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Via email only

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RE: Initial Study and Mitigated Negative Declaration for Ofland Hotel Twentynine Palms Project #24001838: General Plan Text and Map Amendment, Development Code Text Amendment, Conditional Use Permit, Development Agreement (APN 0614-121-15)

Dear Mr. Gardner,

The Desert Tortoise Council (Council) is a non-profit organization comprised of hundreds of professionals and laypersons who share a common concern for wild desert tortoises and a commitment to advancing the public's understanding of desert tortoise species. Established in 1975 to promote conservation of tortoises in the deserts of the southwestern United States and Mexico, the Council routinely provides information and other forms of assistance to individuals, organizations, and regulatory agencies on matters potentially affecting desert tortoises within their geographic ranges.

Both our physical and email addresses are provided above in our letterhead for your use when providing future correspondence to us. When given a choice, we prefer to receive emails for future correspondence, as mail delivered via the U.S. Postal Service may take several days to be delivered. Email is an "environmentally friendlier way" of receiving correspondence and documents rather than "snail mail."

We appreciate this opportunity to provide comments on the above-referenced project. Given the location of the proposed project in habitats likely occupied by Mojave desert tortoise (*Gopherus agassizii*) (synonymous with Agassiz's desert tortoise), our comments include recommendations intended to enhance protection of this species and its habitat during activities authorized by the City of Twentynine Palms, which we recommend be added to project terms and conditions in the authorizing document (e.g., Conditional Use Permit, development agreement, etc.) as appropriate. Please accept, carefully review, and include in the relevant project file the Council's following comments and attachments for the proposed project.

The Mojave desert tortoise is among the top 50 species on the list of the world's most endangered tortoises and freshwater turtles. The International Union for Conservation of Nature's (IUCN) Species Survival Commission, Tortoise and Freshwater Turtle Specialist Group, now considers the Mojave desert tortoise to be Critically Endangered (Berry et al. 2021), "… based on population reduction (decreasing density), habitat loss of over 80% over three generations (90 years), including past reductions and predicted future declines, as well as the effects of disease (upper respiratory tract disease/mycoplasmosis). *Gopherus agassizii* (sensu stricto) comprises tortoises in the most well-studied 30% of the larger range; this portion of the original range has seen the most human impacts and is where the largest past population losses have been documented. A recent rigorous rangewide population reassessment of *G. agassizii* (sensu stricto) has demonstrated continued adult population and density declines of about 90% over three generations (two in the past and one ongoing) in four of the five *G. agassizii* recovery units and inadequate recruitment with decreasing percentages of juveniles in all five recovery units."

This status, in part, prompted the Council to join Defenders of Wildlife and DTPC (Defenders of Wildlife et al. 2020) to petition the California Fish and Game Commission in March 2020 to elevate the listing of the Mojave desert tortoise from Threatened to Endangered in California. In its status review, California Department of Fish and Wildlife (CDFW) (2024a) stated: "At its public meeting on October 14, 2020, the Commission considered the petition, and based in part on the Department's [CDFW] petition evaluation and recommendation, found sufficient information exists to indicate the petitioned action may be warranted and accepted the petition for consideration. The Commission's decision initiated this status review to inform the Commission's decision on whether the change in status is warranted."

Importantly, in their April 2024 meeting (CDFW 2024b), the California Fish and Game Commission voted unanimously to accept the CDFW's petition evaluation and recommendation to uplist the tortoise from threatened to endangered under the California Endangered Species Act based on the scientific data provided on the species' status, declining trend, numerous threats, and lack of effective recovery implementation and land management. The Commission is expected to vote on uplisting the tortoise to endangered on June 12, 2025.

Description of the Proposed Project

The City of Twentynine Palms (City) has prepared an Initial Study/Mitigated Negative Declaration for the proposed project. Ofland Development is proposing to develop, operate, and maintain a glamping "hotel" with 100 units (individual cabins) and amenities including two lodges, pools and spas, restrooms, changing areas, recreational areas, playgrounds, food and beverage services, retail space, offices, 16-ft tall outdoor movie screen with an outdoor seating area, a stargazing area, gathering space, wastewater treatment facility, storage and laundry room, maintenance and equipment room, and 25 employee housing units. The project would offer lodging to visitors of nearby destinations, including Joshua Tree National Park (Figure 1).

The current land use designations would need to be changed – the site is currently designated "Single-Family Residential-Estate" (RS-E) on the City's General Plan Land Use and Zoning Map. The RS-E designation does not permit the proposed uses. The proposed General Plan Amendment and corresponding Development Code Amendment and rezoning would change the designation

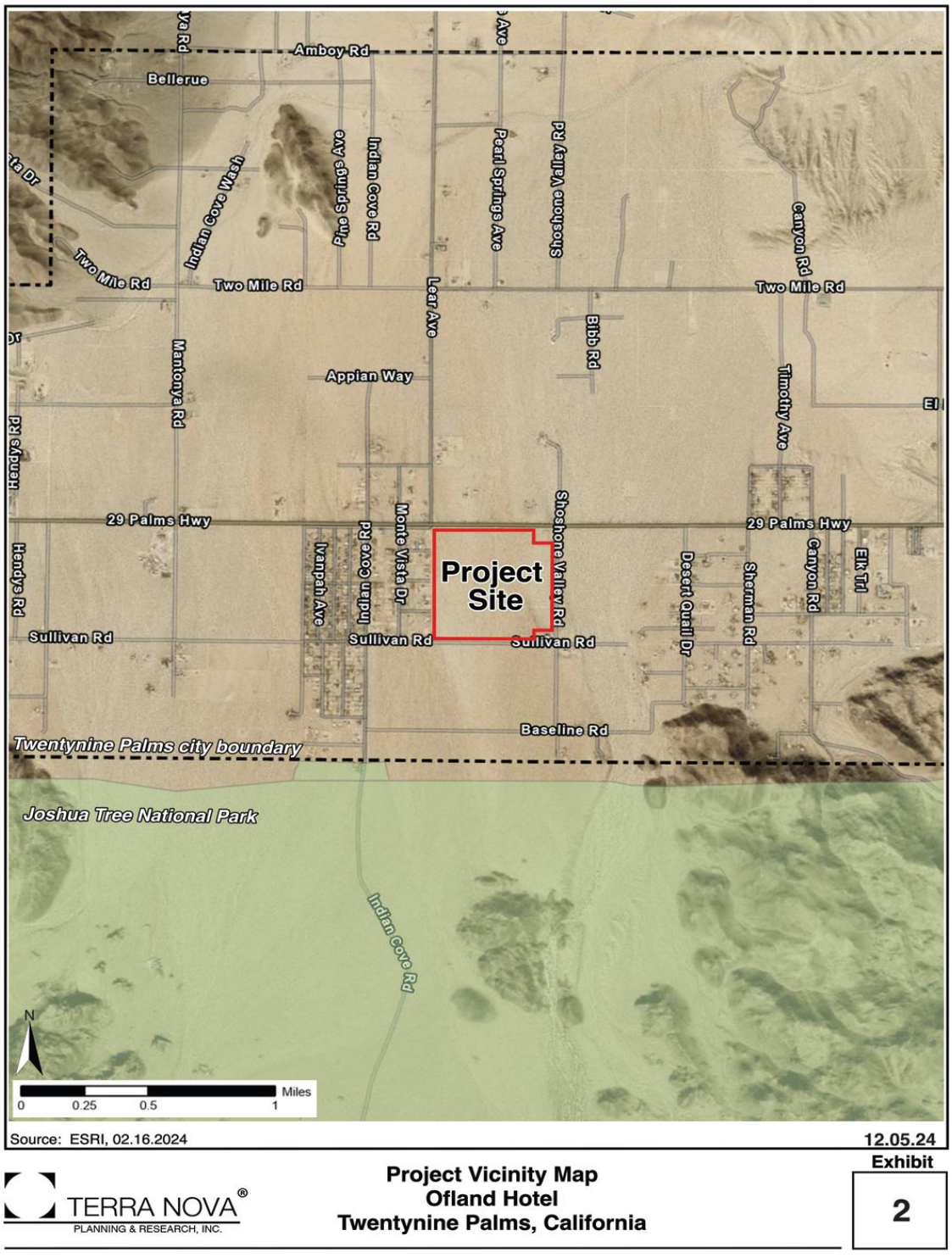


Figure 1. Location of the project site with respect to 29 Palms Highway (State Route 62) and Joshua Tree National Park with open space on the north, east, and south sides.

for 42± acres in the center of the parcel to Tourist Commercial (CT), and 110± acres on all sides of the property to Open Space Conservation (OSC) (Figure 2). The Open Space designation would form a buffer on all sides of the parcel, as follows:

- 500 feet in depth along the west side of the parcel;
- 800 feet in depth along the east side of the parcel;
- 600 feet in depth along the north side of the parcel; and
- 500 feet in depth along the south side of the parcel.

