



# California Raven Management

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# Raven Workshop

- November 1 and 2, 2016
- Sage grouse and desert tortoise focused
- 82 participants from 42 different agencies and organizations
- Presentations
- Panels
- Breakout groups



# Breakout Groups

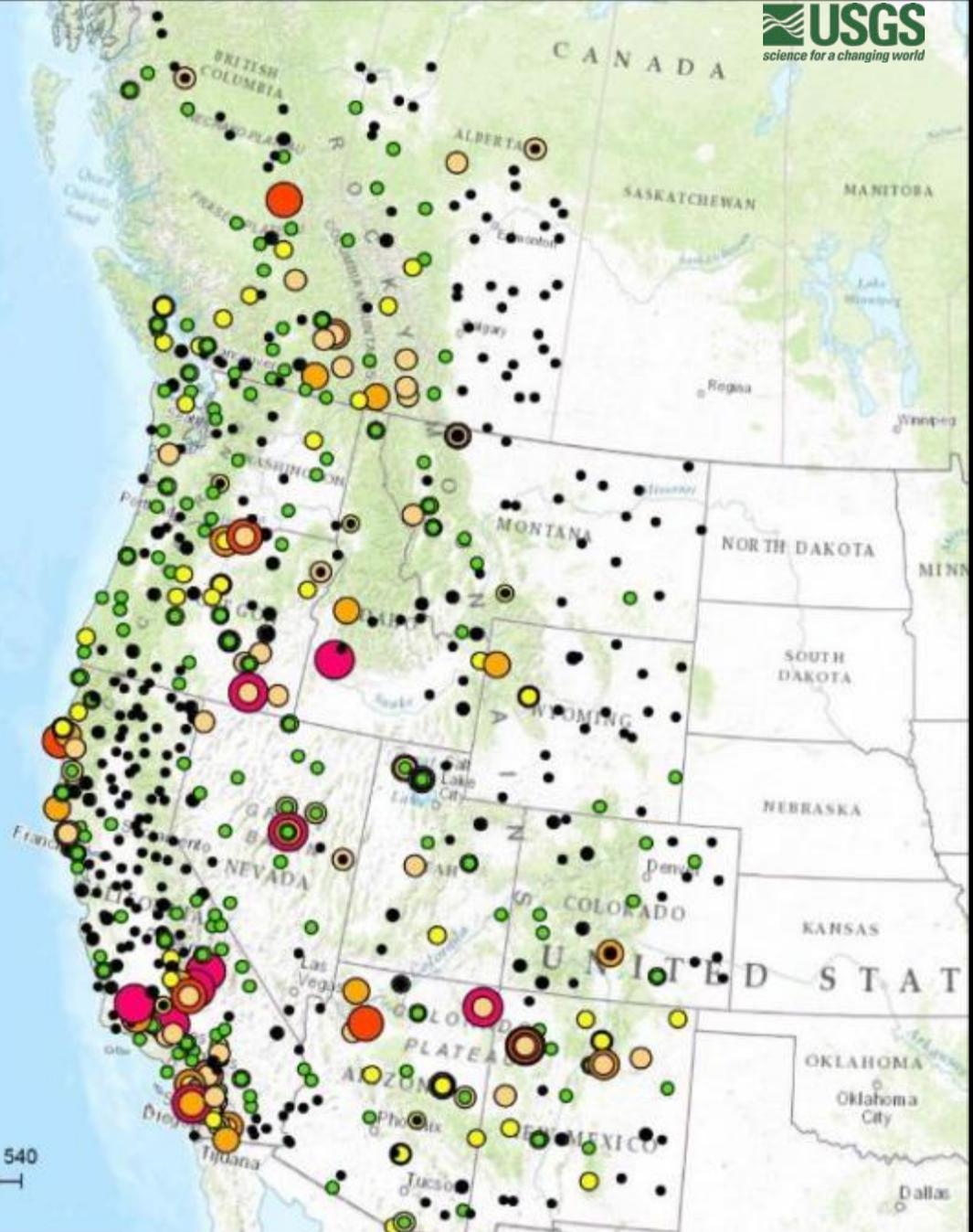
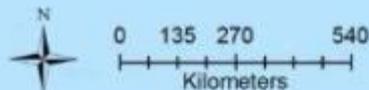
- Discussed 4 major topics
  - Factors that influence raven abundance
  - Direct management of raven populations
  - Measure the effectiveness of raven management
  - Education/outreach/communication to the public

