



WHALE AND  
DOLPHIN  
CONSERVATION



# END COMMERCIAL WHALING

## Reinforce the IWC's Global Moratorium to Protect Cetaceans in the 21st Century

Briefing to the 69th Meeting of the International Whaling Commission (IWC)

September 2024



**ENVIRONMENTAL INVESTIGATION AGENCY**

62-63 Upper Street  
 London  
 N1 0NY, UK  
 +44 (0)207 3547960  
[ukinfo@eia-international.org](mailto:ukinfo@eia-international.org)  
[eia-international.org](http://eia-international.org)

**ANIMAL WELFARE INSTITUTE**

900 Pennsylvania Avenue, SE  
 Washington, DC 20003, USA  
 +1 (202) 337-2332  
[awi@awionline.org](mailto:awi@awionline.org)  
[awionline.org](http://awionline.org)

**OCEANCARE**

Gerbestrasse 6, 8820 Waedenswil,  
 Switzerland  
 +41-44-780 6688  
[info@oceancare.org](mailto:info@oceancare.org)  
[oceancare.org](http://oceancare.org)

**PRO WILDLIFE**

Engelhardstr. 10  
 81369, Munich  
 Germany  
 +49 (0) 89 90 42 990 00  
[mail@prowildlife.de](mailto:mail@prowildlife.de)  
[prowildlife.de](http://prowildlife.de)

**WHALE AND DOLPHIN CONSERVATION**

Brookfield House, 38 St Paul Street,  
 Chippenham, SN15, 1LJ,UK  
 +44 (0) 12 49449500  
[info@whales.org](mailto:info@whales.org)  
[whales.org](http://whales.org)

**CONTENTS**

Executive Summary	4
Commercial whaling before the moratorium	6
Commercial whaling despite the moratorium	8
International trade in whale products	18
Inhumane killing methods	20
Whales worth more alive	22
Recommendations	23
References	24



## Executive Summary

An estimated 2.9 million whales were killed in commercial whaling operations during the 20th century, decimating global populations.<sup>1</sup> Given significant illegal and unreported whaling,<sup>2</sup> even higher levels of depletion are likely.

The global prohibition on whaling for commercial purposes (known as the moratorium) adopted by the International Whaling Commission (IWC) in 1982 and implemented in 1986 prevented the extinction of several great whale species and allowed some populations to recover. But almost four decades later, the great whales and other cetaceans face grave and growing threats from a range of other human activities, from climate change and bycatch to pollution.<sup>3</sup>

Despite the moratorium, three countries – Japan, Norway and Iceland – continue to conduct commercial whaling, killing more than 44,000 whales (as of August 2024) since 1986 through provisions in the International Convention for the Regulation of Whaling (ICRW) that permit “scientific” whaling (Japan, Norway and Iceland) and whaling under objection (Japan, Norway) as well as whaling under reservation (Iceland) and as a non-member of the IWC (Japan).<sup>4</sup> Recent events in Japan, Iceland and Norway are alarming and underpin the need for the IWC and its contracting governments to

take stronger action to ensure compliance with the moratorium.

Commercial whaling in the 21st century has caused suffering to thousands of animals, continues to deprive the marine environment and coastal communities of the multiple ecological and economic benefits that whales provide and undermines the conservation of populations that face ever-increasing threats from other human activities.<sup>5</sup> It is time for commercial whaling to end and for contracting governments to the IWC to reaffirm the moratorium’s vital role in the conservation of all cetaceans by adopting a Resolution on the International Legal Obligations in Commercial Whaling, proposed to the 69th meeting of the IWC (IWC69) by the European Union.



©Smithsonian Institution Archives

## Commercial whaling before the moratorium – a history of over-exploitation

The over-exploitation of whales and the need for global regulation of the whaling industry was recognised as early as the 1920s, but the first actions taken to manage the intense competition between fleets and nations imposed only limited restrictions.

Eventually, in 1946 11 whaling nations signed the ICRW, thus agreeing to a binding management and conservation regime applicable to all waters. The IWC was established to implement the ICRW, although its early regulations were mainly ineffectual and over-exploitation continued.

After commercial whaling peaked in the 1960s, when countries killed more than 700,000 whales, the IWC began to protect the most impacted species and reduce catch quotas for others.<sup>6</sup> The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), which came into force in 1975, followed the IWC's lead and prohibited international trade in the species the IWC had protected from commercial whaling. The IWC banned all factory

ship whaling other than for minke whales in 1979<sup>7</sup> and finally, in 1982, adopted a total prohibition on commercial whaling of all great whale species (the moratorium) which came fully into effect in 1986.<sup>8</sup> The combination of the IWC's moratorium and CITES's prohibitions on international trade have significantly reduced the number of whales hunted (see Figure 1) and prevented the extinction of the species targeted.

**Above:** Signing the International Convention for the Regulation of Whaling in Washington D.C., December 1946 (Source: Smithsonian Archives, A. Remington Kellogg Papers, record unit 7170)

**Opposite page:** Fin whale hunt, Iceland



©Tim Baker

Figure 1: Number of large whales killed per decade in industrial whaling.<sup>9</sup>



## Commercial whaling despite the moratorium

Although the IWC's Scientific Committee has been assessing the status of whale populations that might be exploited in the future, and the IWC approved a mathematical model with a specific tuning level (the Revised Management Procedure or RMP) to determine future catch limits, the majority of IWC member states support the moratorium and have consistently rejected proposals that would have overturned it.

