

PURPOSE

Section 101(a)(5)(E) of the Marine Mammal Protection Act (MMPA) states that the National Marine Fisheries Service (NMFS), shall for a period of up to three years allow the incidental taking of marine mammal species listed under the Endangered Species Act (ESA) while engaging in commercial fishing operations, if NMFS makes certain determinations. NMFS must determine, after notice and opportunity for public comment, that: (1) incidental mortality and serious injury (M/SI) will have a negligible impact on the affected species or stock; (2) a recovery plan has been developed or is being developed for such species or stock under the ESA; and (3) where required under section 118 of the MMPA, a monitoring program has been established, vessels engaged in such fisheries are registered in accordance with section 118 of the MMPA, and a take reduction plan has been developed or is being developed for such species or stock.

This document includes NMFS assessment of whether a fishery can be authorized under section 101(a)(5)(E) and presents a finding detailing how the fishery evaluated meets the requirements of this section. To determine if a M/SI incidental to a commercial fishery will have a negligible impact on the affected species or stock, this analysis employs the process and standards laid out in NMFS Procedure 02-204-02 "Criteria for Determining Negligible Impact under MMPA Section 101(a)(5)(E)."

INSTRUCTIONS

Complete a Negligible Impact Determination (NID) analysis and 101(a)(5)(E) assessment for each commercial fishery evaluated. Follow the steps in the NID Procedural Directive ([NMFS Procedure 02-204-02](#) "Criteria for Determining Negligible Impact under MMPA Section 101(a)(5)(E)") to fill out a NID analysis species/stock worksheet for each ESA-listed stock/species, included on the most recent final MMPA [List of Fisheries](#) (LOF) interacting with that fishery. Use the most recent marine mammal Stock Assessment Reports (SAR), the LOF, and any other relevant information to complete the NID assessment. For each stock/species, include a short summary of the NID analysis (in the "species/stock NID justification"), and indicate whether a NID can be made for that stock. If additional space is needed, use the NID justification narrative section to complete your summary.

For the NID analysis, numeric precision with a scale of two decimal places is recommended. If a Tier 1 analysis is not conducted because a species/stock is transboundary or other reasons, select the N/A box and provide a brief explanation. If a Tier 2 analysis is not conducted, please select the N/A box and provide a brief explanation. If a Tier 2 is conducted under a special circumstance, please select that box and provide an explanation.

In the NID justification narrative, provide a brief summary (if needed) and justification for any deviations from the Procedural Directive, as well as a description of any special circumstances including:

1. An explanation if a species/stock does not conform to the PBR framework and an alternate NID approach is taken.
2. If sources other than the most recent SAR are used for annual average M/SI values.
3. A rationale, if the most recent 5-year average is not used for annual average M/SI values.
4. A detailed explanation if unattributed fishery M/SI is accounted for in the NID assessment.
5. If a minimum abundance estimate (N_{\min}) is unavailable for conducting a standard negligible impact analysis, provide an explanation.
6. Details of any special circumstances if the individual fishery M/SI is unavailable or underestimated.

Complete a 101(a)(5)(E) assessment for each commercial fishery evaluated and indicate whether the fishery meets the requirements for an authorization.

Incorporate documents by reference as appropriate, including web links, if possible. If applicable, reference and attach any supporting documents that were developed for the assessment, and include a list of any such documents. In the "Final NID Determination" and "MMPA Section 101(a)(5)(E) Authorization" sections, choose the appropriate language option given the outcome of the NID or 101(a)(5)(E) assessment. For additional information please refer to the [NID Procedure](#) or the latest [Guidelines for Preparing Stock Assessment Reports](#) (GAMMS).

Negligible Impact Determination Analysis: Fishery Information

Commercial Fishery Evaluated: AK Gulf of Alaska sablefish longline

Fishery Region: Alaska

This fishery is included in the final 2020 List of Fisheries (LOF) as a Category I ☐ Category II ☒ fishery.

