

South African Fisheries and the U.S. MMPA Imports Rule¹

December 17, 2021

I. Executive Summary

South Africa is a substantial seafood exporter to the United States, exporting over 2.3 million kg of seafood valued at over \$34.5 million in 2020.² The National Marine Fisheries Service's (NMFS) 2020 List of Foreign Fisheries (LOFF) identifies 27 South African export fisheries, including hake, horse mackerel, rock lobster, and various RFMO fisheries.

Under the Marine Mammal Protection Act (MMPA), the U.S. government “shall ban” all seafood imports caught with fishing gear that kills or seriously injures marine mammals “in excess of United States standards.”³ To implement the requirement, NMFS issued the MMPA Imports Rule,⁴ setting out standards that nations must demonstrate to continue exporting fish to the United States after December 31, 2022. Under the Rule, South Africa must apply for and receive a “comparability finding” from NMFS, which is essentially a determination that South Africa’s bycatch and bycatch program meet U.S. standards.⁵

This report provides a brief assessment of South Africa’s export fisheries, its marine mammal populations, potential bycatch issues, and South Africa’s legal regime related to bycatch, as applied to the MMPA Imports Rule. The assessment focuses on fisheries not governed by Regional Fishery Management Organizations (RFMOs) that are likely to have bycatch issues.

We conclude it is unlikely that South Africa will be able to demonstrate that it meets the U.S. MMPA Imports Rule, and thus South Africa should face a ban for at least some of its export fisheries. Specifically, it is unlikely that South Africa will be able to demonstrate numerous components of the Rule: South Africa does not provide for marine mammal surveys for all stocks; does not appear to require an adequate fisheries register; based on publicly-available information, does not maintain adequate regulatory requirements for bycatch, including requiring reporting, mitigation measures, and bycatch monitoring; or calculate a bycatch limit. As such, it is unlikely South Africa will be able to demonstrate that serious injury and mortality from all export fisheries do not exceed bycatch limits.

Based on this assessment, we strongly urge NMFS to require South Africa to fully demonstrate that it meets the various components of the MMPA Imports Rule and respond in detail to points offered herein. Barring this legally-required showing, NMFS must ban the import of fish and fish products from relevant fisheries starting on January 1, 2023.

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² NOAA Fisheries, Trade Statistics: South Africa Exports for 2020. Available at: <https://www.fisheries.noaa.gov/foss/f?p=215:2:16332798630391::NO:::>

³ 16 U.S.C. § 1371(a)(2).

⁴ 81 Fed. Reg. 54,415 (Aug. 16, 2016).

⁵ 50 C.F.R. § 216.24(h)(6).

II. South African Fisheries

With its 3,623 km coastline along both the Indian and Atlantic Oceans, South Africa has a substantial seafood industry. The Benguela ecosystem in southwestern South Africa is considered one of the world's most productive with its nutrient-rich, cold upwellings,⁶ providing habitat for a multitude of fish and marine mammal species.

The U.N. Food and Agriculture Organization (FAO) reports that, in 2016, South African capture fisheries produced around 611,000 tonnes from marine waters.⁷ South African seafood exports exceed imports, with total seafood exports valued at \$598 million.⁸

According to FAO, as of 2018, there were 22 commercial fisheries within South Africa.⁹ By volume, the main species caught in South Africa are anchovy, hakes, and pilchards.¹⁰ The hake trawl fishery is also the most valuable South African fishery, constituting 50% of the total value of fishery production.¹¹ A large hake fishery operates offshore using mostly otter trawls, but smaller inshore trawl, longline, and handline hake fisheries also operate.¹² The second most valuable South African fishery is the pelagic purse seine fishery targeting anchovy, sardines, and round herring.¹³

An adult horse mackerel midwater trawl fishery also operates off Agulhas Bank, and mullet (harder) are caught with gillnets and beach seines on the west coast.¹⁴ A large and lucrative rock lobster fishery exists, with the shallow water West Coast rock lobster trap fishery contributing only 0.4 of the total volume of South African catch but 9.2% of its value.¹⁵ South

⁶ Baust S, Teh L, Harper S and Zeller D (2015) South Africa's marine fisheries catches (1950–2010). Pp. 129–150 In Le Manach F and Pauly D (eds.) Fisheries catch reconstructions in the Western Indian Ocean, 1950–2010. Fisheries Centre Research Reports 23(2). Fisheries Centre, University of British Columbia [ISSN 1198–6727]. Available at: <http://www.seaaroundus.org/doc/publications/chapters/2015/Baust-et-al-South-Africa.pdf>.

⁷ FAO, *Fishery and Aquaculture Country Profiles: The Republic of South Africa* (last visited Nov. 13, 2021). Available at: <https://www.fao.org/fishery/facp/zaf/en>.

⁸ FAO, *Fishery and Aquaculture Country Profiles: The Republic of South Africa* (last visited Nov. 13, 2021). Available at: <https://www.fao.org/fishery/facp/zaf/en>.

⁹ FAO, *Fishery and Aquaculture Country Profiles: The Republic of South Africa* (last visited Nov. 13, 2021). Available at: <https://www.fao.org/fishery/facp/zaf/en>.

¹⁰ FAO, *Fishery and Aquaculture Country Profiles: The Republic of South Africa* (last visited Nov. 13, 2021). Available at: <https://www.fao.org/fishery/facp/zaf/en>.

¹¹ FAO, *Fishery and Aquaculture Country Profiles: The Republic of South Africa* (last visited Nov. 13, 2021). Available at: <https://www.fao.org/fishery/facp/zaf/en>.

¹² DEFF (Department of Environment, Forestry and Fisheries) 2020. Status of the South African marine fishery resources 2020. Cape Town: DEFF. Available at: https://www.environment.gov.za/sites/default/files/reports/statusofsouthafrican_marinefisheryresources2020.pdf.

¹³ Global Standard for Responsible Supply of Marine Ingredients. Fishery Assessment Methodology and Template Report V2.0: South Africa EEZ Multi-Species Pelagic Purse Seine (Sept. 2020). Available at: https://www.marintrust.com/sites/marintrust/files/approved-raw-materials/159%20Multispecies%20purse%20seine%20South%20Africa%20WF%20SURV1%202020_1.pdf

¹⁴ FAO, *Fishery and Aquaculture Country Profiles: The Republic of South Africa* (last visited Nov. 13, 2021). Available at: <https://www.fao.org/fishery/facp/zaf/en>.

¹⁵ FAO, *Fishery and Aquaculture Country Profiles: The Republic of South Africa* (last visited Nov. 13, 2021). Available at: <https://www.fao.org/fishery/facp/zaf/en>.

Africa also targets highly migratory tuna, swordfish, and shark species on the high seas and within the South Africa EEZ with longlines.¹⁶

South Africa exports fish and fish products to the United States. According to NMFS data, in 2020, South Africa exported over 2.3 million kg of seafood valued at over \$34.5 million to the United States.¹⁷ Top exports by volume include hake, yellowfin tuna, swordfish, toothfish, and rock lobster; however, rock lobster was by far the most valuable import at over \$18 million.¹⁸

A. South African Fisheries on NMFS's LOFF

NMFS's 2020 List of Foreign Fisheries (LOFF) identifies 27 export South African fisheries; however, the LOFF lacks critical details, including fisheries' areas of operation or even target species in some cases, that are key to analyzing potential impacts on marine mammals. The LOFF lists two gillnet fisheries. One fishery is identified as a set gillnet fishery operating within the South Africa EEZ that bycatches *eight different* dolphin species; yet the target fish for this fishery is not identified. It is impossible to determine what this fishery is, much less the fishery's bycatch level. The LOFF also identifies a mullet gillnet fishery within the South African EEZ.

Three trap/pot fisheries are listed, including for West Coast rock lobster, southern spiny lobster, and "marine crab nei" fisheries; no geographic location is identified for the marine crab nei fishery. Two purse seine fisheries are listed as targeting herring, sardines, pilchards, mackerels, mullets, and other fish. The LOFF lists four longline fisheries, including for sharks, hake, groundfish, and other fish operating within South Africa's EEZ or with no geographic area provided, as well as eight longline fisheries targeting toothfish and highly migratory fish (tuna, swordfish, sharks) that are governed by RFMOs (CCAMLR, ICCAT, or IOTC).¹⁹ One salmon aquaculture fishery is also listed.

The LOFF provides no numeric bycatch estimate for any South African fishery. For six fisheries, the LOFF lists marine mammal species that are subject to bycatch without bycatch estimates. For the other fisheries, no bycaught species are even noted. The LOFF is clearly incomplete for South Africa, and under the MMPA Imports Rule, South Africa should have provided the missing data to NMFS as part of its progress report. South Africa's failure to do so suggests South Africa does not conduct stock assessments or monitor and maintain bycatch data or has failed to provide the information to NMFS.

¹⁶ FAO, *Fishery and Aquaculture Country Profiles: The Republic of South Africa* (last visited Nov. 13, 2021). Available at: <https://www.fao.org/fishery/facp/zaf/en>.

¹⁷ NOAA Fisheries, Trade Statistics: South Africa Exports for 2020. Available at: <https://www.fisheries.noaa.gov/foss/f?p=215:2:16332798630391::NO:::>

¹⁸ NOAA Fisheries, Trade Statistics: South Africa Exports for 2020. Available at: <https://www.fisheries.noaa.gov/foss/f?p=215:2:16332798630391::NO:::>

¹⁹ This assessment does not address these RFMO fisheries.



Figure 1: Map of South Africa

Source: <https://geology.com/world/south-africa-satellite-image.shtml>.

III. South African Marine Mammal Populations

South Africa's high level of marine diversity is reflected by its remarkable number of marine mammal species: more than 40 different marine mammals inhabit South African waters. The waters near Cape Town where the cold Benguela and warm Agulhas Currents meet support a large number of marine mammals, including five dolphin species and three baleen whale species.²⁰ Along South Africa's eastern Indian Ocean coast, the most common species are the bottlenose dolphin (*Tursiops spp.*), Indian Ocean humpback dolphin (*Sousa plumbea*), and long-beaked common dolphin (*Delphinus capensis*); the region also provides a winter migratory corridor for humpback whales (*Megaptera novaeangliae*), southern right whales (*Eubalaena*

²⁰ Marine Protected Areas: South Africa. Available at: <https://www.marineprotectedareas.org.za/whales-and-dolphins>.

australis), and Bryde's whale (*Balaenoptera brydei*).²¹ Meÿer et al. (2011) notes that eight species of large whales occur inshore within South African waters, where they are particularly vulnerable to entanglement, including right whale (*Eubalaena australis*), humpback whale (*Megaptera novaeangliae*), Bryde's whale (*Balaenoptera brydei*), and occasionally minke whales (*Balaenoptera* spp.).²²

The following table lists marine mammals that inhabit South African waters according to IUCN, as well as the species' IUCN RedList status:

Common Name	Scientific Name	IUCN Status – Global population
Indian Ocean humpback dolphin	<i>Sousa plumbea</i>	Endangered
Sei whale	<i>Balaenoptera borealis</i>	Endangered
Blue whale	<i>Balaenoptera musculus</i>	Endangered
Fin whale	<i>Balaenoptera physalus</i>	Vulnerable
Sperm whale	<i>Physeter macrocephalus</i>	Vulnerable
Heaviside's dolphin	<i>Cephalorhynchus heavisidii</i>	Near Threatened
False killer whale	<i>Pseudorca crassidens</i>	Near Threatened
Indo-Pacific bottlenose dolphin	<i>Tursiops aduncus</i>	Near Threatened
Antarctic minke whale	<i>Balaenoptera bonaerensis</i>	Near Threatened
Killer whale	<i>Orcinus orca</i>	Data Deficient
Shepherd's beaked Whale	<i>Tasmacetus shepherdi</i>	Data Deficient
Humpback whale	<i>Megaptera novaeangliae</i>	Least Concern
Southern right whale	<i>Eubalaena australis</i>	Least Concern
Common dolphin	<i>Delphinus delphis</i>	Least Concern
Long-finned pilot whale	<i>Globicephala melas</i>	Least Concern
Melon-headed whale	<i>Peponocephala electra</i>	Least Concern
Pantropical spotted dolphin	<i>Stenella attenuata</i>	Least Concern
Pygmy killer whale	<i>Feresa attenuata</i>	Least Concern
African dusky dolphin	<i>Lagenorhynchus obscurus obscurus</i>	Least Concern
Fraser's dolphin	<i>Lagenodelphis hosei</i>	Least Concern
Risso's dolphin	<i>Grampus griseus</i>	Least Concern
Southern elephant seal	<i>Mirounga leonina</i>	Least Concern
Striped dolphin	<i>Stenella coeruleoalba</i>	Least Concern
Commerson's dolphin	<i>Cephalorhynchus commersonii</i>	Least Concern
Common minke whale	<i>Balaenoptera acutorostrata</i>	Least Concern
Antarctic fur seal	<i>Arctocephalus gazella</i>	Least Concern
Pygmy sperm whale	<i>Kogia breviceps</i>	Least Concern
Short-finned pilot whale	<i>Globicephala macrorhynchus</i>	Least Concern
Rough-toothed dolphin	<i>Steno bredanensis</i>	Least Concern

²¹ Van der Elst RP and Everett BI. 2015. (eds). Offshore fisheries of the Southwest Indian Ocean: their status and the impact on vulnerable species. Oceanographic Research Institute, Special Publication, 10. 448pp.

²² Meÿer, M. A., P. B. Best, M. D. Anderson-Reade, G. Cliff, S. F. J. Dudley, and S. P. Kirkman. "Trends and interventions in large whale entanglement along the South African coast." *African Journal of Marine Science* 33, no. 3 (2011): 429-439.

Cuvier's beaked whale	<i>Ziphius cavirostris</i>	Least Concern
Common bottlenose dolphin	<i>Tursiops truncatus</i>	Least Concern
Dwarf sperm whale	<i>Kogia sima</i>	Least Concern
Afro-Australian fur seal	<i>Arctocephalus pusillus</i>	Least Concern
True's beaked whale	<i>Mesoplodon mirus</i>	Least Concern
Pygmy right whale	<i>Caperea marginata</i>	Least Concern
Weddell seal	<i>Leptonychotes weddellii</i>	Least Concern
Leopard seal	<i>Hydrurga leptonyx</i>	Least Concern
Blainsville's beaked whale	<i>Mesoplodon densirostris</i>	Least Concern
Hourglass dolphin	<i>Lagenorhynchus cruciger</i>	Least Concern
Arnoux's beaked whale	<i>Berardius arnuxii</i>	Least Concern
Strap-toothed whale	<i>Mesoplodon layardii</i>	Least Concern
Southern right whale dolphin	<i>Lissodelphis peronii</i>	Least Concern
Subantarctic fur seal	<i>Arctocephalus tropicalis</i>	Least Concern
Crabeater seal	<i>Lobodon carcinophaga</i>	Least Concern
Bryde's whale	<i>Balaenoptera edeni</i>	Least Concern
Southern bottlenose whale	<i>Hyperoodon planifrons</i>	Least Concern
Indo-Pacific beaked whale	<i>Indopacetus pacificus</i>	Least Concern

Most marine mammals are listed under South Africa's National Environmental Management: Biodiversity Act. In 2017, South Africa included all species in the order Cetacea (whales and dolphins) and the suborder Pinnipedia (seals, sea lions) as "Protected Species,"²³ defined as "species which are of such high conservation value or national importance that they require national protection."²⁴ Sea otters are not included on the list.

