



United States Department of the Interior

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Memorandum

To: Regional Director, U.S. Fish and Wildlife Service, Albuquerque, NM

From: Field Supervisor, Arizona Ecological Services Office, U.S. Fish and Wildlife Service

Subject: Biological Opinion for the Proposed Perez Development Habitat Conservation Plan

This document transmits the U.S. Fish and Wildlife Service's (FWS) biological opinion (BO) based on our review of the Habitat Conservation Plan for the Perez Home Development Project (hereafter referred to as the HCP). This low-effect HCP was submitted by Mr. Alex Perez (Applicant), a private landowner and developer. The HCP was submitted as part of Mr. Perez's application for a permit for incidental take of threatened Mojave desert tortoises (*Gopherus agassizii*) that will be associated with the construction of single family homes and associated development in Scenic, Arizona, located in unincorporated Mohave County in northwest Arizona. Critical habitat for the Mojave desert tortoise was not designated on private lands; therefore, it will not be discussed in this BO. This BO is prepared in accordance with section 7 of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

This BO is the culmination of formal section 7 consultation under the Act. The purpose of formal section 7 consultation is to ensure that any action authorized, funded, or carried out by the Federal government is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat of such species. This biological opinion covers the actions of the applicant and the FWS as related to this project: 1) the applicant will be responsible for all construction associated with this project; and 2) the FWS, as the agency which will issue the incidental take permit.

This BO is based on information from the Applicant's HCP (USFWS 2016a), the Screening Form for Low-Effect HCP Determinations (USFWS 2016b), and meetings, phone calls, and written correspondence with the applicant.

Literature cited in this BO is not a complete bibliography of all literature available on the Mojave desert tortoise; single-family home construction, and its effects; or on other subjects considered in this opinion. Field investigations were conducted by personnel from the FWS's Arizona Ecological Services Office (AESO) and Bureau of Land Management staff. A complete administrative record of this consultation is on file at this office.

Consultation History

- May 13, 2016 – We were notified of a construction project in Scenic, Arizona in Mojave desert tortoise habitat.
- June 21, 2016 – We spoke with the Applicant via a phone call regarding his construction project and the area being occupied by Mojave desert tortoises.
- July 1, 2016 – We spoke with the Applicant via telephone regarding development of an HCP.
- July 5-6, 2016 – We conducted a field visit to the subject property to evaluate the extent of the tortoise habitat and discuss conservation actions with the applicant in regards to the HCP.
- July 11, 2016 – We completed the Screening Form for Low-Effect HCP Determinations.
- July 19, 2016 – We received the application for an incidental take permit associated with the HCP.
- August 24, 2016 – We submitted a draft HCP for Notice of Availability to the Federal Register.
- August 29, 2016 – We initiated formal consultation for the issuance of the incidental take permit associated with the HCP.
- September 12-13, 2016 – Cultural resource clearance surveys were conducted on the subject property.
- September 12, 2016 – We conducted a field visit to the subject property with Arizona Game and Fish Department, a private consultant, Bureau of Land Management, and Utah Division of Wildlife Resources to determine whether or not tortoise burrows were occupied. All eight burrows (some of which were determined to be rodent burrows) were collapsed after we determined they were empty.
- September 19, 2016 – We provided a draft BO for your review.
- September 20, 2016 – We incorporated your comments and suggested edits into the BO.

BIOLOGICAL OPINION

DESCRIPTION OF THE PROPOSED ACTION

The Applicant proposes to grade eight residential lots, install initial infrastructure improvements, and construct single-family homes and associated garages on each lot. The Applicant intends to

build homes on one lot a time. However, if a buyer wishes to buy the lot and construct the home themselves, then Mr. Perez will not be building the home. Landscaping and associated improvements will be done by the future homeowner. If the Applicant constructs the home, he will be responsible for following the conservation measures below. However, if the lot buyer constructs his own home, Mr. Perez will provide him with the measures described below to protect tortoises, but the lot buyer will not be provided take coverage through this permit.

