

Tehachapi Mountains, Wind Energy Facilities and California Condors

December 1, 2011

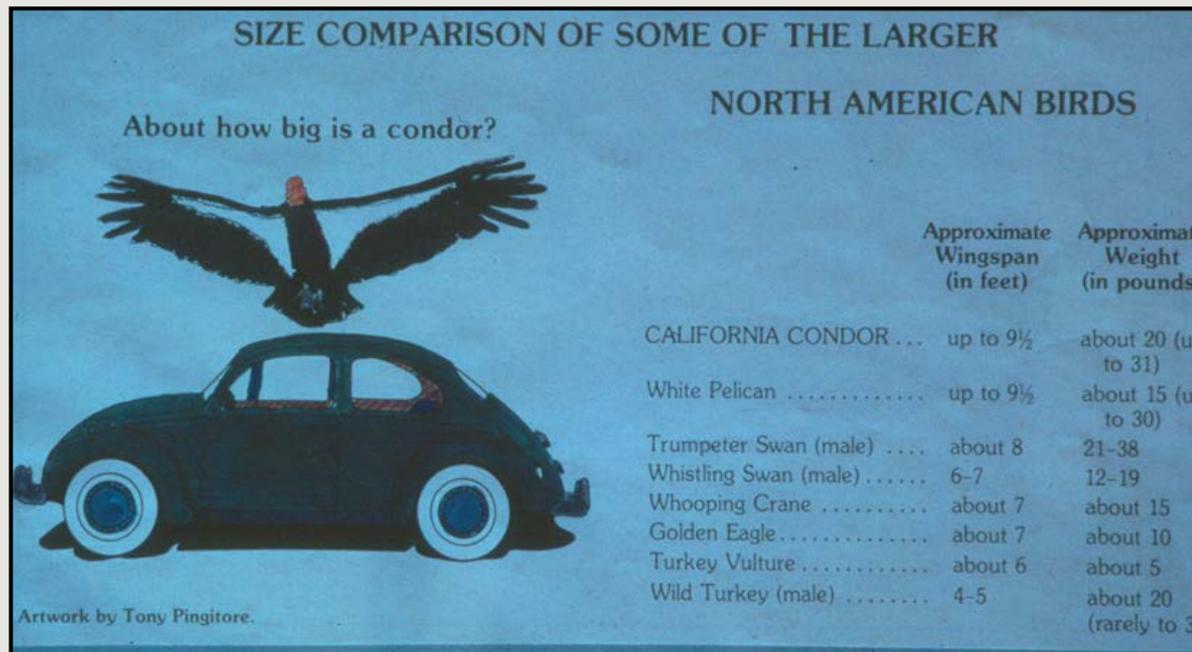


Overview

- **Biology and Status**
- **California condors and wind energy**
- **Challenges and solutions**
- **Federal and State laws and regulations**



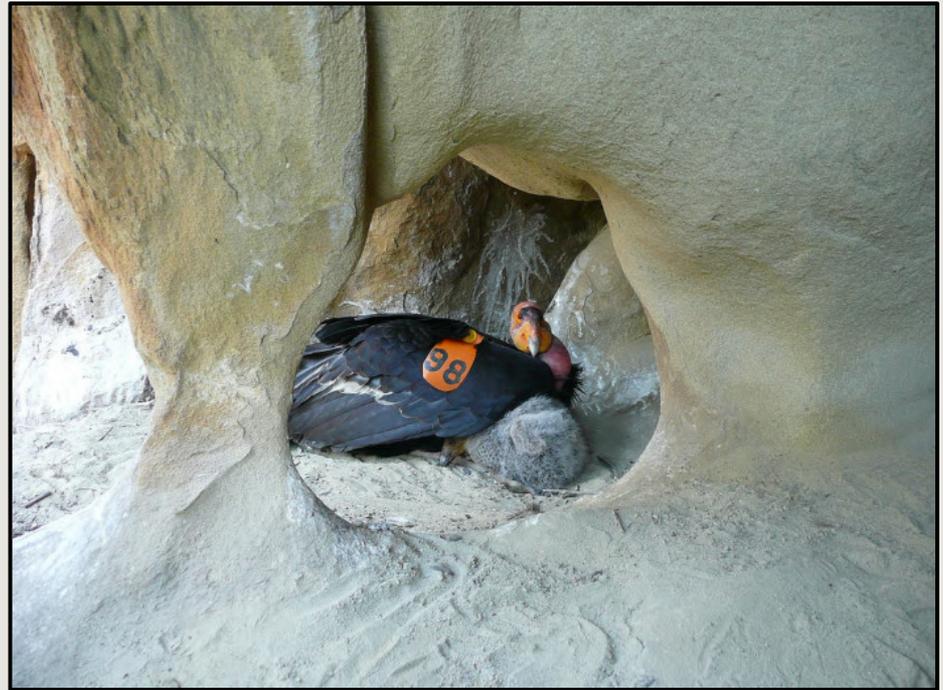
Status and Biology



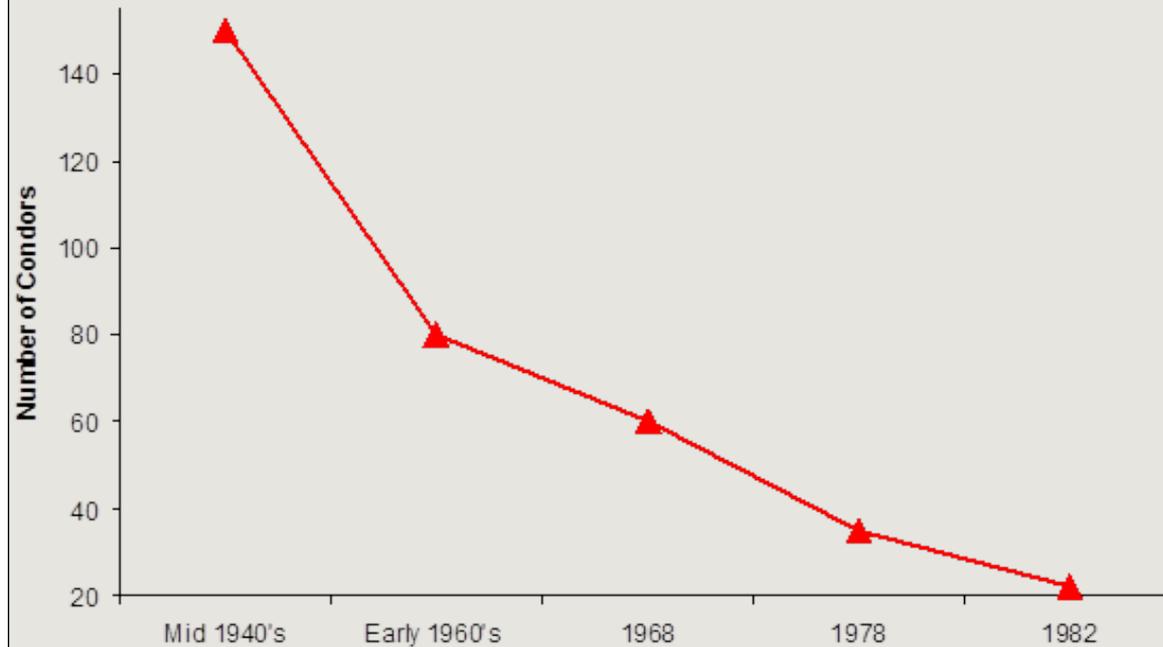
- Body length – 46 to 55 in
- Wing span – 9 to 9.5 ft
- Weight – 17 to 25 lbs
- Lifespan – 60 plus years



