

# SENTINEL LANDSCAPES

10 YEAR ANNIVERSARY



## Sentinel Landscape Title: Mojave Desert Sentinel Landscape

Contact Information: Madeline Drake, California Natural Resources Agency (CNRA), 916-213-3023  
madeline.drake@resources.ca.gov

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### 1. Landscape Needs Statement

In a few sentences, describe why your partnership should be a designated sentinel landscape.

**Answer:** The Mojave Desert Sentinel Landscape (MDSL) designation will cohere and align military, conservation, and development interests among a diverse set of federal, State, and local partners who are working to address land use changes and challenges across the western Mojave Desert. The patchwork of landowners makes landscape level management a challenge at best. Residential and renewable energy development along with climate change and loss of habitat are increasing land use conflicts in California's deserts. Coordinated, landscape-scale, multi-use planning, habitat management and prioritized resource investments will reduce these conflicts and increase mission flexibility and resilience for five military installations with responsibilities for the State and federally threatened desert tortoise (*Gopherus agassizii*). More than 40 sensitive plant and animal species will benefit from our collective action including: western Joshua tree (*Yucca brevifolia*), desert bighorn sheep (*Ovis canadensis nelsoni*), Inyo California Towhee (*Pipilo crissalis eremophilus*), Mohave ground squirrel (*Xerospermophilus mohavensis*), migratory birds, and a wide variety of pollinator species. The MDSL will produce measurable outcomes by prioritizing mutually beneficial objectives and evaluating their effectiveness in a framework that encourages a cross-jurisdictional approach.

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### 2. Military Mission & Anchor Military Installation

A. What military installation or range will anchor your proposed sentinel landscape? Please provide the names and titles of the individual(s) at the installation or range who are actively engaged in the development of your proposed sentinel landscape. *If more than a single installation or range will be engaged in your sentinel landscape, please read the application guidance to understand how to state your case for a sentinel landscape that involves more than a single military installation.*

**Answer:** The MDSL has five military installations with overlapping mission and Readiness and Environmental Protection Integration (REPI) Encroachment Partnering Area (REPI EPA; inset Map 1) footprints. These include the Marine Corps Air Ground Combat Center (MCAGCC), the U.S. Army's Fort Irwin National Training Center (NTC), Marine Corps Logistics Base Barstow (MCLB Barstow), Edwards Air Force Base (Edwards), and Naval Air Weapons Station China Lake (NAWSCL). MCAGCC will be the anchor installation and will coordinate among DoD installations and services. Over the past few decades, the desert tortoise has experienced acute population declines within the identified MDSL boundary. This area includes land with high potential for tortoise habitat and refugia, including 25% of US Fish and Wildlife (FWS)-designated Critical Habitat Units, desert tortoise mitigation or conservation areas, and the corridors that connect them.

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These five installations and identified federal and ~~State~~ partners share regulatory obligations for the desert tortoise and have shared personnel and financial responsibilities to manage its habitat. Other shared encroachment concerns include incompatible development, unauthorized off-highway vehicle activity, climate change threats to the desert tortoise, and the use of off-installation areas for military training. A restored desert tortoise population will enhance military flexibility and resilience while also supporting sustainable energy development and other uses within the identified boundary. The DoD MDSL Working group will complement current cross-service initiatives including the DoD Mojave Commander's Summit, the multi-agency land use working group Desert Manager's Group, and the multi-agency Desert Tortoise Management Oversight Group, ~~to discuss issues that affect Federal, State, and local entities.~~ The DoD group will advise the MDSL steering committee and will leverage regional and headquarters elements as necessary.

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Proposal Coordinator: Erin Adams, 760-830-5473, [Erin.adams@usmc.mil](mailto:Erin.adams@usmc.mil)

MCAGCC	Philip Murray	760-362-9389	p.murray.magtfc.gea@gmail.com
NTC Fort Irwin	Ronald Gardner	760-380-6065	ronald.a.gardner6.civ@army.mil
Edwards AFB	Malcolm Warney	661-277-1418	malcolm.warney@us.af.mil
NAWS China Lake	John Kersey	760-939-9438	john.d.kersey.div@us.navy.mil
MCLB Barstow	Karen Gray	760-577-6009	karen.gray@usmc.mil

B. What encroachment threats, shared resource concerns, and/or climate resilience priorities will a sentinel landscape designation help address that the installation or range in your proposed landscape cannot already meet through resources provided by the REPI Program?

**Answer:** The Mojave Desert DoD installations share an increasing number of encroachment threats due to incompatible uses that include urbanization, land use modification, climate change, regional airspace congestion, increased recreational demand, and renewable energy development. All directly impact the natural environment and limit the flexibility and capability for DoD units to train. While the MDSL boundary is outside of the installation footprint, 80% of the proposed MDSL is below Special Use Airspace and Military Training Routes. The MDSL, like much of the western United States, is a patchwork of federal, ~~State~~, and private in-holdings that are a challenge to manage cooperatively. The MDSL is located on multiple-use public lands with a mix of recreation (primarily OHV), conservation, energy development, water conveyance projects, transportation corridors, and grazing designations.

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The Mojave Desert is a harsh, arid landscape characterized by mountain ranges and dry lake beds interspersed with sparse but specialized vegetation and wildlife that have adapted to this environment over millennia. This includes desert tortoises that have inhabited the southwestern United States for several million years. The mountains and paucity of surface water have historically precluded large scale development and preserved desert tortoise and special status species habitat. The Mojave Desert supports a limited number of grazing allotments and farms due to resource constraints.

By the early 20th century, this paucity of development, proximity to the Southern California Metroplex, and arid climate attracted federal entities like the DoD and NASA to develop and test new technologies, tactics, and procedures in the Mojave Desert. Since the 1960's the human population of the Mojave

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Desert has increased exponentially and encroached on desert tortoise habitat and the military mission, as both require remote, isolated large-scale landscapes to persist. MCAGCC, NAWSCCL, and Edwards AFB have established REPI programs to mitigate encroachment impacts. Acquisition of parcels and small-scale habitat restoration facilitated through the REPI program are incapable of addressing the landscape level encroachment issues. Program participants cooperate and complement to provide buffers to incompatible development of installations and under special use airspace (SUA) and military training routes (MTRs). While conservation easements have been obtained within REPI lands, this represents a small percentage of conservation efforts in the MDSL footprint.

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The DoD is committed to the recovery of the desert tortoise. The installations' tortoise programs have invested significant funding and driven numerous basic and applied scientific discoveries, including sequencing the tortoise genome, using genomics to identify landscape effects upon the species' distribution, developing species distribution models to identify climate refugia and risks of climate warming, quantifying temperature-dependent sex determination risks to reproductive success and long-term demography, and evaluating risks and successful methods to augment tortoise populations via head-starting and translocation. These installations have also quantified predation risks from subsidized predators (e.g., coyotes and ravens), and methods to control such predators. But this work is not enough.

Given that recent climate modeling has indicated that the Mojave Desert will become dryer, hotter and more prone to extended droughts, environmental stressors are expected to become increasingly more severe. Climate change models predict more fluctuations in precipitation patterns resulting in increasing frequencies of both droughts and flooding events, and higher temperatures. Since the sex of a desert tortoise is determined by its temperature during its egg development, higher temperatures threaten egg viability and population sex ratios. Proactive restoration and enhancement of desert tortoise habitat will address current stressors and build long-term resiliency to future climate change impacts. Habitat restoration will benefit desert tortoises, the entire Mojave Desert ecosystem, and provide nature-based solutions that will make military installations and local communities more resilient to climate change. For example, building culverts or underpass structures will help with both wildlife connectivity and act as flood control structures during flash flood events.