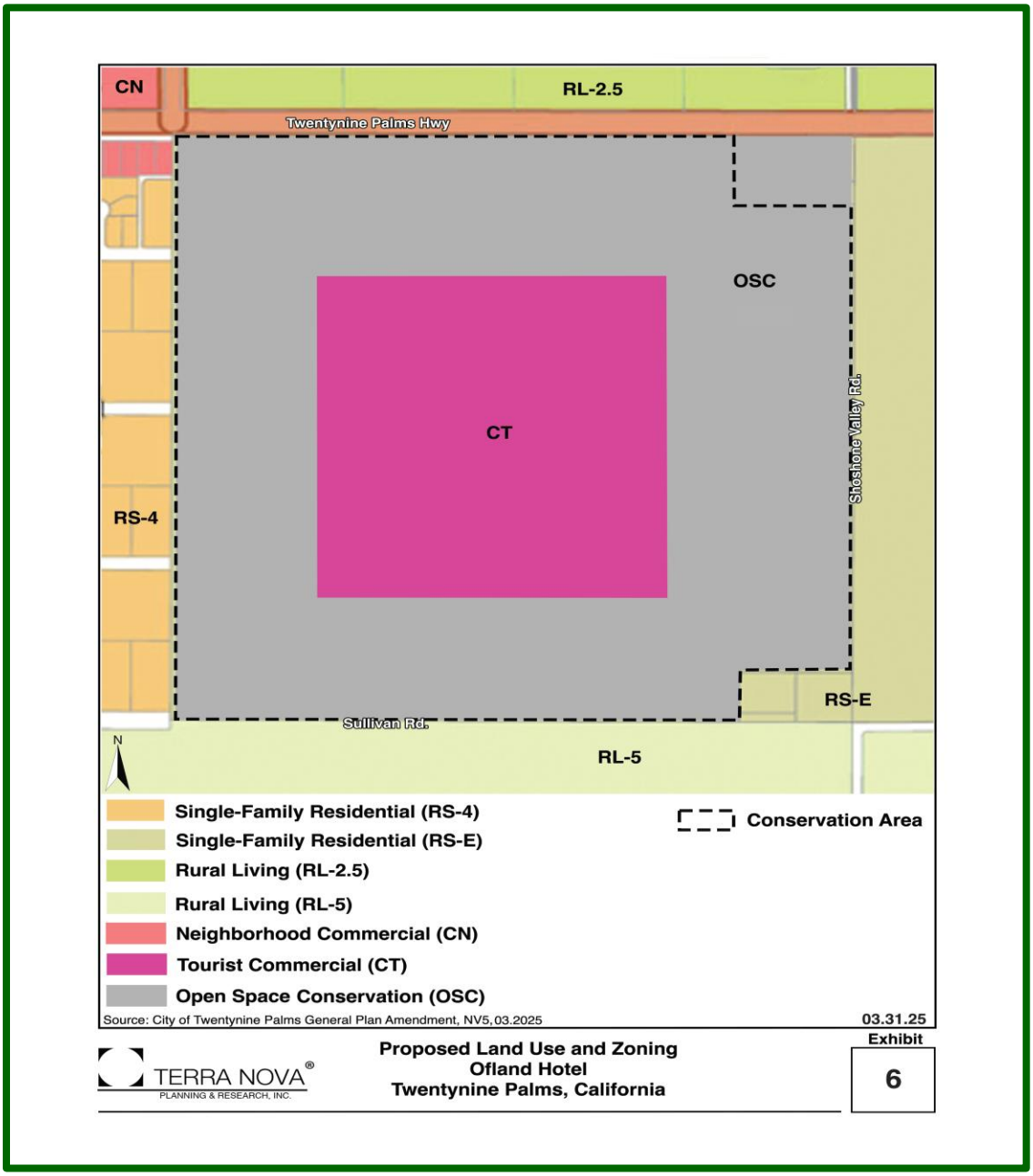


Figure 2. Siting of the glamping hotel and associated facilities (rezoned to Tourist Commercial = CT) and Open Space Conservation = OSC.

The project is located on the west side of the City of Twentynine Palms in the Indian Cove area and bordered by 29 Palms Highway (State Route 62) on the north, Shoshone Valley Road on the east, Sullivan Road on the south, and Lear Avenue on the west. Access to the glamping hotel would be via Lear Avenue that would be paved to Sullivan Road, which would also be paved. The access road from Lear Avenue to the glamping hotel would cross the 110-acre Open Space Conservation Area on the west side of the glamping hotel.

Comments on the Initial Study and Proposed Mitigated Negative Declaration

Question about the Northeast Corner of the Parcel

The northeast corner of the parcel appears to be excluded from the open space conservation area designation (Figure 2). We were unable to find the reason for this exclusion in the Initial Study/Mitigated Negative Declaration. Based on the location of the acreage, we wonder if the project proponent or the City have future plans that differ from the proposed project. Please include information in the California Environmental Quality Act (CEQA) document on what the planned use of this acreage is and why it is not included in the open space conservation designation.

Compliance with CEQA on Public Notifications

On August 21, 2024, Mr. Gardner and Ms. Olsen of the City of Twentynine Palms Planning Department were contacted with the following email request from Mr. Ed LaRue:

> "Does the 29 Palms Planning Department maintain an active list of 'Interested Parties' or 'Affected Interests' with regards to development within the city limits? If so, I would like to have my email added to that list so that I can take opportunities to provide comments during public CEQA reviews. I am the chair of the Ecosystems Advisory Committee of the Desert Tortoise Council. Last year, we wrote 92 comment letters, mostly to the Bureau of Land Management, for proposed projects that may affect the desert tortoise. I'm also on the distribution list for projects in San Bernardino County, receiving regular public announcements for county projects in tortoise habitats. I understand that there are several current projects in 29 Palms that may affect tortoises, including a solar development and a resort in Indian Cove [i.e., Ofland Hotel]. Again, I would like to be notified during public comment periods for these and other projects."

Section 15190.5 of CEQA says that "[n]otice shall be mailed to the last known name and address of all organizations and individuals who have previously requested such notice in writing." We consider the August 2024 email to be a request to receive public notice of the proposed project and all other proposed development projects within the City of Twentynine Palms. We are disappointed that neither Mr. LaRue nor the Council received notice of the proposed project, and question whether this perceived omission may have violated CEQA? Again, the Council requests that Mr. LaRue (ed.larue@verizon.net) and the Council (eac@deserttortoise.org) be notified of any proposed action that is authorized, funded, or carried out by the City that is subject to CEQA. This includes categorical exemptions, negative declarations, mitigated negative declarations, and environmental impact reports.

Please respond via email to the Council to let us know that you have received this second request for public notification of CEQA projects and will comply with it for all future CEQA documents.

Environmental Factor IV – Biological Resources

Under the Biological Resources element in the Initial Study/Mitigated Negative Declaration, the City addressed the following questions:

A. Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?
B. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game [sic] or U.S. Fish and Wildlife Service?
C. Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?
D. Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?
E. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
F. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

In this section of the Initial Study/Mitigated Negative Declaration (page 29), the City states that "[o]ngoing threats, including population loss, habitat degradation and fragmentation due to development have resulted in the desert tortoise being listed as a federal and state threatened species," and that "CEQA further requires all new developments avoid potential impacts to the desert tortoise and any other federal, state, and/or local listed species" (page 29).

Questions A, D, and E relate to the tortoise.

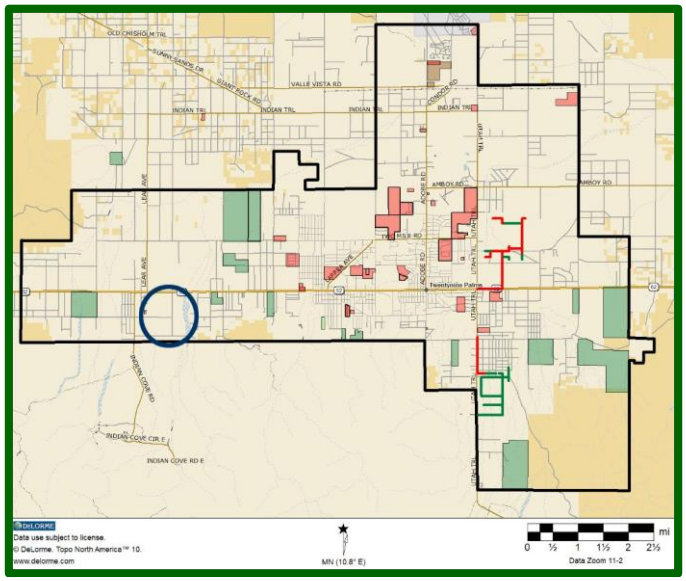
Question A: The City states that "[a] site-specific biological resource assessment report was prepared on March 18, 2024, by WSP USA (WSP) (Appendix B). The report consists of a literature review, record search, and biological field survey to determine the Project's biological impact onto the native habitat." After a one-day field survey of the project site for all biological resources, the BRA [Biological Resources Assessment; Terra Nova Planning and Research 2024] Report provided the following determination and recommendation for the tortoise:

> "the project site and surrounding area contains suitable habitat. For these reasons, desert tortoises may be currently present or *may enter the project area in the future* (emphasis added). The following mitigation and minimization measures are recommended to ensure that any potential impacts to the desert tortoise are avoided:
>
> 1) Desert tortoise surveys should be conducted in accordance with the Preparing for Any Action that May Occur Within the Range of the Mojave Desert Tortoise (*Gopherus agassizii*) (USFWS 2019)."

