

# Indonesian Fisheries and the U.S. MMPA Imports Rule<sup>1</sup>

## October 24, 2023

### I. Executive Summary

Indonesia is the world’s largest archipelagic country, making significant contributions to global fishery catches and trades. The nation’s fisheries are composed primarily of small-scale artisanal and commercial vessels, though larger-scale tuna fisheries also exist, and numbers are increasing. Indonesian vessels operate in the Indian and Pacific Oceans, with inland fisheries and aquaculture operations also contributing significantly to the country’s total fishery production. The United States comprises 30% of Indonesia’s total fisheries export market, with the primary exports being tuna, shrimp, swimming crabs, and tilapia.

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.”<sup>2</sup> To implement the requirement, NMFS issued the MMPA Imports Rule,<sup>3</sup> setting out standards that nations must demonstrate to continue exporting fish to the United States after December 31, 2023. Under the Rule, Indonesia must apply for and receive a “comparability finding” from NMFS, which is essentially a determination that Indonesia’s bycatch and bycatch program meets U.S. standards.<sup>4</sup>

This report provides a brief assessment of Indonesia’s export fisheries, its marine mammal populations, potential bycatch issues, and Indonesia’s domestic legal regime related to bycatch, as applied to the MMPA Imports Rule. To assess comparability to U.S. standards, we explored scientific reports, available bycatch data, U.S. import data, and Indonesian policies related to fisheries management, bycatch, and marine mammal conservation.

Based on the information available to our organizations, we conclude that Indonesia likely lacks marine mammal abundance data, bycatch data and limits, and adequate enforcement of laws. Additionally, Indonesian legal measures on fisheries and marine mammals have largely focused on maintaining fish stocks and protecting marine mammal habitat rather than marine mammals themselves, and government actions on bycatch have historically focused more on sharks and sea turtles than marine mammals. Officials are currently working toward improving Indonesian marine mammal data and reducing bycatch through a National Action Plan for cetaceans and dugongs, but the implementation and effectiveness of these efforts are unclear.

Indonesia has a history of poor fisheries management and inadequate enforcement of regulations, including illegal, intentional captures of protected marine mammals and a lack of compliance with management rules and gear restrictions within specific fisheries and fishing areas. There is evidence of bycatch in Indonesian purse seines, gillnets, longlines, and trawls. Fishers also frequently use anchored fish aggregating devices, which have been found to increase bycatch.

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<sup>2</sup> 16 U.S.C. § 1371(a)(2).

<sup>3</sup> 81 Fed. Reg. 54,415 (Aug. 16, 2016).

<sup>4</sup> 50 C.F.R. § 216.24(h)(6).

Home to dugongs and 35 cetacean species, Indonesia's biodiverse waters are especially important in global efforts to prevent marine mammal mortality in fisheries. However, it is unlikely that Indonesia can demonstrate that its regulatory program is comparable to the U.S. program or that serious injury and mortality from each export fishery do not exceed the Potential Biological Removal level, and NMFS should ban seafood imports from at least some Indonesian fisheries.



Figure 1. Map of Indonesia. Source: <https://geology.com/world/indonesia-satellite-image.shtml>.

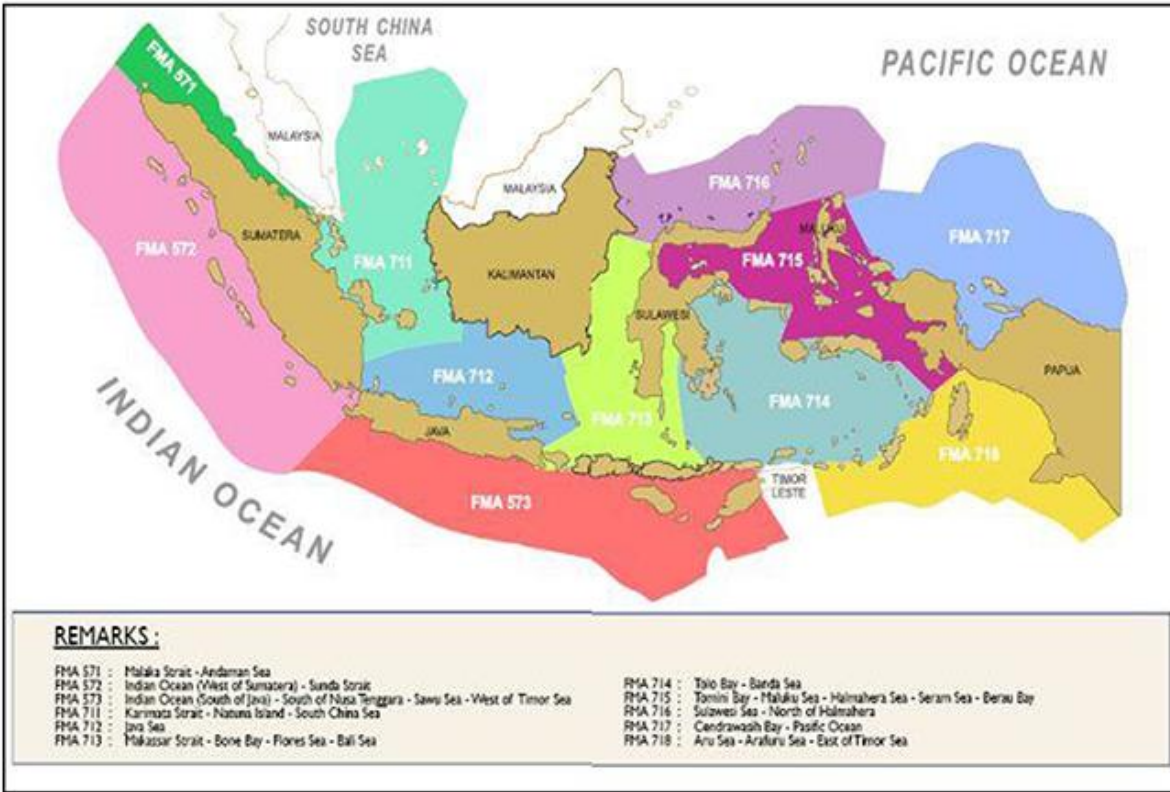


Figure 2. Map of Indonesia’s fishery management areas (FMAs). Source: <http://www.seafdec.org/fisheries-country-profile-indonesia/>.

## II. Indonesia’s Export Fisheries

Indonesia is the world’s largest archipelago, composed of 17,000 islands, and is one of the top seafood-producing countries globally.<sup>5</sup> Fisheries production continues to grow annually. Indonesia was the second highest marine capture fishery producer in the world in 2018 with fisheries production amounting to about 23.13 million tons.<sup>6</sup> Aquaculture production has also been increasing annually, though the majority of aquaculture production is of freshwater species.<sup>7</sup>

<sup>5</sup> Embassy of the Republic of Indonesia, “Facts & Figures,” Embassy of Indonesia, accessed July 15, 2021, <https://www.embassyofindonesia.org/basic-facts/>; Abdul Samad, Agus Putra, et al. “Marine Fisheries and Aquaculture Production of Indonesia: Recent Status of GDP Growth.” *Journal of Marine Science Research and Oceanography*, vol. 3, no. 4, 2020, <https://doi.org/10.33140/jmsro.03.04.04>.

<sup>6</sup> California Environmental Associates, *Trends in Marine Resources and Fisheries Management in Indonesia*, CEA and the David and Lucile Packard Foundation, 2018, <https://www.packard.org/wp-content/uploads/2018/08/Indonesia-Marine-Full-Report-08.07.2018.pdf>; “The State of the World’s Fisheries and Aquaculture.” FAO, accessed May 13, 2022, <https://www.fao.org/state-of-fisheries-aquaculture>.

<sup>7</sup> California Environmental Associates, *Trends*; Food and Agriculture Organization of the United Nations, “Fishery and Aquaculture Country Profiles: Indonesia,” FAO, accessed July 15, 2021, <https://www.fao.org/fishery/en/facp/idn/en>.

Indonesia’s capture fisheries consist of some industrial fleets, but almost 90% of Indonesian fishery outputs stem from traditional and small-scale fishing operations.<sup>8</sup> These operations are carried out for both artisanal and commercial purposes.<sup>9</sup> In 2020, there were an estimated 650,000 small and traditional fishing boats and 800,000 small-scale fishers in Indonesian waters.<sup>10</sup> In 2011, gillnets were the largest sector within Indonesian fisheries, but purse seines have overtaken them since.<sup>11</sup> Indonesia’s small commercial fleets often use larger vessels with purse seines, Danish seines, and gillnets. Large fisheries in Indonesia also operate on an industrial scale.<sup>12</sup>

Indonesia is a major exporter of processed seafood, with approximately ten thousand processing centers in the country.<sup>13</sup> Globally, Indonesia’s primary frozen fish exports are shrimp and tuna, with salted, smoked, dried, and fermented products and aquaculture species also contributing to its export market.<sup>14</sup>

The primary importers of Indonesian seafood products are Japan, the European Union, the United States, and China.<sup>15</sup> The United States is a major consumer, making up about 30% of Indonesia’s total export market.<sup>16</sup> The volume of fishery products imported by the United States from Indonesia increased annually from 2015-2019 (Table 1). According to NOAA Fisheries, the United States imported about 208 million kg of fishery products with a value of 1.89 million USD in 2019.<sup>17</sup>

Table 1. Total fishery products imported to the US from Indonesia from 2015-2019.<sup>18</sup>

Year	Volume (kg)	Value (USD)
2015	176,343,153	1,686,532,764
2016	183,109,791	1,654,726,810
2017	185,923,803	1,857,190,620
2018	200,435,760	1,950,736,245
2019	208,034,712	1,866,998,398

<sup>8</sup> Fisheries and Agriculture Organization of the United Nations, *Fisheries*; Basten Gokkon, “Indonesia’s New Deregulation Law to Hurt Small Fishers, Coastal Communities,” Mongabay, October 14, 2020, <https://news.mongabay.com/2020/10/indonesias-new-deregulation-law-to-hurt-small-fishers-coastal-communities/>.

<sup>9</sup> Ifan Ariansyach, *Fisheries Country Profile: Indonesia*, Southeast Asian Fisheries Development Center, 2017, <http://www.seafdec.org/fisheries-country-profile-indonesia/>; Basten Gokkon, “Indonesia’s New Deregulation Law to Hurt Small Fishers, Coastal Communities,” Mongabay, October 14, 2020,

<https://news.mongabay.com/2020/10/indonesias-new-deregulation-law-to-hurt-small-fishers-coastal-communities/>.  
<sup>10</sup> Basten Gokkon, “Indonesia to Send More Tuna Vessels Out Into International Waters,” Mongabay, July 22, 2021, <https://news.mongabay.com/2021/07/indonesia-to-send-more-tuna-vessels-out-into-international-waters/>.

<sup>11</sup> Hines, E., L. Ponnampalam, F. Jamal Hisne, S. Tara, J. Jackson-Ricketts, S. Kuit, and J. Acebes. "Report of the Third Southeast Asian Marine Mammal Symposium (SEAMAM III)." CMS Technical Series 32 (2015).; Ifan Ariansyach, *Fisheries*.

<sup>12</sup> Fisheries and Agriculture Organization of the United Nations, *Fisheries*.

<sup>13</sup> *Ibid.*

<sup>14</sup> *Ibid.*

<sup>15</sup> *Ibid.*

<sup>16</sup> California Environmental Associates, *Indonesia Fisheries: 2015 Review*, CEA and the David and Lucile Packard Foundation, 2016, <https://www.packard.org/wp-content/uploads/2016/09/Indonesia-Fisheries-2015-Review.pdf>

<sup>17</sup> US Trade in Fishery Products. NOAA Fisheries. Accessed April 13, 2022. <https://www.fisheries.noaa.gov/foss>.

<sup>18</sup> *Ibid.*

## A. Major Fisheries in Indonesia

Indonesia's top value export seafood commodities are frozen shrimp and prawns (primarily farmed) followed by prepared tuna and then blue swimming crab.<sup>19</sup> According to a 2016 report, around 58% of Indonesia's total fisheries production is from wild-capture fisheries, covering a wide variety of species.<sup>20</sup>

Indonesia has been cited as the world's largest tuna fishery, landing 16% of global tuna catch in 2015 and 17% in 2016.<sup>21</sup> Indonesia's catches of skipjack, yellowfin, and bigeye tuna make up 80% of total national tuna production and stem primarily from the Western and Central Pacific Ocean (WCPO).<sup>22</sup>

Several different gear types are used in Indonesia's tuna fisheries. Indonesia is one of the top two tuna gillnetting nations globally, contributing 13% of the global tuna gillnet catch.<sup>23</sup> Most tuna fisheries now operate using purse seines (over 5,800 tuna purse seine licenses listed in the List of Foreign Fisheries (LOFF)), and tuna are also captured in longline operations (almost 1,000 licenses listed in the LOFF). On a smaller scale, tuna is captured by sizeable pole and line and the handline industries in Indonesia, about half of which is destined for canning and the export market.<sup>24</sup> These "one-by-one" fisheries are generally considered low risk for bycatch and are the most sustainable capture gears for tuna.<sup>25</sup> Japan and the United States comprise most of the tuna export market, both fresh and frozen.<sup>26</sup>

Indonesia's tuna fishery is growing. The number of government-authorized, large tuna vessels, which typically operate outside of Indonesia's EEZ (on the high seas), almost doubled from 2017 to 2020.<sup>27</sup> The Indian Ocean Tuna Commission (IOTC), Inter-American Tropical Tuna Commission (IATTC), and Commission for the Conservation of Southern Bluefin Tuna

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<sup>19</sup> California Environmental Associates, *Indonesia Fisheries: 2015 Review*, CEA and the David and Lucile Packard Foundation, 2016, <https://www.packard.org/wp-content/uploads/2016/09/Indonesia-Fisheries-2015-Review.pdf>

<sup>20</sup> *Id.*

<sup>21</sup> Seafood Tip, "Tuna and Bycatch in Indonesia," accessed July 20, 2021, <https://seafood-tip.com/sourcing-intelligence/countries/indonesia/tuna/>; California Environmental Associates, *Indonesia*; World Wildlife Fund, "Blowing up the Bad Guys: Will Indonesia's New Fisheries Laws Deliver?" WWF, February 27, 2015, accessed July 17, 2021, <https://wwf.panda.org/?240152/Blowing-up-the-bad-guys->

<sup>22</sup> California Environmental Associates, *Indonesia*; Jefferson Murua et al., *Characterizing Small and Medium Scale Tuna Purse Seine and Ring Net Vessels in Indonesia: ISSF Technical Report 2018-06*, International Seafood Sustainability Foundation, March 2018.