- **Highly social**
- **Low reproductive rate**
 - 1 egg per year
 - 1 year of parental care
- **Long maturation period**
 - Males - 7 years old
 - Females - 6 years old



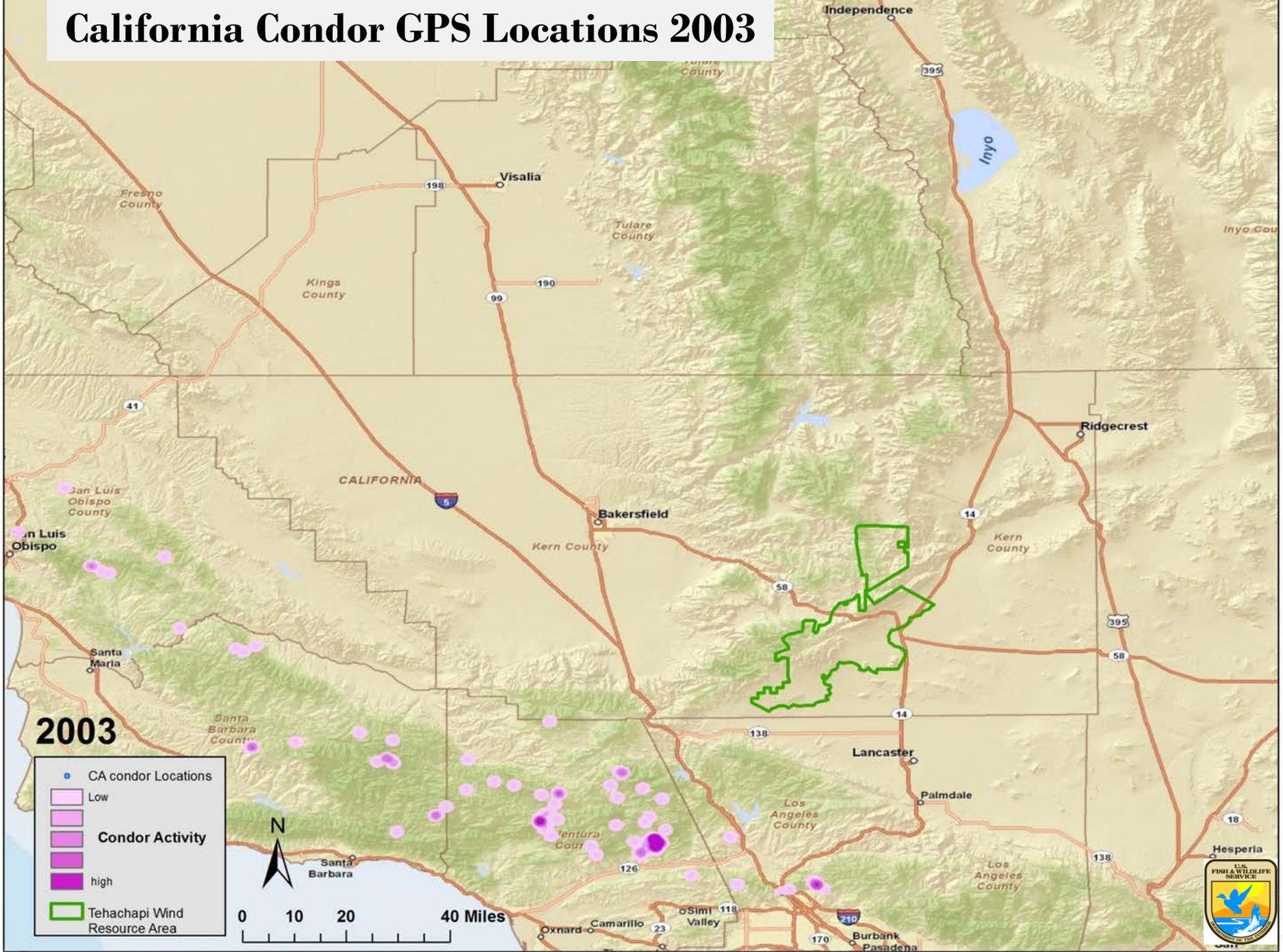
Estimated Historical Wild Population



- Capture of last wild California condor in 1987
- Successful captive breeding program
- Initial releases back into the wild began January 1992



