Endangered Species Act All Smoke and Mirrors
(Newsletter)*

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The Endangered Species Act (ESA) affects all segments of the economy with high direct and indirect costs. Those whose business it is to oppose industrial and commercial development use the ESA as a blunt weapon. They vigorously fight any change to the law or implementing regulations. While there is broad societal and political support for the ESA there is no science supporting it. The problems with the statute itself are readily understood by population ecologists and are not explained here. This newsletter focuses on the basis for the implementing regulations developed by the US Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS).

In 1995 the two federal resource agencies went through the rule-making process. This joint effort defined "population" (or "species") for regulatory purposes. Because the biological definition of species was not sufficiently flexible for them, and populations are known to be highly variable for sound biological and ecological reasons, the agencies decided to call the regulated biological groups Discrete Vertebrate Population Segments (DVPS for FWS) and Evolutionarily Significant Units (ESU for NMFS).

This redefinition needed a policy to identify these groups. The policy considers three elements in decisions regarding the status of DVPS/ESUs as endangered or threatened under the ESA. The first two elements (discreteness and significance) can be discussed in scientific terms. The third element "is the population segment, when treated as if it were a species, endangered or threatened" represents circular reasoning and should have be dropped from further consideration by the resource agencies. But, it was not dropped.

Discreteness is the most important criterion. By regulation, if a DVPS/ESU is not discrete it does not fall under the ESA. Discreteness is established if the group is "markedly separated from other populations of the same taxon" without its distribution crossing international boundaries. Note that "markedly" is a subjective linguistic variable and populations that cross the Canadian or Mexican borders cannot be discrete. The latter is not logical, but that is the way it is.

The four criteria of the significance element are:

1. "Persistence of the discrete population segment in an ecological setting unusual or unique for the taxon."

2. "Evidence that loss of the discrete population segment would result in a significant gap in the range of a taxon."

3. "Evidence that the discrete population segment represents the only surviving natural occurrence of a taxon that may be more abundant as an introduced population outside its historic range."

4. "Evidence that the discrete population segment differs markedly from other populations of the species in its genetic characteristics."

Not only are these criteria purely subjective, but they contradict consistent scientific reports of population biology and ecology.

A more detailed examination of these criteria are in an article you can download here: `http://www.appl-ecosys.com/publications/dvps-esu.pdf`. It is a shame that we spend so much time and money on ESA compliance based on subjective, non-scientific, and self-referential criteria.