Conservation Measures

The following measures will be implemented in order to minimize direct impacts to Mojave desert tortoises during construction activities:

1. The first phase of project construction will include the installation of a temporary, 18-inch minimum height tortoise barrier fence (i.e., orange construction fence) between the development area and the parts of the parcel (lot) to remain undeveloped. The fence is intended to keep tortoises from entering the construction areas and should be inspected daily to ensure there are no significant gaps tortoises could get through. Fencing will remain in place until all construction activities (houses, garage, etc.) for each parcel are completed. Following the conclusion of infrastructure improvements, the temporary tortoise fencing will be removed from the lot. If construction is occurring simultaneously on two or more lots, temporary barrier fencing will be constructed on each lot around the development area.
2. During grading and construction activities, a 5 mile per hour speed limit will be placed on all vehicles in order to minimize the possibility of vehicle strikes of Mojave desert tortoises.
3. To avoid and minimize impacts to the Mojave desert tortoise, the Applicant will ensure that the following conditions are implemented during project construction:
 - i. Employees will strictly limit their activities, vehicles, equipment, and construction materials to the project footprint.
 - ii. Open trenches will be covered to prevent tortoises and other wildlife from falling in or have a ramp installed to facilitate tortoises and other wildlife escaping the trench.
 - iii. A FWS-approved biologist will conduct a training session for all project personnel prior to the start of the proposed activities. The training will include a description of the Mojave desert tortoise and its habitat and the general measures that are being implemented to conserve the listed species as they relate to the project and construction site boundaries, including how to relocate a tortoise from the project site.
 - iv. Prior to the start of daily activities, the project area will be inspected, including under parked vehicles and any open trenches, for tortoises. All tortoises will be relocated by trained project personnel to undeveloped land outside of the project area. All tortoises handled will be in compliance with the FWS's Draft Revised Translocation Tortoise Handling Guidelines (USFWS 2016c).

- v. All parked vehicles will be checked for tortoises that might be sheltering underneath them. If a desert tortoise is found sheltering under a parked vehicle, the tortoise will be allowed to move out from under the vehicle on its own, without intervention, before the vehicle can be moved.
 - vi. To avoid attracting predators of the Mojave desert tortoise, the project area will be kept as clean of debris as possible. All food-related trash items will be enclosed in sealed containers and regularly removed from the project area.
 - vii. No pets will be allowed in the project area during construction.
 - viii. All equipment maintenance, staging, and dispensing of fuel, oil, or coolant will occur within the project area. Fueling and maintenance of trucks and other vehicles will occur only within a predetermined staging area. Contractor equipment will be checked for leaks prior to operation and repaired as necessary. "No-fueling zones" will be designated on construction plans.
4. Only half of each lot will be constructed and subject to habitat removal. This will leave intact Mojave desert habitat across approximately half of the project area following construction activities.
 5. Burrows will be scoped by permitted tortoise biologists and if they are not occupied, the burrows will be collapsed. Any tortoises found on the property will be relocated to nearby lands managed by the Bureau of Land Management (BLM). This will remove the tortoises completely from any future development impacts.
 6. The FWS and Arizona Game and Fish Department (AGFD) personnel will work with the applicant to develop an educational pamphlet regarding living with Mojave desert tortoises. These pamphlets will be used to educate homeowners on the subject property (both those that buy lots already constructed and those that purchase only the lot) and adjacent properties on the Federal protection status of tortoises, how to provide sufficient sheltering and foraging habitat, and general conservation actions to ensure the survival of Mojave desert tortoises.

This consultation will cover up to a five-year period or until the HCP is revised, with periodic reviews.

ANALYTICAL FRAMEWORK FOR THE JEOPARDY DETERMINATIONS

Jeopardy Determination

In accordance with policy and regulation, the jeopardy analysis in this BO relies on four components in our evaluation for the Mojave desert tortoise: (1) the *Status of the Species*, which evaluates the species' range-wide condition, the factors responsible for that condition, and its survival and recovery needs; (2) the *Environmental Baseline*, which evaluates the condition of the species in the action area, the factors responsible for that condition, and the relationship of

the action area to the survival and recovery of the species; (3) the *Effects of the Action*, which determines the direct and indirect impacts of the proposed Federal action and the effects of any interrelated or interdependent activities on the species; and, (4) *Cumulative Effects*, which evaluates the effects of future, non-Federal activities in the action area on the species.

