Atlantic Scientific Review Group

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*Established under the Marine
Mammal Protection Act to advise the
National Marine Fisheries Service
and U.S. Fish and Wildlife Service
on the status of marine mammal
stocks off the Atlantic and Gulf
Coasts.*

03 May 2023

Ms. Janet Coit
Assistant Administrator for NOAA Fisheries
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910

Dear Administrator Coit:

The ASRG is very grateful to NOAA Fisheries and USFWS staff for the time and effort they put into their field studies, analyses and presentations that made this meeting possible. We are also grateful for Dr. Mignucci, his staff, and his students for their support and presence at the meeting. The hosted visit to the Caribbean Manatee Conservation Center was informative and particularly enjoyed. We thank Dr. Alverez for her presentation on Cuban marine mammal science and look forward to similar presentations in future meetings (especially from Mexico with a continuation/expansion of the Canadian report). Indeed, we would like for NOAA/USFWS to consider the addition of a Mexican scientist to the ASRG to support conservation of Gulf of Mexico transboundary marine mammal stocks.

NOAA Updates

NOAA Fisheries Headquarters

As always, we are grateful to NOAA Fisheries HQ for their national updates. Much of what occurs at that level is very opaque to those of us working outside of DC, so we always learn a great deal from these updates. We particularly thank Eric Patterson and Zac Schakner for facilitating the early onboarding of two new ASRG members.

Unusual Mortality Events – The ASRG thanks NOAA Fisheries staff for their presentation, considering the controversy surrounding humpback whale strandings that have occurred in the Mid Atlantic since December. We are satisfied with progress made in determining the causes of the UME and are in general agreement with the NOAA Fisheries and MMC opinions that offshore wind site characterization and assessment survey activities are not responsible for the elevated number of strandings in that region. We **recommend** that NOAA Fisheries: 1) continue to broadcast information on the causes of the UME, 2) pursue measures that will reduce the likelihood of vessel strikes of humpback whales, and 3) support research (e.g., tagging) that can support such measures. Given the high number of humpback whale vessel strike mortalities found to be part of this UME, NOAA Fisheries should consider either an extension of the vessel speed restrictions in the proposed amendment to the North Atlantic right whale vessel strike reduction rule (87 FR 46921) to include protections for humpback and other large whales (if that can be accomplished without delaying issuance of this important rule) OR a separate emergency rule extending the existing (and proposed) vessel speed restrictions to protect humpback whales.

We also recognize and appreciate NOAA Fisheries efforts to include NARW sublethal injuries in the UME framework, recognizing the significant impact these anthropogenic

injuries may be having on the population's ability to recover. We **recommend** that such efforts (e.g. including sublethal anthropogenic impacts on NARWs) be continued and expanded within other aspects of the NARW management in order to more effectively manage the recovery of this population

Southeast Regional Office

Barataria Bay dolphins – We thank SERO for their updates but remain concerned about NOAA's position with respect to the impact of the diversion project on survival of this stock. As we commented in 2022, "this is a stock whose future viability has already been imperiled by the long-term impacts of the *Deepwater Horizon* oil spill. Based on the 2021 Stock Assessment Report (SAR), mean annual mortality and serious injury during 2015–2019 due to human-caused sources (fishery takes, fishery research, at-sea entanglements, gunshot wounds, and DWH oil spill) was at least 41 dolphins. This estimate exceeds the stock's Potential Biological Removal (PBR = 18 dolphins) leading the stock to be classified as strategic. Moreover, because this estimate of human-caused mortality and serious injury is greater than 10% of the calculated PBR the level of takes cannot be considered insignificant and approaching the zero mortality and serious injury rate goal.

The ASRG believes that allowing the project to produce additional mortalities will result in extirpation of the stock and is <u>inconsistent</u> with the Marine Mammal Protection Act (MMPA) waiver condition that "To the extent practicable and consistent with the purposes of the projects, minimize impacts on marine mammal species and population stocks." As such, the ASRG **strongly recommends** that NOAA <u>reconsider</u> issuance of the waiver of MMPA moratorium and prohibitions for the project considering this recent information.