<sup>23</sup> R. Charles Anderson et al., "Cetacean Bycatch in Indian Ocean Tuna Gillnet Fisheries," *Endangered Species Research* 41 (January 16, 2020): 39-53, <https://doi.org/10.3354/esr01008>.

<sup>24</sup> Gillett R, (2015). Pole-and-line Tuna Fishing in the World: Status and Trends. IPNLF Technical Report No.6. International Pole & Line Foundation, London, accessed October 20, 2023. <https://ipnlf.org/wp-content/uploads/2020/11/ipnlf-tech-report6status-and-trends-of-pole-and-line-tuna-fishing.pdf>

<sup>25</sup> Seafood Tip, "Pole and Line," accessed July 20, 2021, <https://seafood-tip.com/sourcing-intelligence/countries/indonesia/tuna/pole-and-line/>; Seafood Tip, "Handline," accessed July 20, 2021, <https://seafood-tip.com/sourcing-intelligence/countries/indonesia/tuna/handline/>.

<sup>26</sup> Food and Agriculture Organization of the United Nations, "Fishery."

<sup>27</sup> Gokkon "Indonesia."

(CCSBT) Regional Fishery Management Organizations (RFMOs) all recently increased tuna quotas for Indonesian fisheries in their respective waters.<sup>28</sup>

In addition to tuna, blue swimming crab is an important export for Indonesia. There are about 90,000 fishers harvesting blue crabs in Indonesian waters.<sup>29</sup> Almost 75% of crabs from Indonesia's 2016 \$321 million industry were exported to the United States.<sup>30</sup> By 2021, Indonesia had become the largest supplier of portunid crabs to the United States, exporting 13,867.29 tons with an approximate value of \$379.8 million.<sup>31</sup>

## **B. Fish and Fish Products Exported to the United States**

According to NOAA's imports database, over the past ten years, the United States has primarily imported frozen shrimp from Indonesia. Since 2010, around 14% of shrimp imported into the United States has come from Indonesia.<sup>32</sup> Other major imports from Indonesia include frozen tuna fillets, frozen tilapia fillets, and swimming crabmeat. Unspecified marine fish are also included in the ten most exported products (by volume) from the past ten years. Tilapia is solely an aquaculture product, and Indonesian shrimp is both wild-caught and farmed.<sup>33</sup>

The 2020 LOFF lists numerous Indonesian export fisheries. It lists the following species as being exported from Indonesia: flatfishes, crabs, snappers, seabass, groupers, groundfish, various tunas, sharks/rays/skates, mackerels, dolphinfishes, and mixed/unspecified marine fishes. There are some items that are found in import records but not in the LOFF. These are oysters (one import record from 2019), tilapia, herring, sardines, catfish, salmon, freshwater fish, perch, anchovy, pollock, whitefish, toothfish, carps, eels, abalone, orange roughy, bonito, cobia, and trout. The absence of some of these species, such as toothfish, may be explained by the LOFF's general "marine fisheries" category, which does not specify species and likely refers to the large number of multi-species fisheries in Indonesia.<sup>34</sup> Other products like carp, catfish, perch, and trout are freshwater species, so may be farmed or caught within Indonesia's rivers. If any of Indonesia's aquaculture products are farmed in coastal waters or in freshwater rivers, they have the potential to impact coastal-dwelling marine mammals or riverine Irrawaddy dolphins, respectively. It is also possible that some of these products, such as Atlantic salmon, are imported from other countries, then re-exported by Indonesian facilities.

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<sup>28</sup> *Ibid.*

<sup>29</sup> California Environmental Associates, *Trends; Fishery Progress*, "Indonesia Blue Swimming Crab – Trap & Gillnet," Fishery Progress, accessed July 21, 2021, <https://fisheryprogress.org/fip-profile/indonesian-blue-swimming-crab-gillnettrap-apri>.

<sup>30</sup> California Environmental Associates, *Trends; Fishery Progress*, "Indonesia Blue Swimming Crab – Trap & Gillnet," Fishery Progress, accessed July 21, 2021, <https://fisheryprogress.org/fip-profile/indonesian-blue-swimming-crab-gillnettrap-apri>.

<sup>31</sup> Seafood Watch, August 7, 2023. "Blue swimming crab (*Portunus pelagicus*) Indonesia, bottom gillnets, pots", report id 27964; accessed October 18, 2023. <https://www.seafoodwatch.org/globalassets/sfw-data-blocks/reports/c/seafood-watch-blue-swimming-crab-indonesia-27964.pdf>

<sup>32</sup> Sea Port, "Warm Water Shrimp," Sea Port FAQs, <http://www.cport.net/assets/uploads/files/fao.pdf>.

<sup>33</sup> <https://beritagar.id/artikel/berita/ekspor-perikanan-indonesia-berjaya-di-tengah-perang-dagang>; California Environmental Associates, *Indonesia*.

<sup>34</sup> Fisheries and Agriculture Organization of the United Nations, *Fisheries*.



Finally, not all products exported to the United States from Indonesia stem directly from Indonesian capture fisheries or aquaculture facilities. Indonesia has tried to increase its processing capacity in recent years, with an expected industry growth of 20% having been projected for 2020.<sup>35</sup> One major processing firm has focused recently on increasing its efforts as an intermediary product handler and re-exporting imported products to the United States.<sup>36</sup> Focus products include king crab and salmon, both of which appear in NOAA’s import records. From 2017 to 2018, exports of processed products from Indonesia to the United States increased, while whole fish exports stayed relatively stagnant.<sup>37</sup> Any intermediary products passing through Indonesia are meant to be vetted by Indonesian officials and industries. We encourage NMFS to ensure that Indonesia has proper tracking systems in place to guarantee that these products comply with the MMPA Imports Rule.

### III. Marine Mammals

Indonesian waters are home to at least 35 cetacean species including 25 small odontocetes, as well as dugongs.<sup>38</sup> Whales include the minke whale, Bryde’s whale, sei whale, blue whale, pygmy blue whale, Omura’s whale, humpback whale, pygmy killer whale, killer whale, melon-headed whale, false killer whale, pygmy sperm whale, dwarf sperm whale, sperm whale, Blainville’s beaked whale, and Cuvier’s beaked whale. Dolphins include the long-beaked common dolphin, short-beaked common dolphin, Risso’s dolphin, Fraser’s dolphin, Indo-Pacific humpback dolphin, Australian humpback dolphin, spotted dolphin, striped dolphin, rough-toothed dolphin, spinner dolphin (including dwarf and Gray’s spinner dolphins), Indo-Pacific bottlenose dolphin, common bottlenose dolphin, Irrawaddy dolphin, and Southern bottlenose dolphin. Finless porpoises are also present in Indonesian waters.<sup>39</sup> Over 20% of these cetaceans are considered threatened (at least locally) by the IUCN.<sup>40</sup> While many other marine mammals of Indonesia are considered to be of least concern status globally, almost half are locally data deficient, so may be at unknown risk.<sup>41</sup>

Table 2. Marine mammals in Indonesian waters assessed in the IUCN database.

Species Name	Abundance Estimate	Year of Estimate	IUCN Status
Irrawaddy Dolphin	77 (Mahakam River); 50 (Balikpapan Bay)	2016	Endangered
Sei Whale	Not Available	NA	Endangered
Blue Whale	Not Available	NA	Endangered

<sup>35</sup> Mentari Dwi Gayatri, “Minister Pudjiastuti Affirms Increase in Fishery Exports,” Antara News, October 23, 2018, <https://en.antaranews.com/news/119800/minister-pudjiastuti-affirms-increase-in-fishery-exports>.

<sup>36</sup> Undercurrent News, “Indonesian Firm Aims to Snatch More of US Breaded Shrimp Market From China,” Vietnam Chamber of Commerce and Industry WT Center News, January 16, 2019, <https://aecvcci.vn/tin-tuc-n4336/indonesian-firm-aims-to-snatch-more-of-us-breaded-shrimp-market-from-china.htm>.

<sup>37</sup> Gayatri, “Minister.”

<sup>38</sup> Hines et al., *Report*.

<sup>39</sup> Ministry of Marine Affairs and Fisheries Regulation No. PER.29/MEN/2012 on Guidelines, Preparation, Fishery Management Plan in Fishing Sector.

<sup>40</sup> Achmad Sahri, et al., “A Critical Review of Marine Mammal Governance and Protection in Indonesia,” *Marine Policy* 117 (July 2020), <https://doi.org/10.1016/j.marpol.2020.103893>.

<sup>41</sup> Hines et al., *Report*.

Indo-Pacific Humpback Dolphin	Not Available	NA	Vulnerable
Australian Humpback Dolphin	Not Available	NA	Vulnerable
Sperm Whale	Not Available	NA	Vulnerable
Dugong	Not Available	NA	Vulnerable; Endangered in Southeast Asia
Indo-Pacific Finless Porpoise	Not Available	NA	Vulnerable
Indo-Pacific Bottlenose Dolphin	Not Available	NA	Near-Threatened Globally
False Killer Whale	Not Available	NA	Near Threatened
Killer Whale	Not Available	NA	Data Deficient
Omura's Whale	Not Available	NA	Data Deficient
Striped Dolphin	Not Available	NA	Least Concern Globally
Fraser's Dolphin	Not Available	NA	Least Concern Globally
Risso's Dolphin	Not Available	NA	Least Concern Globally
Pantropical Spotted Dolphin	Not Available	NA	Least Concern Globally
Spinner Dolphin	4000 (Southern Sulu Sea and Malaysian waters)	1997	Least Concern Globally
Common Bottlenose Dolphin	Not Available	NA	Least Concern Globally
Rough-Toothed Dolphin	Not Available	NA	Least Concern Globally
Short-Beaked Common Dolphin	Not Available	NA	Least Concern Globally
Melon-Headed Whale	Not Available	NA	Least Concern Globally
Cuvier's Beaked Whale	Not Available	NA	Least Concern Globally
Short-Finned Pilot Whale	Not Available	NA	Least Concern Globally
Humpback Whale	97,000 (Southern Hemisphere)	2015	Least Concern Globally
Common Minke Whale	Not Available	NA	Least Concern Globally
Pygmy Sperm Whale	Not Available	NA	Least Concern Globally
Blainville's Beaked Whale	Not Available	NA	Least Concern Globally



Pygmy Killer Whale	Not Available	NA	Least Concern Globally <sup>β</sup>
Indo-Pacific Beaked Whale	Not Available	NA	Least Concern Globally
Byrde's Whale	13,854 (Southern Indian Ocean); 16,585 (Western South Pacific)	1980	Least Concern Globally
Dwarf Sperm Whale	Not Available	NA	Least Concern Globally

### A. Species of Most Concern

The most at-risk species in Indonesian waters is the freshwater and coastal Irrawaddy dolphin (*Orcaella brevirostris*, or *pesut*, locally). There are at least two different subpopulations of Irrawaddy dolphin: in the freshwater Mahakam River and in coastal Balikpapan Bay.<sup>42</sup> These critically endangered dolphins' primary threat is bycatch.<sup>43</sup> Irrawaddy dolphins are typically bycaught in swimming blue crab fisheries and other river/coastal gillnet fisheries.<sup>44</sup> This species is also impacted by other threats, primarily coastal and riverine development projects that create pollution and habitat degradation.<sup>45</sup>

Endangered sei and blue whales also inhabit Indonesian waters. Sei whales (*Balaenoptera borealis*) are endangered across the globe. Historically hunted, some of their populations are increasing now, but there is no evidence to suggest this is happening in the southern hemisphere, largely due to a lack of monitoring.<sup>46</sup> Though there have been sightings of sei whales in the last two decades, the latest IUCN assessment (2018) lists them as only potentially extant in Indonesia, with few confirmed sightings or encounters more recently.<sup>47</sup> Blue whales (*Balaenoptera musculus*) are also endangered globally, with evidence to suggest their numbers are increasing in some areas. However, abundance estimates are lacking for both the Indian Ocean and the Southwestern Pacific, though most blue whales in these areas are believed to be pygmy subpopulations, and most reports of blue whale sightings are from Eastern Indonesian waters.<sup>48</sup>

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<sup>β</sup> The IUCN notes that “even small takes” may cause declines in the local populations of this species because of their low abundance.

<sup>42</sup> *Ibid.*

<sup>43</sup> Tara Sayuri Whitty, “Governance Potential for Cetacean Bycatch Mitigation in Small-Scale Fisheries: A Comparative Assessment of Four Sites in Southeast Asia,” *Applied Geography* 59 (May 2015): 131-141, <https://doi.org/10.1016/j.apgeog.2015.01.003>.

<sup>44</sup> California Environmental Associates, *Trends*; Hines et al., *Report*.

<sup>45</sup> Hines et al., *Report*.

<sup>46</sup> Hines et al., *Report*; J. G. Cooke, “*Balaenoptera borealis*. The IUCN Red List of Threatened Species,” IUCN Red List, accessed June 25, 2021, <https://www.iucnredlist.org/species/2475/130482064>.

<sup>47</sup> Cooke, “*Balaenoptera borealis*.”

<sup>48</sup> J. G. Cooke, “*Balaenoptera musculus*. The IUCN Red List of Threatened Species,” IUCN Red List, accessed June 25, 2021, <https://www.iucnredlist.org/species/2477/156923585>; Hines et al., *Report*.