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Invasive grasses and forbs compete with native grasses and wildflowers, the primary food source for healthy desert tortoise populations. These invasive species are aided by climate change, vehicular traffic (especially OHV), and livestock grazing but typically are not food plants for wildlife or livestock. In many locations, the non-native plants increase wildfire risk. Since the Mojave Desert ecosystem is not adapted to frequent wildfires, wildfire impacts are felt for decades. This kills desert tortoises and special status species such as the western Joshua Tree. NRCS and the State of California provide guidance in collection of native seeds, invasive species mitigation, and the restoration of native seedbanks. Collaboration between the installations and these organizations will promote restoration of fire-damaged landscapes.

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Illegal cannabis cultivation on public and private lands threatens desert tortoise and special status species - presenting an encroachment threat to species management and field workers. These operations often clear cut or blade the desert with wanton disregard, and often employ rodenticides/herbicides not

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permitted in the US. While the respective law enforcement entities continue to conduct weekly enforcement actions and deterrence, the impact from these grows can be long lasting from earth moving operations; illegal rodenticide and herbicides; roaming dogs; and unsecured subsistence. The MDSL installations have a strong record of collaboration. We have developed and maintained mutually beneficial relationships through multiple local, State, and federal efforts. The MDSL will codify these relationships highlighted below and improve communication and identification of beneficial partners across the landscape, facilitating the development of enduring shared strategies that will align our complex goals to be supportive, cost-effective, and complementary.

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MCAGCC and NTC are leading efforts to recover the desert tortoise through the Desert Tortoise Recovery and Sustainment Partnership Initiative (RASP). The RASP is a multi-agency DoD-DOI partnership to sustain and improve tortoise habitat, populations, and protections primarily on Bureau of Land Management (BLM) land. Since the majority of desert tortoise habitat is on BLM land, the traditional REPI acquisition program is insufficient to achieve all MDSL and RASP objectives. These objectives include closing unauthorized OHV routes, producing and banking bulk native seed, erecting tortoise fencing on public and private lands, managing grazing allotments, and coordinating multiple-use land management actions. The MDSL partnership would work in concert with RASP activities and facilitate species recovery and stakeholder collaboration across a larger landscape. RASP complements the tortoise translocation programs that have already been pioneered at NTC and MCAGCC.

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The BLM California Desert District holds authority over federally owned public lands as guided by the California Desert Conservation Area (CDCA) Land Use Plan and Land Use Plan Amendments (LUPA), and protects their natural, historic, recreational, and economic values. The Mojave Desert is an important area for off-highway vehicle and other recreational uses. BLM manages off-highway vehicle routes through the Western Mojave Route Management Plan (WEMO) LUPA. The MDSL area covers several open OHV areas managed by BLM and California State Parks connected by WEMO routes in desert tortoise habitat. The MDSL will provide a critical forum for sustaining and managing OHV routes to ensure public access while protecting tortoises through collaborative planning, educational outreach, and cost-sharing.

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The Desert Renewable Energy Conservation Plan (DRECP) is a multi-agency, landscape-scale plan covering 22.5 million acres in southern California. The BLM portion of this plan guides the management of BLM lands within the California portion of the desert tortoise's range and overlaps the proposed MDSL footprint. The California Energy Commission, California Independent System Operator (CAISO), BLM, California Department of Fish and Wildlife (CDFW), FWS, and DoD collaborated to develop the DRECP. DRECP objectives are incorporated in and align with MDSL goals to ensure support of renewable energy development, conservation of the desert tortoise, and management of multiple uses. The DRECP identifies specific development focus areas (DFA), with high-quality renewable energy potential and access to transmission in areas where environmental impacts can be managed and mitigated. The MDSL will ensure the DFAs are not impacted. The DRECP also specifies species, ecosystem, and climate adaptation requirements for desert wildlife, and the protection of recreation, cultural, and other desert resources. Better areas for wildlife preservation and updated National Conservation Lands, are

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identified in the 2016 DRECP. Both the DRECP’s renewable energy and conservation objectives align with the MDSL goals.

The MDSL would expand collaborative efforts with the USDA. The current Encroachment Partnering Agreements and REPI programs neither leverage NRCS capabilities and climate smart programs, nor address preservation of the Pacific Crest Trail and USFS Wilderness on the western edge of the landscape.

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NRCS is critical to the long-term effort to address and support soil and water conservation, and support projects that mitigate erosion and loss of soils. They are also key in helping preserve the Mojave Desert seedbank, remove invasive species, and ensuring sustainable grazing practices within the MDSL. Local NRCS offices have expressed support and interest in supporting the MDSL and have provided a list of six programs (Conservation Technical Assistance, Environmental Quality Incentives Program, Conservation Stewardship Program, Agriculture Conservation Easement Program, Conservation Innovation Grants, and NRCS Climate Smart Mitigation Activities (from the Bipartisan Infrastructure Act)) and more than 100 treatments that private land owners and ranchers can leverage on private and public lands.

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The work of the MDSL will also complement and work in concert with California’s energy (60% renewable by 2030) and 30x30 conservation goals. California has committed to conserving 30 percent of lands and coastal waters by 2030 (30x30), increasing access to State funding to protect biodiversity and advance climate smart land management. Currently, only 14% of the MDSL lands are managed primarily for conservation as defined by the 30x30 program, as much is managed for multi-use. The State is currently updating the California Protected Areas Database (CPAD) and is working with land managers to update classification of the GAP codes.

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### 3. Landscape Goals & Objectives

- A. Identify at least three but no more than five distinct goals that are actionable, measurable, achievable, and specific to the needs of your sentinel landscape (any more than five will not be reviewed). For each goal, include one or more objectives that describe activities, strategies and actions that will be undertaken to achieve these goals. Objectives can be qualitative in nature (e.g., the development of new conservation project approaches or identification of challenges/barriers), or, where applicable, can include quantitative metrics to measure progress. To be considered, goals and objectives must reflect multiple sentinel landscape priorities from each FCC member agency as laid out in Appendix I of the application guidance.

**Answer:** By pooling and streamlining investments among the MDSL partners to accelerate recovery of the desert tortoise, other at-risk species, and conservation areas at a landscape scale, we intend to do the following:

MDSL Goals		
Goals	Objectives	Measurable Outcomes
1 Reduce desert tortoise mortalities caused by vehicle strikes by	1.1: Prioritized roadways are identified using a multi-criteria analysis and existing policy to	Prioritized highways and culvert installation locations are identified. Desert tortoise fencing is installed, repaired, and maintained along all priority highways.

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<p>installing exclusion fencing, and add beneficial flood control culverts along roads, highways and railroads within the first five years within the MDSL.</p>	<p>compliment the DOI-DoD DT RASP                  1.2: Install fencing at the east side of Highway 395 north of Kramer Junction within the Fremont-Kramer (20 miles), <u>both sides of Highway 395 south of Shadow Mountain Road corresponding to Critical Habitat (2 miles), and both sides of Shadow Mountain road east of Highway 395 to the community of Helendale</u> (5 miles)                  1.3: Prioritize railways (and railroad support roads) using a multi-criteria analysis to limit high risk to tortoises.                  1.4: Identify locations to install culverts in coordination with fencing that foster tortoise genetic flow and are resilient for climate-affected highwater events. (need metric for highwater events)                  1.5: Identify affected grazing allotments and agriculture providers with beneficial tortoise habitat as sources for habitat protection, restoration or mitigation                  1.6: Identify best practices and implement.</p>	<p>Culverts are installed and/ or upgraded at a minimum of <b>50%</b> of the locations identified. These fences will be accompanied by or associated with flood control culverts, or other underpass or overpass structures, that reduce population isolation by allowing tortoises to pass safely under or over roadways. These road improvement structures reduce tortoise mortality, expand distribution into areas currently depleted by road-related mortality, and increase population connectivity and gene flow. The metrics will be kilometers of priority road segments fenced, and km<sup>2</sup> of tortoise habitat protected, including estimates of tortoise numbers protected by exclusion fence and population sized established by connecting culverts. These metrics can also be conveyed as proportions of all priority road segments (km) currently identified.</p>
<p>2. Provide community outreach in tandem with habitat improvements to increase the success of restoration activities.</p>	<p>2.1: Develop and leverage education campaigns to build public support for and participation in desert tortoise recovery.                  2.2: An informed public is more likely to act to reduce their actions <u>resulting in</u> impacts on tortoises.                  2.3: Through education and outreach initiatives, the partnership will reduce human subsidies to predators, such as</p>	<p>Provide outreach to at least 10 million desert-using people on desert tortoise safety. Leverage programs like the NPS “drive like a tortoise campaign”, the Living Desert’s “Time to talk Trash Campaign,” and US Biosphere Reserve to educate the public on desert tortoise, special status species, and other influential, keystone species. Install “drive like a desert tortoise” road sign in desert tortoise RASP focal areas and other areas. Promote the “Time to Talk Trash Campaign” to foster better practices that</p>