This was the only “mitigation and minimization measure” recommended in the BRA Report for the tortoise. We note that this is not a mitigation and minimization measure. Rather, it is standard operating procedure for projects with surface disturbance that occur in potential tortoise habitats including linkage habitats among tortoise populations. Conducting U.S. Fish and Wildlife (USFWS) presence/absence protocol surveys for the tortoise is the initial step that gathers baseline information to help determine whether the tortoise uses the project site and nearby areas. The presences of tortoises, tortoise sign, and other information is then compiled and analyzed to determine the extent of the direct and indirect impacts to the tortoise, if any, from the construction, use, and operations of the proposed project.

From the information provided in the Initial Study/Mitigated Negative Declaration, we perceive that the City knows about the requirements under the Federal Endangered Species Act (FESA) and the California Endangered Species Act (CESA) for listed/candidate species including the tortoise. This perception is based on the City stating that “ “the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW) have established regulations to allow development to occur within a strict framework that ensures potential impacts to the desert tortoise population and sensitive habitat are reduced to the greatest extent.” However, we were unable to find in the Initial Study/Mitigated Negative Declaration that these requirements are discussed or commitments are made by the City to follow them. In summary, we found no information on how the proposed project would comply with FESA or CESA. Please add this information to the CEQA document, as without it, the City may be approving a project that violates these laws.

According to Terra Nova Planning and Research’s (2024) biological report, although the consultant spent 10 hours on the site surveying “meandering transects” in October 2023, they did not perform USFWS (2019) protocol surveys. It has now been a year-and-a-half since the survey was performed, and given the location we suspect that tortoises are present. In the following image provided by Circle Mountain Biological Consultants, Inc. (CMBC), the proposed project is located within the black circle. Those sites where CMBC found desert tortoise signs are shown in green, sites where no tortoise signs were found are shown in red, and the city limits are inside the heavy black line. One can see that all proximate surveys have detected desert tortoise signs:



Perhaps the recon surveys were by design pending completing a formal survey, which is stated in the conclusions on page 21 (Terra Nove Planning and Research 2024): "1) Carry out desert tortoise surveys in accordance with the guidelines provided in the document Preparing for Any Action that May Occur Within the Range of the Mojave Desert Tortoise (*Gopherus agassizii*) (USFWS 2019). If desert tortoise is found within the project area, seeking guidance from the USFWS [and CDFW] is advised and necessary."

This site must be resurveyed using the appropriate 2019 tortoise survey protocol and CDFW (2012) burrowing owl guidance, otherwise the City may approve a project that will result in the loss of tortoises and occupied habitat. In the absence of a formal protocol survey, the City would be remiss in approving this project without state and federal incidental take permits, which are required if even a single tortoise scat is found onsite. We also note that surveying meandering transects would not necessarily detect burrowing owl sign, and that point #3 on page 21 of the biological report also recommends focused surveys for owls. Burrowing owls are now a candidate species for state listing, so it is vital that the presence or absence of burrowing owls, which are also frequently found in the region, must be ascertained. As we understand it, a mitigated negative declaration should NOT be declared where threatened and candidate species would be affected.

Take under FESA and CESA: Both laws prohibit the take of a listed species for non-federal projects unless the project proponent first obtains an incidental take permit from the USFWS and CDFW authorizing this take. CESA extends this take protection to candidate species such as the western burrowing owl.

Under FESA, 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" (Section 3(18), FESA). Harm is defined as "significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavior patterns, including breeding, feeding, or shelter" [50 Code of Federal Regulations (CFR) § 17.3(c)]. Harass is defined as "an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering" (50 CFR § 17.3). Consequently "take" includes modification of habitat that would result in harm, or human activities that modify a species' behavior and create the likelihood of injury or mortality.

Presence/Absence or Pre-project Surveys for the Tortoise: To determine whether an incidental take permit is needed for a proposed non-federal project, the USFWS has developed a presence/absence survey protocol for the tortoise (USFWS 2019). For smaller projects this protocol requires 100% survey coverage of the action area (see below for definition of "action area"). CDFW has adopted the USFWS's 100% coverage survey as the methodology[1] to use to determine tortoise presence/use of the action area. These are the surveys that the BRA Report recommended.

[1] (https://wildlife.ca.gov/Conservation/Survey-Protocols#377281283-reptiles)

As part of the presence/absence survey protocol, experienced desert tortoise surveyors and restricted transect widths for surveying the action area are necessary because (1) tortoises spend most of their time underground avoiding temperature extremes, (2) when aboveground they are cryptic and not easily seen, and (3) the survey includes searching for tortoise sign (e.g., shells, scat, tracks, etc.). Research has shown that experienced tortoise surveyors miss seeing tortoises and their sign when transects are wider than 15 feet on a side (USFWS 2025).

Conducting presence/absence surveys for the tortoise is a long-standing method for collecting data that are used to describe and analyze the potential direct and indirect impacts to the tortoise for any proposed project in tortoise habitat for federal and non-federal projects and to determine whether an incidental take permit is needed. The Council requests that the City coordinate with USFWS and CDFW to ensure that the City is implementing the appropriate methods to determine the presence of tortoises in the vicinity of the proposed project and fully assessing the direct and indirect impacts of the proposed project to the tortoise/tortoise habitat.

Clearance Surveys for the Tortoise: The presence/absence surveys are different than clearance surveys (USFWS 2009). Clearance surveys require 100 percent coverage of the project area, with a focus on locating all desert tortoises above and below ground within the project area. Clearance surveys are conducted only after incidental take permits are issued and immediately prior to initiating surface disturbance within the project area or following installation of desert tortoise exclusion fencing that encompasses the project area to preclude tortoises from the project area.

Clearance surveys involve authorized tortoise biologists walking transects less than or equal to 15 feet (5-meters) wide under typical conditions. This is half the width of the presence/absence surveys. In areas of dense vegetation or when conditions limit the ability of the surveyors to locate desert tortoises, transects should be reduced in width accordingly. A minimum of two surveys is required. If desert tortoises are found during the second survey, the USFWS and CDFW may require a third survey. If any desert tortoises are found, they would be moved to another location according the requirements in the incidental take permits from the USFWS and CDFW.

Need for an Incidental Take Permit: Prior to conducting a clearance survey for non-federal projects, an incidental take permit under Section 10(a)(1)B) of FESA and Section 2081 permit under CESA are required. This is because biologists conducting the clearance survey will capture and remove all tortoises found in the development area of the proposed project, which is take.

Qualified Tortoise Biologists as Surveyors: Both the presence/absence and clearance surveys should be conducted using "desert tortoise surveyors with appropriate qualifications" (USFWS 2019). The need for experienced desert tortoise surveyors to conduct presence/absence surveys cannot be overstated. As relayed to Mr. Gardner and Ms. Olsen in the August 21, 2024 email, when the casino was built in the southern part of Twentynine Palms, "the initial consultant had not found any tortoises, but we [CMBC biologists] had found tortoise sign on two adjacent sites, so subsequent surveys by a knowledgeable biologist found several tortoises on the casino site."

Action Area: When implementing the tortoise presence/absence survey, the areas surveyed should cover the entire action area for the proposed action. The "action area" is defined by the regulations for section 7(a)(2) of the ESA (50 Code of Federal Regulations 402.02), as "areas to be affected

directly or *indirectly* [emphasis added] and not merely the immediate area involved in the action." Action areas frequently include the project site, access routes, and the areas into which desert tortoises are to be translocated. The extent of the action area is not limited to the "footprint" of the action nor is it limited by the authority of the federal, state, or local agency or any other entity proposing the project; it will vary with each proposed action [proposed project]. The USFWS uses the action area to estimate the number of desert tortoises that may be affected by the proposed action. This and other information is used to determine the "impacts of the taking" for a proposed project and minimize and mitigate the impacts to the maximum extent practicable under FESA and fully mitigate the impacts under CESA.

We request the City include in the CEQA document the need (1) to coordinate with the USFWS and CDFW regarding the desert tortoise pre-construction surveys and, if needed, (2) to conduct clearance surveys after obtaining federal and state incidental take permits for tortoises prior to initiating any ground disturbance.

At the beginning of the Initial Study/Mitigated Negative Declaration, the City states "[t]he purpose of this Initial Study (IS) is to disclose and evaluate the environmental impacts resulting from the construction and operation of the proposed Ofland Hotel Twentynine Palms." Unfortunately, we did not find that the Initial Study/Mitigated Negative Declaration disclosed and evaluated the environmental impacts of the proposed project to the tortoise and its habitat. Many of the impacts to the tortoise, primarily indirect and cumulative impacts from the construction, use, and operations of the proposed project, were not analyzed or even described in the Initial Study/Mitigated Negative Declaration. This is likely because the biological resources assessment report (Terra Nova Planning and Research 2024) was limited to determining whether special status species including the tortoise may occur on the project site, and not what the impacts to the tortoise from the construction, use, and operations of the proposed project would be.

An additional reason may be that Question A appears to address only direct impacts and those that occur on the project site. For the proposed project, the site of direct impacts (footprint of the glamping hotel and associated facilities) is not likely to provide habitat for permanent or temporary occupancy of the tortoise and other special status animal species (e.g., western burrowing owl, kit fox, American badger) after development and would impede the function of the linkage area in which the project is located (see Question D below). The species that currently use the project area (hotel facilities footprint and open space conservation area) and adjacent areas would likely be indirectly impacted by the construction, use, and/or operations of the project, and these activities may result in incidental take of these species that would violate federal and/or state laws/regulations/codes.

