Reducing Project Impacts

Step-wise Process

- Avoidance – Project Siting and Design
- Minimization – Turbine Design and Operational
- Compensation – Actions to “offset” any remaining impacts: Typically habitat protection, enhancement or restoration
- Monitoring to Ensure Goals are Met.
Essential Information for Screening Potential Biological Impacts, Impact Assessment, CEQA Determinations

- Species utilizing site and vicinity
- Presence of any listed species or other special status species.
- Magnitude of bird use at site
- Guidelines should discuss assessment methods and protocols and recommend a standardized approach
State Laws Relating to Wildlife Protection

- California Fish and Game Code § 3503.5 Falconiformes and Strigiformes
- California Fish and Game Code § 3511 “Fully Protected Birds”
- California Fish and Game Code § 3513 MTBA
- California Fish and Game Code § 3800 Non-Game Birds
Fully-Protected Birds
(F&G Code §3511)

American peregrine falcon
Brown pelican
California black rail
California clapper rail
California condor
California least tern
Golden eagle
Greater sandhill crane
Light-footed clapper rail
Southern bald eagle
Trumpeter swan
White-tailed kite
Yuma clapper
Federal Laws Relating to Wildlife Protection

- Federal Endangered Species Act (FESA)
- Migratory Bird Treaty Act (MTBA)
- Bald Eagle Protection Act
Use of Compensatory Mitigation

- CEQA – Mitigate significant impacts to a level of “less than significant”

- CESA – Achieve “full mitigation standard”

- Compliance with State Wildlife Laws – Compensate or “offset” impacts that remain after avoidance and minimization to achieve “no net loss”
DFG Role - CEQA

- Consult with lead agencies on projects as required.
- Develop and recommend mitigation measures as appropriate for the resources with its purview
- Provide public comment and testimony during the CEQA Process
- Responsible Agency if additional CDFG approvals are required
DFG Role - CESA

- Lead Permitting Agency for “Incidental Take” of State-listed Species

- Assessment of “Jeopardy”

- Projects Effects must be “Minimized and Fully Mitigated”

- CEQA Compliance for Permit Issuance –
  - Responsible Agency
  - State Lead Agency
DFG Role - Other Wildlife Laws

- State Trustee for Fish, Wildlife and Their Habitats

- Preserve, Restore, Protect and Enhance the State’s wildlife resources to maintain their ecological values and to ensure continued use and enjoyment by the public

- Public Education, Scientific Expertise

- Work Cooperatively with Project Proponents to reduce and/or offset project effects

- Enforce Violations of State Law
Operational Monitoring is Essential to:
- Validate and Confirm Impact Estimates
- Evaluate Success of Avoidance and Minimization Measures
- Provide Feedback to Operational Planning

Monitoring of Compensatory Mitigation also Required to Evaluate Success
Guidelines

- Discuss the Framework of State Law to be Considered
- Provide Recommendations for Site Assessment Methodology, both Pre- and Post-Project
- Identify the Types of Impacts that Should be Assessed and Provide a Decision Framework and/or Tools for Performing the Assessments
- Identify Potential Options for Compensatory Mitigation that Ensure Bird and Bat Protections and a Decision Framework for Application
TYPES OF IMPACTS TO CONSIDER FOR PROJECT SITING
Direct Impacts

- Those effects that are caused by a project and occur at the same time and place.
  - Turbine Effects
  - Guy Wires and other Infrastructure
  - Lighting
  - Weather events
Indirect or Secondary Impacts

- Those effects that are reasonably foreseeable and caused by a project but occur at a different time or place.
  - Local Disturbance
  - Habitat Displacement
  - Site Avoidance
  - Disruption to Migratory Patterns
Those which refer two or more individual effects which when considered together, are considerable or which compound or increase or decrease other environmental impacts

An assessment of a project’s incremental effects combined with the effects of other projects
Cumulative Impact Assessment

- Determination of risk to species as a whole or over affected geographical region, inclusive of the project site
- Evaluation of threat to local breeding populations
- A listing and review or analysis of other wind generation projects, as well as other projects that may result in the loss of habitat or collision fatalities
Cumulative Impacts

- An identification of the extent of habitat that may be lost by the combined projects

- An evaluation of the effect that the cumulative loss might have on local or regional species populations or population as a whole
COMPENSATORY MITIGATION
Reducing Project Impacts

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Conservation Biology Principles

- Conserve Larger, Contiguous Habitat Areas, Multi-species Focus
- Conserve and Restore Habitat Connectivity Corridors
- Conserve and Maintain Associated Ecological Systems
- Conserve Population Structures and Genetics
Determination of Compensation Requirements

- Biological Basis – Replace lost individuals into the population
  - enhance reproductive capacity
  - enhance or expand breeding areas and opportunities
  - enhance other critical habitat areas
  - Remove or control other population stressors
Project/Compensation Nexus

- Birds per Megawatt
- Rotor-swept Area
- Aerial Extent of Rotor-swept Area
- Entire site rendered unsuitable
- WAG
Compensation Approaches

- Conservation of Essential Habitat
  - Nest Trees
  - Breeding Areas
  - Wintering or Roost Areas
  - Foraging Habitat
  - Migratory Rest Areas
  - Habitat Linkages
Permanent Conservation Mechanisms

- Mitigation Banks
- Purchase Fee Title
- Conservation Easements
Compensation Approaches

- Habitat Restoration
  - Assumption that we can create habitat, restore functions
  - Assumption that we can increase carrying capacity
  - Disagreement on Success
  - Stringent Monitoring Requirements
Compensation Mechanisms

- Habitat Restoration
  - Restore non-functional areas
  - Conserved areas - to increase carrying capacity

- Habitat Enhancements
  - Exotic Species Removal
Compensation – Other Ideas

- Industry “Habitat Bank” Consortium
- Combination Approaches involving Research Contributions
- “Green” Allowance
- Decommissioning of Orphaned Facilities
Other Considerations

- Goal is Preservation in Perpetuity
- Long-Term Management funding for Mitigation Lands
- Use of third-party Land Managers
Guidelines

- Outline Decision Framework For Compensatory Mitigation Decisions
- Identify Potential Options for Compensatory Mitigation that Ensure Bird and Bat Protections
- Recommend Mitigation Monitoring Scenarios