



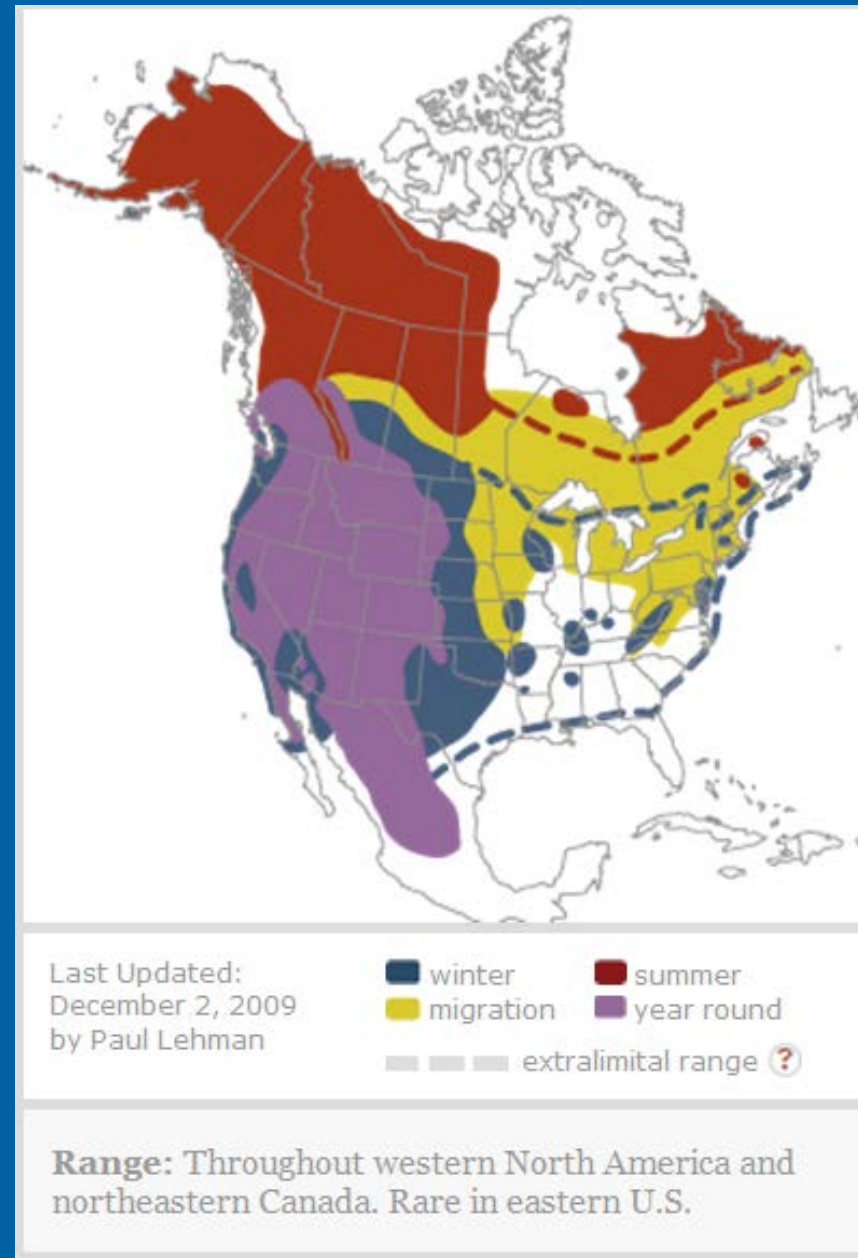
# Research Supporting Golden Eagle Management: Status and Updates

David Wiens, Research Wildlife Biologist  
Sue Phillips, Aridlands Research Manager

*Forest and Rangeland Ecosystem Science Center*

# USGS Work...

- Supports DOI Goal: Achieve best outcome for wildlife and renewable energy development
- Focuses on Golden Eagles and Renewable Energy (USGS science priority)
- Is often scalable up and down (local to regional to national)
- Crosses jurisdictional boundaries
- Includes:
  - Occurrence, population status, demography
  - Risk analysis
  - Habitat modification and loss
  - Monitoring
  - Mitigation and adaptive management



# National scale, locally applicable



- **Predictive Models**
  - Fatality estimation
  - Effects of “take”
  - Habitat occupancy
- **Standardized and Scalable Survey Methods**
  - Distribution and status
  - Optimize detection probability
  - Adaptive management