The USFWS has documented substantial declines in tortoise abundance and density since 2004, especially in California (see attachment Appendix A – Demographic Status and Trend of the Mojave Desert Tortoise including the Tortoises in Western Mojave Recovery Unit). The primary reason for its substantial decline has been from increased mortality caused by indirect impacts from human activities. These include human activities that result in the destruction, degradation and/or fragmentation of tortoise habitat; surface disturbance and introduction of non-native invasive plant species via construction equipment, vehicles, and other sources; replacement of native forbs with high nutritional and water value with low nutritional non-native invasive grasses

(Drake et al. 2016); increased occurrence of fire size, intensive, and frequency of human-caused wildfires from fuels provided by non-native invasive plant species (Brooks and Esque 2002); increased predation from substantially increased numbers of predators that utilize subsides of food, water, and nesting locations (Boarman 2003); and increased human access that provides opportunities for vandalism and collecting tortoises for pets. Major sources of surface disturbance include residential, commercial, and industrial development projects and associated roads/highways (such as the proposed project); military training; and off-highway vehicle use (USFWS 2011, Tuma et al. 2016).

For example, the creation of the access road from Lear Avenue to the parking area of the glamping hotel will bisect the west side of the open space conservation area. Paving Lear Avenue and Sullivan Road will likely increase the occurrence and speed of vehicles on these roads from current use. The direct impact from this new and increased road use is the loss of tortoise habitat and killing of tortoises from collisions with vehicles/construction equipment during the construction phase, and employees, guests of the glamping hotel during the use and operations phase. However, road establishment/increased road use in tortoise habitat is often followed by various indirect impacts to the tortoise and its habitat including increased human access causing disturbance of species' behavior (Harju et al. 2024), increased predation, spread of invasive plant species that alter/degrade nearby habitat (Boarman and Sazaki 2006), reduced numbers of tortoises/tortoise sign. Nafus et al. (2013) stated that the ecologically affected areas along roads, otherwise known as ''road-effect zones," are those in which a change in wildlife abundance, demography, or behavior is observed. Von Seckendorff Hoff and Marlow (2002) reported reductions in tortoise numbers and sign from infrequent use of roadways to major highways with heavy use. For a lightly used road, the reduction in tortoises and sign was evident 1.1 to 1.4 km (3,620 to 4,608 feet = 0.68 to 0.87 mile) from the road. See also LaRue (1992).

Nafus et al. (2013) reported that roads may decrease tortoise populations via several possible mechanisms, including cumulative mortality from vehicle collisions and reduced population growth rates from the loss of larger reproductive animals. Other documented impacts from road construction and use include increases in roadkill of other wildlife species that create or increase food subsidies for common ravens, and contribute to increases in raven numbers and predation pressure on the tortoise. These findings indicate that the improvements to Lear Avenue and Sullivan Road and the creation of the access road to the glamping hotel may negatively impact the tortoise and tortoise habitat in the open space conservation area thus devaluing its ability to support tortoises as a linkage area. We did not find the direct or indirect impacts to the tortoise and other wildlife species and their habitats from the construction and use of these roads described, analyzed, or mitigated in the Initial Study/Mitigated Negative Declaration.

Another example of an indirect impact from the project's construction, use, and operations that may result in take of the tortoise is increased tortoise predation. Common ravens are known to prey on juvenile desert tortoises based on direct observations and circumstantial evidence, such as shell-skeletal remains under active nests with holes pecked in the carapace (Boarman 1993). The number of common ravens increased by 1,528% in the Mojave Desert since the 1960s (Boarman 1993). This increase in raven numbers is attributed to unintentional subsidies provided by humans in the Mojave Desert.

In the Mojave Desert, common ravens are subsidized predators because they benefit from resources associated with human activities that allow their populations to grow beyond their "natural" carrying capacity in the desert habitat. Kristan et al. (2004) found that human development in the western Mojave Desert affect raven populations by providing food subsidies, particularly trash and road-kill. Boarman et al. (2006) reported raven abundance was greatest near resource subsidies, specifically food (= trash) and water. Human subsidies include food and water from landfills and other sources of waste, reservoirs, sewage ponds, agricultural fields, feedlots, gutters. Subsidies also include perch, roost, and nest sites on power towers, telephone poles, light posts, billboards, fences, freeway or railroad overpasses, abandoned vehicles, and buildings (Boarman 1993). The human-provided subsidies allow ravens to survive in the desert during summer and winter when prey and water resources are typically inactive or scarce. Boarman et al. (1993) concluded that the human-provided resource subsidies must be reduced to facilitate a smaller raven population in the desert and reduced predation on the tortoise.

Coyotes are known predators of tortoises. High adult tortoise mortality from coyote predation was reported by Petersen (1994), Esque et al. (2010) and Nagy et al. (2015) in part of the range of the tortoise. In some areas, numbers of ravens correlated positively with coyote abundance (Boarman et al. 2006). Lovich et al. (2014) reported tortoise predation may be exacerbated by drought if coyotes switch from preferred mammalian prey to tortoises during dry years. Because the Mojave Desert has been in a multi-decade drought (Stahle 2020, Williams et al. 2022) due to climate change and drought conditions are expected to continue and intensify in future years, increased predation pressure from coyotes on tortoises is expected to continue.

The proposed project would likely increase the availability of human-provided subsidies for predators of the tortoise including the common raven and coyote in the open space conservation area and adjacent areas during the construction, use, and operations phases of the project. For example, during the construction phase the water used to control dust and the waste generated during construction including food brought to the project site by workers for meals, are examples of food and water subsidies for ravens and coyotes that would attract these predators to the project site and increase their numbers in the surrounding area. Grading the site would expose, injure, or kill fossorial animals and provide a subsidized food source for ravens and coyotes. During the use and operations phase, the presence of food waste in uncovered trash cans and dumpsters would provide food subsidies for ravens and coyotes that would attract them to the project area and increase the likelihood of them preying on tortoises in the project area.

These and other indirect impacts to the tortoise and its habitat from implementation of the proposed project should be described and analyzed in the CEQA document.

We request that the City revise the CEQA document to include an analysis of the road effect zone, increased predation, and other indirect impacts to the tortoise and tortoise habitat that are likely to occur from the construction, use, and/or operations of the proposed project. A bibliography of road effects on tortoises and their habitats is attached in Appendix B.

In addition to the tortoise, we request that the following presence/absence surveys be conducted for these special status/protected species – western burrowing owl and desert kit fox.

Western Burrowing Owl: In the Initial Study/Mitigated Negative Declaration, the City says "Mitigation Measure BIO-3 is provided below, which requires that preconstruction surveys be conducted no more than 14 days prior to the initiation of ground disturbance, and again 24 hours before ground disturbance, to assure that the [burrowing owl] species is not present on the site. With implementation of this mitigation measure, impacts to burrowing owl will be less than significant." The major problem with this approach is incidental take for a candidate species such as burrowing owl must be obtained *before* ground disturbance occurs. Since a permit may take months or even more than a year to obtain, it is inappropriate to require surveys within 14 days and 24 hours of ground disturbance unless they are provisions within the incidental take permit.

This section of the Initial Study/Mitigate Negative Declaration should include a description of the survey protocol that would be implemented. Protocol surveys for western burrowing owl (*Athene cunicularia*) (CDFG 2012) should be completed. Note that this protocol requires that peripheral transects be surveyed at 30-, 60-, 90-, 120-, and 150-meter intervals in all suitable habitats adjacent to the subject property to determine the potential indirect impacts of the project on this species. If burrowing owl sign is found, CDFG would determine whether an incidental take permit is required and if so require the project proponent to fully mitigate the impacts to the burrowing owl.

This is a similar situation to the statement the City made about implementing surveys for the tortoise as a mitigation measure, but with no commitment to describe and analyze the direct and indirect impacts from implementation of the proposed project to burrowing owls if they use the project area or to mitigate the impacts to the species. Surveys provide information whether a species occurs in an area. This is information, not mitigation. What would the City require if the survey results are positive for the burrowing owl (or the tortoise) to mitigate the direct and indirect impacts of their taking? The City should explain in the Initial Study/Mitigated Negative Declaration what would be required to mitigate and how the implementation of this mitigation would comply with CESA's requirement to fully mitigate and minimize impacts to the burrowing owl that are less than significant.

Note that CDFW generally considers biological field surveys for wildlife and plants to be valid for a one-year period. Surveys should be conducted during wildlife species active season when the wildlife species is most likely to be detected, and plant surveys conducted during the species blooming/flowering period.

Desert Kit Fox: The distribution model for desert kit fox (*Vulpes macrotis arsipus*) shows the species occurring in the proposed project area[2]. This layer was created by weighting three different factors - vegetation, topography, and road density - to determine a continuous range of habitat suitability throughout the fox's range. A threshold value of greater than 6.5 is considered habitat. These data are updated expert model outputs for desert kit fox species distribution for the Desert Renewable Energy Conservation Plan, provided by Dudek. For desert kit fox, Dudek provided Penrod's 2012 habitat suitability model used in the California Desert Linkage Network project, created by SC Wildlands (Penrod et al. 2012).

[2] (see https://databasin.org/maps/new/#datasets=f15b1247f2bc433f8758be6c9439a3aa)

The desert kit fox is protected under the California Code of Regulations, Chapter 5, section 460 (14 CCR § 460), which prohibits "take" of the desert kit fox for any reason.