Several marine mammal species/populations that inhabit South African waters are threatened by or vulnerable to fisheries bycatch. Below, we describe several imperiled species that are or are likely bycaught in U.S. export fisheries.

A. Indian Ocean Humpback Dolphins

Considered the most at-risk marine mammal in South Africa, the Indian Ocean humpback dolphin (*Sousa plumbea*) is listed as "Endangered" by IUCN.²⁵ The species inhabits shallow, near-shore waters from False Bay, South Africa along the eastern African coast and to the

²³ Government Notice (GN) 476 of 30 May 2017 (S. Afr.).

²⁴ National Environmental Management: Biodiversity Act 2004 § 56 (S. Afr.).

²⁵ Braulik, G. T., K. Findlay, S. Cerchio, R. Baldwin, and W. Perrin. "Sousa plumbea. The IUCN Red List of Threatened Species 2017: e. T82031633A82031644." (2018); Vermeulen, Els, Thibaut Bouveroux, Stephanie Plön, Shanan Atkins, Wilfred Chivell, Vic Cockcroft, Danielle Conry et al. "Indian Ocean humpback dolphin (*Sousa plumbea*) movement patterns along the South African coast." *Aquatic Conservation: Marine and Freshwater Ecosystems* 28, no. 1 (2018): 231-240.

southern tip of India.²⁶ The dolphins typically occur within 2-3 km of shore – sometimes sighted within several hundred meters of shore – in water less than 25 m in depth.²⁷

While no absolute, range-wide abundance estimates exist, the total population estimate is “as low as tens of thousands” of animals.²⁸ Scientists recently estimated that fewer than 500 humpback dolphins likely inhabit the South Africa coast, with around 250 individuals uniquely identified – “a more dire situation than previously estimated.”²⁹

Populations are typically small and relatively discrete, with sometimes distinct social clusters within a population.³⁰ Abundance estimates exist for populations or subpopulations within South Africa, though many estimates are dated. Abundance in KwaZulu-Natal province was estimated at 160 (95% CI 134-229) in 1991-1992 and 74 (95% CI 60-88) in 1998. The Algoa Bay population’s abundance was estimated at 466 (95% CI 447-485) from 1991 to 1994, with 70 individual animals sited.³¹ A subsequent assessment in 2008-2011 identified only 50 animals, suggesting “a large decline in the abundance of humpback dolphins in Algoa Bay.” The population was 112 (95% CI 75-133) in Plettenberg Bay in 2011-2013 and 125 (95% CI 61-260) in Mossel Bay in 2011-2013.³² With a low reproductive rate and small, localized populations, Indian Ocean humpback dolphin “cannot withstand even a moderate level of anthropocentric mortality without suffering population declines.”³³

Bycatch is the Indian Ocean humpback dolphin’s primary threat. As described in more detail below, humpback dolphin bycatch has been documented in gillnets, shark nets, and trawl

²⁶ Braulik, G. T., K. Findlay, S. Cerchio, R. Baldwin, and W. Perrin. "Sousa plumbea. The IUCN Red List of Threatened Species 2017: e. T82031633A82031644." (2018); Bouveroux, Thibaut, Brigitte Melly, Gillian McGregor, and Stephanie Plön. "Another dolphin in peril? Photo-identification, occurrence, and distribution of the endangered Indian Ocean humpback dolphin (*Sousa plumbea*) in Algoa Bay." *Aquatic Conservation: Marine and Freshwater Ecosystems* 28, no. 3 (2018): 723-732.

²⁷ Braulik, G. T., K. Findlay, S. Cerchio, R. Baldwin, and W. Perrin. "Sousa plumbea. The IUCN Red List of Threatened Species 2017: e. T82031633A82031644." (2018); Atkins, Shanan, Neville Pillay, and Victor M. Peddemors. "Spatial Distribution of Indo-Pacific Humpback Dolphins (*Sousa chinensis*) at Richards Bay, South Africa: Environmental." *Aquatic Mammals* 30, no. 1 (2004): 84-93.

²⁸ Braulik, G. T., K. Findlay, S. Cerchio, R. Baldwin, and W. Perrin. "Sousa plumbea. The IUCN Red List of Threatened Species 2017: e. T82031633A82031644." (2018).

²⁹ Plön, Stephanie, Shanan Atkins, Vic Cockcroft, Danielle Conry, Sasha Dines, Simon Elwen, Enrico Gennari et al. "Science Alone Won't Do It! South Africa's Endangered Humpback Dolphins *Sousa plumbea* Face Complex Conservation Challenges." *Frontiers in Marine Science* (2021): 906.

³⁰ Braulik, G. T., K. Findlay, S. Cerchio, R. Baldwin, and W. Perrin. "Sousa plumbea. The IUCN Red List of Threatened Species 2017: e. T82031633A82031644." (2018); Atkins, Shanan, Jeremy Cliff, and Neville Pillay. "Humpback dolphin bycatch in the shark nets in KwaZulu-Natal, South Africa." *Biological Conservation* 159 (2013): 442-449.

³¹ Braulik, G. T., K. Findlay, S. Cerchio, R. Baldwin, and W. Perrin. "Sousa plumbea. The IUCN Red List of Threatened Species 2017: e. T82031633A82031644." (2018); Bouveroux, Thibaut, Brigitte Melly, Gillian McGregor, and Stephanie Plön. "Another dolphin in peril? Photo-identification, occurrence, and distribution of the endangered Indian Ocean humpback dolphin (*Sousa plumbea*) in Algoa Bay." *Aquatic Conservation: Marine and Freshwater Ecosystems* 28, no. 3 (2018): 723-732.

³² Braulik, G. T., K. Findlay, S. Cerchio, R. Baldwin, and W. Perrin. "Sousa plumbea. The IUCN Red List of Threatened Species 2017: e. T82031633A82031644." (2018).

³³ Braulik, G. T., K. Findlay, S. Cerchio, R. Baldwin, and W. Perrin. "Sousa plumbea. The IUCN Red List of Threatened Species 2017: e. T82031633A82031644." (2018).

nets.³⁴ High levels of entanglement in shark nets for bather protection in South Africa's KwaZulu-Natal Province has been documented.³⁵ While there are no bycatch estimates available for South African fisheries, IUCN concluded that "in all areas where [bycatch] has been evaluated, the rate of incidental mortality of this species in fisheries appears to be high, unsustainable and causing rapid local population decline."³⁶

B. Heaviside's Dolphins

Heaviside's dolphins (*Cephalorhynchus heavisidii*) are considered "near endemic" to South Africa, inhabiting only the Benguela ecosystem shelf waters off the coasts of South Africa, Namibia, and southern Angola.³⁷ The species inhabits relatively shallow areas less than 200 m deep,³⁸ and the animals are known for their striking black, grey, and white markings. No range-wide population surveys have been conducted but surveys between Table Bay near Cape Town and Lambert's Bay estimated 6,345 Heaviside's dolphins.³⁹ IUCN considers the species "Near Threatened" because the species inhabits a very restricted, near-shore area in a poorly studied region.⁴⁰

Bycatch is considered the greatest threat to Heaviside's dolphins, as they are vulnerable to entanglement in inshore beach and purse seines, trawls, and gillnets.⁴¹ No bycatch estimates are available; however, scientists estimate bycatch may be fewer than 100 animals annually, though "this could be an underestimate" as fishermen may not report mortalities.⁴² Based on a

³⁴ Braulik, G. T., K. Findlay, S. Cerchio, R. Baldwin, and W. Perrin. "Sousa plumbea. The IUCN Red List of Threatened Species 2017: e. T82031633A82031644." (2018).

³⁵ Braulik, G. T., K. Findlay, S. Cerchio, R. Baldwin, and W. Perrin. "Sousa plumbea. The IUCN Red List of Threatened Species 2017: e. T82031633A82031644." (2018); Plön, S., Cockcroft, V. G., & Froneman, W. P. (2015). The natural history and conservation of Indian Ocean humpback dolphins (*Sousa plumbea*) in South African waters. *Advances in marine biology*, 72, 143-162.

³⁶ Braulik, G. T., K. Findlay, S. Cerchio, R. Baldwin, and W. Perrin. "Sousa plumbea. The IUCN Red List of Threatened Species 2017: e. T82031633A82031644." (2018).

³⁷ Elwen, S. & Gopal, K. 2018. *Cephalorhynchus heavisidii*. The IUCN Red List of Threatened Species 2018: e.T4161A50352086. <http://dx.doi.org/10.2305/IUCN.UK.2018-2.RLTS.T4161A50352086.en>; Gopal K, Elwen S, Plön S. 2016. A conservation assessment of *Cephalorhynchus heavisidii*. In Child MF, Roxburgh L, Do Linh San E, Raimondo D, Davies-Mostert HT, editors. The Red List of Mammals of South Africa, Swaziland and Lesotho. South African National Biodiversity Institute and Endangered Wildlife Trust, South Africa.

³⁸ Gopal K, Elwen S, Plön S. 2016. A conservation assessment of *Cephalorhynchus heavisidii*. In Child MF, Roxburgh L, Do Linh San E, Raimondo D, Davies-Mostert HT, editors. The Red List of Mammals of South Africa, Swaziland and Lesotho. South African National Biodiversity Institute and Endangered Wildlife Trust, South Africa.

³⁹ Elwen, S. & Gopal, K. 2018. *Cephalorhynchus heavisidii*. The IUCN Red List of Threatened Species 2018: e.T4161A50352086. <http://dx.doi.org/10.2305/IUCN.UK.2018-2.RLTS.T4161A50352086.en>.

⁴⁰ Elwen, S. & Gopal, K. 2018. *Cephalorhynchus heavisidii*. The IUCN Red List of Threatened Species 2018: e.T4161A50352086. <http://dx.doi.org/10.2305/IUCN.UK.2018-2.RLTS.T4161A50352086.en>.

⁴¹ Gopal K, Elwen S, Plön S. 2016. A conservation assessment of *Cephalorhynchus heavisidii*. In Child MF, Roxburgh L, Do Linh San E, Raimondo D, Davies-Mostert HT, editors. The Red List of Mammals of South Africa, Swaziland and Lesotho. South African National Biodiversity Institute and Endangered Wildlife Trust, South Africa.

⁴² Gopal K, Elwen S, Plön S. 2016. A conservation assessment of *Cephalorhynchus heavisidii*. In Child MF, Roxburgh L, Do Linh San E, Raimondo D, Davies-Mostert HT, editors. The Red List of Mammals of South Africa, Swaziland and Lesotho. South African National Biodiversity Institute and Endangered Wildlife Trust, South Africa.

recent population viability analysis of the species, population decline may occur if 63 animals are taken.⁴³

C. Southern Right Whales

Southern right whales (*Eubalaena australis*) inhabit a wide swath of the southern hemisphere, including South African waters, where a breeding area occurs.⁴⁴ The species suffered extensive declines due to whaling, and by 1920, the population had declined to likely only 300 animals, with 60 breeding females.⁴⁵ Since that time, the global population of southern right whales has grown considerably, reaching approximately 13,600 individuals by 2009.⁴⁶ The species is considered “Least Concern” by IUCN⁴⁷ and is listed as Endangered under the U.S. Endangered Species Act.

There are four breeding populations of southern right whales, including the southeast Atlantic population in South Africa and Namibia.⁴⁸ Believed to be the largest breeding stock globally, the population is estimated at 6,116 individuals.⁴⁹ While the global population of southern right whales is thought to be increasing, the southeast Atlantic population “appears to have declined sharply since 2015 for unknown reasons.”⁵⁰

Specifically, since 1969, researchers have conducted annual aerial surveys to monitor the southern right whale population in South Africa. In their report on the 2019 surveys, Vermeulen et al. note “a marked decline of unaccompanied adults since 2010 and extreme fluctuations in the number of cow-calf pairs since 2015” and “an overall increase in calving interval from a normal 3-year cycle to 4- and 5-year calving intervals.”⁵¹ They further found “a continued decrease in

⁴³ Gopal K, Elwen S, Plön S. 2016. A conservation assessment of *Cephalorhynchus heavisidii*. In Child MF, Roxburgh L, Do Linh San E, Raimondo D, Davies-Mostert HT, editors. The Red List of Mammals of South Africa, Swaziland and Lesotho. South African National Biodiversity Institute and Endangered Wildlife Trust, South Africa.

⁴⁴ Cooke, J.G. & Zerbini, A.N. 2018. *Eubalaena australis*. The IUCN Red List of Threatened Species 2018: e.T8153A50354147. <http://dx.doi.org/10.2305/IUCN.UK.2018-1.RLTS.T8153A50354147.en>.

⁴⁵ Cooke, J.G. & Zerbini, A.N. 2018. *Eubalaena australis*. The IUCN Red List of Threatened Species 2018: e.T8153A50354147. <http://dx.doi.org/10.2305/IUCN.UK.2018-1.RLTS.T8153A50354147.en>; Vermeulen, E., C Wilkenson, and G. Van den Berg. “Report of the Southern Right Whale Aerial Surveys – 2019.” (2020). IWC SC/68B/SH/02.

⁴⁶ Cooke, J.G. & Zerbini, A.N. 2018. *Eubalaena australis*. The IUCN Red List of Threatened Species 2018: e.T8153A50354147. <http://dx.doi.org/10.2305/IUCN.UK.2018-1.RLTS.T8153A50354147.en>.

⁴⁷ Cooke, J.G. & Zerbini, A.N. 2018. *Eubalaena australis*. The IUCN Red List of Threatened Species 2018: e.T8153A50354147. <http://dx.doi.org/10.2305/IUCN.UK.2018-1.RLTS.T8153A50354147.en>.

⁴⁸ Cooke, J.G. & Zerbini, A.N. 2018. *Eubalaena australis*. The IUCN Red List of Threatened Species 2018: e.T8153A50354147. <http://dx.doi.org/10.2305/IUCN.UK.2018-1.RLTS.T8153A50354147.en>;

⁴⁹ Vermeulen, E., C Wilkenson, and G. Van den Berg. “Report of the Southern Right Whale Aerial Surveys – 2019.” (2020). IWC SC/68B/SH/02.

