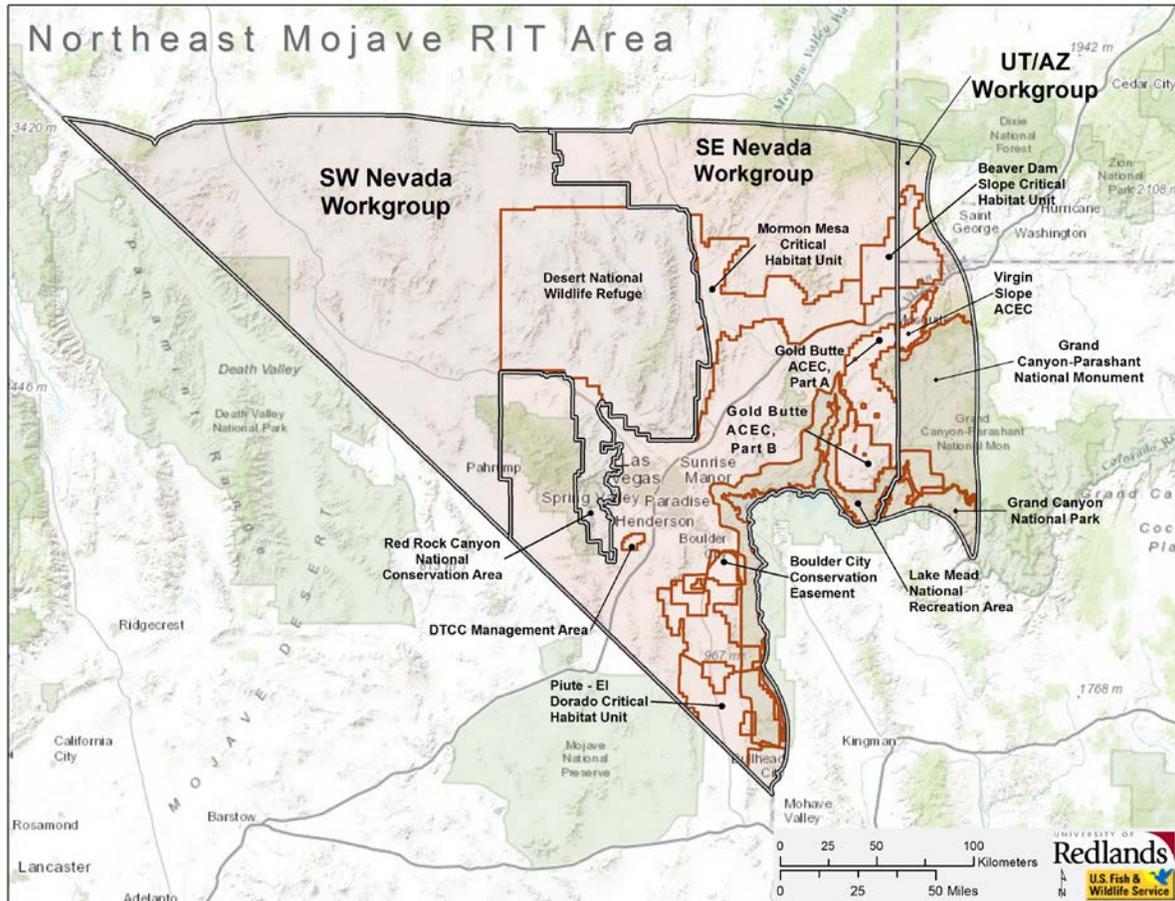


RECOVERY ACTION PLAN FOR THE MOJAVE DESERT TORTOISE IN THE NORTHEAST MOJAVE DESERT



April 2014
Version 1

WHAT IS THIS DOCUMENT?

This document is the recovery action plan developed by the Northeast Mojave Recovery Implementation Team (RIT) for their region. The foundation for desert tortoise recovery is the revised recovery plan for the Mojave desert tortoise (USFWS 2011. Revised Recovery Plan for the Mojave population of the desert tortoise, *Gopherus agassizii*. Sacramento, CA), which describes threats to the Mojave desert tortoise and recovery actions to remove these threats. Due to the numerous and diverse threats that vary spatially and temporally across the range of the tortoise, the revised recovery plan recommends an adaptive management framework for prioritizing recovery actions. The first step in this framework was to capture and rank the threats and recovery actions with development of a spatial decision support system (SDSS). The desert tortoise SDSS ranks categories or types of recovery actions that are expected to be most effective in each part of the desert for long-term recovery of the species based on models of relationships between threats, recovery actions, and tortoise populations. The next step in the adaptive management framework was for regional RITs to tier off the recovery plan and the ranked recovery action types from the SDSS by developing recovery action plans containing specific, local prescriptions for recovery actions and suggesting the first set of activities to be pursued during the initial years of the recovery process. In conjunction with prioritizing recovery actions in this document, the RITs prioritized needs for effectiveness monitoring or research. This document is the first recovery action plan for the Northeast Mojave RIT.

Disclaimer: The Desert Tortoise Management Oversight Group (MOG) approves this Recovery Action Plan (version 1) as part of an ongoing process toward recovery of the Mojave desert tortoise. This approval does not imply endorsement of specific recommendations within the plan by all members of the MOG. The recovery action plan is intended to be a living document that serves as a tool to facilitate on-the-ground implementation of recovery actions. Nothing obligates actions to be implemented by agencies or that alternative actions cannot also be implemented to address underlying threats to the tortoise. The RITs will regularly engage with the MOG to report on progress in implementing recovery actions. The next version of the recovery action plan (i.e., version 2) will include a “report card” on the progress of recovery implementation.

LITERATURE CITATION OF THIS DOCUMENT SHOULD READ AS FOLLOWS:

U.S. Fish and Wildlife Service. 2014. Recovery action plan for the Mojave desert tortoise in the Northeast Mojave Desert. U.S. Fish and Wildlife Service, Pacific Southwest Region, Sacramento, California. Developed in coordination with the North-East Mojave Recovery Implementation Team. 61 pp.

TABLE OF CONTENTS

	page
A. INTRODUCTION	1
B. NORTHEAST MOJAVE RIT PARTICIPANTS	5
SW Nevada workgroup	5
SE Nevada workgroup	5
Utah/Arizona workgroup	6
C. PRIORITIZED ACTION PLANS BY WORKGROUP	7
SW Nevada Workgroup and Tortoise Conservation Areas (TCAs) therein	9
SW NV workgroup area (across or outside of TCAs)	11
Red Rock National Conservation Area	14
Desert National Wildlife Refuge	16
SE Nevada Workgroup and TCAs therein	18
SE NV workgroup area (across or outside of TCAs)	20
Beaver Dam Slope Critical Habitat Unit–NV	24
Gold Butte Part A	26
Gold Butte Part B	28
Lake Mead National Recreation Area–NV	30
Mormon Mesa Critical Habitat Unit	31
Piute-El Dorado Critical Habitat Unit	33
Boulder City Conservation Easement	34
Desert Tortoise Conservation Center Management Area	36
UT/AZ workgroup and TCAs therein	37
UT/AZ workgroup area (across or outside of TCAs)	39
Beaver Dam Slope Critical Habitat Unit–UT/AZ	45
Grand Canyon National Park	48
Grant Canyon-Parashant National Monument	49
Lake Mead National Recreation Area–AZ	52
Virgin Slope ACEC	53
Other site-specific actions proposed by RIT members	56
D. TRACKING & MONITORING PLAN	58
Reporting recommendations for recovery action implementation and maintenance	58
Plan for supporting monitoring and research to assess action effectiveness	58
Overall Recovery Action Plan effectiveness monitoring needs	58
Monitoring for effectiveness of specific recovery action types	59
Priority needs for effectiveness monitoring or research: SW NV workgroup	59
Priority needs for effectiveness monitoring or research SE NV workgroup	60
Priority needs for effectiveness monitoring or research: UT/AZ workgroup	60
E. NEXT STEPS	61

ONLINE APPENDIX: BACKGROUND & SUPPORTING INFORMATION

http://www.fws.gov/nevada/desert_tortoise/dtro/ne.html

Ranked threats for the each workgroup's tortoise conservation areas & region
Ranked recovery action types for each workgroup's tortoise conservation
areas & region

A. INTRODUCTION

Overview of Recovery Implementation Teams

The revised recovery plan (USFWS 2011) called for the establishment of regional Recovery Implementation Teams (RITs). The RITs are appointed recovery teams, per section 4(f)(2) of the Endangered Species Act (Act), are advisory to the U.S. Fish and Wildlife Service, and are exempt from the Federal Advisory Committee Act. The RITs bring together partners from land management, scientific, conservation, and land-use groups to work together with the Fish and Wildlife Service on planning, implementing, tracking, and evaluating recovery actions. Necessary to this diverse partnership, RIT members must have a commitment to working collaboratively for recovery of the desert tortoise and be knowledgeable about desert tortoise issues, including related management issues.

The primary responsibility of each RIT is to partner across local and regional jurisdictional boundaries to plan, implement, and evaluate actions related to desert tortoise recovery. Diverse teams are essential because of the many jurisdictions and stakeholders involved in implementing actions related to desert tortoises. A cooperative/coordinated effort among land managers, wildlife agencies, stakeholders, and scientists will:

- Accomplish recovery goals that would be unattainable on a local scale;
- Reduce duplication of effort and increase the efficient use of resources and expertise; and
- Increase public and federal/state/local agency support for recovery by providing consistent information on the status of desert tortoise recovery implementation throughout the species' range.

Organization of the RITs is based on recovery units and land management planning areas, configured in a manner that will also be logistically practical from a jurisdictional perspective. The Northeast Mojave RIT is composed of three workgroups: SW Nevada workgroup, SE Nevada workgroup, and UT/AZ workgroup. The specific tasks for each RIT workgroup are to:

- Develop a science-based recovery action plan for its assigned geographical area;
- Coordinate implementation of recovery actions contained in the recovery action plan;
- Provide/secure/coordinate the necessary resources for implementation of recovery actions;
- Assess effectiveness of implemented recovery actions;
- Compile results into a range-wide database and local-level decision support system;
- Report findings and status annually to appropriate regional groups and the Desert Tortoise Management Oversight Group; and
- Review recovery action plans and revise as necessary.

More information on the RITs can be found in the full “RIT Terms of Reference,” available at http://www.fws.gov/nevada/desert_tortoise/dtro/dtro_rits.html.

Development of the Recovery Action Plan

Each RIT workgroup was provided with the most up-to-date information from the desert tortoise spatial decision support system (SDSS), including rankings of recovery action types for each tortoise conservation area and the overall workgroup area. Using a consensus-based framework, each workgroup proposed specific actions within these ranked recovery action types and then prioritized these actions based on information within the SDSS, the workgroup members' on-the-ground knowledge, and each party's individual interests. Each workgroup also identified priority needs for effectiveness monitoring or research in their area. The recovery action plan contains these priorities for all three workgroups of the Northeast Mojave RIT. This recovery action plan is intended to be revisited and updated to reflect new information and to report progress on implementation of specific recovery actions. Public feedback on this plan will also be considered by the RITs in subsequent revisions. Similar recovery action plans have been developed for the California Mojave RIT and the Upper Virgin River RIT.

The desert tortoise SDSS is a model of threats to tortoise populations, a purposeful tool for structured recovery action planning. Structured decision-making tools are not designed to represent on-the-ground "truth," but rather are designed to provide for transparent, systematic problem-solving (Starfield, AM. 1997. A pragmatic approach to modeling for wildlife management. *Journal of Wildlife Management* 61:261-270). The desert tortoise SDSS provides background information about the most important threats in particular areas and rankings of recovery action types for the workgroup's tortoise conservation areas and region. Utilizing this type of pragmatic modeling prevents managers from becoming paralyzed by shortcomings in understanding or by limited data availability, while highlighting data and information needs. It also makes it incumbent on RIT participants to use on-the-ground, site-specific knowledge provided by individual RIT members in tandem with guidance from model outputs and not rely on computer output alone.

Much of the background information captured within the SDSS that contributed to this planning process can be explored and downloaded from http://www.fws.gov/nevada/desert_tortoise/dtro/ne.html, including:

- Threats ranked by their estimated overall contribution to risk in each tortoise conservation area, and
- Ranked recovery action types based on their estimated overall contribution to decreasing risk to the tortoise in each tortoise conservation area.

More in-depth information is accessible in two on-line tools. The Desert Tortoise Recovery Model Explorer is a tool in the form of a website (http://www.fws.gov/nevada/desert_tortoise/dtro/model.html) where one can explore the model underlying the decision support system. The current version of the model is based on Appendix A of the revised recovery plan and feedback from RIT members. Specifically, one can use the Model Explorer to find information about how threats affect tortoises and how recovery actions affect particular threats. The Data Explorer is another tool in the form of a website (http://www.fws.gov/nevada/desert_tortoise/dtro/data.html) where one can explore each data layer (map) used in the decision support system. The spatial distribution of threats, as well as recovery actions that already have been completed in the RIT areas for which we have spatial data, can be found on the Data Explorer. These data layers have been reviewed by RIT members. Although we will never have perfect knowledge about the effects of threats on tortoises, these

tools provide a framework for organizing the best available information, improving data sources and models, and undertaking adaptive management for desert tortoise recovery.

How should this document be interpreted and used?

This recovery action plan is the product of collaborative discussion among RIT participants about the highest priority on-the-ground actions to be taken over the next few years. The intent behind the plan is to identify specific actions in need of funding for implementation. The recommendations are available for consideration to be implemented by land and wildlife management agencies as budgeting and planning occur and as other opportunities arise. Proponents of projects conducted within desert tortoise habitat may find the recovery action plan useful in identifying actions to compensate for impacts to desert tortoise populations or habitat in particular areas. Implementation of recovery actions will occur within existing land-management and environmental-review processes and subject to funding availability, other competing priorities (*e.g.*, for non-tortoise related actions), and logistical constraints of the responsible implementing entity.