In accordance with policy and regulation, the jeopardy determination is made by evaluating the effects of the proposed Federal action in the context of the species' current status, taking into account any cumulative effects, to determine if implementation of the proposed action is likely to cause an appreciable reduction in the likelihood of both the survival and recovery of the species in the wild.

The jeopardy analysis in this BO places an emphasis on consideration of the range-wide survival and recovery needs of the species and the role of the action area in the survival and recovery of the species as the context for evaluating the significance of the effects of the proposed Federal action, taken together with cumulative effects, for purposes of making the jeopardy determination.

STATUS OF THE SPECIES

The information in this section summarizes the rangewide status of the Mojave desert tortoise considered in this BO. Further information on the status of these species can be found in documents on our web page (https://www.fws.gov/southwest/es/arizona/Desert_Tortoise.htm) under Document Library, Document by Species, and in other references cited in the summary below.

The desert tortoise populations north and west of the Colorado River in Arizona and Utah (excluding the Beaver Dam slope population) were listed as endangered under an emergency rule on August 4, 1989 (54 FR 42270). Subsequently, the entire Mojave population of the desert tortoise west of the Colorado River in California and Nevada, and north of the river in Arizona and Utah, including the Beaver Dam slope, was listed as a threatened species on April 2, 1990 (55 FR 12178). Critical habitat was designated in 1994 (59 FR 5820-5846, also see corrections at 59 FR 9032-9036). The Desert Tortoise (Mojave Population) Recovery Plan (Recovery Plan) (USFWS 1994) was signed on June 28, 1994. A revised recovery plan was signed May 6, 2011 (USFWS 2011).

The desert tortoise is an arid land reptile associated with desert scrub vegetation types, primarily creosote bush (*Larrea tridentata*) flats, washes, and hillside slopes or bajadas. A robust herbaceous component to the shrubs and cacti of the creosote bush vegetation type is an important component of suitable habitat. Within these vegetation types, desert tortoises potentially can survive and reproduce where their basic habitat requirements are met: a sufficient amount and quality of forage species; shelter sites for protection from predators and environmental extremes; suitable substrates for burrowing, nesting, and over-wintering; various plants for shelter; and adequate area for movement, dispersal, and gene flow. Further information on the range, biology, and ecology of the desert tortoise can be found in the Revised Recovery Plan (USFWS 2011).

Desert tortoises are most active during the spring and early summer when annual plants are most common. Additional activity occurs during warmer fall months and occasionally after summer rain storms. In Arizona, tortoises are considered to be active from approximately March 15 through October 15. Desert tortoises spend the remainder of the year in burrows, escaping the extreme conditions of the desert.

Desert tortoise home range sizes vary with respect to location and year. Over its lifetime, each desert tortoise may require more than 1.5 square miles of habitat and make forays of more than seven miles at a time (Berry 1986). During droughts, tortoises forage over larger areas, increasing the likelihood of injury or fatality through encounters with humans and predators. Direct loss of tortoises has occurred from illegal collection by humans for pets or consumption, upper respiratory tract disease (URTD), predation on juvenile desert tortoises by common ravens (*Corvus corax*) and kit foxes (*Vulpes macrotis*), and collisions with vehicles on paved and unpaved roads. Other threats affecting the desert tortoise include loss of habitat from construction projects such as roads, housing and energy developments, and conversion of native habitat to agriculture.

Grazing and off-highway vehicle (OHV) activities have degraded additional habitat. Fire is an increasingly important threat because it degrades or eliminates habitat (Appendix D of USFWS 1994). Following wildfire, native plant species are often replaced by invasive, non-native species such as red brome (*Bromus rubens*) and cheat grass (*Bromus tectorum*), resulting in long-term habitat degradation or loss. Over 500,000 acres of desert lands burned in the Mojave Desert in the 1980s and approximately 500,000 acres burned in the northeastern Mojave Desert in 2005. Over 20,000 acres of Mojave desert burned on the Arizona Strip in 2006.

The 1994 Recovery Plan divided the range of the desert tortoise into six recovery units (RUs) and recommends establishment of 14 Desert Wildlife Management Areas (DWMAs) throughout the RUs. Twelve DWMAs have been designated as ACECs by the BLM through development or modification of their land use plans in Arizona, Nevada, Utah, and parts of California; designation is still underway in the West Mohave planning area in California.