Globally, fin whales (*Balaenoptera physalus*) are vulnerable, with increasing population numbers allowing them to come back from a previous status of endangered. While fin whales are not currently confirmed to have a presence in Indonesia, sightings have been reported in the last two decades, and they are currently considered possibly extant in Indonesian waters.<sup>49</sup> Fin whales can become entangled in fishing gear.<sup>50</sup>

Sperm whales (*Physeter macrocephalus*) are also considered a vulnerable species on a global scale, though their IUCN assessment is more outdated. Previous risks to sperm whales primarily came from whaling operations, but they are now largely threatened by bycatch, via entanglement and depredation.<sup>51</sup> In Indonesian waters, sperm whales were the most frequently stranded cetacean species from 1987 to 2013, and they may still be captured in small numbers for traditional/indigenous hunting purposes.<sup>52</sup>

The Indo-Pacific finless porpoise (*Neophocaena phocaenoides*) is vulnerable, with risks stemming primarily from entanglement in fishing gear and other interactions with fisheries.<sup>53</sup>

Finally, dugongs (*Dugong dugon*) are considered vulnerable on a global scale and endangered in Southeast Asia. The number of subpopulations in the Indo-Malay region remain unclear due to a lack of data.<sup>54</sup> Rare and depleted in their historic range, they are known to face risks from bycatch and are one of the primary species of concern in Indonesian regulations and research.<sup>55</sup>

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<sup>49</sup> Hines et al., *Report*; J. G. Cooke, “*Balaenoptera physalus*. The IUCN Red List of Threatened Species,” IUCN Red List, accessed June 25, 2021, <https://www.iucnredlist.org/species/2478/50349982>.

<sup>50</sup> Cooke, “*Balaenoptera physalus*.”

<sup>51</sup> B. L. Taylor et al., “*Physeter macrocephalus*. The IUCN Red List of Threatened Species,” IUCN Red List, accessed June 25, 2021, <https://www.iucnredlist.org/species/41755/160983555>.

<sup>52</sup> Hines et al., *Report*.

<sup>53</sup> J. Y. Wang and R. Reeves, “*Neophocaena phocaenoides*. The IUCN Red List of Threatened Species,” IUCN Red List, accessed June 25, 2021, <https://www.iucnredlist.org/species/198920/50386795>.

<sup>54</sup> H. Marsh and S. Sobtzick, “*Dugong dugon*. The IUCN Red List of Threatened Species,” IUCN Red List, accessed June 25, 2021, <https://www.iucnredlist.org/species/6909/160756767>.

<sup>55</sup> Hines et al., *Report*; Ministry of Marine Affairs and Fisheries of the Republic of Indonesia Decision Number 79/KEPMEN-KP/2018 About the National Action Plan for the Conservation of Marine Mammals Year 2018-2022; Sahri et al., “A Critical.”



Figure 3. Map of dugong distribution in Indonesia and occurrences of bycaught or stranded individuals.<sup>56</sup>

#### IV. Bycatch in Indonesia’s Export Fisheries

There is a lack of bycatch data and bycatch mitigation efforts in Indonesia, especially in smaller-scale fisheries.<sup>57</sup> Some bycatch reporting occurs due to requirements in various agreements and organizations (*e.g.*, RFMO reporting), and some onboard observer programs exist.<sup>58</sup> However, a cohesive database for bycatch data does not exist, and reports of bycatch made to external organizations are largely inaccessible. As a result, available data consist of scattered reports of a handful of species being caught in various fishing gears.

Fishery bycatch in Indonesia “has probably caused significant reductions in abundance, especially for small cetaceans” but bycatch remains largely unquantified.<sup>59</sup> The limited available data suggest that several species of marine mammals are bycaught in Indonesian fisheries, including the Endangered Irrawaddy dolphin and Vulnerable sperm whale, finless porpoise, and Indo-Pacific humpback dolphin. Bycatch may have “potentially high impact on the population level of pygmy blue whales,” particularly in inter-island migration corridors in east Indonesia.<sup>60</sup>

<sup>56</sup> Directorate General of Conservation on Natural Resources and Ecosystem, “The Sixth National Report of Indonesia to the Convention on Biological Diversity,” (2019): 1-334.

<sup>57</sup> Whitty, “Governance.”

<sup>58</sup> WWF Coral Triangle, *Bycatch*, WWF, accessed July 5, 2021, [https://d2ouvy59p0dg6k.cloudfront.net/downloads/bycatch\\_brochure\\_final.pdf](https://d2ouvy59p0dg6k.cloudfront.net/downloads/bycatch_brochure_final.pdf).

<sup>59</sup> Krebs, D., Mustika, P. L., Kahn, B., Yanuar, A. & Muhajir 2013, National Reviews of Status, Research, Catch, Bycatch, Conservation and Legislation of Marine Mammals in Indonesia: A country report to the 3rd Southeast Asian Marine Mammal Symposium 3rd Southeast Asian Marine Mammal Symposium Langkawi.

<sup>60</sup> Krebs et al. 2013 National Reviews.

Other confirmed species bycaught include bottlenose dolphins, pilot whales, killer whales, and spinner dolphins.<sup>61</sup> There are likely other species bycaught in Indonesian waters, but data are very limited. A 2014 study in which interviewers asked artisanal fishers in Indonesia about bycatch indicated an average of 1.2 to 2.6 cetaceans caught per interviewee over their fishing career.<sup>62</sup> Almost all fishers in East Nusa Tenggara reported seeing dolphins around their nets. Fishers indicated that bycaught cetaceans are either released (majority of fishers), kept by the fishers themselves, or given to someone else.<sup>63</sup> In this study, finless porpoise bycatch was occurring in West Kalimantan. Given their vulnerable status, mortality from fisheries interactions must be reduced.<sup>64</sup>

Evidence of strandings of marine mammals in Indonesian water has also been documented. Whale Stranding Indonesia is a recently-started online database of all recorded cetacean strandings in Indonesian areas, but it does not include any examination details or predicted causes of death for stranded mammals.<sup>65</sup> From this site and stranding research studies, it is clear that strandings in Indonesia most often result in death, with much fewer live releases/rescues.<sup>66</sup> Though strandings can be caused by several stressors – ship strikes, sonar use, energy exploration – interactions with fishing gear can also be a significant cause of these events, and further studies are needed on the potential link between fishery interactions and marine mammal strandings in Indonesia.

### **A. Bycatch and Indonesia's Tuna Fisheries**

Bycatch of marine mammals is known to occur in Indonesia's tuna fisheries. As mentioned previously, most tuna fisheries currently operate using purse seines or gillnets, two gear types that are known for high bycatch risk.<sup>67</sup> Bycatch is known to occur in handlines and mini purse seines in Indonesian tuna fisheries, with handlines associated with FADs producing the highest number of bycatch incidences.<sup>68</sup> In the mid-2000s, Indonesian tuna fisheries operators noted their gear's bycatch issues and requested help in finding solutions.<sup>69</sup>

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<sup>61</sup> *Ibid.*; I. M. Zainudin et al., "Bycatch of Sharks, Marine Mammals, and Seabirds in Indonesian Tuna Longline Fishery," *Biodiversitas* 18 no. 3 (2017): 1179-1189, <https://doi.org/10.13057/biodiv/d180341>; Mustika et al., *A Pilot*; Mustika, Putu Liza Kusuma, Elena Wonneberger, Karim Erzini, and Nuralim Pasingi. "Marine megafauna bycatch in artisanal fisheries in Gorontalo, northern Sulawesi (Indonesia): An assessment based on fisher interviews." *Ocean & Coastal Management* 208 (2021): 105606.

<sup>62</sup> Mustika et al., *A Pilot*.

<sup>63</sup> Mustika et al., *A Pilot*.

<sup>64</sup> Hines et al., *Report*.

<sup>65</sup> "Whale Stranding Indonesia," accessed July 10, 2021, [www.whalestrandingindonesia.com](http://www.whalestrandingindonesia.com).

<sup>66</sup> Hines et al., *Report*.

<sup>67</sup> Reeves, Randall R., Kate McClellan, and Timothy B. Werner. "Marine mammal bycatch in gillnet and other entangling net fisheries, 1990 to 2011." *Endangered Species Research* 20, no. 1 (2013): 71-97.; NOAA Fisheries. "Fishing Gear: Purse Seines." February 12, 2019, <https://www.fisheries.noaa.gov/national/bycatch/fishing-gear-purse-seines#risks-to-marine-mammals>

<sup>68</sup> L. P. Soede et al., "Marine Mammals Interactions with Tuna Fishing Activities in Indonesian Seas," *IOP Conference Series: Earth and Environmental Science* 399 (2019), <https://doi.org/10.1088/1755-1315/399/1/012128>.

<sup>69</sup> Hines et al., *Report*.

Anderson et al. (2020) modeled cetacean bycatch and estimated Indonesia's bycatch in its Indian Ocean tuna gillnet fishery to be around 8,000 – 10,000 cetaceans each year from 2012 to 2016.<sup>70</sup> Another study using bycatch data from 1950 to 2018 found that nine nations were responsible for 96% of cetacean gillnet bycatch in the Indian Ocean, and that Indonesia was the second-largest contributor to this bycatch.<sup>71</sup>

A 2019 study used interviews with Indonesian tuna fishers to gain a better understanding of bycatch.<sup>72</sup> In the interviews, fishers reported following dolphins to schooling fish to be caught in FADs and that dolphin species made up the majority of bycaught individuals.<sup>73</sup> The highest rate of bycatch was reported at the North Sulawesi site with 20.6% of respondents reporting bycatch and purse seines having the most frequent number of incidents.<sup>74</sup> Bycatch in handline tuna fisheries was reported in Seram, East Kalimantan, and Biak.<sup>75</sup> There was no bycatch reported in Morotai and Ternate where there is local wisdom that whales and dolphins should not be caught.<sup>76</sup>

Observer data from World Wildlife Fund (WWF) also show bycatch in Indonesian tuna fisheries. From 2006 to 2014, a total of 18 dolphins and eight whales (primarily pilot whales) were entangled and hooked in longline tuna fisheries across 71 vessels.<sup>77</sup> Bycatch of whales and dolphins was reduced when gears were set deeper. A more recent 2019 review of Indonesian fisheries notes that the use of longlines in industrial tuna vessels can result in “significant bycatch.”<sup>78</sup>

Despite known bycatch and the use of gears that pose a high risk for bycatch, in its 2021 compliance report to the Indian Ocean Tuna Commission (IOTC), Indonesia reported no cetacean interactions in its tuna vessels operating in the IOTC Area of Competence.<sup>79</sup> In its 2020 national report to the IOTC, Indonesia reported no marine mammals being incidentally caught in these fisheries from 2014 through 2019.<sup>80</sup> This report also noted that Indonesia had no gillnet vessels registered with the IOTC in 2020<sup>81</sup> and discussed movement from gillnets to handlines amongst some tuna fishers.<sup>82</sup>

## **B. Bycatch and Indonesia's Blue Crab Fisheries**

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<sup>70</sup> Anderson et al., “*Cetacean*.”

<sup>71</sup> *Ibid.*

<sup>72</sup> L. P. Soede et al., “*Marine Mammals*.”

<sup>73</sup> *Ibid.*

<sup>74</sup> *Ibid.*

<sup>75</sup> *Ibid.*

<sup>76</sup> *Ibid.*

<sup>77</sup> I. M. Zainudin et al., “Bycatch of Sharks, Marine Mammals, and Seabirds in Indonesian Tuna Longline Fishery,” *Biodiversitas* 18 no. 3 (2017): 1179-1189, <https://doi.org/10.13057/biodiv/d180341>.

<sup>78</sup> California Environmental Associates, *Trends*.

<sup>79</sup> Government of Indonesia, *IOTC Compliance Report for Indonesia*, April 30, 2021, IOTC-2021-CoC18-CR09.

<sup>80</sup> Zulkarnain Fahmi et al., *Indonesia Report to the Scientific Committee of the Indian Ocean Tuna Commission 2020*, 2020, IOTC-2020-SC23-NR07.

<sup>81</sup> Vessels must be registered with the IOTC only when they are i) greater than 24m in length or ii) operating beyond just the Exclusive Economic Zone (and within the IOTC Area of Competence) of their flag state.

<sup>82</sup> Fahmi et al., *Indonesia*.

Indonesia's blue crab fisheries use gillnets, traps, and trawls, with catches bringing in \$321 million in exports in 2016.<sup>83</sup> All of these gear types for this industry have been listed on Seafood Watch's red list, as they present risks of bycatch, lack bycatch data to prove risks are being minimized, and are poorly managed by officials.<sup>84</sup> Irrawaddy dolphins are bycaught in blue crab gear in Indonesia.<sup>85</sup> The most recent Seafood Watch assessment of blue swimming crab fisheries in bottom gillnets and pots in Indonesia continues to maintain a red listing for these fisheries, noting concern for potential bycatch of dugongs and marine mammals; management continues to be rated "ineffective".<sup>86</sup>

### C. Bycatch and Indonesia's Other Gillnet Fisheries

Indonesia's gillnet fisheries, which target a variety of species, likely also have high rates of marine mammal bycatch. A study that investigated strandings data from Indonesia from 1995 to 2012 indicated gillnets were responsible for 66% of known mortality cases for examined stranded cetaceans.<sup>87</sup> Based on fisher interviews, another study found that in the province of Gorontalo in northern Sulawesi, fishers bycaught a mean of 0.36 cetaceans per year in fisheries using primarily hook and line and gillnets.<sup>88</sup> Fishers believed that the majority of animals bycaught were bottlenose dolphins. Vulnerable dugongs are particularly at risk of becoming entangled and trapped in gillnets, along with other drifting net gears in Indonesia.<sup>89</sup>

### D. FADs

Many Indonesian fisheries use fish aggregating devices, or FADs, which have been shown to increase bycatch rates.<sup>90</sup> The Directorate General of Capture Fisheries (DGCF) in Indonesia indicated 3,858 official FADs in use in Indonesian waters, but researchers have estimated that 5,000 to 10,000 FADs is a more realistic estimate.<sup>91</sup> While most other tuna fishery nations use free school FADs, which drift in the water, Indonesian vessels use anchored FADs (aFADs, locally called *rumpons*).<sup>92</sup> Anchored FADs lack entangling netting that floating FADs have but they have ropes that attach to their anchors which pose a significant risk of entangling

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<sup>83</sup> California Environmental Associates, *Trends*.