As mentioned previously, the RITs are composed of individuals with diverse backgrounds and interests. As a result, not all recommendations were universally supported by RIT participants. In such cases, dissenting viewpoints or clarifying opinions are reflected in the document to capture the full range of input provided during the process and to inform managers of potential issues or concerns related to implementation. In some cases dissenting opinions may stimulate ideas for alternative actions that may still address the underlying threats to desert tortoises. In addition, not all groups contained the local management expertise to provide very specific prescriptions. Therefore, various actions will involve further development by appropriate specialists in the relevant agencies. Where the recovery action plan calls for development of a separate topic-specific plan, task groups of appropriate specialists may be coordinated by the Fish and Wildlife Service or individual RIT members to draft these plans.

The emphasis given to or taken from specific activities in the recovery action plan was heavily influenced by the specific composition of each RIT workgroup and the background and on-the-ground knowledge of workgroup participants. Gaps between prescriptions based on best available science and RIT recommendations can be measured by the differences in prioritization seen between RIT priorities and SDSS rankings in each workgroup's table of prioritized actions. In addition, summary tables at the beginning of each workgroup's prioritizations provide a comparison between the number of actions proposed in each action type and the SDSS ranking. Another artifact of the process of developing this recovery action plan is that recommendations do not always align smoothly across workgroup or RIT boundaries, thereby creating occasional inconsistencies in approaches or priorities across biologically irrelevant lines on a map. Nevertheless, the recovery action plan provides a yardstick against which progress toward recovery can be made. Updates will occur on an ongoing basis in conjunction with reports to the Desert Tortoise Management Oversight Group and other appropriate regional management groups. Progress in implementing recovery actions and future coordination within and between RIT workgroups will provide opportunities to refine recommendations based on new information, address dissenting opinions reflected in the current plan, consider input provided outside the RITs, and better integrate recommendations across boundaries.

Finally, as noted by many RIT participants, the recovery action plan is not comprehensive in that much of the recovery program relies on development of policy-level prescriptions rather than the site-specific actions captured in this document. In particular, there was concern that in light of the current reality of many development projects and rights of way being authorized within tortoise habitat, issues related to habitat loss are not directly addressed by this RIT plan. *Therefore, we note that the action of protecting intact desert tortoise habitat, including linkages between tortoise conservation areas, is emphasized in the revised recovery plan even though it is not addressed specifically in the recovery action plan.*

B. NORTHEAST MOJAVE RIT PARTICIPANTS

SW Nevada workgroup

Land Management	Bureau of Land Management, Tonopah Field Office	Dustin Holloway
Land Management	Bureau of Land Management, Las Vegas Field Office	Amelia L. Savage
Land Management	U.S. Air Force, Nellis	Ann Bedlion
Wildlife Management	Nevada Department of Wildlife	Jason Jones
Tribe	Timbisha Shoshone Tribe	vacant
County	Nye County	Levi Kryder
Conservation Biology		vacant
Conservation Organization	The Nature Conservancy	Jim Moore
Resource Use		vacant
Recreation	Southern Nevada Land Cruisers	Michael Voegelé

SE Nevada workgroup

Land Management	Bureau of Land Management, Caliente Field Office	Alicia Styles
Land Management	Lake Mead National Recreation Area	Ross Haley
Wildlife Management	Nevada Department of Wildlife	Cris Tomlinson
Tribe	Moapa Paiute	Darren Daboda
Tribe	Timbisha Shoshone Tribe	vacant
Tribe	Las Vegas Paiute	vacant
County	Lincoln County	Ronda Hornbeck
County	Clark County	Marci Henson
Conservation Biology	International Union for Conservation of Nature, Tortoise & Freshwater Turtle Group	Raymond Saumure
Conservation Organization	Center for Biodiversity	Rob Mrowka
Resource Use	Southern Nevada Home Builders Association	Joe Pantuso

Utah/Arizona workgroup

Land Management	Bureau of Land Management, St. George Utah	Dawna Ferris
Land Management	Bureau of Land Management, Arizona Strip	Jeff Young
Wildlife Management	Utah Division of Wildlife	Ann McLuckie
Wildlife Management	Arizona Game and Fish Department	Cristina Jones
Tribe	Shivwits Paiute	Lawrence Snow
Tribe	Kaibab Band of the Paiute	vacant
County	Mohave County	Robin "Rob" Grumbles
County	Washington County	Robert Sandberg
Conservation Biology	U.S. Geological Survey, Western Ecological Research Center	Lesley DeFalco
Conservation Organization	Desert Tortoise Council	Maggie Fusari
Resource Use		Ed Bowler
Recreation		Brent Jensen

C. PRIORITIZED ACTION PLANS BY WORKGROUP

The following tables include the prioritized site-specific recovery actions recommended by each of the three Northeast Mojave RIT workgroups, organized by tortoise conservation area. The RITs were asked to describe specific on-the-ground recovery actions that cooperating entities would implement if they had the funding. Details such as location or scope of the action that are not specified here may be specified in future, more detailed project proposals/concepts. RIT participants were asked to disregard issues of cost, feasibility, and politics in brainstorming recovery actions and to focus instead on biological issues related to threats to tortoises within their workgroup areas. Implementation will be determined by funding availability, logistics, and other agency priorities. Within this context, other actions, even if not prioritized here, may still be relevant and appropriate in meeting underlying threat-reduction objectives; this recovery action plan does not preclude innovative ideas to achieve recovery of the Mojave desert tortoise.

Glossary of Terms used in the Tables of Prioritized Actions

RIT Priority is the workgroup's assigned priority for each action.

Priority 1 actions are those that the workgroup deemed the highest priority for implementation. These actions have the highest expected effectiveness for contributing to tortoise recovery and/or need to be completed first to allow for other actions to be implemented. In some cases, these actions may already be underway or planned for implementation within the planning period.

Priority 2 actions are those that are the next highest priority for implementation after priority 1 actions have been initiated.

Priority 3 actions are those that are the lowest highest priority for implementation, but that the workgroup would still like to see implemented in this approximately 5- year planning period. These actions are the lowest priority due to their anticipated effectiveness and/or potential for implementation. These actions are to be pursued only after priority 1 and 2 actions have been implemented.

SDSS RA type rank refers to the ranking of the recovery action type from the SDSS (October 2012), under which the specific action was proposed (*e.g.*, an SDSS RA type ranking 3 tells us that this action came from the recovery action type that was ranked 3rd for this Tortoise Conservation Area). You can find the definition of each recovery action type on the Desert Tortoise Recovery Model Explorer (http://www.fws.gov/nevada/desert_tortoise/dtro/model.html).

RA code is the short-hand code for the SDSS recovery action type under which specific actions were proposed.

Workgroup identifier number refers to the specific number that the action was given at the RIT in-person meeting. The number is the ranking of the recovery action type from the SDSS under which the specific action was proposed, followed by the order in which the action was

proposed (*e.g.*, workgroup identifier number 3.02 tells us that this action came from the recovery action type that was ranked 3rd for this Tortoise Conservation Area and that it was the 2nd specific action proposed by RIT members under this type.)

Dissenting Opinions were submitted by workgroup members if they did not support a particular action that was prioritized by the rest of the workgroup, or if they felt other clarifying comments were necessary. Actions which received dissenting opinions or clarifications are noted with a footnote that describes the reasoning behind the dissent.

Southwest Nevada Workgroup and Tortoise Conservation Areas therein

The SW Nevada workgroup area is composed of two Tortoise Conservation Areas:

1. Red Rock Canyon National Conservation Area
2. Desert National Wildlife Refuge

The workgroup prioritized actions for each of these areas, as well as for the workgroup area as a whole for actions to be implemented across or outside of Tortoise Conservation Areas.

Summary Table of Actions Prioritized by the SW Nevada Workgroup

Recovery Action (RA) Type from SDSS	RA code	SDSS ranking (workgroup)	# Site-specific Actions Prioritized	# Dissenting Opinions
Restore habitat	HAB	1	9	3
Environmental education	EDU	2	11	
Decrease predator access to human subsidies	SUB	3	3	
Targeted predator control	PRD	4	5	
Restore habitat (toxicants/unexploded ordnance) ¹	TOX	5	1	1
Manage disease in wild populations	WDS	6	1	
Increase law enforcement	LEO	7	5	
Install & maintain human barriers (wildland-urban interface)	WUI	8	5	2
Install & maintain tortoise barrier fencing	FEN	9	2	
Restore roads (e.g., vertical mulching)	RER	10	4	
Sign & fence protected areas	SFP	11	5	
Fire management planning & implementation	FIR	12	2	
Manage disease in captive populations	CDS	13	0	
Sign designated routes	RTS	14	1	
Install & maintain human barriers (preserves)	PRE	15	1	
Designate & close roads (travel management plan)	TRV	16	0	
Minimize wild horse & burro impacts	WHB	17	1	
Withdraw mining	MNG	18	0	

¹ UXO issues are strictly a military concern. (Nellis Air Force Base)

Recovery Action (RA) Type from SDSS	RA code	SDSS ranking (workgroup)	# Site-specific Actions Prioritized	# Dissenting Opinions
Install & maintain tortoise barriers (open OHV areas)	OOA	19	0	
Control dogs	DOG	20	0	
Speed limits	SPD	21	0	
Remove grazing (close allotments)	GRZ	22	1	
Landfill management	LAN	23	0	
Connect habitat (culverts/underpasses)	CUL	24	0	
Land acquisition	ACQ	25	1	
Restore habitat (garbage clean-up)	GAR	26	2	
Other	OTH		7	3

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
SW Nevada Workgroup Area: Actions to be implemented across or outside of Tortoise Conservation Areas²			
1	1	HAB	Conduct landscape level habitat restoration on burned areas. (workgroup identifier number: 1.01)
1	2	EDU	Provide and present environmental education at recognized OHV and environmental group meetings/events, regarding staying on designated OHV routes in tortoise habitat and minimizing off-road usage to approved areas, minimize speed, policing trash along routes and at camp sites, keeping pets under control in the desert, reducing fire threats (<i>i.e.</i> , hot catalytic converters, camp fires, etc.) Encourage citizen science. (2.03)
1	6	WDS	Coordinate with USGS and researchers for disease studies and reporting occurrence, in the context of a coordinated population augmentation or translocation program. (6.01)
1	Other	OTH	Preserve habitat connectivity corridors and existing & projected tortoise habitat from renewable energy, mining, transmission corridors, and other land degrading activities--including largely unimpacted Amargosa Valley, Stump Spring, Pahrump Valley, and Sarcobatus Flat - these may be critical pathways for expansion and movement of this tortoise population northward as climate change creates more appropriate DT habitat in what is currently marginal habitat on northern edge of the range of this species. (28.01)
1 ³	Other	OTH	Identify additional Tortoise Conservation Areas. Focus on model areas with model score higher than 0.7 (Nussear, et al., USGS OFR 2009-12, p. 12; 95% of cells with known presence have model scores greater than 0.7) Within these areas identify cells that have model scores greater than 0.8 (mean model score for all tortoise presence cells was 0.84) and correlate with proposed candidate migration areas. Attempt to integrate climate change models. (28.02)
2	1	HAB	Conduct smaller-scale restoration in areas with off road vehicle excursions. (1.02)

² Any recovery actions proposed on military lands must be coordinated through the appropriate installation leadership to ensure the lands can be fully utilized to meet its mission and to the extent possible protect the desert tortoise. (Nellis AFB)

³ Tortoise habitat has already been delineated on the NTTR and coordinated with the USFWS. They should use existing data. (Nellis AFB)

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
SW Nevada Workgroup Area: Actions to be implemented across or outside of Tortoise Conservation Areas²			
2 ⁴	1	HAB	Identify preferred forage for tortoises and seed within most effective cells for preservation of habitat using results of previous studies (<i>i.e.</i> , Rakestraw, et al 1995) – goal is to encourage tortoise movement / residence (with concentration (consistent with maximum capacity) in areas that are designated for recovery and preservation. Focus on model areas with model score higher than 0.7 (Nussear, et al., USGS OFR 2009-12, p. 12; 95% of cells with known presence have model scores greater than 0.7). Within these areas identify cells that have model scores greater than 0.8 (mean model score for all tortoise presence cells was 0.84) and correlate with proposed candidate migration areas (1.03)
2	1	HAB	Focus restoration efforts on habitat corridors. (1.04)
2	2	EDU	Identify opportunities to install kiosks and other actions to increase public education, using on-going cooperation between BLM and Nye County. (2.01)
2	2	EDU	Increase environmental education programs by coordination between BLM and others. (2.02)
2	2	EDU	Provide groups that use remote areas with training so that they can augment role of enforcement rangers, and educate other users. (2.05)
2	3	SUB	Implement a litter control program to reduce predator access to human subsidies. (3.01)
2	7	LEO	Monitor areas with remote traffic counters on heavily used OHV roads/trails and higher density tortoise areas. (7.02)
2 ⁵	8	WUI	Install fences where appropriate. (8.01)
2	9	FEN	Fence the highway 95 corridor from Las Vegas north to Goldfield to prevent further tortoise mortalities on this at times heavily trafficked road. Under highway culverts should be evaluated as to their ability to maintain genetic connectivity between the populations on either side of the highway. (9.01)
2	10	RER	Road designation and inappropriate roads closed and restored. (10.01)
2	11	SFP	Concentrate signage, fencing and educational materials as appropriate to preserve habitat; Identify particularly sensitive areas using results of monitoring programs and surveys from previous studies and concentrate

⁴ This would be difficult to accomplish on the bombing range. Due to the risk of injury or death it would not be authorized. (Nellis AFB)

⁵Not on the NTTR. Tortoise fences do not work on a bombing range. (Nellis AFB)

