, the Service will contact the land manager for approval prior to the permittee translocating desert tortoises. If the proposed recipient site is on land managed by a land conservancy or mitigation bank, the permittee will provide the Service with a letter from the landowner accepting the translocated desert tortoises prior to moving them. If the proposed project is located on a non-federal right-of-way within a conservation area, desert tortoises in work areas will be moved from harm's way into suitable habitat within adjacent conservation lands. The permittee will mark all

desert tortoises that it moves in a manner to be determined by the Service unless we determine that marking is not needed in a specific situation.

4. The permittee will implement measures to reduce the attractiveness of work sites to common ravens (*Corvus corax*) and other subsidized predators by controlling trash and educating workers. The permittee and Service will discuss whether the proposed project is likely to attract common ravens over its active life. If the proposed project is likely to attract common ravens over its active life, the permittee will convey the appropriate fee to the National Fish and Wildlife Foundation for the management program for common ravens, as described in the Service's incidental take permit.
5. The permittee will implement an education program for workers and all other participants in the activity to ensure they are aware of the protective measures in place for the desert tortoise.
6. The permittee will require that all workers, contractors, and all other participants in the activity check under their vehicles or equipment prior to moving them when they are in areas where desert tortoises are likely to be active.
7. The permittee will follow the Service's most recent protocol for construction of fencing and gates to exclude desert tortoises.
8. The permittee will employ best management practices to reduce the likelihood that its actions will introduce non-native invasive plant species.
9. In any situation where a desert tortoise places itself in danger (e.g., it enters a work area or access road), the permittee will undertake immediate action to move the desert tortoise from harm's way and contact one of its authorized biologists for additional guidance. The permittee may also contact the Service for further guidance, if needed.
10. Placement and construction of rock-slope protections will require the interstitial spaces within rock-slope protection be filled with substrate to prevent trapping of desert tortoises.
11. The permittee will monitor translocated desert tortoises in a manner that is commensurate with the number of desert tortoises that require translocation. For example, the translocation of few desert tortoises into an augmentation area may require only monthly "wellness checks" on translocated individuals for the first year. The translocation of many desert tortoises from a single project may require more extensive pre-translocation work and intensive monitoring for years after translocation. As we stated previously in the document, the permit area likely supports relatively few desert tortoises; therefore, few, if any, permittees are likely to need to translocate numerous desert tortoises.
12. The Service intends to develop a program to conduct long-term monitoring of translocated desert tortoises. We may discuss with permittees methods for their monitoring to contribute to this effort.

If these generalized protective measures do not address a specific concern during the review of a proposed action, the Service and the permittee may develop additional protective measures for that project.

5.4 MEASURES TO MITIGATE IMPACTS

The following measures to mitigate impacts to desert tortoises implement Object 2.1. The permittee will fulfill its mitigation obligation through non-acquisition (i.e., restoration and enhancement), land acquisition (i.e., preserve), mitigation bank credits, other actions needed to protect and conserve desert tortoises, or a combination of these options. At a minimum, the amount of land acquisition will generally follow the guidelines in the Bureau's (2016; see Table 18) Desert Renewable Energy Conservation Plan.

For land-acquisition options, the permittee may directly purchase lands or purchase them through a third party (e.g., land trust); in either case, the Service will review lands proposed for acquisition. The permittee must place acquired lands under a conservation easement and provide for long-term management and funding to ensure in-perpetuity conservation.

The permittee may choose to donate acquired lands to the Bureau or National Park Service. These agencies will follow relevant statutes, regulations, and land use plans, when accepting land donations.

For mitigation banking options, the permittee may directly purchase credits from a mitigation bank that the Service has approved. If the bank lacks approval from the Service, the permittee would provide the bank's enabling instrument to the agency to gain approval.

For non-acquisition options, the permittee could work with the Service to identify any appropriate recovery action(s) to fulfill its mitigation obligations. The permittee will either directly fund implementation of the project or place funds into a regional recovery account to provide for its implementation by an entity approved by the Service. The Service would work with the permittee to identify the appropriate funding assurances and durability mechanisms, when appropriate, to meet permit issuance criteria.

If the Service and applicant are interested in pursuing a non-acquisition option on lands managed by the Bureau, they would work with the Bureau to find an area within California Desert National Conservation Lands or an area of critical environmental concern within a mitigation area as defined by the Plan.