Breeding Bird Survey Data  
Sauer, USGS



Years 1971 – 1975

**Detected  
at ~40% of  
surveys**

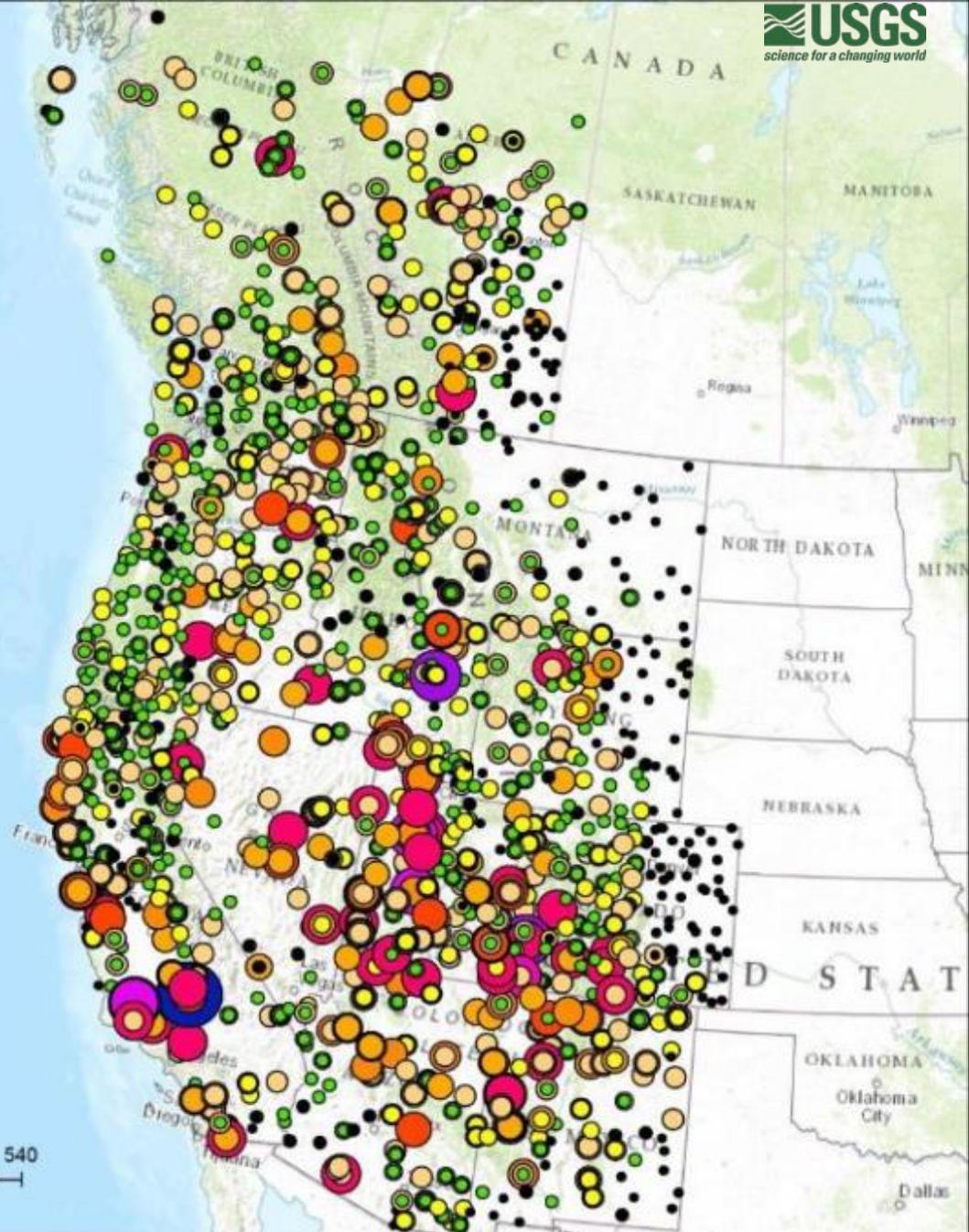
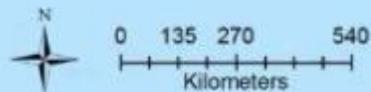
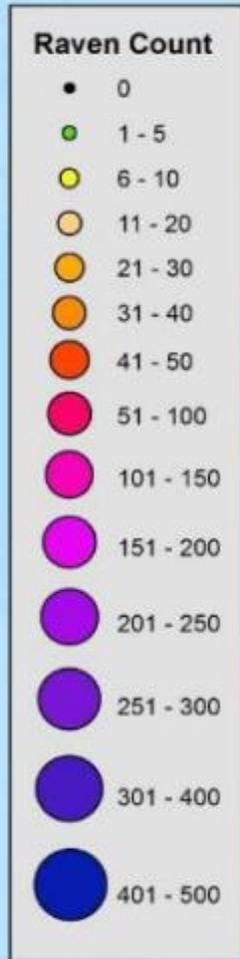