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
SW Nevada Workgroup Area: Actions to be implemented across or outside of Tortoise Conservation Areas²			
			signage there. (11.01)
2	Other	OTH	BLM will include stipulations for future rights-of-way grants, renewals, and amendments for towers authorized under this biological opinion to require that structures be inspected annually for nesting ravens and observations of raven nests. (28.03)
2	Other	OTH	Increase connectivity with culverts. (28.04)
2 ⁶	Other	OTH	Conduct population augmentation. (28.05)
3	2	EDU	Place environmental education literature in veterinarian offices regarding dog threat to tortoise and need for control of pets during tortoise seasons. Could also include literature on tortoise pet education and what to do when pet tortoise are no longer desired. (2.04)
3	4	PRD	Report predator nests to the FWS. (4.01)
3	4	PRD	Apprehend feral dogs (and cats) and remove them as a threat around developed areas. (4.02)
3	5	TOX	Abandoned mine cleanup. (5.02)
3	7	LEO	Increase BLM law enforcement funding. (7.01)
3	26	GAR	Increase participation in highway cleanup program (perhaps more frequently if appropriate). (26.01)
3	26	GAR	Encourage civic, OHV, and/or environmental groups to participate or initiate garbage cleanup events. Local government could also initiate these types of events. Increase participation in highway cleanup program (perhaps more frequently if appropriate). (26.02)

⁶ The introduction of additional tortoises onto the NTTR will not be supported. Adding more tortoises to a bombing range would increase impacts to the military and increase the chance tortoises would be injured or killed. Tortoise population augmentation should be conducted off the NTTR, in a more suitable area. (Nellis AFB)

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
Red Rock Canyon NCA			
1	1	HAB	Conduct landscape level habitat restoration on burned areas. (workgroup identifier number: 1.01)
1	1	HAB	Conduct smaller-scale restoration in areas with off road vehicle excursions. (1.02)
1	2	EDU	Increase ongoing cooperation among BLM, Friends, and other partner groups to increase environmental education opportunities. (2.01)
1	5	RER	Conduct restoration of illegal undesignated routes (as needed). (5.01)
1	6	WUI	Install fencing for the protection of resources from human impacts (as needed). (6.01)
1	6	WUI	Install barriers such as gates and boulder blocks to restrict unauthorized human incursions. (6.02)
1	8	SFP	Sign designated routes within RRCNCA. (8.02)
1	8	SFP	Install gates where necessary. (8.03)
1	13	RTS	Install signs on designated routes. (13.01)
1	14	FIR	Pursue proactive tools to minimize fire spread. (14.01)
1	14	FIR	Establish brown strips to prevent devastating wildfires and targeted primarily along the boundaries of the NCA as well as within (along the Loop Road). This area is replete with brome and mustards both within the RRCNCA and on the outskirts of it. Fires are now an annual occurrence which further leads to type conversion from Mojave Creosote Scrub/Blackbrush scrub to an invasive annual grassland. (14.02)
2	2	EDU	Install environmental education kiosks. (2.02)
2	2	EDU	Initiate youth programs and initiatives to increase public involvement. (2.03)
2	3	SUB	Implement a litter control program to decrease predator access to human subsidies. (3.01)
2	7	LEO	Monitor areas with remote traffic counters. (7.02)
2	8	SFP	Install kiosks to increase environmental education. (8.01)
2	11	FEN	Install tortoise exclusion fence where appropriate. (11.01)
2	12	PRE	Install habitat protective fencing. (12.01)
2	Other	OTH	BLM will pursue mitigation for illegal activities impacting habitat quality. (28.01)
3	4	PRD	Report raven nests to FWS. (4.01)
3	4	PRD	Coyote and feral cat control. (4.02)
3	7	LEO	Increase funding for BLM law enforcement. (7.01)

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
Red Rock Canyon NCA			
3	7	LEO	Utilize a speed-monitoring camera system (frees up officers). (7.03)
3	9	WHB	Reduce conflicts between wild horses/burros and tortoises. (9.01)
3	25	GRZ	Pursue administrative action to remove closed grazing allotments within RRCNCA. (25.01)

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
Desert National Wildlife Refuge⁷			
1	6	RER	Maintain current road restoration sites (workgroup identifier number: 6.01)
1	22	ACQ	Explore the possibility/availability of Coyote Springs Development properties that would contribute to the increased viability of this area as new TCA. (With the change in hands from Harvey Whittemore to a new owner, and the dramatic downturn in the housing sector in Las Vegas, there is little appetite for this type of far-flung development now. This could be a perfect mitigation banking area if funds are located to begin buying up what the current owners consider ancillary lands to their ever-changing development plans.) (22.01)
2	1	EDU	Initiate youth programs and initiatives to increase public involvement. (1.02)
2	1	EDU	Install environmental education kiosks including programming and information at the DNWR Visitor Center. (1.03)
2	1	EDU	Increase ongoing cooperation among BLM, Friends, and other partner groups to increase environmental education opportunities--citizen science (<i>i.e.</i> , observations, DT app). (1.04)
2	2	HAB	Conduct habitat restoration on burned areas using methods identified by DeFalco, USGS. (2.01)
2	2	HAB	Restore habitat following construction activities at Corn Creek for Visitor Center. (2.02)
2	4	SUB	Implement a litter control program to decrease predator access to human subsidies. (4.01)
2	5	PRD	Report raven nests to FWS. (5.01)
2	7	WUI	Maintain post & cable fence along southern boundary of Refuge. (7.02)
2	9	RER	Monitor areas with remote traffic counters on public access portion of Refuge. (9.01)
2	10	SFP	Install habitat signage along roads. (10.01)

⁷ The US Air Force (AF) has withdrawn for its use approximately 843,000 acres of the Desert National Wildlife Refuge. The military withdrawn lands should not be included in this recovery action area due to safety and security constraints on the bombing range; recovery actions should be limited to the public access portion of the DWNR. Any activities slated for this co-managed area will require coordination and approval by both USFWS and the Nevada Test and Training Range (NTTR). (Nellis AFB)

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
Desert National Wildlife Refuge⁷			
2 ⁸	Other	OTH	Conduct surveys of desert tortoise on Desert NWR to understand their distribution on the edge of their range for verification of Habitat Model and for prioritization of action areas. (28.01)
3 ^{9,10}	2	HAB	Restore habitat from fiber optic line near Corn Creek Road. (2.03)
3 ¹¹	7	WUI	Fence Highway 93 along its entire length through the DNWR with tortoise appropriate exclusionary fencing (with culverts). (7.01)

⁸ This has already been done for the AF portion of the withdrawn lands. (Nellis AFB)

⁹ The DNWR believes the workgroup may have been somewhat misled by the representation of this project. The fiber optic line was installed ~10 years ago and has largely "self-healed" and requires no restoration. We will gain far more "bang for our buck" by discussing restoration efforts post-construction of the DNWR Visitor Center. (Desert National Wildlife Refuge)

¹⁰ The AF does not agree with this proposal; the fiber optic line does not warrant habitat restoration. (Nellis AFB)

¹¹ Fencing cannot interfere with the USAF boundary fencing for the NTTR. Fencing projects will require coordination with the AF. (Nellis AFB)

Southeast Nevada workgroup and Tortoise Conservation Areas therein

The NE CA Mojave workgroup area is composed of eight Tortoise Conservation Areas:

1. Beaver Dam Slope critical habitat unit–NV
2. Gold Butte Part A
3. Gold Butte Part B
4. Lake Mead National Recreation Area–NV
5. Mormon Mesa critical habitat unit
6. Piute-El Dorado critical habitat unit
7. Boulder City Conservation Easement
8. Desert Tortoise Conservation Center Management Area

The workgroup prioritized actions for each of these areas, as well as for the workgroup area as a whole for actions to be implemented across or outside of Tortoise Conservation Areas.

Summary Table of Actions Prioritized by the SE Nevada Workgroup

Recovery Action (RA) Type from SDSS	RA code	SDSS ranking (workgroup)	# Site-specific Actions Prioritized	# Dissenting Opinions
Restore habitat	HAB	1	13	
Restore roads (<i>e.g.</i> , vertical mulching)	RER	2	12	
Environmental education	EDU	3	19	
Sign & fence protected areas	SFP	4	13	
Install & maintain human barriers (preserves)	PRE	5	5	
Install & maintain tortoise barrier fencing	FEN	6	13	
Decrease predator access to human subsidies	SUB	7	8	
Sign designated routes	RTS	8	5	
Remove grazing (close allotments)	GRZ	9	6	
Targeted predator control	PRD	10	8	
Increase law enforcement	LEO	11	26	4
Install & maintain human barriers (wildland-urban interface)	WUI	12	6	
Restore habitat (toxicants/unexploded ordnance)	TOX	13	0	
Fire management planning & implementation	FIR	15	8	
Manage disease in captive populations	CDS	16	0	
Designate & close roads (travel management plan)	TRV	17	3	
Control dogs	DOG	18	0	

Recovery Action (RA) Type from SDSS	RA code	SDSS ranking (workgroup)	# Site-specific Actions Prioritized	# Dissenting Opinions
Minimize wild horse & burro impacts	WHB	19	4	
Install & maintain tortoise barriers (open OHV areas)	OOA	20	0	
Landfill management	LAN	21	5	
Speed limits	SPD	22	0	
Withdraw mining	MNG	23	0	
Connect habitat (culverts/underpasses)	CUL	24	3	
Land acquisition	ACQ	25	1	
Restore habitat (garbage clean-up)	GAR	26	3	
Manage disease in wild populations	WDS	144	0	
Other	OTH		3	

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
SE Nevada Workgroup Area: Actions to be implemented across or outside of Tortoise Conservation Areas			
1	1	HAB	Restore highest priority closed roads and illegal routes. (BLM completed a roads inventory throughout Clark County. Road designations will be completed in BLM Recreation Area Management Plans.) (workgroup identifier number: 1.01)
1	1	HAB	Conduct restoration actions that require seeding or planting in burned areas, as prioritized by the Mojave Desert Initiative. (1.08)
1	2	RER	Prioritize road restoration to areas with higher connectivity to surrounding populations and areas where habitat restoration can occur. (2.04)
1	2	RER	Restore roads as defined in the travel management plan from Ely BLM district; travel management plan needs to be completed. (2.05)
1	3	EDU	Create appropriate message to give to the public to educate people about captive tortoises: don't release your pet. Include messaging about appropriate population augmentation. (3.08)
1	4	SFP	Sign and fence protected areas as appropriate after completion of Travel Management Plan in the BLM Ely District and Las Vegas Field Office. (4.01)
1	4	SFP	Maintain signs and habitat protection fences at Sloan Canyon NCA and other ACECs and wilderness areas within tortoise habitat areas: BLM Las Vegas & Ely. (4.02)
1	4	SFP	Sign and fence areas of highest tortoise mortality (Work with NDOT / County Maintenance to determine areas where DT are being killed and sign/fence those areas.) (4.04)
1	6	FEN	Maintain tortoise barrier fencing along highways within tortoise habitat. (6.01)
1	6	FEN	Install desert tortoise fencing along US 95 northwest of Las Vegas to the southwest Nevada workgroup boundary. (6.05)
1	6	FEN	Install desert tortoise fencing and culverts in high priority tortoise habitat linkages. (6.06)
1	6	FEN	Establish desert tortoise fence on HWY 168 eastward from US 93 within tortoise habitat. (6.07)
1	11	LEO	Maintain existing level of BLM law enforcement. (11.02)
1	12	WUI	Implement the Lincoln County HCP roads, trails, and fencing plan for the LCLA land. (12.02)
1	15	FIR	Plan and identify fuel breaks where they would be most effective and implement them without incurring habitat degradation and fragmentation. (15.01)
1	21	LAN	Keep garbage in landfills covered to decrease predator access. (21.02)

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
SE Nevada Workgroup Area: Actions to be implemented across or outside of Tortoise Conservation Areas			
1	21	LAN	Clean up garbage on public lands near landfills. (21.03)
1	Other	OTH	Improve habitat connectivity. (BLM will pursue opportunities to improve habitat connectivity.) (24.05)
1	25	ACQ	Pursue environmentally sensitive land acquisitions that will further the recovery of the tortoise; favor the acquisition of lands that can act as corridors to connect disjunct populations. (25.01)
2	1	HAB	Require sizeable bonds sufficient to cover the complete restoration of the pit mine areas, using water and native plants, once mining operations cease. This is routine practice in Ontario, Canada and has been for ~ 20 yrs. (Differentiate between open pit mining and subsurface mining techniques within the range of the DT.) (1.10)
2	1	HAB	Investigate use of temporary irrigation systems (replicated plots and controls) that bring native vegetation back to pre-disturbance conditions within THREE years rather than decades with only monthly waterings during the active growing season. One 4,000 gallon water truck filling onsite temporary water reservoirs once per month can supply 4,000 plants with 1 gallon of water / month. Before & after restoration sites photos of restored roads and DT habitat using this technique are available. For example, investigate as a set of fertile islands or as mine restoration. (1.09)
2	2	RER	Restore / remove redundant-parallel routes. (2.03)
2	3	EDU	Install additional kiosks along major roads in DT critical habitat to inform drivers to look for DT in the road and stay on existing roads. (3.02)
2	3	EDU	Develop very SPECIFIC educational campaigns that target the population segment we are seeking to reach. For instance, if we are seeking to reach ORV users, then use a combination of marketing AND educational firms to develop the appropriate message to target that segment of the population. (3.04)
2	3	EDU	Use established educational facilities with existing infrastructure; all children should HOLD a Desert Tortoise in their hands (have washing stations available; we should stress not to touch them in the wild, except to remove them from immediate threats.) (3.05)
2	3	EDU	Foster educational programs in getting the word out to explain the recovery programs that are in place for the desert tortoise. Set up a speaker's bureau to visit community centers and local colleges to spread the word. (3.06)