⁵⁰ Cooke, J.G. & Zerbini, A.N. 2018. *Eubalaena australis*. The IUCN Red List of Threatened Species 2018: e.T8153A50354147. <http://dx.doi.org/10.2305/IUCN.UK.2018-1.RLTS.T8153A50354147.en>

⁵¹ Vermeulen, E., C Wilkenson, and G. Van den Berg. “Report of the Southern Right Whale Aerial Surveys – 2019.” (2020). IWC SC/68B/SH/02.

the population increase rate from 7.1% per annum in 2001, to 6.8% in 2011, 6.6% in 2012 and to 6.5% per annum in 2017,” suggesting a “fundamental demographic shift in the population.”⁵² The researchers recommend continued investigation and surveys to closely monitor the population. Similarly, the 2020 surveys record “a very low number of cow-calf pairs” and “[l]ow numbers of unaccompanied adults.”⁵³ Researchers also reviewed body condition of females from 1988/89 and 2019 and “found a 24% . . . decrease in maternal body condition.”⁵⁴

While the IUCN considers the southern right whale’s global status to be Least Concern, recent demographic and body condition information on the population inhabiting South Africa is concerning. As with all species, NMFS must strictly apply the MMPA Imports Rule criteria and ensure that South Africa has a regulatory program that provides for assessments that estimate population abundance for this population and ensures that bycatch rates do not exceed PBR, especially as this population appears to be increasingly threatened.

D. Humpback Whales

The humpback whale (*Megaptera novaeangliae*) has a large range, inhabiting all of the world’s ocean.⁵⁵ Once severely depleted by whaling, scientists estimate the global population to be 135,000 whales, and IUCN has deemed the species’ global status to be Least Concern.⁵⁶

Three subspecies of humpback whale are recognized by the Committee on Taxonomy of the Society for Marine Mammalogy: the North Atlantic humpback whale (*M. n. novaeangliae*), the North Pacific humpback whale (*M. n. kuzira*), and the Southern (Hemisphere) humpback whale (*M. n. australis*).⁵⁷ The IWC further recognizes a breeding stock of Southern Hemisphere humpback whales (Breeding Stock B2) that inhabits South African waters.⁵⁸ NMFS has suggested that whales from the Gabon/Southwest Africa distinct population segment (DPS) “may . . . feed along the west coast of South Africa” but that is uncertain.⁵⁹ Humpback whales are vulnerable to entanglement and ship strikes.⁶⁰

⁵² Vermeulen, E., C Wilkenson, and G. Van den Berg. “Report of the Southern Right Whale Aerial Surveys – 2019.” (2020). IWC SC/68B/SH/02.

⁵³ IWC. “Report of the Scientific Committee, SC/68C.” Virtual Meetings, April 27-May 14, 2021, at 35-36.

⁵⁴ IWC. “Report of the Scientific Committee, SC/68C.” Virtual Meetings, April 27-May 14, 2021, at 35-36.

⁵⁵ Cooke, J.G. 2018. *Megaptera novaeangliae*. The IUCN Red List of Threatened Species 2018: e.T13006A50362794. <http://dx.doi.org/10.2305/IUCN.UK.2018-2.RLTS.T13006A50362794.en>.

⁵⁶ Cooke, J.G. 2018. *Megaptera novaeangliae*. The IUCN Red List of Threatened Species 2018: e.T13006A50362794. <http://dx.doi.org/10.2305/IUCN.UK.2018-2.RLTS.T13006A50362794.en>.

⁵⁷ Cooke, J.G. 2018. *Megaptera novaeangliae*. The IUCN Red List of Threatened Species 2018: e.T13006A50362794. <http://dx.doi.org/10.2305/IUCN.UK.2018-2.RLTS.T13006A50362794.en>.

⁵⁸ Cooke, J.G. 2018. *Megaptera novaeangliae*. The IUCN Red List of Threatened Species 2018: e.T13006A50362794. <http://dx.doi.org/10.2305/IUCN.UK.2018-2.RLTS.T13006A50362794.en>; Rosenbaum, H. C., Pomilla, C., Mendez, M., Leslie, M. S., Best, P. B., Findlay, K. P., ... & Kiszka, J. (2009). Population structure of humpback whales from their breeding grounds in the South Atlantic and Indian Oceans. *PLoS One*, 4(10), e7318.

⁵⁹ 80 Fed. Reg. 22,316 (Apr. 21, 2015).

⁶⁰ Cooke, J.G. 2018. *Megaptera novaeangliae*. The IUCN Red List of Threatened Species 2018: e.T13006A50362794. <http://dx.doi.org/10.2305/IUCN.UK.2018-2.RLTS.T13006A50362794.en>.

Scientists estimate the population size of the Southern Hemisphere subspecies of humpback whale at around 97,000 animals. According to the IUCN, most breeding populations have recovered “to a substantial fraction of their pre-whaling abundance, *except* for the West South Africa (BSB2) population, which may still be quite depleted.”⁶¹

IV. Bycatch in South African Export Fisheries

Very little marine mammal bycatch data is available for most South African fisheries. A search of available literature, reports, and government websites provided only limited data on bycatch beyond the information reported under various RFMOs. For example, we found no information regarding marine mammal bycatch for South Africa’s most lucrative fishery, the hake trawl fishery (whether inshore or offshore),⁶² despite bycatch regularly occurring in trawl gear generally.⁶³ Below, we discuss the limited literature documenting bycatch in certain export fisheries or the fisheries/gear types that overlap with the habitat of imperiled species, suggesting that bycatch is occurring, though undocumented.

A. Humpback Dolphins and South Africa’s Mullet Fishery

As IUCN notes, bycatch of endangered Indian Ocean humpback dolphins (*Sousa plumbea*) is both “pervasive and certainly unsustainable” in the species’ range.⁶⁴ While bycatch data on humpback dolphins in South Africa is limited; as described below, bycatch has been documented in South African shark nets and in near-shore gillnet fisheries in other parts of the dolphin’s range. The South African mullet fishery, which is an export fishery to the United States, is a near-shore gillnet fishery that appears to operate within the dolphin’s habitat. While South Africa has not reported bycatch in the mullet fishery, bycatch of the highly endangered humpback dolphin may be occurring, and NMFS must ban imports of mullet until South Africa provides reliable data that bycatch does not occur.

Unsustainable humpback dolphin bycatch has been documented in shark nets along parts of the South African coast. These gillnets are set close to popular beaches “to catch and kill sharks to reduce their population size, thereby reducing the probability of shark attack.”⁶⁵ From 1980 to 2009, 203 humpback dolphins were caught in shark nets, averaging 6.8 per year. This

⁶¹ Cooke, J.G. 2018. *Megaptera novaeangliae*. The IUCN Red List of Threatened Species 2018: e.T13006A50362794. <http://dx.doi.org/10.2305/IUCN.UK.2018-2.RLTS.T13006A50362794.en> (emphasis added).

⁶² See FAO, *Fishery and Aquaculture Country Profiles: The Republic of South Africa* (last visited Nov. 13, 2021) (describing fishery). Available at: <https://www.fao.org/fishery/facp/zaf/en>.

⁶³ Trawls pose a threat to marine mammals around the globe, with “[i]nteractions between trawl gear and marine mammals occur[ring] throughout the world’s oceans, wherever the two overlap in distribution.” Zollett, E.A. & Rosenberg, A.A. (2005). A review of cetacean research in trawl fisheries. Literature Review Prepared for the Northeast Fisheries Science Center.

⁶⁴ Braulik, G. T., K. Findlay, S. Cerchio, R. Baldwin, and W. Perrin. "Sousa plumbea. The IUCN Red List of Threatened Species 2017: e. T82031633A82031644." (2018).

⁶⁵ Atkins, Shanan, Jeremy Cliff, and Neville Pillay. "Humpback dolphin bycatch in the shark nets in KwaZulu-Natal, South Africa." *Biological Conservation* 159 (2013): 442-449. It is unclear from the literature whether the sharks caught are processed for consumption or export; Atkins, Shanan, Maurício Cantor, Neville Pillay, Jeremy Cliff, Mark Keith, and Guido J. Parra. "Net loss of endangered humpback dolphins: integrating residency, site fidelity, and bycatch in shark nets." *Marine Ecology Progress Series* 555 (2016): 249-260.

level is unsustainable, likely potentially representing 4% of the KwaZulu-Natal population and 10% of the Richards Bay population.⁶⁶ The IWC reports that the length of shark netting in South Africa has been reduced in recent years,⁶⁷ though at Richards Bay, there has not been a significant decline in bycatch rates.⁶⁸

Moreover, high levels of humpback dolphin bycatch have been documented in other nations' near-shore gillnet fisheries, and as such it is likely unreported gillnet bycatch occurs in South African near-shore gillnet fisheries. Amir (2010) confirmed that humpback dolphins are bycaught in gillnets.⁶⁹ The study, conducted off Zanzibar in Tanzania, observed bycatch in bottom-set gillnets at a rate 0.0006 dolphins/ km net*hours fished and estimated that four humpback dolphins were likely bycaught in the fishery within a single season. Based on population size estimates at the time, the author estimated the fishery removed 6.3% of the humpback dolphin population in a single year,⁷⁰ an unsustainable rate. Similarly, in Pemba, Tanzania, photo-identification surveys revealed that 41% of humpback dolphins photographed show injuries from entanglement in nets.⁷¹ IUCN concluded that "[t]here is every reason to believe that interactions with fisheries are equal or possibly even greater elsewhere in the species' range."⁷²

According to NMFS's LOFF, South Africa exports "Mullet nei (Mugilidae)" fished with "gillnets and entangling nets (not specified)" from within its EEZ. Southern mullet (*Chelon richardsonii*), also referred to as "harder" or *Liza richardsonii*, inhabit inshore marine areas, including sandy beach surf-zones. The southern mullet as an inshore gillnet and beach-seine fishery, with 162 gillnet right holders.⁷³ The overexploited fishery, which is subject to illegal fishing, operates on the west coast of South Africa south to False Bay,⁷⁴ and False Bay marks the

⁶⁶ Atkins, Shanan, Jeremy Cliff, and Neville Pillay. "Humpback dolphin bycatch in the shark nets in KwaZulu-Natal, South Africa." *Biological Conservation* 159 (2013): 442-449.

⁶⁷ IWC, "Report on the IWC Workshop on Bycatch Mitigation Opportunities in the Western Indian Ocean and Arabian Sea." May 8-9, 2019 (Nairobi, Kenya). Available at: https://www.bmis-bycatch.org/system/files/zotero_attachments/library_1/WIEQBEX3%20-%20RS9612_IWC_Indian_Ocean_Arabian_Sea_bycatch_report_2019.pdf.

⁶⁸ Atkins, Shanan, Maricio Cantor, Jeremy Cliff, and Nevel Pillay. 2019. "Reducing humpback dolphin bycatch in the shark nets in KwaZulu-Natal, South Africa: past, present, future." IWC SC/68A/HIM/16.

⁶⁹ Amir, Omar A. "Biology, ecology and anthropogenic threats of Indo-Pacific bottlenose dolphins in east Africa." PhD diss., Department of Zoology, Stockholm University, 2010.

⁷⁰ *Id.*

⁷¹ Braulik, G. T., K. Findlay, S. Cerchio, R. Baldwin, and W. Perrin. "Sousa plumbea. The IUCN Red List of Threatened Species 2017: e. T82031633A82031644." (2018).

⁷² Braulik, G. T., K. Findlay, S. Cerchio, R. Baldwin, and W. Perrin. "Sousa plumbea. The IUCN Red List of Threatened Species 2017: e. T82031633A82031644." (2018).

⁷³ Horton, M., D. Parker, H. Winker, S. J. Lamberth, K. Hutchings, and S. E. Kerwath. "Age, growth and per-recruit stock assessment of southern mullet *Chelon richardsonii* in Saldanha Bay and Langebaan Lagoon, South Africa." *African Journal of Marine Science* 41, no. 3 (2019): 313-324; see also DAFF. "Status of the South African marine fishery resources." *Department of Agriculture, Forestry and Fisheries, Cape Town, South Africa* (2016); DEFF (Department of Environment, Forestry and Fisheries) 2020. Status of the South African marine fishery resources 2020. Cape Town: DEFF. Available at: https://www.environment.gov.za/sites/default/files/reports/statusofsouthafrican_marinefisheryresources2020.pdf.

⁷⁴ Horton, M., D. Parker, H. Winker, S. J. Lamberth, K. Hutchings, and S. E. Kerwath. "Age, growth and per-recruit stock assessment of southern mullet *Chelon richardsonii* in Saldanha Bay and Langebaan Lagoon, South Africa." *African Journal of Marine Science* 41, no. 3 (2019): 313-324; DEFF (Department of Environment, Forestry and

eastern edge of the humpback dolphin's habitat, so there is likely overlap between the fishery and the dolphins.⁷⁵ While bycatch of sea birds, including penguins,⁷⁶ has been documented, no humpback dolphin bycatch has been documented.⁷⁷ However, as IUCN concluded, without observer coverage to prove otherwise, "there is every reason to believe" that humpback dolphin bycatch occurs in gillnets throughout its range,⁷⁸ including in South Africa's mullet gillnet fishery.

Accordingly, while South Africa has not reported bycatch in the mullet fishery, bycatch of the highly endangered humpback dolphin is likely occurring. Given the highly imperiled status of the species, NMFS must ban imports of mullet until South Africa provides reliable data demonstrating that mitigation measures are in place that effectively limit bycatch below PBR for this highly imperiled dolphin species.

B. Large Whales and South Africa's Rock Lobster Fishery

South Africa's West Coast rock lobster (also called spiny lobster) fishery is a major and lucrative export fishery to the United States. The LOFF reports that the Cape rock lobster (*Jasus Ialandii*) export fishery operates within the South Africa EEZ "between Cape Town and Cape Agulhas." The fishery, which is both depleted and subject to substantial illegal fishing, uses hoopnets in relatively shallow waters (<100) and traps offshore.⁷⁹

Bycatch of large whales is regularly documented in the fishery, including of both southern right whales and humpback whales, as their habitat overlaps with the fishery.⁸⁰

Fisheries) 2020. Status of the South African marine fishery resources 2020. Cape Town: DEFF. Available at: https://www.environment.gov.za/sites/default/files/reports/statusofsouthafrican_marinefisheryresources2020.pdf.