In 2003, the FWS convened the Desert Tortoise Recovery Plan Assessment Committee (DTRPAC) to scientifically assess the Desert Tortoise Recovery Plan. The DTRPAC Report (Tracy *et al.* 2004) produced a number of findings and recommendations that served as the basis for revision of the 1994 Recovery Plan. In particular, this report recognized that threats to the desert tortoise have cumulative, synergistic, and interactive effects, and that tortoise recovery depends on managing multiple threats. Threats facing desert tortoises have been increasing since the 1994 Recovery Plan, including in the Northeastern Mojave RU, and recovery actions have not been fully implemented. The DTRPAC Report also recognized that tortoise populations may be distributed in metapopulations rather than single, large populations in RUs. In addition to reducing multiple threats within management areas, it is important to protect the corridors among habitat patches. For recovery, tortoise metapopulations require areas of suitable habitat, but these areas may be periodically vacant of tortoises. As a result of Tracey et al (2004), a revised recovery plan was prepared starting in 2005 and signed on May 6, 2011 (USFWS 2011). The revised recovery plan identifies tortoise conservation areas outside of critical habitat that are essential for the conservation and recovery of the species. Additionally, the revised recovery

plan reduces the number of recovery units from six to five based on genetics and data suggesting tortoise occur as metapopulations (USFWS 2011).

Permanent plots were established in the 1970s to monitor tortoise populations, and some of these plots were surveyed through 2002. However, surveys in the Northeastern Mojave RU (Nevada, Utah, and Arizona) and some other RUs detected too few live tortoises to determine a population trend. Line distance sampling was used to monitor populations across the range of the desert tortoise from 2001 through 2005. Tortoise populations have declined significantly in the Western Mojave and appear to be declining in the Eastern Mojave RUs in California (Tracy *et al.* 2004). Population monitoring from 2007 to 2014 has indicated that populations are still declining in all but one RU. The Northeast Mojave RU is the only recovery unit that has shown an upward trend for tortoise populations; however, population numbers are still low (USFWS 2015).

Mojave desert tortoise management in Arizona is covered primarily by the Arizona Strip Resource Management Plan for BLM lands in northern Arizona (file number 22410-2007-F-0463), which also considered the effects of BLM actions on the conservation value of critical habitat. The Mojave desert tortoise is the primary species covered by the Clark County Multiple Species Habitat Conservation Plan (HCP) in Clark County, Nevada (Regional Environmental Consultants 2000) and critical habitat units in Clark County were evaluated in the analysis for that permit. The Washington County HCP in Utah was completed prior to critical habitat designation; however, consultations for Federal actions in that area consider the effects to critical habitat. Effects to critical habitat areas for Mojave desert tortoise are fully included either by existing section 7 consultations or by the existing HCPs. Conservation actions for the species include protection for individuals and habitat.

ENVIRONMENTAL BASELINE

The environmental baseline includes past and present impacts of all Federal, State, or private actions in the action area, the anticipated impacts of all proposed Federal actions in the action area that have undergone formal or early section 7 consultation, and the impact of State and private actions that are contemporaneous with the consultation process. The environmental baseline defines the current status of the species and its habitat in the action area to provide a platform to assess the effects of the action now under consultation. The environmental baseline descriptions provided below are a summary of the available information. A complete description of the environmental baseline for the Mojave desert tortoise can be found in the administrative record for this consultation.

Description of the action area

The proposed project will occur within the geographic boundaries (i.e., Plan Area) of an approximately 10-acre area located in Scenic, which is in unincorporated Mohave County, Arizona. A complete description and map of the project location, including Assessor Parcel numbers can be found in the HCP (Figures 1 and 2 in Appendix A of the HCP). Surrounding

land uses include: residential development to the east, west, south, southwest, and southeast; and Bureau of Land Management (BLM) Land to the north and northeast.

