

# PERSPECTIVE ON IMPACTS AND MITIGATION - CEQA AND OTHER STATE LAWS

California Department of Fish and Game  
Workshop

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Scott A. Flint

# 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.

# Pre-Permitting Assessment

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 within 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

# Post-Project Monitoring

- ▣ 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

An aerial photograph of a wind farm in a hilly, grassy landscape. The wind turbines are scattered across the terrain, with a prominent road or path winding through the center. In the background, there are rolling hills and mountains under a clear sky. The entire image has a light blue tint.

- ▣ 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

# Cumulative Impacts



- ▣ 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



- ▣ Avoidance
- ▣ Minimization
- ▣ Compensation – Actions to “offset” any remaining impacts: Typically habitat protection, enhancement or restoration
- ▣ Monitoring

# Use of Compensatory Mitigation

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

$$\frac{3m-1}{m^2+5m-14} + \frac{1}{2-m} = -\frac{2}{m+7}$$

$$\frac{3m-1}{(m+7)(m-2)} + \frac{1}{2-m} = -\frac{2}{m+7}$$

$$\frac{3m-1}{(m+7)(m-2)} + \left( \frac{1}{2-m} \cdot \frac{-1}{-1} \right) = -\frac{2}{m+7}$$

$$\frac{3m-1}{(m+7)(m-2)} + \frac{-1}{m-2} = -\frac{2}{m+7}$$

$$\frac{(m+7)(m-2)}{(m+7)(m-2)} \left( \frac{3m-1}{(m+7)(m-2)} + \frac{-1}{m-2} \right) = -\frac{2}{m+7} \cdot \frac{(m+7)(m-2)}{(m+7)(m-2)}$$

$$\left( \frac{(m+7)(m-2)}{1} \cdot \frac{3m-1}{(m+7)(m-2)} \right) + \left( \frac{(m+7)(m-2)}{1} \cdot \frac{-1}{m-2} \right) = -2(m-2)$$

$$3m-1 + -1(m+7) = -2m+4$$

$$3m-1-m-7 = -2m+4$$

$$2m-8 = -2m+4$$

$$2m-8+2m = -2m+4+2m$$

$$4m-8 = 4$$

$$4m-8+8 = 4+8$$

$$4m = 12$$

$$\frac{4m}{4} = \frac{12}{4}$$

$$m = 3$$

# 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

# Compensation Mechanisms

- ▣ 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