DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 216

[Docket No. 90880-2106]

RIN 0648-AD02

Taking and Importing of Marine Mammals; Depletion of the Coastal-Migratory Stock of Bottlenose Dolphins Along the U.S. Mid-Atlantic Coast

AGENCY: National Marine Fisheries Service (NMFS), NOAA, Commerce.

ACTION: Final rule.

SUMMARY: NMFS designates the coastal-migratory stock of bottlenose dolphins along the U.S. mid-Atlantic coast as depleted under the Marine Mammal Protection Act (MMPA). This action is required by the MMPA when a species or population stock is determined to have fallen below its optimum sustainable population (OSP) level. NMFS has determined that the stock is below a level that can maintain maximum net productivity, which is the lower bound of the OSP range, as a result of a mortality event that occurred in 1987–88 in which the stock likely declined by more than 50 percent. Under the MMPA, this designation requires the application of certain restrictions on taking and importation, and the preparation and implementation of a conservation plan to restore the stock to its OSP.

EFFECTIVE DATE: May 6, 1993.

FOR FURTHER INFORMATION CONTACT: Dean Wilkinson, Office of Protected Resources, 1335 East-West Highway, Silver Spring, MD 20910, 301–713–2322.

SUPPLEMENTARY INFORMATION:

Background

During 1987–88, an unusually large number of Atlantic bottlenose dolphins (*Tursiops truncatus*) died and washed ashore along the U.S. east coast from New Jersey to central Florida. Based on the best available scientific information, NMFS concluded that the coastal-migratory stock of bottlenose dolphins along the mid-Atlantic coast had declined by more than 50 percent.

NMFS published an advance notice of proposed rulemaking (ANPR) (54 FR 41654, October 11, 1989) indicating that it was considering listing the stock as depleted and requesting additional information. NMFS then published a proposed rule (56 FR 40594, August 15, 1991) with a 45-day comment period. Both the ANPR and the proposed rule contained a background discussion of specific information leading to this rule. Background previously presented will not be repeated here.

Comments and Responses

After the comment period closed, some concerns were raised about the model employed in making the initial determination. Even though conservative values had been employed, there was concern that a broader range of values should have been used for the model parameters. It was also noted that more recent information on some of the population dynamics parameters has been published since the initial model was developed.

NMFS responded to these concerns and conducted a risk analysis based on the model initially used in making the determination, incorporating more recent information and providing for a range of values for the model parameters. In this analysis of population dynamics, uncertainty in model input parameters was incorporated via Monte Carlo methods, wherein the underlying model was iterated a large number of times (in this case, 1,000 iterations were run) with randomly selected, independent combinations of model parameters, based on measured or assumed distributions of the parameters. Population status in 1988 relative to 1987 as a result of the die-off was modeled as:

$$R_{88}=[(1-M*mult)-M]$$

where R_{88} is population status in 1988 relative to 1987, M represents annual percentage natural mortality rate, and *mult* represents the estimated multiplier of mortality due to the die-off as defined in Scott *et al.* (1988). Uncertainty in M was incorporated in the analysis by randomly assigning values from a uniform distribution ranging from 0.056 to 0.1. Uncertainty in *mult* was also incorporated by an independent random draw from a uniform distribution with a range from 7.98 to 10.97. The endpoints of this range represent the lowest and highest ratios of strandings reported from June 1987 through April 1988 to the number reported in each of the previous 3 years' data for the same months and areas of the coast.

The dynamics of the bottlenose dolphin stock before and after the die-off were assumed to be adequately described by the Pella-Tomlinson delay difference model. This model is described in Scott *et al.* (1988). The affected bottlenose dolphin population was assumed to be in equilibrium prior to the die-off. This assumption allowed estimation of status relative to carrying capacity under a range of estimated human-induced mortality rates. Human-induced mortality rates were estimated from stranding data as described in Scott *et al.* (1988) as:

$$F=M*((1/(1-p))-1)$$

where F represents the human-induced mortality rate (annual percentage, M represents the annual natural mortality rate, and p represents the proportion of strandings classified as resulting from human activities during the 3-year period immediately prior to the die-off. Uncertainty in the estimate of p was incorporated by recalculating p for each iteration based on the number of successes (human-induced mortality classifications) from a random draw of a binomial distribution with parameters p=0.093 (36/386) and n=386. Uncertainty about lags in the population dynamics was incorporated via a random draw from a uniform distribution ranging from 0–14 years. Uncertainty in maximum net productivity level (MNPL) and in the population maximum annual rate of increase (ROI) was incorporated via random draws from uniform distributions with ranges of 0.6–0.8 and 0.02–0.06, respectively. The models were used to project population status until the year 2010. For each year of these projections, the frequency of model results indicating that population status was less than MNPL was used as a model-conditional estimate of the probability that the modeled population was depleted. Sensitivity of the model results to individual parameters was examined by fixing each parameter as a constant value within the defined ranges.

The simulation incorporating uncertainty of all input parameters was considered the best assessment of the status of the bottlenose dolphin stock relative to MNPL, which is the lower limit of OSP. In all of the simulations considered, the models estimated that it is highly likely that the population is currently below MNPL. In all models considered, results indicated there were at least even odds that the population would remain below MNPL through the turn of the century and that there is a non-negligible chance that the population could remain below MNPL beyond the year 2010. The report containing the additional modeling is available (see **FOR FURTHER INFORMATION CONTACT**).

Ten written comments were received in response to the proposed rule from a Federal agency, a coalition representing aquaria, conservation groups, and other interest parties. Eight commenters

supported the rule, and two opposed it. Some commenters were under the impression that the rule applied to either all bottlenose dolphin populations or to all populations along the Atlantic and Gulf coasts. The designation will only apply to the coastal-migratory stock along the U.S. mid-Atlantic coast. It does not apply to offshore stocks in the Atlantic, resident coastal populations along the Atlantic coast, or stocks in the Gulf of Mexico. Several commenters made recommendations for recovery actions. These recommendations are not germane to the designation decision, but will be used to prepare the conservation plan for this stock. Specific comments are addressed below:

Comment: At present, there is no comprehensive estimate of the size of the stocks of bottlenose dolphins, and an OSP determination cannot be made without such information.

Response: NMFS has conducted survey work on the population in question, and the estimates of population were contained in the ANPR. However, the determination that this stock is depleted was based primarily on calculations using natural mortality figures and mortality figures involved in the 1987–88 epizootic. These calculations indicated that the mortality rate during the event was more than 50 percent.

Comment: The dolphin population is abundant and healthy. Herds in excess of 100 individuals were documented off Virginia Beach in August 1991.

Response: No documentation was submitted to support this comment. Regardless, the existence of herds in excess of 100 individuals does not in itself allow any inference about stock status relative to OSP. Observations of abundance alone, without regard to some measure of the environment's carrying capacity, is not sufficient for OSP determinations. Furthermore, such observations, in the absence of comparisons to historic abundance levels or other controls in the sense of experimental design, provide no support for the conclusion that the "dolphin population is abundant and healthy."

Comment: Population surveys during and after the epizootic do not bolster the case for depletion.

Response: No documentation was provided as to the "population surveys" cited by the commenter. If there are surveys other than those conducted by NMFS that NMFS is unaware of, NMFS would like the opportunity to review them and the methodology involved.

NMFS' own surveys conducted during the epizootic indicate that dolphin density was lower in the offshore zone than estimated from pre-epizootic surveys. No comparable population survey data are yet available to draw inferences about the coastal population of dolphins. However, the model used to determine that this stock is depleted does not depend directly on abundance estimates, but instead is a population dynamics model.

Comment: NMFS did not consider whether the population was initially above carrying capacity.

Response: There are no data of which NMFS is aware to indicate that the pre-epizootic population could have been above carrying capacity. In making the determination that this stock is depleted relative to OSP, NMFS took the conservative approach and used recent population estimates, rather than higher figures of historical abundance. These recent estimates of the population size along the mid-Atlantic coast before the epizootic are well below turn-of-the-century abundance estimates based on cumulative removals from shore stations harvests. Even if the historical abundance estimates indicated that the turn-of-the-century population was above carrying capacity, the use of recent abundance estimates would put the pre-epizootic population below the historical carrying capacity.