Breeding Bird Survey Data  
Sauer, USGS



Years 2006 – 2010

**Detected  
at ~80% of  
surveys**



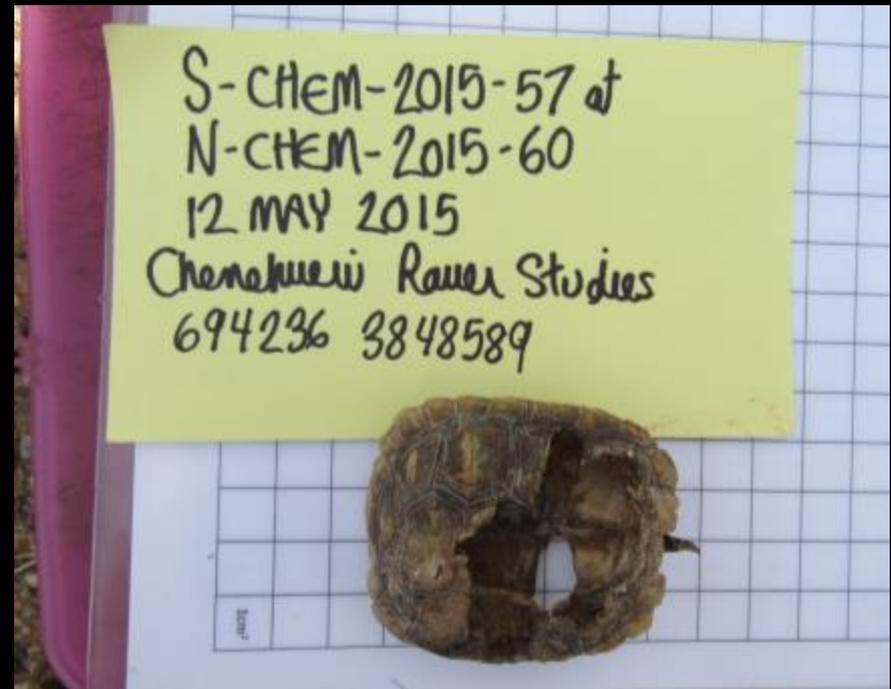
# Factors that Influence Raven Abundance

- Priorities:
- Human behavior
- Address access to nesting substrates and prioritize areas with high tortoise densities
- Address areas with high concentration of roadkills
- Water sources: map and target



# Direct Management of Raven Populations

- Priorities:
- Prioritize removal areas (TCA's)
- Sterilization – explore alternative technologies to reduce numbers and impacts
- Compare removal efforts that are targeted vs. broad scale
- Address communal roosting sites



# Measure the Effectiveness of Raven Management

- Priorities:
- Monitor raven population using standardized protocol
- Standardized data collection and management (database) across western range
- Increase use of Citizen Science



# California Raven Environmental Assessment (EA)

- **1989** - interagency raven control program halted by TRO from the Humane Society
- **1990** - follow-up program delayed due to public concern
- **1993-1994** - Technical Review Team implemented experimental removal program
- **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 phases (Alt B, followed by C and D if other Alts are unsuccessful)



# Raven EA

- Alternative F chosen
- Currently, implementing Alternative B (Phase 1) and moving to Alternative C (Phase 2)
- **Alternative C:**
  - Reduce human subsidies
  - Remove identified predator ravens
  - Remove all ravens from specific tortoise conservation areas

# Raven Monitoring and Removal Program

- Areas monitored (9 total):
  - Superior-Cronese DWMA (2013-2016)
  - Chemehuevi DWMA (2014-2016)
  - Chuckwalla DWMA (2013-2015)
  - Ord-Rodman DWMA (2016)
  - Piute-Fenner DWMA (2016)
  - Ivanpah DWMA (2013)
  - Joshua Tree NP (2016)
  - Mojave NP (2016)
  - DTRNA (2013)