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	common ravens, which prey heavily on young tortoises and severely reduce tortoise recruitment.	minimize subsidies to predators of tortoises and other wildlife.
3. Reduce and mitigate impacts from unauthorized OHV use by marking and vertical mulching unauthorized OHV routes in the first five years.	<p>3.1: Identify unauthorized OHV routes and retired road easements in MDSL (also called closed routes, non-routes, and Trans Linear Disturbance)</p> <p>3.2: Demonstrate and educate public, public agencies, and producers best management techniques for route closures and habitat restoration.</p> <p>3.3: Complete, monitor, and maintain vertical mulching until OHV activity ceases and habitat begins to restore</p>	The partnership will create contiguous tracks of land where human intrusion and disturbance can be greatly diminished or eliminated through successful OHV route closures, land protection, and restoration. This may occur on public or private lands. Treatments are recorded in the USGS protocol for vertical mulching. The metrics will include how many acres of land secured from OHV intrusion, and acres of land defended (“defensible polygons”), in the first five years.
4. Reclaim and rehabilitate tortoise habitat by supporting the protection and restoration of 250,000 acres of habitat within the first five years. To protect tortoise habitat and create larger continuous tracts of tortoise habitat, the partnership will support the purchase of inholdings and the establishment of conservation easements that protect habitat from future development or mitigate habitat losses elsewhere.	<p>4.1: Identify areas for reclamation and rehabilitation.</p> <p>4.2: Perform restoration activities such as soil remediation, weed management, and revegetation with native plants, may be required to restore natural functions to closed routes and other patches of habitat.</p> <p>4.3: Work with ranchers and farmers to preserve grazing and farming, respectively, while promoting habitat rehabilitation in high value tortoise habitat areas.</p> <p>4.4 Restore and rehabilitate illegal cannabis cultivation sites within tortoise Critical Habitat following the latest guidance.</p>	<p>Reclamation and rehabilitation areas are identified using steering committee priorities.</p> <p>Restoration of 250,000 acres is completed on BLM and private lands prioritized by the MDSL steering committee</p>
5. Collect and propagate native seed	<p>5.1: Develop a prioritized list of species and existing producers in coordination with NRCS</p> <p>5.2: Collect at least 2,000 lbs of seeds.</p>	<p>Perform Objectives to</p> <ol style="list-style-type: none"> <li>Collect at least 2,000 pounds of priority food plants and habitat resilient plants</li> <li>Grow at least xxxxxx seedlings or shrubs to restore recovering</li> </ol>

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**Commented [EL3]:** The Council is opposed to all forms of grazing in tortoise habitat by both cattle and sheep. If anything, we would promote the retirement of grazing allotments as opposed to preserving them. We would either drop this objective or reword it to ensure that impacts from grazing and farming (which is incompatible with tortoise conservation) are minimized if not eliminated.

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	<p>5.3: Propagate seedlings for habitat restoration areas, and future seed production.</p> <p>5.4 Plant seedlings or hardened plants in priority restoration areas, OHV closure areas, and priority roadways fitted for tortoise exclusion fences and culverts.</p> <p>5.5 Continue to leverage partnerships</p>	<p>roadsides and closures of unauthorized routes. (Note to editor – what is reasonable?)</p>
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**B.** Provide a summary of which objectives can be completed in a 5-year or 10-year timeframe, and which objectives you anticipate taking longer. For objectives that you anticipate taking more than 10 years to complete, please explain why and how long you anticipate it may take to complete these objectives.

**Answer:** Habitat restoration may begin in 5 to 10 years, but it will take longer, perhaps 30 years, to see tortoise population densities improve. The slow pace and statistical resolution make this a longer-term metric. Efforts to improve desert tortoise populations anticipate conserving wildlife corridors and conditions that maintain the intact and resilient environment.

MDSL Goals			
	Goals	Objectives	Measurable Outcomes
1	Within 10 years, reduce desert tortoise mortalities caused by vehicle strikes, by installing and maintaining exclusion fencing <u>and underpasses/culverts</u> along secondary roadways and high traffic, unauthorized OHV areas within the MDSL Boundary.	1.1: Identify high-mortality desert roads within the MDSL that are not highways (e.g., <u>Helendale Road south of Highway 58</u> )	300 miles of desert tortoise fencing is installed, repaired, and maintained along all secondary roadways and unauthorized OHV areas; <u>culverts are installed to minimize habitat fragmentation associated with new fencing</u> ,
2	Identify and acquire refugia for special status species within the MDSL at higher elevations.	2.1: Identify defensible refugia for desert tortoise <u>and consider fencing them with perimeter fences</u> , 2.2: Acquire and conserve refugia	Area is identified. Area is conserved <u>with perimeter fencing</u>
3	Improve the density of desert tortoise and special status species to levels exceeding minimal viable densities (3.9 adult tortoises per km <sup>2</sup> )	3.1: Identify high value desert tortoise habitat and areas adjacent that can support and sustain desert tortoises	Improve habitat so that desert tortoise densities in Critical Habitat increase

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		3.2: Leverage headstart program to increase population densities outside of RASP focal areas 3.2: Improve desert tortoise habitat 3.3: Decrease raven predation	
4	Restore the Mojave Desert seed bank in the MDSL footprint to match that of Critical Habitat Units, Tortoise Conservation Areas and climate refugia.	4.1: Collect 8,000 lbs of targeted native seeds 4.2: Propagate 4.3: Plant	Complete Objectives of restoring 250,000 acres of high value tortoise habitat within 10 years
5	Acquire Desert Tortoise Habitat	5.1 Acquire 60,000 acres in the Fremont-Kramer 5.2 Acquire 25,000 acres in the Superior-Cronese.	Acquire in <u>holdings to be managed by an accredited land conservation manager</u>

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- Commented [EL4]: To be managed by whom? Given BLM's multi-use mandate, we suggest that one of the nonprofit land managers like Mojave Desert Land Trust or Desert Tortoise Preserve Committee become the manager, not the BLM.
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## 4. Landscape Leadership & Governance

A. What organizations will comprise your sentinel landscape's leadership team, and why were they selected? Please list the title of the individual who will represent their organization on the landscape leadership team.

**Answer:** The following organizations and individuals were selected for their species and/or regional land use authority and commitment to cross-jurisdictional collaborative work.

Agency	Point of Contact	Reason for Selection
<b>California Natural Resources Agency (CNRA)</b>	Madeline Drake Assistant Secretary, Biodiversity and Habitat	Sentinel Landscape Applicant The CNRA oversees and supports 26 State departments, conservancies, and commissions in California. Their role would be to help facilitate coordination and collaboration between appropriate State agencies and funding sources. They will also help tie this regional effort to the broader State conservation goals.
<b>Military Installations</b>	See section 2. A.	There are five DoD Installations that are contiguous with the MDSL and use both ground and airspace in the MDSL. These Installations comprise all DoD military Services and each has a critical interest in maintaining the viability of the desert tortoise and other at-risk species and habitat on and off the installations.