Comment: Dolphin mortality was overestimated in the model because NMFS assumed that only 50 percent of dead dolphins stranded. A higher percentage (70–85 percent) of the animals that died were documented in Virginia because of an increase in effort to recover carcasses due to the publicity surrounding the epizootic.

Response: The commenter provided no documentation to support the conclusion that a higher percentage of animals were recovered in Virginia, and it is unlikely that 70–85 percent of the dead animals would strand. On NOAA cruises during the mortality event, dead animals were observed as much as 10 miles (18.5 km.) offshore. Aerial overflights also observed dead floating animals offshore. Dead dolphins are initially negatively buoyant and subject to predation. Even in semi-enclosed areas where there have been individual animal identifications, no recovery estimate approaches 70 percent of total mortality. To assume that 70–85 percent of the dead animals were recovered is unrealistic.

The models used to make the determination that this stock is depleted were based on actual strandings in areas where beach coverage had been good in prior years (index areas) rather than on an assumption that only 50 percent of the dead animals had been recovered. Restricting the analysis to beachfront index areas where high coverage rates were known to occur during the pre-epizootic period results, the magnitude of increase in strandings during the epizootic was more than ten times greater than pre-epizootic rates. NMFS recognized that pre-epizootic coverage of Virginia beaches had not been sufficient to be useful in making the determination of depletion, and thus Virginia data were not used in the weighting. NMFS notes, however, that Virginia data indicated that the difference between pre-epizootic and epizootic stranding rates was even greater in Virginia, i.e., 15–20 times pre-epizootic mortality rates.

Comment: NMFS estimated normal annual mortality at 7–14 percent.

Response: The range of natural mortality rates assumed applicable to the affected dolphin population came from research results published in the scientific literature. Since the first status assessment was completed by NMFS, additional information on the range of natural mortality rates has become available. In response to the more recent information, NMFS revised the natural mortality rates assumed applicable to the dolphin population to a range from 5.6 to 10 percent per year. As indicated above, a revised stock assessment was conducted using various values within this range. The value actually used in the initial model (7 percent) is well within this range. These values are widely accepted in the scientific literature.

Comment: NMFS assumed that the stranding rate is proportional to natural mortality.

Response: The analysis did assume that the stranding rate was a consistent index of mortality rate. Without anomalous wind and weather conditions, there should be a consistency in the percentages of dead animals that strand. There is no evidence to suggest that anomalous oceanographic or weather patterns could have accounted for the observed difference between the 1987–88 stranding rate and the average of the prior 3 years. Furthermore, such anomalous conditions are unlikely over a 9-month period and a large geographical range (New Jersey to Florida). In order to prevent a possible bias created by increased effort in searching for stranded animals in areas where strandings had not previously been documented, NMFS only used index areas where responses to strandings had been consistent over the years in making its determination.

Comment: The case is based largely on a number of assumptions that will be difficult, if not impossible to verify.

Response: The assumptions applied in the analysis are biologically reasonable. The parameter ranges used in the analysis result in a large range of reductions from the pre-epizootic relative abundance level. In fact, the estimated reduction in relative abundance as a result of the epizootic of over 50 percent may be a conservative estimate of reduction from carrying capacity. The range of values used supports the determination that this stock is depleted.

Comment: Estimates of mortality should properly be based on consistent pre- and post-event population indices.

Response: Such a method would be a direct method of assessing the impact of the mortality on the dolphin population, but it is not the only method for assessing the impact. The methodology used to make the determination that this stock is depleted, as discussed in the background to the proposed rule, is scientifically robust.

Comment: Assessment of impact using the number of animals that stranded relative to the population depends on the accuracy of abundance estimates and the relationship between carcass counts (probably biased by uneven reporting) and the true mortality.

Response: The method discussed in the comment was examined by NMFS and was rejected for use in the assessment. The determination that this stock is depleted is based primarily on calculations using the widely accepted natural mortality rates discussed above and the mortality figures involved in the epizootic.

Comment: Available population data are inadequate to make determinations about stock status relative to OSP. The wide range in population estimates necessary to achieve 95-percent confidence limits is further evidence that the current information relating to depletion is weak.

Response: The model used to assess stock reduction did not utilize abundance estimates directly, and so the imprecision of the available estimates is not relevant to the determination. A range of parameter values that bracket the stock-specific parameter values were used in the assessment. This range of values used supports the determination that this stock is depleted at a 90-percent confidence interval.

