California Raven Management

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Desert Tortoise Listing and Recovery

- **1990** – Mojave population Federally listed as threatened

- **1994** – 1st Recovery Plan, critical habitat designation, DWMA recommended

- **2011** – Revised Recovery Plan
  - Reduce access to landfills, sewage pond, campgrounds, livestock feeding areas.
  - Site new landfill and sewage treatment facilities outside of desert tortoise habitat and/or preclude new facilities within 8 kilometers of DWMAs.
  - Directed predator removal and removal of nests in problem areas or where offending individuals are identified.
  - Eliminate illegal dumping through enforcement.
California Raven Environmental Assessment

- **1989** - interagency raven control program halted by TRO from the Humane Society
- **1990** - follow-up program delayed due to public concern
- **1993** – lawsuit appeal filed for removing ravens without evidence of predation on tortoises
- **2006-2008** – DMG proceed with development of the CA Raven EA

Photo credit: Kevin Powell
Raven EA Alternatives

- **Alternative A:** Status Quo

- **Alternative B:**
  - Reduce human subsidies
  - Remove identified predator ravens only

- **Alternative C:**
  - Reduce human subsidies
  - Remove identified predator ravens
  - Remove all ravens from specific tortoise conservation areas

- **Alternative D:**
  - Reduce human provided subsidies
  - Remove identified predator ravens
  - Remove all ravens from specific tortoise conservation areas
  - Remove ravens from concentration areas such as landfills

- **Alternative E:**
  - Reduce human provided subsidies of food, water, nest and communal roost sites

- **Alternative F:** Implement Alt B, followed by C and D if other Alts are unsuccessful
Funding Sources

- **NFWF DMG Raven Fund**:  
  - non-renewable energy projects - $105 per acre ($224,292)  
  - distribution of funds approved by DMG

- **NFWF REAT Raven Fund**:  
  - renewable energy projects - $105 per acre ($6,041,803)  
  - distribution of funds governed by REAT (CEC, FWS, BLM, CDFW)

- **$105/acre fee calculation**:  
  - Removal staff  
  - Outreach and education  
  - Monitoring survey team
Funding Priorities

- Education and outreach
- Address subsidies (food, water, man-made nest sites)
- Removal of unoccupied raven nests
- Address communal roosting sites
- Identification and removal of ravens that prey on desert tortoises
- Research into control methods
Education and Outreach Projects

• Baseline desert tortoise awareness study
  – Conducted in 2008 by Colorado State University
  – Majority of rural desert populations are unaware of desert tortoises being threatened, assume habitat loss is the major reason, and most own OHVs

• Mojave Maxine Emergence Contest through The Living Desert

• Raven Documentary film: $30,800
# Raven Monitoring and Removal Program 2013-2016

## Raven Monitoring and Removal Program Summary

<table>
<thead>
<tr>
<th>Raven Monitoring and Removal Program Summary</th>
<th>FEDERAL FISCAL YEAR</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>2013</td>
</tr>
<tr>
<td>Raven predated desert tortoises</td>
<td>22</td>
</tr>
<tr>
<td>Active raven nests</td>
<td>98</td>
</tr>
<tr>
<td>Offending raven removals</td>
<td>2</td>
</tr>
<tr>
<td>Monitoring and Removal Costs</td>
<td>$396,323</td>
</tr>
</tbody>
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*Note: The data reflects the number of incidents or occurrences for each category over the specified years.*

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Research Projects Funded 2016

- Aversive Conditioning Studies: $86,500
- Raven monitoring and removal program 2016: $487,329
Management Questions

• Do removal efforts need to be expanded? Geographically? Intensity? Approach?

• What is the role of aversive conditioning in raven management?

• How do we more effectively address subsidies for ravens? Priorities? Approaches?

• How do we effectively approach education and public outreach? Target audiences?
Questions?