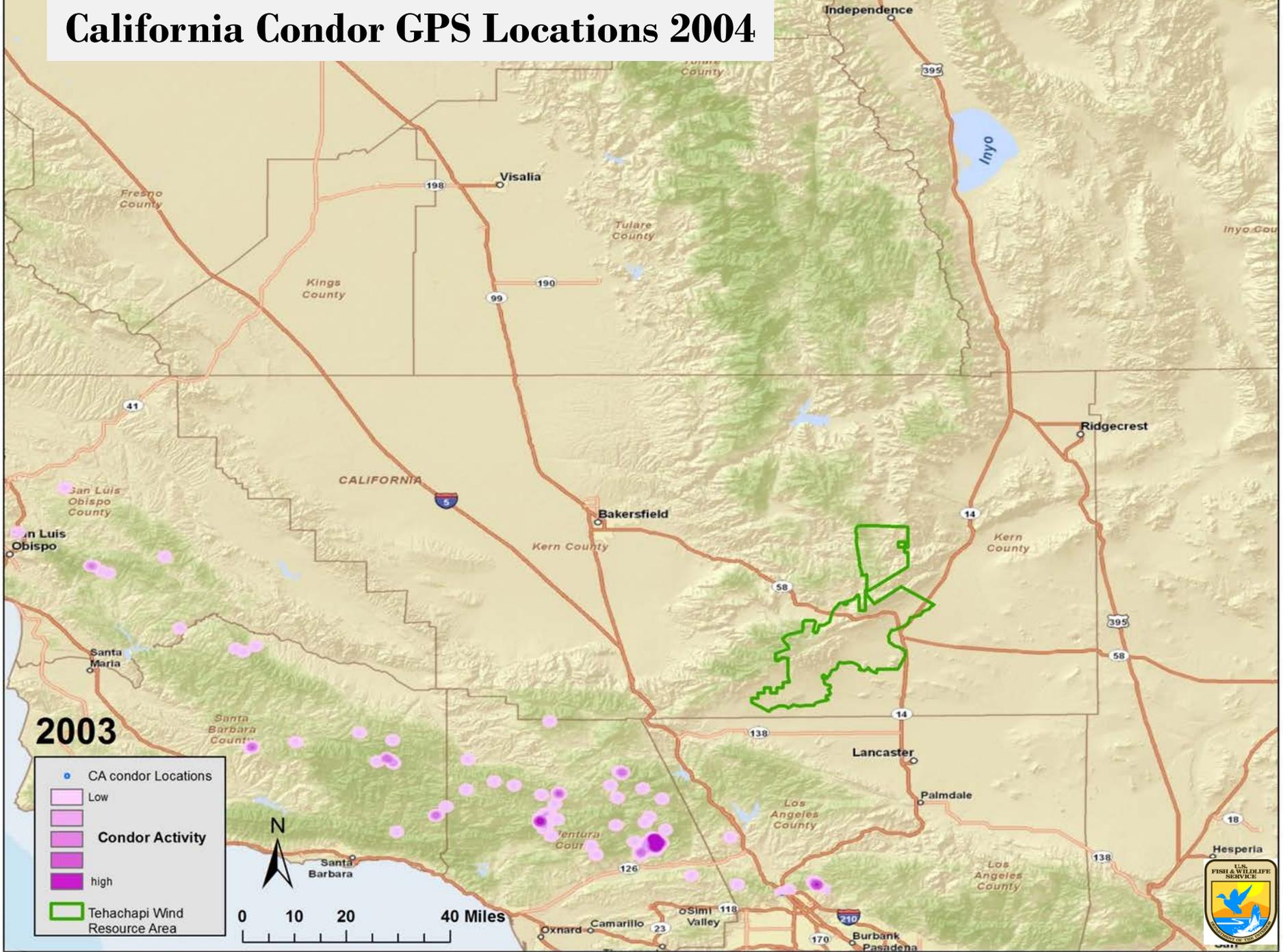
California Condor GPS Locations 2003



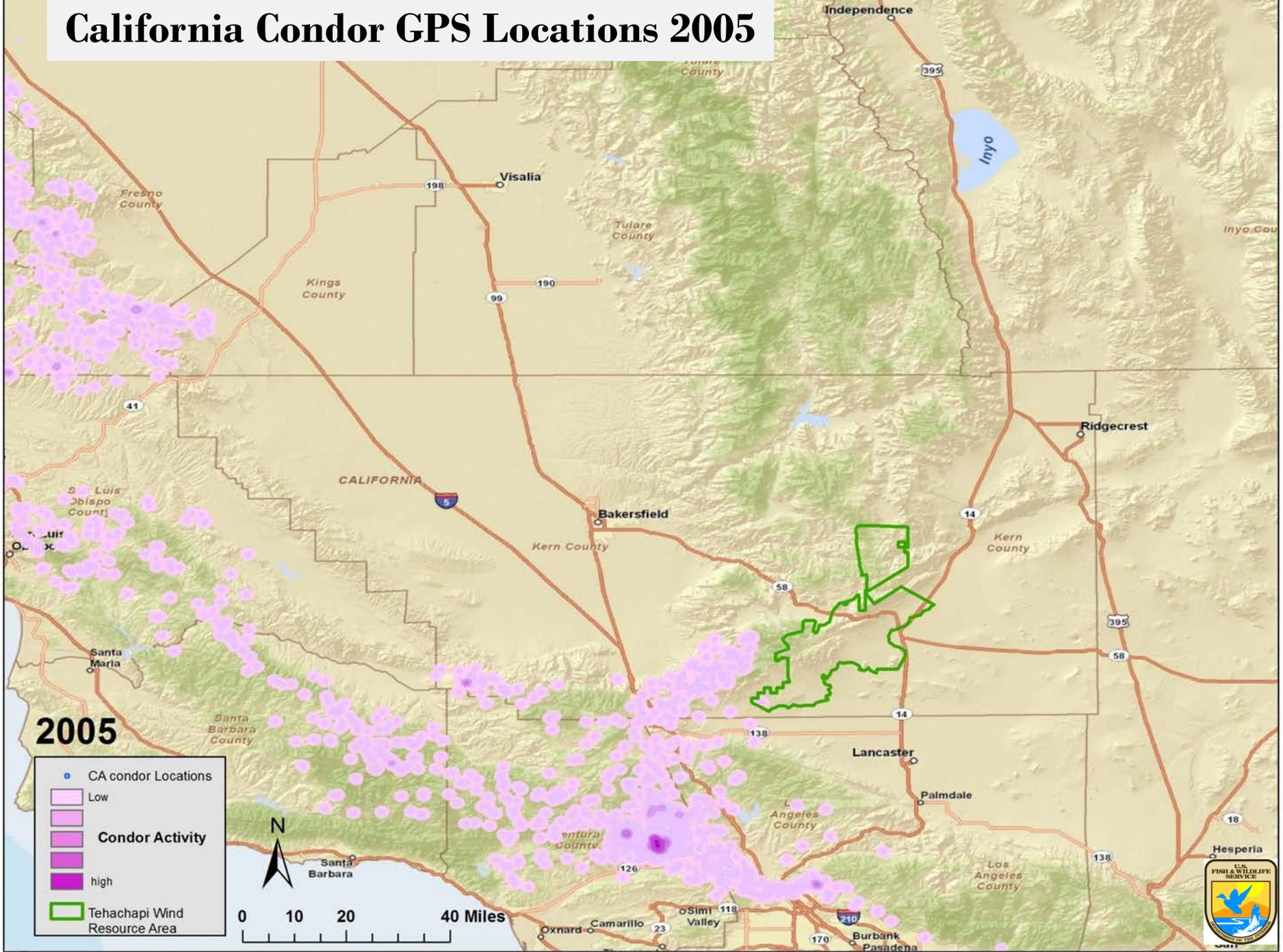
2003