<sup>84</sup> *Ibid.* and Seafood Watch, *Blue Swimming Crab 2023*.

<sup>85</sup> California Environmental Associates, *Trends*.

<sup>86</sup> Seafood Watch, *Blue Swimming Crab 2023*.

<sup>87</sup> Mustika, P. L. K., Purnomo, F. S., & Northridge, S. (2014). A pilot study to identify the extent of small cetacean bycatch in Indonesia using fisher interview and stranding data as proxies. *Denpasar: Updated Report to the International Whaling Commission*; Krebs, D., Mustika, P. L., Kahn, B., Yanuar, A. & Muhajir 2013, National Reviews of Status, Research, Catch, By-catch, Conservation and Legislation of Marine Mammals in Indonesia: A country report to the 3rd Southeast Asian Marine Mammal Symposium 3rd Southeast Asian Marine Mammal Symposium Langkawi.

<sup>88</sup> Mustika et al., *A Pilot*.

<sup>89</sup> Hines et al., *Report*.

<sup>90</sup> Alain Fonteneau et al., "Global Spatio-temporal Patterns in Tropical Tuna Purse Seine Fisheries on Drifting Fish Aggregating Devices (DFADS): Taking a Historical Perspective to Inform Current Challenges," *Aquatic Living Resources* 26 no. 1 (2013): 37-48, <https://doi.org/10.1051/alr/2013046>.

<sup>91</sup> Proctor, C., Mahiswara NM, A. A. Widodo, A. A. Utama, Satria F. Wudianto, I. T. Hargiyatno, I. G. B. Sedana et al. "A characterisation of FAD-based tuna fisheries in Indonesian waters." Final Report as Output of ACIAR Project FIS/2009 59 (2019).

<sup>92</sup> Murua et al., *Characterizing*.



marine mammals. NOAA describes aFADs as a higher bycatch risk than floating FADs.<sup>93</sup> Anchored FAD use has increased regionally in Southeast Asia in the past few decades, alongside purse seine use, and Indonesia is one of the top two aFAD users in the region.<sup>94</sup> As discussed below, Indonesia has had issues with regulating the use of the devices, though a formal process for improving management of the country's tuna FADs began in 2017.<sup>95</sup>

## V. Indonesia's Policies on Bycatch and Marine Mammal Protection

Within Indonesia, fisheries are managed at multiple levels of government. At the national level, the Ministry of Marine Affairs and Fisheries (MMAF) is the primary agency in charge of setting and enforcing regulations that govern fisheries.<sup>96</sup> Within MMAF, the Fisheries Minister heads the agency and oversees the passing of regulations and major decision making. In its enforcement efforts, MMAF works with the Indonesian Navy within EEZ waters and Indonesian Police within the country's territorial sea and archipelagic waters. In addition to national regulations, there are community-based traditional resource management systems in Indonesia that manage marine resources based on cultural law.<sup>97</sup> In this section, we limit our discussion to national regulations. However, we encourage NMFS to further examine whether regional fisheries' management systems influence fisheries that export to the United States.

According to reports, management of fishing vessel licensing generally depends on the size of the vessel. MMAF manages licenses for vessels weighing over 30 gross tons (GT). Medium-sized vessels (20-30 GT) are licensed by provincial governments, while smaller vessels (5-20 GT) are licensed by more localized regency governments.<sup>98</sup> Indonesia is composed of 33 provinces, each containing several regencies, creating many different offices in which fisheries responsibilities sit.<sup>99</sup> The decentralized nature of Indonesia's fisheries management makes it challenging to review regulations and retrieve fishery data for smaller (<30 GT) vessels.<sup>100</sup> While fishing licenses are managed by different levels of government, it is thought that reported numbers underestimate actual fishing levels.<sup>101</sup>

Indonesia has policies in place that impact marine mammal conservation. However, much of Indonesia's bycatch legislation and data has historically focused much more on sharks and sea turtles than marine mammals.<sup>102</sup> Additionally, Indonesian policies historically have focused more

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<sup>93</sup> Tranggono, Al Azhiim, and Amalia Diamantina. "Duties and Authority of Fisheries in the State Fisheries Management Region of the Republic of Indonesia." (2021).; NOAA Fisheries, "Fishing Gear: Fish Aggregating Devices," NOAA, accessed July 22 2021, <https://www.fisheries.noaa.gov/national/bycatch/fishing-gear-fish-aggregating-devices>.

<sup>94</sup> Lansdell et al., "Project."

<sup>95</sup> Murua et al., *Characterizing*.; Lansdell et al., "Project."

<sup>96</sup> Food and Agriculture Organization of the United Nations, "Fishery."

<sup>97</sup> Duggan, Deirdre E., and Momo Kochen. "Small in scale but big in potential: Opportunities and challenges for fisheries certification of Indonesian small-scale tuna fisheries." *Marine Policy* 67 (2016): 30-39.

<sup>98</sup> Food and Agriculture Organization of the United Nations, "Fishery."

<sup>99</sup> Food and Agriculture Organization of the United Nations, "Fishery."

<sup>100</sup> Ariansyach, "Fisheries."

<sup>101</sup> California Environmental Associates, *Trends*.

<sup>102</sup> Gabriela Anhalzer, Alexander Morison, and Abdul Halim, *The North Buru and Maluku Associations, Indonesian Handline Yellowfin Tuna Fishery Public Certification Report Prepared for Anova Food, LLC V 2.0*, November 2018, SCS Global Services Report.

on mammal habitat protection than on direct mammal protections.<sup>103</sup> Indonesia has designated numerous Marine Protected Area (“MPA”), committing in 2009 to designate 20 million hectares of MPAs by 2020.<sup>104</sup> Two parks were specifically dedicated to marine mammals: Buleleng and Savu Sea. Authors have noted the Savu Sea Aquatic National Park has regulations addressing fishing practices, though we were unable to locate this regulation.<sup>105</sup> While MPAs may benefit marine conservation depending on the applicable management directives, the designation or existence of an MPA alone is not a bycatch regulation or bycatch mitigation. We urge NMFS to ensure Indonesia demonstrates both the regulatory requirements and enforcement of those requirements within any MPAs used to show compliance with the MMPA Imports Rule.

## **A. National Laws and Regulations**

### **1. Laws No. 31/2004 and 45/2009 Concerning Fishery**

Indonesian Law 31/2004, as amended by Law 45/2009, provides the legal basis for fishery regulation. Under the law, every person operating a fishing boat within Indonesian waters or high seas under an Indonesian flag must obtain a fishing license, except “small fishers,” which are fishers “whose livelihood is fishing in order fulfill his/her daily needs” by using a vessel with less than 5 GT capacity.<sup>106</sup> The law appears to require each fishing vessel to be assigned an identification, stating the “fish catching area” and gear.<sup>107</sup> Under the law, the Minister is directed to “determine” the permitted quantity of fish to be caught based on the advice of a national commission, gear type, fishing areas, seasons, monitoring, and “protected fish.”<sup>108</sup> The law states that “efforts to conserve the ecosystem . . . shall be implemented,”<sup>109</sup> but no details are provided. The law further directs the government to “develop [a] fishery information system and statistics” regarding “facilities, . . . production, handling” of fish, though no further details are provided.<sup>110</sup> The law does not address marine mammal bycatch.

### **2. MMAF Regulation No. 12/2012 on Open seas fisheries**

MMAF Regulation No. 12/2012 on Open seas fisheries requires Indonesian flagged vessels over 30 GT fishing on the high seas to obtain fishing licenses and permits, which include gear specifications and target species.<sup>111</sup> The regulation appears to contain bycatch provisions applicable only to tuna. It dictates that, for marine mammals, any bycatch “must be released alive.” If marine mammals are caught dead, the captain is required to obtain a certificate from the head of the base port to report it to the Director General. The head of the port must also report

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<sup>103</sup> Sahri et al., “A Critical.”

<sup>104</sup> *Ibid.*

<sup>105</sup> Sahri et al., “A Critical,” citing MMAF Decree No. 6/2014 on Management planning and zoning of Savu Sea Aquatic National Park and adjacent waters.

<sup>106</sup> Law No. 45/2009, Amendment to Law No. 31-2004 on Fisheries; Law No. 31/2004 Concerning Fishery, Art. 27.

<sup>107</sup> *Id.*, Art. 37.

<sup>108</sup> *Id.*, Art. 7(1).

<sup>109</sup> *Id.* Art. 13.

<sup>110</sup> *Id.*, Art. 46.

<sup>111</sup> Ministry of Marine Affairs and Fisheries of the Republic of Indonesia Regulation Number PER.30/MEN/2012 About Fisheries Business Capture on the High Seas,” 2012, at Art. 4, 8, <https://jdih.kkp.go.id/peraturan/per-12-men-2012-ttg-usaha-perikanan-tangkap-di-laut-lepas.pdf>.

monthly to the Director General on bycatch.<sup>112</sup> Moreover, a vessel that captures marine mammals must also take “conservation action,” however, what action must be taken is unclear.<sup>113</sup>

### **3. MMAF Regulation No. 30/2012 on Capture fisheries in fishing territory of Indonesia**

MMAF Regulation 30/2012 on Capture fisheries in fishing territory of Indonesia requires all fishing businesses (those based on fishing activities) within Indonesian waters to obtain fishing licenses and permits, which include gear specifications, target species, and certification of installation of a “transmitter vessel monitoring system.” The regulation provides no details on that system. However, the permit requirement does not appear to apply to “small fishermen,” defined as those using boats smaller than 5 gross tons,<sup>114</sup> as small fishermen must only obtain a Proof of Vessel Registration, which only requires specification of gear.<sup>115</sup>

Under the regulation, the “estimated potential and allowable catch” of fish is set by ministerial decree, and the number of permits granted must “take into account” those limits.<sup>116</sup> The regulations also states that “[f]or every fishing trip, the skipper is obligated to fill in the fishing log book” and submit it through the head of fishing at the vessel’s base port.<sup>117</sup> The regulation further references an “integrated information system between licensing and monitoring of fishing vessels, fishing log books, and registration of vessels” operating in Indonesian waters.<sup>118</sup> Further, any person who operates a boat within Indonesian waters “must be registered and included in the fishing boat book,” however, the regulation provides no details of what must be documented in the registration.<sup>119</sup>

The regulation contains some marine mammal bycatch measures. For tuna fisheries, the regulation requires live release of marine mammals and that bycatch be “recorded” and reported to the Director General through the head of the vessels base port.<sup>120</sup> However, it is unclear if this requirement only applies to RFMO-regulated tuna fisheries or all tuna fisheries. The regulation also references conservation measures for shrimp trawl and fish trawl fisheries, but they do not pertain to marine mammal bycatch. Areas may be closed to fishing by ministerial decree, but the regulation does not specify when or why any closures must occur.<sup>121</sup> The regulation’s bycatch requirements were amended in 2013 but we could not identify a substantive change related to

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<sup>112</sup> *Id.* at Art. 52.

<sup>113</sup> Ministry of Marine Affairs and Fisheries of the Republic of Indonesia Regulation Number PER.30/MEN/2012 About Fisheries Business Capture on the High Seas,” 2012, at Art. 39. <https://jdih.kkp.go.id/peraturan/per-12-men-2012-ttg-usaha-perikanan-tangkap-di-laut-lepas.pdf>.

<sup>114</sup> Ministry of Marine Affairs and Fisheries, “Minister of Marine Affairs and Fisheries of the Republic of Indonesia Regulation Number PER.30/MEN/2012 About Capture Fisheries Business in Fisheries Management Areas,” 2012, at Art. 11, 12, 19. <https://jdih.kkp.go.id/peraturan/per-30-men-2012.pdf>.

<sup>115</sup> *Id.* at Art. 12.

<sup>116</sup> *Id.* at Art. 15.

<sup>117</sup> *Id.* at Art. 80.

<sup>118</sup> *Id.* at Art. 77.

<sup>119</sup> *Id.* at Art. 85.

<sup>120</sup> *Id.* at Art. 73.

<sup>121</sup> *Id.* at Art. 75.

marine mammals.<sup>122</sup> In sum, the only bycatch measures we could identify are for tuna fisheries, and they only require reporting and live release of marine mammals.

Indonesian national waters have been subdivided into 11 fisheries management areas, each overseen by a fisheries management council.<sup>123</sup> The councils must develop and implement a fisheries management plan the management area. We were unable to obtain any fisheries management plans to review, and we urge NMFS to request any such plans and any regulatory requirements requiring compliance with any measures therein.

#### **4. MMAF Regulation No. 48/2014 Concerning Fishing Logbooks**

MMAF Regulation No. 48/2014 establishes Indonesia's logbook system for Indonesian vessels larger than 5 GT operating within Indonesian waters and all Indonesian vessels operating on the high seas.<sup>124</sup> It states that “[e]very fishing vessel having SIPI and conducting fishing operations must be equipped with a fishing log book” to be filled out “objectively” by the skipper.<sup>125</sup> Log book information must include: vessel, gear, operation, and catch data.<sup>126</sup> Log books are to be inspected upon landing and entered into the data system. While the regulation does not specify that bycatch must be recorded in the log book, the actual log book form provides a place to record that information.<sup>127</sup> Captains are required to submit the logbook to the harbormaster or fishing logbook officer before landing caught fish. However, the regulation does not address “small fishermen” or vessels smaller than 5 GT.