⁷⁵ Braulik, G. T., K. Findlay, S. Cerchio, R. Baldwin, and W. Perrin. "Sousa plumbea. The IUCN Red List of Threatened Species 2017: e. T82031633A82031644." (2018) (describing range to extend to False Bay). Humpback dolphins were sighted within False Bay as recently as Sept. 22, 2021. News24 "Endangered humpback dolphins, seven killer whales spotted in False Bay (Sept. 22, 2021), available at: <https://www.news24.com/news24/southafrica/news/pics-endangered-humpback-dolphins-seven-killer-whales-spotted-in-false-bay-20210922>.

⁷⁶ DEFF (Department of Environment, Forestry and Fisheries) 2020. Status of the South African marine fishery resources 2020. Cape Town: DEFF. Available at:

https://www.environment.gov.za/sites/default/files/reports/statusofsouthafrican_marinefisheryresources2020.pdf.

⁷⁷ DEFF notes that Heaviside's dolphin mortality is "a problem" in the larger-mesh set gillnets used to target another fish (St Joseph), a related fishery but notes no humpback dolphin bycatch. DEFF (Department of Environment, Forestry and Fisheries) 2020. Status of the South African marine fishery resources 2020. Cape Town: DEFF. Available at:

https://www.environment.gov.za/sites/default/files/reports/statusofsouthafrican_marinefisheryresources2020.pdf.

⁷⁸ Braulik, G. T., K. Findlay, S. Cerchio, R. Baldwin, and W. Perrin. "Sousa plumbea. The IUCN Red List of Threatened Species 2017: e. T82031633A82031644." (2018).

⁷⁹ FAO, *Fishery and Aquaculture Country Profiles: The Republic of South Africa* (last visited Nov. 13, 2021).

Available at: <https://www.fao.org/fishery/facp/zaf/en>; DEFF (Department of Environment, Forestry and Fisheries) 2020. Status of the South African marine fishery resources 2020. Cape Town: DEFF. Available at:

https://www.environment.gov.za/sites/default/files/reports/statusofsouthafrican_marinefisheryresources2020.pdf;

Cochrane, Kevern L., Jessica Eggers, and Warwick HH Sauer. "A diagnosis of the status and effectiveness of marine fisheries management in South Africa based on two representative case studies." *Marine Policy* 112 (2020): 103774.

⁸⁰ Meÿer, M. A., P. B. Best, M. D. Anderson-Reade, G. Cliff, S. F. J. Dudley, and S. P. Kirkman. "Trends and interventions in large whale entanglement along the South African coast." *African Journal of Marine Science* 33, no. 3 (2011): 429-439. The LOFF contains two other lobster fisheries for South Africa: one listed as "Homarus lobsters

Specifically, Meÿer et al. (2011) reviewed all large whale entanglement records within South African waters from 1975 to 2009 and identified the rock lobster fishery as a primary source of entanglement.⁸¹ In addition to entanglement in shark nets set to protect bathers, the authors documented 96 other large whale entanglements, with entanglement increasing throughout the study period. Approximately 60% of the entanglements involved southern right whales; 17% involved humpback whales, and 23% involved unidentified whales.⁸² For entanglements for which the gear type was identifiable, 74% of the entanglements were in the West Coast rock lobster (*Jasus lalandii*) trap/pot fishery.⁸³

For southern right whales, the rock lobster fishery overlaps with their range, with a “focal point” in the Cape Peninsula/False Bay region, where animals face “closely laid trap-lines” of concentrated fishing gear.⁸⁴ Meÿer et al. (2011) concluded that, at the time, the southern right whale population was “increasing at a rate close to the maximum biologically possible,” so it appeared that anthropogenic factors were unlikely to be affecting recovery of the population. However, as detailed above, researchers have found that the southeast Atlantic population of southern right whales “appears to have declined sharply since 2015 for unknown reasons.”⁸⁵ Meÿer et al. 2011 suggest an observer scheme and time-area closures during the peak southward migration of southern right whales.⁸⁶

As noted above, Meÿer et al. (2011) also documented humpback whale entanglements.⁸⁷ The authors noted that humpbacks that “either do not complete their southern migration or else delay their return south” and stay near South African waters would be “at considerable risk of entanglement in the characteristically high concentrations of lobster traps deployed around

nei, lobsters nei (Reptantia)” and one listed as “Lobster nei (reptantia), Southern spiny lobster (Palinurus)” are also trap/pot fisheries, which may also cause large whale entanglements.

⁸¹ Meÿer, M. A., P. B. Best, M. D. Anderson-Reade, G. Cliff, S. F. J. Dudley, and S. P. Kirkman. "Trends and interventions in large whale entanglement along the South African coast." *African Journal of Marine Science* 33, no. 3 (2011): 429-439.

⁸² Meÿer, M. A., P. B. Best, M. D. Anderson-Reade, G. Cliff, S. F. J. Dudley, and S. P. Kirkman. "Trends and interventions in large whale entanglement along the South African coast." *African Journal of Marine Science* 33, no. 3 (2011): 429-439.

⁸³ Meÿer, M. A., P. B. Best, M. D. Anderson-Reade, G. Cliff, S. F. J. Dudley, and S. P. Kirkman. "Trends and interventions in large whale entanglement along the South African coast." *African Journal of Marine Science* 33, no. 3 (2011): 429-439.

⁸⁴ Meÿer, M. A., P. B. Best, M. D. Anderson-Reade, G. Cliff, S. F. J. Dudley, and S. P. Kirkman. "Trends and interventions in large whale entanglement along the South African coast." *African Journal of Marine Science* 33, no. 3 (2011): 429-439; see Hutchings, L., Augustyn, C. J., Cockcroft, A., Van der Lingen, C., Coetzee, J., Leslie, R. W., ... & Mayekiso, M. (2009). Marine fisheries monitoring programmes in South Africa. *South African Journal of Science*, 105(5), 182-192 (describing location of West Coast rock lobster fishery).

⁸⁵ Cooke, J.G. & Zerbini, A.N. 2018. *Eubalaena australis*. The IUCN Red List of Threatened Species 2018: e.T8153A50354147. <http://dx.doi.org/10.2305/IUCN.UK.2018-1.RLTS.T8153A50354147.en>

⁸⁶ Meÿer, M. A., P. B. Best, M. D. Anderson-Reade, G. Cliff, S. F. J. Dudley, and S. P. Kirkman. "Trends and interventions in large whale entanglement along the South African coast." *African Journal of Marine Science* 33, no. 3 (2011): 429-439.

⁸⁷ Meÿer, M. A., P. B. Best, M. D. Anderson-Reade, G. Cliff, S. F. J. Dudley, and S. P. Kirkman. "Trends and interventions in large whale entanglement along the South African coast." *African Journal of Marine Science* 33, no. 3 (2011): 429-439.

Dassen Island during summer.”⁸⁸ While humpbacks are considered to be Least Concern globally, IUCN suggests that the B2 humpback breeding population that inhabits South Africa “may still be quite depleted.”⁸⁹ Meyer et al. (2011) also noted “the chief conservation concern” for large whale entanglement in South African waters “may be for the assemblage of humpback whales that visits the West Coast in spring and summer” that is relatively small and “could be relatively vulnerable to incidental mortalities such as entanglement.”⁹⁰

The 2019 IWC Report on its Workshop on Bycatch Mitigation Opportunities in the Western Indian Ocean and Arabian Sea documented subsequent entanglements in the rock lobster fishery.⁹¹ The Report states that between 2006 and 2017, the following entanglements were recorded in the inshore rock lobster trap fishery: 20 southern right whales (1 dead), 36 humpback whales (1 dead), 4 Bryde’s whale, and 4 unidentified whale species. The Report also found that over the same dates, 6 humpback whales and 2 southern right whales were reported entangled in the offshore rock lobster fishery.⁹² Entanglements were particularly prevalent in 2016, with 24 of the whales entangled that year (though not all in the rock lobster fishery).⁹³ The Report notes that “[m]ost bycatch information is from entangled and stranded animals.”⁹⁴

South Africa’s Department of Forestry, Fisheries and the Environment (DFFE) also acknowledges “negative interactions” between lobster gear and whales “with entanglements reported each season.” DFFE states that entanglements have reduced recently due to an awareness program;⁹⁵ however, DFFE does not disclose the number of entanglements, mortalities, or whale species involved, nor does DFFE note a process for monitoring entanglements.

The Service must ban West Coast rock lobster from South Africa, until the country demonstrates through reliable monitoring of both bycatch and the southeast Atlantic right whale population, that bycatch mortality and serious injury do not exceed PBR.

⁸⁸ Meyer, M. A., P. B. Best, M. D. Anderson-Reade, G. Cliff, S. F. J. Dudley, and S. P. Kirkman. "Trends and interventions in large whale entanglement along the South African coast." *African Journal of Marine Science* 33, no. 3 (2011): 429-439.

⁸⁹ Cooke, J.G. 2018. *Megaptera novaeangliae*. The IUCN Red List of Threatened Species 2018: e.T13006A50362794. <http://dx.doi.org/10.2305/IUCN.UK.2018-2.RLTS.T13006A50362794.en> (emphasis added).

⁹⁰ Meyer, M. A., P. B. Best, M. D. Anderson-Reade, G. Cliff, S. F. J. Dudley, and S. P. Kirkman. "Trends and interventions in large whale entanglement along the South African coast." *African Journal of Marine Science* 33, no. 3 (2011): 429-439.

⁹¹ IWC, “Report on the IWC Workshop on Bycatch Mitigation Opportunities in the Western Indian Ocean and Arabian Sea.” May 8-9, 2019 (Nairobi, Kenya).

⁹² IWC. “Report on the IWC Workshop on Bycatch Mitigation Opportunities in the Western Indian Ocean and Arabian Sea.” May 8-9, 2019 (Nairobi, Kenya).

⁹³ Calderan, S. and R. Leaper. *Investigations of countries exporting seafood to the US which may be subject to regulation under the MMPA bycatch rule with respect to cetaceans* (Apr. 2017).

⁹⁴ IWC. “Report on the IWC Workshop on Bycatch Mitigation Opportunities in the Western Indian Ocean and Arabian Sea.” May 8-9, 2019 (Nairobi, Kenya).

⁹⁵ DEFF (Department of Environment, Forestry and Fisheries) 2020. Status of the South African marine fishery resources 2020. Cape Town: DEFF. Available at: https://www.environment.gov.za/sites/default/files/reports/statusofsouthafrican_marinefisheryresources2020.pdf.

C. Marine Mammals and South Africa’s Horse Mackerel Trawl Fishery

The horse mackerel trawl fishery is considered a small but important commercial fishery in South Africa,⁹⁶ and the fishery is listed on the LOFF as exporting to the United States. According to the LOFF, the fishery operates within the South African EEZ off Agulhas Bank. As of 2020, the fleet consisted of a single mid-water trawler vessel that lands 70% of all horse mackerel caught in South Africa and a few hake trawlers permitted to fish for both species.⁹⁷

Marine mammal bycatch occurs within this fishery. Based on observer records from 2004 to 2014, 80 kg of common dolphins (*Delphinus delphis*), 162 kg of bottlenose dolphins (*Tursiops truncatus*), and 95 kg of Cape fur seal (*Arctocephalus pusillus*) were taken in the fishery annually.⁹⁸ The literature does not state how many individual dolphins or fur seals this represents.

DFFE has acknowledged the single dedicated mid-water trawler in this fishery catches marine mammals and other species, which has “raised a number of conservation concerns.”⁹⁹ DFFE indicates that, as of 2020, research is being conducted to evaluate both the extent of the catches and potential population impacts. We have not been able to obtain the results of this research. DFFE notes that, based on preliminary results, “annual catches of the bycatch species are relatively low;” however, the research indicates there have been “isolated short-term events of large catches of certain species” that could have more serious impacts. DFFE does not identify the species involved in these “large catches.”¹⁰⁰ The Service must ban horse mackerel imports from South Africa, unless the country demonstrates through reliable monitoring that bycatch mortality and serious injury of marine mammals does not exceed PBR.

Another recent assessment evaluated the status of Heaviside’s dolphins (*Cephalorhynchus heavisidii*) in South Africa, an IUCN Near Threatened species, and concluded that “the experimental mid-water trawl fishery for horse mackerel operating on the West Coast”

⁹⁶ Weston, L. and C. Attwood. “Monitoring of Endangered, Threatened and Protected (ETP) Species Caught as Bycatch in Five Major South African Fisheries.” (2017). Available at: <http://www.rfalliance.org.za/wp-content/uploads/2018/06/Monitoring-of-ETP-species-in-SA-fisheries-2018-1.pdf>; FAO, *Fishery and Aquaculture Country Profiles: The Republic of South Africa* (last visited Nov. 13, 2021). Available at: <https://www.fao.org/fishery/facp/zaf/en>.

⁹⁷ See DEFF (Department of Environment, Forestry and Fisheries) 2020. Status of the South African marine fishery resources 2020. Cape Town: DEFF. Available at: https://www.environment.gov.za/sites/default/files/reports/statusofsouthafrican_marinefisheryresources2020.pdf; Reed, J. R., Sven E. Kerwath, and C. G. Attwood. "Analysis of bycatch in the South African midwater trawl fishery for horse mackerel *Trachurus capensis* based on observer data." *African Journal of Marine Science* 39, no. 3 (2017): 279-291.

⁹⁸ Reed, J. R., Sven E. Kerwath, and C. G. Attwood. "Analysis of bycatch in the South African midwater trawl fishery for horse mackerel *Trachurus capensis* based on observer data." *African Journal of Marine Science* 39, no. 3 (2017): 279-291.

⁹⁹ See DEFF (Department of Environment, Forestry and Fisheries) 2020. Status of the South African marine fishery resources 2020. Cape Town: DEFF. Available at: https://www.environment.gov.za/sites/default/files/reports/statusofsouthafrican_marinefisheryresources2020.pdf.

¹⁰⁰ See DEFF (Department of Environment, Forestry and Fisheries) 2020. Status of the South African marine fishery resources 2020. Cape Town: DEFF. Available at: https://www.environment.gov.za/sites/default/files/reports/statusofsouthafrican_marinefisheryresources2020.pdf.

is a “potential emerging threat” for Heaviside’s dolphins.¹⁰¹ While it is unlikely this “experimental” West Coast trawl fishery is the same as the fishery listed on the LOFF, we urge NMFS to confirm mackerel is not imported from this potentially emerging fishery.¹⁰² If imports are occurring, they must meet U.S. bycatch standards.