- Commented [EL5]: We see no scientists on this list. Please add U.S. Geological Survey Western Ecological Research Center (WERC) as a minimum to this list. The director is Dr. A. Keith Miles. Other research scientists from public universities should be included. This is needed to balance the regulatory agencies identified. Science should direct management. Management with the absence of science is ineffective and a waste of time and money.
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		Efforts by DoD to provide habitat, prevent and/or mitigate impacts to the desert tortoise and other species is mission essential. The DoD has existing agreements with other stakeholders for the DT RASP, REPI, translocation projects and compatible land use studies
<b>FWS</b>	Jeremy Bisson, Division Supervisor	The mission of the <b>FWS</b> is working with others to conserve, protect, and enhance fish, wildlife, plants, and their habitats for the continuing benefit of the American people. The <b>FWS</b> will bring a variety of resources to the partnership including regulatory and technical assistance for listed and at-risk species occurring within the MDSL boundary. It will help in connecting the goals and actions outlined in the MDSL to the broader recovery and conservation context for the listed and at-risk species covered. The <b>FWS</b> also has a variety of competitive and non-competitive funding opportunities that projects identified under the MDSL could qualify to support acquisitions, easements, restoration, research, and other management needs. The MDSL would help in focusing our limited resources and would play a role in prioritizing funding decisions for some of these opportunities. Although not specifically tied to our role in the Sentinel Landscape Partnership, the <b>FWS</b> is developing a desert tortoise general conservation plan to provide a framework for issuance of incidental take permits for this species. It will guide the compensatory mitigation efforts for these permits, which would include acquisitions, easement, and restoration activities within the MDSL area.
<b>USDA NRCS, CA State Office</b>	Dean Kwasny, Easement Program Manager	Expertise working with farmers and ranchers to address resource concerns through voluntary incentive-based conservation programs. NRCS as a partner to the MDSL can provide assistance to private farmers, ranchers, and forestland owners on private and public lands with six programs and more than 100 conservation practices and enhancements. These programs and practices can assist by directly targeting the keystone species, desert tortoise, and additional natural resource concerns within the proposed boundary including soil, water, air, plants, animals, and energy development and transmission.
<b>BLM CA State Office</b>	Karen Mouritsen, State Director	The BLM is the land manager for the majority of MDSL. The multi-mission agency manages the land for multi-use for recreation, mineral extraction, grazing, and for conservation. BLM manages over 3 million acres in the MDSL, provides guidance for restoration, and leverages partnerships to restore and manage land.

**Commented [EL7]:** Why isn't Brian Croft identified as this person? Given his recent job description as liaison between FWS and DoD, he would seem to be the more experienced, better candidate.

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<b>BLM Barstow Field Office</b>	Marc Stamer, Field Manager	Land Manager for majority of SL footprint
<b>California Department of Fish and Wildlife</b>	Heidi Calvert, Inland Deserts Regional Manager	CDFW manages ecological reserves, wildlife areas, and desert tortoise habitat in addition to providing direction and management of the California Endangered Species Act. Land Manager, California Endangered Species Act Management.
<b>California State Lands Commission</b>	Jennifer Lucchesi, Land Manager	The State Lands Commission oversees the State inholding within the MDSL. These lands are managed for the benefit of Californians.
<b>Wildlife Conservation Board</b>	Jennifer Norris	<p>Executive director, State Funding Coordinator. The Wildlife Conservation Board provides funding. Passage of the California Desert Conservation Act established the Desert Conservation Program under the administration of the Wildlife Conservation Board. The Desert Conservation Program includes the following actions:</p> <ul style="list-style-type: none"> <li>• Protect, preserve, and restore the natural, cultural, and physical resources of the portions of the Mojave and Colorado deserts region in California through the acquisition, restoration, and management of lands.</li> <li>• Promote the protection and restoration of the biological diversity of the region.</li> <li>• Provide for resilience in the region to climate change.</li> <li>• Protect and improve air quality and water resources within the region.</li> <li>• Undertake efforts to enhance public use and enjoyment of lands owned by the public.</li> </ul>

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B. How will each of these partners contribute to specific actions that achieve the partnership’s goals?

Answer:

Agency	Point of Contact	Specific Actions
California Natural Resources Agency (CNRA)	Madeline Drake, CNRA	Lead proponent of the MDSL – will provide guidance and specific coordination with <u>State</u> level agencies.
Military Installations	See section 2.A	MCAGCC will lead the DoD working group. Management of species will be in furtherance of meeting each installation’s Integrated Natural Resources Management Plan.
Palm Springs <u>FWS</u>	Jeremy Bisson, Division Supervisor	Provide regulatory input and evaluation of actions towards desert tortoise recovery.
USDA NRCS, CA State Office	Dean Kwasny, Easement Program Manager	NRCS will provide guidance and input on recovery actions that are achievable on private lands and inter-agency coordination towards desert tortoise recovery.
BLM CA State Office	Karen Mouritsen, State Director	Provides guidance and coordination with BLM resources at the <u>State</u> level.
BLM Desert District Office	Shelly Lynch, District Manager	Manages the majority of the MDSL based upon CDCA and LUPAs. Will provided guidance and coordination based upon BLM resources at the district level.
BLM Barstow Field Office	Marc Stamer, Field Manager	Provide guidance and coordination of BLM resources and expertise of BLM lands in this area.
California Department of Fish and Wildlife	Heidi Calvert, Inland Deserts Regional Manager	Provide guidance and expertise related to CESA special status species
California State Lands Commission	Jennifer Lucchesi, Land Manager	Provide guidance and coordination of <u>State</u> lands and resources
Wildlife Conservation Board	Jennifer Norris, Executive Director	Provide guidance and coordination of <u>State</u> funding

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C. How will the participation of the organizations listed in the sentinel landscape leadership team enable each of them to work towards the goals outlined in Question 3 more effectively than they could do so individually? Please describe any pre-existing work and engagement amongst these partners that might be relevant to your proposal.

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Answer: By participating in the MDSL leadership team, partner projects and proposals will have heightened recognition and rating for resources at the local, State, and national levels. Collaboration among participating organizations would bring unique diverse skillsets together to focus on shared goals and would provide for coordination of implementation requirements between agencies. The goals outlined require intelligent collaboration, prioritization, and shared responsibility for success – whereas working

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independently would inefficiently use conservation funding, allow for accidental redundancy of efforts, and could create competing priorities.

Pre-existing work and engagement among the partners relevant to this proposal include the Desert Tortoise RASP (MCAGCC, NTC, FWS, BLM habitat restoration and unauthorized route closures), Desert Tortoise Management Oversight Group (FWS, BLM, States, NGOs, and installation natural resources, recovery action prioritization, monitoring, reviewing conservation status), Desert Managers Group (Interagency land managers), MCAGCC's Tortoise Translocation with BLM, NTC's Tortoise Translocation Program, Mojave Commanders Summit, and the Regional Raven Management Group coordinated among all five installations, BLM, FWS, and CDFW. The enduring partnerships for these efforts demonstrate the desire and ability to work together to reach common end states for desert tortoise recovery and sustainment. Additional discussion of partnerships is highlighted in response to Question 2.

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**D.** How will the landscape leadership team members coordinate their activities and decisions, and then communicate these activities and decisions to other partners working across the sentinel landscape?