They have also explicitly affirmed the importance of maintaining the moratorium in two resolutions.<sup>10</sup> The RMP was intended to be a component of a monitoring, supervision and control scheme (known as the Revised Management Scheme or RMS) to oversee future commercial whaling operations. However, despite 12 years of negotiations starting in 1994, contracting governments were not able to agree on such a scheme and negotiations were abandoned in 2006.<sup>11</sup>

Despite broad international support for protecting whales and falling demand for whale meat, three countries have continued to undermine the moratorium, the IWC and CITES by continuing commercial whaling and international trade.

**Photo:** One of the first minke whales to be killed in Japan's new commercial whaling operation as a non-member of the IWC.



千葉県第五十一純友丸 南房総市

# ICELAND

Iceland, a founding member of the IWC, did not formally object to the moratorium and was thus bound by it. However, it continued to conduct commercial whaling after 1986 under the 'special permit' provision in Article VIII of the ICRW, which allows whales to be killed for scientific research.<sup>12</sup> Iceland killed an average of 90 whales per year from 1986-89, exporting most of the products to Japan, despite a 1986 consensus IWC resolution stating that the whale products should be utilised 'primarily for local consumption'.<sup>13</sup> Other IWC Resolutions in 1987 and 1989 called on Iceland to reconsider its scientific catches.<sup>14</sup>

Iceland ended its special permit whaling programme in 1990 and withdrew from the IWC in 1992.<sup>15</sup> But in 2002, after two failed attempts to rejoin the IWC with a reservation against the moratorium, it was readmitted as an IWC member,<sup>16</sup> although its reservation and its membership were disputed by many IWC members as being contrary to international law.<sup>17</sup> Nevertheless, Iceland resumed special permit whaling in 2003, killing 200 minke whales over the next five years under the guise of scientific research.<sup>18</sup> In 2006, it resumed commercial whaling under its contested reservation and has since killed 1,024 fin whales (classified as Vulnerable globally by the IUCN Red List) and 454 minke whales (see Table 1), exporting the majority of whale products to Japan.

Photo: Hvalur fin whale hunt

## 2022-24: Cruelty exposed

In the summer of 2022, NGO observers documented and exposed the immense cruelty of Iceland's fin whale hunt (see page 21).<sup>19</sup> In response, Iceland's Minister of Fisheries suspended the start of the 2023 season for more than two months and ordered monitoring of the remainder of the hunt by Iceland's Veterinary Authority (MAST). Whaling eventually commenced in August with new regulations in place, but welfare violations continued, prompting MAST to temporarily suspend the permit of one of the two whaling vessels.<sup>20</sup>

Hunting permits for fin and minke whales in Iceland have historically been approved in five-year blocks, based on quota advice issued by Hafogvatn, the Icelandic Marine and Freshwater Research Institute. After the welfare scandals in 2022 and 2023, it was unclear whether the Government would authorise any whaling in 2024, after the previous five-year permit ran out at the end of 2023. In June 2024, the Minister of Fisheries finally issued a permit, for 2024 only, of 99 fin whales off West Iceland and 29 off East Iceland.<sup>21</sup> This is lower than the current (2018-25) block quota recommended by Hafogvatn of 161 whales off West Iceland and 48 for East Iceland and is based for the first time on the tuning level of 0.72 agreed for the RMP by the IWC, instead of the less precautionary 0.60 level that had previously been used.<sup>22</sup> A minke whaling permit was also issued for one year.<sup>23</sup> As of 27 August 2024, there has been no whaling, but Kristján Loftsson, board member and managing director of Hvalur hf., Iceland's fin whaling company, has warned that the last whale has not been killed.<sup>24</sup>

Year	Fin whale	Minke whale
2006	7	1
2007	0	6
2008	0	38
2009	125	81
2010	148	60
2011	0	58
2012	0	52
2013	134	35
2014	137	24
2015	155	29
2016	0	46
2017	0	17
2018	146	6
2019	0	0
2020	0	0
2021	0	1
2022	148	0
2023	24	0
<b>TOTAL</b>	<b>1,024</b>	<b>454</b>

Table 1: Reported whale kills by Icelandic commercial whaling operations under reservation since the moratorium.<sup>25</sup>



Above: Icelandic fin whale on sale in Osaka, Japan

Above, left: Fin whale being butchered at the Hvalur whaling station, Iceland

Left: Fin whale being butchered at the Hvalur whaling station, Iceland



# NORWAY

In the decade preceding the IWC's adoption of the moratorium, Norway killed an average of 2,000 minke whales per year.<sup>26</sup> It filed an objection to the moratorium in 1982 and killed a total of 752 minke whales in 1986-87 after the ban came into effect. Facing possible sanctions from the US against its seafood products for undermining the effectiveness of the IWC by whaling under objection, Norway terminated that programme.<sup>27</sup> However, it initiated a special permit whaling programme in 1988 and hunted minke whales for scientific research until 1994.<sup>28</sup> The edible products were sold commercially on the domestic market. In 1993, Norway resumed commercial whaling under its objection (see Figure 2). In total, Norway has killed 17,337 whales since the implementation of the moratorium.<sup>29</sup>