# Golden Eagle Monitoring Protocol for the DRECP

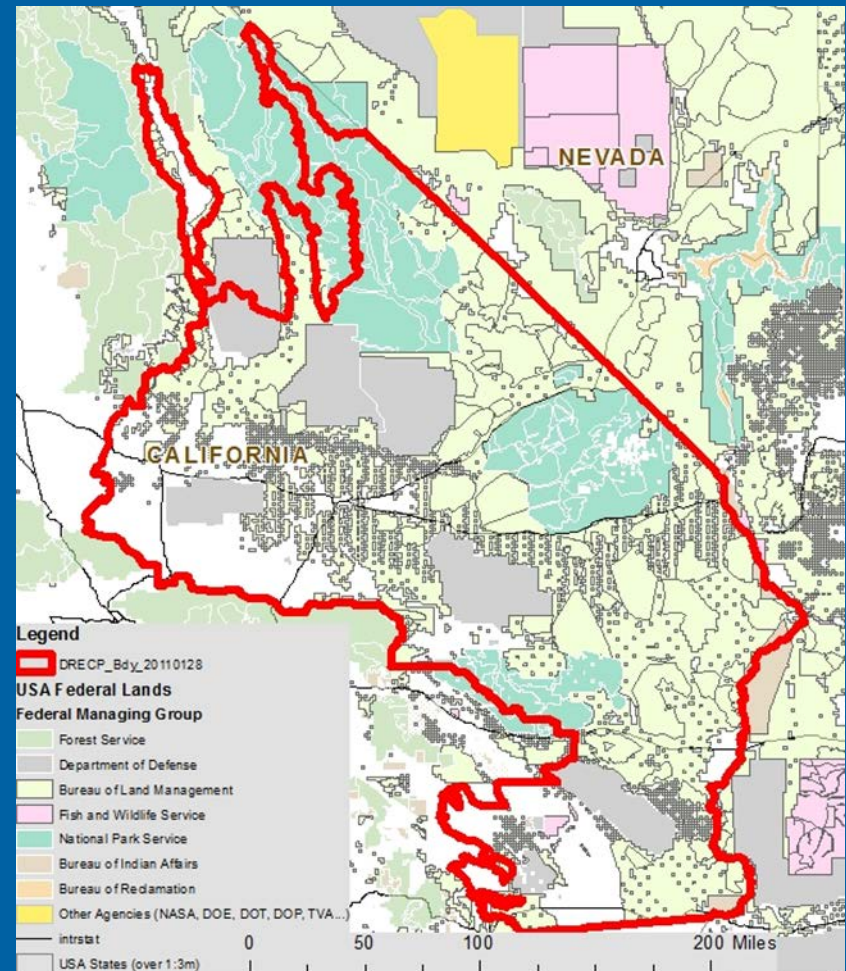


## Objective:

- Develop survey designs and field procedures

## Status:

- In development
- Expected Completion: Spring 2015



Map courtesy of DRECP

# Demography of Golden Eagles around the Altamont Wind Resource Area



## Objectives:

- Demographic model
- Age-structured movements and habitat use
- Estimation of pair abundance

## Status:

- Data collection and analysis
- Expected Completion: Late 2014



## CA-NV Specific Studies

# Assessing Food Habits and Prey Availability for Golden Eagles in the Mojave Desert

## Objectives:

- Distribution and abundance of prey species
- Food habits
- Nesting success

## Status:

- Field data collection underway
- Expected Completion: Spring 2016



*Photo courtesy of K. Longshore, USGS*

# Geospatial Analysis of Current Golden Eagle Population and Habitat Condition



*Photo courtesy of the U.S. FWS*

## Objectives:

- Historic sightings and nest locations
- Nest site suitability map
- Mojave-wide view of Golden Eagle habitat

## Status:

- Geospatial database mostly complete
- Maps and model: In development
- Expected Completion: Summer 2014

# Assessment of Golden Eagle Prey (Black-Tailed Jackrabbit) Historical Data in the Mojave Desert

## Objectives:

- Provide database on distribution and abundance
- Provide jackrabbit ecology annotated bibliography

## Status:

- Database in development
- Draft manuscript completed
- Expected Completion: Summer 2014



*Photo courtesy of K. Longshore, USGS*



# CA-NV Specific Studies: Future Work



## Assessment of Spatial Use, Home Range, and Habitat Use of Golden Eagles in the Mojave Desert

### Objectives:

- Characterize seasonal home ranges and habitat use
- Relate habitat use and movements with prey availability and other factors (land form/use)

## Site occupancy, nesting success, movement behavior, and genetic structure of Golden Eagles in Western San Diego County, CA

### Objectives:

- Survey and monitoring tools
- 3D space-use model
- Evaluation of genetic distinctiveness