CDFW uses the USFWS's (2011) protocol for San Joaquin kit fox, for surveying for the desert kit fox[3]. We recommend that the City contact CDFW to determine whether the presence/absence survey protocol for the desert kit fox should be implemented for the proposed project. If implemented, the results of the survey should be included in the CEQA document along with the mitigation that CDFW identified to avoid take of this species. CDFW may also recommend that pre-construction surveys be conducted, and that if dens are found, disturbance buffers may be required to avoid or minimize impacts to the species.

Question D: The Conservation and Open Space Element of the City's General Plan identifies the locations of linkage habitat for wildlife. The proposed project is located in the middle of one linkage habitat (see Figure 3). In addressing Question D, the City claims that "the field survey concluded that the site sustains minimal biological resources and there is a moderate to low probability of special status species of [sic] occurring within the boundaries of the Project."

The Council disagrees with the City's conclusion. Wildlife corridors/linkage habitats are areas that are used periodically; they are not continuously occupied by wildlife species. Consequently, a one-day visit to a project site employing "meandering transects" rather than protocol surveys would not provide sufficient information to conclude that the project site or nearby areas would not interfere substantially with the movement of any native resident wildlife species or established native resident wildlife corridors.

The City says that the "Project includes 110 acres of land to be designated Open Space, and preserved for conservation. This area, and the clustered nature of the Project development area, will preserve 72% of the wildlife habitat on the property. Additionally, the Project will be required to adhere to any applicable City ordinance regarding the conservation of biological resources and species. In accordance with these standards and mitigation measures, the Project's development is not expected to pose a significant threat to the native and mitigatory species occupying the wildlife linkage. As such, less than significant impacts will occur."

We were unable to find any supporting information in the scientific literature that the conclusion presented by the City that locating a glamping hotel with outdoor recreational facilities, food, and daily outdoor activities near the middle of a designated linkage habitat in the City's General Plan would not result in substantial adverse impacts to the function of this linkage habitat. The Council provides the following information on the minimum size, arrangement, and importance of linkage habitats to sustain the tortoise and biodiversity for other wildlife species.

Averill-Murray et al. (2021) published a paper on connectivity of Mojave desert tortoise populations and linkage habitat. The authors emphasized that "[m]aintaining an ecological network for the Mojave desert tortoise, with a system of core habitats (TCAs = Tortoise Conservation Areas) connected by linkages, is necessary to support demographically viable populations and long-term gene flow within and between TCAs." Joshua Tree National Park is a TCA that needs to be connected to other areas with tortoise populations (e.g., Sand Hills on the Marine Corps Air Ground Combat Center and the Mojave National Preserve further north).

[3] (https://www.fws.gov/sites/default/files/documents/survey-protocols-for-the-san-joaquin-kit-fox.pdf)

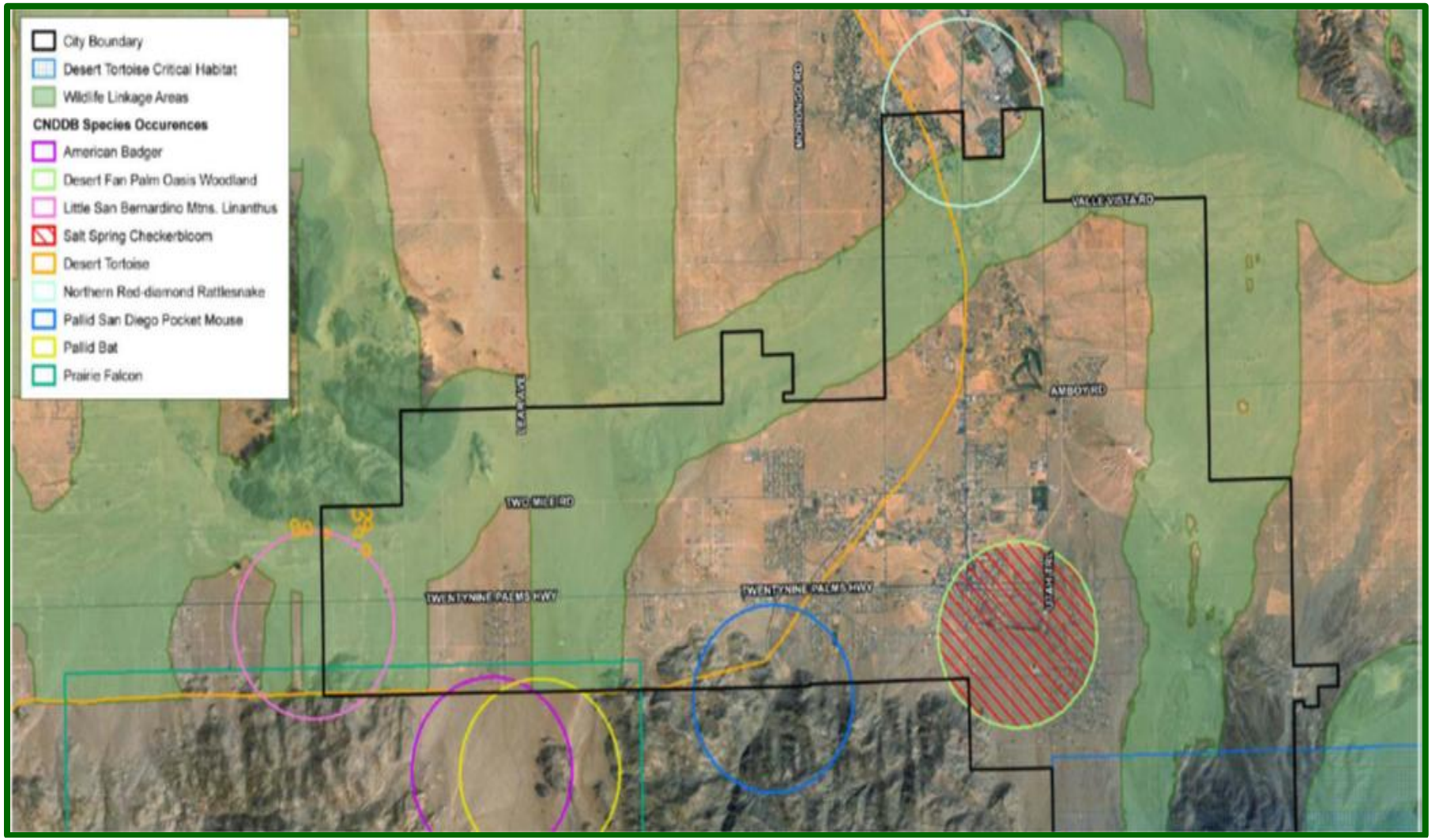


Figure 3. Map of wildlife linkage area (shaded in green). The propose project is located north of the yellow circle and south of Twentynine Palms Hwy. From Conservation and Open Space Element, General Plan, City of Twentynine Palms.

"Ignoring minor or temporary disturbance on the landscape could result in a cumulatively large impact that is not explicitly acknowledged (Goble, 2009); therefore, understanding and quantifying all surface disturbance on a given landscape is prudent." Furthermore, "habitat linkages among TCAs must be *wide enough* [emphasis added] to sustain multiple home ranges or local clusters of resident tortoises (Beier and others, 2008; Morafka, 1994), while accounting for edge effects, in order to sustain regional tortoise populations." Consequently, effective linkage habitats are *not long narrow corridors* [emphasis added]. Any development within them has an edge effect (i.e., indirect impact) that extends from all sides into the linkage habitat further narrowing or impeding the use of the linkage habitat, depending on the extent of the edge effect. Placing the proposed project in the middle of the proposed linkage conservation area effectively negates connectivity between important tortoise conservation areas.

The lifetime home range for the Mojave desert tortoise is more than 1.5 square miles (3.9 square kilometers) of habitat (Berry 1986) and may make periodic forays of more than 7 miles (11 kilometers) at a time (Berry 1986).

USFWS (2012) reported that "[u]sing a circular lifetime home range of 3.9 square kilometers (1.5 square miles) for a desert tortoise, we estimate that a linkage would need to be at least 2.3 kilometers (1.4 miles) wide to accommodate the width of a single home range." However, "the minimum width of a linkage should accommodate several home ranges (USFWS 1994; Beier et al. 2008)"

Averill-Murray et al. (2021) further noted that "To help maintain tortoise inhabitance and permeability across all other non-conservation-designated tortoise habitat, all surface disturbance could be limited to less than 5-percent development per square kilometer because the 5-percent threshold for development is the point at which tortoise occupation drops precipitously (Carter et al. 2020)." They caution that the upper threshold of 5 percent development per square kilometer may not maintain population sizes needed for demographic or functional connectivity; therefore, development thresholds should be lower than 5 percent.

We add that the fundamentals of conservation biology include the need for gene flow between populations to maintain genetic diversity; this enables a species to more likely survive, especially during climate change, which enables biodiversity. Thus, linkage habitats are important as they provide connectivity among wildlife populations to maintain viability and biodiversity. Thus, the proposed project would have a profound adverse impact on the function of this linkage habitat for the tortoise. Given the daily outdoor activities and noise generated by people who would be at the glamping hotel or attend special events there, it is likely that other diurnal wildlife species, and possibly crepuscular (i.e., active at dawn and dusk) and nocturnal wildlife, would also be adversely affected by these activities impeding or preventing the use of the conservation area as linkage habitat.