Between 1988 and 2001, the IWC responded to Norway's special permit and commercial whaling with a series of resolutions that called on the Norwegian Government to reconsider its whaling programmes and objection to the moratorium and to halt all whaling activity (e.g., in 1988, 1989, 1990, 1992, 1993 and 1994).<sup>30</sup> Other resolutions (e.g. from 1996-98) included calls on Norway to refrain from exporting whale meat, which it began in 2013<sup>31</sup> and not to use a tuning level for setting catch limits that had not been accepted by the IWC (from 1992-93).<sup>32</sup> A Resolution in 2001 reiterated all these requests.<sup>33</sup>

Photo: Norwegian minke whale hunt

## An industry in crisis despite Government support

To promote domestic consumption and support the whaling industry, the Norwegian Government has provided fuel tax exemptions for whaling vessels, sponsored freezer units, covered the costs of a DNA register for hunted whales and funded whale meat promotion campaigns. In some years, Government subsidies have totalled at least half of the economic value of whale meat landings.<sup>34</sup> However, despite the Government's financial support, generous quotas and recent elimination of small area and per-vessel quotas, whaling in Norway is stagnating. Minimum guaranteed offload prices for whale meat are falling and the number of whales killed each year continues to fall short of the issued quotas (see Figure 2).<sup>35</sup>

The number of Norwegian vessels engaged in whaling has also fallen, from 31 vessels in 2005 to nine in 2023.<sup>37</sup> From mid-July to the end of August 2024, only two vessels were actively hunting.<sup>38</sup> The hunt is dominated by two companies that are focused on whaling, have larger vessels that can process more whales on board and export whale meat. In 2023, one of these vessels

(the Kato) killed 220 whales, 43 per cent of all whales caught.<sup>39</sup>

Norwegian demand for whale meat is also in decline; according to public opinion polling in 2022, only two per cent of the public eats whale meat often, down from four per cent in 2019.<sup>40</sup>