Fishery Management Type: Federal ☒ State ☐ Fed/State ☐ Other

ESA-listed marine mammal species/stocks with M/SI associated with this fishery:

- | | |
|-------------------------------|----|
| 1) Sperm whale, North Pacific | 4) |
| 2) | 5) |
| 3) | 6) |

Is an ESA-listed marine mammal species/stock driving the LOF categorization? Yes ☒ No ☐

If yes, which species/stocks: Sperm whale, North Pacific

Is this a new NID ☒ or an update to an existing (active) NID ☐ ?

If this is an update to an existing (active) NID, please detail a rationale for the modification:

If relevant, please provide additional background information for this fishery.

The AK Gulf of Alaska sablefish longline fishery was first elevated from category III to category II in 2018 for M/SI to sperm whales.

Negligible Impact Determination Analysis: ESA-Listed Marine Mammal Species/Stock Information

Species/stock 1 of 1 : Sperm whale, North Pacific

Does species/stock conform to the Potential Biological Removal (PBR) framework? Yes ☐ No ☒

If no, is an alternate approach used? Yes ☒ No ☐ (If yes, include explanation in the Justification)

Based on the ☐ draft ☒ final 2019 Stock Assessment Report, and/or ☐ other sources:

The average annual M/SI, including SI of animals disentangled or released from fishing gear, (over 5 years, between 2013-2017) is:

Total Human Caused M/SI 4.9 All Comm. Fishery M/SI 4.7 Individual Comm. Fishery M/SI 2.7

Is there unattributed fishery M/SI for the species/stock? Yes ☐ No ☒

Was unattributed fishery M/SI accounted for in this NID? Yes ☐ No ☐ (Provide details in the Justification)

Is this a transboundary species/stock? Yes ☒ No ☐ If yes, check N/A for Tier 1; only conduct Tier 2 analysis.

Is a species/stock N_{min} available for conducting a standard negligible impact analysis? Yes ☐ No ☒

If yes, species/stock metrics are:

N_{min} R_{max}

NIT_t NIT_s

If no, calculate threshold N_{min} for the species/stock based on the minimum population size needed to be below the NIT.

Threshold N_{min} (for NIT_t) 2,450

Threshold N_{min} (for NIT_s) 10,385

Tiered Analyses

Tier 1 Analysis: Does annual average total human caused M/SI exceed NIT_t ?

Yes ☐ No ☐ N/A ☐

If no, then all commercial fisheries are considered to have a negligible impact on this species/stock and a Tier 2 analysis is not necessary. If yes or N/A, proceed to Tier 2 analysis.

Tier 2 Analysis: Does annual average individual fishery M/SI exceed NIT_s ?

Yes ☐ No ☐ N/A ☐ Special Circumstances ☐

If no, then the individual commercial fishery is considered to have a negligible impact on this species/stock unless the individual fishery M/SI is unavailable or underestimated and likely to be non-zero.

Tier 1 Analysis: Does the minimum population size likely exceed the threshold N_{min} for NIT_t ?

Yes ☐ No ☐ N/A ☒

If yes, then all commercial fisheries are considered to have a negligible impact on this species/stock and a Tier 2 analysis is not necessary. If no or N/A, proceed to Tier 2 analysis.

Tier 2 Analysis: Does the minimum population size likely exceed the threshold N_{min} for NIT_s ?

Yes ☒ No ☐ N/A ☐ Special Circumstances ☐

If yes, then the individual commercial fishery is considered to have a negligible impact on this species/stock unless the individual fishery M/SI is unavailable or underestimated and likely to be non-zero.

Species/Stock NID Justification:

The Sperm whale, North Pacific stock is considered transboundary, so a Tier 2 analysis was used. The annual average total human caused M/SI (2.7) not likely to be in excess of an NITs. However, there is not a reliable N_{min} for this stock. The threshold N_{min} for NITs is 10,385, and it is likely that the minimum population for this stock exceeds that threshold N_{min} . Therefore, the Tier 2 analysis is satisfied and the AK Gulf of Alaska sablefish longline fishery is considered to have a negligible impact on this stock/species.