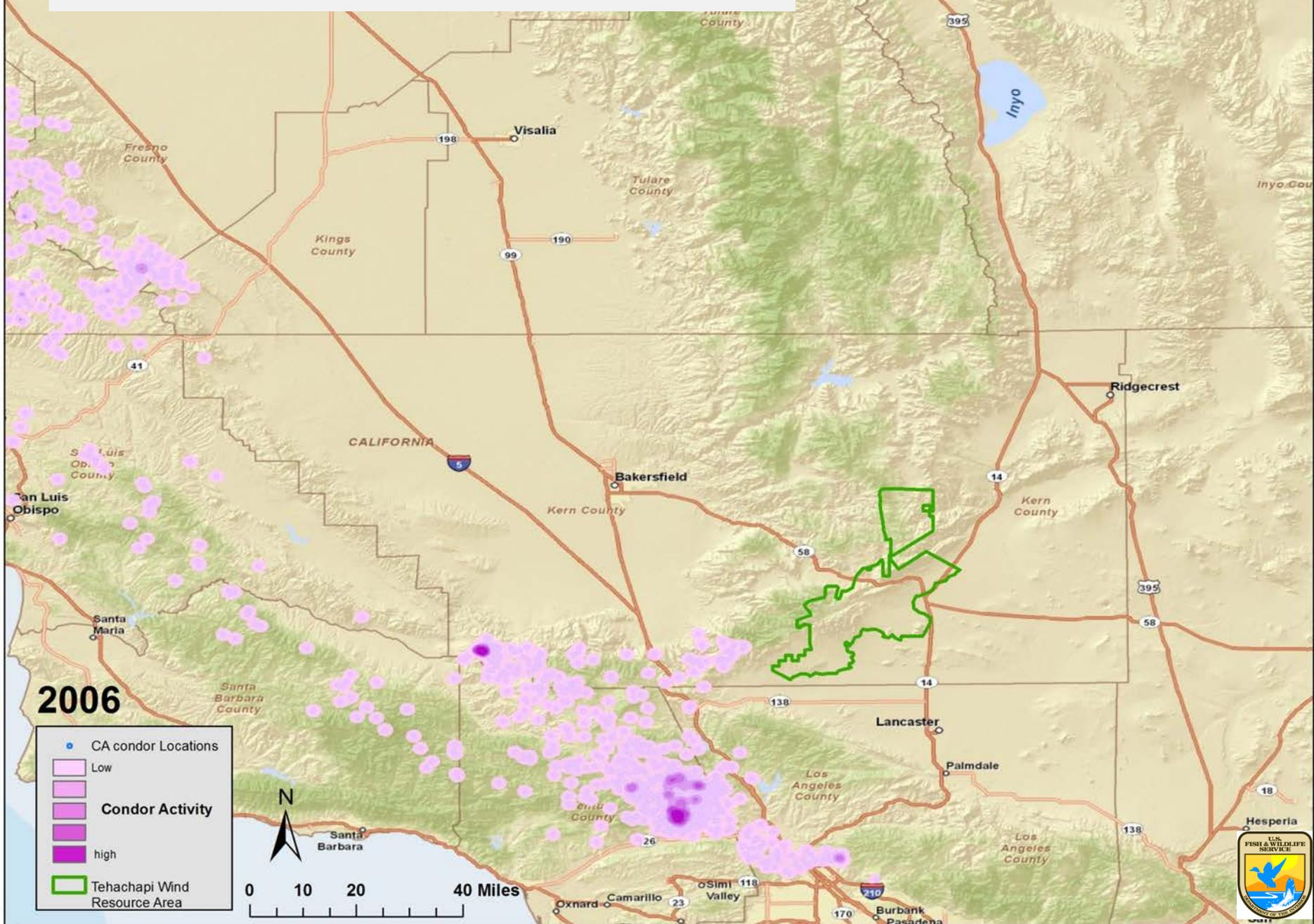
California Condor GPS Locations 2004



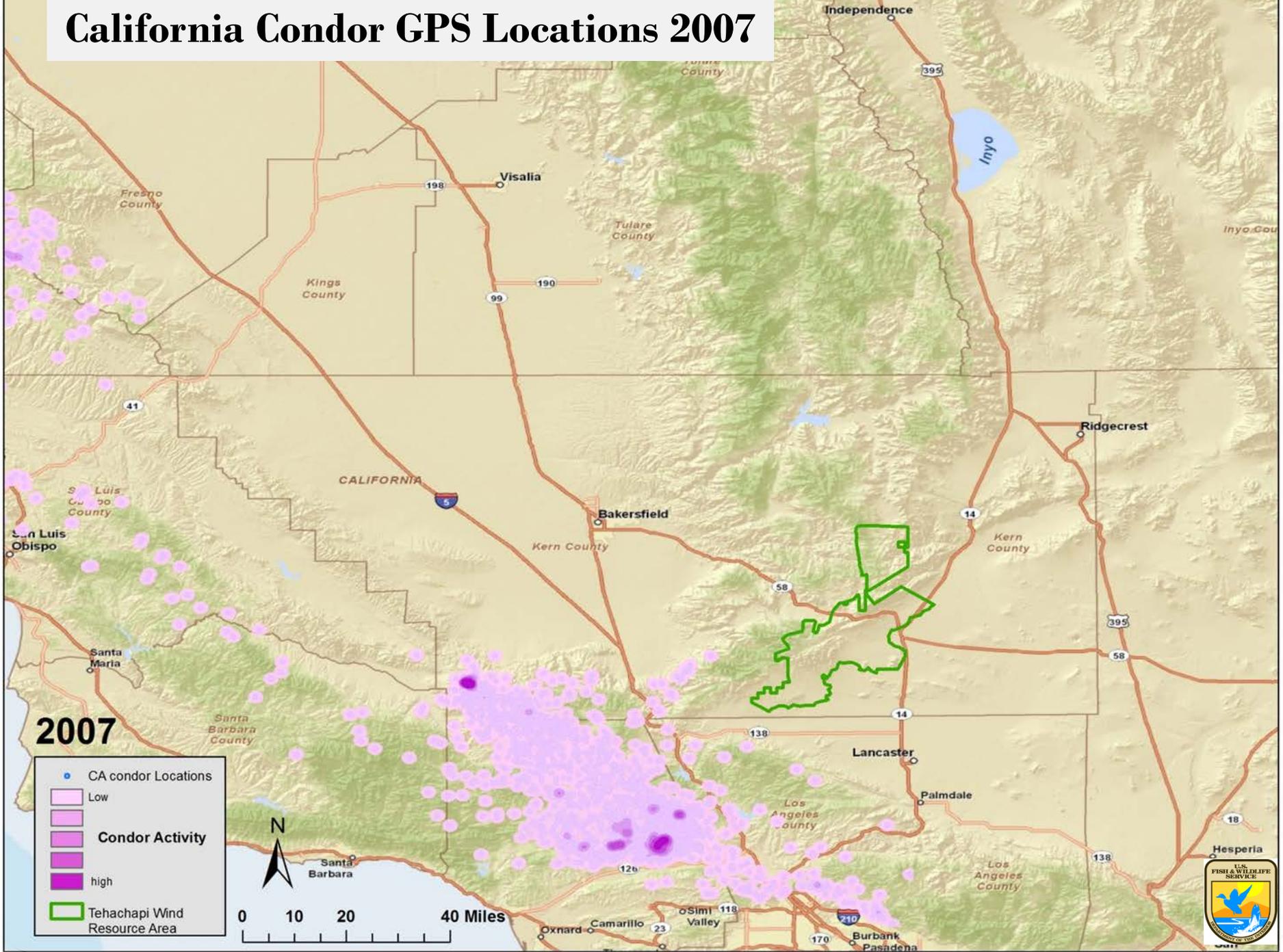
California Condor GPS Locations 2005