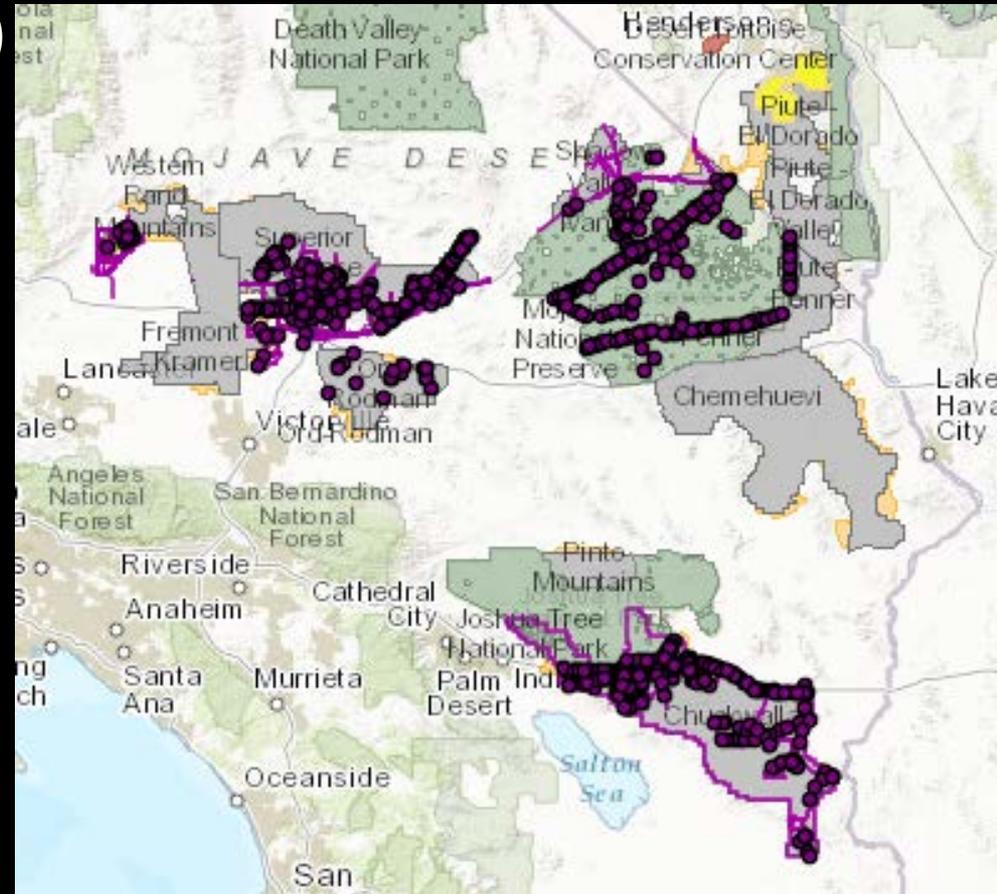


Image taken from DTRO RATT (Recovery Action Tracking Tool)

# Education/Outreach/Communication to the Public

- Priorities:
- Bring in education specialists and PR firm– smart outreach
- Use social media
- Focus on more broad-scale message – desert-wide conservation and not just tortoise and ravens
- Develop talking points standardized across partners



# Short-Term Goals

- Outreach to public about raven issues
- Setup raven abundance surveys using USGS protocol (Pete Coates)
- Toolbox of mitigation measures/BMPs
- MOG/think tank group – identify interested parties and form group and include: USFWS, DFW, BLM, DOD, APHIS, NPS, academia, USGS, NGO's, and others (?)
- Fund research for fertility control
- Share resources such as raven documentary (<https://vimeo.com/116598017>)
- Others?

# Long-Term Goals

- MOG/think tank group
  - Create a broader plan than Raven EA to include other states beyond California
  - Create separate EA for other states
- Multi-level approach:
  - WGA – 11 states for sage grouse and desert tortoise
- Others?

# Funding Sources

- **NFWF DMG Raven Fund :**

- non-renewable energy projects - \$105 per acre (\$112,292)
- distribution of funds approved by DMG

- **NFWF REAT Raven Fund :**

- renewable energy projects - \$105 per acre (\$5,541,803)
- distribution of funds governed by REAT (BLM, CEC, FWS, CDFW)

- **\$105/acre fee calculation:**

- Removal staff
- Outreach and education
- Monitoring survey team



# Questions?

# Ideas?



Photo credit: Bill Boarman



Photo credit: Kemp Anderson