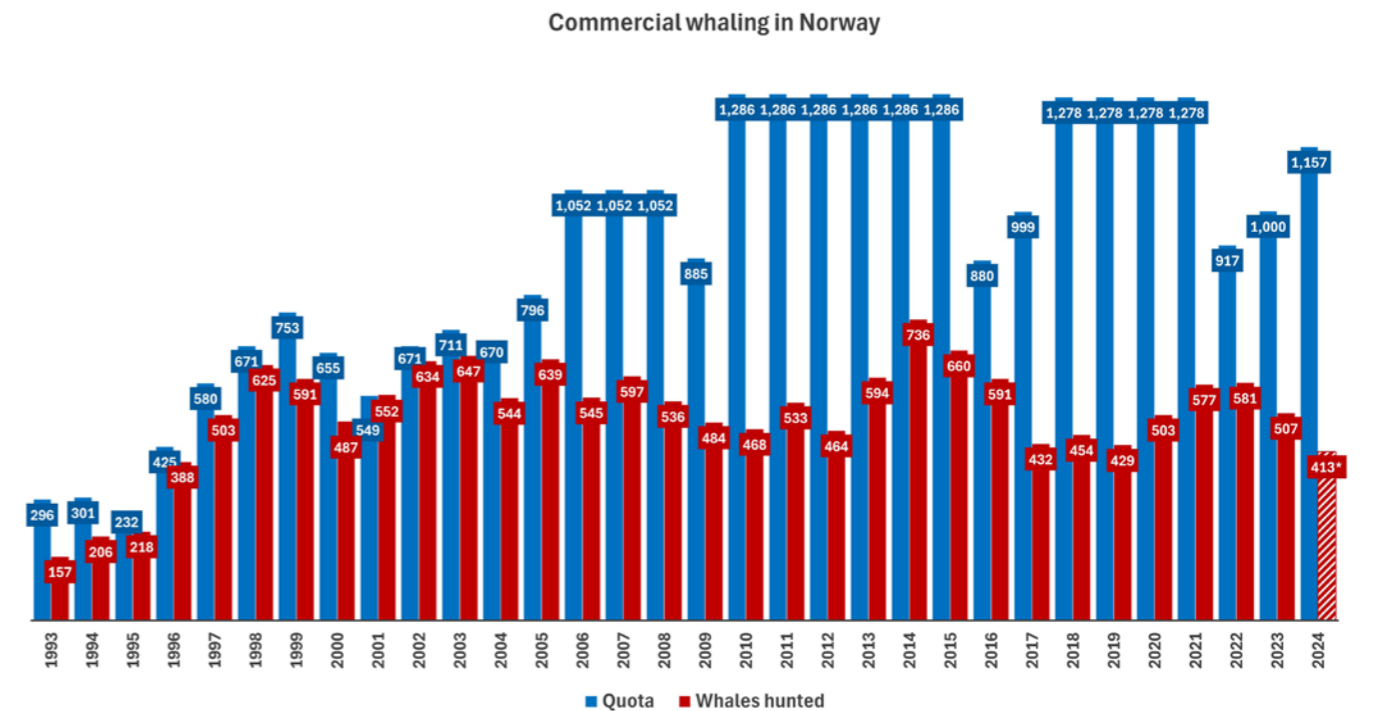
## Doubtful sustainability

The Norwegian Government's claim that its whaling is sustainable<sup>42</sup> is undermined by Norway's arbitrary use of a less precautionary tuning level that has not been approved by the IWC, its allowance of open hunts rather than setting quotas by small area and its spurious claims that whales must be culled to save collapsing fish stocks. Moreover, according to the Norwegian Scientific Committee for Food and Environment, females are 'overrepresented in the catch'.<sup>43</sup> Studies show that 66.1 to 77 per cent of hunted whales are female,<sup>44</sup> of which 37 to 91 per cent are pregnant.<sup>45</sup> This disproportionate removal of females, many of them pregnant, reduces reproduction rates, slowing recovery of the population to historical abundance levels.

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
<b>Quota</b>	1286	1286	880	999	1278	1278	1278	1278	917	1000	1157
<b>Kill</b>	736	660	591	432	454	429	503	577	581	507	TBD
<b>% of quota used</b>	57%	51%	67%	43%	36%	34%	39%	45%	63%	51%	TBD
<b>Vessels</b>	21	21	16	11	11	12	13	14	13	9	15
<b>Meat (tonnes)</b>	972	835	776	622	584	563	653	743	767	697	TBD
<b>Blubber (tonnes)</b>	0	0	0	0	0	0	0	60	101	96	TBD

Table 2: Quotas, catches, vessels and yield related to Norway's minke whale hunt.<sup>41</sup>

Figure 2: Authorised catch quotas and whales killed in Norway's commercial whaling; \*Data on hunted whales for 2024 are preliminary.<sup>36</sup>



# JAPAN

## Whaling under the guise of science

Japan initially filed an objection exempting it from the moratorium and killed 5,519 minke, sperm and Bryde's whales in the 1985/86 season, but withdrew this after the US threatened to revoke Japanese access to fishing grounds in its exclusive economic zone (EEZ).<sup>46</sup> Instead, from 1987 until 2019 – when Japan left the IWC – the Government operated two large-scale special permit programmes through Kyodo Senpaku, a new company formed from the assets of Japan's largest whaling companies. The largest programme, initially known as "Japan Research Program in the Antarctic" or JARPA, deployed a factory fleet (a mother ship and up to four catcher boats) that killed 333 minke and 50 fin whales a year at its peak. JARPN, the programme in the North Pacific, originally targeted minke whales in Japan's coastal waters, using 'small type whaling vessels' that operate up to 50 miles from shore and return to port daily. From 2000, this programme expanded to include an offshore hunt by the factory fleet of minke, sei, Bryde's and (until 2013) sperm whales.<sup>47</sup>

Extensive criticism of Japan's special permit whaling operations within the IWC, including in at least 25 resolutions, centred on its overt commercialism and the fact that its research objectives were not necessary for management.<sup>48</sup> In 2014, the International Court of Justice concurred, ruling in a case brought by Australia and New Zealand that JARPA II was 'not for the purposes of scientific research' and therefore violated the ICRW.<sup>49</sup> In 2014, Japan complied with the court's order to stop hunting but adjusted and relaunched both research programmes as the New Scientific Research Program in Antarctica (NEWREP-A) and its counterpart in the North Pacific (NEWREP-NP) in 2015.<sup>50</sup> The hunting of sei whales beyond Japan's EEZ prompted another legal challenge, this time by the European Union under CITES. In 2018, the CITES Standing Committee ruled that Japan's landing of thousands of tonnes of edible North Pacific sei whale products from the high seas each year constituted international trade for primarily commercial purposes and therefore violated CITES.<sup>51</sup> Japan responded by limiting its sei whale hunt to within its EEZ, which reduced its catch from 134 to 25 per year.<sup>52</sup>

**Photo:** One of Japan's scientific whaling vessels, the Yushin Maru

## Japan leaves the IWC

Between 1987 and 2019, Japan's special permit operations killed a total of 17,637 whales (see Tables 3 and 4). However, on 30 June 2019, after its latest attempt to convince the IWC to lift the commercial whaling moratorium failed at the 67th meeting in 2018, Japan

ended both research programmes and left the IWC to conduct commercial whaling outside international control. The Fisheries Agency currently authorises up to 187 Bryde's whales and 25 sei whales to be taken annually by the factory fleet in Japan's EEZ and up to 142 minke whales to be hunted by small type whaling vessels closer to shore.<sup>53</sup>

**Table 3:** Whales killed by Japan under objection and in special permit 'scientific' whaling operations in the Antarctic.<sup>54</sup>