The permittee could also provide funding to the recovery account for desert tortoises held by the National Fish and Wildlife Foundation, after determining the appropriate amount of funding with the Service. The National Fish and Wildlife Foundation would combine this funding from other sources and issue annual requests for proposals to implement recovery actions for the desert tortoise.

5.5 MONITORING

Monitoring tracks compliance with the provisions of the Plan and the specific incidental take permit and provides information for making adaptive management decisions. Monitoring consists of three types:

1. Compliance monitoring tracks the permit holder's compliance with the requirements specified in the plan and permit;

2. Effects monitoring tracks the impacts of the covered activities on the covered species; and
3. Effectiveness monitoring tracks the progress of the conservation strategy in meeting the Plan's biological goals and objectives.

5.5.1 Compliance Monitoring

Each incidental take permit issued under the Plan will include onsite monitoring during implementation of the activity, daily monitoring logs, and preparation of a post-construction compliance report to be provided to the Service.

5.5.2 Effects Monitoring

To quantify the amount of incidental take at the end of the activity, the post-construction compliance report will provide information on the numbers of desert tortoises that were found and translocated, injured, or killed during implementation of the activity.

5.5.3 Effectiveness Monitoring

The Service will assess the effectiveness of the minimization and mitigation measures by reviewing monitoring reports and, for activities of longer duration, possibly site visits. The post-construction compliance report will include an evaluation of the effectiveness of the minimization and mitigation measures. Permittees are responsible for management, monitoring, and reporting the biological monitoring on mitigation land for which the permittee is responsible.

Management, monitoring, and reporting the biological monitoring on conservation banks or other mitigation land is the responsibility of the banker or third party that holds the easement on the mitigation land, respectively. Other than the biological monitoring that is being conducted on the mitigation land, the Service will monitor and evaluate biological effectiveness of the Plan through review of annual reports and range-wide monitoring of the desert tortoise. Permittees will allow Service staff or other persons designated by the Service to access the property at any reasonable hour for the purpose of assessing whether the permittee is fully implementing the specific incidental take permit for desert tortoises (50 CFR 13.47).

5.6 ADAPTIVE MANAGEMENT STRATEGY

The Service defines adaptive management as a formal, structured approach for addressing the uncertainty inherent in all natural systems (65 FR 35242). It involves examining alternative strategies for meeting measurable biological goals and objectives, and then, if necessary, adjusting future conservation, management, monitoring, or mitigation actions based upon what is learned. Adaptive management plans are required for conservation plans where there is substantial uncertainty regarding the effects of the action on the covered species or the efficacy of minimization and mitigation measures. The adaptive management program identifies the potential need for modification of a project and uses research and monitoring as an on-going feedback loop for continuous improvement. It should also identify triggers for certain responses and incorporate those triggers and responses into conservation plan implementation. Monitoring and reporting described in Section 5 of this Plan and other project and survey information will provide the basis for determining when the permittee and Service should discuss and/or implement adaptive management. The Service will monitor and analyze the effects of minimization and mitigation actions prescribed in this Plan to determine whether they are

producing the anticipated results. If the desired results are not being achieved, we can use adaptive management to adjust minimization and mitigation measures to increase the conservation Plan's effectiveness for specific activities.

5.7 CHANGED CIRCUMSTANCES

The regulations that implement section 10(a)(1)(B) of the Endangered Species Act [50 CFR 17.22(b)(2) and 17.32(b)(2)] require that a conservation plan specify the procedures to be used for dealing with changed and unforeseen circumstances that may arise during the implementation of the habitat conservation plan. In addition, 50 CFR 17.22(b)(5) and 17.32(b)(5)] provide assurances to non-federal landowners participating in conservation planning under the Act that no additional land restrictions or financial compensation will be required for species adequately covered by a properly implemented conservation plan, in light of unforeseen circumstances, without the consent of the permittee.

If the Service deems additional conservation and mitigation measures necessary to respond to changed circumstances and these additional measures were already provided for in the Plan's conservation program, the permittee must implement those measures as specified in the Plan. In some cases, the Service may find that specific projects warrant additional requirements regarding changed circumstances.

If additional conservation management and mitigation measures are deemed necessary to respond to changed circumstances and such measures were not provided for in the Plan's conservation program or the specific incidental take permit, the Service will not require these additional measures absent the consent of the applicant, provided that the Plan is being "properly implemented." ("Properly implemented" means the permittee has been or is fully implementing the commitments and provisions of the Plan (Service and National Oceanic and Atmospheric Administration 2016, page G-20).)