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
SE Nevada Workgroup Area: Actions to be implemented across or outside of Tortoise Conservation Areas			
2	3	EDU	Design and distribute a desert tortoise poster (similar to Arizona’s) across range of desert tortoise. Poster should convey conservation messages and contact information. If multiple agencies contribute, the poster will convey a message unified and can be widely distributed; posters could be placed in every classroom across the tortoises’ range. Additionally, these posters could be available online to general public. Bottom-line: Increase tortoise awareness. (3.07)
2	3	EDU	Increase volunteer efforts in high priority areas. Use Best Management Practices and coordinate with County, State and Federal entities as needed for implementation. (3.08)
2	6	FEN	Require construction and maintenance of exclusion fencing around project sites, like mines, where fencing will protect tortoises from harm: BLM Las Vegas. (6.01)
2	7	SUB	Require (or get grant to purchase) scavenger-proof garbage cans at all parks within the range of the DT. (7.02)
2	7	SUB	Inspect towers within tortoise habitat for nesting ravens and observations of raven nests. All nests shall be reported to the Service. The right-of-way grantee will cooperate with the Service to discuss the necessity to remove any nests determined by the Service to threaten tortoise populations in the area. (7.03)
2	11	LEO	Punish ORV users appropriately who willfully trespass (run over signs, cut through fences etc.) into signed protected areas; for example, they should be fined and their vehicle should be seized & sold to fund the restoration. They should pay for the price of fixing what they’ve done. Widely publicize the first such seizures. (11.02)
2	12	WUI	Install and maintain human barrier fence at the River Mountains ACEC. (12.01)
2	21	LAN	Install and maintain predator exclusion fencing around landfills (specifically fencing those predators cannot go under or go over). Require that perimeter fencing be modified to go 18 inches deep into the soil and outwards another 12 inches; possibly pay for the installation of existing facilities but make it a requirement of any new sites. Basically, prevent access from fox and coyotes. Any canids found within the perimeter should be disposed of humanely. (21.01)
2	24	CUL	Install and maintain tortoise underpasses and culverts under I-15 and various access roads to ensure tortoise connectivity in the Ivanpah Valley. (See the recent NatureServe Report for analysis and justification.) (24.01)
2	Other	OTH	Make the Long Term Translocation Site permeable to ensure tortoise connectivity in the Ivanpah Valley. (24.03)

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
SE Nevada Workgroup Area: Actions to be implemented across or outside of Tortoise Conservation Areas			
2	26	GAR	Clean up illegal dump sites in Clark County. (BLM Las Vegas currently uses SNPLMA funds to clean up illegal dump sites in Clark County. Funding will be required after completion of that project. BLM Las Vegas is working with local community groups to engage volunteers.) (26.01)
3	3	EDU	Turn OHV events into educational events. Get an educational team and do presentations on DT and other Mojave wildlife that will get that segment of the population's attention, like rattlesnakes combined with DT. (3.06)
3	11	LEO	Support law enforcement officers to patrol desert tortoise habitat outside ACECs. (11.01)
3	24	CUL	Install culverts under Goodsprings road to allow DT to move from LSTS to areas north and east of Goodsprings, NV. (24.03)
3	24	CUL	Install additional culverts along US 93 and US 95. (Currently, culverts are spaced 1 to 5 miles apart and use is unknown.) (24.04)

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
Beaver Dam Slope Critical Habitat Unit–NV			
1	1	HAB	Conduct restoration efforts in Lincoln County to assist in improving the condition of desert tortoise habitat. (workgroup identifier number: 1.02)
1	3	SUB	Conduct predator control in areas where predation has been proven to have a negative impact on tortoise population; conduct effectiveness monitoring. (3.01)
1	5	EDU	Develop an education program through the Lincoln County HCP for county employees and the general public. (5.02)
1 ¹	7	LEO	Increase funding to hire additional non-commissioned conservation officers (or "rangers"; similar to "natural resource protection officer) that are tasked <u>solely</u> with DT enforcement and enhancement. This could involve logged surveys of DT fencing, signage installation and repair, minor fence repair, identify predation problems (ravens, feral dogs, coyotes, etc., install signs, check for trespassing cattle, etc. as part of their duties. (7.01)
1	7	LEO	Maintain existing level of BLM law enforcement. (7.02)
1	8	WUI	Implement the Lincoln County HCP roads, trails, and fencing plan for the LCLA land. (8.01)
1	10	FIR	Suppress fires in desert tortoise habitat as addressed in the Ely Fire Management Plan. (10.01)
2	2	GRZ	Install a range fence around Beaver Dam Slope Critical Habitat Unit to allow for a shorter season of use and reduced Animal Unit Months (AUMs) in critical habitat. (2.01)
2	3	PRD	Inspect tower structures in desert tortoise habitat for nesting ravens and observations of raven nests. All nests should be reported to the Service to discuss necessity to remove any nests determined to threaten tortoise populations in the area. (3.01)
2	4	SUB	Conduct activities to decrease predator access to subsidies in Lincoln County. (4.01)
2	7	LEO	Increase funding for BLM law enforcement. (7.03)
2	8	WUI	Install tortoise fencing around all developments in tortoise habitat in the LCLA land. (8.02)
2	10	FIR	Present the Mojave Desert Initiative 1-page hand-out regarding fire suppression in desert tortoise habitat and desert tortoise awareness training annually to fire staff. (10.02)

¹ Concerned with source of funds as budgets are limited. (Southern Nevada Homebuilders' Association)

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
Beaver Dam Slope Critical Habitat Unit–NV			
2	16	TRV	Complete an ACEC and Travel Management Plan to identify areas for restoration and set disturbance thresholds. (16.01)

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
Gold Butte Part A			
1	1	HAB	Restore closed and illegal routes. (BLM Las Vegas is using SNPLMA funding to restore closed and illegal routes; funding for this ends in 2014 but restoration needs will continue.) (workgroup identifier number: 1.01)
1	1	HAB	Remove livestock/trespass grazing in the Gold Butte A & B and Mormon Mesa ACEC and Southeast Nevada. (1.02)
1	3	PRD	Conduct predator control in areas where predation has been proven to have a negative impact on tortoise population; conduct effectiveness monitoring. (3.01)
1 ²	7	LEO	Increase funding to hire additional non-commissioned conservation officers (or "rangers"; similar to "natural resource protection officer) that are tasked <u>solely</u> with DT enforcement and enhancement. This could involve logged surveys of DT fencing, signage installation and repair, minor fence repair, identify predation problems (ravens, feral dogs, coyotes, etc., install signs, check for trespassing cattle, etc. as part of their duties. (7.01)
1	7	LEO	Fund a BLM ranger in Mesquite. (7.02)
1	8	RER	Restore closed and illegal routes. (BLM Las Vegas is using SNPLMA funding to restore closed and illegal routes; funding for this ends in 2014 but restoration needs will continue.) (8.02)
1	17	TRV	Monitor and maintain routes within Gold Butte. (Routes were designated in 2008. Additional funding is required to continue to monitor and maintain the route designation beyond May 2013.) (17.01)
1	21	GRZ	Resolve a grazing trespass impacting Mormon Mesa and Gold Butte Pakoon; remove feral livestock and trespass cattle from desert tortoise habitat in a manner that protects public safety. (21.01)
2	2	SUB	Implement a litter-control program to minimize predation on tortoises by ravens, specifically related to permitted-activities and/or projects with high human presence. (2.01)
2	4	EDU	Install more kiosks and information signs. (BLM has installed two kiosks and numerous information signs. BLM Las Vegas will continue to work with BLM Arizona Strip on public education for this area.) (4.01)
2	5	WUI	Install additional post and cable fence along roads and around parking areas to keep vehicles on designated routes. (BLM Las Vegas has done much of this. As use of the area continues, additional fencing will be

² Concerned with source of funds as budgets are limited. (Southern Nevada Homebuilders' Association)

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
Gold Butte Part A			
			required.) (5.01)
2	7	LEO	Use traffic counters to strategically plan for law enforcement patrols during higher use seasons. (7.01)
2	10	FIR	Present the Mojave Desert Initiative 1-page hand-out regarding fire suppression in desert tortoise habitat and desert tortoise awareness training annually to fire staff. (10.01)
2	15	WHB	Secure funding to gather Wild Horses and Burrow annually. (BLM Las Vegas manages Gold Butte ACEC (Part A) for zero wild horses and burros.) (15.01)
2	16	PRE	Install additional post and cable fence along roads and around parking areas to keep vehicles on designated routes. (BLM Las Vegas has done much of this. As use of the area continues, additional fencing will be required.) (16.01)
2	24	GAR	Clean up illegal dump sites in Gold Butte. (BLM Las Vegas currently uses SNPLMA funds to clean up illegal dump sites in Gold Butte. Funding will be required after completion of that project. BLM Las Vegas is working with local community groups to engage volunteers.) (24.01)

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
Gold Butte Part B			
1	1	HAB	Resolve grazing trespass impacting Gold Butte A & B and Mormon Mesa ACEC and Southeast Nevada; remove feral livestock and trespass cattle from desert tortoise habitat in a manner that protects public safety. (workgroup identifier number: 1.01)
1	1	HAB	Restore closed and illegal routes. (BLM Las Vegas is using SNPLMA funding to restore closed and illegal routes; funding for this ends in 2014 but restoration needs will continue.) (1.02)
1 ³	7	LEO	Increase funding to hire additional non-commissioned conservation officers (or "rangers"; similar to "natural resource protection officer) that are tasked <u>solely</u> with DT enforcement and enhancement. This could involve logged surveys of DT fencing, signage installation and repair, minor fence repair, identify predation problems (ravens, feral dogs, coyotes, etc.), install signs, check for trespassing cattle, etc. as part of their duties. (7.01)
1	7	LEO	Fund a BLM ranger in Mesquite. (7.02)
1	9	PRD	Conduct predator control in areas where predation has been proven to have a negative impact on tortoise population; conduct effectiveness monitoring. (9.01)
2	2	RER	Restore closed and illegal routes. (BLM Las Vegas is using SNPLMA funding to restore closed and illegal routes; funding for this ends in 2014, but restoration needs will continue.) (2.02)
2	3	EDU	Install more kiosks and information signs. (BLM has installed two kiosks and numerous information signs. BLM Las Vegas will continue to work with BLM Arizona Strip on public education for this area.) (3.01)
2	5	PRE	Install additional post and cable fence along roads and around parking areas to keep vehicles on designated routes. (BLM Las Vegas has done much of this. As use of the area continues, additional fencing will be required.) (5.01)
2	7	LEO	Use traffic counters to strategically plan for law enforcement patrols during higher use seasons. (7.01)
2	8	SUB	Implement a litter-control program to minimize predation on tortoises by ravens, specifically related to permitted-activities and/or projects with high human presence. (8.01)

³ Concerned with source of funds as budgets are limited. (Southern Nevada Homebuilders' Association)

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
Gold Butte Part B			
2	10	WHB	Manage WHB to the Appropriate Management Level in accordance with the Biological Opinion. (Gold Butte ACEC Part B is within a Herd Management Area: BLM Las Vegas.) (10.01)
2	14	WUI	Install additional post and cable fence along roads and around parking areas to keep vehicles on designated routes. (BLM Las Vegas has done much of this. As use of the area continues, additional fencing will be required.) (14.01)
2	15	FIR	Present the Mojave Desert Initiative 1-page hand-out regarding fire suppression in desert tortoise habitat and desert tortoise awareness training annually to fire staff. (15.01)
2	21	GAR	Clean up illegal dump sites in Gold Butte. (BLM Las Vegas currently uses SNPLMA funds to clean up illegal dump sites in Gold Butte. Funding will be required after completion of that project. BLM Las Vegas is working with local community groups to engage volunteers.) (21.01)

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
Lake Mead National Recreation Area-Nevada			
1	3	PRD	Conduct predator control in areas where predation has been proven to have a negative impact on tortoise population; conduct effectiveness monitoring. (workgroup identifier number: 3.01)
1	6	LEO	Increase funding to hire additional non-commissioned conservation officers (or "rangers"; similar to "natural resource protection officer) that are tasked <u>solely</u> with DT enforcement and enhancement. This could involve logged surveys of DT fencing, signage installation and repair, minor fence repair, identify predation problems (ravens, feral dogs, coyotes, etc.), install signs, check for trespassing cattle, etc. as part of their duties. (6.01)
1	6	LEO	Prosecute offenders for trespass grazing violations. (6.03)
1	7	RER	Restore closed and illegal routes (7.01)
1	9	FEN	Maintain existing tortoise barrier fencing. (9.01)
1	10	FIR	Aggressively suppress fires in desert tortoise habitat. (10.01)
1	11	SFP	Install additional post and cable fence along roads and around parking areas to keep vehicles on designated routes. (11.01)
1	19	GRZ	Prosecute offenders for trespass grazing. (19.01)
1	19	GRZ	Remove livestock/trespass grazing. (19.02)
1	23	WHB	Manage wild horses and burros to the Appropriate Management Level in tortoise habitat in accordance with the Biological Opinion. (Gold Butte ACEC Part B is within a Herd Management Area: BLM Las Vegas). Keep burros out of all other areas in Nevada portions of Lake Mead NRA. (23.01)
1	23	WHB	Remove horses from Bittersprings area. (23.02)
2	6	LEO	Increase off-highway patrols. (6.02)
2	6	LEO	Use traffic counters to strategically plan for law enforcement patrols during higher use seasons. (6.01)
2	7	RER	Restore closed and illegal routes. (7.02)
2	11	SFP	Install additional post and cable fence along roads and around parking areas to keep vehicles on designated routes. (11.02)
2	12	SFP	Maintain existing post and cable barriers. (11.03)
2	13	RTS	Maintain route signage. (13.01)