Year(s)	Minke whales	Fin whales	Humpback whales	All species
	Total catch	Total catch	Total catch	Total catch
<b>OBJECTION</b>				
1985/86	1,941	0	0	1,941
1986/87	1,941	0	0	1,941
<b>JARPA</b>				
1987/88 - 1994/95	2,449	0	0	2,449
1995/96 - 2004/05	4,367	0	0	4,367
<b>JARPA II</b>				
2005/06 - 2008/09	2,595	14	0	2,609
2009/10 - 2014/15	1,298	4	0	1,302
<b>NEWREP A</b>				
2015/16 - 2017/19	1,337	0	0	1,337
<b>TOTAL</b>	<b>15,928</b>	<b>18</b>	<b>0</b>	<b>15,946</b>

Year(s)	Minke whales (pelagic)	Minke whales (coastal)	Bryde's whales	Sperm whales	Sei whales	Fin whales	All species
	Total catch	Total catch	Total catch	Total catch	Total catch	Total catch	Total catch
<b>OBJECTION</b>							
1986/87	311	0	317	200	0	0	828
1987/88	304	0	317	188	0	0	809
<b>JARPN I</b>							
1994 - 1999	498	0	1	0	0	0	499
<b>JARPN II</b>							
2000 - 2001	140	0	93	13	1	0	247
2002 - 2003	203	100	100	15	90	0	508
2004	100	60	51	3	100	0	314
2005 - 2013	543	944	413	25	898	0	2,823
2014 - 2016	0	188	76	0	270	0	534
<b>NEWREP NP</b>							
2017 - 2019	87	292	0	0	269	0	648
<b>COMMERCIAL</b>							
2019	0	44	187	0	25	0	256
2020	0	95	187	0	25	0	307
2021	0	91	187	0	25	0	303
2022	0	58	187	0	25	0	270
2023	0	83	187	0	24	0	294
2024 (Quota)	0	(167)	(187)	0	(25)	(60)	(379)
<b>TOTAL</b>	<b>2,186</b>	<b>1,955</b>	<b>2,303</b>	<b>444</b>	<b>1,752</b>	<b>0</b>	<b>8,640</b>

**Table 4:** Whales killed by Japan in the North Pacific under objection, special permit 'scientific' whaling operations and after resuming commercial whaling in 2019.<sup>55</sup>

END COMMERCIAL WHALING



**2024: A new whaling ship and the addition of fin whales**

In June 2024, the Fisheries Agency issued a new commercial quota to hunt 59 fin whales a year in the North Pacific.<sup>56</sup> The meat from the hunt, which began in early August, is processed and stored aboard the Kangei Maru, a new factory ship costing 7.5 billion yen (~\$47 million), launched in May 2024. Kyodo Senpaku paid for the construction of the new vessel with Government loans that – after a 300-million-yen (\$2 million) contribution from the city of Shimonoseki, the home port for the whaling fleet<sup>57</sup> – will cost the company at least 375 million yen (\$2.4 million) a year over 20 years to repay.<sup>58</sup>

Japan's plan to hunt fin whales was not communicated to the IWC's Scientific Committee at its May 2024 meeting – a violation of the country's duty under customary international law and the UN Convention on the Law of the Sea (UNCLOS) to cooperate with the IWC in the conservation, management and study of cetaceans, as well as with the range states of whales it hunts.<sup>59</sup> Not only are there no agreed abundance estimates for North Pacific fin whales, whose population structure is uncertain, Japan will not use the IWC's agreed 0.72 tuning level for the RMP to set catch limits<sup>60</sup> and could, according to its own review process, seriously deplete local populations.<sup>61</sup> The new hunt also raises profound welfare concerns: Japanese whalers have not hunted fin whales since 2011, when they hunted the species in Antarctica.<sup>62</sup> Current harpoon operators may have no experience in killing a species that is significantly larger and faster than the species they currently hunt.<sup>63</sup>



Above: Japan's new factory whaling ship, the Kangei Maru maws

**Free-falling demand for whale meat but ongoing influence at the IWC**

Despite the Japanese whaling industry's demand for higher quotas and continuing imports from Norway and Iceland, demand for whale meat remains low in Japan.<sup>64</sup> Even before the expanded 2024 whaling season began, Japan had a surplus of more than 4,300 tonnes of whale meat in expensive freezer storage, including at least 2,000 tonnes of fin whale meat remaining from an import of 2,546 tonnes from Iceland in 2023 that cost 3bn yen (more than \$20 million).<sup>65</sup>

Although no longer a member of the IWC, it appears that Japan continues to wield considerable influence within the Commission, as suggested by a number of resolutions supporting commercial whaling proposed and supported by non-whaling states. Japanese officials and consultants regularly attend meetings of the Ministerial Conference on Fisheries Cooperation among African States bordering the Atlantic Ocean (COMHAFAT or ATLAFCO) ahead of IWC meetings. At the COMHAFAT/IWC preparatory session ahead of the IWC meeting in 2021, Japanese officials presented their objectives and recommendations to the gathered officials.<sup>66</sup> At the July 2024 meeting in Morocco to 'refine a common strategy' for IWC69, COMHAFAT members in arrears of their IWC membership dues expressed their wish that Japan, 'as an outstanding partner of ATLAFCO', financially support these countries in paying their membership fees to restore their right to vote.<sup>67</sup>

**International trade in whale products**

Between 1975-86, CITES responded to the IWC's incremental protection of great whale species by listing each of them on its Appendix I, prohibiting international trade in their parts and derivatives for primarily commercial purposes.