#### **5. MMAF Regulation No. 1/2013 Instrument for Monitoring Fish Catching Boats and Fish Transporting Boats**

MMAF Regulation No. 1/2013 outlines Indonesia's Regional Observer Scheme (ROS). This regulation only applies to fishing vessels weighing over 30 GT and fish transporting vessels, whether operating in Indonesian waters or on the high seas. The regulation dictates the training and education requirements for those who monitor vessels. It further mandates what data must be recorded by observers,<sup>128</sup> including fishing gear, “result” (presumably volume), catch location, and time. It further requires observers to record “the result of fish by-catch (bycatch) ... ecology related to (ecologically related species) of tuna fish, shrimp dragnet, and fish dragnet.” This may mean observers must record bycatch in tuna fisheries, shrimp net fisheries, and

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<sup>122</sup> Regulation of the Minister of Marine and Fisheries of the R.I. No. 26/PERMEN-KP/2013 amending Per.30/Men/2012 on the Capture Fisheries Business in the National Management Area, at Art. 73. <https://faolex.fao.org/docs/pdf/ins193386.pdf>.

<sup>123</sup> Ministry of Marine Affairs and Fisheries (MMAF), Republic of Indonesia and USAID Sustainable Ecosystems Advanced (SEA) Project (2018). State of the Sea: Indonesia, Volume One: An Overview of Marine Resource Management for Small-Scale Fisheries and Critical Marine Habitats in Indonesia. Jakarta, pp. 156. Available at: [https://pdf.usaid.gov/pdf\\_docs/PA00XBT2.pdf](https://pdf.usaid.gov/pdf_docs/PA00XBT2.pdf).

<sup>124</sup> Ministry of Marine Affairs and Fisheries of the Republic of Indonesia No. 48/PERMEN-KP/2014 Concerning Fishing Log Books, 2014, Art. 2, <https://www.fao.org/faolex/results/details/fr/c/LEX-FAOC192249>.

<sup>125</sup> *Id.* Art. 5

<sup>126</sup> *Id.* Art. 4.

<sup>127</sup> *Id.* at Annex 1.

<sup>128</sup> Ministry of Marine Affairs and Fisheries, “Instrument for Monitoring Fish Catching Boat and Fish Transporting Boat (Regulation of the Minister of Marine and Fishery of R.I. Number 1/PERMEN-KP/2013, dated February 20, 2013),” 2013, <http://extwprlegs1.fao.org/docs/pdf/ins128775.pdf>.

potentially net fisheries targeting other fish species, but it is unclear. The regulation appears to authorize the Director General to require observation (1) on high seas boats using purse seine and longlines and (2) boats operating within Indonesian waters using a variety of gear. The translation of the regulation we obtained is poor, but the gear listed appear to be hook and line, gillnet, and possibly purse seine. The regulation does not specify percentages of required observers.

## **6. Government Regulation No. 7/1999 on Preserving Flora and Fauna Species and Regulation No. 8/1999 on Wild Flora and Fauna Exploitation**

Under Indonesia's Law Concerning Conservation of the Living Natural Resources and Its Ecosystem (No. 5/1990), animals may be listed as "protected." The law then prohibits the catching, killing, transporting, and trade of any protected species.<sup>129</sup> Under Government Regulation No. 7/1999 on Preserving Flora and Fauna Species, Indonesian authorities have listed numerous species as "protected,"<sup>130</sup> including all "Cetacea" ("all species from the Cetacean family"), Dolphinadae ("all species from the Delphinidae family"), and *Dugong dugong* as protected.<sup>131</sup> However, neither Regulation 7 nor Regulation No. 8/1999 on Wild Flora and Fauna Exploitation, which regulates wildlife management in Indonesia,<sup>132</sup> directly addresses bycatch or unintentional take of protected species. Accordingly, while Indonesia appears to prohibit the intentional killing of marine mammals during fishing, it is unclear and unlikely that the law prohibits incidental bycatch.<sup>133</sup> We urge NMFS to clarify this point with Indonesia when reviewing its application.

## **7. MMAF Decree No.79/2018 on a National Action Plan for marine mammal conservation for the period of 2018–2022**

MMAF Decree No. 79/2018 requires the preparation of a National Action Plan for dugongs and cetaceans including "all types of whales and . . . marine dolphins" covering 2018 through 2022.<sup>134</sup> The Plan must include a strategy, activities, indicators, outputs, timeframe, and agency and person in charge. The Director General of Marine Mammal Conservation and a designated working group oversee implementation and must evaluate and submit reports on the Plan every six months.

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<sup>129</sup> Law of the Republic of Indonesia, No. 5/1990 Concerning Conservation of the Living Natural Resources and Its Ecosystem, at Art. 21(2), available at:

<http://www.flevin.com/id/lgsso/translations/JICA%20Mirror/english/4.05.1990.eng.qc.html>

<sup>130</sup> Regulation No. 7/1999 on Preserving Flora and Fauna Species, Art. 4,

[http://www.flevin.com/id/lgsso/translations/JICA%20Mirror/english/27.PP\\_NUMBER%207%20OF%201999.eng.html](http://www.flevin.com/id/lgsso/translations/JICA%20Mirror/english/27.PP_NUMBER%207%20OF%201999.eng.html).

<sup>131</sup> Attachment Regulation of the Government of the Republic of Indonesia No. 7 of 1999 (Jan. 27, 1999, [https://sherloc.unodc.org/cld/uploads/res/document/idn/1999/list-of-protected-plants-and-animals\\_html/Indonesia\\_list.pdf](https://sherloc.unodc.org/cld/uploads/res/document/idn/1999/list-of-protected-plants-and-animals_html/Indonesia_list.pdf))

<sup>132</sup> Regulation 8/1999 on Wild Flora and Fauna Exploitation,

[https://sherloc.unodc.org/cld/uploads/res/document/regulation-8-of-1999\\_html/Regulation\\_8\\_of\\_1999.pdf](https://sherloc.unodc.org/cld/uploads/res/document/regulation-8-of-1999_html/Regulation_8_of_1999.pdf)

<sup>133</sup> Lusi Apriyani, Fahmi Yoesmar, and Marta Erwandhi. Comparison of Wildlife Protection Law between Indonesia and the United States Hasanuddin Law Review. Volume 4 Issue 2, August 2018. Available at:

<sup>134</sup> *Ibid.*

The National Action Plans for dugongs and cetaceans appear to be attached as Appendices to the Decree. The Cetacea Conservation National Action Plan establishes a goal of increasing research on cetaceans. Activities for that goal include compiling guidelines for population monitoring – though the Plan does not direct that actual monitoring must occur. The Plan further identifies “reduction of cetacean mortality due to bycatch” as a strategy and identifies activities including developing “baseline data” on bycatch, organizing bycatch data workshops, and studying gear that causes bycatch.<sup>135</sup> While the plan lays out important goals, it does not require marine mammal surveys, bycatch monitoring, or bycatch mitigation measures. It is also unclear what progress has been made as progress reports were not available on the MMAF website.

## **8. MMAF Regulation No. 26/2014 and No. 18/2021 About FADs**

According to authors, MMAF Regulation No. 26/2014 About FADs defines FADs as either drifting or anchored; however, we were unable to access this regulation.<sup>136</sup> It apparently requires aFADs to have a surface floating buoy, identification plate, and radar reflector, and all FAD attractors to be composed of non-entangling, biodegradable, natural materials. FAD anchors are required to be heavy enough to maintain the FAD in position.<sup>137</sup> The regulation also requires every vessel operating on a FAD to have a permit. When applying for a permit, fishers must include the coordinates proposed for installation, the proposed frequency of use, the desired type and number of fish to be caught.<sup>138</sup> Drawings of the proposed FAD materials and design should also be included, and the FADs should be installed in a way to “avoid the capture of unwanted species.” Once installed, FADs are to be monitored by officers and observers and are to include regular written reporting to the Director General. Each vessel is allowed to install up to three FADs.<sup>139</sup> Once installed, permit holders must submit a report with details of the installation within 14 days, either to the Director General or through reporting officers monitoring the installation. Additionally, FADs can be banned for a period of time and/or fishing area to protect fish resources and the environment, or to meet international requirements.<sup>140</sup> The 2014 FAD regulation was amended in 2021 under Regulation No. 18/2021.<sup>141</sup> Among apparently additional requirements, FADs must be placed at least 10 nm apart and may not be placed “in the migration path of marine biota,” which are defined as “cetacean migration pathways.”<sup>142</sup> However, the regulation does not delineate or identify those pathways.

## **9. Agreements and Organizations**

In addition to its national policies, Indonesia is party to several multilateral agreements and organizations. The country is involved in four RFMOs: IOTC, IATTC, CCSBT, and Western and Central Pacific Fisheries Commission (WCPFC), each of which focus on highly

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<sup>135</sup> 79/KEPMEN-KP/2018.

<sup>136</sup> Lansdell et al., “*Project*.”

<sup>137</sup> *Ibid.*

<sup>138</sup> *Ibid.*

<sup>139</sup> *Ibid.*

<sup>140</sup> *Ibid.*

<sup>141</sup> Regulation No. 18/2021 on Placement of Fishing Tools and Auxiliary Equipment in State Fishing Management Areas.

<sup>142</sup> *Id.* Art. 15, 16.



migratory species (HMS), primarily tuna species. Of these, the United States is a member of the IATTC and WCPFC. Indonesia, while a full member of WCPFC, is only a cooperating non-member of the IATTC. Within the IATTC, marine mammal resolutions lie under the Agreement on the International Dolphin Conservation Program (AIDCP). The United States is a party of AIDCP, which is focused on a zero-mortality goal for tuna purse seines, but Indonesia is not. The WCPFC recently rated Indonesia's compliance with its tuna management requirements as good.<sup>143</sup>

In its LOFF, NMFS categorizes Indonesia's purse seine fisheries operating within WCPFC and IOTC waters as exempt, noting the "compliance with conservation and management measures" that these RFMOs have surrounding intentional setting of seines on marine mammals.<sup>144</sup> The Marine Stewardship Council (MSC) states that Indonesian purse seines operating under WCPFC governance had 100% observer coverage in 2010 and longlines had a minimum of 5% observer coverage in place since 2012.<sup>145</sup> However, the United States is not a member of the IOTC. Both RFMOs have prohibited intentional setting of purse seines on mammals, which does lower the risk of mammal mortality, but there is some skepticism about if these efforts have done enough to adequately curb unintentional catches. Accidental encirclements or entanglements of cetaceans can still occur in purse seines that are not intentionally set on them. The IOTC itself has admitted that bycatch quantification within high seas areas aside from the Eastern Tropical Pacific (ETP) is lacking.<sup>146</sup>

## **B. Recent Changes in Indonesia's Fisheries Regulations**

Indonesia's fisheries management policies and conservation efforts have varied greatly over the past decade depending on which MMAF minister was in place. The following describes some of the changes that have taken place and highlights the importance of continuing to evaluate imports from Indonesia's fisheries given the rapidly evolving nature of fisheries regulations in the country. We encourage NMFS to closely examine current regulations and enforcement efforts, as well as continue to re-evaluate any fisheries that are deemed compliant to determine whether major changes have been made.

Under Minister Pudjiastuti, who was in office from 2014 to 2019, several MMAF policies were adopted with a goal of improving sustainability. Regulation 45/2009, which banned foreign vessels from catching fish in Indonesian waters, was already in place when Minister Pudjiastuti took office. However, under Minister Pudjiastuti, MMAF cracked down on IUU fishing by targeting foreign vessels, which included the sinking and burning of foreign illegal vessels found in Indonesian waters.<sup>147</sup> The sinking and burning of foreign vessels stopped in 2018.<sup>148</sup>

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<sup>143</sup> California Environmental Associates, *Trends*.

<sup>144</sup> Fish and Fish Product Import Provisions of the Marine Mammal Protection Act, 50 C.F.R. § 216.3; 81 Fed. Reg. at Comment and Response 35.

<sup>145</sup> Anhalzer, et al. *The North*.

<sup>146</sup> IOTC Working Part on Ecosystems and Bycatch, *Kobe II Bycatch Workshop Background Paper: Marine Mammals*, 2013, <https://www.iotc.org/documents/kobe-ii-bycatch-workshop-background-paper-marine-mammals>.

<sup>147</sup> Seafood Tip, "Tuna."

<sup>148</sup> Seafood Tip, "Tuna."

Also under Minister Pudjiastuti, MR 2/2015 was passed making trawling gear and seine nets illegal in all areas in which Indonesian fishing occurs.<sup>149</sup> Trawling and seining gear are both considered destructive and indiscriminatory, hurting sustainability efforts and contributing to overfishing.<sup>150</sup> *Cantrang*, the local name for most [Danish] seine nets used in Indonesia, were found in a 2019 MMAF study to increase bycatch by up to 50%, and a 2010 study showed that up to 50% of catches in cantrang were non-target species.<sup>151</sup> This lack of selectivity presents significant risks for marine mammal bycatch.

Minister Pudjiastuti's successor, Minister Prabowo, took office in 2019 and lifted the ban on seines and trawls in November 2020, though it was unclear if the ban was ever enforced.<sup>152</sup> Upon lifting the ban, MMAF declared that it was "useless" anyway, as most fishers continued to use the banned gear types after its initial enactment.<sup>153</sup> Minister Prabowo left office in 2020 having been arrested for corruption, and, as of July 2021, the ban on seines and trawls was reimposed for all fishing regions and fisheries in Indonesian waters.<sup>154</sup> A September 2022 article suggested enforcement of the ban is low.<sup>155</sup>

In October of 2020, Law No. 11 of 2020 on Job Creation (also known as the Omnibus Law) was passed in Indonesia, which was a large deregulation bill with impacts on fisheries regulations. This law altered definitions of small-scale vessels and loosened restrictions on foreign vessels creating gains for large-scale, primarily foreign fisheries operating in Indonesian waters, which have historically been large contributors to overfishing and other unsustainable practices.<sup>156</sup> The law also eliminated an agency within MMAF that previously worked toward sustainable fishery research. In escalating fisheries deregulation efforts in 2020, Indonesian seafood processing capacity was also poised to increase, pending the removal of some regulations.<sup>157</sup> The Omnibus Law was declared "conditionally unconstitutional" in 2021 by the Indonesia Constitutional Court but remains in effect until November 2023.<sup>158</sup>

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<sup>149</sup> Melati Kaye, "Indonesian Fisheries Ministry Imposes New Limits on Gear and Fish Harvests," Mongabay, March 4, 2015, <https://news.mongabay.com/2015/03/indonesian-fisheries-ministry-imposes-new-limits-on-gear-and-fish-harvests/>; WWF, "Blowing Up."; Duggan and Kocken, "*Small in scale*."