**Answer:** Activities will be coordinated through the MDSL steering committee. The MDSL steering committee will be comprised of the key agencies identified in table 1: CNRA (Chair), Mojave DoD installations (MCAGCC is the DoD chair), USDA NRCS, FWS Palm Springs, and BLM Barstow. The steering committee will evaluate and prioritize MDSL activities using the criteria established by the landscape goals and complement pre-existing BLM LUPA, DRECP, USDA/NRCS Plan and DoD encroachment programs. Prioritization will be given to those programs that reduce tortoise mortality, increase desert tortoise habitat protection and condition in intact habitat and corridors, and address climate change challenges. The committees will establish by-laws and a meeting cadence once the MDSL is awarded. MDSL will be meeting quarterly to review and evaluate next steps. An annual review will be executed to evaluate the efficacy of MDSL projects and activities and provide direction to the MDSL coordinator. CNRA holds the right to veto actions. The MDSL will report to the FCC and public, via a website and email.

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The MDSL coordinator would sit within the regional office of CDFW to facilitate local perspective and collaboration. The coordinator should be familiar with desert tortoise habitat restoration and the Mojave Desert. The coordinator will provide direction and deconfliction as guided by the MDSL steering committee and provide direction and support to the MDSL partnership. The MDSL partnership is reflective of the greater community that performs conservation activities, provides funding, and in-kind work to progress the MDSL. When conditions for action are uncertain, local land management regulations and/or ESA requirements will take precedent.

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## 5. Landscape Partners

**A.** In addition to the leadership team, list the other partners (either names of specific organizations or general categories of partners) that you envision actively contributing to achieving the goals of your sentinel landscape. Specify the potential contributions of each partner listed to the goals outlined in Question 3. *Note: If any of the organizations listed below were not included in your response to Question 4a, include each of them here. If you do not anticipate that one or more of the*

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organizations listed below will be engaged in your partnership, please provide an explanation for why each organization on the list that is not included. **Note to reviewer, if the recommended organization is not listed, please add a sentence why they should be included. Please follow on with contact so we can reach out, verify interest and add to the stakeholder list.**

**Answer:**

Organization	Justification/description
<b>Federally Recognized Tribes</b>	Currently being identified
<b>USDA Plant Materials Center</b>	NRCS operates 25 Plant Materials Centers (PMCs), each based in ecologically distinct areas, to evaluate plants and vegetative technologies to support USDA conservation programs and practices.
<b>USDA USFS</b>	The MDSL is comprised of public lands including amounts of the Sierra Nevada Foothills and Mojave Desert ecotone. These lands include the Sierra National Forest, and San Bernardino National Forest, and a national Scenic Trail: Pacific Crest Trail
<b>DOI National Park Service</b>	Pacific Region- Joshua Tree National Park provides the southern boundary to the MDSL. As a natural resource steward, they are interested in actions to support special status species and to alleviate encroachment concerns for the parks mission. Death Valley National Park provides the northern boundary to the MDSL. As a natural resource steward, they are interested in actions to support special status species and to alleviate encroachment concerns for the parks mission. The Mojave and Colorado Deserts Biosphere Region (MCDDBR): is the region in the U.S. Biosphere Network recognized internationally for its high biodiversity and potential for sustainable development. Lands in the proposed MDSL overlap with the MCDDBR. This proposal leverages existing relationships among military and public land agencies in the MCDDBR to collaborate, conserve wildlife, and sustain healthy lands and waters in a bioregional, non-regulatory context. Cooperative Ecosystem Studies Unit: The California CESU is a partnership for research, technical assistance, and education to enhance understanding and management of natural and cultural resources.
<b>Mojave Desert Land Trust - MDLT</b>	<b>MDLT is a REPI Partner for MCAGCC, Edwards, NAWA CL; RASP partner.</b> Land steward for a 6,000 + acres, seed bank and nursery, and provides crews/leadership for restoration activities and desert education/research/advocacy.
<b>CalTrans</b>	Exclusion Fencing and Road Culverts. CA Transit Corridor Improvement Program.
<b>Transition Habitat Conservancy</b>	THC has a wealth of experience in habitat acquisition, monitoring, and restoration. They provide public outreach and work in the MDSL area.
<b>National Fish and Wildlife Foundation - NFWF</b>	RASP RFP? Management. NFWF helped coordinate and direct development of the Desert Tortoise RASP Implementation Plan, Monitoring Plan and helps direction recovery actions for desert tortoises.
<b>Private landowners,</b>	All MDSL Goals/Objectives. <b>Need additional input on names – some listed below</b>

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**Commented [EL10]:** Are County governments intentionally missing from this list? Also, you may consider State Parks, as Red Rock Canyon State Park is within the boundary.

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<b>ranchers, railroad</b>	
<b>Preservation Ranch</b>	Preservation Ranch participates in the DT RASP and MCAGCC's tortoise translocation and effectiveness monitoring. They have been restoring desert tortoise habitat, route closures and performing other work in the area.
<b>Burlington Northern Santa Fe Railroad</b>	BNSF operates the rail within the MDSL. These will? be partners in implementing the MDSL plan.
<b>Desert Tortoise Council/Mohave Ground Squirrel Conservation Council</b>	Combined, both organizations bring the expertise of 22 Board members, who are mostly biologists, including active and retired agency biologists of FWS, CDFW, BLM, USGS, familiar with the biology, regulations, threats, conservation actions and recovery plans. They can inform the MDSL officers and organizers of available scientific information and conservation recommendations for these two species.
<b>TBD conservation NGOs</b>	All MDSL Goals/Objectives
<b>Friends of Jawbone / El Mirage</b>	OHV Riders group, would be, integral in effecting public outreach.
<b>California Botanic Garden</b>	Local grower for BLM Seeds of Success program
<b>Victor Valley College</b>	Local grower for BLM Seeds of Success program

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**B.** Describe how partners will coordinate, plan, and execute projects in service of each of the sentinel landscape's goals and objectives outlined in Question 3. Explain the roles and responsibilities of each partner in this process. If relevant, include any past examples where partners worked collaboratively to plan and implement actions related to the sentinel landscape's goals and objectives.

**Answer:** The MDSL relies on partnerships and earlier work that partners have completed together because the desert tortoise distribution, ecosystem and climate sensitivity are not limited by property boundaries. California has prioritized climate goals and special status species work that complements federal policy often executed by NGOs, government entities, and for-profit operators. While this work is already occurring, and partnerships are in place, the MDSL will enhance and optimize these partnerships. Much of the work advances from the multi-agency development of the Desert Tortoise Recovery Plan (FWS 1994, 2011), and ensuing partnerships (e.g., RASP, FWS, BLM, and DOD [e.g., NTC and MCAGCC]) RASP and BLM efforts under LUPA, like DRECP and the WMRMP.

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MDSL partners have proposed projects that fit with the MDSL goals and work yet to be complete to support the MDSL. The lynchpin of this work will be a geospatially based analysis to coordinate, deconflict, and optimize work based upon current policies, high-priority conservation areas, funding streams, and the proponents executing the recovery actions.

## MDSL Goals // Proposed Projects and Partners engaged in work

Draft 12/5/2023. This information is pre-deliberative.