The Plan Area is mostly flat, although the ground drops slightly along the site's northern boundary where a large, braided wash runs to the northeast and east. The majority of the Plan Area is in native Mojave desertscrub habitat; however, signs of previous disturbance occur throughout the area. Existing single-family homes are located near the southern end of the property, but are located outside of the Plan Area. Areas of native upland vegetation are also found on lands adjacent to the Plan Area.

A. Status of the Mojave desert tortoise within the action area

Eight burrows have been documented on the project site. Of these eight burrows, six appeared to have recent activity associated with rodent and/or tortoise use (USFWS 2016d, Young 2016). Observation data indicates that both adult and juvenile tortoises have been observed on the property. Site visit observations indicated that at least two tortoises are occupying burrows in developed lots immediately south of the subject parcels and are known to move to and from the subject property (USFWS 2016d). Additionally, two adult tortoises and one juvenile tortoise have been observed in the area, as well as moving across the subject property (USFWS 2016d). These three tortoises have likely been using the same burrows on the subject property and moving back and forth between burrows on neighboring properties and the large washes to the north and east of the subject property. Based on these data, the number of burrows, and tortoise behavior, we are estimating that three individuals (adult and juvenile) have been using or are in the vicinity of the property.

On September 12, 2016, all eight burrows were scoped, determined to be empty, and then collapsed to ensure tortoises did not use the five that appeared to be potential tortoise burrows. Of those eight burrows, three appeared to be rodent burrows rather than tortoise burrows based on their small size and entrance shape.

B. Factors affecting the Mojave desert tortoise within the action area

The action area consists exclusively of private lands, and there are no Federal, State, or tribal actions impacting the Mojave desert tortoise. The primary factor affecting Mojave desert tortoises within the action area over the last several years has been vegetation removal associated with other construction actions on nearby private lands. We do not know how much foraging, nesting, and sheltering habitat has been removed as a result of these actions.

EFFECTS OF THE ACTION

Effects of the action refer to the direct and indirect effects of an action on the species, together with the effects of other activities that are interrelated and interdependent with that action that will be added to the environmental baseline. Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration. Indirect effects

are those that are caused by the proposed action and are later in time, but are still reasonably certain to occur.

The proposed action is the issuance of an Incidental Take Permit by the Service as it relates to the HCP. The issuance of the permit, itself, will have no direct or indirect effects on Mojave desert tortoises.

Actions associated with implementation of the HCP are likely to adversely affect tortoises in the project area. Direct effects could include handling of tortoises to move them from harm's way, or to relocate them to areas outside of the project area. It is expected that the previously discussed conservation measures will reduce the likelihood of fatalities. Handling of tortoises may cause short-term adverse effects if they become frightened and void their bladders (i.e., release body fluids, which puts them at a risk of dehydration); however, the long-term benefit of removing them from the project area is expected to aid in their long-term survival and allow those individuals to continue to contribute to the survival of the species. Because there are ample shelter sites in the nearby washes and on adjacent lands, we do not anticipate that tortoises will construct new burrows on the remaining parcels within the subject property. Since tortoises are not expected to construct new burrows on the subject property, we do not anticipate direct effects to tortoises as a result of burrows being crushed due to construction activities. The conservation measures previously described are anticipated to reduce the direct effects of the construction activities associated with the HCP and should remove the chances of a fatality occurring, although it is possible that a juvenile tortoise may go undetected and, therefore, be crushed.

Indirect effects to Mojave desert tortoises that could result from implementation of the HCP include loss of habitat used for foraging, sheltering, and nesting. Eight burrows are known to be within the project area and six of those have been shown to have minimal activity associated with tortoise use. A recent site visit indicated that all eight burrows are unoccupied and those burrows have been collapsed to prevent tortoises from using them within the project area. Of those eight burrows, three appeared to be rodent burrows rather than tortoise burrows based on their small size and entrance shape. Areas suitable for nesting will also be lost; however, there are ample areas of undisturbed habitat suitable for nesting nearby. Additionally, some forage within the subject property will be permanently lost. The conservation measures previously described are anticipated to reduce the indirect effects of the construction activities associated with the HCP. Approximately half of each parcel will not be developed, leaving approximately five acres of suitable foraging and nesting habitat. This loss of five acres of habitat is less than 0.05 percent of the available habitat for the tortoise within the Northeast Mojave Recovery Unit. Suitable habitat for constructing shelters will remain on the five acres that will not be developed.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

Climate change, in combination with drought cycles, is likely to exacerbate existing threats to Mojave desert tortoise habitat in the southwestern U.S., now and into the foreseeable future. The continued warming and drying of desert habitats will likely alter vegetation structure and composition and reduce the amount and quality of foraging and sheltering habitat for Mojave desert tortoises in the action area.