Rice's whale – Progress with Critical Habitat designation is encouraging, and the recent publications by Soldevilla et al. (2022) and Kiszka et al (2023) have significantly improved our understanding of Rice's whale habitat use in the central and western Gulf of Mexico. We note, however, that the potential masking of sounds by seismic testing could mean that the existing passive acoustic monitoring (PAM) data may underestimate the actual occurrence of Rice's whales in those areas, a concern shared by agency staff. We strongly **recommend** that work to elucidate Rice's whale occurrence and habitat-use be funded and continued.

The ASRG also **recommends** that before SERO decides on classifying the shark and reef fish bottom longline/hook-and-line fisheries to LOF Category II that they conduct a statistical analysis to determine how much observer coverage is needed in this fishery to detect a Rice's whale interaction with this gear.

Southeast Fisheries Science Center

Passive Acoustic Monitoring – This was an excellent presentation by SEFSC staff and we strongly **recommend** that this work be funded and continued.

Northeast Fisheries Science Center

AMAPPS – Much has come out of this collaboration with BOEM, and the ASRG hopes the relationship can continue. We were intrigued by the research conducted this past year in the use of video cameras for "higher" altitude surveys. We **recommend** that NOAA continue these experiments, and that they find a robust approach for confirmations of sightings (even if they cannot fly two aircraft on the same track line.)

Gray seals – the low number of observer gillnet trips in 2020-21 as well as the potentially poorly allocated (nonrandom) sampling suggests gillnet bycatch of seals may be underestimated. Moreover, it is

possible (perhaps likely) that fishermen on observed trips may have fished differently and in different areas than they normally would. This too would lead to an underestimate of seal bycatch.

Topical Presentations/Discussions

North Atlantic right whales

The ASRG appreciates the considerable effort NOAA Fisheries has devoted to North Atlantic right whale science and recovery.

We are, however, concerned with NOAA Fisheries independent development and/or lack of coordination between the four right whale population and risk modeling efforts – the "Mark Resight/Recapture" population model, the entanglement focused "Decision Support Tool" model(s), the "Ship Strike Risk Model", and the "Population Evaluation Tool" (PET model). Such independent risk modeling of the same species in the same time and space is prone to conflicting and/or incongruent results. As in previous ASRG responses, we **strongly recommend** that NOAA Fisheries harmonize the four modeling approaches. At the least, the Decision Support Tool and Ship Strike Risk models should be blended into a single model, given they are both using the same right whale density/distribution input and are simply exposing these whales to different threats (that are similarly modeled). We also **recommend** (as was recommended in the review of the Decision Support Tool) that all approaches explicitly identify the uncertainty in risk estimates and that model validation is undertaken as standard when empirical data is available to do so.

Assessment of Transboundary Stocks

The ASRG acknowledges the GAMMs IV policy Section 3.4.4 recommendation on the standardization of approaches to the estimation of transboundary stocks' N_{min} and PBR, and we appreciate Dr. Palka's presentation on the topic.

The GAMMs IV guidance appears generally clear, and we have summarized in the attached document our interpretation of how range-wide N_{min} and PBR would be calculated for transboundary stocks with different types/qualities of data available (e.g., MRR vs transect, and stocks with complete or incomplete recent transect data).

We do, however, suggest another method (beyond Dr. Palka's two solutions) for calculating range-wide values when one nation's recent survey was either not conducted or is otherwise unavailable for PBR calculation. We believe that imputation using ratio estimation of the missing survey (N_{min}) value needed to calculate a range-wide N_{min} might be a useful approach to calculating both the range-wide PBR and allocating PBR to separate nations (see Table 2 for an example). In the example shown, we have imputed the missing 2021 Canadian N_{min} estimate by calculating the ratio of the US N_{min} estimates for 2016 and 2021 and applying this to the Canadian estimate for 2016. Other approaches to imputation would also be valid.

We **recommend** that if one element of the range-wide N_{best} or N_{min} is missing, that the F value for the range-wide PBR be set to 0.4 to account for the additional uncertainty in the N_{min} estimate.

We urge NOAA Fisheries to continue to work with Canada's Department of Fisheries and Oceans to develop a policy of regular survey updates (to minimize the need for imputation of missing values) and for them to increase monitoring of bycatch of transboundary stocks in general. This will allow the proper assessment of stock status range-wide.