Question E: To answer this question the City says that "the Project will adhere to all appropriate local policies and ordinances protecting biological resources and wildlife conservation plans." However, we were unable to find in the Initial Study/Mitigated Negative Declaration a description of the local policies and ordinances protecting biological resources and wildlife conservation plans. There may be no policies and ordinances or there may be strict policies, ordinances, and/or wildlife conservation plans. The CEQA document should describe the relevant policies and ordinances and how they will be enforced during the construction, use, and operations of the proposed project. Please revise the CEQA document to include this information.

Mitigation and Monitoring: Because this document is an Initial Study/Mitigated Negative Declaration, it contains mitigation and monitoring sections to demonstrate that their implementation will reduce the level of impacts from the construction, use, and operations of the proposed project to less that significant. However, until the City determines the type and extent of the direct and indirect impacts to the tortoise/tortoise habitat from the proposed project, and analyzes these impacts, the City is unable to identify the appropriate mitigation and monitoring to offset the impacts.

Currently the priority for managing the tortoise is to substantially reduce mortality and manage desert tortoise habitat for persistence and connectivity of the species (Averill-Murray et al. 2021; Kerry Holcomb personal communication 2025). The major threat to the tortoise is mortality from human sources, either directly or indirectly. These sources of mortality must be substantially reduced or eliminated if the tortoise is to survive in the near future. The indirect impacts from the proposed project that are not addressed in the Initial Study/Mitigated Negative Declaration include all the indirect impacts listed earlier in this letter and possibly more (e.g., presence of unleased dogs etc.).

Once all of this information is collected and analyzed, then appropriate mitigation can be developed to "avoid potential impacts to the desert tortoise." Only then would the City be able to determine whether a Mitigated Negative Declaration or an EIR would be the appropriate CEQA document for the proposed project.

The Council maintains that the conclusion that the City provides in the Initial Study/Mitigated Negative Declaration regarding the purpose of the BRA Report was not to determine the appropriate mitigation for the tortoise. Rather, the BRA Report recommended that further studies in the form of surveys be conducted to determine the use of the project area and adjacent areas by the tortoise and burrowing owl. Consequently, the mitigation measures that the City proposes in the Initial Study/Mitigated Negative Declaration for these two species are inappropriate because they are not mitigation and do nothing to offset the numerous indirect impacts to these two species and their habitats from the construction, use, and operations of the proposed project.

We are providing the City a link to documents with some examples of mitigation measures that are routinely implemented for projects in tortoise habitat to reduce adverse impacts[4]. Please see the Council's (2017) "A Compilation of Frequently Implemented Best Management Practices to Protect Mojave Desert Tortoise during Implementation of Federal Actions[5]" for examples of Best Management Practices (BMPs) for the tortoise/tortoise habitat, many of which are applicable to the proposed project. While the title mentions implementation of federal actions, the BMPs may also be implemented on non-federal projects to minimize the likelihood of take under FESA and CESA.

Some of the subsidies to tortoise predators could be mitigated by requiring the implementation of BMPs that include using water for dust suppression so it does not form puddles, requiring waste containers that are predator-proof, wind-proof, and regularly maintained by the Project Proponent, etc. We request that the City require the Project Proponent to implement BMPs to substantially reduce/eliminate these indirect impacts to the tortoise and other special status species.

[4] (https://deserttortoise.org/library/plans-bmps/)
[5] (https://deserttortoise.org/wp-content/uploads/dtc_construction_BMPs_090517.pdf)

Coordination with the USFWS and CDFW should occur in the development and implementation of these BMPs. In addition, the City should require the Project Proponent to contribute to the National Fish and Wildlife Foundation's Raven Management Fund for regional and cumulative impacts of projects that subsidize common ravens (USFWS 2010) and other predators of the tortoise and other wildlife, as other project proponents have done for projects on private property in the range of the tortoise.

As stated above, the BRA Report said the project site and surrounding area contains suitable habitat. For these reasons, desert tortoises may be currently present or may enter the project area in the future. A few years ago, a project in the Joshua Tree/Twentynine Palm area near SR 62 was constructed. The project had tortoise habitat located adjacent to it. The project proponent constructed tortoise exclusion fencing around the perimeter of the project to ensure that during the construction, operation, and use of the project area, tortoises would not enter the project site so that "take" would not occur. However, a storm breached the fencing in a small area and it was not repaired. Two tortoises moved onto the project site and the project proponent had two tortoises on the property and no incidental take permit. This incident demonstrates that tortoises can move onto a project site when suitable habitat is located nearby, which supports the BRA Report's statement. It also is an example of why implementing effective mitigation correctly that is tied to the impacts is imperative in preparing CEQA documents and for protecting the tortoise and the project proponent.

We presume that one of the reasons for the designation of the area surrounding the project footprint as "open space conservation" is to mitigate for the some of the tortoise habitat that would be lost directly from construction of the project. This is not mentioned in the mitigation section of the Initial Study/Mitigated Negative Declaration. To ensure that this area remains open space and in its natural state the City should require the project proponent to place a permanent conservation easement on this area. Zoning designations for open space can be changed in the future. The current process of requesting a zoning change for the land for this project is an example of this change. Placement of a conservation easement cannot be easily changed. If the project is approved, the placement of a permanent conservation easement should be required.

Mitigation Measures BIO-1 through BIO-5 are:

> *BIO-1**:** Desert Tortoise*
> Prior to the issuance of any ground disturbing permit on the Project site, pre-construction surveys consistent with the requirements of the USFWS 2019, "Preparing For Any Action That May Occur Within The Range Of The Mojave Desert Tortoise (*Gopherus agassizii*).
>
> If an Agassiz's desert tortoise is found onsite during construction, all activities likely to affect that animal(s) must cease and the City, CDFW and USFWS must be contacted to determine appropriate steps. No take of the tortoise(s) may occur without prior authorization from the appropriate regulatory agencies, including CDFW and USFWS.
>
> *BIO-2: Migratory Bird Treaty Act*
> If possible, the removal of vegetation preparatory to construction shall occur outside the nesting season (February 1 to August 31).

If avoidance of the nesting season is not possible, a nesting bird survey shall be performed by a qualified biologist no more than three days prior to construction activities. If no nests are found, construction may proceed. If active nests are found, a buffer zone of 500 feet for birds of prey and/or 300 feet for other unlisted birds will be put in place around the nest until the young have fledged.

BIO-3: Burrowing Owl
Two pre-construction avoidance surveys shall be performed prior to the initiation of any ground disturbing activity on the site. An initial avoidance survey no less than 14 days prior to commencing ground-disturbance activities and a final survey carried out within 24 hours prior to ground disturbance.

Should the species be identified on the site, a qualified biologist shall consult with CDFW on the development and implementation of a comprehensive burrowing owl mitigation plan, which may require obtaining an incidental take permit for this candidate species.

BIO-4: American Badger and San Diego Pocket Mouse
If American badger or San Diego pocket mouse is found onsite, and if impacts to the species cannot be avoided, work in the area shall cease, and a qualified biologist shall consult with the California Department of Fish and Wildlife to develop a mitigation program.

BIO-5: Construction Worker Environmental Awareness Program (WEAP)
Implementation of a WEAP shall be required to educate the construction crew of potential special status species present on the project site. The WEAP shall be conducted within one week of the initiation of construction, and shall be repeated as new workers/trades come onto the site. A recording of the original WEAP can be used for subsequent training.

In this section of the Initial Study/Mitigated Negative Declaration, the City states, "[t]o ensure impacts to special status species are reduced to the greatest extent, the Project will be required to implement Mitigation Measure BIO-1 through BIO-5 to protect the desert tortoise, migratory birds, burrowing owl, American badger and pallid San Diego pocket mouse. Additionally, the Project will be required to adhere to any applicable City ordinance[s] regarding the conservation of biological resources and species. In accordance with these standards and mitigation measures, the Project's development is not expected to pose a significant threat to the native and mitigatory species occupying the wildlife corridor. As such, less than significant impacts are anticipated."

The Council strongly disagrees with this statement and conclusion.

For BIO-1, the City states "Mitigation Measure BIO-1 is provided below to ensure no desert tortoise is directly or indirectly harmed during the Project's construction and operation. Impacts to the desert tortoise will be reduced to less than significant with the implementation of BIO-1."

As the Council state above, BIO-1 is to conduct a USFWS protocol presence-absence survey for the tortoise and tortoise sign to determine whether tortoises occur/use the project area and additional areas that would be impacted indirectly by the proposed project – the action area. BIO-1 provides information; it is not mitigation. Consequently, implementation of BIO-1 does not reduce the impacts to the tortoise to less than significant.

BIO-1 does not describe what the City's action would be if an incidental take permit is required for the tortoise (or other species) under FESA or CESA. It only states that the survey be conducted prior to the City issuing a ground-disturbing permit. Thus, if the results of the survey were positive for the tortoise, would the City issue the permit with no requirement that the project proponent obtain the incidental take permits to comply with FESA and CESA? This is unclear because this mitigation measure appears to contradict the City's monitoring requirement which is:

> "BIO-A: Prior to the issuance of any permit to allow ground disturbance on the site, the City will receive and file all technical surveys and permits in the project file. Responsible Parties: Project biologist, Planning Department, City Engineer."

We recommend that this mitigation measure be modified to require compliance with FESA and CESA and that the Project Proponent provide written documentation to the City from the USFWS and CDFW if these agencies determine that an incidental take permit is not needed for the construction, use, and operations of the project.