D. Dolphin Species and South Africa’s Unidentified Set Gillnet Fishery

As noted above, the LOFF lists a set gillnet fishery operating within the South Africa EEZ but fails to identify the target of this fishery. The LOFF states that this fishery catches *eight different* dolphin species. It is impossible to determine what this fishery is, much less the fishery’s bycatch level, which could be significant. Concerningly, the LOFF notes that Heaviside’s dolphins (*Cephalorhynchus heavisidii*) are bycaught, a species that is considered Near Threatened by IUCN. Bycatch is the Heaviside’s dolphin’s primary conservation threat.¹⁰³ Scientists estimate based on a population viability analysis that population decline may occur if 63 animals are taken.¹⁰⁴ NMFS must ban imports from this set gillnet fishery until South Africa demonstrates that any bycatch is below PBR for each species subject to bycatch.

V. South Africa’s Marine Mammal and Fisheries Regulation

South Africa’s fisheries and marine mammals are now managed by the Department of Forestry, Fisheries and the Environment (DFFE); the ministry was called the Department of Environment, Forestry and Fisheries (DEFF) until April 2021.¹⁰⁵ As described below, the South African biodiversity law provides most marine mammals protection from direct/intentional killing, and South African fisheries generally appear to be subject to relatively strict regulation. However, we were unable to identify any required marine mammal bycatch mitigation measures

¹⁰¹ Gopal K, Elwen S, and Plön S. 2016. A conservation assessment of *Cephalorhynchus heavisidii*. In Child MF, Roxburgh L, Do Linh San E, Raimondo D, Davies-Mostert HT, editors. The Red List of Mammals of South Africa, Swaziland and Lesotho. South African National Biodiversity Institute and Endangered Wildlife Trust, South Africa.

¹⁰² South Africa’s pelagic purse seine fishery targeting anchovies and sardines – the second most valuable fishery in South Africa – was recently reviewed. As part of a permit conditions, fishers must carry observers if requested; it is estimated that around 8% of trips have observer coverage. The review states that “government officials report no evidence of ETP species bycatch in the small pelagic fishery.” However, bycatch of non-threatened marine mammals was not assessed. Global Standard for Responsible Supply of Marine Ingredients. Fishery Assessment Methodology and Template Report V2.0: South Africa EEZ Multi-Species Pelagic Purse Seine (Sept. 2020).

Available at: https://www.marin-trust.com/sites/marintrust/files/approved-raw-materials/159%20Multispecies%20purse%20seine%20South%20Africa%20WF%20SURV1%202020_1.pdf.

¹⁰³ The “principal concern” for the conservation is “[b]ycatch in inshore set-netting.” Elwen, Simon Harvey, Meredith Thornton, Desray Reeb, and Peter B. Best. “Near-shore distribution of Heaviside’s (*Cephalorhynchus heavisidii*) and dusky dolphins (*Lagenorhynchus obscurus*) at the southern limit of their range in South Africa.” *African Zoology* 45, no. 1 (2010): 78-91. The authors identified the legal St. Joseph’s shark net fishery and illegal net fishing for smooth hound sharks as the most concerning.

¹⁰⁴ Gopal K, Elwen S, Plön S. 2016. A conservation assessment of *Cephalorhynchus heavisidii*. In Child MF, Roxburgh L, Do Linh San E, Raimondo D, Davies-Mostert HT, editors. The Red List of Mammals of South Africa, Swaziland and Lesotho. South African National Biodiversity Institute and Endangered Wildlife Trust, South Africa.

¹⁰⁵ Global Standard for Responsible Supply of Marine Ingredients. Fishery Assessment Methodology and Template Report V2.0: South Africa EEZ Multi-Species Pelagic Purse Seine (Sept. 2020). Available at: https://www.marin-trust.com/sites/marintrust/files/approved-raw-materials/159%20Multispecies%20purse%20seine%20South%20Africa%20WF%20SURV1%202020_1.pdf.

Previously, fisheries were managed under the Department of Agriculture, Forestry, and Fisheries.

in any law, regulation, or permit for any fisheries reviewed. This lack of mitigation measures and other elements of a comparable regulatory regime makes it impossible to conclude that South Africa’s marine mammal regulations are comparable to U.S. regulations under the MMPA Imports Rule.

A. National Environmental Management: Biodiversity Act

South Africa’s National Environmental Management: Biodiversity Act 2004 (Biodiversity Act) seeks to “provide for the management and conservation of South Africa’s biodiversity,” including through species and ecosystem protection.¹⁰⁶ The Act allows the relevant minister to publish a list of critically endangered, endangered, vulnerable species, or protected species,¹⁰⁷ which are “species which are of such high conservation value or national importance that they require national protection.”¹⁰⁸

The Act then prohibits any person from carrying out a “restricted activity” on any listed species, unless the person obtains a permit.¹⁰⁹ Restricted activity is defined to include intentional “hunting, catching, capturing or killing any living specimen by any means . . . including searching, pursuing, . . . or injuring with intent to . . . kill” any listed species, as well as having any listed species “in possession or exercising physical control over any specimen.”¹¹⁰ South Africa’s Threatened or Protected Marine Species Regulations further prohibit “harassing” (defined as “conduct that threatens, disturbs or torments” a specimen, including vessel approach), feeding, “attracting,” or “releas[ing]” listed species as restricted activities.¹¹¹ The minister may also prohibit any other activity that “may negatively impact . . . the survival” of a listed species.¹¹² Any person who violates these prohibitions is guilty of an offense punishable up to five years in prison.¹¹³

As noted above, South Africa’s Department of Environmental Affairs has listed most marine mammals under National Environmental Management: Biodiversity Act through its Threatened or Protected Species (TOPS) regulations. All species in the order Cetacea (whales and dolphins) and the suborder Pinnipedia (seals, sea lions) are listed as “protected species.”¹¹⁴ However, sea otters are not included under the TOPS regulations.

Because cetacean and pinniped species are listed as protected, the Biodiversity Act and its regulations prohibit the “restricted activities” noted above.¹¹⁵ The TOPS regulations provide a limited exemption for governmental officials to kill, capture, exercise possession over, and

¹⁰⁶ National Environmental Management: Biodiversity Act 2004, Preamble (S. Afr.).

¹⁰⁷ National Environmental Management: Biodiversity Act 2004, § 56(1) (S. Afr.).

¹⁰⁸ National Environmental Management: Biodiversity Act 2004, § 1(1) (S. Afr.).

¹⁰⁹ National Environmental Management: Biodiversity Act 2004, § 57(1) (S. Afr.).

¹¹⁰ National Environmental Management: Biodiversity Act 2004, § 1(1) (S. Afr.). The Sea Birds and Seals Protection Act of 1973 further prohibits the killing or capture of seals except by government officials. Sea Birds and Seals Protection Act of 1973, § 3(b).

¹¹¹ National Environmental Management: Biodiversity Act (10/2004): Threatened or Protected Marine Species Regulations, Government Notice (GN) 40876 of 30 May 2017, §§ 3, 1(1) (S. Afr.).

¹¹² National Environmental Management: Biodiversity Act 2004, § 57(2) (S. Afr.).

¹¹³ National Environmental Management: Biodiversity Act 2004, §§ 101, 102 (S. Afr.).

¹¹⁴ Government Notice (GN) 476 of 30 May 2017 (S. Afr.).

¹¹⁵ Government Notice (GN) 476 of 30 May 2017 (S. Afr.).

harass listed animals “in relation to stranding or entanglements.”¹¹⁶ As detailed further below, it appears that the Biodiversity Act generally bans the direct, intentional killing of marine mammals in the course of commercial fishing, although it is unclear whether such killing can still occur subject to a permit. It is unclear but unlikely that the Biodiversity Act bans incidental bycatch of marine mammals.

B. Marine Living Resources Act

South Africa’s Marine Living Resources Act of 1998 (Marine Act), as amended, is intended “[t]o provide for the conservation of the marine ecosystem [and] the long-term utilization of marine living resources and the orderly exploitation,” among other goals.¹¹⁷ The Act sets minimum requirements for fishing activities and broadly authorizes the relevant minister to manage fishing and marine areas. While the Act defines “fish” to include “marine mammal,”¹¹⁸ neither marine mammal bycatch nor marine mammal conservation is expressly addressed by the legislation in any detail.

Specifically, the Act requires a permit for any fishing activity,¹¹⁹ with three sectors regulated: industrial, artisanal/small-scale, and recreational.¹²⁰ Permits may contain conditions;¹²¹ including management measures like gear requirements and closed areas.¹²² The Marine Living Resources Act requires that the Minister “shall determine the total allowable catch, the total applied effort, or a combination thereof” for fisheries.¹²³ For commercial fisheries, the Minister may also determine rights or disposition of bycatch, “monitoring . . . of the use of” fishing rights, requirements for onboard observers, and other measures “as may be necessary or desirable to achieve the effective implementation of a scheme for rights of access.”¹²⁴

Moreover, the Minister has broad discretion to issue regulations, including to govern bycatch, as the Minister may issue regulations regarding “fish taken incidentally when fishing for a species for which a license has been issued.”¹²⁵ Because the Act defines “fish” to include “marine mammal,” the Minister has authority to issue regulations regarding both finfish and marine mammal bycatch.¹²⁶

¹¹⁶ Government Notice (GN) 476 of 30 May 2017 (S. Afr.).

¹¹⁷ Marine Living Resources Act 1998, Preamble (S. Afr.).

¹¹⁸ Marine Living Resources Act 1998, § 1(xiii) (S. Afr.).

¹¹⁹ Marine Living Resources Act 1998, §§ 13(1), 18 (S. Afr.).

¹²⁰ FAO, *Fishery and Aquaculture Country Profiles: The Republic of South Africa* (last visited Nov. 13, 2021). Available at: <https://www.fao.org/fishery/facp/zaf/en>.

¹²¹ Marine Living Resources Act 1998, § 13(1) (S. Afr.).

¹²² Marine Living Resources Act 1998, § 18(7) (S. Afr.).

¹²³ Marine Living Resources Act 1998, § 14(1) (S. Afr.).

¹²⁴ Marine Living Resources Act 1998, § 21(3) (S. Afr.). Observers “may . . . observe . . . catches with the view to . . . monitoring discards, by-catches and the taking of undersized fish.” Regulations in Terms of the Marine Living Resources Act, Government Notice (GN) 1111 of 2 Sept. 1998, § 82(1) (S. Afr.).

¹²⁵ Marine Living Resources Act 1998, § 77(2)(f) (S. Afr.).

¹²⁶ Regulations define “bycatch” as “any species landed in addition to a target species for which a permit has been issued.” Regulations in Terms of the Marine Living Resources Act, Government Notice (GN) 1111 of 2 Sept. 1998, § 1 (S. Afr.).

South Africa’s Minister of Environmental Affairs and Tourism has issued regulations implementing the Marine Living Resources Act. The detailed regulations designate closed areas and seasons for particular fisheries,¹²⁷ as well as general gear restrictions, like mesh sizes for specific fisheries.¹²⁸ However, the regulations do not address or require mitigation measures for marine mammal bycatch.¹²⁹ South Africa also adopted regulations in 2004 addressing whale watching and protection of turtles. These regulations ban fishing for dolphins directly but do not address bycatch.¹³⁰

In sum, while South Africa’s Marine Act and its regulations do not require bycatch mitigation measures for any fishery, both provide authority for bycatch mitigation measures to be required as a permit condition. DFFE has published permit conditions for several fisheries for 2014, including for the hake and horse mackerel fisheries, as well as tuna, squid, oyster, and line fish fisheries.¹³¹ These permit conditions are available on DFFE’s website on its “Guidance and Policy” page, along with other applicable fishing policies and rules. DFFE’s website does not list any permit conditions for other export fisheries, and we were unable to find any applicable permit conditions for these fisheries, despite conducting online research, making several inquiries to DFFE, and submitting a public information request.¹³² It is unclear whether permits for those fisheries contain any conditions or whether the conditions are just not publicly available.

VI. South Africa’s Compliance with the MMPA Imports Rule

A. MMPA Imports Rule Requirements

Under the U.S. Marine Mammal Protection Act (MMPA), the U.S. government “shall ban” all seafood imports caught with fishing gear that kills or seriously injures marine mammals “in excess of United States standards.”¹³³ In applying this requirement, the United States “shall

¹²⁷ Regulations in Terms of the Marine Living Resources Act, Government Notice (GN) 1111 of 2 Sept. 1998, § 9 (S. Afr.).

¹²⁸ Regulations in Terms of the Marine Living Resources Act, Government Notice (GN) 1111 of 2 Sept. 1998, §§ 12, 14 (S. Afr.).

¹²⁹ The regulations state that provisions related to whales and dolphins were “repealed” in 2004. Regulations in Terms of the Marine Living Resources Act, Government Notice (GN) 1111 of 2 Sept. 1998, §§ 12, 14 (S. Afr.). The regulations do permit fishing hooks or line to be discarded where “removal of hooks from live discards may . . . be detrimental to the survival of a . . . animal.” *Id.* § 29(5).

¹³⁰ Regulations for the Management of Boat Based Whale Watching and Protection of Turtles, Government Notice (GN) 31212 of 4 July 2008. Separately, South Africa’s Policy on the Management of Seals, Seabirds and Shorebirds states merely that “[p]lans of action aimed at reducing the incidental mortality of seals . . . caused by fishing operations . . . should be developed.” Department of Environmental Affairs and Tourism, Policy on the Management of Seals, Seabirds and Shorebirds, § 4.1.1. Available at:

https://www.gov.za/sites/default/files/gcis_document/201409/30534.pdf.

However, we were unable to find any such plan.

¹³¹ See DEFF, Guidance and Policies. Available at: <https://www.environment.gov.za/legislation/guidelines> (last visited Nov. 27, 2021). However, the conditions are labeled as applying to the 2014 fishing season; it is unclear whether the conditions are currently applicable.

¹³² We were able to find more current permit conditions (2019) for the anchovy and sardine fisheries published by the industry association, suggesting that more current permit conditions for additional fisheries may exist that are not publicly available. See <https://sapfia.org.za/tac/> (providing 2019 permit conditions).

¹³³ 16 U.S.C. § 1371(a)(2).

insist on reasonable proof” from the exporting nation of the effects of its exporting fisheries on marine mammals – i.e., its marine mammal bycatch.¹³⁴

To implement this provision, the National Marine Fisheries Service (NMFS) issued its MMPA Imports Rule.¹³⁵ Under the Rule, for South Africa to continue exporting fish to the United States after December 31, 2022, the nation must apply for and receive a “comparability finding” from NMFS for each export fishery, which is essentially a determination that South Africa’s bycatch and bycatch program as applied to each fishery meets U.S. standards.¹³⁶

Under the Rule, for export fisheries operating within South Africa’s EEZ to receive a comparability finding, South Africa must show:

- (1) South Africa “[p]rohibits the intentional mortality or serious injury of marine mammals in the course of commercial fishing in the fishery;” and
- (2) For any fishery deemed an export fishery on NMFS’s LOFF, South Africa “maintains a regulatory program” for the fishery “that is comparable in effectiveness to the U.S. regulatory program.”