Species Specific Stock Assessment Comments

As a general comment, we **recommend** that NOAA Fisheries Science Centers explicitly follow the GAMMs IV guidance and not submit SAR chapters to the SRGs for review when key supporting documents are still in preparation. This is particularly important for those assessments requiring Level 2 or 3 review. For those requiring Level 1 review only, the ASRG would be happy to provide peer review (intersessionally) of the manuscripts as part of the NOAA Fisheries RPTS manuscript review process, <u>prior to submission of the SAR chapter</u> for full ASRG review.

<u>Gulf of Mexico dolphin stock assessments</u>

We support the SEFSC's measured approach to providing new assessments for each of the Gulf of Mexico bottlenose dolphin stocks. We **recommend** extension of risk assessments to all "n" stocks to prioritize development of new assessments for all bottlenose dolphin stocks in the Gulf.

<u>Barataria Bay bottlenose dolphins</u>

We thank the SEFSC for providing an updated version of this stock's SAR. We **strongly recommend** that information be included in the "Status" section on the analysis suggesting that the Mid-Barataria Sediment Diversion would, by the year 2076, lead to a 96% decline in the median predicted stock size across all Barataria Bay. This addition could read as follows:

> *Recently, the final environmental impact statement for a proposed mid-Barataria sediment diversion (MBSD) project has been completed (USACE 2022). This project will divert substantial amounts of freshwater into the Barataria Basin in an effort to reduce wetland loss. Schwacke et al. (2022) cautioned that the MBSD project is likely to be detrimental to population survival for the common bottlenose dolphin stock in Barataria Bay (BBES). In addition, results of modeling work by Thomas et al. (2022) predict greater declines in population size resulting from the MBSD than those caused by the DWH oil spill, resulting in a catastrophic decline and functional extinction of the BBES Stock of common bottlenose dolphins.*

<u>Utility of the separation of certain small cetaceans into Western North Atlantic and Gulf of Mexico stocks</u>

Given the paucity of sightings of Frasier's dolphins, pygmy killer whales, pygmy sperm whales and dwarf sperm whales, we suggest NOAA review these "stocks" to evaluate the likelihood that there is only one (rather than two) stocks of each of these species in the Southeast region. Because these species are so rarely observed, we suggest SEFSC staff include sightings beyond NOAA Fisheries surveys.

<u>Gray seals</u>

The Atlantic SRG **recommends** that the NEFSC change the F_r used in the gray seal SAR from 1.0 for "stocks of unknown status, but which are known to be increasing" to 0.5 for "unknown stocks." Based on the presented data, it is uncertain whether the stock is increasing and as such, an F_r of 0.5 is more appropriate.

Additionally, we **recommend** that a minimum value of Serious Injuries (SI) be presented in the SAR as well as the number of cases for which SI was prevented by disentanglement, as is done for other species. The Martins et al. (2018) paper presents UAV survey data on seal entanglement prevalence at one haul-out site in Maine and four in Massachusetts during 2017 and 2018. The mean entanglement prevalence across sites could be applied to N_{min} to achieve an estimate of SI cases. Alternatively, a more geographically specific estimate of entanglement SI could be derived using the Martins et al. (2018)

entanglement prevalence data, according to the % of the stock present in the various geographic regions if such data exist. At a minimum, the raw count of live seals with neck entanglements (n=21) across all surveyed sites should be included in the total observed M/SI for this stock. We **recommend** that further work is conducted to better estimate the number of gray seals with serious injuries due to entanglements.

Blue whales

As discussed in the meeting, the estimate of population size used in the draft SAR (i.e. photo identification catalogue entries through 2008) is inappropriate. We understand, however, that the blue whale catalogue maintained by Dr. Sears continues to be updated. As such, we **recommend** that NOAA Fisheries consider using a "minimum number alive" approach, as was formerly used for North Atlantic right whales or work with Dr. Sears to develop an MRR-based approach like that adopted by NOAA Fisheries for right and humpback whales.

Mesoplodon spp

The ASRG **recommends** that NOAA Fisheries separately assess each stock/species of Mesoplodon whales. Unidentifiable individuals remain an issue, and we would be happy to discuss approaches to dealing with these sightings.