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
Mormon Mesa Critical Habitat Unit			
1	1	HAB	Implement restoration efforts to improve the condition of desert tortoise habitat in Lincoln County. (workgroup identifier number: 1.04)
1	2	GRZ	Resolve grazing trespass impacting Gold Butte A & B and Mormon Mesa ACEC and Southeast Nevada; Remove feral livestock and trespass cattle from desert tortoise habitat in a manner that protects public safety. (2.04)
1	2	GRZ	Install a range fence around Mormon Mesa Critical Habitat Unit to allow for a shorter season of use and reduced Animal Unit Months (AUMs) in critical habitat. (2.02)
1	3	RER	Restore closed and illegal routes. (BLM Las Vegas is using SNPLMA funding to restore closed and illegal routes; funding for this ends in 2014 but restoration needs will continue.) (3.01)
1	4	EDU	Develop an education program through the Lincoln County HCP for county employees and the general public. (4.02)
1	6	PRE	Install post and cable fencing at the end of roads and around parking areas where habitat damage is occurring from recreational use: BLM Las Vegas. (6.01)
1	7	RTS	Monitor and maintain signed routes in Mormon Mesa & Coyote Springs ACECs. (BLM Las Vegas designated and signed routes in Mormon Mesa & Coyote Springs ACECs. Funding to continue monitoring and maintain signs and designations will be needed after May 2013.) (7.01)
1	7	RTS	Complete an ACEC and Travel Management Plan to identify areas for restoration and set disturbance thresholds. (7.02)
1	9	PRD	Conduct predator control in areas where predation has been proven to have a negative impact on tortoise population; conduct effectiveness monitoring. (9.01)
1	10	LEO	Increase funding to hire additional non-commissioned conservation officers (or "rangers"; similar to "natural resource protection officer) that are tasked <u>solely</u> with DT enforcement and enhancement. This could involve logged surveys of DT fencing, signage installation and repair, minor fence repair, identify predation problems (ravens, feral dogs, coyotes, etc.), install signs, check for trespassing cattle, etc. as part of their duties. (10.01)
1	10	LEO	Maintain law enforcement in desert tortoise habitat in Lincoln County. (Lincoln County is working with BLM.) (10.04)
1	14	FEN	Continue tortoise fencing along US 93, northward towards Pahrnagat NWR. (14.01)

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
Mormon Mesa Critical Habitat Unit			
1	15	FIR	Suppress fires in desert tortoise habitat as addressed in the Ely Fire Management Plan. (15.02)
1	17	TRV	Complete an ACEC and Travel Management Plan to identify areas for restoration and set disturbance thresholds (submitted for section 7 funding). (17.01)
2	3	RER	Salvage and stockpile plant material from solar energy sites for use as vertical mulch. (3.01)
2	4	EDU	Maintain five kiosks and other informational signs regarding desert tortoise: BLM Las Vegas. (4.01)
2	5	SFP	Sign protected areas after completion of the ACEC and Travel Management Plan in the BLM Ely District. (5.04)
2	6	PRE	Implement LC HCP roads, trails, and fencing plan for the LCLA land. (6.02)
2	8	SUB	Address predator access to human subsidies in Lincoln County. (8.01)
2	10	LEO	Investigate use of local community members to report observations of illegal activity directly to law enforcement such as travel off-road, off designated routes, dumping, vandalism, etc. (10.01)
2	10	LEO	Use traffic counters to strategically plan for law enforcement patrols during higher use seasons. (10.02)
2	14	FEN	Extend highway 93 fencing up to Ash Springs. (Clark County and NDOT fenced most of I-15 and a portion of Hwy 93.) (14.02)
2	14	FEN	Fence Highway 168 between Coyote Springs and Moapa. (Clark County and NDOT fenced most of I-15 and a portion of Hwy 93.) (14.03)
2	15	FIR	Present the Mojave Desert Initiative 1-page hand-out regarding fire suppression in desert tortoise habitat and desert tortoise awareness training annually to fire staff. (15.01)

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
Piute-Eldorado Critical Habitat Unit			
1	2	RER	Restore closed and illegal routes (BLM Las Vegas is using SNPLMA funding to restore closed and illegal routes; funding for this ends in 2014 but restoration needs will continue.) (workgroup identifier number: 2.01)
1	5	PRD	Conduct predator control in areas where predation has been proven to have a negative impact on tortoise population; conduct effectiveness monitoring. (5.01)
1	6	SFP	Maintain kiosks and other informational signs regarding desert tortoise: BLM Las Vegas. (6.01)
1	6	SFP	Install tortoise fencing along Nipton Road and the Laughlin Highway. (NDOT and Clark County have fenced US Hwy 95 and portions of Nipton Road. Additional fencing is needed on Nipton Road and the Laughlin Highway.) (6.02)
1	8	RTS	Monitor and maintain designated routes and signage. (Designated routes have been signed by BLM Las Vegas.) (8.01)
1	9	LEO	Increase funding to hire additional non-commissioned conservation officers (or "rangers"; similar to "natural resource protection officer) that are tasked <u>solely</u> with DT enforcement and enhancement. This could involve logged surveys of DT fencing, signage installation and repair, minor fence repair, identify predation problems (ravens, feral dogs, coyotes, etc.), install signs, check for trespassing cattle, etc. as part of their duties. (9.01)
1	9	LEO	Maintain BLM law enforcement presence. (9.02)
1	26	LAN	Keep garbage in landfills covered to decrease predator access. (26.01)
1	26	LAN	Clean up garbage on public lands near landfills. (26.02)
2	4	SUB	Implement a litter-control program to minimize predation on tortoises by ravens, specifically related to permitted-activities and/or projects with high human presence. (4.01)
2	7	PRE	Install wire and post and cable fences where restoration treatments need additional protection: BLM Las Vegas. (7.01)
2	9	LEO	Use traffic counters to strategically plan for law enforcement patrols during higher use seasons. (9.01)
3	3	EDU	Install additional kiosks and information signs to educate the public about tortoise conservation and stipulations: BLM Las Vegas. (3.01)

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
Boulder City Conservation Easement			
1	1	RER	Restore 10 road incursions over the winter of 2012-2013, and 22 additional road incursions will be restored in winter 2013-2014 (Clark County DCP). (workgroup identifier number: 1.01)
1	2	HAB	Apply restoration requirements for projects in corridors that are similar to those required by the BLM in the desert tortoise ACECs. (2.01)
1	3	SFP	Close the remaining tortoise guard openings to vehicle access. (The tortoise exclusion fencing maintained by NDOT along Hwy 95 and State Route 165 also acts as boundary fencing preventing access except for open roads. Several previously open but now closed roads have tortoise guard openings and CC will continue working with NDOT to close those to vehicular access in the next two years.) (3.01)
1	3	SFP	Complete installation of limited use signs and open route signage as appropriate at entry points to the BCCE. (A total of 61 limited use signs are planned once installation is complete.) (3.04)
1	6	EDU	Maintain a brochure with a map of open routes on the BCCE, and continue to make it available in Boulder City government offices, at local organization offices and businesses, and to maintain a link to the brochure on the BCCE webpage: Clark County. (6.02)
1	6	EDU	Support the law enforcement officers who patrol the BCCE to contact users of the BCCE, provide them with information about the area, and hand out BCCE brochures. (6.05)
1 ⁴	7	LEO	Increase funding to hire additional non-commissioned conservation officers (or "rangers"; similar to "natural resource protection officer) that are tasked <u>solely</u> with DT enforcement and enhancement. This could involve logged surveys of DT fencing, signage installation and repair, minor fence repair, identify predation problems (ravens, feral dogs, coyotes, etc.), install signs, check for trespassing cattle, etc. as part of their duties. (7.01)
1	9	FEN	Replace two gates that cross an open route with tortoise guards to eliminate breaches caused by gates left open and/or damage to gates in an area along State Route 165. (9.01)
1	9	FEN	Monitor, maintain and repair tortoise barrier fencing along Hwy 95 and State Route 165 (Nelson Road). (9.03)
1	11	PRD	Conduct predator control in areas where predation has been proven to have a negative impact on tortoise population; conduct effectiveness monitoring. (11.01)

⁴ Concerned with source of funds as budgets are limited. (Southern Nevada Homebuilders' Association)

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
Boulder City Conservation Easement			
2	3	SFP	Add human barriers/fences around the BCCE if the risk of road incursions increases. (The boundary fence recommended in the 2009 management plan has not been implemented due to lack of evidence of an increasing network of road incursions within the BCCE along the boundaries and the cost of fencing. LE patrols monitor the northern boundary at known entrance points to contact, educate, warn and cite violators.) (3.02)
2	3	SFP	Continue to monitor and replace signs installed as a result of the finalization of the Open Public Routes designation in 2011. (57 open route intersections and open entry points to the BCCE are signed with a total of 118 Open Public Route signs): Clark County). (3.03)
2	5	RTS	Complete installation of limited use signs and open route signage as appropriate at entry points to the BCCE. (Since finalization of the Open Public Routes designation in 2011, 57 open route intersections and open entry points to the BCCE are signed with a total of 118 Open Public Route signs. Clark County will continue to monitor and replace signs as necessary.) (5.01)
2	6	EDU	Continue to provide informational presentations to local groups about the BCCE and to provide BCCE ROW holders (energy production, research, and transmission) with information about the BCCE: Clark County. (6.01)
2	6	EDU	Install an informational kiosk on the southern edge of the developed portion of Boulder City along the main roads that is used to access the undeveloped desert portions of Boulder City that are just north of the BCCE. This kiosk will contain information regarding the BCCE, map, allowable and restricted uses, and why the BCCE was established. (6.04)
2	9	FEN	Budget for emergency barrier fencing repair funds to use in the event that NDOT cannot address a tortoise barrier breach in a timely fashion. DCP staff have recommended emergency repair funds in the proposed 2013-2015 Implementation Plan and Budget. (9.02)
3	6	FEN	Maintain a webpage devoted to information about the BCCE, and continue to provide a link to the Federal Agencies' centralized outreach webpage(s) and brochure(s) about OHV and other recreation areas: Clark County. (6.03)

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
Desert Tortoise Conservation Center Management Area			
1	1	HAB	Analyze the DTCC and Bird Spring Valley as a potential future ACEC. (workgroup identifier number: 1.01)
1	3	PRD	Conduct predator control in areas where predation has been proven to have a negative impact on tortoise population; conduct effectiveness monitoring. (3.01)
1	6	LEO	Increase funding to hire additional non-commissioned conservation officers (or "rangers"; similar to "natural resource protection officer) that are tasked <u>solely</u> with DT enforcement and enhancement. This could involve logged surveys of DT fencing, signage installation and repair, minor fence repair, identify predation problems (ravens, feral dogs, coyotes, etc.), install signs, check for trespassing cattle, etc. as part of their duties. (6.01)
1	Other	OTH	Withdraw the area from BLM to another federal agency if such a transfer will further the DTCC mission. (26.01)
2	1	HAB	Restore highest priority closed roads. (BLM completed a roads inventory in the DTCC. Road designations will be completed in BLM Recreation Area Management Plans: funded through SNPLMA. Once roads are designated, SNPLMA funding may be used to address highest priority closed roads for restoration.) (1.02)
2	6	LEO	Fund BLM Law Enforcement to maintain their ability to respond to incidents within the DTCC management area. (6.01)
2	8	RER	Restore highest priority closed roads. (BLM completed a roads inventory in the DTCC. Road designations will be completed in BLM Recreation Area Management Plans: funded through SNPLMA. Once roads are designated, SNPLMA funding may be used to address highest priority closed roads for restoration.) (8.01)
3	4	EDU	Provide environmental education programs as part of the he DTCC partnership. (4.01)

Utah/Arizona workgroup and Tortoise Conservation Areas therein

The Colorado Desert workgroup area is composed of five Tortoise Conservation Areas:

1. Beaver Dam Slope critical habitat unit–UT/AZ
2. Grand Canyon National Park
3. Grand-Canyon Parashant National Monument
4. Lake Mead National Recreation Area–AZ
5. Virgin Slope ACEC

The workgroup prioritized actions for each of these areas, as well as for the workgroup area as a whole for actions to be implemented across or outside of Tortoise Conservation Areas.

Summary Table of Actions Prioritized by the UT/AZ Workgroup

Recovery Action (RA) Type from SDSS	RA code	SDSS ranking (workgroup)	# Site-specific Actions Prioritized	# Dissenting Opinions
Restore habitat	HAB	1	21	9
Remove grazing (close allotments)	GRZ	2	12	9
Environmental education	EDU	3	18	
Decrease predator access to human subsidies	SUB	4	7	
Targeted predator control	PRD	5	6	
Restore roads (e.g., vertical mulching)	RER	6	8	
Increase law enforcement	LEO	7	5	
Sign & fence protected areas	SFP	8	2	
Install & maintain human barriers (preserves)	PRE	9	0	
Manage disease in wild populations	WDS	10	7	
Sign designated routes	RTS	11	0	
Install & maintain human barriers (wildland-urban interface)	WUI	12	1	
Install & maintain tortoise barrier fencing	FEN	13	7	
Fire management planning & implementation	FIR	14	7	
Manage disease in captive populations	CDS	15	4	
Restore habitat (toxicants/unexploded ordnance)	TOX	16	2	
Designate & close roads (travel management plan)	TRV	16	5	
Speed limits	SPD	18	2	
Connect habitat (culverts/underpasses)	CUL	19	2	

Recovery Action (RA) Type from SDSS	RA code	SDSS ranking (workgroup)	# Site-specific Actions Prioritized	# Dissenting Opinions
Control dogs	DOG	20	1	
Withdraw mining	MNG	21	2	
Restore habitat (garbage clean-up)	GAR	22	1	
Land acquisition	ACQ	23	4	1
Minimize wild horse & burro impacts	WHB	24	5	3
Landfill management	LAN	26	2	
Install & maintain tortoise barriers (open OHV areas)	OOA	27	0	
Other	OTH		3	1