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Goals	Proposed Projects	Partners Performing work
1 Reduce desert tortoise mortalities caused by vehicle strikes, by installing exclusion fencing and flood control culverts along priority highways and railroads within the first five years within the MDSL.	Geospatial analysis of current work and proposed work. Install fencing and restore habitat. Install Culverts	MDSL Geospatial Coordinator, CDFW MDSL Coordinator, CDFW CA State Lands Commission CDFW – Regulatory and WCB Funding CALTRANS- has installed tortoise fencing NGO partners (i.e., MDLT, THC have performed this work). BLM
Past Example	Desert Tortoise Recovery Office (DTRO) (FWS, CDFW, MCAGCC, NTC, Edwards AFB), DT RASP (DOI FWS, NTC, MCAGCC, NFWF, MDLT, THC)	
2 Provide community outreach in tandem with habitat improvements to increase the success of restoration activities.	Training and Community Outreach	Each of the listed partners conducts community outreach, specifically on desert tortoise. CNRA can hold a Statewide webinar. NGOs and BLM make contact with OHV riders (2023 RASP Project to the Living Desert Zoo & Gardens) while DoD provides outreach at events like King of the Hammers.
Past Example	DT RASP, King of the Hammers outreach, The Living Desert, THC	
3 Mitigate impacts from unauthorized OHV use by closing and vertical mulching unauthorized OHV routes in the first five years.	The WMRMP documents an extensive network of roads to be closed. This would be used, and is being used by Preservation Ranch.	Barstow BLM, Ridgecrest BLM, AmeriCorps, Preservation Ranch, MDLT, THC have performed vertical mulching and restoration of OHV roads. Leverage RASP and BLM database for BMPs and documentation of what has been performed. Restoration to be coordinated with land owners using latest BMP.
Past Example	DT RASP, Current outreach by BLM and contractors	
4 Reclaim and restore 250,000 acres	REPI Acquisition Sikes Act California WCB Habitat Restoration Grants	EPA Partners EPA Partners NGO Applicants / Climate Corps to perform work. Coordinate on a landscape level to ensure treatments restore connectivity.
Past Example	MDLT, Preservation Ranch or THC restoration projects via DT RASP. REPI Habitat Management Plan for MCAGCC REPI. BLM Barstow and Ridgecrest	
5 Collect and propagate native seed	Develop prioritized list of species and existing producers in coordination with NRCS Collect 2,000 lbs. of seeds	MDLT, THC, other organizations can collect seeds. MDLT and NRCS have facilities to grow and propagate seeds.

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Draft 12/5/2023. This information is pre-deliberative.



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	<p>Propagate Plant seedlings strategically to restore priority recovery areas.</p>	<p>Coordinate with land owners, <del>FWS</del>, CDFW, and California Department of Food and Agriculture as needed. Planting to be done by MDLT, THC, possibly NRCS producers</p>	<p><b>Deleted:</b> 5.3: <b>Deleted:</b> ¶ <b>Deleted:</b> USFWS <b>Deleted:</b> 5.4</p>
Past Example	<p>MDLT collects, stores, propagates, and plants seeds for various projects. THC has performed <del>w</del>estern Joshua <del>t</del>ree conservation work. NRCS PMC and BLM Seeds of Success Program collect and propagate seeds.</p>		<p><b>Deleted:</b> W <b>Deleted:</b> T</p>

## 6. Landscape Boundary

- A. What are the partner priority areas (e.g., REPI partnership areas, public lands, endangered species habitat, watersheds, fire sheds, USDA prime soils, climate resilience concerns, etc.) and jurisdictional boundaries (e.g., ~~State~~ and/or county borders) that informed your sentinel landscape boundary? How do these partner priority areas interact with the encroachment threats, shared resource concerns, and/or climate resilience priorities listed in Question 2b?

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### Answer:

The MDSL is 1/14 of the combined REPI Encroachment Partnering Agreement (EPA) area for MCAGCC, Edwards, and NAWSC. The MDSL is therefore smaller than the EPA area. While the MDSL is mostly in the Mojave Desert, a small portion of the MDSL is in the Sierra Nevada, California South Coast, and central valley. The MDSL is sited mostly on public land outside, but among DoD installations and National Parks. This area is known for a higher concentration of desert tortoise and its preferred habitat. The MDSL includes desert tortoise and special status species refugia, anticipating species seeking higher elevations as climate warms. All partners share concerns with maintaining a viable population of desert tortoise while balancing the production of compatible renewable energy, grazing, recreation, farming, and military training. The partner priority areas are listed below, and displayed on the map.

Partner Priority	Type of Designation	Description ( <i>Italicized, missing</i> )
USDA/ <del>NRCS</del>	Private Lands	<i>Major Land Resource areas/ Agriculture Producers</i>
USDA/ <del>USFS</del>	Public Lands	Wilderness Areas
USDA/ <del>USFS</del>	Public Trail	Pacific Crest Trail
DOI/ <del>DoD</del>	Public Lands	DT RASP Focal Areas
DOI/ <del>FWS</del>	Public Lands	Desert tortoise Critical Habitat
DOI/BLM	Public Lands	Wilderness Areas (Illustrated as “conserved habitat”)
DOI/BLM	Public Lands	DRECP DFA, <del>VPLs</del> , and <del>National Conservation Lands, TCAs, Areas of Critical Environmental Concern (ACECs)</del> <i>Are there desert tortoise areas? Are these under a different designation.</i>
DOI/BLM	Public Lands	Grazing Allotments and BLM-designated recreation vehicle open areas? (e.g., Johnson Valley, Stoddard Valley,

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		<a href="#">El Mirage open areas</a> ; This is not illustrated currently on the map
DOI/NPS	Public Lands	US Biosphere- Mojave and Colorado Deserts Biosphere Region; This is not illustrated on map, but it encompasses CDCA.
DOI/NPS	Public Lands	Death Valley National Park/Joshua Tree National Park. While outside of the MDSL, <a href="#">these areas are included for their proximity</a>
DoD	Mixed	REPI Encroachment Partnering Agreement (EPA) Areas: MCAGCC, Edwards, NAWSCL
DoD	Public Lands	NTC Mitigation Lands/MCAGCC Western and Northern Translocation Sites
DoD	Airspace	Special Use Airspace and Military Training Routes
California	Public Lands	Red Rock State Park
California	Public Lands	State Lands Commission
NGOs	Private Lands	Transition Habitat, MDLT, Wildlands Conservancy, <a href="#">Desert Tortoise Preserve Committee</a> , Preservation Ranch

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B. [Attach](#) a single map that delineates the boundary of the sentinel landscape. If the data is publicly available, the map should include layers that indicate each partner’s priority areas within the boundary, as well as the anchor installation(s)’s operational footprint(s). Attachments must be submitted as PDFs. If the sentinel landscape map exists online, please include the URL below. See below

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C. How many acres is the proposed sentinel landscape area? To the extent possible, provide an estimate of how many acres are under federal, [State](#), and private ownership, respectively.

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## Answer

Acreage Type	Acres MDSL 2
Federal	2,328,916
State	131,376
City	596.33
County	860
Special District	176
Non-Profit Conservation	39,863
Private (non-conservation)	1,327,205
Total	3,894,381

Source: California Protected Areas Database, 2023a; ESRI; NTC; [FWS](#) || Coordinate System: NAD 1983 UTM Zone 11N

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D. Describe the status of land use, land cover, and land ownership within the sentinel landscape’s boundary. Explain why these characteristics make the sentinel landscape important to USDA, DOD, and DOI, respectively. Use quantitative descriptions when possible.

**Answer:** Most of the MDLS is arid, multi-use open space. Open desert scrub (creosote, burro bush) and Joshua trees transition to desert riparian areas (desert willow) and alkali desert scrub in low-lying areas around playas. Grazing operators and desert tortoises rely on having large open spaces due to the reduced amount of vegetation available for forage when compared to eastern rangelands.

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Urbanization is concentrated along the Mojave River/ I-15 corridor, with substantial development in Ridgecrest and the Morongo Basin. Along the Sierra and San Bernardino Mountains, the desert transitions to mixed chaparral and coniferous forests. Agriculture is concentrated along the Mojave River Corridor, near Barstow. The open desert scrub is necessary to support desert tortoise populations, so the FWS, NPS, and other partners are interested in maintaining intact ecosystems to mitigate ESA restrictions. The Mojave Desert is a unique ecosystem, home to several threatened and endangered endemic species. While this application focuses on the desert tortoise, a whole ecosystem and transition zones support many species. USDA is interested in collecting, propagating, and making available endemic species for restoration projects with landowners and ranchers. The DoD is interested in sustaining viable populations of desert tortoise in Critical Habitat and desert tortoise RASP areas, and other listed, vulnerable or at-risk species.

