

#6B.

MEMORANDUM

DATE: 3 November 2008

TO: Scallop Committee

FROM: Scallop Plan Development Team (PDT)

RE: Comments on Oceana letter submitted to PDT 16 October 2008

The PDT provides the following comments in response to a letter from Oceana regarding continued authorization of sea turtle takes in the Atlantic sea scallop fishery. The PDT considered the two ideas mentioned in the letter for alternative Term and Conditions for the turtle biological opinion. During review of this letter several issues were identified with how Oceana summarized information in this letter. While the PDT does not normally respond in writing to outside submissions, we felt that our comments were necessary for the record as the Council considers alternative RPMs and Terms and Conditions. PDT comments are italicized in the following:

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- 1) Pg 1, paragraph 3: The letter asserts loggerhead populations are experiencing rapid declines, and that 50% of nesting has declined over the past decade.

Recognizing the decline in nest counts over the last decade, as stated in the Biological Opinion "nest counts cannot be used to estimate the total size of a nesting group and similarly, trends in the number of nests cannot be used as an indicator of the population trend". This remains true even as preliminary numbers of nests are up for the 2008 season.

The letter states that "464.5 and 154 loggerheads are taken annually by scallop dredges and trawls, respectively."

These numbers are from the Biological Opinion and Incidental Take Statement, which exempt the take of "up to" the amounts described, and are based on an average from 2003-2004 for scallop dredge, and 2004-2005 for scallop trawl.

- 2) Pg 2, paragraph 2: The letter asserts "large numbers of takes of reproductively valuable female loggerheads in scallop dredges and trawls is substantially contributing to the decline of the most valuable loggerhead nesting population in the U.S."

Approximately 12% of dredge takes are adult females, based on the percentage of dredge interactions with adult loggerheads (Haas et al. 2008) and the ratio of F:M turtles in NE waters (TEWG 2000). Some portion of this 12% is lethal. A Population Viability Analysis (PVA) (Merrick & Haas 2008) using 1989-2005 nesting data showed no significant

difference in the probability of extinction for loggerhead populations when the removal of adult female turtles due to the scallop dredge fishery was taken into account.

The letter asserts “scallop dredges kill loggerheads at a rate 32x higher than shrimp trawls”.

While the mortality rate per interaction may be relatively higher, shrimp trawl interactions are far more common, and result in many more turtle mortalities. The 2002 Biological Opinion on the shrimp trawl fishery estimates 163,160 takes of loggerhead sea turtles, with 3,948 mortalities.

- 3) Pg 2, paragraph 3: The letter states that according to NMFS, “video-monitored testing of a dredge modification using loggerhead carcasses shows that severe damage occurs when the leading edge of the dredge strikes the turtle.”

This statement is quoted from the draft NMFS and FWS recovery plan for western Atlantic loggerhead sea turtles, and from the information available likely overstates the issue. The highest risk to turtles, as described in the Biological Opinion, is if they are run over by the dredge or if they are caught in the dredge bag and brought on deck. In studies that investigated the ability of a modified dredge frame to cause turtles to go over the dredge (Milliken et al., 2007¹; Smolowitz et al., 2008²), there have been over 14 documented encounters between turtle carcasses and the dredge frame where the turtle did not pass under the dredge frame. In all these encounters the damage to the turtle carcass was slight to none.

- 4) Pg 3, paragraph 3: The letter states, “Because there is already less than one trip allocated per vessel during the summer months in the Mid-Atlantic, the Terms and Conditions represent no more than ‘minor’ modifications to existing practices which are foreseen in the FMP and regulations”.

This is not accurate. Current regulations do not restrict vessels to less than one allocated trip during the summer months in the Mid-Atlantic. The FMP does not currently restrict when vessels can take access area trips (except for the seasonal closure in Elephant Trunk). The statement is confusing “allocated” trips with trips “taken”.

- 5) Pg 3, paragraph 5: The letter states, “These effort changes are not expected to affect the total landings or economic gain in the Atlantic scallop fishery or the Mid-Atlantic region”.

