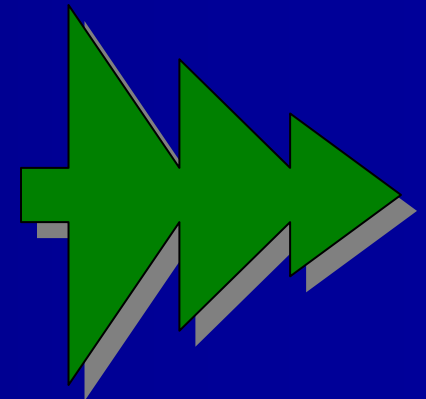


Cumulative Effects of Timber Operations on DFG Trust Resources

Workshop: "Procedures and Resource Protection in the THP Review Process"

10 December 2008; Ukiah, CA

Brad Valentine, Scott Osborn, et al.
California Department of Fish & Game



Overview

- I. Introduction
- II. Definition
- III. Concepts
- IV. Species Considerations
- V. Habitat Considerations
- VI. Approaches
- VII. Examples (Time?)

I. Introduction

- Important, impossible
- Time
- Expertise
- Resource
- Aquatic and Terrestrial
- Frustration

II (1 of 3). Definitions (paraphrased)

CCR 15355
(CEQA
Guidelines)

&

CCR 895.1
(Forest
Practice
Rules).

- Two or more individual effects ... considered together, ... considerable ... compound or increase other environmental impacts
 - Changes from 1 or more projects
 - Incremental impacts ... past, present, future projects ... individually minor but collectively significant

II (2 of 3). Significance, defined (paraphrased)

CCR

15382:

CEQA

- Significant Adverse Impact on the Environment ... a substantial, or potentially substantial, adverse change ... **physical conditions** ... including land, air, water, minerals, flora, fauna, ambient noise, and ...

CCR

895.1:

FPRs

- Long Term Significant Adverse Effect on ... species ... associated with late succession forest stands means an effect that creates an **identifiable trend or set of conditions** ... evidence that a population ... extirpated ... **significant portion of its current range**

II (1 of 3). **Definitions, Significance**

Contribute To A Persistent Decline

III. Some Pertinent Concepts

- Recovery from impacts
- Past, Present, and Reasonably Foreseeable Projects
- Baseline
 - (Natural Range of Variability & Disturbance)
- Thresholds
- Uncertainty
- Global Climate Change

IV (1 of 3). Species Considerations

- Status of Species:
 - Biological (especially locally) & Legal
- Population Viability, Ecologically Functional
- Population Structure & Processes
 - Meta-populations, MVP, Sources & Sinks
- Direct Impacts
 - Direct Mortality
 - Habitat Destruction
 - Habitat Deterioration
 - Delayed
- Indirect Impacts
 - e.g., Changes in Predator / prey Dynamics

IV (2 of 3). Species Considerations

- Species Habitat Needs & Limitations
 - Limitations: Area, Dispersal, Element, Habitat (mix), stage, pollinator, ...
- Mitigation Available, Likely to be Successful?
- Habitat Recovery Rate
 - Available
 - Accessible
 - Duration

IV (3 of 3). Species Considerations

- Biological Assessment Area(s)
 - Context and Significance
 - Same impact / different level of significance
 - Size
 - “Significant Portions of Range”
 - Species (population) –Specific
 - Viability Standard?
 - Area / information Tradeoffs
- Uncertainty

V (1 of 2). Habitat Considerations

■ Habitat Type

(e.g., Seral Stages, Communities)

- Quantity & Quality
- Amount, abundance
- Distribution
- Trends

V (2 of 2). Habitat Considerations

- Elements
 - On-site & Regional Abundance
 - Recruitment Dynamics, Quality
 - Trends
- Uncertainty

VI (1 of 2). An Approach

- ID impacting activity ► impact ► mitigation
 - Remove Trees ►
 - Change seral-stage structure class ► silviculture, stand info
 - Change element dynamics ► retain/recruit snag/lwd/WT
 - Yard ►
 - Alter hydrology/erosion ► helicopter, ...
 - Type-convert (forest to roads/landings) ► temp roads, decommission, ...
 - Build/Reconstruct/Use Roads ►
 - Sediment ► ...
 - Hydrology ► ...
 - Disturbance ► ...
 - Access (e.g., poaching) ► ...
 - Invasive Species ► ...

VI (2 of 2). An Approach

- Avoid
- Mitigate On-site
 - Hypothesis: Maintain forest & processes eliminates significant cumulative affects (i.e., light touch forestry = no impacts)
 - Dispersal-limited Species
 - Successional trajectory, element dynamics
- Impossible? Analyses Become Complex
- Leaps Of Logic

VII (1 of 2). Potential CI Examples

- Dead Wood Elements (e.g., Basal-hollows)
 - 2 Processes Critical for Generating
 - Time for Growing Large Size,
 - Repeated Fire for Excavation
 - Rotation Age / Target Size;
 - Fire Prevention / Suppression
 - ± Irreplaceable
 - Identifiable Trend
 - Important Wildlife Habitat Element
 - Local Loss Significant Cumulative Impact

VII (2 of 2). Potential CI Examples

■ Spotted Owl

(But, Take Avoidance Is Required!!)

– Direct

- NRF Stand Habitat Definitions
- NRF Quantities & Distribution
- Abandonment

– Indirect

- Food Base
- Barred Owls
- Other Predators / Competitors