It continues to reaffirm the prohibition regularly with Notifications to the Parties.<sup>68</sup> However, Norway, Iceland and Japan took reservations to several of the CITES whale listings, enabling them to continue to trade in products from those species with each other and with non-parties such as the Faroe Islands.

Since trade began in 2013, Norway has exported between about 1,800 and 2,000 tonnes of minke whale meat to Japan. It has also exported smaller quantities to Iceland and the Faroe Islands (see Table 5) sourced by the Lofothval whaling company, in which Iceland's whaler Kristján Loftsson holds 12 per cent of the shares.<sup>69</sup>

CITES recommends that Parties holding reservations to Appendix I-listed species still fulfil their legal conditions for issuing export permits and reporting annual trade data.<sup>70</sup> Unfortunately, reports to CITES of whale meat trade data from Norway, Iceland and Japan rarely match their national trade statistics, making it difficult to determine the full extent of the trade: Norway's annual reports to CITES include about 200 more tonnes than is indicated by the Government's statistics bureau;<sup>71</sup> Iceland and the Faroe Islands have not reported any imports of Norwegian whale meat to CITES and Japan indicated to CITES that it had imported about 1,000 fewer tonnes from Norway than Norway indicated it had exported to Japan.

Meanwhile, for the period between 2006-22, Iceland reported to CITES that it had exported about 13,600 tonnes of fin whale meat to Japan, while Japan indicated that its Icelandic imports amounted to only about 3,000 tonnes (see Table 6).<sup>72</sup> Furthermore, Iceland's national trade statistics indicate total exports of 14,350 tonnes of whale meat (2006-22) to Japan while Japan's national import statistics for the same period recorded importing almost 11,000 tonnes, which is 8,000 tonnes more than reported to CITES.<sup>73</sup>

Right: Kyodo Senpaku has set up whale meat vending machines to promote whale consumption in Japan



©WDC

**Table 5** Norwegian whale meat exports (tonnes) between 2002-23. Comparison between Norwegian national statistics, data reported to CITES and Japanese national import records (n. a. - not available). <sup>74</sup> \* shipment rejected by Japan authorities due to high levels of lactic acid

Norwegian whale meat exports [t]													
Year	Total			Japan			Iceland			Faroe Islands			
	Norway	CITES		Norway	CITES		Japan	Norway	CITES		Norway	CITES	
	National trade statistics	Exporter reported quantity	Importer reported quantity	National trade statistics	Exporter reported quantity	Importer reported quantity	Import statistics Norwegian whale meat	National trade statistics	Exporter reported quantity	Importer reported quantity	National trade statistics	Exporter reported quantity	Importer reported quantity
2002	25.04	39.11	0	0	0	0	-	24.61	39.11	0	0.43	0.00	0
2003	12.61	10.60	0	0	0	0	-	4.27	0	0	8.35	10.60	0
2004	0	0	0	0	0	0	-	0	0	0	0	0	0
2005	0	0	0	0	0	0	-	0	0	0	0.06	0	0
2006	0	0	0	0	0	0	-	0	0	0	0.25	0	0
2007	0	0	0	0	0	0	-	0	0	0	0	0	0
2008	5.20*	5.60	0	5.20*	5.60	0.00	0.00	0	0	0	0	0	0
2009	1.92	1.92	0	0	0	0	1.02	0	0	0	1.92	1.92	0
2010	0	1.00	0	0	0	0	0	0	0	0	0	1.00	0
2011	0	0.47	0	0	0	0	0	0	0	0	0.47	0.47	0
2012	0	0.53	0	0	0.03	0	0	0	0	0	0.47	0.50	0
2013	8.33	42.71	0.32	7.34	40.71	0.32	0.41	0	0	0	0.99	2.00	0
2014	83.93	107.37	36.46	82.39	96.37	36.46	2.70	1.01	10.00	0	0.53	1.00	0
2015	95.97	26.00	0	90.23	0.00	0.00	5.20	3.59	20.00	0	2.16	6.00	0
2016	201.60	199.86	0	197.64	199.00	0.00	49.89	3.10	0	0	0.86	0.86	0
2017	215.63	215.63	197.64	214.77	214.77	197.64	136.79	0	0	0	0.86	0.86	0
2018	152.59	153.01	17.25	147.85	148.27	17.25	140.95	4.30	4.31	0	0.43	0.43	0
2019	201.02	204.05	0	200.16	200.18	0.00	108.86	0	3.00	0	0.86	0.86	0
2020	216.88	417.38	202.29	214.76	415.26	202.29	161.33	0	1.22	0	2.12	0.90	0
2021	195.23	199.26	214.76	193.25	193.25	214.76	211.41	0.68	0	0	1.30	0	0
2022	352.50	354.16	193.25	350.68	350.68	193.25	186.16	1.82	1.82	0	0	0	0
2023	354.24	n. a.	n. a.	352.11	n. a.	n. a.	344.82	1.70	n. a.	n. a.	0.43	n. a.	n. a.
<b>Total</b>	<b>2,119.00</b>	<b>1,978.65</b>	<b>861.96</b>	<b>2,051.17</b>	<b>1,864.12</b>	<b>861.96</b>	<b>1,349.52</b>	<b>45.08</b>	<b>79.46</b>	<b>0</b>	<b>22.50</b>	<b>27.41</b>	<b>0</b>
<b>%</b>				<b>96.81</b>	<b>94.21</b>			<b>2.13</b>	<b>4.02</b>		<b>1.06</b>	<b>1.39</b>	