Negligible Impact Determination Analysis: Summary and Justification

NID SUMMARY TABLE

Species/stocks interacting with the commercial fishery evaluated	Does this species/stock meet the NID criteria?
1) Sperm whale, North Pacific	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2)	Yes <input type="checkbox"/> No <input type="checkbox"/>
3)	Yes <input type="checkbox"/> No <input type="checkbox"/>
4)	Yes <input type="checkbox"/> No <input type="checkbox"/>
5)	Yes <input type="checkbox"/> No <input type="checkbox"/>
6)	Yes <input type="checkbox"/> No <input type="checkbox"/>

NEGLECTIBLE IMPACT JUSTIFICATION SUMMARY

The sperm whale, Alaska stock does not have an N_{min} , and therefore the NIT_t and $NITs$ cannot be calculated directly. Therefore, per the guidance, we estimated the threshold N_{min} necessary to meet the $NITs$ (using M/SI of 4.4, $R_{max} = 0.04$, and $NIF = 0.1$) and found the threshold N_{min} for this stock is 10,385 in order for the individual commercial fishery $M/SI \leq NITs$ and meet the Tier II criteria.

Estimating N_{min} for North Pacific sperm whales is especially challenging due to the broad range of the stock, remote offshore inhabitation, and sex segregation exhibited by sperm whales in the North Pacific. Estimates for a large area of the eastern temperate North Pacific were produced from line-transect and acoustic survey data by Barlow and Taylor (2005); the acoustic data produced an estimate of 32,100 sperm whales ($CV=0.36$). However, no more recent estimate exists for other areas, including for the central or western North Pacific. Kato and Miyashita (1998) reported 102,112 sperm whales ($CV=0.155$) in the western North Pacific, with the caveat that their estimate is likely positively biased. From surveys in the Gulf of Alaska in 2009 and 2015, Rone et al. (2017) estimated 129 ($CV=0.44$) and 345 sperm whales ($CV=0.43$) in each year, respectively. However, these estimates are only for a small area within the stock's range and is unlikely to include females and juveniles, and thus is not a reliable minimum estimate. Given that Rone et al. (2009) estimated several hundred sperm whales were present in a fraction of the stock's range, and that estimate probably only included mature males, we conclude that it is reasonable to assume that there are far more than 10,385 individuals in the North Pacific stock.

Negligible Impact Determination Analysis: Determination

FINAL NID DETERMINATION

Based on criteria outlined in NMFS Procedure 02-204-02 "Criteria for Determining Negligible Impact under MMPA Section 101(a)(5)(E)" and the best scientific information available as detailed herein and cited below, the mortality and serious injury of ESA-listed marine mammals incidental to the AK Gulf of Alaska sablefish longline fishery will have a negligible impact on ESA-listed marine mammal stocks or species the purposes of issuing a permit under MMPA section 101(a)(5)(E), for a period of up to three years.

LIST OF ATTACHMENTS (if applicable)

LITERATURE CITED

Barlow, J., and B. L. Taylor. 2005. Estimates of sperm whale abundance in the northeastern temperate Pacific from a combined acoustic and visual survey. *Marine Mammal Science* 21:429-445.

Kato, H., and T. Miyashita. 1998. Current status of North Pacific sperm whales and its preliminary abundance estimates. Unpublished document submitted to the International Whaling Commission Scientific Committee (SC/50/CAWS/52). 6 p.