In addition, this mitigation measure only addresses the construction phase. Additional mitigation measures should be required during the use and operations phases of the project.

Earlier in this comment letter we provide some of the numerous impacts to the tortoise that would likely occur from the construction, use, and operations of this project. We also inform the City that the high mortality to the tortoise is caused by indirect impacts which the Initial Study/Mitigated Negative Declaration did not describe, analyze, or address. Consequently, the City has not produced a CEQA document that mitigates the impacts to the tortoise because (1) it has not described and analyzed the direct, indirect, and cumulative impacts to the tortoise that would occur from implementing the proposed project and (2) it is not requiring the implementation of effective mitigation and monitoring to offset these impacts. Please revise the CEQA document to include effective mitigation that would offset the impacts described above.

Environmental Factor XXI – Mandatory Findings of Significance

Two of the three questions for this section of the CEQA document that must be answered are applicable to the tortoise, including:

> Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?
>
> and
>
> Does the project have impacts that are individually limited, but cumulatively considerable? "Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

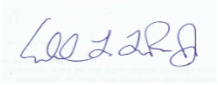
To assist the City in answering these two questions regarding the impacts to the tortoise, we are attaching Appendix A – Demographic Status and Trend of the Mojave Desert Tortoise including the Western Mojave Recovery Unit. Note that the proposed project is in the Western Mojave Recovery Unit, the tortoise populations in this Unit are below the densities needed for population viability, and the densities of tortoises continue to decline in the Western Mojave Recovery Unit. Also note that the tortoise cannot achieve recovery, that is, be removed from the list of threatened species under FESA, unless it achieves recovery in all five recovery units including the Western Mojave Recovery Unit (USFWS 2011). This includes having viable populations. We conclude that having populations below the densities needed for population viability means these population are below the level needed to be self-sustaining, and any additional impacts to these populations would exacerbate these declines and remain below self-sustaining levels. Using the information in this Appendix, we conclude the answer to these two questions is "yes," which means the impacts from the proposed project would be significant. Please include this information in the City's analysis of the project in the CEQA document.

In summary, we contend that the City acted prematurely in preparing this CEQA document. The protocol surveys for special status species have not been conducted by qualified biologists at the appropriate times to support the conclusions included in the CEQA document. The indirect and direct impacts to special status species from project construction, use, and operations, especially for the tortoise, have not been analyzed in the CEQA document. Forthcoming survey results and analysis of impacts are needed to identify and require effective mitigation to offset the impacts of the proposed project. This connection between the direct, indirect, and cumulative impacts and mitigation should be clearly presented in the final CEQA document. We request that the final CEQA document be revised and re-released with these changes and for a typical public comment period rather than the shortened 20 days that the City imposed on this occasion.

We appreciate this opportunity to provide the above comments and trust they will help protect tortoises during any resulting authorized activities. Herein, we reiterate that the Council wants to be identified as an Affected Interest for this and all other projects funded, authorized, or carried out by the City of Twentynine Palms that may affect desert tortoises, and that any subsequent environmental documentation for this project is provided to us at the contact information listed above.

Please respond in an email that you have received this comment letter so we can be sure our concerns have been registered with the appropriate personnel and office for this Project.

Respectfully,



Edward L. LaRue, Jr., M.S.
Desert Tortoise Council, Ecosystems Advisory Committee, Chairperson

Attachment: Appendix A – Demographic Status and Trend of the Mojave Desert Tortoise including the Western Mojave Recovery Unit

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Appendix A
Demographic Status and Trend of the Mojave Desert Tortoise including the Tortoises in Western Mojave Recovery Unit

Status of the Population of the Mojave Desert Tortoise: The Council provides the following information for resource and land management agencies so that these data may be included and analyzed in their project and land management documents and aid them in making management decisions that affect the Mojave desert tortoise (tortoise).

There are 17 populations of Mojave desert tortoise described below that occur in Critical Habitat Units (CHUs) and Tortoise Conservation Areas (TCAs); 14 are on lands managed by the BLM; 8 of these are in the California Desert Conservation Area (CDCA).

As the primary land management entity in the range of the Mojave desert tortoise, the Bureau of Land Management's (BLM's) implementation of a conservation strategy for the Mojave desert tortoise in the CDCA through implementation of its Resource Management Plan and Amendments through 2014 has resulted in the following changes in the status for the tortoise throughout its range and in California from 2004 to 2014 (**Table 1**, **Table 2**; USFWS 2015, Allison and McLuckie 2018). The Council believes these data show that BLM and others have failed to implement an effective conservation strategy for the Mojave desert tortoise as described in the recovery plan (both USFWS 1994a and 2011), and have contributed to tortoise declines in density and abundance between 2004 to 2014 (**Table 1, Table 2**; USFWS 2015, Allison and McLuckie 2018) with declines or no improvement in population density from 2015 to 2021 (**Table 3**; USFWS 2016, 2018, 2019, 2020, 2022a, 2022b).

Important points from these tables include the following:

Change in Status for the Mojave Desert Tortoise in California through 2021

- Tortoises in all three TCAs in the Western Mojave Recovery Unit declined in densities and numbers since 2004
- Adult tortoise densities in all three TCAs in the Western Mojave Recovery Unit are below the population viability threshold
- Tortoises in three of the five TCAs in the Colorado Desert Recovery Unit included in the Mitigation Area for the General Conservation Plan declined in densities and numbers since 2004 [The Navy's Chocolate Mountains Aerial Gunnery Range is nor included]
- Adult tortoise densities in two of the TCAs in the Colorado Desert Recovery Unit are below the population viability threshold
- Tortoises in the only TCA in the Eastern Mojave Recovery Unit in California declined in densities and numbers since 2004
- Adult tortoise densities in the only TCAs in the Eastern Mojave Recovery Unit in California are below the population viability threshold

Table 1. Summary of 10-year trend data for the 5 Recovery Units and 17 CHUs/TCAs for Mojave desert tortoise. The table includes the area of each Recovery Unit and CHU/TCA, percent of total habitat for each Recovery Unit and CHU/TCA, density (number of breeding adults/km^2 and standard errors = SE), and the percent change in population density between 2004 and 2014. Populations below the viable level of 3.9 breeding individuals/km^2 (10 breeding individuals per mi^2) (assumes a 1:1 sex ratio) or showing a decline from 2004 to 2014 are in red.

Recovery Unit: Designated Critical Habitat Unit[1]/Tortoise Conservation Area	Surveyed area (km^2)	% of total habitat area in Recovery Unit & CHU/TCA	2014 density/km^2 (SE)	% 10-year change (2004–2014)
Western Mojave, CA	**6,294**	**24.51**	**2.8 (1.0)**	**–50.7 decline**
Fremont-Kramer	2,347	9.14	2.6 (1.0)	–50.6 decline
Ord-Rodman	852	3.32	3.6 (1.4)	–56.5 decline
Superior-Cronese	3,094	12.05	2.4 (0.9)	–61.5 decline
Colorado Desert, CA	**11,663**	**45.42**	**4.0 (1.4)**	**–36.25 decline**
Chocolate Mtn AGR, CA	713	2.78	7.2 (2.8)	–29.77 decline
Chuckwalla, CA	2,818	10.97	3.3 (1.3)	–37.43 decline
Chemehuevi, CA	3,763	14.65	2.8 (1.1)	–64.70 decline
Fenner, CA	1,782	6.94	4.8 (1.9)	–52.86 decline
Joshua Tree, CA	1,152	4.49	3.7 (1.5)	+178.62 increase
Pinto Mtn, CA	508	1.98	2.4 (1.0)	–60.30 decline
Piute Valley, NV	927	3.61	5.3 (2.1)	+162.36 increase
Northeastern Mojave	**4,160**	**16.2**	**4.5 (1.9)**	**+325.62 increase**
Beaver Dam Slope, NV, UT, AZ	750	2.92	6.2 (2.4)	+370.33 increase
Coyote Spring, NV	960	3.74	4.0 (1.6)	+ 265.06 increase
Gold Butte, NV & AZ	1,607	6.26	2.7 (1.0)	+ 384.37 increase
Mormon Mesa, NV	844	3.29	6.4 (2.5)	+ 217.80 increase
Eastern Mojave, NV & CA	**3,446**	**13.42**	**1.9 (0.7)**	**–67.26 decline**
El Dorado Valley, NV	999	3.89	1.5 (0.6)	–61.14 decline
Ivanpah Valley, CA	2,447	9.53	2.3 (0.9)	–56.05 decline
Upper Virgin River	**115**	**0.45**	**15.3 (6.0)**	**–26.57 decline**
Red Cliffs Desert	115	0.45	15.3 (6.0)	–26.57 decline
Range-wide Area of CHUs - TCAs/Range-wide Change in Population Status	**25,678**	**100.00**		**–32.18 decline**

[1] U.S. Fish and Wildlife Service. 1994b. Endangered and threatened wildlife and plants; determination of critical habitat for the Mojave population of the desert tortoise. Federal Register 55(26):5820-5866. Washington, D.C.

Table 2. Estimated change in abundance of adult Mojave desert tortoises in each recovery unit between 2004 and 2014 (Allison and McLuckie 2018). Decreases in abundance are in red.