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
UT/AZ Workgroup Area: Actions to be implemented across or outside of Tortoise Conservation Areas			
1	1	HAB	Reduce coverage of exotic annual grasses and thus the fire risk, and increase the coverage of native species and plant species diversity within desert tortoise habitat. (workgroup identifier number: 1.15)
1	1	HAB	Support Seeds of Success program, or other means to create and maintain a seed bank. Enlist members of the local community, in addition to botanical gardens and nurseries, to grow locally adapted plants, harvest and store seeds. This would increase buy-in from the community. Target locally appropriate seeds. (1.16)
1	2	GRZ	Follow current allotment plans developed by BLM Range Specialist for units that meet both tortoise and cattle requirement. (2.06)
1	3	EDU	Increase signage to inform people of tortoise issue and people responsibilities, volunteer educators to schools and local groups to update on issues and help with issues. (3.01)
1	3	EDU	Increase education about causes of tortoise decline; people need to understand why they are being asked to do the thing they would rather not do. (3.02)
1	3	EDU	When conducting recovery actions, engage the public through means such as hold public meetings in local communities to engage user groups in recovery of desert tortoises. (Look at wildland fire fighter model in Mesquite, NV – community used to dislike the hassles associated with these seasonals, now residents okay with it all.) (3.05)
1	3	EDU	Create and provide messaging that can be worked into existing curricula / school programs related to desert tortoises and recovery efforts. (3.06)
1	3	EDU	Develop a general Mojave species diversity educational program and retrofit for specific audiences (<i>e.g.</i> , public schools, ATV groups, service clubs, higher educational institutions, local, state and government agencies, etc.). (3.07)
1	4	SUB	Control desert dumping with volunteer groups policing areas (<i>e.g.</i> , ATV & off road groups, equestrian patrols). (4.01)
1	7	LEO	Maintain levels of compliance with LE patrols/presence. Increasing rates of compliance is difficult. (7.03)
1	10	WDS	Prevent release of captive tortoises through education and captive options/programs. Note that in some areas it is illegal to have a captive tortoise. (10.02)

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
UT/AZ Workgroup Area: Actions to be implemented across or outside of Tortoise Conservation Areas			
1	10	WDS	Create an outreach campaign that provides info on easily accessed captive options/programs to dissuade custodians from releasing pet tortoises. (10.13)
1	10	WDS	Assess visual health (<i>e.g.</i> , including presence of clinical signs) of desert tortoises to determine percent of tortoises with URTD clinical signs during monitoring of populations within the Tortoise Conservation Areas to determine regional density and trend of desert tortoises. If high number of tortoises exhibit URTD clinical signs (for example, greater than 16%) or die-off is observed then recommend taking blood samples from a small subsample of tortoises to determine presence of URTD within the population. (10.14)
1	14	FIR	Increase fire personnel and be on high alert during season. (14.08)
1	14	FIR	Ensure fire suppression personnel are aware of high priority tortoise habitat and are given the tools and latitude to take aggressive action on fires in tortoise habitat. Emphasize that, in fire emergencies, actions should be coordinated to save as much tortoise habitat as possible in fire emergencies. (14.09)
1	15	CDS	Continue to institute state (<i>e.g.</i> , regulation of Certificates of Registration) policies that strictly control possession of captive tortoises and prevent propagation, particularly within Counties adjacent to or containing wild populations. The unauthorized release or escape of pet tortoises into the wild is known to occur, and captive releases have the potential to introduce disease into wild populations of desert tortoises. (15.04)
1	15	CDS	Continue to implement and advertise a "don't ask, don't tell" policy, where individuals can turn in their non-permitted captive tortoise to a State wildlife office without fear of citation (to avoid release of captive tortoises into the wild). (15.05)
1	19	CUL	Install and maintain culverts/underpasses in all new paved road upgrades in tortoise habitat, including US 91. (19.01)
1	21	MNG	Fence adits and shafts, install signs informing the public about tortoises. (ESA requires mitigation – place money towards fencing adits/shafts, installing signs) (21.01)
1	26	LAN	Work to develop a landfill in Virgin Valley - the closest transfer station is in Mesquite - implementation would decrease unauthorized wildcat dumps. (26.01)
1	26	LAN	Eliminate exposed garbage: subsidized predator control at its best. (26.03)
2	1	HAB	Use methods of seeding that are economical, practical and ecologically sound. (1.11)
2	1	HAB	Implement control of eruptive weeds to assure the recovery of native vegetation, especially the best forage species. (1.19)

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
UT/AZ Workgroup Area: Actions to be implemented across or outside of Tortoise Conservation Areas			
2	2	GRZ	Develop grazing plans for previously closed areas where appropriate for targeted research projects on reducing fuel loading. (2.02)
2	2	GRZ	Change the tortoise habitat monitoring program so that it goes beyond ecological condition, and includes species specific objectives for tortoises. 1) Measure relative abundance of high PEP and invasive plant; 2) identify desired plant community objectives which capture the needs of tortoises per the PCEs of critical habitat and that can be measured; 3) create a new formula that includes ecological condition + utilization + pattern mapping, and considers forage and cover components. (2.11)
2	3	EDU	Provide public service announcements on the radio, up-to-date websites and volunteer opportunities to involve the public in the protection of the habitat and its species. (3.13)
2	3	EDU	Educate recreational users to respect the rules and regulations of protected areas (<i>e.g.</i> , campfires, stay on trails, pet control, leash laws) through brochures, conservation officer/law enforcement contacts, and roadside exhibits/kiosks. (3.15)
2	3	EDU	Provide information on how to report desert tortoise encounters, the Mojave Desert Tortoise App, and why it is important, at visitor centers and other information areas. (3.16)
2	3	EDU	Work with Dept. of Motor Vehicles to include anti-dumping messages on their website and as an insert in direct mailings. (3.17)
2	4	SUB	Encourage law enforcement to look for and issue citations for dirty camps / unauthorized dumping in tortoise habitat. (4.02)
2	4	SUB	Enforce FWS grazing restrictions (<i>i.e.</i> , penalize those found feeding bread to cattle - which attracts ravens). (4.03)
2	4	SUB	Create partnership with local municipalities (Littlefield, Beaver Dam and other municipalities) and Department of Transportation (truck pullouts along major highways and interstate) to finance the installation and maintenance of raven/coyote/feral dog-proof garbage bins with explanatory signage for their effective use by the public to reduce human subsidies for predator populations. Public access points on federal lands, including campgrounds and pull-outs for Points of Interest should also be targeted for garbage bin installation. (4.07)
2	5	PRD	If monitoring verifies predation issues, implement predator management activities to control/reduce effects of predators. (5.11)
2	7	LEO	Meet with LE supervisors (agencies, DPS, States, etc.) to discuss priorities. Ensure that they are aware of issues, and know what to look

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
UT/AZ Workgroup Area: Actions to be implemented across or outside of Tortoise Conservation Areas			
			for and where. (7.02)
2	8	SFP	Create simple signs that can be posted on routes through protected areas - letting people know how to report desert tortoise encounters. (8.02)
2	8	SFP	Create barriers within tortoise habitat to contain parking areas through monitoring and mitigation, monitor pull outs and add boulders to dissuade drivers from entering habitat, especially at known quad-trailing areas. (8.03)
2	10	WDS	Conduct targeted disease testing and monitoring, with quarantine of suspected cases. (10.01)
2	10	WDS	Apply for grants to provide funding to facilitate active tortoise monitoring program. (10.03)
2	10	WDS	Post signs about importance of not releasing captives, that it is illegal to release captives, to prevent release of captive tortoises through education. (10.12)
2	12	WUI	Where appropriate within tortoise habitat, install barriers in areas to prevent vehicular access - equipment may be provided by in-kind contribution, or from mitigation funds. (12.04)
2	13	FEN	Partner with ADOT in AZ and add Adopt-A-Fence as part of the Adopt-A-Highway program. (13.01)
2	13	FEN	Install and maintain tortoise barrier fencing where translocations occur to prevent the spread of disease. (13.02)
2	14	FIR	Continue efforts to expand Mesquite fire base, focusing funding on local contractors and building education campaign for communities, to build community ownership in protecting Mohave Desert habitats. (14.07)
2	14	FIR	Install fuel breaks that protect un-burned and once burned habitats and do not create weed infestation through ground disturbance. Prioritize lightly burned areas where some habitat structure is still intact; install fuel breaks in a configuration based on topography, seasonal wind speed and direction, and expected fire behavior that will protect these once-burned habitats from reburning. Where appropriate, use pre-emergent herbicides that are effective for 2-3 years, so establishing low-fuel native plants in the breaks through seeding or transplants is desirable for longer results. Tortoises will use once-burned Mojave desert scrub habitat that has intact dead vegetation, such as creosote bush stems, for constructing burrows and pallets for cover. (14.10)
2	14	FEN	Partner with ADOT and add Adopt-A-Fence as part of the Adopt-A-Highway program. (14.04)

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
UT/AZ Workgroup Area: Actions to be implemented across or outside of Tortoise Conservation Areas			
2	15	CDS	Support the desert tortoise veterinary advisory groups by training and by providing information on how to evaluate tortoises for emerging diseases to veterinarians less familiar with tortoise treatments. (15.01)
2	20	DOG	Work with local animal control centers to trap and remove nuisance feral dogs within tortoise habitat. (20.01)
2	22	GAR	Organize quarterly clean-ups with user groups, schools and volunteers within tortoise habitat. User groups can provide trailers to haul away trash. (22.01)
2 ¹	24	WHB	Reduce stocking rate of cattle to account for wild horses and burros; round-up and auction trespass cattle - funds go towards desert tortoise recovery actions. (24.02)
3	1	HAB	Re-evaluate grazing plan to be more flexible with annuals. (1.04)
3 ²	1	HAB	Cease grazing when trying to recover post fire until monitoring objectives have been met. Set site specific targets/monitoring objectives rather than general objectives. (1.18)
3	2	GRZ	Conduct dispersed, targeted grazing operations to reduce fuel loading. (2.03)
3 ³	2	GRZ	Change recently burned grazing allotments within tortoise habitat that are “Open and active” and “Open seasonally” to “Open and inactive” until monitoring objectives for tortoise habitat have been identified and met. Vegetation recovery and restoration efforts are vulnerable to conditions immediately following wildfire. Refer to Research Objective on effectiveness of grazing to suppress fire. (2.05)
3	3	EDU	Develop simple and positive signs for tortoise protection and education to post at trailheads/kiosks/parking lots. Include rules about encountering tortoises and encourage people to use the DMG tortoise-app. (3.04)

¹ This action is covered under GCP, which is the only area that has burros. There are no horses and BLM has set the HMP objective at zero in that area. So this action really isn't applicable to the whole area. (Washington County)

² This recovery action is stating BLM standard operating procedure, on which they have both policy and regulation that does exactly what this action is recommending. (Washington County)

³ This recovery action doesn't fit BLM's terminology or regulation requirements. It is not technically accurate and does not relate to BLM's required process. BLM standard policy is to temporarily restrict grazing or burned areas until vegetation recovery is achieved. Restricting grazing in the entire allotment may not be necessary if only one portion or pasture has been burned. (Washington County)

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
UT/AZ Workgroup Area: Actions to be implemented across or outside of Tortoise Conservation Areas			
3	3	EDU	Develop outreach campaign and partner with local utility companies to include information as insert with mailings and/or a page on their website that inform the public of the rules/concerns/etc. about desert tortoises. (3.08)
3	3	EDU	Develop outreach campaign and provide messages as inserts of OHV and hunting licenses. (3.09)
3	3	EDU	Submit articles in local newspapers during peak tortoise activity periods (<i>e.g.</i> , spring, early fall) to promote awareness and appreciation of desert tortoises and their habitat. (3.12)
3	3	EDU	Work with local animal control centers/adoption groups to promote responsible dog ownership on websites, and as an insert in mailings – these would include keeping dogs under control in tortoise areas. (3.18)
3	5	PRD	Expand existing raven control EA to encompass more habitats if review of FWS's raven control EA for UT-AZ area indicates that we should. (5.03)
3	5	PRD	Work with wildlife managers to determine the baseline, level of the threat, and required effort to control coyote populations, while considering the fecundity of coyotes. May have similar conflicts with small game. Then work with AGFD to open coyote hunts to the public – possibly including critter caller groups. (5.08)
3	6	RER	As roads are reclaimed, restore through vertical mulching and seeding where appropriate (<i>i.e.</i> , loamy or clay soils). (6.03)
3	10	WDS	Implement a program of head-starting to increase recruitment into the existing population. (10.07)
3	15	CDS	Implement a lifetime tortoise pet-owner's permit, and track desert tortoise custodians through a database over time. This would allow adoption of tortoises that cannot be released to the wild. (15.03)
3	16	TOX	Clean up any garbage and dumping sites and fence if permanent problem – likely will be on a very small scale. (16.01)
3	16	TOX	Support law enforcement to issue citations whenever possible (<i>e.g.</i> , illegal dumping, speeding, unauthorized OHV use, etc.). (16.02)
3	23	ACQ	Work with state legislature to amend the AZ constitution regarding State Land exchanges. (23.02)
3	23	ACQ	Purchase private in-holdings within tortoise conservation areas as off-site mitigation from renewable energy funds. (23.03)
3	25	TRV	Designate off highway routes, and enforce parking and speed within desert tortoise habitat. (25.01)

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
Beaver Dam Slope Critical Habitat Unit –UT/AZ			
1	1	HAB	Reduce coverage of exotic annual grasses and thus the fire risk, and increase the coverage of native species and plant species diversity for this area. (workgroup identifier number: 1.02)
1	1	HAB	Develop and prioritize management areas for weed removal/reduction (weed management areas) in the context of fire history, soils, etc. (1.03)
1	1	HAB	In burned areas on the Beaver Dam Slope where some habitat structure is still intact, install fuel breaks in a configuration based on topography, seasonal wind speed and direction, and expected fire behavior that will protect these once-burned habitats from reburning. Fuel breaks using pre-emergent herbicide are effective for 2-3 years, so establishing low-fuel native plants in the breaks through seeding or transplants is desirable for longer results. Tortoises will use once-burned Mojave desert scrub habitat that has intact dead vegetation, such as creosote bush stems, for constructing burrows and pallets for cover. (1.09)
1	4	PRD	Minimize above ground power lines along right-of-way where possible. Install anti-perching devices along known raven perching sites. (4.06)
1	14	FEN	Ensure that future projects conform to the tortoise fencing construction guidelines, as outlined in the Revised Recovery Plan (2011), and regularly monitor fencing to maintain integrity. (14.03)
1	22	TRV	Establish routes on existing roads only for all OHV events and establish speed limits. (22.01)
1	23	WHB	Conduct wild horse and burro round-ups and maintain herds at specified (per RMP) levels. (23.01)
1	Other	OTH	Proposed projects that involve loss of habitat must compensate through whatever means available such as acquisition of desert tortoise habitat within or adjacent to the protected area, or through funding other RAs of sufficient effectiveness, or by putting funds aside for future sufficient RAs. (28.01)
2	4	PRD	Monitor raven nests along power lines and remove all raven nests encountered within desert tortoise habitat. (4.04)
2	7	LEO	Increase law enforcement presence during peak recreation periods and at high use areas. Identify patrol priority areas and follow through by maintaining a regular presence. (7.03)
2	7	LEO	Organize regular law enforcement coordination meetings to increase communication and effectiveness between local, state, and federal law enforcement officers. (7.04)
2	8	RER	Work with user groups to maintain barriers during a quarterly clean-up effort. (8.02)
2	14	FEN	Install tortoise-proof fencing & culvert system along I-15 as part of the ADOT bridging project. Fencing may repopulate depression zone created adjacent to roadways, and would be considered habitat