¹ Milliken HO, Belskis L, DuPaul W, Gearhart J, Haas H, Mitchell J, Smolowitz R, Teas W. 2007. Evaluation of a modified scallop dredge’s ability to reduce the likelihood of damage to loggerhead sea turtle carcasses. US Dep Commer, Northeast Fish Sci Cent Ref Doc. 07-07; 31 p.

² Smolowitz R, Weeks M, Morin M. 2008. Assessing the Efficacy of the Coonamessett Farm (Cfarm) Turtle Excluder Sea Scallop Dredge in Reducing Injury to Loggerhead Sea Turtle Carcasses. [Project Report, 30 p.] NOAA Contract No. EN133F07SE3189.

The PDT is not sure what this conclusion is based on. Preliminary analyses by the PDT on loss in scallop meat weights due to effort shifting to other areas and months suggests that total landings and revenues will be affected. On average, catch per unit of effort would decline 5-10% by shifting effort from the summer/early fall to other months of the year, resulting in longer trips to reach the trip limit in access areas (longer trips mean higher cost), and possibly trips with lower catch in open areas. If some of the displaced effort is not taken elsewhere, this would affect total landings and revenues as well

Appendix 1: Atlantic Scallop Dredge Analysis

- 6) Rates include off-watch takes without accounting for off-watch effort.

Bycatch rates are expressed as:

$$\frac{\text{No. observed turtles from on and off-watch hauls}}{\text{Amount of observed fishing time on on-watch hauls}}$$

Rates are therefore biased high in the analysis.

This approach does not recognize the probability of turtle interactions occurring where none have been observed. Modeling approaches have been used to predict bycatch rates based on environmental factors that are correlated with bycatch rates (i.e., see Murray 2004, 2005, 2007), providing a more complete picture of estimated bycatch rates over areas where no turtle interactions were observed.

- 7) Conservation options recommended in Oceana letter are based on patterns in observed bycatch rates. There are no figures or tables depicting distribution of commercial effort. If high commercial effort does not coincide with high observed rates then conservation recommendations may miss the mark.
- 8) For clarity, the areas proposed are in the WESTERN portion of the Hudson Canyon access area and the area immediately WEST of it – not east as the letter suggests.

References

- Epperly S, Avens L, Garrison T, Henwood W, Hoggard J, Mitchell J, Nance J, Poffenberger C, Sasso C, Scott-Denton E, Yeung C. 2002. Analysis of sea turtle bycatch in the commercial shrimp fisheries of southeast US waters and the Gulf of Mexico. *U.S. Dep. Commer. NOAA Tech Mem. NMFS-SEFSC-490*, 88pp.
- Haas HL, LaCasella E, LeRoux R, Milliken H, Hayward B. 2008. Characteristics of sea turtles incidentally captured in the U.S. Atlantic sea scallop dredge fishery, *Fisheries Research*, 93: 289-295.

- Merrick R, Haas H. 2008. Analysis of Atlantic sea scallop (*Placopecten magellanicus*) fishery impacts on the North Atlantic population of loggerhead sea turtles (*Caretta caretta*). *NOAA Tech Mem.* NMFS NE 207; 22 p.
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- Murray KT. 2005. Total bycatch estimate of loggerhead turtles (*Caretta caretta*) in the 2004 Atlantic sea scallop (*Placopecten magellanicus*) dredge fishery. *U.S. Dep. Commer., Northeast Fish. Sci. Cent. Ref. Doc.* 05-12; 22 p. Available from: National Marine Fisheries Service, 166 Water Street, Woods Hole, MA 02543-1026.
- Murray, KT 2007. Estimated bycatch of loggerhead sea turtles (*Caretta caretta*) in U.S. Mid-Atlantic scallop trawl gear, 2004-2005, and in sea scallop dredge gear, 2005. *U.S. Dep. Commer., Northeast Fish. Sci. Cent. Ref. Doc.* 07-04; 30 p. Available from: National Marine Fisheries Service, 166 Water Street, Woods Hole, MA 02543-1026.
- Turtle Expert Working Group. 2000. Assessment update for the Kemp's ridley and loggerhead sea turtle populations in the Western North Atlantic. U.S. Dep. Commer. *NOAA Tech. Mem.* NMFS-SEFSC-444, 115 pp.