Applicants should identify up-front the range of possible conservation program adjustments that could be implemented as new information or data is obtained. This range defines the limits of what resource commitments may be required of the applicant. The applicant should identify specific actions that must be taken, not merely provide a general review of strategies. Prior to permit issuance, the Service and the applicant must have a clear understanding and agreement as to the range of adjustments to the management actions that might be required as a result of any changed or unforeseen circumstances. This process will enable the applicant to assess the potential economic impacts of adjustments before agreeing to the Plan.

To fund the remedial management to address changed circumstances, applicants must add a line item to the estimated management costs. The amount should be commensurate with the costs to address the changed circumstances, based on the anticipated restoration, management and/or monitoring costs. The following sections outline reasonably foreseeable circumstances and their anticipated effects on the covered species.

Newly Listed Species

If a new species is listed or critical habitat is designated under the Act and could be taken by covered activities, the Service will re-evaluate any incidental take permits it issued under this Plan. If, after reevaluation, the Service determines that modification of covered activities for any

specific project would be necessary to avoid or minimize the likelihood of take of this newly listed species, the permittee and the Service will work together to develop and implement mutually agreeable modification measures to the covered activities in the incidental take permit (“modification measure(s)”). The Service and the permittee must approve each modification measure before implementation. The permittee will be allowed to continue undertaking covered activities that would not result in take of the newly listed species while such modification measures are being developed. The permittee will continue to implement such modification measures until such time as the permittee has applied for and the service has approved an amendment of the section 10(a)(1)(B) permit, in accordance with applicable statutory and regulatory requirements, to cover the newly listed species or until the Service notifies the permittee in writing that the modification measures to the covered activities are no longer required to avoid the take of the newly listed species.

Newly Discovered Listed Species

In the event that an already-listed species is discovered in a project area, if the Service determines that modification of the covered activities would be necessary to avoid the likelihood of take of this species, the permittee and the Service will work together to develop and implement mutually agreeable modification measures to the covered activities in the incidental take permit. The Service and the permittee must approve each modification measure before implementation. The permittee will be allowed to continue undertaking covered activities that would not result in take of the newly listed species while such modification measures are being developed. The permittee will continue to implement such modification measures until such time as the permittee has applied for and the Service has approved an amendment of the section 10(a)(1)(B) permit, in accordance with applicable statutory and regulatory requirements, to cover the listed species or until the Service notifies the permittee in writing that the modification measures to the covered activities are no longer required to avoid the likelihood of take of the listed species.

5.8 UNFORESEEN CIRCUMSTANCES

Unforeseen circumstances are defined at 50 CFR 17.3 as changes in circumstances affecting a species or geographic area covered by a conservation plan that could not reasonably have been anticipated by plan developers and the Service at the time of the conservation plan’s negotiation and development, and that result in a substantial and adverse change in status of the covered species (50 CFR 17.3). The term “unforeseen circumstances” is used to define the limit of the applicant’s obligation under the “No Surprises” regulations set forth in 50 CFR 17.22(b)(5) and 17.32(b)(5).

In case of an unforeseen circumstance, the permittee will immediately notify the Service. In deciding whether unforeseen circumstances exist, which might warrant requiring additional conservation measures, the Service will consider, but not be limited to, the factors identified in 50 CFR, 17.22(b)(5)(C) and 17.32(b)(5)(C) (the No Surprises Rule). These factors are: size of the current range of the affected species, percentage of the range affected by the plan, percentage of range conserved by the plan, ecological significance of that portion of the range affected by the plan, level of knowledge about the affected species and the degree of specificity of the species’ conservation program under the plan, and whether failure to adopt additional

conservation measures would appreciably reduce the likelihood of survival and recovery of the affected species in the wild.

As described in 50 CFR 17.22(b)(5)(C) and 17.32(b)(5)(C), the Service will have the burden of demonstrating that unforeseen circumstances exist, using the best data available. Any findings of unforeseen circumstances must be clearly documented and based upon reliable technical information regarding the biological status and habitat requirements of the affected species

Except where substantial threat of imminent, significant adverse impacts to a covered species exists, the Service will provide the permittee at least 60 calendar-days written notice of a proposed finding of unforeseen circumstances, during which time the Service will meet with the permittee to discuss the proposed finding, to provide the permittee with an opportunity to submit information to rebut the proposed finding, and to consider any proposed changes to the conservation program or the incidental take permit.