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
Beaver Dam Slope Critical Habitat Unit –UT/AZ			
			replacement. Use renewable energy mitigation money from CA to pay for fence, installation, and maintenance (off-site mitigation). (14.01)
2	14	FEN	Monitor desert tortoise road mortality, maintain road kill database, and propose tortoise fencing along high use areas adjacent to tortoise habitat (particularly in areas w/ tortoise mortality). (14.02)
2	16	TRV	Complete Travel Management Rule for AZ Strip FO and sign open roads while obliterating/restoring closed roads. (16.01)
2	19	CUL	Require maintenance of connectivity in all new road upgrades. (19.01)
2	Other	OTH	Hold public meetings and engage user groups when preparing RMP. (28.02)
3	1	HAB	Reduce non-native annuals, forbs, and exotic trees particularly salt cedar along major washes including Beaver Dam Wash and its tributaries. Use a combination of cutting and stump painting with herbicide. Treat exotic forbs and annuals with best available methods. (1.06)
3	1	HAB	In recently-burned habitat on Beaver Dam Slope, re-seed multiple polygons, no smaller than 40 acres each and positioned equidistant between burn-unburn edge and center of burn (<i>i.e.</i> , to reduce seed predator impacts in unburned habitat and maximize bidirectional seed dispersal by plants once they reach reproductive maturity). Use local sources of native Mojave Desert species, such as those collected by BLM Seeds of Success Program, and use a high proportion of early colonizing species in the seed mix such as <i>Sphaeralcea ambigua</i> , <i>Encelia</i> spp., <i>Ericameria cooperi</i> , <i>Gutierrezia</i> spp., <i>Hymenoclea salsola</i> , <i>Psilostrophe cooperi</i> , <i>Salazaria mexicana</i> , <i>Stephanomeria paucifolia</i> , <i>Xylorhiza tortifolia</i> and perennial grasses. Consider the best season of seeding and/or use methods to encapsulate seeds as they become available to decrease impacts of seed predators. (1.12)
3 ⁴	2	GRZ	Retire grazing allotments with high priority for desert tortoise recovery within desert tortoise critical habitat by purchase from willing sellers or allotment exchanges to locations outside tortoise conservation areas. Prioritize the purchase of grazing allotments within desert tortoise habitat. (2.06)
3 ⁵	2	GRZ	If a grazing allotment were to be retired, designate protected habitat where appropriate and necessary. (2.09)
3	5	EDU	Form Friends of Beaver Dam Slope CHU to increase stewardship, and assist in protection of the land. (8.01)

⁴ Before allotments are retired, the effects of livestock removal on desert tortoise habitat and on desert tortoises need to be evaluated. (Washington County)

⁵ Before allotments are retired, the effects of livestock removal on desert tortoise habitat and on desert tortoises need to be evaluated. (Washington County)

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
Beaver Dam Slope Critical Habitat Unit –UT/AZ			
3	9	RER	As roads are reclaimed, restore through vertical mulching and seeding where appropriate (<i>i.e.</i> , loamy or clay soils). (9.01)
3	12	TRV	Designate existing roads as open or closed and place physical barriers (<i>e.g.</i> , fencing) in problem areas. Sensitive areas should be monitored and patrolled by law enforcement (<i>e.g.</i> , ATV's using washes as a travel corridor especially around the Lytle Ranch area) and signs and/or physical barriers should be constructed to reduce habitat impacts. (12.03)
3	17	SPD	Establish and enforce lower speed limits in tortoise habitat. (17.01)
3	20	MNG	Withdraw mining activities within Beaver Dam Slope ACEC. (20.01)
3 ⁶	Other	OTH	In areas where grazing closure is not immediate, provide oversight to the Standards and Guides process and Ecological Site Inventory by reviewing data reports and data collection process. (28.03)

⁶ We disagree with this concept that tortoise and livestock cannot coexist. This action implies that grazing should be removed, but if not immediately, then all diligence should be undertaken to see that grazing is removed through the stands and guides process. I don't understand how this action is going to be implemented or how it is going to appreciably improve the opportunity for the tortoise to recovery. (Washington County)

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
Grand Canyon National Park			
2	5	EDU	Create and provide messaging related to desert tortoise recovery that can be worked into existing backcountry and rafting permits and a page on their website. (workgroup identifier number: 5.01)
2	5	EDU	Form Friends of Grand Canyon National Park to increase land-user ownership in responsibilities. (5.02)

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
Grand Canyon-Parashant National Monument			
1	12	FIR	Install fuel breaks that protect un-burned and once burned habitats and do not create weed infestation through ground disturbance in the GCPNM. (Prioritize lightly burned areas on GC-PNM where some habitat structure is still intact, install fuel breaks in a configuration based on topography, seasonal wind speed and direction, and expected fire behavior that will protect these once-burned habitats from reburning. Use of pre-emergent herbicide is effective for 2-3 years, so establishing low-fuel native plants in the breaks through seeding or transplants is desirable for longer results.) Tortoises will use once-burned Mojave desert scrub habitat that has intact dead vegetation, such as creosote bush stems, for constructing burrows and pallets for cover. (workgroup identifier number: 12.07)
1	22	WHB	Conduct burro round-ups and maintain herds at specified (per RMP) levels. (22.01)
2 ^{7,8}	1	HAB	Cease grazing when trying to recover post fire until monitoring objective has been met. Set site specific targets/monitoring objectives rather than general objectives. (1.04)
2 ^{9,10}	1	HAB	Change recently burned grazing allotments on GCP that are “Open and active” and “Open seasonally” to “Open and inactive” until monitoring objectives for tortoise habitat have been identified and met. Vegetation recovery and restoration efforts are vulnerable to conditions immediately following wildfire. Refer to Research Objective on effectiveness of grazing to suppress fire. (1.05)

⁷ Plans have already been established with BLM thru AMPs and Fire plans that deal with this. Also flexibility is needed in consideration of getting ahead of annuals. We have technology and science to deal with this issue. (Mohave County)

⁸ This recovery action is stating BLM standard operating procedure, on which they have both policy and regulation that does exactly what this action is recommending. (Washington County)

⁹ This recovery action doesn't fit BLM's terminology or regulation requirements. It is not technically accurate and does not relate to BLM's required process. BLM standard policy is to temporarily restrict grazing or burned areas until vegetation recovery is achieved. Restricting grazing in the entire allotment may not be necessary if only one portion or pasture has been burned. (Washington County)

¹⁰ Is not necessary unless re-seeding has taken place and protection of emerging new plants is necessary. Process would already be covered in BLM AMP and Fire Plan and is scrutinized and approved by FWS. (Mohave County)

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
Grand Canyon-Parashant National Monument			
2 ¹¹	1	HAB	In previously burned areas, identify polygons of high diversity or importance (<i>e.g.</i> , desert tortoise presence, etc.) and apply appropriate controlled methods followed by monitoring. Consider: 1) herbicide application followed by planting of containerized shrubs and forbs; water plants during dry periods to increase success rate of containerized Mojave shrubs and forbs; 2) herbicide application followed by seeding of new and successful native plant species cultivars; 3) application of the BFOD fungi with higher success rates of infection as standalone "herbicide" and as a replacement for herbicide used in treatments; and 4) continue with other experimental efforts to increase germination/survival success rate of Mojave species including methods of seed delivery that reduce granivory. (1.06)
2 ¹²	2	GRZ	Establish a pasture rest/rotation system and seasonal use restrictions instead of year-round grazing without pastures. Pastures should be established and a rotation-system designed that will provide each pasture with at least one full calendar year of rest within the rotation system. (2.02)
2	6	RER	Vertical mulch closed roads within monument and work, through good design, to deter new roads/trails from being created. (6.01)
2 ¹³	25	ACQ	Work with state legislature to amend the AZ constitution regarding State Land exchanges - BLM to acquire state lands to improve tortoise habitat. (25.01)

¹¹ None of this is really feasible and kind of redundant, watering plants (?), containerized plants, seeding following herbicide can have problems and generally need 6 months to break down to not be active as even "Plateau" can impact natives. BFOD is still too experimental and impacts natives -- need more research. (Mohave County)

¹² This action lacks understanding of the current situation on the ground on the GCPNM tortoise habitat. Nearly all critical tortoise habitat in GCP is grazed only seasonally, between Oct. 15 and March 15, when tortoises are inactive. This means complete plant growing season rest occurs every year and no livestock competition for forage exists when tortoises are active. No opportunities for crushing of tortoises exist either. This is a better situation than rest rotation, which would put livestock in tortoise habitat during the growing/active season some time during the rotation cycle. Additionally, it may be impossible or very difficult and expensive to create pastures that can be included in a rest rotation system, especially when it is unnecessary, due to the existing seasonal use requirements. (Washington County)

¹³ This action requires voters in AZ to enable and change State law. So far this has been voted down several times, but an initiative did pass this last year, but don't think it allows for State, BLM trades. (Mohave County)

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
Grand Canyon-Parashant National Monument			
3 ¹⁴	2	GRZ	Close grazing in all allotments per the guidance and recommendations of the Recovery Plan. (2.01)
3	2	GRZ	Change the habitat monitoring program in GCPNM so that it includes species specific objectives for tortoises. Such as: 1) Measure relative abundance of high PEP and invasive plant; 2) identify desired plant community objectives which capture the needs of tortoises per the PCEs of critical habitat and that can be measured; 3) create a new formula that includes ecological condition + utilization + pattern mapping, and considers forage and cover components. (2.05)
3	3	EDU	Form Friends of GCPNM to increase land-user ownership in responsibilities. (3.01)
3	6	RER	Apply vertical mulch to non-designated, two-track routes each fall/winter on GC-PNM to discourage proliferation of vehicle routes in tortoise habitat. Apply vertical mulch from the point of departure from the main designated route to the point where the line of sight of the route ends (usually more than 40 m total length). (6.02)
3	12	FIR	Improve Pakoon Airstrip (including lengthening runway) to allow use by SEATS. (12.06)
3	25	ACQ	Purchase private inholdings within monument. Can look to renewable energy companies that need mitigation credits. (25.02)

¹⁴ AMPs are developed by BLM and are in place to work with tortoise criteria and objectives. All action has been cleared through FWS. Follow actions within the AMP. (Mohave County)

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
Lake Mead National Recreation Area—AZ			
2	11	RER	As roads are reclaimed, restore through vertical mulching and seeding where appropriate (<i>i.e.</i> , loamy or clay soils) (see for reference 6.03). (workgroup identifier number: 11.01)
3	1	HAB	Round up trespass/feral cattle on Lake Mead NRA. (1.04)

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
Virgin Slope ACEC			
1	3	SUB	Install predator-proof trash cans at rest areas, camp sites, and parking lots. (workgroup identifier number: 3.02)
1	7	LEO	Maintain law enforcement in areas of known unauthorized OHV use and unauthorized dumping. (7.02)
1	15	FIR	Install fuel breaks that protect un-burned and once burned habitats and do not create weed infestation through ground disturbance in the Virgin Slope ACEC. (Prioritize lightly burned areas on Virgin Slope where some habitat structure is still intact, install fuel breaks in a configuration based on topography, seasonal wind speed and direction, and expected fire behavior that will protect these once-burned habitats from reburning. Uses of pre-emergent herbicide are effective for 2-3 years, so establishing low-fuel native plants in the breaks through seeding or transplants is desirable for longer results.) Tortoises will use once-burned Mojave desert scrub habitat that has intact dead vegetation, such as creosote bush stems, for constructing burrows and pallets for cover. (15.06)
1 ^{15,16}	24	WHB	Conduct round-ups burros and maintain herds at specified (per RMP) levels. (24.01)
2	1	HAB	Reduce coverage of exotic annual grasses and thus the fire risk, and increase the coverage of native species and plant species diversity for this area. (1.04)
2	1	HAB	In previously burned areas, identify polygons of high diversity or importance (<i>e.g.</i> , desert tortoise presence, etc.) and apply appropriate controlled methods followed by monitoring. Consider: 1) herbicide application followed by planting of containerized shrubs and forbs; water plants during dry periods to increase success rate of containerized Mojave shrubs and forbs; 2) herbicide application followed by seeding of new and successful native plant species cultivars; 3) application of the BFOD fungi with higher success rates of infection as standalone "herbicide" and as a replacement for herbicide used in treatments; and 4) continue with other experimental efforts to increase germination/survival success rate of Mojave species including methods of seed delivery that reduce granivory. (1.07)

¹⁵ We agree that burros need to be brought into management level and regulated, but not sure of actual impacts on tortoises except during drought, so many not be worth the dollars. (Mohave County)

¹⁶ There are no burros on the Virgin Slope. They only occur on Lake Mead Recreation Area and the adjacent BLM in GCP. So this action is not applicable to the Virgin Slope. (Washington County)