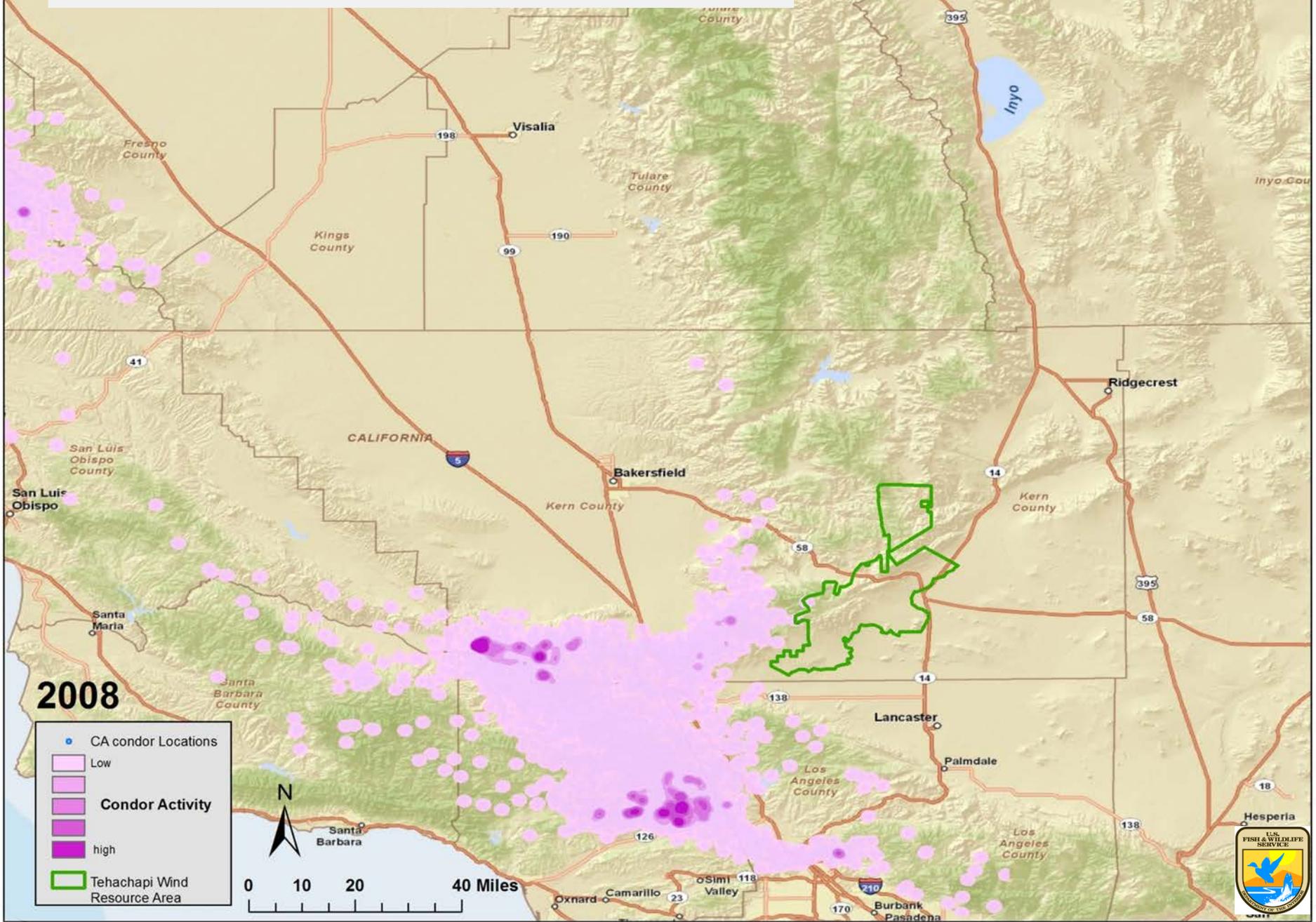
California Condor GPS Locations 2006



California Condor GPS Locations 2007



California Condor GPS Locations 2008