Pursuant to the No Surprises rule, if the Service determines that additional conservation and mitigation measures are necessary to respond to the unforeseen circumstances, the additional measures must be as close as possible to the terms of the original plan. If the Service determines that additional conservation and mitigation measures are necessary to respond to unforeseen circumstances, then the permittee will work with the Service to develop mutually agreeable conservation and mitigation measures; both the Service and the permittee must approve the measures before implementation. Additional conservation and mitigation measures will not involve the commitment of additional land, additional financial commitment or funding by the permittee, additional restrictions on the use of a project's area or covered activities, or the commitment of other natural resources otherwise available for development or use under original terms of the plan without the consent of the permittee.

Chapter 6. Permit Processing and Implementation

The Service strongly recommends that project proponents who may want to apply for an incidental take permit for desert tortoises meet with us as early in their planning process as possible. In some cases, such as when desert tortoises are clearly present on a project site, project proponents can be reasonably certain to that their activities would result in take. In other situations, such as when the results of surveys are not clear or desert tortoises occur near but not on the project site, determining the appropriate course of action (i.e., whether to apply for an incidental take permit) can be more difficult.

Once a project proponent has decided to apply for an incidental take permit for desert tortoises under the Plan, they should meet with the Service to refine the general minimization and mitigation measures described in this document into project-specific measures. Once an applicant has refined the minimization and mitigation measures to address their specific activity, they must submit a complete permit application package to the Service. This section describes the permit application package and provides information on the development and submission of the package. The permit application package includes the following items:

- A 3-200-56 Federal Fish and Wildlife Permit Application Form (including supplementary information requested in the permit application form such as the total number of acres, covered activities requested under the permit, etc.);
- Application processing fee of \$100;
- A signed copy of the Plan's project planning document:
 - Project proponents interested in applying for a permit must complete the project planning document. See Appendix A. This document can assist potential applicants with determining whether their activity may be eligible for a permit under this Plan.
- Individual project package, which includes:
 - Map or maps and a description of the location of impacts, including photographs (as described below). Maps must include sufficient detail to enable readers to determine how various aspects of the project are likely to affect desert tortoises. If the previous map does not include the mitigation area for the proposed project, please include an additional map. Please provide shape files for all maps.
 - Duration of proposed covered activities;
 - Description of proposed covered activities with emphasis on how they would affect desert tortoises and their habitat;
 - Survey results for the desert tortoise;
 - Estimation of the amount of take (more information below);
 - Project-specific descriptions of the minimization and mitigation measures and the monitoring plan developed in coordination with the Service;

- Project-specific descriptions of the funding assurances and commitments necessary to implement the proposed minimization, mitigation, and monitoring (more information below); and
- Documentation that applicant has completed their compliance with the state or local agency’s cultural resources requirements. If the applicant does not require authorization from a state or local agency, their applicant should inform the Service of the circumstance early in the planning process so the Service can initiate its work to comply with section 106.

6.1 MITIGATION ASSURANCES

Permittees must demonstrate adequate funding for mitigation. If conservation banks are the selected mitigation method, documentation of credit purchase must be provided to the Service prior to initiation of impacts. If permittee-responsible mitigation lands are the selected mitigation method, these lands must be acquired, have completed management plans and perpetual protection (for example, a conservation easement), and be approved by the Service prior to the initiation of impacts. If the mitigation includes non-acquisition measures, the applicant must assure the Service that they have the funding and commitments from other parties, if necessary, to implement the mitigation prior to the initiation of impacts. Applicants must submit their plans for mitigation (type, location, and status) in their individual project packages.

6.2 FUNDING ASSURANCES

In addition to funding mitigation, the applicant must also demonstrate adequate funding sources to fully implement and maintain the required minimization measures for their specific activity, conduct compliance and effectiveness monitoring, and implement measures that may be required due to changed circumstances. Funding options for changed circumstances and post-construction restoration are described in Section 7. For each permit application package, applicants must identify the selected funding option, submit applicable documentation of the selected funding assurance (as discussed in Section 7), and include an estimate of the cost to implement their specific activity.

6.3 SERVICE REVIEW AND NOTIFICATION OF PERMIT APPLICATION PACKAGE STATUS

Within 30 days of the receipt of a permit application package, the Service will review the package for completeness and will notify the applicant via e-mail (to the e-mail address included in the individual project package checklist) whether their permit application package is complete and ready for submission to the Federal Register. If the application package is not complete, we will provide suggestions for revising it.