Muto, M. M. V. T. Helker, B. J. Delean, R. P. Angliss, P. L. Boveng, J. M. Breiwick, B. M. Brost, M. F. Cameron, P. J. Clapham, S. P. Dahle, M. E. Dahlheim, B. S. Fadely, M. C. Ferguson, L. W. Fritz, R. C. Hobbs, Y. V. Ivashchenko, A. S. Kennedy, J. M. London, S. A. Mizroch, R. R. Ream, E. L. Richmond, K. E. W. Shelden, K. L. Sweeney, R. G. Towell, P. R. Wade, J. M. Waite, and A. N. Zerbini. 2020. (DRAFT) Alaska Marine Mammal Stock Assessments, 2019. U. S. Department of Commerce, NOAA Technical Memorandum NMFS-AFSC-XXX. X p. Available at: <https://www.fisheries.noaa.gov/national/marine-mammal-protection/draft-marine-mammal-stock-assessment-reports> (accessed June 23, 2020)

Rone, B. K., A. N. Zerbini, A. B. Douglas, D. W. Weller, and P. J. Clapham. 2017. Abundance and distribution of cetaceans in the Gulf of Alaska. *Marine Biology* 164:23. DOI 10.1007/s00227-016-3052-2 Available at: <https://link.springer.com/content/pdf/10.1007/s00227-016-3052-2.pdf>

101(a)(5)(E) Assessment**MMPA SECTION 101(a)(5)(E)**

MMPA section 101(a)(5)(E) requires NMFS to authorize the incidental take of ESA-listed marine mammals in commercial fisheries if NMFS determines, after notice and opportunity for public comment, that:

1. Incidental mortality and serious injury (M/SI) from commercial fisheries will have a negligible impact on the affected species/stock;
2. A recovery plan has been developed or is being developed for such species/stock; and
3. Where required under MMPA section 118, a monitoring program has been established, vessels are registered, and a take reduction plan has been developed or is being developed for such species/stock.

FISHERY EVALUATION UNDER MMPA SECTION 101(a)(5)(E) CRITERIA

Commercial Fishery: **AK Gulf of Alaska sablefish longline**

Was a NID made for this fishery? Yes ☒ No ☐

Species/Stocks interacting with the commercial fishery evaluated	Is a recovery plan developed or underway for this species/stock?	
1) Sperm whale, North Pacific	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
2)	Yes <input type="checkbox"/>	No <input type="checkbox"/>
3)	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4)	Yes <input type="checkbox"/>	No <input type="checkbox"/>
5)	Yes <input type="checkbox"/>	No <input type="checkbox"/>
6)	Yes <input type="checkbox"/>	No <input type="checkbox"/>

Is a monitoring program established for this fishery as required under MMPA section 118? Yes ☒ No ☐

Has this fishery met the take reduction plan requirements as required under MMPA section 118? Yes ☒ No ☐

If yes, is a take reduction plan complete ☐ underway ☐ or included ☒ on the priority list for development?

Have all requirements been met for NMFS to authorize the incidental take of ESA-listed marine mammals in this commercial fishery? Yes ☒ No ☐

If relevant, please provide additional information.

MMPA SECTION 101(a)(5)(E) AUTHORIZATION

Based on above criteria outlined under MMPA Section 101(a)(5)(E), and the best scientific information available as detailed herein and cited hereafter, the AK Gulf of Alaska sablefish longline fishery meets the requirements for issuance of a permit under MMPA section 101(a)(5)(E), for a period of up to three years.

DATE:

June 23, 2020

LIST OF ATTACHMENTS (if applicable)

LITERATURE CITED

Barlow, J., and B. L. Taylor. 2005. Estimates of sperm whale abundance in the northeastern temperate Pacific from a combined acoustic and visual survey. *Marine Mammal Science* 21:429-445.

Kato, H., and T. Miyashita. 1998. Current status of North Pacific sperm whales and its preliminary abundance estimates. Unpublished document submitted to the International Whaling Commission Scientific Committee (SC/50/CAWS/52). 6 p.

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Rone, B. K., A. N. Zerbini, A. B. Douglas, D. W. Weller, and P. J. Clapham. 2017. Abundance and distribution of cetaceans in the Gulf of Alaska. *Marine Biology* 164:23. DOI 10.1007/s00227-016-3052-2
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