Comment: The epizootic was a natural event.

Response: Whether it was natural or not is irrelevant to a determination that the population is below OSP.

Comment: It is unclear if both nearshore and offshore stocks were affected by the epizootic.

Response: Although it is uncertain as to whether the offshore stock was affected by the epizootic, body length and coloration characteristics of stranded animals indicate that virtually all of the stranded animals were from the smaller coastal stock. This depletion determination does not apply to the offshore stock.

Final Determination

Based on the best available scientific information and a review of public comments received on the ANPR and the proposed rule, NMFS is listing the stock as depleted.

Classification

The Assistant Administrator for Fisheries, NOAA, has determined that this final rule is exempt from the requirements of Executive Orders 12291 and 12612, the Paperwork Reduction Act, and the Regulatory Flexibility Act, because section 115(a)(2) of the MMPA requires listing decisions to be based "solely on the basis of the best scientific information available."

Nevertheless, the General Counsel of the Department of Commerce certified to the Small Business Administration that the proposed rule would not have a significant economic impact on a substantial number of small entities because it would have no economic effects save those mandated by statute.

A designation of depletion in this instance, which is similar to a listing action under section 4(a) of the Endangered Species Act, is categorically excluded from the requirement to prepare an environmental assessment or an environmental impact statement.

References

Scott, G.P., D.M. Burn, and L.J. Hansen. 1988. The dolphin die-off: Long-term effects and recovery of the population. Proceedings, OCEANS '88. 3:819–823. IEEE Catalog No. 88–CH2585–8.

List of Subjects in 50 CFR Part 216

Administrative practice and procedure, Imports, Indians, Marine mammals, Penalties, Reporting and recordkeeping requirements, Transportation.

Dated: March 31, 1993.

Nancy Foster,

Acting Assistant Administrator for Fisheries, National Marine Fisheries Service, National Oceanic and Atmospheric Administration.

For the reasons set out in the preamble 50 CFR part 216 is amended as follows:

PART 216–REGULATIONS GOVERNING THE TAKING AND IMPORTING OF MARINE MAMMALS

1. The authority citation for part 216 continues to read as follows:

Authority: 16 U.S.C. 1361 *et seq.*, unless otherwise noted.

2. In § 216.15, a new paragraph (d) is added to read as follows:

§ 216.15 Depleted species.

* * * * *

(d) Bottlenose dolphin (*Tursiops truncatus*), coastal-migratory stock along the U.S. mid-Atlantic coast.

[FR Doc. 93–7932 Filed 4–5–93; 8:45 am]
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50 CFR Part 301

[Docket No. 930219–3069]

Pacific Halibut Fisheries

AGENCY: National Marine Fisheries Service (NMFS), NOAA, Commerce.

ACTION: Final rule and approval of catch sharing plan.

SUMMARY: The Assistant Administrator for Fisheries, NOAA (Assistant Administrator), on behalf of the International Pacific Halibut Commission (IPHC), publishes regulations promulgated by the IPHC and approved by the United States Government to govern the Pacific halibut fishery. The IPHC regulations are intended to enhance the conservation of Pacific halibut stocks in order to help rebuild and sustain them at an adequate level in the northern Pacific Ocean and Bering Sea.

NOAA also approves a 1993 Catch Sharing Plan (Plan) developed by the Pacific Fishery Management Council (PFMC) in accordance with the Northern Pacific Halibut Act of 1982 (Halibut Act) to allocate the total allowable catch (TAC) of Pacific halibut between treaty Indian, non-Indian commercial, and non-Indian sport fishermen off the coasts of Washington, Oregon, and California (IPHC statistical Area 2A). Secretarial regulations necessary to achieve the sport fisheries allocations in the Plan specify the seasons, quotas, and bag limits in each of the sport fishery areas. In addition, the Secretarial rule provides for flexible inseason management measures for the sport fisheries to achieve the allocations in each geographic area.

EFFECTIVE DATE: April 5, 1993.

FOR FURTHER INFORMATION CONTACT: Steven Pennoyer, Regional Director, NMFS, Alaska Region, P.O. Box 21668,