Within 15 days of the close of the public comment period in the Federal Register, the Service will either provide the issued incidental take permit to the applicant or notify the applicant that we have denied issuance. In the latter situation, the Service will provide the applicant with an explanation of why we denied issuance of the incidental take.

6.4 PERMIT APPLICATION SUBMISSION

Permit application packages, all associated information described above (and in the application instructions), and the processing fee must be submitted to the Service’s Palm Springs Fish and

Wildlife Office. Applicants should also submit an electronic copy of the application by email to XXXX@fws.gov with the subject heading “Plan Application – <Your Company Name>.”

Under section 10(c) of the Act and Federal regulations (50 CFR 17.32(b)(1)(ii)), the Service must publish a notice of receipt for each application received for an incidental take permit for threatened species in the Federal Register. We will make the project-specific information available for public review through this notice for 30 days. At the conclusion of this public review, the Service will review all comments and consider them prior to reaching a decision regarding issuance of the incidental take permit.

6.5 PERMIT IMPLEMENTATION

If the Service issues an incidental take permit under this Plan, the permittee will be responsible for:

1. Fully implementing their project-specific /minimization and mitigation measures, as described in their application for an incidental take permit
2. Complying with all terms and conditions of their incidental take permit;
3. Providing proof of implementing the mitigation to the Service prior to onset of any activities that have the potential to result in take. Permittees must submit the receipt of mitigation form found at <http://www.fws.gov/XXXXX> along with supporting documentation to XXXX@fws.gov with the subject heading “Plan Mitigation Fulfillment – <Your Company Name>”;
4. Monitoring and tracking their total take of, and impacts to, the desert tortoise; and
5. Providing an annual report that documents how they fulfilled the requirements of this section.

6.6 IMPACT, MITIGATION, AND POST-CONSTRUCTION RESTORATION TRACKING

Following the Service’s issuance of a permit, covered activities included in the individual project package may begin.

During implementation of covered activities, permittees must track the take of desert tortoises and ensure that the measures in the incidental take permit are being fully implemented. The permittee must track and report the effectiveness of all minimization and mitigation measures, as identified in Section 5 of this document. The permittee must demonstrate that adequate mitigation is in place before the corresponding take occurs. If the mitigation is not in place prior to when the incidental take is likely to occur, the permittee must provide assurance to the Service that the mitigation will occur and obtain the Service’s approval before to initiating activities that are likely to result in take of desert tortoises.

After project completion, the permittee will document the final amount of incidental take of desert tortoises.

The total amount of incidental take approved by the Service in incidental take permits and the amount of take remaining within the plan will be posted on our website,

<http://www.fws.gov/XXXXX>. We will update the amount of take following each approval of an incidental take permit or as end-of-year reports are submitted.

6.7 REPORTING

The permittee must submit an annual report of covered activities and management activities undertaken under their specific incidental take permit to XXXX@fws.gov. The e-mail subject heading should read “Annual Report – Permit TEXXXXXXX – Individual Project Package #XXX” with the applicable year in four-digit format, permit number (found in Box 3 of the incidental take permit) and individual project package number (found in permit application package approval e-mail from Service) for the project. The permittee must submit the cover letter (or e-mail) to the Service with the same subject line as the e-mail. The permittee must submit annual reports by March 31 of each year that the specific incidental take permit is in effect (i.e., while the permittee is working under an active incidental take permit). The report must summarize information on the monitoring and management activities for the issued incidental take permit, including:

1. Permit number;
2. Description of activity conducted within habitat;
3. Location of impacts;
4. Map identifying the location of impacts;
5. Habitat types affected;
6. Minimization measures implemented;
7. Amount and type (permittee-responsible, purchase of conservation bank credits, mitigation account) of mitigation;
8. Date of mitigation fulfillment (credit purchase, deposit to mitigation account, approval of conservation easement);
9. Total acres of mitigation provided for impacts but not yet applied to impacts; and
10. Summary of the above information by year and cumulative for entire duration of the Permit.

Permittees are not required to submit an annual report if their project activities conclude before the permit duration expires, subject to coordination and/or approval from the Service. If no impacts occur during a given year of the permit’s duration, permittees may send an e-mail to the Palm Springs Fish and Wildlife Office at (XXXX@fws.gov) stating that no impacts occurred during that calendar year. E-mail subject heading should read “Annual Report – Permit TEXXXXXXX – No Impacts.”