<sup>150</sup> Basten Gokkon, "Indonesia Allows Use of Destructive Seine and Trawl Nets in its Waters Again," Mongabay, December 17, 2020, <https://news.mongabay.com/2020/12/indonesia-allows-use-of-destructive-seine-and-trawl-nets-in-its-waters-again/>.

<sup>151</sup> Ministry of Marine Affairs and Fisheries, "Media Discussion: 'Brave Step, Restore the Environment'," February 12, 2019, [https://kkp.go.id/an-component/media/upload-gambar-pendukung/kkp/DATA%20KKP/2019/2019.02.12%20Diskusi%20Media%20Pers\\_KSP.pdf](https://kkp.go.id/an-component/media/upload-gambar-pendukung/kkp/DATA%20KKP/2019/2019.02.12%20Diskusi%20Media%20Pers_KSP.pdf); Gokkon, "Indonesia Allows."

<sup>152</sup> Gokkon, "Indonesia Allows."

<sup>153</sup> *Ibid.*

<sup>154</sup> Basten Gokkon, "Indonesia Reimposes Ban on Destructive Seine and Trawl Nets in its Waters," Mongabay, July 28, 2021, <https://news.mongabay.com/2021/07/indonesia-reimposes-ban-on-destructive-seine-and-trawl-nets-in-its-waters/>; *Ibid.*

<sup>155</sup> Iqbal Ramdhani, "Indonesian Fishermen Still Use Banned Destructive Fishing Nets, Despite Threat to Ocean" (Sept. 6, 2022), <https://maritimefairtrade.org/indonesian-fishermen-still-use-banned-destructive-fishing-nets-despite-threat-to-ocean/>.

<sup>156</sup> Gokkon, "Indonesia's New."

<sup>157</sup> Gayatri, "Minister."

<sup>158</sup> Lovells, Hogan and Saputra, Zuhul. "Indonesia Constitutional Court declares Omnibus Law "conditionally unconstitutional.": December 8, 2021, <https://www.jdsupra.com/legalnews/indonesia-constitutional-court-declares-8892449/>.

### C. Enforcement of Existing Regulations

The Indonesian government is legally responsible for protecting its natural resources and protected species, but the exact duties and framework governing this responsibility lack clarity.<sup>159</sup> Indonesia's regulatory program for fisheries and marine mammal management is characterized by a lack of on-the-ground implementation and enforcement mechanisms.<sup>160</sup> Commentators have concluded that "[l]aw enforcement in wildlife protection in Indonesia is very low."<sup>161</sup> Effective implementation and enforcement of regulations is equally important as having the regulations in place. Therefore, we urge NMFS to carefully assess Indonesia's regulatory program for effectiveness not only on paper but also in implementation.

Historically a concerning number of illegal fisheries have operated in Indonesian waters. In a 2014 interview, the president of Indonesia noted an estimate that 90% of foreign boats in Indonesian waters – well over 5,000 total at the time – were operating illegally.<sup>162</sup> While these vessels may not be Indonesian, if their products are landed at Indonesian ports and then exported to the United States, they are likely to be labeled as Indonesian products.<sup>163</sup> Indonesia has been working to decrease illegal fishing by foreign vessels in its waters for over a decade, but it remains a problem.<sup>164</sup>

Indonesia is also lacking enforcement addressing illegal fishing practices taking place on Indonesian vessels. The legislation governing Indonesian fisheries includes many different measures but, historically, only the measures focusing on vessel licensing and the designation of MPAs have been fully carried out, and sometimes this implementation is not fully effective.<sup>165</sup> There is also no clear evidence of ramifications when smaller-scale fisheries violate measures laid out in these laws.<sup>166</sup> Additionally, while researchers have observed FAD regulations being effectively implemented in Ambon, there continues to be little evidence of the implementation and enforcement of these regulations in other regions.<sup>167</sup> Finally, penalties may not be issued when a violation occurs. For example, in February of 2022, a vessel fishing in an off-limits area in Indonesia was seized and found to have an illegal trawl net on board, but police did not press charges for the use of this illegal gear after the boat's captain said the net was not used for fishing.<sup>168</sup>

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<sup>159</sup> Hines et al., *Report*.

<sup>160</sup> *Ibid.*; Badan Perencanaan Pembangunan Nasional (2014). *Kajian Strategi Pengelolaan Perikanan Berkelanjutan*. Jakarta: Bappenas.

<sup>161</sup> Apriyani et al., *Comparison*.

<sup>162</sup> Ben Otto, "President Jokowi Orders 'Shock Therapy' For Illegal Fishing Boats," *The Wall Street Journal*, December 9, 2014, <https://www.wsj.com/articles/BL-SEAB-5412>.

<sup>163</sup> Personal communication, Anonymous, June 25, 2021.

<sup>164</sup> Food and Agriculture Organization of the United Nations, "Fishery"; WWF, "Blowing up."

<sup>165</sup> California Environmental Associates, *Trends*.

<sup>166</sup> Anhalzer et al., *The North*.

<sup>167</sup> Lansdell et al., "*Project*"; Hargiyatno, Ignatius Tri, Suyud Warno Utomo, and Rauf Achmad Sue. "Tuna fisheries sustainable management: Assessing of Indonesia fish aggregating devices (FADs) fisheries." In *E3S Web of Conferences*, vol. 68, p. 04019. EDP Sciences, 2018.

<sup>168</sup> Sahputra, Yogi Eka. "Indonesian fishing boat found with banned trawl net highlights enforcement challenges." March 9, 2022, <https://news.mongabay.com/2022/03/indonesian-fishing-boat-found-with-banned-trawl-net-highlights-enforcement-challenges/>.

## VI. Indonesia'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 fish imports caught with fishing gear that kills or seriously injures marine mammals in “in excess of United States standards.” 16 U.S.C. § 1371(a)(2). In applying this requirement, the United States “shall insist on reasonable proof” from the exporting nation of the effects of its exporting fisheries on marine mammals – i.e., its marine mammal bycatch. *Id.*

To implement this provision, NMFS issued the MMPA Imports Rule. 81 Fed. Reg. 54,415 (Aug. 16, 2016). Under the Rule, in order for Indonesia to continue exporting fish to the United States after December 31, 2023, Indonesia must apply for and receive a “comparability finding” from the United States, essentially a determination that its bycatch and bycatch program for each exporting fishery meets U.S. standards. 50 C.F.R. § 216.24(h)(6); 87 Fed. Reg. 63,955 (Oct. 21, 2022) (delaying deadlines).

Under the Rule, for export fisheries operating within Indonesia's EEZ to receive a comparability finding, Indonesia must show:

- (1) Indonesia “[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, Indonesia “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, Indonesia must show it maintains a program “that includes[ ] or effectively achieves comparable results as” the following components:

- (a) “Marine mammal assessments . . . for stocks . . . that are killed or seriously injured in the fishery;”
- (b) “An export fishery register,” listing all fishing vessels in the fishery, including time, season, gear type, and target species;
- (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;

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

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

## **B. Indonesia’s Compliance with the MMPA Imports Rule**

Based on information currently available to the public, Indonesia lacks the bycatch monitoring, data, and measures necessary to demonstrate comparability for its export fisheries. 50 C.F.R. § 216.24(h)(6)(iii)(C). As detailed below, Indonesia lacks data on marine mammal status and marine mammal bycatch, and while Indonesia apparently bans the intentional killing of marine mammals, Indonesia lacks regulatory requirements that are comparable to the U.S. regulatory program. Therefore, unless significant improvements are made in Indonesia’s marine mammal and bycatch monitoring, regulatory framework, and actual bycatch, we urge NMFS to ban seafood imports from most Indonesian export fisheries.

### **1. Indonesia Bans Intentional Killing**

The MMPA Imports Rule requires that, to export seafood to the United States, Indonesia must demonstrate that it “[p]rohibits the intentional mortality or serious injury of marine mammals in the course of commercial fishing in the fishery.”<sup>169</sup> Indonesian law appears to meet this requirement. As detailed above, under Indonesia’s Law Concerning Conservation of the Living Natural Resources and Its Ecosystem ([No. 5/1990](#)), animals may be listed as “protected,” and the law prohibits the catching, killing, transporting, and trade of any protected species.<sup>170</sup> All “Cetacea,” *Dolphinidae*, and *Dugong dugong* are listed as protected under Government Regulation No. 7/1999 on Preserving Flora and Fauna Species,<sup>171</sup> and thus intentional catching and killing of these animals during fishing appears to be prohibited.<sup>172</sup>

While Indonesia appears to ban intentional killing of cetaceans, enforcement is questionable.<sup>173</sup> For example, traditional whale and dolphin hunting in Indonesia is believed to

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<sup>169</sup> 50 C.F.R. § 216.24(h)(6)(iii)(C).

<sup>170</sup> Law of the Republic of Indonesia, No. 5/1990 Concerning Conservation of the Living Natural Resources and Its Ecosystem, at Art. 21(2), available at:

<http://www.flevin.com/id/lgsso/translations/JICA%20Mirror/english/4.05.1990.eng.qc.html>

<sup>171</sup> Attachment Regulation of the Government of the Republic of Indonesia No. 7 of 1999 (Jan. 27, 1999, [https://sherloc.unodc.org/cld/uploads/res/document/idn/1999/list-of-protected-plants-and-animals\\_html/Indonesia\\_list.pdf](https://sherloc.unodc.org/cld/uploads/res/document/idn/1999/list-of-protected-plants-and-animals_html/Indonesia_list.pdf))

<sup>172</sup> According to the literature, whales and dugongs were added to the protected list by Minister of Agriculture (“MOA”) Decree No. 716/1980 and MoA Decree No. 327/1972, though we were unable to locate these documents. Sahri et al., “A Critical.”

<sup>173</sup> Sahri et al., “A Critical.”

still take place today, despite the protected status of cetaceans.<sup>174</sup> Dolphins have also been used in Indonesia as bait for shark fisheries – a 2018 study found that within Asia, Indonesia, Taiwan, and the Philippines most often used small cetaceans as shark bait from 1970 to 2017.<sup>175</sup> This practice continues despite its illegal status, exhibiting a gap in regulatory enforcements.

## **2. Indonesia Likely Does Not Maintain a Regulatory Program “Comparable in Effectiveness” to the U.S. Program for All Export Fisheries**

Under the MMPA Imports Rule, Indonesia must also 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.

### **a. Indonesia Does Not Conduct Marine Mammal Assessments for All Stocks Bycaught**

The MMPA Imports Rule requires that Indonesia 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.<sup>176</sup> 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, based on information available, Indonesia does not have a regulatory program requiring or providing for regular stock assessments, nor are regular stock assessments conducted for species bycaught in Indonesia’s fisheries. In general, abundance estimates are lacking for Indonesian cetaceans. In a 2013 review of the state of marine mammals in Indonesia, researchers found that the most recent comprehensive study on the “diversity, abundance, distribution, and conservation of cetaceans” was from 2008.<sup>177</sup> Researchers also noted that in 2013, of all Indonesian cetaceans, only Irrawaddy dolphins had existing abundance population estimates.<sup>178</sup> There have been no studies on the full distribution of cetaceans across all of Indonesia, with researchers citing financial and structural limitations and the size of the archipelago as reasons.<sup>179</sup>

While very few studies have been carried out on Indonesia’s marine mammal populations, Indonesia has plans to improve data for abundance and distribution of cetaceans and dugongs in applicable waters:<sup>180</sup> Indonesia’s new action plans for marine mammals (cetaceans

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<sup>174</sup> Hines et al., *Report*; *Ibid.*

<sup>175</sup> Vanessa J. Mintzer, Karen Diniz, and Thomas K. Frazer, “The Use of Aquatic Mammals for Bait in Global Fisheries,” *Frontiers in Marine Science* 5 (2018), <https://doi.org/10.3389/fmars.2018.00191>.

<sup>176</sup> 50 C.F.R. § 216.24(h)(6)(iii)(C).

<sup>177</sup> Hines et al., *Report*.

<sup>178</sup> *Ibid.*

<sup>179</sup> Achmad Sahri et al, “Cetacean Habitat Modeling to Inform Conservation Management, Marine Spatial Planning, and as a Basis for Anthropogenic Threat Mitigation in Indonesia,” *Ocean & Coastal Management* 205 (May 1 2021), <https://doi.org/10.1016/j.ocecoaman.2021.105555>; Murua et al., “Characterizing.”

<sup>180</sup> Hines et al., *Report*.



and dugongs) include goals of surveying marine mammals for population estimates. However, it is not clear whether these surveys have been funded or taken place, and we were not able to find any abundance estimates resulting from these action plans. Recurring abundance estimates are needed under the MMPA to ensure that data are not outdated.

#### **b. Indonesia Has Authority to Maintain an Export Fishery Registry**

The MMPA Imports Rule next requires that export nations either maintain an “export fishery register” listing all fishing vessels in the fishery, including time, season, gear type, target species, and fishing area or effectively achieve comparable results as maintaining such a registry.<sup>181</sup> Indonesian law may authorize fishing authorities to maintain an adequate fishery registry; however, it is unclear if an adequate fishery registry is actually maintained.

Indonesia’s Law No. 31/2004, as amended by Law 45/2009, requires every person operating a fishing boat within Indonesian waters or high seas under an Indonesian flag to obtain a fishing license, except “small fishers,” which appear to be defined as subsistence fishers.<sup>182</sup> The law also apparently requires each fishing vessel to be assigned an identification, stating the “fish catching area” and gear.<sup>183</sup> Indonesia’s MMAF Regulation 30/2012 on Capture fisheries in fishing territory of Indonesia further requires fishers (other than small fishers) to obtain fishing licenses and permits, which must include gear specifications, target species, and certification of installation of a “transmitter vessel monitoring system.” The regulation further references an “integrated information system between licensing and monitoring of fishing vessels, fishing log books, and registration of vessels” operating in Indonesian waters.<sup>184</sup>

Accordingly, it appears that all non-“small fishers” in Indonesia are required to obtain a license or registration that indicates gear type, target species, and possibly fishing area (though time/season may not be documented). That information may be “integrated” into a government information system.