Recovery Unit	Modeled Habitat (km^2)	2004 Abundance	2014 Abundance	Change in Abundance	Percent Change in Abundance
Western Mojave	23,139	131,540	64,871	-66,668	-51%
Colorado Desert	18,024	103,675	66,097	-37,578	-36%
Northeastern Mojave	10,664	12,610	46,701	34,091	270%
Eastern Mojave	16,061	75,342	24,664	-50,679	-67%
Upper Virgin River	613	13,226	10,010	-3,216	-24%

Total	**68,501**	**336,393**	**212,343**	**-124,050**	**-37%**

Table 3. Summary of data for Agassiz's desert tortoise, *Gopherus agassizii* (=Mojave desert tortoise) from 2004 to 2023 for the 5 Recovery Units and 17 Critical Habitat Units (CHUs)/Tortoise Conservation Areas (TCAs). The table includes the area of each Recovery Unit and CHU/TCA, percent of total habitat for each Recovery Unit and CHU/TCA, density (number of breeding adults/km^2 and standard errors = SE), and percent change in population density between 2004-2014 (USFWS 2015). Populations below the viable level of 3.9 breeding individuals/km^2 (10 breeding individuals per mi^2) (assumes a 1:1 sex ratio) (USFWS 1994a, 2015) from 2004 through the most recent survey results or showing a decline from 2004 to 2014 are in **red.**

Recovery Unit: Designated CHU/TCA &	% of total habitat area in Recovery Unit & CHU/TCA	2004 density / km^2	2014 density/ km^2 (SE)	% 10-year change (2004–2014)	2015 density / km^2	2016 density / km^2	2017 density/ km^2	2018 density / km^2	2019 density / km^2	2020 density / km^2	2021 density / km^2	2023 density /km^2
Western Mojave, CA	**24.51**		**2.8 (1.0)**	**–50.7 decline**								
Fremont-Kramer	9.14		2.6 (1.0)	–50.6 decline	4.5	No data	4.1	No data	2.7	1.7	No data	No data
Ord-Rodman	3.32		3.6 (1.4)	–56.5 decline	No data	No data	3.9	2.5/3.4*	2.1/2.5*	No data	1.9/2.5*	No data
Superior-Cronese	12.05		2.4 (0.9)	–61.5 decline	2.6	3.6	1.7	No data	1.9	No data	No data	No data
Colorado Desert, CA	**45.42**		**4.0 (1.4)**	**–36.25 decline**								
Chocolate Mtn AGR, CA	2.78		7.2 (2.8)	–29.77 decline	10.3	8.5	9.4	7.6	7.0	7.1	3.9	6.9
Chuckwalla, CA	10.97		3.3 (1.3)	–37.43 decline	No data	No data	4.3	No data	1.8	4.6	2.6	No data
Chemehuevi, CA	14.65		2.8 (1.1)	–64.70 decline	No data	1.7	No data	2.9	No data	4.0	No data	No data
Fenner, CA	6.94		4.8 (1.9)	–52.86 decline	No data	5.5	No data	6.0	2.8	No data	5.3	No data
Joshua Tree, CA	4.49		3.7 (1.5)	+178.62 increase	No data	2.6	3.6	No data	3.1	3.9	No data	No data
Pinto Mtn, CA	1.98		2.4 (1.0)	–60.30 decline	No data	2.1	2.3	No data	1.7	2.9	No data	No data
Piute Valley, NV	3.61		5.3 (2.1)	+162.36 increase	No data	4.0	5.9	No data	No data	No data	3.9	No data

Recovery Unit: Designated CHU/TCA &	% of total habitat area in Recovery Unit & CHU/TCA	2004 density / km^2	2014 density/ km^2 (SE)	% 10-year change (2004–2014)	2015 density / km^2	2016 density / km^2	2017 density/ km^2	2018 density / km^2	2019 density / km^2	2020 density / km^2	2021 density / km^2	2023 density /km^2
Northeastern Mojave AZ, NV, & UT	**16.2**		**4.5 (1.9)**	**+325.62 increase**								
Beaver Dam Slope, NV, UT, & AZ	2.92		6.2 (2.4)	+370.33 increase	No data	5.6	1.3	5.1	2.0	No data	No data	No data
Coyote Spring, NV	3.74		4.0 (1.6)	+ 265.06 increase	No data	4.2	No data	No data	3.2	No data	No data	No data
Gold Butte, NV & AZ	6.26		2.7 (1.0)	+ 384.37 increase	No data	No data	1.9	2.3	No data	No data	2.4	No data
Mormon Mesa, NV	3.29		6.4 (2.5)	+ 217.80 increase	No data	2.1	No data	3.6	No data	5.2	5.2	No data
Eastern Mojave, NV & CA	**13.42**		**1.9 (0.7)**	**–67.26 decline**								
El Dorado Valley, NV	3.89		1.5 (0.6)	–61.14 decline	No data	2.7	5.6	No data	2.3	No data	No data	No data
Ivanpah Valley, CA	9.53		2.3 (0.9)	–56.05 decline	1.9	No data	No data	3.7	2.6	No data	1.8	No data
Upper Virgin River, UT & AZ	**0.45**		**15.3 (6.0)**	**–26.57 decline**								
Red Cliffs Desert**	0.45	29.1 (21.4-39.6)**	15.3 (6.0)	–26.57 decline	15.0	No data	19.1	No data	17.2	No data	No data	17.5
Rangewide Area of CHUs - TCAs/Rangewide Change in Population Status	**100.00**			**–32.18 decline**								

*This density includes the adult tortoises translocated from the expansion of the MCAGCC, that is resident adult tortoises and translocated adult tortoises.

**Methodology for collecting density data initiated in 1999.

Change in Status for the Mojave Desert Tortoise in California

- Eight of 10 populations of the Mojave desert tortoise in California declined from 29 to 64 percent from 2004 to 2014 with implementation of tortoise conservation measures in the Northern and Eastern Colorado Desert (NECO), Northern and Eastern Mojave Desert (NEMO), and Western Mojave Desert (WEMO) Plans.

- Eight of 10 populations of the Mojave desert tortoise in California are below the population viability threshold. These eight populations represent 87.45 percent of the habitat in California that is in CHU/TCAs.

- The two viable populations of the Mojave desert tortoise in California are declining. If their rates of decline from 2004 to 2014 continue, these two populations will no longer be viable by about 2030.

Change in Status for the Mojave Desert Tortoise on BLM Land in California

- Eight of eight populations of Mojave desert tortoise on lands managed by the BLM in California declined from 2004 to 2014.

- Seven of eight populations of Mojave desert tortoise on lands managed by the BLM in California are no longer viable.

Change in Status for Mojave Desert Tortoise Populations in California that Are Moving toward Meeting Recovery Criteria

- The only population of Mojave desert tortoise in California that is not declining is on land managed by the National Park Service. However, the densities of adult tortoise in this population has recently climbed to the minimum density for population viability.

Important points to note from the data from 2015 to 2021 in Table 3 are:

Change in Status for the Mojave Desert Tortoise in the Western Mojave Recovery Unit:

- Density of tortoises continues to decline in the Western Mojave Recovery Unit
- Density of tortoises continues to fall below the density needed for population viability from 2015 to 2021

Change in Status for the Mojave Desert Tortoise in the Colorado Desert Recovery Unit:

- The population that had the highest density in this recovery unit had a continuous reduction in density since 2018 and fell substantially in 2021 to the minimum density needed for population viability. Tortoise density rose between 2021 and 2023 but the density was lower than reported from 2014 through 2020.

Change in Status for the Mojave Desert Tortoise in the Northeastern Mojave Recovery Unit:

- Two of the three population with densities greater than needed for population viability declined to level below the minimum viability threshold.
- The most recent data from three of the four populations in this recovery unit have densities below the minimum density needed for population viability.
- The population that had the highest density in this recovery unit declined since 2014.

Change in Status for the Mojave Desert Tortoise in the Eastern Mojave Recovery Unit:
● Both populations in this recovery unit have densities below the minimum density needed for population viability.
Change in Status for the Mojave Desert Tortoise in the Upper Virgin River Recovery Unit:
● The one population in this recovery unit is small and appears to have stable densities since 2014. However, between 2004 and 2014 this population declined 48 percent.

The Endangered Mojave Desert Tortoise: The Council believes that the Mojave desert tortoise meets the definition of an endangered species. In the FESA, Congress defined an "endangered species" as "any species which is in danger of extinction throughout all or a significant portion of its range…" In the California Endangered Species Act (CESA), the California legislature defined an "endangered species" as a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant, which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes (California Fish and Game Code § 2062). Because most of the populations of the Mojave desert tortoise were non-viable in 2014, most are declining, and the threats to the Mojave desert tortoise are numerous and have not been substantially reduced throughout the species' range, the Council believes the Mojave desert tortoise should be designated as an endangered species by the USFWS and California Fish and Game Commission. Despite claims by USFWS (Averill-Murray and Field 2023) that a large number of individuals of a listed species and an increasing population trend in part of the range of the species prohibits it from meeting the definitions of endangered, we are reminded that the tenants of conservation biology include numerous factors when determining population viability. The number of individuals present is one of a myriad of factors (e.g., species distribution and density, survival strategy, sex ratio, recruitment, genetics, threats including climate change, etc.) used to determine population viability. In addition, a review of all the available data does not show an increasing population trend (please see Tables 1 and 3).

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