6.8 NOTICE OF PERMIT ISSUANCE

The Service will issue project-specific incidental take permits under this Plan once it determines that the applicant has met all requirements for issuance. This document describes the statutory criteria for permit issuance in Section 1 under Regulatory Framework. We will notify the public of any incidental take permits we issue under the Plan through the publication of an annual notice in the Federal Register.

We will also post information regarding issued project-specific incidental take permits applications at <https://ecos.fws.gov/ecp/report/conservation-plans-region-summary?region=8&type=HCP>. We recommend that anyone interested in activities conducted under this Plan check the website; we will denote all incidental take permits that we consider or issue under this Plan with the acronym “DTGCP-CA” to facilitate searching for them.

6.9 AMENDMENTS TO THE PLAN AND SPECIFIC INCIDENTAL TAKE PERMITS

6.9.1 Clarifications and Administrative Changes

Provisions of the Plan or incidental take permits may need to be clarified to address issues with respect to administration of the process or the precise meaning and intent of the language contained within those documents. Permittees may also wish to have provisions clarified and may request that the Service provide such clarifications. Clarifications do not change the substantive provisions of any of the documents in any way but merely clarify and make more precise the provisions as they exist.

In addition, administrative changes to the Plan or specific incidental take permits may be necessary that do not make substantive changes to any of the provisions, but which may be necessary or convenient, over time, to more fully represent the overall intent of the permittee and the Service. The Service will review any request for clarification or any proposed administrative change. If the Service approves the change or clarification, the Service will process the change and will provide a response. Clarifications to the Plan or specific incidental take permits will be approved locally by the Assistant Field Supervisor of the Palm Springs Fish and Wildlife Office. Administrative changes to the Plan or specific incidental take permits will also be approved by the Assistant Field Supervisor of the Palm Springs Fish and Wildlife Office. Clarifications and administrative changes to the Plan or specific incidental take permits will be memorialized by a letter of agreement that will be archived at the Palm Springs Fish and Wildlife Office and will be posted on the plan website, [http://www.fws.gov/Palm Springs/XXXX](http://www.fws.gov/PalmSprings/XXXX).

The Service may alter the Plan without changing issued incidental take permits when the alterations are of a minor or technical nature such that the net impacts on the desert tortoise and levels of take resulting from the change are not increased over those described in the original plan and the Service’s decision documents. Examples of changes to the Plan that would not require a permit amendment include, but are not limited to: (a) minor revisions to monitoring or reporting procedures; (b) minor revisions in accounting procedures; and (c) minor modifications to covered activities in response to evolving technologies (provided that impacts associated with such activities will not exceed the level of take analyzed under the Plan and are compliant with other local and state laws and regulations).

6.9.2 Substantive Changes

Substantive changes are modifications that result in impacts not previously analyzed, such as (but not limited to), new listings of species as threatened or endangered not addressed by this Plan that may be affected by covered activities, expansion of the planning area, or the addition of covered activities. The Service will process substantive changes as an amendment in accordance with the provisions of the Act and regulations at 50 CFR 13 and 17 and will be subject to appropriate environmental review under the provisions of NEPA. The Service may implement

substantive changes to the Plan by following publication of the approved, amended plan. Following completion of a substantive change to the Plan, all future specific incidental take permits must include the modifications contained within the major amendment. Previously existing specific incidental take permits will not be required to incorporate any changes caused by a major amendment, unless a permittee voluntarily chooses to modify their permit.

Substantive changes to specific incidental take permits would be required for any modification of the covered activities that is expected to cause take of desert tortoises not analyzed or authorized in the original incidental take permit or if the authorized amount of take is insufficient for the permittee's need. These amendments must be completed prior to the activities causing take. If permittees need to expand project areas, the Service recommends that permittees apply for an additional incidental take permit under the Plan, rather than requesting a major amendment to an existing incidental take permit.

6.10 PERMIT RENEWAL

Section 10(a)(1)(B) permits may be renewed without the issuance of a new permit, provided that the permit is renewable, and that biological circumstances and other pertinent factors affecting covered species are not significantly different than those described in the original conservation plan. To renew a permit issued under this Plan, the permittee must submit to the Service, in writing: (1) a request to renew the permit with reference to the original permit number; (2) certification that all statements and information provided in the original individual permit package, together with any approved amendments, are still true and correct, and inclusion of a list of changes; (3) a description of any take that has occurred under the existing permit; and (4) a description of any portions of the project still to be completed, if applicable, or what activities under the original incidental take permit the renewal is intended to cover.

