

Nassau Grouper Critical Habitat Report Review: ID 431

Peer Review Report

We solicited review of the Draft *Endangered Species Act Critical Habitat Report* from three potential reviewers. All three agreed to the review and provided comments. Reviewer comments are compiled below and are not in the order of the reviewer identification list below.

I. Peer Reviewers (alphabetically)

Robby Fonner
Economist, Conservation Biology Division
Northwest Fisheries Science Center | NOAA Fisheries
Seattle, WA

John McGovern
Supervisory Fish and Wildlife Administrator - NOAA Fisheries Service, Southeast Regional
Office
Saiint Petersburg, FL

Richard S. Nemeth
Professor of Marine Biology and Zoology
University of the Virgin Islands
St. Thomas, VI

II. Peer Review Directive

We request that you review the evaluation of available data and provide comments on the following topics:

1. The accuracy, completeness and relevance of the scientific information considered; particularly whether there is any relevant information available that was not considered.
2. Whether scientific uncertainties are adequately identified and characterized.
3. Whether the document provides a well-reasoned rationale for the proposed critical habitat based on the best scientific information available.

III. Summary of Peer Review Comments

Major comments are addressed in the bullets below. All non-substantive edits were incorporated within the document when and where appropriate and are not repeated here.

- The assessment, conclusions and area designations regarding critical habitat have been comprehensively reviewed but several areas may need additional consideration. In particular, the effects of invasive seagrass on juvenile Nassau grouper should be addressed. The other area recommended for slight modification are the proposed areas of spawning habitats in St. Thomas and St. Croix.

Seagrass is considered an essential habitat for juvenile Nassau grouper (<30cm). In the past decade an invasive seagrass, *Halophila stipulacea*, has colonized large areas within the USVI and poses a potential negative impact on juvenile Nassau grouper growth and condition (Green 2017). While mapping the invasive seagrass distribution patterns is impractical and more research is needed to quantify its effect on juvenile Nassau grouper, it should be considered as a factor that may limit or slow population recovery of Nassau grouper.

Response – We have noted the comment and have asked for information in the proposed rule; additionally, this information is now available to our Nassau grouper recovery coordinator for consideration.

Grammanik Bank – the suggested designation of the area to the north west of Grammanik Bank to the Hind bank MCD should also include a 500 m buffer to the south of the existing GB boundary to protect the deep *Agaricia* fringing reef which is used by adult Nassau during spawning season.

Response– We adjusted the proposed area to address this comment.

Lang Bank, St. Croix U. S. Virgin Islands - A historical Nassau grouper spawning aggregation site used to exist on the eastern tip of Lang Bank but was extirpated in the early 1980's (Beets and Friedlander 1992). Exploratory fishing was conducted with a commercial fisher, who used to fish the site, and about 7 adult Nassau grouper were caught. Subsequent diver surveys have observed small groups of Nassau (<10) aggregating during spawning season. In 2016, a Nassau grouper was tagged with an acoustic transmitter in Teague Bay reef, St. Croix. This fish was eventually migrated to the tip of Lang Bank. The existing Lang Bank seasonal closed area boundaries do not include the very eastern tip of Lang bank where the historical Nassau spawning aggregation had occurred or where Nassau have been observed in recent years. This area should also be included in essential spawning habitat.

Response– We requested additional information on this possible area in the proposed rule and will consider its inclusion based on input received and additional analysis.

- Pg 33 – The use of “direct” and “indirect” impacts has the potential to get confused with direct and indirect regional economic impacts – also discussed in this section. Consider making this distinction at some point in the text.

Response – We added a footnote clarifying that indirect impacts considered in the economic analysis are distinct from indirect impacts estimated in regional economic impact analysis.

- Pg 70 – Consider adding columns to Table 13 for consultations/year projected and consultations/year 2011-2021

Response – We did not add these columns, as the analysis indicates that the projected rate of future consultations is equivalent to that observed from 2011 to 2021.

- Pg 77 – The discussion of the assumptions and uncertainty associated with the cost estimates is well done. Table 18 indicates that the rather modest cost estimates of costs would increase substantially if the assumed baseline conservation protections were not in place. Consider adding text describing the certainty of this assumption.

Response – We added the following text to support this assumption: “Absent the suite

of baseline protections considered in this analysis (other than the listing of the Nassau grouper, without which critical habitat would not be designated), potentially costly project modifications and conservation measures could be required incrementally to the critical habitat designation to avoid adverse modification of the critical habitat. Examples of such project modifications include conditions monitoring, deployment of sediment and turbidity control barriers, surveying, and fishing gear restrictions.”