

**Endangered Species Act Jeopardy Determinations in Fisheries Management:  
Past, Present, and Future**

**Panelist Abstracts**

**a) The Past: Case study of the Hawaii longline fishery Section 7 consultations (Paul Dalzell, Senior Scientist, Western Pacific Council)**

The Hawaii pelagic longline fishery entered a protracted period of significant management changes following litigation between the National Marine Fisheries Service and environmental organizations in 1999 over interactions with sea turtles. Turtle interactions were documented by observers deployed on longline vessels in 1994. Biological opinions (BiOps) under Section 7 of the Endangered Species Act (ESA) initially included incidental take statements that were expected under the levels of fishing effort by the deep set tuna targeting and shallow-set swordfish targeting segments of the fishery. This amounted to almost 1000 turtles, primarily North Pacific loggerheads, takes of which were not expected to jeopardize the long term existence of this and other turtle species (leatherback, olive ridley and green turtles). Following litigation, NMFS adopted a much more conservative approach to section 7 B the Hawaii fishery, which found in a 2001 BiOp that the fishery jeopardized the long term existence of loggerhead, leatherback and green turtles. The reasonable and prudent measures for the fishery included a complete cessation of swordfish fishing, which remained closed from April 2001 to April 2004. Subsequent BiOps have been very conservative in the level of interactions for both the deep and shallow set although gear modifications, especially the introduction of large (18/0) circle hooks and fish bait for swordfish fishing in 2004 greatly reduced the interaction rates for all turtles by about 90%. Interestingly, the order of magnitude reduction of all turtle interactions in this fishery occurred at a time when Hawaiian green sea turtles and North Pacific loggerhead turtles showed signs of population recovery through the annual volume of nesting females, while nesting of southwest leatherbacks has declined. The most recent BiOp indicates that population trends for loggerheads and leatherbacks are strongly climate driven, though this does not abnegate the need for fishery mitigation and nesting beach conservation. The Hawaii fishery continues to have very low interaction rates with sea turtles and has strongly influenced fishery-sea turtle mitigation at the international level in tuna regional fishery management organizations.

- b) Case study: Gulf of Mexico bottom longline reef fish fishery, 2009 Biological Opinion for loggerhead turtles (Gina Shultz NOAA Fisheries)**
- c) The Present: Current approaches to Section 7 consultations and jeopardy determinations (Sam Rauch, Acting Assistant Administrator for Fisheries)**

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- d) The Reality: Influence of litigation on jeopardy determinations (Keith Rizzardi, MAFAC Chair & Professor, St. Thomas University School of Law)**

Mr. Rizzardi will discuss the realities of litigation and its influence upon Endangered Species Act implementation. He will begin with a discussion of the “citizen suit,” including its use as a strategic tool in environmental litigation, and the incentives and unintended consequences it creates. He will then discuss the concepts of administrative law and judicial deference, describing the process used by

the courts to analyze the decisions made by government when challenged by interested parties. He will then review the details of the Endangered Species Act, and the significance of hard data and agency judgment on the outcome of litigation related to jeopardy and incidental take decisions. Finally, he will discuss some examples of these principles in the context of sea turtle litigation.

**e) The Future: The role of science in making credible ESA-related policy determinations  
(Kevin Stokes, Director, stokes.net.nz Ltd)**

In most jurisdictions, legislation and policy guidance on fisheries-related impacts on endangered, threatened and protected species (collectively referred to as 'listed species' here) are poorly defined. Terms such as 'avoiding adverse effects' or 'not causing detriment' are common. In the U.S., there is a requirement under the MSA for Fishery Councils to prepare fishery management plans consistent with applicable law, including the ESA. Under s7(a)(2) of the ESA, Federal Agencies must ensure that their actions are "not likely to jeopardize the continued existence of any ESA listed species or result in the destruction or adverse modification of habitat designated as critical". Problems with this seemingly simple requirement could derive from the processes leading to listing of species and critical habitat designation, or to interpretation of the words 'adverse' and 'jeopardize'. The term jeopardize has been interpreted (50 C.F.R. § 402.02) to mean "to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of the species." Just as with the ESA requirement, there are problems with this attempt at interpretation – the terms 'reasonably' and 'appreciably' are moot, recovery is ill-defined, etc. It is not surprising that legislation and policy guidance relating to listed species is poorly defined. Knowledge about listed species is often poor and societal values are mutable, often quickly so due to campaigns on specific issues. Given the lack of facts and agreed norms, there is little basis for definitive legislation and the best approach is arguably to rely on clear policy guidance which can be updated as facts are gleaned, knowledge accumulated, and as values evolve. Credible and robust decision-making related to listed species needs both objective technical support and clear consultative processes. There are many scientific approaches that might be used in support of decision-making. Given the paucity of data on many listed species and general lack of understanding about fisheries interactions, there is usually substantial uncertainty in quantitative advice. Ultimately, the only way to reduce uncertainty is to extract information from data using models. However, no amount of data collection or model development, or reduction in uncertainty, will necessarily aid decision-making so long as the values to be applied are the subject of disagreement and clear objectives and standards remain unspecified. Lack of value/objectives/standard specification can emerge as a problem in the production of advice (e.g., as BiOps) where scientists bring their own values to the table; in consultations, where all participants can bring multiple values and political pressures; or at the final advisory or sign-off stages, where decision makers can bring personal values or respond to external pressures. The only way to ensure objective scientific support for decision-making, to constrain the decision-making space, and reduce transaction costs, is to pre-agree standards against which science can provide advice. With clear standards, various levels of quantitative risk analysis can be undertaken and decisions on risk treatments can be well-founded, justifiable and credible. In the absence of clear standards, there is some scope for well-designed qualitative risk analysis approaches to be used, but the outputs from such processes will necessarily be the subject of consultation and their utility will depend on multiple factors. There is a risk that even well designed qualitative risk analysis approaches will merely shift where transactional costs are incurred, with little benefit to actual decision-making. Use of inclusive, qualitative risk analysis methods can, however, help to identify where standards are needed and provide a structured setting for moving towards agreement on standards. This short presentation will comment on the issues noted and

will consider a range of qualitative and quantitative approaches taken to risk analyses in support of decision-making relevant to protected species-fisheries interactions.

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