**Table 6:** Icelandic whale meat exports (tonnes) between 2002 and 2023. Comparison between Icelandic national statistics, data reported to CITES and Japan's national import records (n. a. - not available)<sup>75</sup> \* reported as term = specimen, unit [kg], probably mislabelling. \*\* includes 10,000 kg derivatives

Photo: Icelandic fin whale products arriving in Osaka, Japan

Icelandic whale meat export [t]													
Year	Total			Japan			Norway			Faroe Islands			
	Iceland	CITES		Iceland	CITES		Japan	Iceland	CITES		Iceland	CITES	
	National trade statistics	Exporter reported quantity	Importer reported quantity	National trade statistics	Exporter reported quantity	Importer reported quantity	Import statistics Icelandic whale meat	National trade statistics	Exporter reported quantity	Importer reported quantity	National trade statistics	Exporter reported quantity	Importer reported quantity
2002	0	0	0	0	0	0	-	0	0	0	0	0	0
2003	0	0	0	0	0	0	-	0	0	0	0	0	0
2004	0	0	0	0	0	0	-	0	0	0	0	0	0
2005	0	0	0	0	0	0	-	0	0	0	0	0	0
2006	0.45	0.50	0	0	0	0	-	0	0	0	0.45	0.50	0
2007	0	0	0	0	0	0	-	0	0	0	0	0	0
2008	82.68	96.00	0	81.77	95.00	0	66.57	0	0	0	0.91	1.00	0
2009	0	165.25*	0	0	165.25*	0	0	0	0	0	0	0	0
2010	764.27	725.00	0.73	764.27	725.00	0.73	419.11	0	0	0	0	0	0
2011	941.58	0	1.09	941.58	0	1.09	502.66	0	0	0	0	0	0
2012	1,041.41	1,051.79	725.79	1,041.41	1,051.78	725.79	704.81	0	0	0	0	0.01	0
2013	400.65	565.00	605.00	386.50	550.00	600.00	418.63	14.14	15.00	5.00	0	0	0
2014	2,325.24	2,556.00**	1,624.31	2,325.24	2,556.00**	1,624.31	1,682.38	0	0	0	0	0	0
2015	1,815.71	2,012.00	0	1,815.71	2,012.00	0	1,190.14	0	0	0	0	0	0
2016	1,529.32	0	0	1,529.32	0	0	992.45	0	0	0	0	0	0
2017	1,407.40	1,556.00	0	1,407.40	1,556.00	0	1,152.06	0	0	0	0	0	0
2018	1,468.69	1,977.50	0	1,468.69	1,977.50	0	0	0	0	0	0	0	0
2019	0	1,690.00	1.96	0	1,690.00	1.96	1,242.61	0	0	0	0	0	0
2020	0	1,235.00	0	0	1,235.00	0	0	0	0	0	0	0	0
2021	0	0	0	0	0	0	0	0	0	0	0	0	0
2022	2,576.35	0	0	2,576.35	0	0	0	0	0	0	0	0	0
2023	0	n. a.	n. a.	0	n. a.	n. a.	2,546.34	0	n. a.	n. a.	0	n. a.	n. a.
<b>Total</b>	<b>14,353.75</b>	<b>13,630.04</b>	<b>2,958.88</b>	<b>14,338.25</b>	<b>13,613.53</b>	<b>2,953.88</b>	<b>10,917.75</b>	<b>14.14</b>	<b>15.00</b>	<b>5.00</b>	<b>1.36</b>	<b>1.51</b>	<b>0</b>
<b>%</b>				<b>99.89</b>	<b>99.88</b>			<b>0.10</b>	<b>0.11</b>		<b>0.01</b>	<b>0.01</b>	

# Inhumane whale killing methods

The IWC defines the humane killing of a whale as 'causing its death without pain, stress or distress perceptible to the animal'

... 76

The IWC seeks to ensure that hunts are as humane as possible for whales and reviews and advises on data submitted by whaling nations to its Whale Killing Methods and Welfare Issues Working Group.<sup>77</sup> However, for many years, Japan, Norway and Iceland have not fulfilled their reporting obligations under the ICRW nor responded to requests in multiple resolutions to report welfare parameters to the IWC, including Times-To-Death (TTD) and Instantaneous Death Rates (IDR) (see e.g. Resolutions from 1992-95, 1999, 2001 and 2004).<sup>78</sup>

- The most recently reported data on Norway's hunts date back to 2012 when 18 per cent of targeted animals

were not killed instantaneously. The median TTD was six minutes and one whale took up to 25 minutes to die.<sup>79</sup>