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Additional information on land use types/ designations are listed below.

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Land Owners/ Designations in MDSL	Land Use Type	Importance to the MDSL
USDA/NRCS Priority Areas	<ul style="list-style-type: none"> <li>• Agriculture Areas</li> <li>• TBD</li> </ul>	<p>NRCS guides private land producers with BMPs and provides funding to supplement these practices.</p> <p>NRCS collects seeds for restoration projects from public lands for restoration and mitigation projects.</p>
DOI/BLM	<ul style="list-style-type: none"> <li>• DRECP</li> <li>• DFAs and VPLs</li> <li>• Grazing allotments</li> <li>• Open OHV Areas</li> <li>• Multi-use</li> <li>• NCLs</li> <li>• Utility Corridors (RE/Oil/Broadband)</li> <li>• Mine Hazard Reduction</li> <li>• ACECs</li> <li>• Wilderness Areas:</li> <li>• Bighorn Wilderness</li> <li>• Big Morongo Canyon Preserve</li> </ul>	<p>BLM is a multi-use land agency charged with the stewardship of lands with competing priorities. This public land (MDSL??) is prioritized for desert tortoise habitat restoration that complements largescale renewable energy and other projects. The DRECP prioritizes land in DFAs and VPLs available for renewable energy producers that mitigates conflict with desert tortoise and special status species within the Mojave</p>

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		and Colorado <del>deserts</del> . Section 356 energy transmission corridors are prioritized BLM (and USFS) lands to connect utilities be it electrical, petroleum based, or broadband across the west. Wilderness <del>Areas</del> are biological reserves, reducing the impact to special status species.
DOI/NPS	<ul style="list-style-type: none"> <li>• Mojave and Colorado Desert Biosphere Region,</li> <li>• Death Valley National Park</li> <li>• Joshua Tree National Park</li> </ul>	NPS manages the US Biosphere program and is re-engaging stakeholders within the Mojave and Colorado <del>deserts</del> . While the MDSL contains hundreds of acres of land, the biosphere is a designated <del>area</del>
DOI/USGS Watersheds	<ul style="list-style-type: none"> <li>• Long Term DT Study Plots</li> <li>• Mojave River</li> </ul>	<del>BLM</del> established long-term desert tortoise study plots <del>in the 1970's</del> that FWS and DoD rely on to study tortoise viability and <del>recovery</del> . USGS has designated watersheds and flood corridors which will be important to maintain riparian habitat and floodable corridors and tortoise passages at culverts.
DOI/ <del>FWS</del> Priority Areas	<ul style="list-style-type: none"> <li>• RASP Focal Areas</li> <li>• Critical Habitat</li> <li>• DT General Conservation Plan (DT GCP)</li> </ul>	<del>FWS</del> is the <del>federal</del> regulatory agency for desert tortoises, and is integral to designating <del>Critical Habitat</del> and implementing the ESA. The DT GCP guides permits for DT on private lands in the Mojave Desert
USDA/USFS	<ul style="list-style-type: none"> <li>• Wilderness Area</li> <li>• Pacific Crest Trail</li> </ul>	USFS is the land management agency for Sierra National Forest (Kiavah Wilderness), <del>San Bernardino and Angeles National Forests</del> , and the PCT. Sections provide habitat and <del>possible climate change</del> refugia for <del>desert</del> tortoise.
DOD Priority Areas	<ul style="list-style-type: none"> <li>• REPI Encroachment Partnering Agreement Areas</li> <li>• MCAGCC</li> <li>• Edwards AFB</li> <li>• NAWS CL</li> <li>• Desert tortoise RASP focal areas; Translocation areas</li> <li>• Special Use Airspace and Military Training Routes</li> </ul>	DT RASP is a DoD/DOI MOU and joint funded program with BNSF to improve desert tortoise viability and habitat in focus areas. The NFWF guided Implementation Plan provides an adaptative approach to DT recovery on public lands. REPI provides cost-sharing funding for projects in the REPI

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	<ul style="list-style-type: none"> <li>Desert tortoise climate refugia</li> </ul>	<p>Encroachment Partnering Agreement which overlaps the MDSL area (Map 1).  <del>Desert tortoise</del> relocation areas and mitigation lands increase <del>desert tortoise</del> population viability and mitigation areas off installation so missions can be completed on installations.                  DoD requires special use airspace and Military Training Routes to develop, test, and train.</p>
State of California	<ul style="list-style-type: none"> <li>30x30 Initiative</li> <li>Burns Piñon Ridge Reserve</li> <li>California State Lands Commission</li> <li>Camp Cady Wildlife Area</li> <li>Desert Tortoise Habitat</li> <li>Eastern Kern County Onyx Ranch State Vehicular Recreation Area</li> <li>Fremont Valley Ecological Reserve</li> <li>Indian Joe Spring Ecological Reserve</li> <li>Indian Wells Valley Ecological Reserve</li> <li>King Clone Ecological Reserve</li> <li><del>Red Rock Canyon State Park</del></li> <li><del>Saddleback Butte State Park</del></li> <li>Twentynine Palms - Valle Vista Road</li> <li>West Mojave Desert Ecological Reserve</li> </ul>	<p>California seeks to conserve 30% of California through a mix of public and private lands. These provide habitat for desert tortoise. Less than 30% of the MDSL is currently in conservation status (Gap 1 + Gap 2) State parks conserve desert tortoises, special geology, and other special status species.                  Open OHV areas provide areas for recreation in non-<del>Critical Habitat</del>                  State lands provide a continuous corridor for water transmission and desert tortoise population connectivity.</p>
NGO	Pioneertown Mountains Preserve, Palisades Ranch, MDLT, Black Mesa Ecological Reserve, Wildlands Conservancy, National Audubon Society, THC, Preservation Ranch? <del>Antelope Valley Conservancy</del>	

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Commented [EL16]: Note that L.A. County manages six or seven Wildlife and Wildflower Sanctuaries within the MDSL, south of Edwards EAFB. But again, it is not clear if County jurisdictions are being intentionally excluded.

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E. Describe where within the proposed boundary the partnership will use specific federal, ~~State~~, local, regional, and/or private programs/resources to achieve each of the landscape goals outlined in Question 3. Where applicable, provide timelines for when these activities will take place.

**Answer:**

The program seeks funds from multiple sources, including the REPI, Sikes Act, Federal Land Policy and Management Act, and ESA authorities; Federal Highway Administration, NRCS and the Farm Bill, IJA funding, existing and interagency agreements; and planned agreements among the project partners (for implementation). NRCS provides funding to producers and ranchers to maintain and improve land management practices. The State of California has substantial funds to support conservation and climate

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smart land management (\$1B in 2023) that would be available to those achieving the goals of the MDSL.

*Note to reviewer: this is possible funding that would be available.*

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Funding Program	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
RASP (DOI/DoD/Private)	x	x	x	x	x	x	x	x			
Wildlife Conservation Board (Ca)	x	x	x	x	x	x	x	x	x	x	x
REPI Buffer (DoD)	x	x	x	x	x	x	x	x	x	x	x
REPI Sikes	x	x	x	x	x	x	x	x	x	x	x
FWS Funding	x	x	x	x							
REPI/DOI Recreation REPI Challenge	x	x	x	x							
Wildfire Resilience	x		x		x		x		x		x
DoD Tortoise Relocation	x	x	x	x	x	x	x	x	x	x	
BLM Route Restoration	x	x	x	x	x						
Conservation Technical Assistance											
Environmental Quality Incentives Program											
Conservation Stewardship Program											
Agriculture Conservation Easement Program,											
Conservation Innovation Grants											
NRCS Climate Smart Mitigation Activities (from the Bipartisan Infrastructure Act))											

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F. If applicable, explain how partners plan to encourage private landowners whose properties lie within the sentinel landscape to participate in the programs and tools outlined in Question 6E. If this question doesn't apply in your landscape, please explain why.

