

tuna purse seine fishery was having a significant adverse impact on any depleted dolphin stock in the ETP (64 FR 24590). Also in 1999, NOAA Fisheries submitted a Report to Congress containing the preliminary research findings to support that initial finding. That Report also described a decision analysis framework to evaluate quantitatively the various types of information gathered in the required studies in order to make the initial finding. The U.S. District Court for the Northern District of California, in *Brower v. Daley*, 93 F. Supp. 2d 1071 (N. D. Ca. 2000), set aside the 1999 determination, and that ruling was affirmed by the Ninth Circuit Court of Appeals in *Brower v. Evans*, 257 F. 3d 1058 (9th Cir. 2001).

The final research results provide substantially more information to support the final finding than was available for the initial finding in 1999. Some of this new information includes: updated dolphin abundance data, updated mortality estimates based on observer data, an updated review of scientific literature on stress in marine mammals, results from a necropsy study of dolphins killed in the fishery, a review of historical demographic and biological data related to dolphins involved in the fishery, results from the chase-recapture experiment, as well as information regarding variability in the biological and physical parameters of the ETP ecosystem over time. In making the final finding, all research required by the IDCPA was completed and considered.

To accommodate this newly available scientific information and ensure transparency in the development of its decision, NOAA Fisheries revised its decision-making process for the final finding. On February 15, 2002, NOAA Fisheries published a proposed Organized Decision Process (ODP) in the **Federal Register**. The ODP was designed to establish a framework for making the final finding. Comments were received on this proposal from the Inter-American Tropical Tuna Commission (IATTC), the Marine Mammal Commission (MMC), environmental organizations, the U.S. and the foreign tuna industries, members of the public, the U.S. Departments of State and Justice, two members of the U.S. Congress, and several foreign nations, among others. After careful consideration of these comments, NOAA Fisheries made revisions, as appropriate, and, on August 23, 2002, adopted a final ODP.

The ODP differs from the previous decision framework primarily in that it takes into account different levels of

uncertainty inherent in research of this nature. The ODP allows the Secretary to consider many different types of the information in light of the uncertainty and appropriately weigh the information based on the level of confidence that exists for the information. The ODP is also distinct from NOAA Fisheries' earlier decision framework in that it includes a mechanism for weighing information based on high standards for determining what is the best information available. As prescribed by the ODP, the weight given to the available scientific information will be determined by the degree to which it meets the following elements: (1) Relevance, (2) timeliness, (3) passed independent peer-review, and (4) available to NOAA Fisheries for verification.

The ODP defined the terms included in the weighting criteria. "Relevance" was defined to mean the scientific information is pertinent to the use of the information. "Timeliness" was defined to mean the relevancy of scientific information least degraded by the passage of time. "Passed independent peer review" was defined to mean the scientific information has been published in a refereed scientific journal in its field or independently read and criticized in writing by at least two peers; the criticism was disposed of either by acceptance or rebuttal, as appropriate by the author(s); and the disposition of the criticism by the author(s) was independently determined to be appropriate and adequate. Verification was defined to mean that the data, procedures, methods, equipment, mathematics, statistics, models, computer software, and anything else used to produce the scientific information are to be submitted to NMFS in a timely manner such that the scientific information may be replicated or rejected. For the final finding, "in a timely manner" was stated in the ODP as being material received as of May 1, 2002.

The NOAA Fisheries' ODP considers separate measures of fishery and environmental effects on dolphins, consisting of a series of questions for consideration in reaching the final finding. They are as follows: (1) The Ecosystem Question; (2) the Direct Mortality Question; (3) the Indirect Effects Question; and (4) the Growth Rate Question. For the Direct Mortality and the Growth Rate Questions, there are basic thresholds in the ODP that result in a "yes" or "no" answer. If the answer to the Direct Mortality Question is "yes", then the Secretary will conclude that the fishery is having a significant adverse impact. Similarly, if

the answer to the Growth Rate Question is "no", then the Secretary will conclude that the fishery is having a significant adverse impact. Conversely, a "no" and a "yes" answer, respectively, would result in a finding of no significant adverse impact. For the Ecosystem and the Indirect Effects Questions, the Secretary will review the available information as well as the evidence presented by members of two expert panels in reaching final conclusions. The questions found in the ODP, along with the information used to reach the appropriate answers and rationale for each, are found below.

Research Conducted Pursuant to Section 304(a) of the MMPA

Pursuant to section 304(a) of the MMPA, NOAA Fisheries completed four years of specified research to support the Secretary's finding regarding the impact of the tuna purse seine fishery on depleted dolphin stocks in the ETP, in consultation with the MMC and the IATTC. The research program was broadly structured to include four components: abundance estimation, ecosystem studies, stress and other fishery effect studies, and stock assessment. The results of the required research were subjected to rigorous, independent peer reviews to ensure that the Secretary is provided with information of the highest caliber in making the final finding. NOAA Fisheries will submit these results in its Final Science Report to Congress within 90 days of the finding. A brief summary of each of the major categories of research follows.

Abundance Estimation. Knowledge of dolphin population levels is key to understanding the overall status of these stocks. Current dolphin abundance estimates were derived from research vessel surveys conducted in the ETP during 1998, 1999, and 2000, using improved analytical methods for abundance estimation. Survey data from nine earlier abundance surveys dating back to 1979 were also re-analyzed using these new methods. This time series of abundance estimates provides the core information for evaluations of trends, population growth rates, and ultimately stock assessment analyses for the three depleted dolphin stocks.

Ecosystem Studies. For a long-lived animal such as a dolphin, carrying capacity is more likely to be affected by long-term (over decades) changes rather than those occurring short-term (inter-annual or seasonal). NOAA Fisheries' ecosystem studies focused on investigations of temporal variation in as many parts of the ETP ecosystem as possible. These included physical and