Bald and Golden Eagle Protection Act

- Protected under BGEPA
- Rule allowing for take went into effect November 10, 2009
- Draft Eagle Conservation Plan Guidance released February 2011
- ECP Guidance Technical Appendices released August 2012
Bald Eagle Biology

- Opportunistic feeding
  - Fish, waterfowl, small mammals
  - Carrion
  - Piracy
- Aquatic habitats
- 5 fatalities
  - 3 in U.S.
  - 2 in Canada
- Lower risk profile
Golden Eagle Biology

- Active hunters
  - Small mammals
  - Carrion
- Contour hunting
- 54 fatalities outside Altamont
- Higher risk profile
Assessing and Documenting Risk

- Bird and Bat Conservation Strategy (BBCS)
- Eagle Conservation Plan (ECP)
- Eagle Take Permit
Eagle Conservation Plan

- Project-specific plan to address risk to eagles from wind developments

- Step-wise approach
  - Identify if eagles are an issue early

- Understand ECP contents
  - Data requirements
  - Consider long-term impacts to project
    - Cost
    - Schedule
Stage 1 – Initial Site Assessment

- Gather existing, available information
  - Balance suitability for development with potential risk to eagles
  - Refine potential project sites
  - Risk category

- Important use areas within 10 miles of the project
  - Nests
  - Prey concentrations
  - Communal roost site
  - Migration corridor
  - Migration stopover

- USFWS coordination
Risk Categories

1. High risk to eagles – little opportunity to minimize effects
   • Should be moved, significantly redesigned, or abandoned

2. High to moderate risk to eagles, opportunity to minimize/mitigate effects
   • ECP should be prepared

3. Minimal risk to eagles
   • ECP may be prepared to document low risk

4. Uncertain risk to eagles
   • Need site-specific surveys to place in a category
Category and Cost/Schedule Effects

The lower the category, the higher the project risk

Risk Category

Cost/Schedule Implications
Stage 2 – Site-specific Field Surveys

- **Eagle point counts**
  - 1-2 hours or more
  - Distributed over entire project
  - At least 30% coverage
  - All daylight hours
  - Year-round preferable
  - At least 2 years

- **Nest surveys**
  - Aerial
  - 10 miles
  - February - May
  - 2 breeding seasons

Coordinate with USFWS
Stage 3 – Risk Assessment

- Electrocution
- Displacement/disturbance
  - Nests
- Habitat Fragmentation
- Collision
  - Use data from Stage 2
  - Initial fatality prediction
Stage 4a – Avoidance and Minimization Measures

- Determine measures to avoid and/or minimize the predicted risks to eagles
  - Follow APLIC guidance
  - Avoid guy wires
  - Carcass removal
  - Speed limits

- Re-run fatality model after consideration of measures
  - Standard: has proponent avoided and minimized risks to the maximum extent achievable?
Stage 4a - Mitigation

- Mitigation for predicted eagle fatalities

- No-net-loss
  - For each take, need to ‘save’ one eagle
  - 2 fatalities predicted, 2 eagles saved

- Translate mitigation action into eagles
  - Resource Equivalency Analysis
  - Power pole retrofits
  - Others could be considered
  - Project-specific
Stage 4b – Adaptive Management

- Develop strategy if fatalities exceed predicted

- Curtailment
  - Prescribed
    - Based on risk factors
    - Turbines might be curtailed when eagles are not present
  - Controlled
    - Based on risk to eagles
    - Monitors or technology
    - Turbines curtailed when eagles are present
Stage 5 – Risk Validation Post-construction

- Post-construction Mortality Monitoring Studies
  - Objective: generate data for comparison with baseline

- Turbine searches
  - Year-round
  - Searcher efficiency trials
  - Carcass persistence trials
  - At least 3 years

- Other studies
  - May be other studies to validate baseline data
    - Occupancy/productivity of nests
    - Behavioral observations
Summary

- Eagles becoming a potential fatal flaw
- Begin thinking about data collection early in the process
- Recognize that eagle guidance is changing
- Consult USFWS early and often
- Keep a formal record of all avoidance and minimization efforts during project siting
- Keep a record of consultation with federal and state agencies
- Consider cost of post-construction monitoring and adaptive management as early as possible