

**Desert Managers Group
Coordinated Desert Tortoise Initiative
DRAFT Effectiveness Evaluation Proposal
5/30/03**

A. Basic Framework for Effectiveness Evaluation

The primary initial focus of effectiveness evaluation would focus on grazing, vehicle management and tortoise fencing. It would have two basic components:

1. "Data Squeeze": Conduct a critical review of the literature and available data on effectiveness, in combination with GIS mapping and analysis. The effort would be roughly patterned after the "Threats to Desert Tortoise Populations: A Critical Review of the Literature." Care would be taken to focus the document on scientific interpretation of available information, rather than potential management decisions or actions.

Actions and described changes in land use over time would drive the analysis, rather than threats. The lists of actions taken since listing (1980 would be a milestone date) will provide a valuable data source to assist in characterizing and mapping changes that have occurred. Data mining from agency files and other sources would also be needed. Where available information is not adequate to yield effectiveness conclusions alternative interpretations of available data, with the underlying assumptions, may be offered.

A more detailed description of the content and proposed process to be used in order to complete the data squeeze is being prepared by Bill Boarman.

The intended products are as follows:

Product	Timeframe	Comments
Report One	6 to 8 months	Provides the initial analysis; would be available for broad dissemination for "peer review"
Peer Review	2 to 3 months	Receive comments from a broad array of scientific experts
Edited Final	2 to 3 months	Incorporates comments as appropriate
Public Distribution Version	2 to 3 months	May: be shorter, include selected maps
Produce web and CD versions	2 to 3 months	Allows easy access and browsing; makes more maps readily available

2. Effectiveness Monitoring Projects: In the short term, specific monitoring projects would be limited. The longer-term identification of the best mix of new monitoring projects, or proposed changes to monitoring projects, can be more effectively addressed in about one year once Report One is completed. In some cases, future studies that are expected to be valuable are noted.

Some specific applications within the basic framework, as they apply to each of the three evaluation subjects, are described below.

B. Evaluation Subjects

1. Grazing Proposed Actions

1. Map and describe the history of grazing use in the California Desert over time. Characterize, at a minimum, the amount, seasonality, variability, and utilization levels for grazing use within vegetation communities (GIS coverages). A history of allotments available for use, and authorized use, is expected. It may be necessary to select representative years to illustrate longer-term trends.
2. Examine possible correlations between grazing data and tortoise population data. These may include, but are not limited to, trends noted at study plots within a DWMA, trends noted at monitoring locations within grazing allotments, and overall knowledge level concerning grazing practices and tortoise population characteristics. Possible correlation, or the absence of a correlation, could include an apparent relationship between grazing use history and tortoise population levels or an apparent difference between grazed and ungrazed areas.
3. Identify areas where future replication studies are needed (e.g. Ivanpah, Pilot Knob, TABS plots). Utilize data and evidence from areas outside California (e.g. Piute Valley, NV).

2. Vehicle Management Proposed Actions

1. Map and describe the route network and route density over time. Brackett classes route classes and describe general types of traffic represented. Pull in studies that may provide effectiveness data (e.g. Desert Tortoise Natural Area studies, human use data recorded on tortoise transects).
2. Map and describe areas used for vehicle play, including de facto areas that became established through use without being designated. Identify when areas were opened or closed. Summarize data and studies already available.
3. Map and describe areas used for organized events, with separate identifications for speed and trail riding (dual sport) types of events. Summarize available report information, and "mine" files for data on events. Examine start areas and routes of discontinued events for possible observable changes.

4. Examine possible correlations between vehicle data and tortoise population data. These may include, but are not limited to, trends noted at study plots within a DWMA, trends noted at monitoring locations within vehicle event or open area files, and overall knowledge level concerning vehicle use patterns and tortoise population characteristics. Possible correlation, or the absence of a correlation, could include an apparent relationship between vehicle use history and tortoise population levels or an apparent difference between areas with high and low route densities.

5. Identify areas where future replication studies are needed (e.g. Stoddard studies in the 1980s). Utilize data and evidence from areas outside California if appropriate.

6. Describe a risk assessment tool utilizing such factors as habitat characteristics, habitat use, vehicle use patterns, and probabilities of tortoise occurrence and vehicle utilization.

3. Tortoise Fencing Proposed Actions

a. Map and describe where tortoise fencing has occurred. Include attributes such as type of road, distance from the road edge, type of fencing, type of maintenance, and passage/connectivity. Coordinate efforts with CalTrans.

b. Compare data to that for other states (Nevada, Utah). Pull in justification and studies being done in other states. Examine issues of culvert design, fencing and re-occupation of habitat.

c. Support Fort Irwin studies along 22 miles of road between I-15 and the Fort Irwin boundary. The study includes 18 months of pre-survey, fencing on both sides of the road, and studies after fencing. It may also allow for comparisons with studies along Highway 58.

E. Implementation

Implementation is expected to require some degree of contribution from all members of the Desert Managers Group, either in the nature of in-kind labor or funding. Important aspects of the work are already funded. For example, mapping work by University of Redlands fits within an existing grant and Fort Irwin has already committed to the tortoise fencing studies. A summary of implementation costs follows.

Draft Table XX

Action or Tasks	Responsible Party	Cost
Report Preparation	USGS	
Data compilation		
Analysis		
Mapping	University of Redlands	Covered
GIS analysis		Covered
Tortoise fencing study	Fort Irwin	Covered
Assistance with Data Mining	BLM	
Assistance with Data Mining	NPS	
Assistance with Data Mining	FWS	
Assistance with Data Mining	CDFG	