



Appendix D: SKR Threats Survey Summary

The SKR Working Group was asked to complete a survey about threats to the species and its habitat. Managers were asked to answer questions about a list of potential threats, including whether the threat occurred on the lands they managed, how likely it is to occur in the future, the severity and spatial and temporal scales of the impact of the threat. They were asked whether they were managing for the threat, the resources being used to address it, and barriers or limitations to management. Types of threats included direct threats to individuals and populations, factors that degrade species habitat, and management/policy issues such as available time and funding.

Eight completed surveys were received representing the following management areas: Marine Corps Base Camp Pendleton, El Sobrante Landfill, Lake Mathews, Montecito Ranch, Motte Rimrock Reserve, Naval Weapons Station Seal Beach Detachment Fallbrook, Southwest Riverside County Multi Species Reserve, and Warner Springs. The compiled results are presented in Appendix C: [Threats Survey Responses](#).

Results

Overall Ranking

Table 1 lists the threats ranked by number of management units reporting their presence, and also indicates the number of management units indicating the threat as “top priority”. Invasive species ranked top by both categories, with all preserves responding that the threat is both present and a top priority. Next highest-ranked threats were: Direct habitat removal by development, roads, canals, etc.; Small population size and isolation; and Thatch development.

Threats that managers indicated as high-severity for populations: Five preserves indicated “Invasive species (not including already naturalized plants used by SKR, such as Erodium)” and “Severe and prolonged drought” as being a threat to whole populations or significant portions of populations, followed by “Thatch development” (Table 2).

Threats that managers indicated as high-severity for individuals: “Invasive species”, “Thatch development”, “Funding for Management”, and “Available time or priority” ranked as the most agreed-upon threats by survey respondents. (Table 3).

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Table 1. Results of threats survey: threats most often present that have management priority.

Threat Type	Threat	No. of Preserves Reporting Threat as Present	No. of Preserves Reporting as Top Priority
Habitat	Invasive species (not including already naturalized plants used by SKR, such as Erodium)	8	8
Habitat	Direct habitat removal by development, roads, canals, etc.	7	7
Population	Small population size and isolation	7	5
Habitat	Thatch development	7	6
Management	Agency Limitations on available management tools, i.e. grazing, fire, mowing, herbicides	6	5
Direct	Artificial lighting	6	6
Management	Available Time or Priority	6	5
Direct	Changes in wildfire regime	6	6
Habitat	Habitat fragmentation	6	6
Population	Lack of dispersal between populations or subpopulations	6	5
Direct	Severe and prolonged drought	6	5
Management	Funding for Management	5	5
Direct	Off-road vehicle activity	5	4
Direct	Roadkill	5	3
Habitat	Soil compaction (e.g., from horses, off-road vehicles)	5	5
Direct	Traffic (or other source) noise	5	4
Habitat	Habitat loss by changes in agricultural practices (e.g., grazing practices, vegetation management, irrigation)	4	4
Direct	Domestic animal predation	4	4
Management	Equipment Availability	4	3
Management	Lack of Management Plans	4	3
Direct	Pesticide exposure (especially rodenticides)	4	4
Direct	Prolonged wet/cold conditions	4	4
Habitat	Shrub or tree encroachment	4	4
Direct	Disking of vegetation/soil (e.g., for weed abatement or pasture improvement)	3	3
Direct	Flooding or soil saturation from extreme rainfall	3	3
Direct	Increase in raptor perches	3	3
Habitat	Increase in soil moisture (e.g., from irrigation or runoff)	3	3
Management	Lack of Clear Recommendations	3	2
Direct	Excess water (e.g., from irrigation or runoff)	2	2
Direct	Other? - Wildfire	1	1

Table 2. Threats most indicated as high-severity for SKR populations

Threats Listed as High Severity (Populations)	No. of Mgt Areas Reporting
Invasive species (not including already naturalized plants used by SKR, such as Erodium)	5
Severe and prolonged drought	5
Thatch development	4
Flooding or soil saturation from extreme rainfall	2
Agency Limitations on available management tools, i.e. grazing, fire, mowing, herbicides	2
Habitat fragmentation	2
Funding for Management	2
Small population size and isolation	2
Lack of dispersal between populations or subpopulations	2
Prolonged wet/cold conditions	2
Agency Limitations on available management tools, i.e. grazing, fire, mowing, herbicides	2
Available Time or Priority	2
Changes in wildfire regime	1
Direct habitat removal by development, roads, canals, etc.	1
Direct loss by changes in agricultural practices (e.g., grazing practices, vegetation management, irrigation)	1
Disking of vegetation/soil (e.g., for weed abatement or pasture improvement)	1
Equipment Availability	1
Lack of Clear Recommendations	1
Pesticide exposure (especially rodenticides)	1
Lack of Management Plans	1
Other? - Wildfire	1

Table 3. Threats most indicated as high-severity for individual animals

Threats Listed as High Severity (Individuals)	No. of Mgt Areas Reporting
Invasive species (not including already naturalized plants used by SKR, such as Erodium)	6
Thatch development	3
Funding for Management	3
Available Time or Priority	3
Lack of Management Plans	2
Agency Limitations on available management tools, i.e. grazing, fire, mowing, herbicides	2
Severe and prolonged drought	2
Direct loss by changes in agricultural practices (e.g., grazing practices, vegetation management, irrigation)	2
Lack of dispersal between populations or subpopulations	2
Small population size and isolation	1
Artificial lighting	1
Changes in wildfire regime	1
Disking of vegetation/soil (e.g., for weed abatement or pasture improvement)	1
Equipment Availability	1
Habitat fragmentation	1
Lack of Clear Recommendations	1
Off-road vehicle activity	1
Prolonged wet/cold conditions	1
Soil compaction (e.g., from horses, off-road vehicles)	1

Threats that are commonly present in the management areas but not currently being addressed with management action: Most of these were reported by Montecito Ranch, a new preserve not yet being managed. “Habitat fragmentation” and “Severe and prolonged drought” were threats listed as not being addressed at other preserves. It should be noted that not all preserves responded at this level of detail.

Table 4. Threats present in the management areas that are not being addressed with management action.

Mgt Area	Threat Name
Motte Rimrock Reserve	Changes in wildfire regime
Montecito Ranch	Disking of vegetation/soil (e.g., for weed abatement or pasture improvement)
Lake Mathews	Habitat fragmentation
Montecito Ranch	Invasive species (not including already naturalized plants used by SKR, such as Erodium)
Montecito Ranch	Lack of dispersal between populations or subpopulations
Montecito Ranch	Pesticide exposure (especially rodenticides)
Lake Mathews	Severe and prolonged drought
Montecito Ranch	Thatch development

Management-type threats:

The threat “Available Time or Priority” was indicated as present by six of the eight preserves and as top priority for three preserves, and two responded that they were making efforts to address the problem by prioritizing SKR, although staff and time are limiting factors. Related threats “Agency Limitations on available management tools”, “Funding for Management” and “Agency limitations on available management tools” were rated as top priority by five of the preserves. See Table 5 for more information on these management-capacity threats.

Table 5. Summary of responses about management-capacity types of threats.

Threat	No. Present	No. "Whole Preserve" or "Much of Preserve"	No. "Every Year"	No. "High severity for Individuals"	No. "High severity for populations"
Available Time or Priority	6	3	2	1	2
Agency Limitations on available management tools, i.e. grazing, fire, mowing, herbicides	5	3	3	0	2
Funding for Management	5	5	2	1	2
Equipment Availability	3	2	1	1	1
Lack of Management Plans	3	2	2	1	1
Lack of Clear Recommendations	3	1	1	1	1