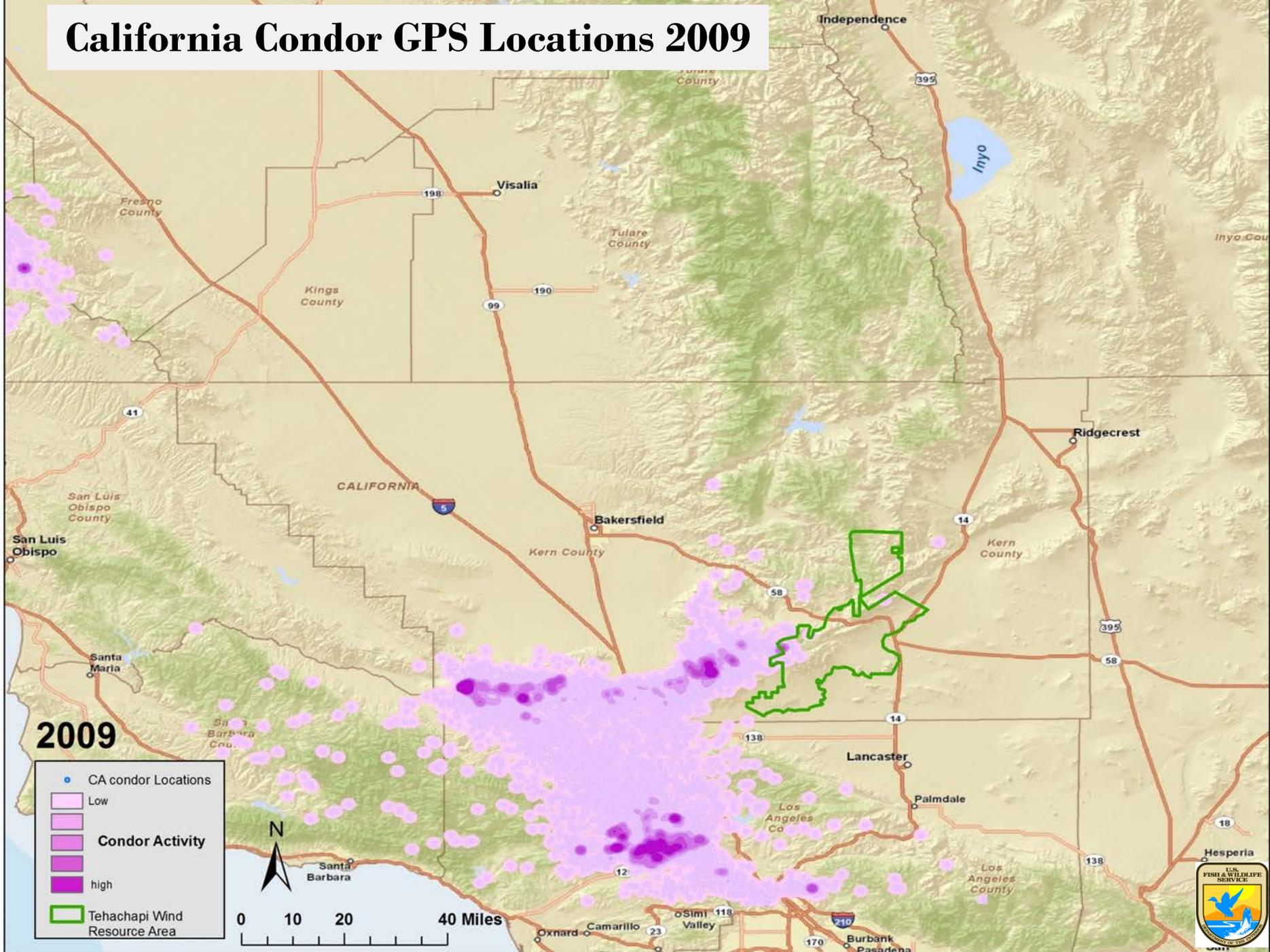
2008

- CA condor Locations
- Low
- Condor Activity
- high
- Tehachapi Wind Resource Area