To demonstrate a comparably effective regulatory program, South Africa must show it maintains a program “that includes[] or effectively achieves comparable results as” the following components:

- (a) “Marine mammal assessments for . . . for stocks . . . that are killed or seriously injured in the fishery;”
- (b) “An export fishery register,” listing all fishing vessels in the fishery and time, season, gear type, and target species fished;
- (c) Regulatory requirements that include:
 - (i) A requirement that vessel operators report all marine mammal injury or death;
 - (ii) A requirement that fishers implement measures to reduce mortality/serious injury;
- (d) Monitoring procedures in the export fishery to estimate mortality/serious injury from the fishery and cumulatively from other export fisheries on same marine mammal stocks;

¹³⁴ *Id.*

¹³⁵ 81 Fed. Reg. 54,415 (Aug. 16, 2016).

¹³⁶ 50 C.F.R. § 216.24(h)(6).

- (e) Calculation of bycatch limit for marine mammals taken in fishery. The “bycatch limit” is the potential biological removal (PBR) level or a “comparable scientific metric;” and
- (f) Demonstration that mortality/serious injury from the fishery (and cumulatively with other export fisheries) “[d]o[es] not exceed the bycatch limit,” defined as the potential biological removal (PBR) level or a scientific comparable metric.¹³⁷

Under both the MMPA and the MMPA Imports Rule, South Africa bears the burden of demonstrating each export fishery meets these requirements. The Rule states that the “harvesting nation shall submit . . . an application . . . , along with documentary evidence demonstrating” the conditions have been met “for each” fishery.¹³⁸

Accordingly, in order to achieve a comparability finding under the MMPA Imports Rule, South Africa must demonstrate and document that it meets each of the conditions listed above or that it maintains a regulatory program that “effectively achieves comparable results,” a strict standard.

B. Based on Available Information, South African Export Fisheries Assessed Do Not Meet U.S. Standards

As detailed above, to continue exporting seafood to the United States, South Africa bears the burden of demonstrating both that it bans killing and serious injury of marine mammals during commercial fishing and that it “maintains a regulatory program” for the fishery “that is comparable in effectiveness to the U.S. regulatory program.” This requires that South Africa have a regulatory program including (or somehow achieving comparable effectiveness as including) stock assessments, a fisheries register, marine mammal bycatch reporting, mitigation requirements, bycatch monitoring, and calculation and proof that bycatch does not exceed PBR or a comparable metric.¹³⁹

Based on our assessment of publicly available information, South Africa is unlikely to be able to meet this burden in at least some of its export fisheries. While South Africa likely bans intentional killing of most marine mammals, South Africa does not provide for marine mammal surveys for all stocks, does not appear to require an adequate fisheries register, and based on publicly-available information, does not maintain adequate regulatory requirements for bycatch, including requiring reporting, mitigation measures, bycatch monitoring, and calculating PBR. As such, it is unlikely South Africa will be able to demonstrate that serious injury and mortality from its export fisheries do not exceed PBR.

¹³⁷ *Id.* § 216.24(h)(6)(iii)(C).

¹³⁸ 16 U.S.C. 1371(a)(2); 50 C.F.R. §§ 216.24(h)(5), 216.3.

¹³⁹ 50 C.F.R. § 216.24(h)(6)(iii)(C).

1. South Africa Likely Bans Intentional Killing but Must Demonstrate Proof.

The MMPA Imports Rule requires that, to export seafood to the United States, South Africa must demonstrate that it “[p]rohibits the intentional mortality or serious injury of marine mammals in the course of commercial fishing in the fishery.”¹⁴⁰ The Biodiversity Act appears to generally prohibit the intentional killing or serious injury of marine mammals, including during commercial fishing. As described above, most marine mammals (except for sea otters) are “protected” species under the Biodiversity Act and as such, the intentional killing of marine mammals is generally prohibited.¹⁴¹ Indeed, South Africa’s Policy on the Management of Seals, Seabirds and Shorebirds states that “the shooting of seals is illegal and, if anyone aboard a vessel is found engaging in such activities whilst at sea, this may result in the withdrawal of the relevant fishing permit.”¹⁴²

However, the Biodiversity Act *allows* killing and injury of protected species, if authorities grant a permit for such activities.¹⁴³ It is unclear if an individual can obtain a permit for killing marine mammals during commercial fishing. The Policy on the Management of Seals acknowledges an exemption to the kill prohibition exists for addressing “interactions with marine aquaculture (e.g. seals eating fish in impoundments or commercial fish farms),” suggesting a kill permit is available,¹⁴⁴ which would violate the MMPA Imports Rule. The TOPS regulations do not clarify whether permits may be issued for killing marine mammals during fishing; however, the regulations appear to only grant authority to issue permits “to manage conflict *between individuals* of listed threatened or protected species,” and killing is only allowed in exceptional circumstances.¹⁴⁵ There are reports of regular seal shooting by fishermen.¹⁴⁶ Accordingly, because the issue is unclear, South Africa must clarify whether all killing of marine mammals, including otters, is banned during commercial fishing or whether a permit for such activity remains available.

¹⁴⁰ 50 C.F.R. § 216.24(h)(6)(iii)(C).

¹⁴¹ National Environmental Management: Biodiversity Act 2004, § 1(1) (S. Afr.).

¹⁴² Department of Environmental Affairs and Tourism, Policy on the Management of Seals, Seabirds and Shorebirds, § 4.1.1. Available at: https://www.gov.za/sites/default/files/gcis_document/201409/30534.pdf.

¹⁴³ National Environmental Management: Biodiversity Act 2004, § 57(1) (S. Afr.); National Environmental Management: Biodiversity Act (10/2004): Threatened or Protected Marine Species Regulations, Government Notice (GN) 40876 of 30 May 2017, § 4 (S. Afr.).

¹⁴⁴ Department of Environmental Affairs and Tourism, Policy on the Management of Seals, Seabirds and Shorebirds, § 4.1.1. Available at: https://www.gov.za/sites/default/files/gcis_document/201409/30534.pdf.

¹⁴⁵ National Environmental Management: Biodiversity Act (10/2004): Threatened or Protected Marine Species Regulations, Government Notice (GN) 40876 of 30 May 2017, § 63 (S. Afr.) (emphasis added).

¹⁴⁶ See, e.g., <https://www.aquarium.co.za/blog/entry/everything-you-need-to-know-about-south-africas-cape-fur-seals> (last visited Oct. 25, 2021); <https://www.dailymaverick.co.za/article/2015-05-19-no-safe-harbour-for-cape-fur-seals/> (last visited Oct. 25, 2021).

2. Based on Publicly-Available Information, South Africa Does Not Maintain a Regulatory Program “Comparable in Effectiveness” to the U.S. Program for Fisheries.

As detailed above, under the MMPA Imports Rule, South Africa must demonstrate it “maintains a regulatory program” for the fishery “that is comparable in effectiveness to the U.S. regulatory program,” including the five components laid out in the Rule or that it effectively achieves comparable results as maintaining such a program.¹⁴⁷

(a) South Africa Does Not Conduct Regular Marine Mammal Assessments for All Stocks Interacting with Its Fisheries

The MMPA Imports Rules requires that South Africa demonstrate that it “maintains a regulatory program that provides for . . . [m]arine mammal assessments . . . for stocks . . . that are killed or seriously injured in the fishery” or that the nation achieves “comparable . . . effectiveness” to the U.S. program of annual stock assessments.¹⁴⁸ It is critical that stock assessments for bycaught stocks be conducted; without this information, it is impossible to know whether bycatch is below PBR. However, South Africa does not have a regulatory program requiring or providing for regular stock assessments, nor are regular stock assessments conducted for many of the species bycaught in South African export fisheries.

Compared to other nations in the southern Africa region, marine mammals in South Africa are the most well-studied.¹⁴⁹ Historically, between 1975 and 1986, “the South African government conducted a series of annual marine mammal cruises to monitor cetaceans within the 200 nautical miles Exclusive Economic Zone (EEZ) of South Africa and Namibia, during which dedicated observations of cetaceans were made.”¹⁵⁰ However, we are not aware of any more recent, dedicated government-sponsored cetacean surveys.

While regular surveys are not required or apparently conducted by the South African government, some South African stocks are regularly surveyed by researchers. For example, researchers have conducted aerial surveys to monitor the southern right whale population in South Africa annually since 1969. Because of these annual surveys, managers are now aware of population concerns, including potentially reduced calving.¹⁵¹ Humpback dolphins in South Africa are well-studied compared to other parts of the species’ range, and local population surveys have been conducted several times since the 1990s.¹⁵² A recent effort collated photo-

¹⁴⁷ 50 C.F.R. § 216.24(h)(6)(iii)(C).

¹⁴⁸ 50 C.F.R. § 216.24(h)(6)(iii)(C).

¹⁴⁹ See Elwen, Simon Harvey, Ken P. Findlay, Jérémy Kiszka, and C. R. Weir. “Cetacean research in the southern African subregion: a review of previous studies and current knowledge.” *African Journal of Marine Science* 33, no. 3 (2011): 469-493.

¹⁵⁰ Elwen, Simon Harvey, Ken P. Findlay, Jérémy Kiszka, and C. R. Weir. “Cetacean research in the southern African subregion: a review of previous studies and current knowledge.” *African Journal of Marine Science* 33, no. 3 (2011): 469-493.

¹⁵¹ Vermeulen, E., C Wilkenson, and G. Van den Berg. “Report of the Southern Right Whale Aerial Surveys – 2019.” (2020). IWC SC/68B/SH/02.

¹⁵² See *supra* Section III(A). Private whale-watching tours contribute to research efforts. See, e.g., <https://oceanadventures.co.za/research/>.

identification records in order to refine an estimated population for South Africa and identified 250 uniquely marked individuals.¹⁵³ Numerous studies on humpback whales on both the Indian and Atlantic coast have been conducted.¹⁵⁴

While these studies are certainly helpful and the southern right whale survey is highly commendable, overall, South Africa lacks any regulations or directives requiring or providing for regular assessment of all marine mammals killed or seriously injured in its many export fisheries. South Africa has both the resources and ability to fully monitor both marine mammal stocks and bycatch with its fisheries. The nation conducts regular and detailed assessments of its fisheries, tracking and reporting on which fisheries are over-exploited, including through regular boat-based surveys, and a detailed calculation of maximum sustainable yield.¹⁵⁵ South Africa can and must provide for regular stock assessments for marine mammals within its waters to meet the MMPA Imports Rule. NMFS must deny comparability for any South African fishery for which South Africa does not initiate and demonstrate that it provides for regular stock assessments.

(b) South Africa Requires an Export Fishery Registry but Does Not Appear to Maintain All Necessary Information.

The MMPA Imports Rule requires that export nations either maintain an “export fishery register” listing all fishing vessels in the fishery, including time, season, gear type, and target species or effectively achieve comparable results as maintaining such a registry.¹⁵⁶ The Marine Living Resources Act requires that the Director-General shall “keep a register of all rights of access, other rights, permits and licenses granted” under the Act.¹⁵⁷ The Act’s regulations specify the register “shall contain particulars of” the name, contact, and vessel information for each permittee, the fish that may be caught under the permit, and permit transfer information.¹⁵⁸

While South Africa has taken an important step towards maintaining an adequate registry, South Africa’s registry does not appear to include time, season, and gear type allowed for each vessel. South Africa’s registry does not meet the requirements of the MMPA Imports Rule of maintaining a comprehensive registry of the time, season, and gear type for each fishing vessel. This information is essential for managers (and NMFS) to understand and monitor the fishery’s operation and ultimately its bycatch.

¹⁵³ Plön, Stephanie, Shanan Atkins, Vic Cockcroft, Danielle Conry, Sasha Dines, Simon Elwen, Enrico Gennari et al. "Science Alone Won't Do It! South Africa's Endangered Humpback Dolphins *Sousa plumbea* Face Complex Conservation Challenges." *Frontiers in Marine Science* (2021): 906.

¹⁵⁴ Elwen, Simon Harvey, Ken P. Findlay, Jérémy Kiszka, and C. R. Weir. "Cetacean research in the southern African subregion: a review of previous studies and current knowledge." *African Journal of Marine Science* 33, no. 3 (2011): 469-493; Findlay, K. P., and P. B. Best. "Estimates of the numbers of humpback whales observed migrating past Cape Vidal, South Africa, 1988–1991." *Marine Mammal Science* 12, no. 3 (1996): 354-370.

¹⁵⁵ See DEFF (Department of Environment, Forestry and Fisheries) 2020. Status of the South African marine fishery resources 2020. Cape Town: DEFF. Available at: https://www.environment.gov.za/sites/default/files/reports/statusofsouthafrican_marinefisheryresources2020.pdf.

¹⁵⁶ 50 C.F.R. § 216.24(h)(6)(iii)(C).

¹⁵⁷ Marine Living Resources Act 2008, § 12(1) (S. Afr.).

¹⁵⁸ Regulations in Terms of the Marine Living Resources Act, Government Notice (GN) 1111 of 2 Sept. 1998, § 4 (S. Afr.).

(c) Based on Publicly-Available Information, South Africa Does Not Maintain Adequate Regulatory Requirements for Bycatch

Next, under the MMPA Imports Rule, South Africa must demonstrate it has a regulatory program that both requires marine mammal reporting and requires fishers to implement measures to reduce mortality/serious injury. As discussed below, available evidence does not support a finding that South Africa meets either requirement for all export fisheries.

(i) South Africa Does Not Appear to Require Reporting of All Marine Mammal Deaths and Injuries

The MMPA Imports Rule requires that exporting nations require that vessel operators “report all intentional and incidental mortality and injury of all marine mammals in the course of commercial fishing operations” or achieve comparable results to such a requirement.¹⁵⁹

We were unable to identify any South African statutory or regulatory requirement for export fisheries that require such reporting. However, some permit conditions have required reporting. For example, a 2014 permit condition for the hake and horse mackerel fisheries (both export fisheries) required that, prior to two hours before landing, the permit holder report both catch and “any dead or protected or prohibited species or excess bycatch.”¹⁶⁰ Presumably, this condition requires reporting of bycatch of any cetacean or dolphin, as both are listed as protected species. However, it is unclear whether this permit condition still applies, as the permit states the conditions applied for the 2014 season, and we were unable to identify a more recent set of permit conditions, despite several requests to the South African government. Moreover, the condition does not require the reporting of injured marine mammals, as is required by the MMPA Imports Rule.¹⁶¹

(ii) Based on Publicly-Available Information, South Africa Does Not Require that Fishers Implement Measures to Reduce Mortality/Serious Injury

Next, under the MMPA Imports Rule, South Africa must maintain regulatory requirements that require fishers to implement measures to reduce mortality/serious injury or “effectively achieves comparable results” as requiring such measures.¹⁶²

As detailed in the above section on South African law, the nation has no federal law or regulation requiring mitigation of marine mammal bycatch. While the Biodiversity Act generally prohibits the killing and capture of marine mammals, it is unclear *and unlikely* that the law bans the incidental capture of marine mammals in fishing gear. Specifically, because most marine

¹⁵⁹ 50 C.F.R. § 216.24(h)(6)(iii)(C).