Humpback whales

We remain concerned that we have not seen an updated humpback whale SAR since 2020. However, we understand that the SAR cannot be completed until the stock structure is defined and accepted by NOAA. To that end, we would appreciate the opportunity to provide early guidance on the approach (via webinar) and would be happy to chair an independent peer review of the proposed stock structure.

We also ask for clarification on the approach NOAA Fisheries intends to take to estimate population size for the annual SAR. Will it be the Robbins and Pace MRR model we reviewed in 2022, the Palka strip transect estimate, or some combination of the two?

Closing Comment

The ASRG appreciates that NOAA Fisheries allowed Drs. Pendleton and Sharp to join the ASRG a year early. Their knowledge, skills, and experience with North Atlantic right whales are very timely given the departure from the ASRG of Drs. Kenny and Moore. We now call to the agency's attention the departure of Dr. Read. It is very important that he be replaced in a timely fashion with a scientist with similar experience and skills.

Sincerely,

James Powell
Chair, Atlantic Scientific Review Group

Attachment

CC

Dr. Peter Thomas, Executive Director
Marine Mammal Commission

Mr. Michael Pentony, Regional Administrator
Greater Atlantic Regional Office

Dr. Jon Hare, Director,
Northeast Fisheries Science Center

Mr. Andy Strelcheck, Regional Administrator
Southeast Regional Office

Dr. Clay Porch, Director
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David Bernhardt, ARA
Protected Resources Division
Southeast Regional Office

Ms. Jennifer Anderson, ARA
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Marine Mammal and Turtle Division
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Dr. Shannon Bettridge, Chief
Marine Mammal and Sea Turtle Division
Office of Protected Resources

Dr. Sean Hayes, ASRG Liaison & Chief
Protected Species Branch
Northeast Fisheries Science Center

Attachment 1

ASRG suggested approach for the estimation of N_{min} and calculation of PBR for Transboundary Marine Mammal Stocks recommended in GAMMs IV policy

Basic guidance for all transboundary stocks:
1. Calculate a stock's range-wide estimate of N_{best} and associated CV directly from MRR model or by combining N_{best} and CV from each nation's stock component
2. Calculate range-wide N_{min} from range-wide N_{best} and associated CV
3. Calculate PBR for the stock from the stock's range wide N_{min}
4. Allocate PBR to each nation based on an appropriate apportionment method

Specific Guidance
For migratory stocks (e.g., North Atlantic right whales, humpback whales):
1. Estimate range-wide abundance (N_{best}, either through MRR or strip transect methods) with appropriate CV measures, and this is the stock's N_{best}
2. Calculate the stock's N_{min} based on the stock's N_{best} and CV
3. Calculate PBR for the stock using N_{min} and the standard PBR estimation methodology.
4. Split the stock's PBR into PBR_{USA} and PBR_{FOR} either by:
   a. Apportionment based on the time the stock spends in the separate waters, or
   b. If unknown, split between the two nations 50:50

For non-migratory stocks (e.g., some large cetaceans, small cetaceans, and seals) that **have** a recent range-wide estimate of abundance for the stock (Table 1):
1. Estimate range-wide stock abundance and CV from nation specific N_{best} and then sum ($N_{best} = N_{USA} + N_{FOR}$) for the stock
2. Calculate the stock's N_{min} based on the stock's N_{best} and CV
3. Calculate PBR for the stock using N_{min} and the standard PBR estimation methodology.
4. Calculate PBR_{USA} and PBR_{FOR} based on the proportion of the stock observed in each nation's waters (e.g., $N_{minUSA}/(N_{minUSA} + N_{minFor})$

For non-migratory stocks (e.g., some large cetaceans, small cetaceans, and seals) that **do not have** a recent range-wide estimate of abundance (N_{best}):
1. If a prior but recent estimate of range-wide abundance is available, then (Table 2):
   a. Calculate the ratio of prior N_{minUSA} to current N_{minUSA}
   b. Apply this ratio to prior N_{minFOR} to impute the current N_{minFOR}
   c. Sum current N_{minUSA} and imputed N_{minFOR} to estimate current range wide N_{min}
   d. Calculate current range wide PBR from current range wide N_{min}
   e. Calculate PBR_{USA} and PBR_{FOR} based on the proportion of the stock observed in each nation's waters (e.g., $N_{minUSA}/(N_{minUSA} + N_{minFor})$
2. If no recent range-wide abundance estimate is available then:
   a. Use current N_{minUSA} and the standard PBR estimation methodology to calculate PBR_{USA}

Table 1. Common dolphin abundance estimates and PBR calculation for 2016 for US and Canadian components of the stock.