If the Service concurs with the information provided in the request, it will renew the permit consistent with permit renewal procedures required by Federal regulation (50 CFR 13.22). If the applicant files a renewal request and the request is on file with the issuing Service office at least 30 days prior to the permit expiration date, the incidental take permit will remain valid while the renewal is being processed. However, the applicant may not take listed species beyond the quantity authorized by the original incidental take permit. If the applicant fails to file a renewal request within 30 days prior to the incidental take permit's expiration date, the incidental take permit will become invalid upon expiration. The applicant must have complied with all annual reporting requirements to qualify for a renewal.

6.11 PERMIT TRANSFER

In the event of a sale or transfer of ownership of a company, property or project during the life of the specific incidental take permit, the following will be submitted to the Service by the new owner(s): (1) a new permit application; (2) permit fee; and (3) written documentation providing assurances pursuant to 50 CFR 13.25 (b)(2) that the new owner will provide funding adequate to fully implement the actions described in their individual permit package and the relevant terms and conditions of the permit, including any outstanding minimization and mitigation. The new owner(s) will commit to all requirements regarding the take authorization and mitigation obligations of this Plan unless otherwise specified in writing and agreed to in advance by the Service.

6.12 SUCH OTHER MEASURES THAT THE SERVICE MAY REQUIRE

If dead, injured, or sick desert tortoises are discovered, permittees are required to contact the Palm Springs Fish and Wildlife Office at 760-322-2070 for care and disposition instructions within 72 hours of discovery. Extreme care must be taken in handling sick or injured individuals to ensure effective and proper treatment. Care must also be taken in handling dead specimens to preserve biological materials in the best possible state for analysis of cause of death. In conjunction with the care of sick or injured desert tortoises or preservation of biological materials from any dead specimens, permittees and their contractors/subcontractors have the responsibility to ensure that evidence intrinsic to the specimen is not unnecessarily disturbed.

If, during the tenure of incidental take permits issued through participation in the Plan, the project design or the extent of habitat impacts is altered such that an increase in the anticipated take of desert tortoises may occur, permittees must contact the Service and obtain a new permit or individual project package approval and/or amendment of their incidental take permit before commencing any construction or other activities that might result in take beyond that described in their existing incidental take permit.

The incidental take authorization granted by specific incidental take permits issued through participation in the Plan will be subject to full and complete compliance with, and implementation of, all specific conditions contained in resulting individual incidental take permits. The terms and conditions of specific incidental take permits will supersede and take precedence over any inconsistent provisions in the Plan or other documents.

Acceptance of an incidental take permit serves as evidence that the permittee understands and agree to abide by the terms of the permit and all applicable sections of 50 CFR Parts 13 and 17.

Chapter 7. Funding

Section 10(a)(2)(A)(ii) of the Act requires that funding will be available to implement actions that will be enacted to minimize and mitigate the impacts of the taking must be specified. The Act also requires that the Service must find that “the applicant will ensure that adequate funding for the plan will be provided” (section 10(a)(2)(B)(iii)). Applicants must therefore demonstrate adequate funding sources to fully implement the actions described in this Plan and their individual project package. Expenses related to these activities are the sole responsibility of the permittee. Failure to commit appropriate funding prior to approval (discussed above in Section 6) or to meet funding obligations after the specific incidental take permit is issued may be grounds for denying individual project packages for future projects or revoking or suspending an existing incidental take permit. Permittees unable to meet the financial requirements described here may not meet qualifications for approval of individual project packages and should contact the Service for additional guidance or potential approval of alternative funding mechanisms.

Applicants must ensure that adequate funding sources for implementation, actions to be taken for changed circumstances and unforeseen events, alternatives to the proposed project, and other measures are included in their individual permit package. Funding for mitigation obligations are directly related to the mitigation option(s) selected by the applicant. If a permittee chooses to fulfill mitigation requirements through the purchase of credits from a Service-approved conservation bank, the conservation bank will be responsible for the management of the mitigation lands secured through the purchase of bank credits. If a permittee elects to fulfill mitigation obligations through permittee-responsible all management responsibilities, including adaptive management procedures associated with those lands, must be fully funded and managed by the permittee or designated third party entity.