Recovery: A History and Overview of the Endangered Species Act's Principal Goal

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ESA Purpose

- "The purposes of this Act are to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species" Section 2(b)
- "The terms 'conserve,' 'conserving,' and 'conservation' mean to use and the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this Act are no longer necessary."



California condors



21st century threats to biodiversity







Important factors in defining "recovery"

- Target unit of biodiversity (e.g. species, subspecies, other groupings)
- Desired degree of security
- Geographic representation
- Human roles in species conservation achieving and maintaining recovered population
- Implementing recovery measures in light of monetary and political constraints

Definition of "species" (1979)

- ESA originally allowed for protection of organisms in "Same species or smaller taxa in common spatial arrangement that interbreed when mature"
- Statute amended in 1979 to allow listing of species, subspecies, and "distinct population segments [DPS] of vertebrate fish and wildlife that interbreed when mature"

What is a "species"?



NMFS ESU Policy (1991)

 a) population must be "substantially reproductively isolated from other conspecific population units."

b) population must "represent an important component in the evolutionary legacy of the species."

DPS Policy (1996)

1) population must be "discrete"

 "markedly separated from other populations...as a consequence of physical, physiological, ecological, or behavioral factors

2) population must be "significant"

- (a) Persistence of the population segment in an ecological setting unusual or unique for its taxon;
- (b) Evidence that loss of the discrete population segment would result in a significant gap in the range of the taxon;
- (c) Evidence that the discrete population segment represents the only surviving natural occurrence of a taxon that may be more abundant elsewhere as an introduced population outside of its historic range;
- (d) Evidence that the discrete population segment differs markedly from other populations of the species in its genetic characteristics

Desert eagles





What are the ESA's listing and delisting thresholds?

- Endangered defined as "in danger of extinction throughout all or a significant portion of its range"
- Threatened defined as likely to become endangered in the foreseeable future
- "Recovery" defined (in section 7 regulations) as "improvement in the status of listed species to the point at which listing is no longer appropriate"



Recovery Plans (1988)

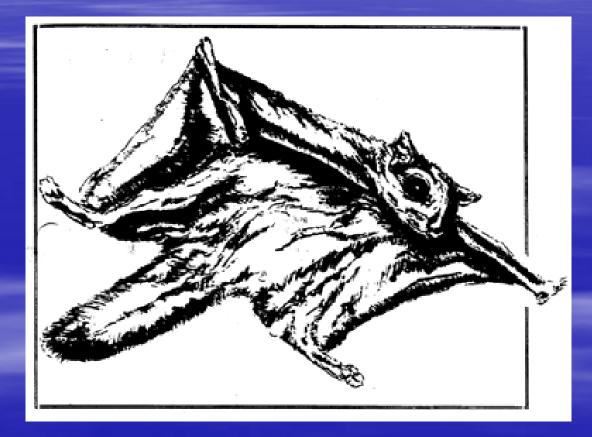
- "A description of such site-specific management actions as may be necessary to achieve the plan's goal for the conservation and survival of the species."
- Objective, measurable criteria which, when met, would result in a determination, in accordance with the provisions of this section, that the species be removed from the list"
- "Estimates of the time required and the cost to carry out those measures needed to achieve the plan's goal and to achieve intermediate steps toward that goal."

What Do Plans Mean?

Agency view: recovery plans not decision documents

 Courts: agencies retain broad discretion, even in face of clear recovery plan provisions to the contrary, to implement – or not implement – actions specified in the plans

West Virginia northern flying squirrel



Friends of Blackwater v. Salazar

FWS: "There are many paths to accomplishing recovery of a species, and recovery may be achieved without all criteria [in a recovery plan] being fully met.... Overall, recovery of species is a dynamic process requiring adaptive management, and judging the degree of recovery of a species is also an adaptive management process that may, or may not, fully follow the guidance provided in a recovery plan."

Geographic representation



Geographic representation

- Controversies over listing/recovering species in "significant portion of range"
- Does (or should) species/population contributions to ecosystem play role?
- International (or other) political boundaries as listing/recovery criterion
- Current trends toward "museum piece" approach

Human role in species recovery



Tough questions...

Is it possible to delist all protected species?
What is a "conservation reliant" species?
Should humans play an direct role in maintaining "recovered" species?





Implementing recovery

- Old listing guidelines favored so-called "higher" life forms; Congress ordered re-do in 1979
- FWS recovery priority guidelines (1983)
 - 1) degree of threat
 - 2) recovery potential
 - 3) taxonomy (monotypic genus/species/subspecies)
- GAO (2005): recovery priorities generally being followed, but FWS has no mechanism to check & monitor
- Recovery expenditures often allocated to popular/high profile species (e.g. "Recovery expenditures for birds listed under the US Endangered Species Act: The disparity between mainland and Hawaiian taxa" (Leonard, Biological Conservation 141:2054-2061)
- Recovery budgets generally declining (without separate funding source)

The future