However, we were not able to identify a publicly available fisheries register and are unable to confirm that a sufficiently detailed registry exists. The List of Foreign Fisheries does not identify the number of licenses issued for nine Indonesian fisheries, including the swimming crab fishery, suggesting that Indonesia did not submit this information. Yet if Indonesia maintains an adequate registry of all fishers and licenses, this information would have been readily available.

Additionally, Indonesia’s registration of vessels may be incomplete. A 2018 IOTC Compliance Report for Indonesia determined the list of active vessels to be partially compliant, with a note that registration numbers were missing.<sup>185</sup> In a 2020 report, however, the list of

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<sup>181</sup> 50 C.F.R. § 216.24(h)(6)(iii)(C).

<sup>182</sup> Law No. 31/2004 Concerning Fishery, Art. 27; *Id.* at Art. 1 (defining “small fishers,” which are fishers “whose livelihood is fishing in order fulfill his/her daily needs” by using a vessel with less than 5 GT capacity). If small fishers are permitted to sell and export their product to the United States, Indonesia’s fishery register would be inadequate because it would not include these small fishers.

<sup>183</sup> *Id.*, Art. 37.

<sup>184</sup> *Id.* at Art. 77.

<sup>185</sup> Indian Ocean Tuna Commission. “IOTC Compliance Report for: Indonesia.” December 14, 2018.

active vessels was determined to be compliant.<sup>186</sup> There are also large data gaps for Indonesia’s small-scale fisheries. The government cannot effectively track small-scale fishery catch due to a lack of mandatory reporting outside of Indonesia’s handful of mainland ports.<sup>187</sup> While much of small-scale fishery catch remains in local markets, some of it also is transferred to middlemen and could be exported from there.<sup>188</sup> Researchers have also had trouble tracking down data for general wild capture fisheries in Indonesia.<sup>189</sup> Indonesia must be sure to include any small-scale fishers whose products are sent to middlemen for export to the U.S. in its submission to the United States.<sup>190</sup>

### **c. Indonesia Has Only Very Limited Marine Mammal Bycatch Regulatory Requirements in Some Fisheries**

Next, under the MMPA Imports Rule, Indonesia must demonstrate it has a regulatory program that both requires marine mammal reporting and requires fishers to implement measures to reduce mortality/serious injury.

#### **i. Indonesia Requires Reporting of Marine Mammal Deaths in at Least Some Tuna Fisheries but Requirements Are Unclear in Non-Tuna Fisheries.**

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.<sup>191</sup>

We were only able to identify marine mammal bycatch reporting requirements for some tuna fisheries within Indonesia, though it is unclear to which tuna fisheries the requirement applies to. Specifically, MMAF Regulation No. 30/2012 is unclear (potentially due a poor translation of the document we reviewed), but it states that permit holders operating within Indonesian waters must “carry out conservation actions towards certain types of species that are ecologically related to tuna, as determined by the Regional Fisheries Management Organization.”<sup>192</sup> The regulation then states that these fisheries must “releas[e]” marine mammals “if they are still alive” and “record” marine mammals if caught dead and report that to the Director General at the relevant base port.<sup>193</sup> However, it is unclear if this requirement applies to all tuna fisheries in Indonesian waters or only those tuna fisheries regulated by an RFMO, and we note that reporting of marine mammal injuries do not appear to be required.

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<sup>186</sup> Indian Ocean Tuna Commission. “IOTC Compliance Report for: Indonesia.” July 31, 2020.

<sup>187</sup> Raymond Jakub, “Indonesia’s Small-Scale Fisheries Yield Big Catches – But Little Data,” PEW, November 12, 2019, <https://www.pewtrusts.org/en/research-and-analysis/articles/2019/11/12/indonesias-small-scale-fisheries-yield-big-catches-but-little-data>.

<sup>188</sup> Ariansyach, “Fisheries”; *Ibid*.

<sup>189</sup> California Environmental Associates, *Indonesia*.

<sup>190</sup> Fish and Fish Products.

<sup>191</sup> 50 C.F.R. § 216.24(h)(6)(iii)(C).

<sup>192</sup> MMAF Regulation No. 30/2012, Art. 73.

<sup>193</sup> MMAF Regulation No. 30/2012, Art. 73.

Reporting requirements are unclear for other Indonesian fisheries. We could not identify any regulation expressly requiring all fishers to report marine mammal injury or death but the required log book form provides a space to record marine mammal bycatch. Specifically, MMAF Regulation 30/2012 states that “[f]or every fishing trip, the skipper is obligated to fill in the fishing log book” and submit it through the head of fishing at the vessel’s base port.<sup>194</sup> MMAF Regulation No. 48/2014 provides further requirements for Indonesia’s logbook system for Indonesian vessels larger than 5 GT.<sup>195</sup> It states that “[e]very fishing vessel” having a fishing license must be equipped with a fishing log book” to be filled out “objectively” by the skipper,<sup>196</sup> and that log book information must include: vessel, gear, operation, and catch data.<sup>197</sup> Log books are to be inspected upon landing and entered into the data system. While the regulation does not specify that marine mammal bycatch must be recorded in the log book, the actual log book form provides a place to record that information.<sup>198</sup> Further, there is no indication that the data collected in these log books is compiled and assessed by authorities to help understand marine mammal bycatch or otherwise trigger action to address marine mammal bycatch. We were unable to identify any other Indonesian requirement regarding marine mammal bycatch reporting, and we urge NMFS to clarify whether or not marine mammal death and injury must be reported under Indonesia’s regulatory system.

## **ii. Indonesia Likely Does Not Require that Fishers Implement Measures to Reduce Mortality/Serious Injury**

Next, under the MMPA Imports Rule, Indonesia must maintain regulatory requirements that require fishers to implement measures to reduce mortality/serious injury or “effectively achieves comparable results” as requiring such measures.<sup>199</sup>

Based on information available, there are no regulations requiring bycatch mitigation on the national level. Beyond a ban on certain trawl and seine net gear that is apparently not currently enforced, we were unable to identify a national fishing law nor regulation mitigating or restricting bycatch.

As noted above, under Indonesia’s Law Concerning Conservation of the Living Natural Resources and Its Ecosystem ([No. 5/1990](#)), marine mammals are listed as “protected” animals. The law then prohibits the catching, killing, transporting, and trade of any protected species.<sup>200</sup> Under Government Regulation No. 7/1999 on Preserving Flora and Fauna Species, Indonesian authorities have listed numerous species as “protected,”<sup>201</sup> including all “Cetacea” (“all species

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<sup>194</sup> *Id.* at Art. 80.

<sup>195</sup> Ministry of Marine Affairs and Fisheries of the Republic of Indonesia No. 48/PERMEN-KP/2014 Concerning Fishing Log Books, 2014, Art. 2, <https://www.fao.org/faolex/results/details/fr/c/LEX-FAOC192249>.

<sup>196</sup> *Id.* Art. 5

<sup>197</sup> *Id.* Art. 4.

<sup>198</sup> *Id.* at Annex 1.

<sup>199</sup> 50 C.F.R. § 216.24(h)(6)(iii)(C).

<sup>200</sup> Law of the Republic of Indonesia, No. 5/1990 Concerning Conservation of the Living Natural Resources and Its Ecosystem, at Art. 21(2), available at: <http://www.flevin.com/id/lgso/translations/JICA%20Mirror/english/4.05.1990.eng.qc.html>

<sup>201</sup> Regulation No. 7/1999 on Preserving Flora and Fauna Species, Art. 4, [http://www.flevin.com/id/lgso/translations/JICA%20Mirror/english/27.PP\\_NUMBER%207%20OF%201999.eng.html](http://www.flevin.com/id/lgso/translations/JICA%20Mirror/english/27.PP_NUMBER%207%20OF%201999.eng.html).

from the Cetacean family”), Dolphinidae (“all species from the Delphinidae family”), and *Dugong dugong* as protected.<sup>202</sup> However, neither Regulation 7 nor Regulation No. 8/1999 on Wild Flora and Fauna Exploitation, which regulates wildlife management in Indonesia,<sup>203</sup> directly addresses bycatch or unintentional take of protected species. Accordingly, while Indonesia appears to prohibit the intentional killing of marine mammals during fishing, it is unclear though unlikely that the law prohibits incidental bycatch.<sup>204</sup>

As noted above, MMAF Regulation 30/2012 on Capture fisheries requires live release of marine mammals for at least some tuna fisheries but provides no bycatch limits or mitigation measures.<sup>205</sup> The regulation also references conservation measures for shrimp trawl and fish trawl fisheries, but they do not pertain to marine mammal bycatch.<sup>206</sup> As also explained above, a 2015 regulation banned certain trawl gear and seine nets in all areas in which Indonesian fishing occurs,<sup>207</sup> and both gear have a marine mammal bycatch potential.<sup>208</sup> However, the ban was generally not enforced and was lifted in 2020.<sup>209</sup> The ban was reimposed in 2021,<sup>210</sup> but enforcement of the ban is low.<sup>211</sup>

Further, Indonesian national waters have been subdivided into 11 fisheries management areas, each overseen by a fisheries management council.<sup>212</sup> The councils must develop and implement a fisheries management plan for the management area.<sup>213</sup> We were unable to obtain any fisheries management plans to review, so it is unclear whether these plans exist for all areas or, if they do, whether they contain mandatory bycatch measures. However, a MSC report noted that there is a fishery management plan for the handline-caught tuna, skipjack tuna, and neritic tuna fishery operating in Indonesia’s management area 715. According to the report, the plan’s objectives include performing risk-based assessments for bycatch in different gear types, eliminating dolphin captures within five years (although no dolphin bycatch is noted in this

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<sup>202</sup> Attachment Regulation of the Government of the Republic of Indonesia No. 7 of 1999 (Jan. 27, 1999, [https://sherloc.unodc.org/cld/uploads/res/document/idn/1999/list-of-protected-plants-and-animals\\_html/Indonesia\\_list.pdf](https://sherloc.unodc.org/cld/uploads/res/document/idn/1999/list-of-protected-plants-and-animals_html/Indonesia_list.pdf))

<sup>203</sup> Regulation 8/1999 on Wild Flora and Fauna Exploitation, [https://sherloc.unodc.org/cld/uploads/res/document/regulation-8-of-1999\\_html/Regulation\\_8\\_of\\_1999.pdf](https://sherloc.unodc.org/cld/uploads/res/document/regulation-8-of-1999_html/Regulation_8_of_1999.pdf)

<sup>204</sup> Lusi Apriyani, Fahmi Yoesmar, and Marta Erwandi. Comparison of Wildlife Protection Law between Indonesia and the United States Hasanuddin Law Review. Volume 4 Issue 2, August 2018. Available at:

<sup>205</sup> *Id.* at Art. 73.

<sup>206</sup> *Id.* at Art. 75.

<sup>207</sup> Melati Kaye, “Indonesian Fisheries Ministry Imposes New Limits on Gear and Fish Harvests,” Mongabay, March 4, 2015, <https://news.mongabay.com/2015/03/indonesian-fisheries-ministry-imposes-new-limits-on-gear-and-fish-harvests/>; WWF, “Blowing Up.”; Duggan and Kocken, “*Small in scale.*”

<sup>208</sup> Gokkon, “Indonesia Allows.”

<sup>209</sup> *Ibid.*

<sup>210</sup> Basten Gokkon, “Indonesia Reimposes Ban on Destructive Seine and Trawl Nets in its Waters,” Mongabay, July 28, 2021, <https://news.mongabay.com/2021/07/indonesia-reimposes-ban-on-destructive-seine-and-trawl-nets-in-its-waters/>; *Ibid.*

<sup>211</sup> Iqbal Ramdhani, “Indonesian Fishermen Still Use Banned Destructive Fishing Nets, Despite Threat to Ocean” (Sept. 6, 2022), <https://maritimefairtrade.org/indonesian-fishermen-still-use-banned-destructive-fishing-nets-despite-threat-to-ocean/>.

<sup>212</sup> Ministry of Marine Affairs and Fisheries (MMAF), Republic of Indonesia and USAID Sustainable Ecosystems Advanced (SEA) Project (2018). State of the Sea: Indonesia, Volume One: An Overview of Marine Resource Management for Small-Scale Fisheries and Critical Marine Habitats in Indonesia. Jakarta, pp. 156. Available at: [https://pdf.usaid.gov/pdf\\_docs/PA00XBT2.pdf](https://pdf.usaid.gov/pdf_docs/PA00XBT2.pdf).

<sup>213</sup> *Id.*

fishery), improving bycatch regulations regarding holding and landings within five years, and placing bycatch mitigation tools on vessels within five years.<sup>214</sup> While these appear to be laudable goals, it is unclear if the plan contains bycatch measures. We urge NMFS to request any relevant fisheries management plans and any regulatory requirements requiring compliance with any measures therein.

Additionally, and as noted above, MMAF Decree No. 79/2018 requires a National Action Plan for dugongs and cetaceans including “all types of whales and . . . marine dolphins” covering 2018 through 2022,<sup>215</sup> including a strategy, activities, indicators, outputs, and timeframe. The Director General of Marine Mammal Conservation and a designated working group oversee implementation and must evaluate and submit reports on the Plan every six months. The National Action Plans for dugongs and cetaceans appear to be attached as Appendices to the Decree. The Cetacea Conservation National Action Plan identifies “reduction of cetacean mortality due to bycatch” as a strategy and identifies activities including developing “baseline data” on bycatch, organizing bycatch data workshops, and studying gear that causes bycatch.<sup>216</sup> While the plan lays out important goals, it does not require marine mammal surveys, bycatch monitoring, or bycatch mitigation measures. It is also unclear what progress has been made as progress reports were not available on the MMAF website.