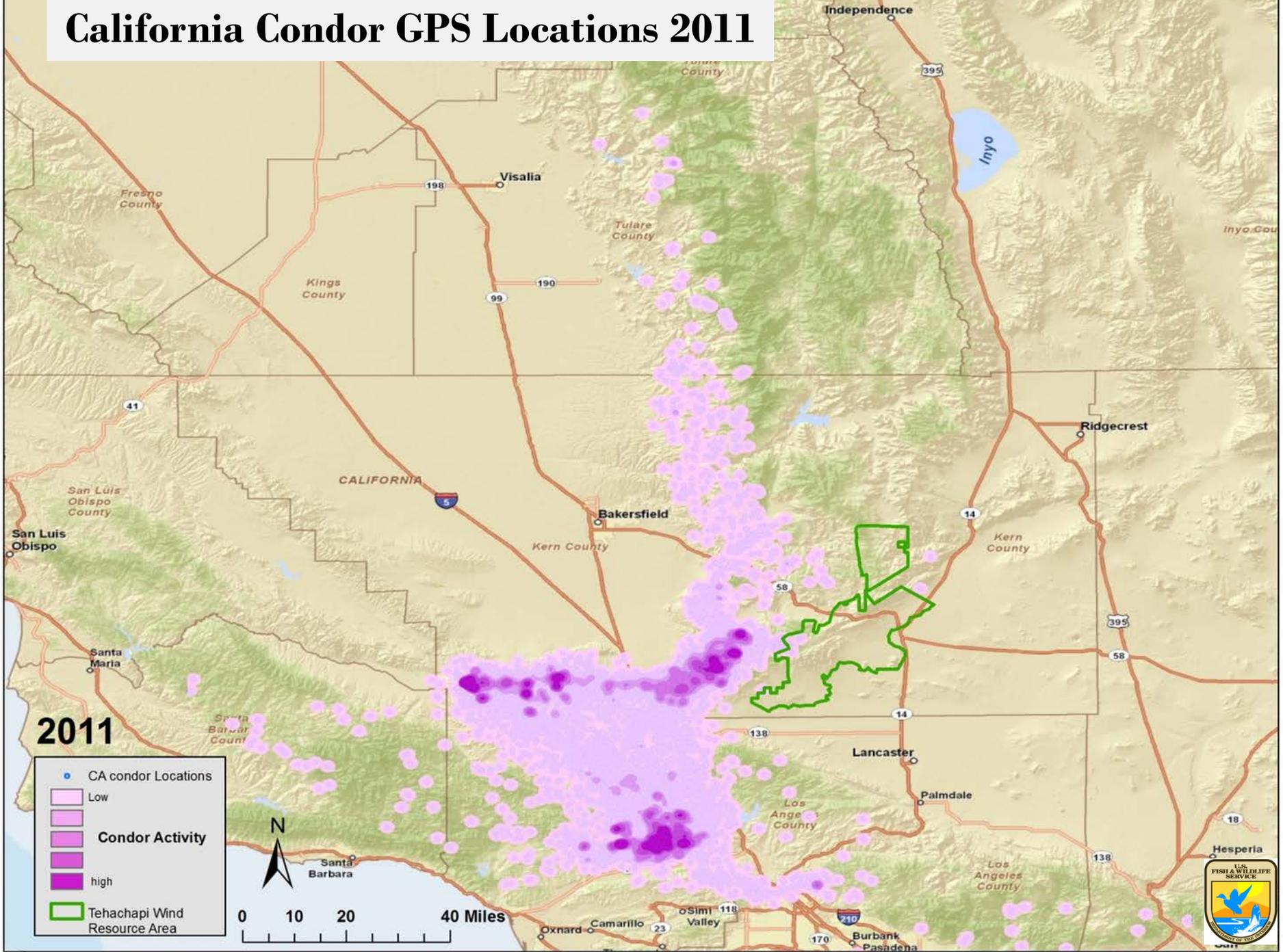
0 10 20 40 Miles



California Condor GPS Locations 2009



California Condor GPS Locations 2011



2011

- CA condor Locations
- Low
- Condor Activity
- high
- Tehachapi Wind Resource Area

0 10 20 40 Miles





Tracking Systems

- VHF tail mounts
- GPS wing mounts
 - Collect hourly information
 - 24 hour delay in transmittal
 - Limitations on equipping entire population



Supplemental Feeding

Current Practices

- Newly released birds
- Lead testing
- Other special circumstances



California Condor Population 2011

World population 394

Wild population 205

California - 111

Grand Canyon, AZ - 71

Baja California, Mexico - 23

Chicks in 2011- 3 fledged, 2 in nest
(included)

Captive population 189

Condors for release in 2011

California-10

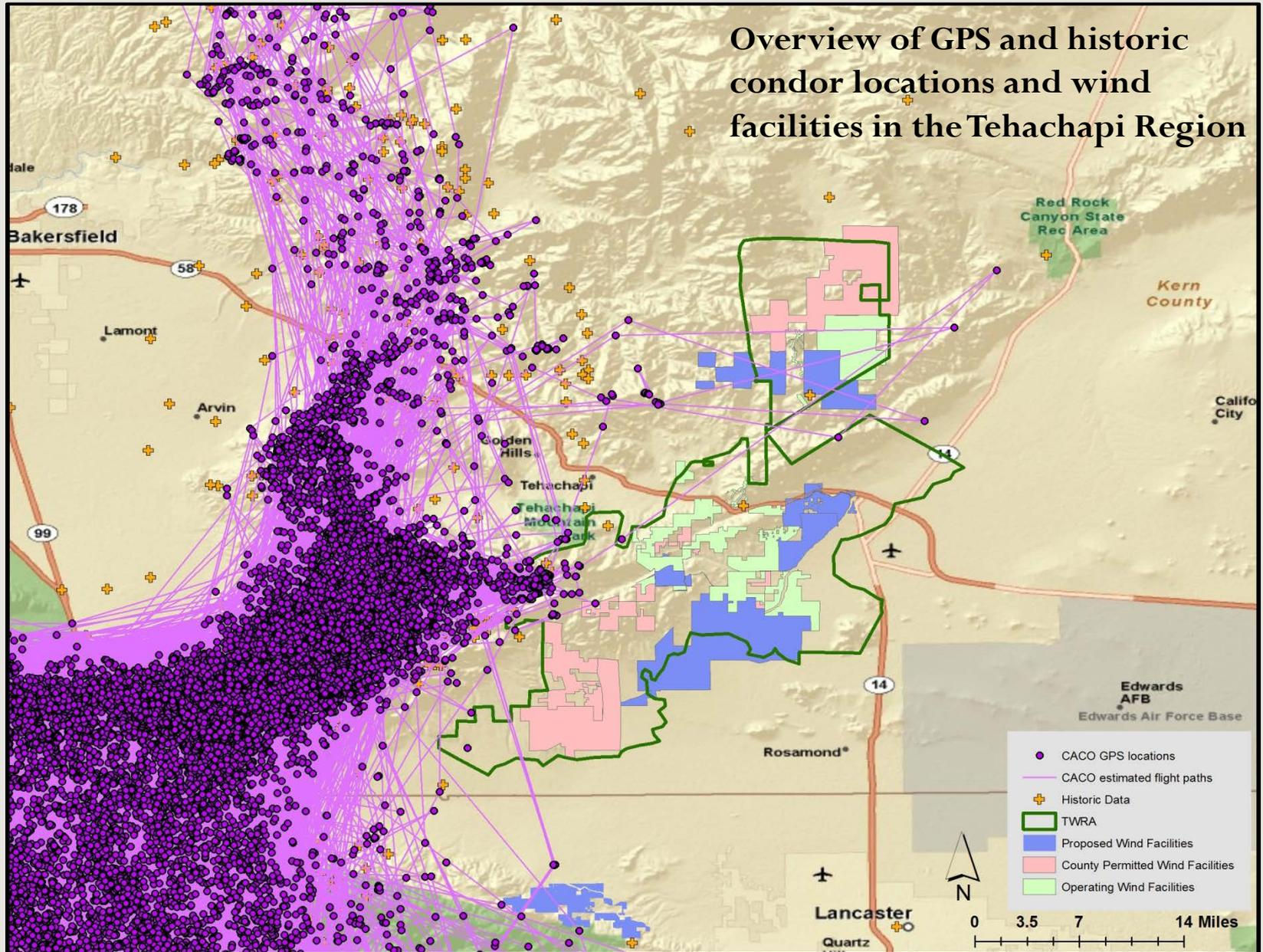
Grand Canyon-11

Baja California-4



California Condors and Wind Energy

Overview of GPS and historic condor locations and wind facilities in the Tehachapi Region



Known and Potential Threats

General Construction:

- Loss of habitat
- Electrocution
- Micro-trash



Unique to Wind Facilities:

- Collision with blades
 - Individual
 - feeding event





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Addressing the Questions Today

- Work with developers and others to avoid and minimize risk
- Condor Wind Energy Work Group



California Condor Wind Energy Work Group

- recovery team per section 4(f)(2) of ESA
- advisory to the Service
 - assessing the risks of wind energy development
 - recommending actions that can be taken to minimize these risks



USGS Analysis and Modeling

- analyze historic and current California condor space and habitat use
- analyze where birds move during the annual cycle and how they use the space
- consider how condor movement relates to existing and proposed wind energy sites



Resource Selection Theory

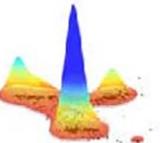
• Location data



■ Home range



■ Utilization distribution
(likelihood of occurrence)



■ Resources within
utilization distribution



Relate utilization distribution to resources



California Condor Wind Energy Work Group



- USGS peer-reviewed manuscript for publication in December 2012
- Develop Research Questions and consider avoidance and minimization methods
- Recommendations provided by Work Group to Regional Director

State of California

California Condor Protection

- **Protected under California Endangered Species Act (CESA)**
 - Listed as Endangered
 - Species protected under CESA can be exempted from the take prohibition under CESA only if the Permittee implements certain actions that meet CESA issuance criteria.
- **Listed as a Fully Protected species**
 - Permits allowed only for “necessary scientific research, including actions to recover fully protected, threatened, or endangered species...” (Fish and Game Code Section 3511)
- **Natural Community Conservation Act (NCCPA), Section 2835 of the Fish and Game Code**
 - Senate Bill 618 gave CDFG the option of issuing a permit for the incidental take of fully protected species within the context of a Natural Communities Conservation Plan (NCCP) pursuant to Section 2835 of the Fish and Game Code.



Federal Protection



- Protected under Endangered Species Act
- Prohibition against take
 - “harass, harm,...wound, kill, trap, capture or collect...”
- If a project doesn’t jeopardize species,
 - Take can be exempted through section 7 with
 - Federal nexus
 - Take can be permitted through section 10 for
 - private lands projects with out Federal nexus

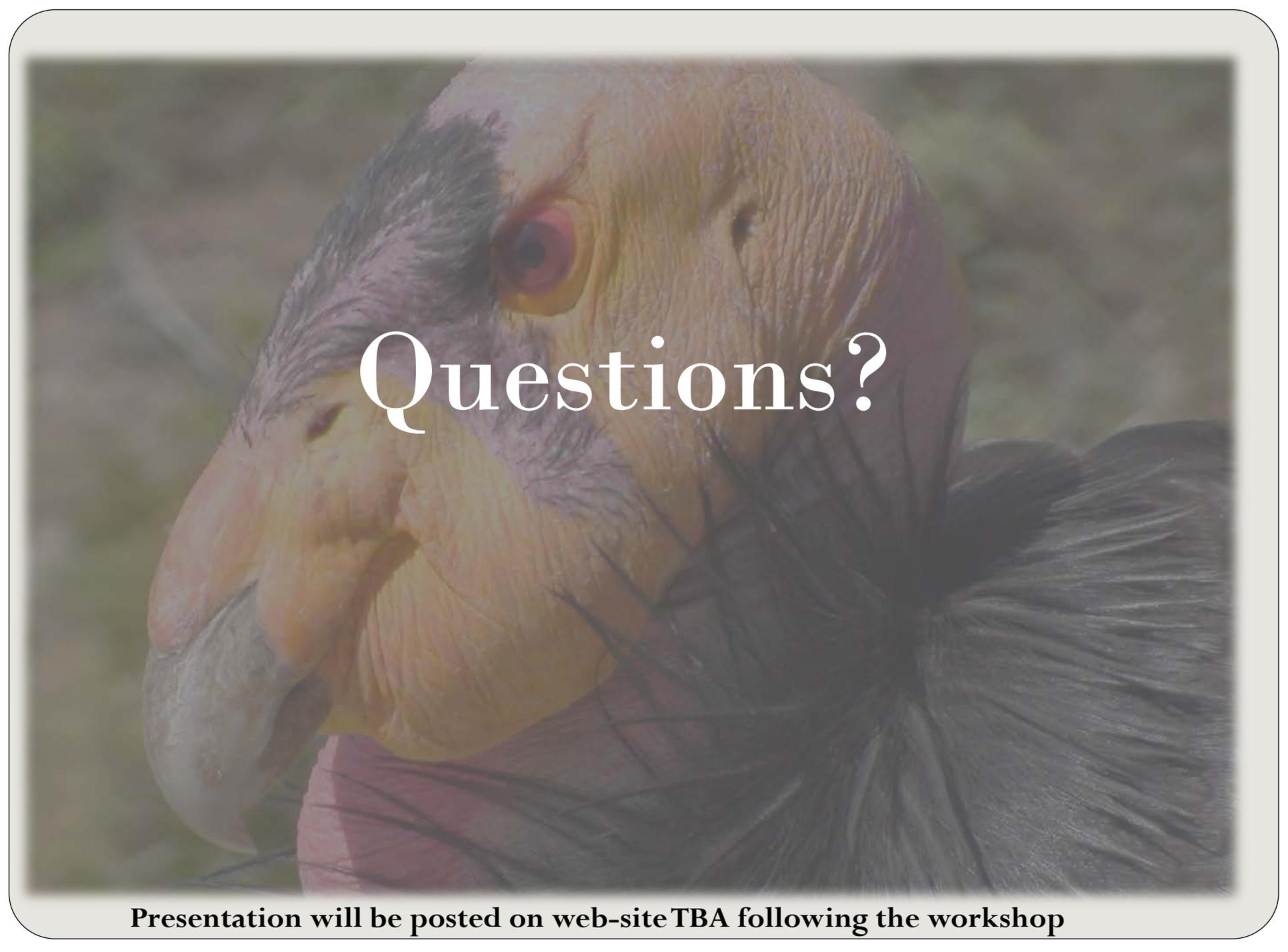
Where do we go from here?

Remaining Challenges

- Real time need for solutions
- Constraints
 - Limited population size
 - Technological limitations
 - Ability to permit lethal take

Choice of future paths





Questions?

Presentation will be posted on web-site TBA following the workshop