The main non-Federal activity that may impact Mojave desert tortoise habitat is urban development. Development of single-family housing is anticipated to continue on private lands outside of the HCP boundary. Most private lands in the area have signs advertising lots for sale. Off-highway vehicle use has also been documented on lands surrounding the subject property.

CONCLUSION

After reviewing the current status of the Mojave desert tortoise, the environmental baseline for the action area, the effects of the proposed action and the cumulative effects, it is our biological opinion that issuance of the Incidental Take Permit for the associated HCP will not jeopardize the continued existence of the Mojave desert tortoise. We base our conclusion on the following:

1. The five acres that will be developed for housing is less than 0.05 percent of the habitat available to the Mojave desert tortoise in the Northeast Mojave Recovery Unit. The remaining five acres on the subject property that will not be developed contain intact foraging, sheltering, and nesting habitat for Mojave desert tortoises.
2. Handling of tortoises will be conducted by trained personnel. These personnel will be trained on how to handle, transport, and provide water for any tortoises that need to be relocated from the project site. These handling and relocation protocols are designed to minimize the stress to the tortoises and, therefore, minimize adverse effects associated with moving them.
3. Relocating the tortoises from the project site is anticipated to allow them to continue contributing the long-term survival and recovery of the species.

INCIDENTAL TAKE STATEMENT

Section 9 of the ESA and Federal regulations pursuant to section 4(d) of the ESA prohibit the take of endangered and threatened species, respectively, without special exemption. "Take" is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. "Harm" is further defined (50 CFR 17.3) to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. "Harass" is defined (50 CFR 17.3) as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. "Incidental take" is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity.

Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The proposed Habitat Conservation Plan for the Perez Home Development Project and its associated documents identify anticipated impacts to Mojave desert tortoises likely to result from the proposed taking and the measures that are necessary and appropriate to minimize those impacts. All conservation measures described in the proposed HCP, together with the terms and conditions described in the section 10(a)(1)(B) permit issued with respect to the proposed HCP, are hereby incorporated by reference as reasonable and prudent measures and terms and conditions within this Incidental Take Statement pursuant to 50 CFR 402.14(i). Such terms and conditions are non-discretionary and must be undertaken for the exemptions under section 10(a)(1)(B) and section 7(o)(2) of the Act to apply. If the permittee fails to adhere to these terms and conditions, the protective coverage of the section 10(a)(1)(B) permit and section 7(o)(2) may lapse. The amount or extent of incidental take anticipated under the proposed HCP, associated reporting requirements, and provisions for disposition of dead or injured animals are as described in the HCP and/or its accompanying section 10(a)(1)(B) permit.

Amount or Extent of Take Anticipated

Based upon analyses of the effects of handling and relocation projects within previous BOs, we anticipate the majority of incidental take for activities implemented under this HCP and associated Incidental Take Permit will be in the form of short-term harassment. Tortoises experiencing short-term harassment may fail to reproduce the following year due to not being completely acclimated to their new surroundings. Incidental take in the form of harm is also anticipated, albeit at a lesser amount (i.e., the number of tortoises) than take from harassment. Harm would be either the direct fatality of individual tortoises, succumbing to latent diseases such as upper respiratory tract disease, or the alteration of habitat that affects behavior (e.g. breeding or foraging) of tortoises to such a degree that the tortoises desert the area and are considered lost as viable members of the population.