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
Virgin Slope ACEC			
2 ^{17,18}	2	GRZ	Maintain a pasture rest/rotation system and seasonal use restrictions instead of year-round grazing without pastures. Pastures should be established and a rotation system designed that will provide each pasture with at least one full calendar year of rest within the rotation system. (2.07)
2	3	SUB	Create partnership with local municipalities (Mesquite, Littlefield, Beaver Dam, Bunkerville, Riverside, Glendale, Moapa) and Department of Transportation (truck pullouts along I-15) to finance the installation and maintenance of raven/coyote/feral dog-proof garbage bins with explanatory signage for their effective use by the public to reduce human subsidies for predator populations. Public access points on federal lands should also be targeted for garbage bin installation (Whitney Pockets). (3.01)
2	8	RER	As roads are reclaimed, restore through vertical mulching and seeding where appropriate (<i>i.e.</i> , loamy or clay soils). (8.02)
2	13	FEN	Install tortoise-proof fencing & culvert system along I-15 as part of the ADOT bridging project. Fencing may repopulate depression zone created adjacent to roadways, and would be considered habitat replacement. Use renewable energy mitigation money from CA to pay for fence, installation, and maintenance (off-site mitigation). (13.01)
2	14	TRV	Complete Travel Management Plan for AZ Strip FO and sign open roads while obliterating/restoring closed roads. (14.01)
2	23	SPD	Establish routes on existing roads only for all OHV events and establish speed limits. (23.01)
2	25	PRD	Implement integrated predator management to control/reduce effects of predators. (25.02)

¹⁷ BLM AMPs have analyzed best grazing plan to be implemented in the unit. Disagree with year-long rest; should consider grazing season rest to best fit plant physiology of key species in unit. (Mohave County)

¹⁸ This action lacks understanding of the current situation on the ground on the Virgin Slope tortoise habitat. All critical tortoise habitat on Virgin Slope is grazed only seasonally, between Oct. 15 and Mar. 15, when tortoises are inactive. This means complete plant growing season rest occurs every year and no livestock competition for forage exists when tortoises are active. Better than rest/rotation, which puts livestock in tortoise habitat during growing season. (Washington County)

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
Virgin Slope ACEC			
3 ¹⁹	1	HAB	Change recently burned grazing allotments on Virgin Slope that are “Open and active” and “Open seasonally” to “Open and inactive” until monitoring objectives for tortoise habitat have been identified and met. Vegetation recovery and restoration efforts are vulnerable to conditions immediately following wildfire. (1.02)
3 ^{20,21}	1	HAB	Cease grazing when trying to recover post fire until you have monitoring objective has been met. Set site specific targets/monitoring objectives rather than general objectives. (1.03)
3 ^{22,23}	2	GRZ	Close grazing in all allotments per the guidance and recommendations of the Recovery Plan. (2.02)
3	3	SUB	Monitor roadways and remove animal carcasses in a timely manner. (3.03)
3	6	EDU	Form Friends of Virgin Slope ACEC to increase land-user ownership in responsibilities. (6.01)
3	8	RER	Assess human use of non-designated routes on public lands on the Virgin Slope ACEC and prioritize human barrier/restoration actions based on frequency and seasonality of visitation. (8.01)
3	22	WHB	Withdraw mining activities within ACECs. (22.02)

¹⁹ This recovery action doesn’t fit BLM’s terminology or regulation requirements. It is not technically accurate and does not relate to BLM’s required process. BLM standard policy is to temporarily restrict grazing of burned areas until vegetation recovery is achieved. Restricting grazing in the entire allotment may not be necessary if only one portion or pasture has been burned. (Washington County)

²⁰ This recovery action is stating BLM standard operating procedure, on which they have both policy and regulation that does exactly what this action is recommending. (Washington County)

²¹ BLM AMPs have been written to deal with this action. (Mohave County)

²² There are thousands of acres which had had livestock removed, without any follow up or study to determine if any change to habitat or tortoise populations occurred. Grazing may be a helpful landscape tool to help reduce fuel loading of invasive annuals. (Washington County)

²³ Allotment management plans have been developed by BLM Rangeland management specialist that take into consideration concern and needs of tortoises and are at 1st priority level. Monitoring objectives have been considered and will be met! (Mohave County)

Other Site-Specific Recovery Actions Proposed by RIT Members

The recovery actions listed in this section were proposed during the action planning process but were not placed in priority categories 1 through 3 by the Northeast Mojave RIT workgroup. Actions may also be included here because it was decided by the team that, at this time, the action did not warrant prioritizing during the current five-year planning period.

Southwest Nevada Workgroup

Priority Category Decision	RA#*	RA#*	Area of Interest & Specific Actions
SW NV Workgroup Area			
N/A ²⁴	5	TOX	Notify Nellis AFB for UXO. (workgroup identifier number: 5.01)
Desert National Wildlife Refuge			
N/A	1	EDU	Use school groups to help conduct surveys of desert tortoise on Desert NWR to understand their distribution on the edge of their range. (1.01)
N/A ²⁵	3	TOX	Locate and remove unexploded ordnance and other debris on military side of Desert NWR using surveys. (3.01)

Utah/Arizona Workgroup

RIT Priority	SDSS RA Type Rank	RA code	Area of Interest & Specific Actions
UT/AZ Workgroup Area: Actions to be implemented across or outside of Tortoise Conservation Areas			
N/A	2	GRZ	Allow extensions on seasonal grazing allotments beyond March 15 with 250 lbs air dry/acre or more production. (workgroup identifier number: 2.04)
N/A	5	PRD	Implement coyote control measures including shooting, trapping, and chemical methods, involving APHIS, state game and fish agencies; encourage licensed hunters and trappers during the tortoise inactive season. (5.07)
N/A	10	WDS	Let disease run its course and focus on remaining population and hope for immunity. (10.09)
N/A	14	FIR	Avoid fire fuel breaks – these would have to be repeated annually and would require habitat loss. (14.05)

²⁴ States must notify Nellis AFB for UXO. The will only apply to the public access portion of the DNWR. Access to the NTTR is restricted. (Nellis AFB)

²⁵ The NTTR has an on-going UXO program IAW current laws and regulations. (Nellis AFB)

N/A	21	MNG	Work to educate congressmen about the impact of mining, and amend the Federal Land Policy and Management Act to allow withdrawals of > 5,000 acres to be done without approval from Congress. (21.03)
N/A	30	ACQ	Land acquisition should be the primary mitigation required for all desert developments and at a 4:1 ratio because of the offsite impacts of development. (30.09)
Beaver Dam Slope Critical Habitat Unit			
N/A	2	GRZ	Close grazing in all allotments per the guidance and recommendations of the Recovery Plan. (2.01)
N/A	2	GRZ	Switch current grazing program to ephemeral only where allotments are only grazed during wet years with significant vegetative growth. (2.02)
N/A	2	GRZ	Reduce stocking rates to lower than current AUMs and continue the pasture rest/rotation system. (2.03)
N/A	2	GRZ	Remove grazing from major washes within desert tortoise critical habitat by fencing out biologically sensitive areas within washes. (2.07)
N/A	4	SUB	Monitor roadways and remove animal carcasses in a timely manner. (4.03)
N/A	8	RER	Restore non-designated routes on the Beaver Dam Slope--assess human use of 35-50 non-designated routes on public lands on the Beaver Dam Slope (e.g., using protocol such as Custer et al. 2011, USGS) and prioritize human barrier/restoration actions based on frequency and seasonality of visitation. (8.04)
Grand Canyon National Park			
N/A	2	SUB	Create partnership with local municipalities and Department of Transportation (highway truck pullouts) to finance the installation and maintenance of raven/coyote/feral dog-proof garbage bins with explanatory signage for their effective use by the public to reduce human subsidies for predator populations. Public access points including campgrounds and pullouts for Points of Interest should also be targeted for garbage bin installation. (2.01)
N/A	4	GRZ	Round-up and auction trespass cattle – funds go towards recovery actions. (4.01)
Grand Canyon-Parashant National Monument			
N/A	2	GRZ	Switch current grazing program to ephemeral only where allotments are only grazed during wet years with significant vegetative growth.(2.03)
Lake Mead National Recreation Area			
N/A	1	HAB	Acquire water rights and pipelines from closed allotments. This could be used to irrigate re-seeded areas. (1.03)
Virgin Slope ACEC			
N/A	1	HAB	Acquire water rights and pipelines from any future closed allotments. This could be used to irrigate re-seeded areas (1.06)

D. TRACKING & MONITORING PLAN

Reporting requirements for recovery action implementation and maintenance

Implementation and maintenance reporting is vital for tracking what has been undertaken for recovery of the desert tortoise, as well as for assessing effectiveness of actions at the tortoise conservation area level. For each action undertaken, the location, type, area and/or number of activities undertaken should be reported each year. In out-years, status updates of on-going actions should be reported (*e.g.*, locations of visual inspections and repairs). RIT members will use a forthcoming Desert Tortoise Recovery Action Tracking Database to upload spatial data or draw the footprint of implemented actions.

Plan for supporting monitoring and research to assess action effectiveness

Overall Recovery Action Plan Effectiveness Monitoring. The large number of potential recovery/mitigation actions in any portion of the desert reflects the reality that Mojave desert tortoises are impacted by many activities of potentially greater or lesser effect. Reasonable documentation of these multiple impacts and the effectiveness of ameliorating those impacts has been elusive for reasons related to the biology of the desert tortoise, such as the fact that tortoises are long-lived and many threats have chronic effects. Also, survivorship of adults is relatively high, and therefore a very slight predicted improvement in survivorship would require extensive and intensive monitoring. Finally, juveniles are cryptic with high mortality rates, making documentation of their occurrence, let alone survival, extremely difficult. The Desert Tortoise Science Advisory Committee has advised that effectiveness of on-the-ground recovery actions for desert tortoise recovery, in general, be assessed using data from the range-wide monitoring program, emphasizing increasing ability to detect regional population trends rather than fine-scaled population responses to individual actions. Population abundance is an accepted metric of overall population response to both continuing threats and to successful recovery actions, which is why both recovery plans to date for the desert tortoise have included a recovery criterion calling for evidence of increasing population trends. In addition, a commitment to the measurement of an overall population response is a necessary prerequisite to the desert tortoise being delisted and relief from regulatory burdens of the Endangered Species Act. Because multiple recovery actions for multiple projects are expected to be implemented in the same tortoise conservation area, using distance sampling to describe changes in abundance within tortoise conservation areas is the appropriate success measure for recovery actions prioritized and implemented based on the SDSS ranking system.

Estimated annual support required for the range-wide monitoring program at optimal level in each sampling area within the Northeast Mojave RIT area is listed below. This effort is subject to ongoing evaluation and revision of the range-wide sampling strategy.

SW Nevada Workgroup Areas

There are currently no range-wide monitoring sampling areas in the SW Nevada workgroup.

SE Nevada Workgroup Areas

Piute Valley: ~\$76,000
 Eldorado Valley: ~\$76,000
 Coyote Springs: ~\$164,000
 Mormon Mesa: ~\$182,000

Utah/Arizona Workgroup Areas

Beaver Dam Slope: ~\$127,000
 Gold Butte/Pakoon: ~\$182,000

Monitoring for the effectiveness of specific recovery action types. Focused effectiveness monitoring and/or research for particular actions are still important to improve understanding of threats or actions for which greater uncertainty or controversy exists. Extremely well-designed, implemented, and coordinated research studies will be required to accurately describe recovery action effectiveness in these cases. Research requires replication and standardization of procedures. Best research practices also require that effectiveness metrics are measurable within a reasonable timeframe. Potentially, an effectiveness monitoring/research fund (*e.g.*, managed by the National Fish and Wildlife Foundation) should be established from which experimental effectiveness monitoring efforts would be coordinated at a larger scale.

In conjunction with prioritizing recovery actions in this document, the RITs prioritized needs for effectiveness monitoring or research. Each workgroup developed priorities for management actions and effectiveness monitoring/research for their workgroup area that they felt warrant such an experimental approach in each workgroup area.

SW Nevada Workgroup

Priority Effectiveness Monitoring and/or Research Topics	RA code	SDSS RA Type rank
Monitor effectiveness of habitat restoration.	HAB	1
Monitor effectiveness of environmental education.	EDU	2
Monitor effectiveness of increasing law enforcement.	LEO	7
Monitor effectiveness of fire management planning and implementation techniques.	FIR	12
Monitor effectiveness of connecting habitat with culverts/underpasses.	CUL	24
Determine connectivity/gene flow/Important genetic linkages.		
Monitor effectiveness of population augmentation.		
Implement new and expanded tortoise population surveys.		

SE Nevada Workgroup

Priority Effectiveness Monitoring and/or Research Topics	RA code	SDSS RA Type rank
Monitor effectiveness of habitat restoration.	HAB	1
Monitor effectiveness of targeted predator control.	PRD	10
Monitor effectiveness of law enforcement: assess measures that make law enforcement more effective.	LEO	11
Monitor effectiveness of fire management planning and implementation techniques.	FIR	15
Monitor effectiveness of population augmentation.		
Determine connectivity/gene flow/Important genetic linkages.		
Monitor BFOD fungus effectiveness.	HAB	1
Determine effects of herbicides on tortoises.	HAB	1

Utah/Arizona Workgroup

Priority Effectiveness Monitoring and/or Research Topics	RA code	SDSS RA Type rank
Conduct studies of effects of grazing on desert tortoises: On the Beaver Dam Slope, quantify differences in perennial canopy cover between grazed and suitable ungrazed areas for comparison (<i>e.g.</i> , historic exclosures) to assess impacts positive and/or negative of grazing on desert tortoise recovery.	GRZ	2
Monitor effectiveness of habitat restoration: Implement pilot project to assess best methods for reducing exotic fuel loads such as grazing. Possibly include habitat conservation areas.	HAB	1
Monitor effectiveness of habitat restoration: adapted native and non-native species.	HAB	1
Monitor effectiveness of fire management planning and implementation techniques (methods: firebreaks, treatments,...)	FIR	14
Monitor current existing habitat quantity and quality.		
Develop/update population baselines and conduct inventory of current populations.		

E. NEXT STEPS

The relevant land management agencies will use their own processes to implement priority actions, research and monitoring. The necessary planning processes (*e.g.*, NEPA where appropriate) will be engaged to formalize each agency's commitments to the adopted actions. The recovery action plans will also be available for agencies to use to identify priority mitigation actions for projects impacting desert tortoise habitat or populations within the relevant workgroup area. Implementation and monitoring will be tracked using online tools and collaboration among workgroup members.