Year	Area	N_{best}	CV	N_{min}	F_r	R_{MAX}	PBR
2016	US	81,127	0.31	62,863			711
	Canada	91,847	0.42	65,415			741
	Total	172,974	0. 21	145,216	0.50	0.04	1,452

Table 2. Common dolphin abundance estimates and PBR calculation for 2016 and 2021 for US and Canadian components of the stock. Canadian 2021 values (in italics) are imputed from ratio estimation, while all others are based on survey estimates of N_{best} as presented in draft 2022 common dolphin SAR.

Year	Area	N_{best}	CV	N_{min}	F_r	R_{MAX}	PBR
2016	US	81,127	0.31	62,863			711
	Canada	91,847	0.42	65,415			741
	Total	172,974	0.21	145,216	0.50	0.04	1,452
2021	US	93,100	0.56	59,984	0.48[1]	0.04	575
	Canada	UNK	UNK	*62,598*[2]			*600*
	Total	UNK	UNK	122,403	0.40[3]	0.04	1175

[1] F_r reduced to 0.48 based on GAMMs guidance for stocks with CV on N_{best} between 0.3 and 0.6
[2] = (59,984/62683)*64415
[3] F_r also reduced to 0.40 assuming the overall CV is similar to the US CV and is between 0.3 and 0.6

Attachment 2
From GAMMs IV

3.4.4 Transboundary Stocks

In transboundary situations where a stock range spans international boundaries or the boundary of the U.S. EEZ, the best approach is to evaluate all sources of human-caused M/SI (U.S. and non-U.S.) relative to PBR for the stock's entire range. Such an approach is consistent with the MMPA objective of maintaining stocks as functioning elements of their ecosystems and basing a stock's status on information from the entire stock range (see Section 3.4).

If range-wide estimates of N_{min} and/or complete information on human-caused M/SI are not available, a transboundary stock's status should still be determined following the guidelines presented above (Section 3.4), and the overall PBR and total human-caused M/SI should be reported so that they represent as much of the stock range as possible. However, if this PBR and total human-caused M/SI are not comparable for managing marine mammals under U.S. jurisdiction (e.g., PBR represents the full range of the stock, but information on human-caused M/SI is incomplete and only represent the U.S. portion of the range), in addition to the overall PBR and total human-caused M/SI estimates, the SAR should *also* calculate and provide an adjusted estimate of PBR, human-caused M/SI, or both as follows.

For migratory transboundary stocks, if it is reasonable to do so, a time-apportioned N_{min} based on the fraction of time the stock spends in waters under U.S. jurisdiction should be provided and used to calculate an adjusted PBR. For non-migratory transboundary stocks (e.g., stocks with broad pelagic distributions that extend into international waters), an area-apportioned N_{min} based on abundance estimates relevant to managing marine mammals under U.S. jurisdiction should be provided and used to calculate an adjusted PBR. In some cases (e.g., migratory transboundary stocks where some animals may never enter waters under U.S. jurisdiction), these two approaches (time and area) may need to be combined. In the event N_{min} is apportioned, consideration should be given as to whether R_{max} and F_r should be altered when calculating an adjusted PBR. Finally, when an apportioned N_{min} is used to calculate an adjusted PBR, if appropriate, a corresponding adjusted human-caused M/SI estimate should also be provided such that it is comparable to the adjusted PBR and represents data relevant to managing marine mammals under U.S. jurisdiction.

Methods for adjusting estimates of PBR and human-caused M/SI should be clearly noted in the SAR, along with their rationale and a description of any additional uncertainty associated with the adjusted estimates not already present with the unadjusted estimates. The adjusted estimates should not be conflated with the stock-wide estimates (which may or may not be available) or be the primary basis for assessing the status of the stock (see Section 3.4).