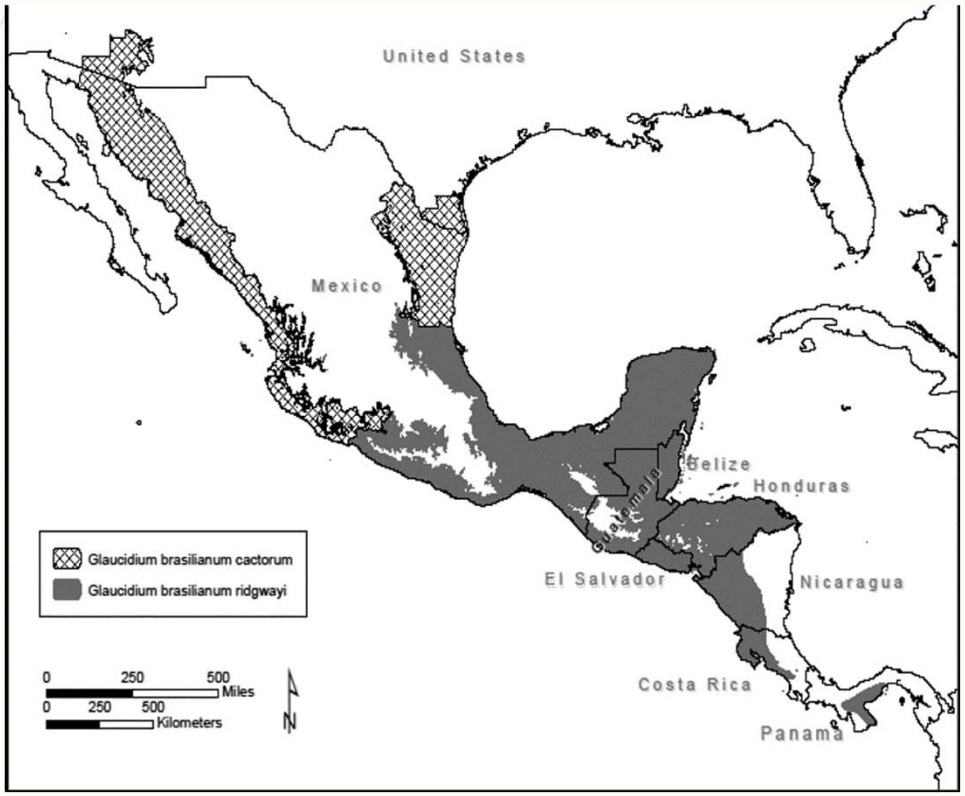


Cactus Ferruginous Pygmy-owl Threatened Status with 4(d) Rule

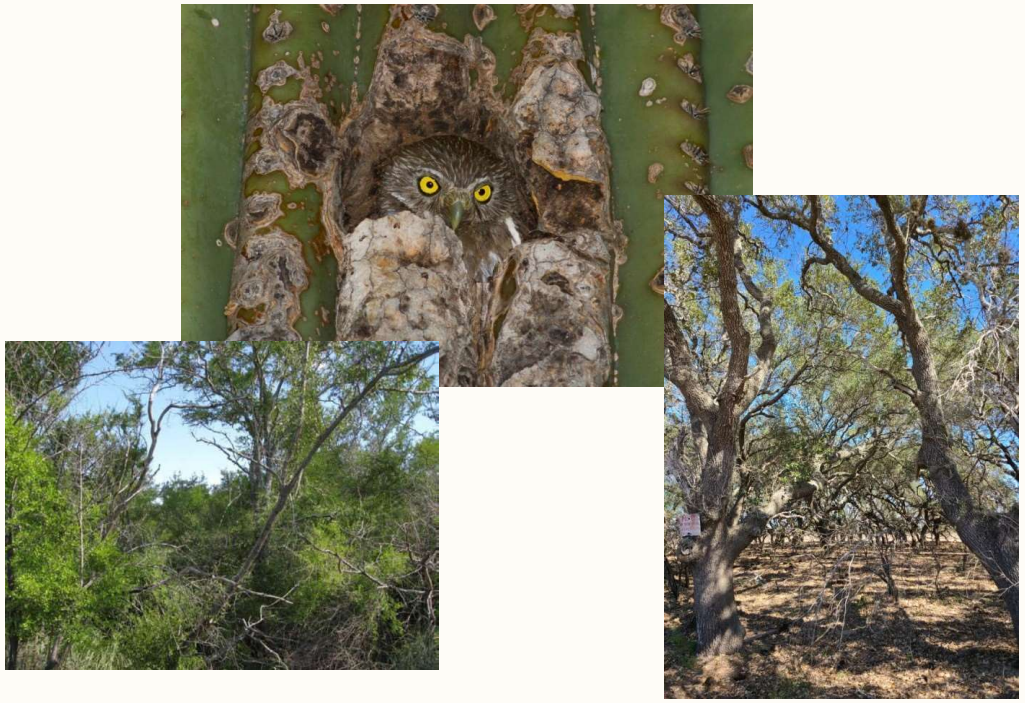
Scott Richardson, USFWS

Range


United States
Mexico
Belize
Honduras
Guatemala
El Salvador
Nicaragua
Costa Rica
Panama
Glaucidium brasilianum cactorum
Glaucidium brasilianum ridgwayi
0 250 500 Miles
0 250 500 Kilometers
N

