

✘ Demonstrating once again the importance of presidential elections and appointments, the [9th Circuit has upheld](#) the National Marine Fisheries Service's [policy on considering hatchery fish in listing Pacific salmonids](#). (Hat tip: [ESA blawg](#).)

Hatchery fish can be a boon or a bane to salmon conservation. Because hatchery programs have emphasized production of fish for harvest, on the whole they have been far more harmful than helpful to wild fish over the last century.

Understanding the hatchery policy requires some background on salmon listings under the ESA. The law calls for the identification and protection of “species” which are “endangered” or “threatened.” It defines “species” to include subspecies and, for vertebrate species like salmon, “distinct population segments” which interbreed when mature. In 1991, NMFS developed [a policy for recognizing distinct population segments of Pacific salmon](#), which it calls “evolutionarily significant units” or ESUs. In order to qualify as an ESU, a stock must be “substantially reproductively isolated” from others and “represent an important component in the evolutionary legacy of the species.” Although its policy calls for consideration of all relevant evidence, in practice NMFS tends to rely primarily on genetic analysis to decide whether a stock is sufficiently isolated and evolutionarily important to qualify as an ESU. Because those analyses typically look at regions of the genome that change slowly, wild fish and hatchery runs derived from them are often closely enough related that NMFS puts them in the same ESU. That creates problems for deciding whether or not to list the ESU (since hatchery fish are often abundant even though wild fish are rare) and for deciding what protections to provide.

NMFS issued its first hatchery policy in 1993. That policy emphasized that the purpose of the ESA is to recover wild, self-sustaining populations. It provided that even if hatchery fish were found to be in the same ESU as a wild run, they would not be listed with the wild fish except in the unusual case where they were found to be essential for recovery of the wild run. A federal district court struck down that policy in 2001 (*Alesea Valley Alliance v. Evans*, 161 F. Supp.2d 154 (D. Or. 2001)), ruling that the ESA does not permit NMFS to list part of an ESU.

After that decision, NMFS went back to the drawing board, emerging with a new hatchery listing policy in 2005. The new policy provides something for everyone to love (and something for everyone to hate). First, pleasing development interests who would prefer to minimize listings, it reiterates that hatchery fish will be evaluated for inclusion in an ESU on the same basis as wild fish, that is that they will be included if the documented degree of genetic divergence between hatchery and

wild fish is no greater than that among the wild fish included in the ESU. Second, pleasing environmental interests, it affirms NMFS's commitment to protecting wild, naturally-spawning populations. Third, pleasing no one, the policy says vaguely that in making listing determination hatchery fish will be considered in the context of their effects, both positive and negative, on the conservation of natural self-sustaining populations.

In the decision issued yesterday, the Ninth Circuit considered challenges to the hatchery listing policy from both environmental and development interests. The primary holding is that the hatchery listing policy is entitled to *Chevron* deference. *Chevron* applies when Congress has left some gaps in legislation for an implementing agency to fill. In those situations, it calls for reviewing courts to uphold the agency's determination unless it is unreasonable. Applying that standard, the court ruled that NMFS has the authority to lump wild-spawned and hatchery fish in a single ESU, and to consider the positive and negative effects of hatchery fish in determining whether or not the entire ESU qualifies as endangered or threatened. Deferring to NMFS's scientific expertise to resolve contested issues about the effects of hatchery fish, the court also upheld the agency's determination that the Upper Columbia River steelhead could be downlisted from endangered to threatened because hatchery fish were making a positive contribution.

There's nothing particularly groundbreaking about this decision on the law. Doctrines of deference both to an agency's resolution of policy questions left open by Congress and to its interpretation of contested scientific issues are well established. By emphasizing those canons of deference, the decision reinforces the importance of leadership in the executive branch. Under the ESA, NMFS has a fair amount of discretion in deciding how to deal with hatchery fish. How that discretion is exercised will depend on who is at the helm and the importance they put on the issue.

The decision also calls attention to the importance of, and need to reconsider, the ESU policy. The ESU policy was a good-faith effort by NMFS to create a tool for identifying listable groups of salmon. NMFS is right to be concerned about evolution. But its ESU policy goes wrong in two important respects. First, it looks firmly backwards to the evolutionary "legacy," instead of forwards to the evolutionary future. Second, in implementing the policy NMFS has tended to concentrate on analysis of genetic markers that are not connected to adaptive traits. Those markers systematically underestimate the rate and extent of genetic divergence in hatchery populations, which are under very different evolutionary pressures than

wild-spawning ones.

An independent scientific advisory committee [reported to NMFS in 2005](#) that there are good biological reasons for distinguishing between hatchery and wild fish when drawing ESU lines. (Full disclosure: I helped facilitate that group's discussions.) Jane Lubchenco, who according to the Washington Post [is now headed for confirmation](#) as NOAA Administrator, should follow up on that report by directing NMFS to reconsider the ESU policy with an eye to the very real differences between salmon spawned in a hatchery bucket and those born naturally in the wild.