**Answer:**

NRCS as a partner to the Sentinel Landscape Initiative proposal can provide assistance to private farmers, ranchers, and forestland owners on private and public lands with the following programs and conservation practices and enhancements. These programs and practices can assist directly targeting the keystone species desert tortoise and additional natural resource concerns within the proposed boundary including soil, water, air, plants, animals, and energy. These programs include the Conservation Technical Assistance, Environmental Quality Incentives Program, Conservation Stewardship Program, Agriculture Conservation Easement Program, Conservation Innovation Grants, and NRCS Climate Smart Mitigation Activities.

In addition to USDA, government partners and NGO's can explore additional funding using the REPI EPA at Edwards, NAWSCL, or MCAGCC to fill funding gaps, and RASP funding. REPI partners have used REPI funds and matching funds from the California WCB to purchase and preserve lands in the MDSL.

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G. If your landscape contains significant areas of public lands managed by federal or State partners, explain the activities that these federal or State partners will undertake on their public lands in collaboration with other partners in the sentinel landscape to achieve the landscape goals outlined in Question 3. If this question doesn't apply in your landscape, please explain why.

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### Answer:

A good example of existing work is the DoD-DOI RASP program. The majority of MDSL is located on BLM lands, State Lands, and NTC Mitigation lands. BLM, NRCS, FWS, and the DoD services have committed to working together to identify and expand the effectiveness of the RASP Program. The State has volunteered CDFW to help coordinate efforts across all entities as the MDSL exists entirely in California and leverages cross agency relationships and workflows already established. As the potential work is defined, the MDSL coordinator will reach out to the appropriate State or federal agency to coordinate the work. Partners will continue to invest in the rehabilitation of lands to support desert tortoises, and to mitigate climate effects, via vertical mulching and restoration; seed collection and seedbank restoration; and flood control initiatives. Specific projects are highlighted above with the intention of restoring and maintaining viable populations of desert tortoise and special status species, and their genetic connectivity across the landscape.

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The FWS implements range wide monitoring for the desert tortoise and demographic monitoring of specific populations within the MDSL and will continue doing this. This effort is needed to help assess the effectiveness of the MDSL efforts and goals in advancing desert tortoise conservation. The FWS also participates in the Desert Tortoise RASP initiative, playing a key role in outlining its focal areas, developing the RASP implementation plan and annual RFPs, and reviewing and selecting proposals that align with RASP recovery goals. The focus of the RASP implementation plan aligns with all five of the MDSL goals. Our goals would have the Desert Tortoise RASP work fit within the broader context of the MDSL.

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### 7. Local Coordination

A. How do you envision the coordinator's additional capacity will catalyze progress towards and achieve the landscape's goals and objectives outlined in Question 3?

**Answer:** The MDSL Coordinator will work with diverse groups of public and private partners to achieve conservation and encroachment goals. The coordinator will be involved in all aspects of the MDSL management by serving as project manager, partnership facilitator, and track funding and grant opportunities. They will serve as the primary contact for all strategic engagements and coordinate external communication. They will also plan and lead partner meetings. The coordinator will work closely with federal, State, NGO, and for-profit agencies to align and leverage efforts and funding. The coordinator will lead the development and finalize the MDSL Implementation Plan, and lead and monitor the plan's execution and effectiveness. The coordinator will track and report partnership activities, progress, and accomplishments to the partnership and FCC. The coordinator will enable the partnership to incorporate shared resources, focus, multi-use planning, and cultivate funding among agencies. The coordinator will ensure partners' priorities and actions align, are cost-effective, and are not duplicative.

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B. Please describe what preference your partnership may have for the coordinator's host organization (if any).

**Answer:** The State of California is the applicant for this Sentinel Landscape. The State is already coordinating a significant amount of work to certify and sustain the viability of desert tortoises and special status species (e.g., Mojave Ground Squirrel and the western Joshua tree) so the State has the existing relationships and interest in conserving, protecting, and delisting species in order to meet their goals. The State has consistent funding cycles and incremental changes in policy.

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C. Please describe how you anticipate the coordinator contributing to or leading the development of your sentinel landscape's implementation plan during the first two years after designation.

**Answer:** The MDSL will develop and execute a partner conference based in the MDSL. The MDSL coordinator will develop a geospatially based implementation plan to understand, identify, and deconflict partner projects. The implementation will build on partner projects and policy requirements to optimize where they are coordinated.

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## 8. Coordination with other Sentinel Landscapes

A. Explain how the proposed sentinel landscape plans to coordinate with an existing sentinel landscape within the same state. Specifically address how the proposed sentinel landscape plans to integrate contributions made by State agencies to the existing sentinel landscape so as to not duplicate efforts.

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**Answer:**

*This question does not apply to me:*

B. If the proposed sentinel landscape shares a border with or is nearby an existing sentinel landscape(s), explain how the proposed sentinel landscape plans to coordinate with an existing sentinel landscape(s) on shared natural resource concerns.

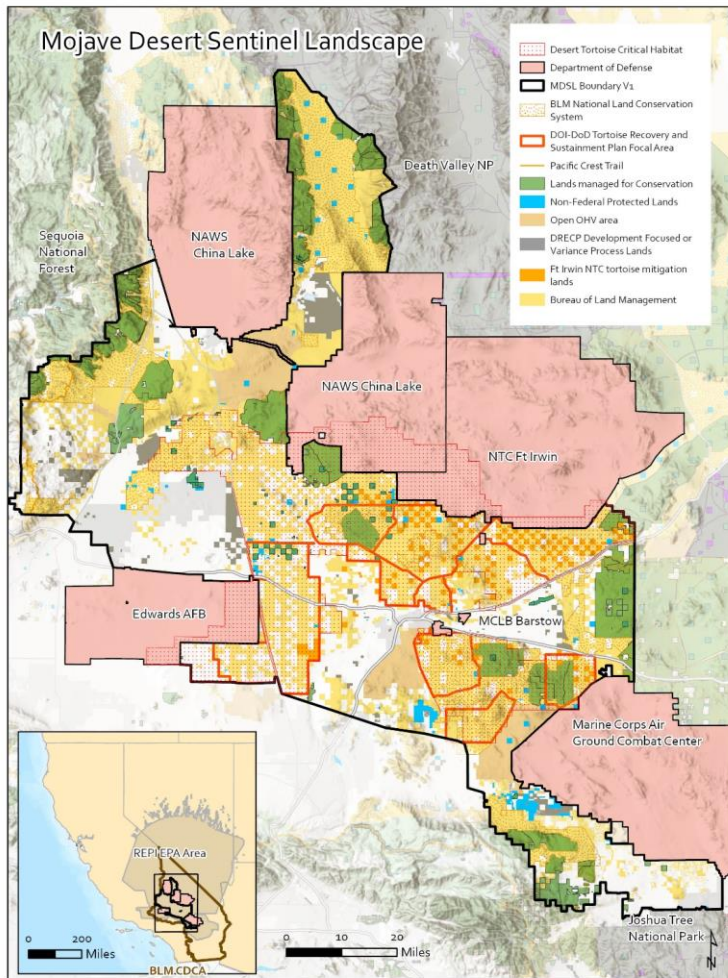
**Answer:**

*This question does not apply to me:*



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Map 1. Mojave Desert Sentinel Landscape boundary among partnering landowners and stakeholders (CNRA, USDA, DoI, DoD, local governments, and NGOs) of the western Mojave Desert, and relative to boundaries of the REPI Encroachment Partnering Area and BLM California Desert Conservation Area (inset). MDSL contains 13 Wilderness Areas, provides habitat to 25 federal listed species, and 25% of the critical desert tortoise habitat in the United States.

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Draft 12/5/2023. This information is pre-deliberative.