The 10-acre Plan Area supports approximately 9.5 acres of suitable Mojave desert tortoise habitat. Approximately 0.5 acre has been developed into an access road to the site and an access road to a water well pump house. The activities covered by the HCP will permanently impact approximately 5 acres of Mojave desert tortoise habitat. Approximately half of each parcel will remain undeveloped as intact tortoise habitat. Eight burrows are known to be within the project area and six of those have been shown to have minimal activity associated with tortoise use. A recent site visit indicated that all eight burrows are unoccupied and those burrows have been collapsed to prevent tortoises from using them within the project area. Tortoises are known to occupy burrows on adjacent developed land (USFWS 2016d, Young 2016). Site visit observations indicated that at least two tortoises are occupying burrows in developed lots immediately south of the subject parcels (USFWS 2016d). Two adult tortoises and one juvenile tortoise have been observed in the action area, as well as moving across the subject property (USFWS 2016d). These three tortoises are likely using habitat on the subject property and moving back and forth between the large washes to the north and east of the subject property.

Therefore, based upon the number of tortoises seen using the project area and the proximity to adjacent occupied habitat, we anticipate the following incidental take as a result of the proposed action:

- A maximum of three hatchling or juvenile tortoise lethal/injury takes throughout the five-year lifetime of the permit. If more than three hatchlings or juveniles are injured or killed during the term of the permit, conservation measures shall be revisited with the Applicant and the FWS to determine whether or not the conservation measures need revision, if appropriate, to further minimize risk to hatchlings or juveniles.
- An unlimited number of non-injury/non-lethal takes for the purpose of moving Mojave desert tortoises out of harm's way. Based on past experience, the habitat within and adjacent to the project area, and five year life of the HCP, we estimate that three tortoises may need to be moved annually.

The overall permanent loss of five acres of occupied Mojave desert tortoise habitat will have a negligible impact on the long-term conservation of Mojave desert tortoise populations within the Northeastern Mojave Recovery Unit given the extensive amount of upland habitat of higher quality that occurs on adjacent lands. The amount of lethal take will also be reduced if the three tortoises thought to be using the area are successfully translocated to nearby BLM land that will not be developed and will be maintained as tortoise habitat in perpetuity. Even if translocation is unsuccessful, loss of up to three desert tortoises would constitute less than 0.0003% of the estimated population in the recovery unit and would result in a negligible effect to the continued survival and recovery of the species.

EFFECT OF THE TAKE

In this BO, the FWS determines that this level of anticipated take is not likely to result in jeopardy to the Mojave desert tortoise. We have based the number of individuals with anticipated take on the potential future and ongoing projects to be implemented under the HCP.

REASONABLE AND PRUDENT MEASURES

We determine that the proposed action incorporates sufficient measures that reasonably and prudently minimize the effects of incidental take of Mojave desert tortoise. All reasonable measures to minimize take have been incorporated into the project description. Thus, no reasonable and prudent measures are included in this incidental take statement.

Disposition of Dead or Injured Listed Species

Upon locating a dead, injured, or sick listed species initial notification must be made to the FWS's Law Enforcement Office, 4901 Paseo del Norte NE, Suite D, Albuquerque, NM 87113; 505-248-7889) within three working days of its finding. Written notification must be made within five calendar days and include the date, time, and location of the animal, a photograph if possible, and any other pertinent information. The notification shall be sent to the Law Enforcement Office with a copy to this office. Care must be taken in handling sick or injured

animals to ensure effective treatment and care and in handling dead specimens to preserve the biological material in the best possible state.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

1. We recommend that the FWS work with other private land owners in Scenic, Arizona and Mohave County to develop individual and/or programmatic HCPs for Mojave desert tortoise.
2. We recommend that the FWS and AGFD work with the applicant and others to expand on educational and outreach efforts on Mojave desert tortoises.

In order for the FWS to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, we request notification of the implementation of any conservation recommendations.

REINITIATION NOTICE

This concludes formal consultation on the action outlined in your request. As provided in 50 CFR 402.16, reinitiation of formal consultation is required when discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

In keeping with our trust responsibilities to American Indian Tribes, we encourage you to continue to coordinate with the Bureau of Indian Affairs in the implementation of this consultation and, by copy of this biological opinion, are notifying affected Tribes of its completion.

We also encourage you to coordinate the review of this project with the AGFD. For further information please contact Brian Wooldridge (928-556-2106), Shaula Hedwall (928-556-2118) or Brenda Smith (928-556-2157).

Please refer to the consultation number, 02EAAZ00-2016-F-0698, in future correspondence concerning this project.



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cc (electronic):

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