Species Needs

- Woodland Cover
- Cavities
- Prey
- Habitat connectivity



Threats/Stressors

- Climate change and climate conditions
  - Prey availability
  - Invasive species
  - Vegetation health and cover
- Habitat loss and fragmentation
  - Urbanization
  - Invasive species/fire
  - Wood harvesting and agriculture


Photo: NPS


Photo: Dallas Morning News

SSA Approach

- Large, diverse SSA team
- 5 analysis units
- Lack of on-the-ground-data
  - Utilized remotely sensed data and habitat surrogates
  - Expert opinion and elicitation
  - Peer/Partners Review (n = 17)
    - *Follow-up and revisions*



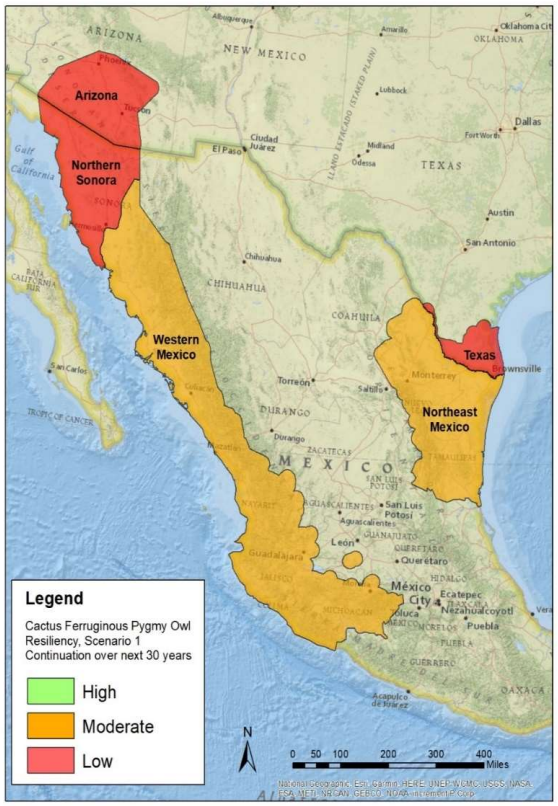
Current Condition

- Demographic Factors
  - Abundance
  - Occupancy
  - Evidence of Reproduction
- Habitat Factors
  - Intactness/Fragmentation
  - Prey Availability (CMD)
  - Vegetation Health and Cover (NDVI)



Future Scenarios – 30 years

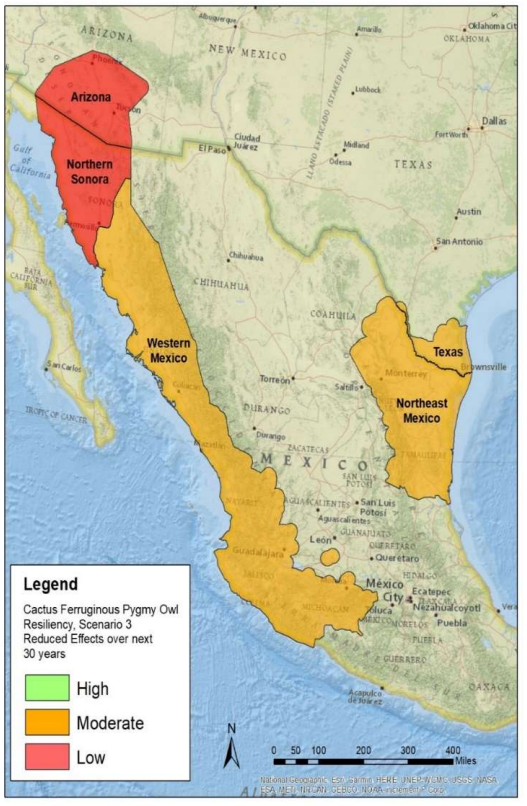
Continuation Scenario



Increased Effects Scenario



Reduced Effects Scenario



Conservation Efforts

- Survey and monitoring
- Limited research
- Captive breeding and releases pilot program
- Conservation planning
  - Pima County Sonoran Desert Conservation Plan
  - Altar Valley Watershed Plan
  - Buffelgrass Working Group



What is a 4(d) rule?



- A regulation deemed "necessary and advisable to provide for the conservation of **threatened** species"
- Identifies what actions/activities are **prohibited**
- Flexibility provided through "**exceptions**" to incidental take – authorizes activities with minor or beneficial effects on species recovery so that Service does not have to expend resources reviewing and issuing permits for those activities
- Examples:
- Species Restoration Efforts
- Habitat Restoration or Enhancement
- Activities covered under existing permitting processes