¹⁶⁰ Section B: Fishing Permit Conditions for: Hake; Sole; Horse Mackerel and Demersal Shark. Fishing Season 2014, § 4.1.4. Available at:

https://www.environment.gov.za/sites/default/files/legislations/sectionB2014fishingseason_sectorspecificpermitconditions_hakesolehorsemackereldemersalshark.pdf (last visited Oct. 27, 2021).

¹⁶¹ 50 C.F.R. § 216.24(h)(6)(iii)(C) (requiring reporting of “all . . . incidental mortality and injury of marine mammals in the course of commercial fishing operations”).

¹⁶² 50 C.F.R. § 216.24(h)(6)(iii)(C).

mammals (except sea otters) are listed as “protected,” the Act bans “hunting, catching, capturing or killing any living specimen by any means . . . including searching, pursuing, . . . or injuring with intent to . . . kill,” being “in possession or exercising physical control over,” or “harassing” any marine mammal.¹⁶³ However, the Act does not expressly state that incidental/accidental killing through bycatch is prohibited. Each prohibited action appears to require an *intentional* act: the examples given include exclusively intentional acts like “pursuing” an animal or “injuring with intent to . . . kill.”¹⁶⁴

Nor do the Biodiversity Act regulations clarify whether incidental bycatch is prohibited. The regulations only address bycatch by stating that releasing an entangled animal alive from fishing gear does not require a permit.¹⁶⁵ Further, violations of the Act appear to be criminal, which typically requires some knowledge or mental state requirement of the banned activity. It is unlikely the Act prohibits incidental bycatch, though we urge NMFS to require South Africa to demonstrate and clarify any bycatch scheme it may have.

While South Africa’s Biodiversity Act, its Marine Living Resources Act, and the statutes’ implementing regulations do not require bycatch mitigation measures for any fishery, the Marine Act does provide authority for the minister to require bycatch mitigation measures as a permit condition. Indeed, DFFE states that the government is “committed to implementing an ‘ecosystem approach to fisheries management.’”¹⁶⁶

As detailed below, DFFE has published permit conditions for several fisheries, including the hake and horse mackerel fisheries, which are U.S. export fisheries.¹⁶⁷ However, the permit conditions do not require any marine mammal bycatch mitigation.

We were unable to identify any permit conditions for any other export fishery reviewed. As noted above, the hake and horse mackerel permit conditions are posted on DFFE’s website on its “Guidance and Policy” page, along with other applicable fishing policies and rules.¹⁶⁸ DFFE’s website does not list any permit conditions for other export fisheries, and we were unable to find any applicable permit conditions for these fisheries, despite conducting online research, making several inquiries to DFFE, and submitting a public information request. DFFE also issues an annual publication entitled *Status of the South African Marine Fisheries Resources*, and this document describes important fisheries, the fishery’s condition/status, history, management, and

¹⁶³ Government Notice (GN) 476 of 30 May 2017 (S. Afr.); National Environmental Management: Biodiversity Act 2004, §§ 56, 1(1) (S. Afr.); National Environmental Management: Biodiversity Act (10/2004): Threatened or Protected Marine Species Regulations, Government Notice (GN) 40876 of 30 May 2017, §§ 3, 1(1) (S. Afr.).

¹⁶⁴ National Environmental Management: Biodiversity Act 2004, §§ 56, 1(1) (S. Afr.).

¹⁶⁵ Threatened or Protected Marine Species Regulations, Government Notice (GN) 40876 of 30 May 2017, § 64 (S. Afr.).

¹⁶⁶ DEFF (Department of Environment, Forestry and Fisheries) 2020. Status of the South African marine fishery resources 2020. Cape Town: DEFF. Available at:

https://www.environment.gov.za/sites/default/files/reports/statusofsouthafrican_marinefisheryresources2020.pdf

¹⁶⁷ See DEFF, Guidance and Policies. Available at: <https://www.environment.gov.za/legislation/guidelines> (last visited Nov. 27, 2021). However, the conditions are labeled as applying to the 2014 fishing season; it is unclear whether the conditions are currently applicable. DFFE has also issued permit conditions for its tuna, squid, oyster, and line fish fisheries. *Id.*

¹⁶⁸ See <https://www.environment.gov.za/legislation/guidelines>.

ecosystem interactions.¹⁶⁹ The document describes several export fisheries and required permit conditions but does not note marine mammal mitigation measures for any non-RFMO fishery.

There is no available evidence that permits for those fisheries contain any bycatch conditions. To meet the MMPA Imports Rule, South Africa must demonstrate that marine mammal bycatch mitigation measures exist for these fisheries and that they are comparable in effectiveness to U.S. mitigation requirements.

(1) Hake trawl fishery

The hake trawl fishery is the most valuable South African fishery, constituting 50% of the total value of fishery production.¹⁷⁰ As noted above, we found no information regarding marine mammal bycatch for this large and lucrative fishery, despite the fact that bycatch is likely to occur.¹⁷¹ DFFE sets a Total Allowable Catch (TAC) for hake, with specific limits for increases and decreases each year.¹⁷² In its 2020 *Status of the South African Marine Fisheries Resources*, DFFE explains that permits for hake contain permit conditions to minimize sea bird bycatch, protect sea bottoms from trawl gear, minimize bycatch of other fish species, and prohibit fishing in certain marine protected areas. DFFE does not note any marine mammal bycatch provisions.¹⁷³

Indeed, the 2014 permit conditions for the fishery contain no specific marine mammal requirements, and the actual permit conditions are extremely vague. The 2014 permit states only that “[t]he Permit Holder shall take cognisance . . . of its fishing method on the ecosystem. In this regard steps shall be taken to minimise seabird mortality; to minimise damage to the seabed, and to minimise the incidental mortality of non-commercial species.”¹⁷⁴ No actual requirements or limitations are provided, nor do the permit conditions specify what “steps shall be taken” to minimize ecosystem harm,¹⁷⁵ and the vague statement is not a bycatch mitigation measure. As

¹⁶⁹ DEFF (Department of Environment, Forestry and Fisheries) 2020. Status of the South African marine fishery resources 2020. Cape Town: DEFF. Available at:

https://www.environment.gov.za/sites/default/files/reports/statusofsouthafrican_marinefisheryresources2020.pdf.

¹⁷⁰ FAO, *Fishery and Aquaculture Country Profiles: The Republic of South Africa* (last visited Nov. 13, 2021).

Available at: <https://www.fao.org/fishery/facp/za/en>.

¹⁷¹ Zollett, E.A. & Rosenberg, A.A. (2005). A review of cetacean research in trawl fisheries. Literature Review Prepared for the Northeast Fisheries Science Center.

¹⁷² See DEFF (Department of Environment, Forestry and Fisheries) 2020. Status of the South African marine fishery resources 2020. Cape Town: DEFF. Available at:

https://www.environment.gov.za/sites/default/files/reports/statusofsouthafrican_marinefisheryresources2020.pdf.

¹⁷³ See DEFF (Department of Environment, Forestry and Fisheries) 2020. Status of the South African marine fishery resources 2020. Cape Town: DEFF. Available at:

https://www.environment.gov.za/sites/default/files/reports/statusofsouthafrican_marinefisheryresources2020.pdf.

¹⁷⁴ Section B: Fishing Permit Conditions for: Hake; Sole; Horse Mackerel and Demersal Shark. Fishing Season 2014, § 4.1.4. Available at:

https://www.environment.gov.za/sites/default/files/legislations/sectionB2014fishingseason_sectorsspecificpermitconditions_hakesolehorseackereldemersalshark.pdf (last visited Nov. 27, 2021).

¹⁷⁵ Similarly, no bycatch mitigation measures are required for the 2019 anchovy fishery, a fishery we did not assess because it does not appear on the LOFF. Like the hake and mackerel fishery permit conditions, permit conditions for the anchovy fishery only vaguely require that the permit holder “must take cognisance . . . of the impacts of fishing on the ecosystem.” Fishing Permit Conditions: Pelagic Fish Anchovy: 2019. Available at:

https://sapfia.org.za/?offshore_dl=3628 (last visited Nov. 1, 2021).

such, South Africa does not appear to require any marine mammal mitigation measures for its hake trawl fishery.

(2) Horse mackerel trawl fishery

The horse mackerel trawl fishery is an export fishery for which marine mammal bycatch of dolphins and fur seals has been documented and further research is being conducted.¹⁷⁶ DFFE has set catch and effort limits for the fishery,¹⁷⁷ and the same permit conditions that apply to the hake fishery also apply to the horse mackerel fishery.¹⁷⁸ Similar to the hake fishery, in describing the horse mackerel fishery in its 2020 *Status of the South African Marine Fisheries Resources*, DFFE does not note any marine mammal bycatch provisions,¹⁷⁹ nor does the permit contain any specific marine mammal bycatch mitigation measures.¹⁸⁰

(3) Mullet gillnet fishery

The mullet (harder) near-shore gillnet fishery is an export fishery to the United States that likely entangles endangered Indian Ocean humpback dolphins, as the fishery appears to operate within the dolphin's habitat.¹⁸¹ DFFE manages the fishery by limiting the number of operators in the fishery (total allowable effort). While DFFE notes fishing area restrictions around two islands to protect sea birds from entanglement, DFFE describes no specific marine mammal monitoring or required mitigation in the fishery.¹⁸² However, DFFE states that "legislation and permit conditions . . . prohibit unattended gillnets (either set or drift)."¹⁸³ This condition could offer marine mammals some protection from serious injury or death; however, we were unable to

¹⁷⁶ Reed, J. R., Sven E. Kerwath, and C. G. Attwood. "Analysis of bycatch in the South African midwater trawl fishery for horse mackerel *Trachurus capensis* based on observer data." *African Journal of Marine Science* 39, no. 3 (2017): 279-291; DEFF (Department of Environment, Forestry and Fisheries) 2020. Status of the South African marine fishery resources 2020. Cape Town: DEFF. Available at:

https://www.environment.gov.za/sites/default/files/reports/statusofsouthafrican_marinefisheryresources2020.pdf.

¹⁷⁷ DEFF (Department of Environment, Forestry and Fisheries) 2020. Status of the South African marine fishery resources 2020. Cape Town: DEFF. Available at:

https://www.environment.gov.za/sites/default/files/reports/statusofsouthafrican_marinefisheryresources2020.pdf.

¹⁷⁸ Section B: Fishing Permit Conditions for: Hake; Sole; Horse Mackerel and Demersal Shark. Fishing Season 2014, § 4.1.4. Available at:

https://www.environment.gov.za/sites/default/files/legislations/sectionB2014fishingseason_sectorspecificpermitconditions_hakesolehorsemackereldemersalshark.pdf (last visited Nov. 27, 2021).

¹⁷⁹ DEFF (Department of Environment, Forestry and Fisheries) 2020. Status of the South African marine fishery resources 2020. Cape Town: DEFF. Available at:

https://www.environment.gov.za/sites/default/files/reports/statusofsouthafrican_marinefisheryresources2020.pdf.

¹⁸⁰ Section B: Fishing Permit Conditions for: Hake; Sole; Horse Mackerel and Demersal Shark. Fishing Season 2014, § 4.1.4. Available at:

https://www.environment.gov.za/sites/default/files/legislations/sectionB2014fishingseason_sectorspecificpermitconditions_hakesolehorsemackereldemersalshark.pdf (last visited Nov. 27, 2021).

¹⁸¹ See Braulik, G. T., K. Findlay, S. Cerchio, R. Baldwin, and W. Perrin. "Sousa plumbea. The IUCN Red List of Threatened Species 2017: e. T82031633A82031644." (2018).

¹⁸² DEFF (Department of Environment, Forestry and Fisheries) 2020. Status of the South African marine fishery resources 2020. Cape Town: DEFF. Available at:

https://www.environment.gov.za/sites/default/files/reports/statusofsouthafrican_marinefisheryresources2020.pdf.

¹⁸³ DEFF (Department of Environment, Forestry and Fisheries) 2020. Status of the South African marine fishery resources 2020. Cape Town: DEFF. Available at:

https://www.environment.gov.za/sites/default/files/reports/statusofsouthafrican_marinefisheryresources2020.pdf.

identify any such legislation or permit conditions requiring that gillnets remain tended. NMFS must require South Africa to document any such requirements.

(4) West Coast rock lobster trap fishery

Bycatch of large whales is regularly documented in the West Coast lobster fishery, including of both southern right whales and humpback whales.¹⁸⁴ The West Coast rock lobster trap fishing is managed under an Operational Management Plan which sets an annual TAC, with annual catch limits divided between various fishing areas.¹⁸⁵ While DFFE acknowledges that entanglements in the fishery occur, it does not note any efforts to monitor or track that bycatch, nor does it note any bycatch mitigation measures required for the fishery.¹⁸⁶ We were unable to identify any permit conditions for this fishery.

In sum, it is unlikely South Africa will be able to demonstrate that it maintains regulatory requirements that require fishers in its export fisheries to implement measures to reduce mortality/serious injury for non-RFMO fisheries.¹⁸⁷ We were unable to identify any statutory or regulatory bycatch mitigation requirements; for fisheries for which we could identify permit conditions, conditions did not require specific bycatch mitigation; and we could not identify any permit conditions for other fisheries. To meet the MMPA Imports Rule and avoid an embargo, South Africa must demonstrate that marine mammal bycatch mitigation measures exist for all export fisheries.

(d) South Africa Has Some Monitoring Procedures to Estimate Bycatch for Some but Likely Not for All Export Fisheries.

The MMPA Imports Rule also requires South Africa to demonstrate it has monitoring procedures in place to estimate mortality and serious injury for each export fishery both individually and cumulatively for each stock or that the nation effectively achieves comparable results as conducting such monitoring.¹⁸⁸ South Africa does appear to monitor bycatch through reporting and occasionally through observers in some fisheries; however, little information is available about South Africa's current observer program. It is unclear whether all export fisheries must carry observers, what level of observer coverage is maintained, and whether observers report marine mammal bycatch. NMFS must insist that South Africa demonstrate adequate bycatch monitoring for each export fishery.