There may be some bycatch mitigation regulations on the local level that vary throughout the country, as the Act of the Republic of Indonesia No. 23/2014 on the Local Government gives local governments authority over marine resources for near-shore fisheries.<sup>217</sup> Some bycatch mitigation efforts occur on local levels in Indonesia through local gear type controls and enforcement of these by local fishing communities themselves.<sup>218</sup> Local fish associations (*sasis*) often perform unofficial fisheries management actions, such as self-managing through rules on FAD use and distribution in local areas.<sup>219</sup>

There has been some research on bycatch mitigation techniques in Indonesia, but it does not appear that these techniques are being required of fishers. Mahakam River fishers recently partnered with nonprofit researchers to test the use of banana pingers on fishing nets as a mitigation tool to prevent Irrawaddy dolphin bycatch.<sup>220</sup> Additionally, a 2018 report focusing on Indonesian small and medium-sized tuna purse seines notes that bycatch mitigation in purse seines is challenging – large-scale vessels are able to use modifications such as pingers, but smaller-scale vessels, which are much more common in Indonesia, require different mitigation techniques that are less well-studied.<sup>221</sup>

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<sup>214</sup> Anhalzer et al., *The North*.

<sup>215</sup> *Ibid.*

<sup>216</sup> 79/KEPMEN-KP/2018.

<sup>217</sup> California Environmental Associates, *Indonesia*.

<sup>218</sup> Whitty, “Governance.”

<sup>219</sup> Murua et al., *Characterizing*.

<sup>220</sup> Carolyn Cowan, “Pingers on Fishing Nets Found to Save River Dolphins in Indonesian Borneo,” Mongabay, October 29, 2021, <https://news.mongabay.com/2021/10/pingers-on-fishing-nets-found-to-save-river-dolphins-in-indonesian-borneo/>.

<sup>221</sup> Murua et al., *Characterizing*.

#### d. Indonesia Has Monitoring Procedures in Place for Some Export Fisheries

The MMPA Imports Rule also requires Indonesia 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.<sup>222</sup> Bycatch monitoring varies throughout Indonesia's fisheries but is likely insufficient given that Indonesia did not provide bycatch numbers for the 2020 LOFF. It is unclear whether fishers even need to document marine mammal bycatch in log books, and while regulations authorize observers to be required in some fisheries, it is unclear which fisheries are observed.

As noted above, fishers are required to fill out and submit log books, including information regarding vessel, gear, operation, and catch data.<sup>223</sup> While we could not identify a regulation requiring reporting of marine mammal bycatch, the actual log book form provides a place to record that information.<sup>224</sup> Logbooks are known to be unreliable as an assessment of bycatch as crew may lack the time and training to collect such data and may also have an economic disincentive to record accurate data. Logbooks have been found to underestimate and underreport marine mammal entanglement. One recent study concluded that "cetacean bycatch recorded by observers was higher than that from fisher logbooks by an average of 774% in trawls, 7348% in nets, and 1,725% in hook and line gears." Fishers reporting on bycatch using identification guides might not accurately identify species, particularly if a rare species is caught that a fisher has not previously encountered. Additionally, Yuniarta et al. (2017) found that information in logbooks for Indonesian tuna fisheries is often underreported and inaccurate.<sup>225</sup>

Observer coverage on fishing vessels is critical to accurately determining rates of bycatch. As noted above, Indonesian regulations authorize observers to be assigned for some fisheries, though it is unclear which fisheries the regulation applies to, and it is also unclear whether observers are actually required for those fisheries and at what level. MMAF Regulation No. 1/2013 on Regional Observer Scheme (ROS) applies to fishing vessels weighing over 30 GT and fish transporting vessels, whether operating in Indonesian waters or on the high seas. The regulation dictates the training and education requirements for those who monitor vessels. It further mandates what data must be recorded by observers,<sup>226</sup> including fishing gear, "result" (presumably volume), catch location, and time. It further requires observers to record "the result of fish by-catch (bycatch) ... ecology related to (ecologically related species) of tuna fish, shrimp dragnet, and fish dragnet." This may mean observers must record bycatch in tuna fisheries, shrimp net fisheries, and potentially net fisheries targeting other fish species, but it is unclear.

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<sup>222</sup> 50 C.F.R. § 216.24(h)(6)(iii)(C).

<sup>223</sup> Ministry of Marine Affairs and Fisheries of the Republic of Indonesia No. 48/PERMEN-KP/2014 Concerning Fishing Log Books, 2014, Art. 2, <https://www.fao.org/faolex/results/details/fr/c/LEX-FAOC192249>.

<sup>224</sup> *Id.* at Annex 1.

<sup>225</sup> Yuniarta, Shinta, Paul AM van Zwieten, Rolf A. Groeneveld, Sugeng Hari Wisudo, and E. C. Van Ierland. "Uncertainty in catch and effort data of small-and medium-scale tuna fisheries in Indonesia: Sources, operational causes and magnitude." *Fisheries research* 193 (2017): 173-183.

<sup>226</sup> Ministry of Marine Affairs and Fisheries, "Instrument for Monitoring Fish Catching Boat and Fish Transporting Boat (Regulation of the Minister of Marine and Fishery of R.I. Number 1/PERMEN-KP/2013, dated February 20, 2013)," 2013, <http://extwprlegs1.fao.org/docs/pdf/ins128775.pdf>.



The regulation appears to authorize the Director General to require observation (1) on high seas boats using purse seine and longlines and (2) boats operating within Indonesian waters using a variety of gear, including potentially hook and line, gillnet, and possibly purse seine. The regulation does not specify percentages of required observers, and it not clear which fisheries have observers assigned. We urge NMFS to clarify the observer requirements with Indonesia.

Indonesia’s IOTC-registered longline vessels were reported to have a 3.53% observer coverage, with 6 total ROS observers on longlines. IOTC reports also noted 10 ROS observers on registered purse seine vessels, 8 observers on hand line vessels, and 1 on gillnet vessels.<sup>227</sup> Indonesia has placed observers on longline, purse seine, and hand line vessels since 2013, and on gillnet vessels since 2015, but coverage has been lowest in the gillnet fishery.<sup>228</sup> The IOTC requires 5% observer coverage for all registered vessels – in Indonesia’s 2021 compliance report, observer coverage across all vessels together was listed as less than 1%, as calculated by the IOTC Secretariat.<sup>229</sup> According to the WCPFC, Indonesia had 100% observer coverage for its WCPFC-registered purse seines and 5% for its longlines a decade ago, but it is not clear if this level of coverage has been maintained since 2010. Even when observers are onboard the data acquired may not be accurate. When assessing Indonesia’s pole-and-line and handline skipjack and yellowfin tuna fisheries in the Western and Central Pacific archipelagic waters, the MSC concluded that identification and reporting of endangered, threatened, or protected species by onboard observers and dockside monitors “could likely use some improvement.”<sup>230</sup>

Indonesia has made some effort to improve data collection and management. Indonesia began developing electronic logbooks for vessels over 30 GT with trial runs that were set to begin in 2018.<sup>231</sup> Electronic monitoring is often preferred over paper catch records, as e-logbooks are easier to transfer information from and can help streamline communication between regulatory agencies. The Indonesian government has also started the One Data Program (*Satu Data KKP*), which, since 2016, has aimed to make available all fisheries data in a single MMAF location.<sup>232</sup> Fisheries management officers are being trained in e-logbooks as part of the One Data Program so that their data can be better integrated into the program.<sup>233</sup> Information stored in One Data is not available to individuals residing outside of Indonesia.

Indonesia has a series of Fishery Improvement Plans in progress that contain various goals for improving bycatch data collection. One goal of the Indonesian 2015-2020 Indian Ocean longline tuna fishery improvement plan (FIP) was to improve bycatch data from that industry, which consists of 35 registered vessels.<sup>234</sup> An ongoing FIP (2020-2024) for Indonesian longline tuna fisheries in the Indian and Western Central Pacific Oceans also has a goal to improve the

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<sup>227</sup> Fahmi et al., *Indonesia*.

<sup>228</sup> *Ibid.*

<sup>229</sup> Government of Indonesia, *IOTC*.

<sup>230</sup> Marine Stewardship Council. “Indonesia pole-and-line and handline, skipjack and yellowfin tuna of Western and Central Pacific archipelagic waters: Public Certification Report.” January 26, 2021.

<sup>231</sup> Chomariyah Suhada, “Implementation of Precautionary Principle on Bycatch Management in Indonesian Policy,” *Journal of Law, Policy, and Globalization* 93 (2020), <https://doi.org/10.7176/JLPG/93-06>.

<sup>232</sup> California Environmental Associates, *Trends*.

<sup>233</sup> *Ibid.*

<sup>234</sup> California Environmental Associates, *Indonesia*.

accuracy and availability of bycatch data, which is meant to be achieved by 2022.<sup>235</sup> This FIP also aims to increase observer coverage on participating companies' vessels. The next progress report for this FIP is due at the end of 2021, but the Fishery Progress website (which hosts FIPs information for all countries) indicates no completed actions so far, though its progress rating is listed as A.<sup>236</sup> A 2018-2023 FIP is also in progress for yellowfin and skipjack tuna caught in purse seines in the Southeast Sulawesi region – this encompasses about 90 vessels, all of whom use aFADs.<sup>237</sup> One objective of this FIP is data improvement, including data on bycatch species, by 2022. This FIP is 12.9% complete and has a progress score of A.<sup>238</sup> Several other FIPs exist across Indonesian fisheries, including those for hand-based tuna fisheries, blue swimming crabs, and groundfish, but most of these do not mention marine mammal bycatch in their goals or descriptions. While we applaud the efforts within FIPs, we note that FIPs are not regulatory measures and often set goals instead of requirements.

#### **e. Indonesia Has Not Published a Bycatch Limit for Its Export Fisheries**

The MMPA Imports Rule requires Indonesia to calculate a bycatch limit for marine mammals taken in each fishery.<sup>239</sup> The “bycatch limit” is PBR or a “comparable scientific metric.”<sup>240</sup>

Overall, the magnitude of bycatch in Indonesia is relatively unknown, and the data needed to calculate a bycatch limit are lacking.<sup>241</sup> The current action plans for cetaceans and dugongs are aimed at creating databases that house both abundance and bycatch data. If successful, these action plans could be very valuable. However, these action plans do not include proposed methods for setting bycatch limits. Indonesia is on the first step of this process – quantifying bycatch and abundance – and has not implemented regulations or plans for limiting or reducing bycatch. Therefore, Indonesia does not meet this requirement – no PBR or similar limit exists for Indonesian fishers' interactions with marine mammals.

#### **f. It Is Unlikely Indonesia Will Be Able to Demonstrate that Serious Injury/Mortality from All Export Fisheries Is Below the Bycatch Limit**

Finally, the MMPA Imports Rule requires that Indonesia demonstrate that mortality/serious injury from the fishery and cumulatively with other export fisheries “[d]o not

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<sup>235</sup> Fishery Progress, “Indonesia Indian Ocean and Western Central Pacific Ocean Tuna and Large Pelagics – Longline,” Fishery Progress, accessed July 2, 2021, <https://fisheryprogress.org/fip-profile/indonesia-indian-ocean-and-western-central-pacific-ocean-tuna-and-large-pelagics>.

<sup>236</sup> *Ibid.*

<sup>237</sup> Fishery Progress, “Indonesia Southeast Sulawesi Yellowfin Tuna and Skipjack Tuna – Purse Seine,” Fishery Progress, accessed July 3, 2021, <https://fisheryprogress.org/fip-profile/indonesia-southeast-sulawesi-yellowfin-tuna-and-skipjack-tuna-purse-seine>.

<sup>238</sup> *Ibid.*

<sup>239</sup> 50 C.F.R. § 216.24(h)(6)(iii)(C).

<sup>240</sup> 50 C.F.R. § 216.24(h)(6)(iii)(C).

<sup>241</sup> Hines et al., *Report*.

exceed the bycatch limit.”<sup>242</sup> Based on publicly available information, Indonesia will not be able to demonstrate that mortality/serious injury from all of its export fisheries “[d]o not exceed the bycatch limit.” Indonesia does not appear to have the data to calculate PBR for all of its export fisheries. It is unlikely Indonesia would be able to demonstrate that bycatch does not exceed PBR due to its lack of marine mammal and bycatch monitoring.

Moreover, bycatch is a threat to several threatened species within Indonesian waters. Of particular concern, the Irrawaddy dolphin is critically endangered, and bycatch is its primary threat.<sup>243</sup> Irrawaddy dolphins are typically bycaught in swimming blue crab fisheries and other river/coastal gillnet fisheries.<sup>244</sup> We urge NMFS to ensure that all MMPA Imports standards are strictly applied to all export fisheries, but particularly those fisheries that may interact with these and other threatened marine mammals.

## VII. Conclusion

Based on publicly available information and data, Indonesia does not meet all requirements under the MMPA Imports Rule. This is largely due to a lack of marine mammal and bycatch data and insufficient enforcement efforts. NMFS requires mammal stock assessments that give population abundance estimates – Indonesia has stated plans for estimates but currently lacks them. Few regulations address bycatch and most only authorize conservation measures or set goals but do not require mitigation.

Indonesian waters are rich in marine mammal biodiversity, and as one of the largest fishery production areas, the archipelagic nation needs to focus on sustainability not just of its fish stocks, but of its general fishery practices and larger ecological impacts. Historically, Indonesia has not focused its attention on marine mammal protections or bycatch issues, and related data are limited. Under current national measures, Indonesia may be collecting some bycatch data, but these data are not publicly available and may not be accurate. It is unlikely that most Indonesian fisheries meet the requirements of the MMPA Imports Rule.

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<sup>242</sup> 50 C.F.R. § 216.24(h)(6)(iii)(C).

<sup>243</sup> Tara Sayuri Whitty, “Governance Potential for Cetacean Bycatch Mitigation in Small-Scale Fisheries: A Comparative Assessment of Four Sites in Southeast Asia,” *Applied Geography* 59 (May 2015): 131-141, <https://doi.org/10.1016/j.apgeog.2015.01.003>.

<sup>244</sup> California Environmental Associates, *Trends*; Hines et al., *Report*.