¹⁸⁴ Mejer, M. A., P. B. Best, M. D. Anderson-Read, G. Cliff, S. F. J. Dudley, and S. P. Kirkman. "Trends and interventions in large whale entanglement along the South African coast." *African Journal of Marine Science* 33, no. 3 (2011): 429-439.

¹⁸⁵ DEFF (Department of Environment, Forestry and Fisheries) 2020. Status of the South African marine fishery resources 2020. Cape Town: DEFF. Available at: https://www.environment.gov.za/sites/default/files/reports/statusofsouthafrican_marinefisheryresources2020.pdf.

¹⁸⁶ DEFF (Department of Environment, Forestry and Fisheries) 2020. Status of the South African marine fishery resources 2020. Cape Town: DEFF. Available at: https://www.environment.gov.za/sites/default/files/reports/statusofsouthafrican_marinefisheryresources2020.pdf.

¹⁸⁷ 50 C.F.R. § 216.24(h)(6)(iii)(C).

¹⁸⁸ 50 C.F.R. § 216.24(h)(6)(iii)(C).

Specifically, South Africa has clear authority to monitor its fisheries' bycatch. The Marine Living Resources Act provides clear authority for the South African government to require observers,¹⁸⁹ and the regulations state that observers may monitor bycatch.¹⁹⁰ Moreover, the regulations require vessels to maintain a logbook, documenting daily catch in kilograms, location, and gear used to be submitted at the end of the trip.¹⁹¹ The regulations do not specify that bycatch of marine mammals be documented in logbooks.

(i) Observers

South Africa developed an observer program in 2002 to document catch, gear used, bycatch, and other information.¹⁹² The program has run intermittently, as the government has terminated and then restarted the program on multiple occasions.¹⁹³ The program was most recently terminated around 2013 but the IWC reported that it was to resume in 2019.¹⁹⁴ For its observer program, the South African government has contracted with a private entity called CapFish/CapMarine.¹⁹⁵ We were unable to find a full description of the observer program and which fisheries are covered.

Some fisheries use industry-funded observers.¹⁹⁶ According to CapFish, their observers cover several RFMO fisheries, including CCAMLR, IOTC, and ICCAT, as well as several

¹⁸⁹ Marine Living Resources Act 2008, §§ 21(3), 50 (S. Afr.).

¹⁹⁰ Regulations in Terms of the Marine Living Resources Act, Government Notice (GN) 1111 of 2 Sept. 1998, § 82(c) (S. Afr.).

¹⁹¹ Regulations in Terms of the Marine Living Resources Act, Government Notice (GN) 1111 of 2 Sept. 1998, § 4 (S. Afr.).

¹⁹² No author, Observer Programme Assessment: April 2010. Available at: http://www.rfalliance.org.za/wp-content/uploads/2017/06/Observer-programme-review_final.pdf (last visited Nov. 1, 2021).

¹⁹³ Cochrane, Kevern L., Jessica Eggers, and Warwick HH Sauer. "A diagnosis of the status and effectiveness of marine fisheries management in South Africa based on two representative case studies." *Marine Policy* 112 (2020): 103774; IWC, "Report on the IWC Workshop on Bycatch Mitigation Opportunities in the Western Indian Ocean and Arabian Sea." May 8-9, 2019 (Nairobi, Kenya). Available at: https://www.bmis-bycatch.org/system/files/zotero_attachments/library_1/WIEQBEX3%20-%20RS9612_IWC_Indian_Ocean_Arabian_Sea_bycatch_report_2019.pdf; see Capricorn Marine Environmental: <https://capmarine-sa.co.za/environmental-compliance-services/>.

¹⁹⁴ Cochrane, Kevern L., Jessica Eggers, and Warwick HH Sauer. "A diagnosis of the status and effectiveness of marine fisheries management in South Africa based on two representative case studies." *Marine Policy* 112 (2020): 103774; IWC, "Report on the IWC Workshop on Bycatch Mitigation Opportunities in the Western Indian Ocean and Arabian Sea." May 8-9, 2019 (Nairobi, Kenya). Available at: https://www.bmis-bycatch.org/system/files/zotero_attachments/library_1/WIEQBEX3%20-%20RS9612_IWC_Indian_Ocean_Arabian_Sea_bycatch_report_2019.pdf; see Capricorn Marine Environmental: <https://capmarine-sa.co.za/environmental-compliance-services/>. Some industry-funded observer activities continued during the program's termination. See Capricorn Marine Environmental: <https://capmarine-sa.co.za/environmental-compliance-services/>.

¹⁹⁵ IWC, "Report on the IWC Workshop on Bycatch Mitigation Opportunities in the Western Indian Ocean and Arabian Sea." May 8-9, 2019 (Nairobi, Kenya). Available at: https://www.bmis-bycatch.org/system/files/zotero_attachments/library_1/WIEQBEX3%20-%20RS9612_IWC_Indian_Ocean_Arabian_Sea_bycatch_report_2019.pdf; see Capricorn Marine Environmental: <https://capmarine-sa.co.za/environmental-compliance-services/>.

¹⁹⁶ IWC, "Report on the IWC Workshop on Bycatch Mitigation Opportunities in the Western Indian Ocean and Arabian Sea." May 8-9, 2019 (Nairobi, Kenya). Available at: https://www.bmis-bycatch.org/system/files/zotero_attachments/library_1/WIEQBEX3%20-%20RS9612_IWC_Indian_Ocean_Arabian_Sea_bycatch_report_2019.pdf; see Capricorn Marine Environmental:

domestic fisheries, including the deep sea hake trawl fleet (5-10% observer coverage), the small pelagic fleet (10-15% coverage), the horse mackerel trawl ship (full coverage for the single mid-water trawl vessel in the fishery), and hake longline.¹⁹⁷

In addition, some permit conditions state that observers must be accommodated onboard. The hake and horse mackerel permit conditions state that “the Permit Holder may carry one or more Observers on board its vessels in accordance with the requirements of the Department’s observer program.”¹⁹⁸ The observer must be allowed “unrestricted access to monitory fishing activity and compliance with permit conditions and all applicable laws.”¹⁹⁹ VMS is also required for vessels in the fishery.²⁰⁰ However, the permit conditions do not state what level of observer coverage must be attained fishery-wide.²⁰¹ We were unable to identify permit conditions for other export fisheries assessed.

In its 2020 *Status of the South African marine fishery resources*, DFFE further notes that observer data was used to inform annual TAC decisions, including for hake, linefish, netfish (like mullet/harders), prawn, and RFMO fisheries.²⁰² However, it is unclear whether the report references historic or current observer data. For linefish, DFFE further notes that “the implementation of a new national observer programme is now required” but does not state the observer program is required for other exporting fisheries.²⁰³ Moreover, in September 2020, DFFE stated that “[t]he Department does not currently have observers onboard commercial fishing vessels in South African waters due to a lack of funding.”²⁰⁴

<https://capmarine-sa.co.za/environmental-compliance-services/>.

¹⁹⁷ Capricorn Marine Environmental:

<https://capmarine-sa.co.za/environmental-compliance-services/>.

¹⁹⁸ Section B: Fishing Permit Conditions for: Hake; Sole; Horse Mackerel and Demersal Shark. Fishing Season 2014, § 4.1.4. Available at:

https://www.environment.gov.za/sites/default/files/legislations/sectionB2014fishingseason_sectorspecificpermitconditions_hakesolehorseackereldemersalshark.pdf (last visited Nov. 27, 2021).

¹⁹⁹ Section B: Fishing Permit Conditions for: Hake; Sole; Horse Mackerel and Demersal Shark. Fishing Season 2014, § 4.1.4. Available at:

https://www.environment.gov.za/sites/default/files/legislations/sectionB2014fishingseason_sectorspecificpermitconditions_hakesolehorseackereldemersalshark.pdf (last visited Nov. 27, 2021).

²⁰⁰ Section B: Fishing Permit Conditions for: Hake; Sole; Horse Mackerel and Demersal Shark. Fishing Season 2014, § 4.1.4. Available at:

https://www.environment.gov.za/sites/default/files/legislations/sectionB2014fishingseason_sectorspecificpermitconditions_hakesolehorseackereldemersalshark.pdf (last visited Nov. 27, 2021).

²⁰¹ In contrast, a more recent permit issued in the sardine fishery requires observers on 10% of annual trips. Permit Conditions Pelagic Fish: Sardine (2019), at 2.2. Available at: https://sapia.org.za/?offshore_dl=3629 (last visited Nov. 1, 2021).

²⁰² DEFF (Department of Environment, Forestry and Fisheries) 2020. Status of the South African marine fishery resources 2020. Cape Town: DEFF. Available at:

https://www.environment.gov.za/sites/default/files/reports/statusofsouthafrican_marinefisheryresources2020.pdf.

²⁰³ DEFF (Department of Environment, Forestry and Fisheries) 2020. Status of the South African marine fishery resources 2020. Cape Town: DEFF. Available at:

https://www.environment.gov.za/sites/default/files/reports/statusofsouthafrican_marinefisheryresources2020.pdf.

²⁰⁴ DFFE, Question No. 2078 (Sept. 4, 2021). Available at:

https://www.dffe.gov.za/sites/default/files/parliamentary_updates/pq2078of2020_boardfishingvesselobservers%20.pdf (last visited Dec. 15, 2021).

(ii) Reporting at landing

Further, as noted above, some permit conditions require reporting of bycatch at landing. A 2014 permit condition for the hake and horse mackerel fisheries (both export fisheries) required that, prior to two hours before landing, the permit holder report both catch and “any dead or protected or prohibited species or excess bycatch.”²⁰⁵ Presumably, this condition requires reporting of bycatch of any cetacean or dolphin, as both are listed as protected species. It is unclear whether this 2014 permit condition still applies.²⁰⁶ Due to budget constraints at DFFE, it was reported that as of 2017, DFFE “was no longer able to provide monitors to monitor offloading of catches after normal office hours.”²⁰⁷

In sum, based on publicly available information, it is unlikely South Africa can demonstrate that its monitoring meets the MMPA Imports Rule requirements, as the observer program has not existed in recent years, and it is unclear whether all export fisheries are covered and at what level. Critically, if South Africa was adequately monitoring, it would have had bycatch numbers to report to NMFS to include in the 2020 LOFF. Because the LOFF contains no bycatch numbers for any of South Africa’s fisheries, it is unlikely South Africa had such information to report. It is impossible for South Africa to demonstrate its fisheries’ bycatch does not exceed PBR without adequate monitoring. NMFS must insist that South Africa demonstrate adequate bycatch monitoring for each export fishery.

(e) South Africa Has Not Published a Bycatch Limit for Its Export Fisheries.

The MMPA Imports Rule requires South Africa to calculate a bycatch limit for marine mammals taken in each fishery.²⁰⁸ The “bycatch limit” is PBR or a “comparable scientific metric.”²⁰⁹ Because South Africa does not conduct regular surveys of all marine mammal stocks that interact with its export fisheries, it is unlikely South Africa has calculated bycatch limits for its export fisheries. If it has done so, it has not published those limits.

(f) South Africa Is Unlikely to Be Able to Demonstrate that Serious Injury/Mortality from Export Fisheries Is Below the Bycatch Limit.

Finally, the MMPA Imports Rule requires that South Africa demonstrate that mortality/serious injury from the fishery and cumulatively with other export fisheries “[d]o not exceed the bycatch limit.”²¹⁰

²⁰⁵ Section B: Fishing Permit Conditions for: Hake; Sole; Horse Mackerel and Demersal Shark. Fishing Season 2014, § 4.1.4. Available at: https://www.environment.gov.za/sites/default/files/legislations/sectionB2014fishingseason_sectorspecificpermitconditions_hakesolehorsemackereledemersalshark.pdf (last visited Nov. 27, 2021).

²⁰⁶ 50 C.F.R. § 216.24(h)(6)(iii)(C) (requiring reporting of “all . . . incidental mortality and injury of marine mammals in the course of commercial fishing operations”).

²⁰⁷ Cochrane, Kevern L., Jessica Eggers, and Warwick HH Sauer. "A diagnosis of the status and effectiveness of marine fisheries management in South Africa based on two representative case studies." *Marine Policy* 112 (2020): 103774.

²⁰⁸ 50 C.F.R. § 216.24(h)(6)(iii)(C).

²⁰⁹ 50 C.F.R. § 216.3.

²¹⁰ 50 C.F.R. § 216.24(h)(6)(iii)(C).

Based on our assessment, South Africa will not be able to demonstrate that mortality/serious injury from its export fisheries “[d]o not exceed the bycatch limit.” Even if South Africa had the data to calculate PBR, because it does not appear to adequately monitor all bycatch, it will not be able to demonstrate that bycatch does not exceed PBR for each export fishery.

VII. Conclusion and Recommendation

In sum, it is unlikely that South Africa will be able to demonstrate that it meets the U.S. MMPA Imports Rule for the assessed export fisheries. Based on publicly-available data, an export ban is appropriate for South Africa’s non-RFMO export fisheries, including particularly the mullet/harder, West Coast rock lobster, and its unidentified set gillnet fishery, unless South Africa comprehensively demonstrates a comparable bycatch regime.²¹¹

As detailed above, in order to continue exporting seafood to the United States, South Africa bears the burden of demonstrating both that it bans killing and serious injury of marine mammals during commercial fishing and that it “maintains a regulatory program” for the fishery “that is comparable in effectiveness to the U.S. regulatory program.” This requires that South Africa has a regulatory program including (or somehow achieving comparable effectiveness as including) stock assessments, a fisheries register, marine mammal bycatch reporting, mitigation requirements, bycatch monitoring, and calculation and proof that bycatch does not exceed PBR or a comparable metric.²¹²

Overall, based on publicly available information, South Africa does not meet this burden for fisheries assessed. While South Africa likely bans intentional killing of most marine mammals, South Africa does not provide for marine mammal surveys for all stocks; does not appear to require an adequate fisheries register; based on publicly-available information, does not maintain adequate regulatory requirements for bycatch, including requiring reporting, mitigation measures, and bycatch monitoring for all export fisheries; or calculate PBR. As such, South Africa will be unable to demonstrate that serious injury and mortality from each export fisheries do not exceed PBR.

We note that because critical information is not publicly available (particularly, various permit conditions), it may be possible for South Africa to demonstrate comparability on some factors for some fisheries. However, unless South Africa fully demonstrates that it meets the various components of the MMPA Imports Rule as detailed herein, NMFS must not make a positive comparability finding for fisheries assessed.

²¹¹ As noted above, we did not assess South Africa’s RFMO-governed fisheries in this report, and we take no position on whether export from those fisheries should continue.

²¹² 50 C.F.R. § 216.24(h)(6)(iii)(C).