- Japan has not reported TTD data to the IWC since 2005 and the most recent reported data to the North Atlantic Marine Mammal Commission (NAMMCO) were from its special permit operations for 2005-09. These showed IDR of 34-47 per cent for sei whales, 40-43.5 per cent for minke whales (offshore), 40-68 per cent for Bryde's whales in the North Pacific and 40.6-54.2 per cent for minke whales in the Antarctic.<sup>80</sup>

Below: Minke whale



©Michael J Tetley

## Cruelty in Iceland's fin whaling

Over several weeks in 2022, Hard to Port, a non-governmental organisation (NGO), monitored the butchering process of fin whales in Hvalfjörður, Iceland, documenting welfare concerns that included poorly placed shots, undetonated penthrite grenades, and the use of multiple harpoons to kill a single whale.<sup>81</sup> Based on estimates by Dr. Egil Øen that it takes about eight minutes to reload a second harpoon and place the shot, the total TTD in such cases may amount to more than 25 minutes.<sup>82</sup> In August 2022, in response to the footage, Iceland's Fisheries Minister ordered all whale hunting to be monitored by on-board inspectors from MAST with immediate effect.

MAST's final report was published in May 2023 and the accompanying press release states: 'Of the 148 whales caught, 36 whales (24%) were shot more than once. Of these, five whales were shot three times, and four whales were shot four times. One whale with a harpoon in its back was chased for 5 hours without success.' On-board monitoring of 58 fin whales further showed that '... 20% (n = 14) of the fin whales were shot more than once; two whales had to be shot four times, killing one whale took almost an hour and the other two hours; the median time from first shot to death of non-immediately killed whales was 11.5 minutes.'<sup>83</sup>

In June 2023, Iceland's Animal Welfare Council confirmed that the fin whale hunt could not meet Iceland's animal welfare standards.<sup>84</sup> As a result, the Ministry of Fisheries issued a temporary whaling ban until the end of August, when hunting resumed under strict conditions for the remaining weeks of the whaling season.<sup>85</sup> In those last weeks, 29 per cent of whales shot did not die instantly, 21 per cent were shot twice, the median time to death was 8 minutes, and one whale took 35 minutes to die.<sup>86</sup>

These recent statistics are even worse than earlier published data in which 16 per cent of fins whales did not die instantly but endured a median survival time of 8 minutes.<sup>87</sup>

Only minimal data is available on TTD in the Icelandic minke whale hunts. Thirteen 13 minke whale kills were observed in 2014 and 2015, for which an IDR of 69 per cent was recorded (n=9). The average TTD for all 13 whales was 2 minutes, and the median TTD for the 4 whales not killed instantly was 4 minutes; the longest TTD was 13 minutes.<sup>88</sup>



END COMMERCIAL WHALING



## Whales: Worth more alive

### Ecosystem services

Climate change mitigation is often linked to industrial emissions reductions or measures such as reforestation or rewilding of terrestrial ecosystems.

However, the world's oceans are a crucial carbon sink, binding about 23 percent of anthropogenic CO<sub>2</sub> emissions.<sup>89</sup> Live cetaceans, particularly large and long-lived whales, are an important component of the ocean's carbon cycle, acting as effective carbon storage of the biomass they ingest.<sup>90</sup> After death, their carcasses sink to the ocean floor, which prevents the carbon released during decomposition processes from being released into the atmosphere. By reducing whale populations, commercial whaling reduced the carbon storage capacity of the oceans. It is estimated that today large whales store 9.1 million tonnes less carbon than was stored by the large whale population before the onset of industrial whaling.<sup>91</sup>

Furthermore, cetaceans are important vertical ('whale pump') and horizontal ('great whale conveyor belt') nutrient vectors.<sup>92</sup> Deep-sea-hunting cetaceans such as sperm whales transport nutrients vertically by feeding below the euphotic zone and defecating in surface waters, where nutrients for phytoplankton growth are otherwise limited. Thus, cetacean-mediated nutrient transport contributes to enhanced phytoplankton productivity, which in turn results in an increased binding of atmospheric CO<sub>2</sub>.<sup>93</sup> In addition, whale migration from high-latitude feeding grounds to low-latitude calving areas transports nutrients from the highly productive polar regions to the nutrient deficient tropics via urea, placentas and carcasses.<sup>94</sup> Since the productivity in tropical and subtropical aquatic ecosystems is too low to feed baleen whales, small cetaceans and deep diving toothed species are the only cetaceans contributing to the nutrient cycling in large parts of the world's oceans.<sup>95</sup>

### Whale watching

The IWC formally recognises 'the valuable benefits that can be derived from the non-lethal uses of cetaceans as a resource, both in terms of socio-economic and scientific development' and acknowledges non-lethal use, such as whale watching, as a legitimate management strategy.<sup>96</sup> Whale watching can also motivate the public's interest in protecting wildlife, ocean ecosystems and the environment in general.<sup>97</sup>

Organised whale watching began with gray whales in the 1950s.<sup>98</sup> Within little more than a generation, in 2008, the industry was worth US\$2.1 billion in total expenditures worldwide, with 13 million people a year taking whale-watching tours.<sup>99</sup> Whale watching is popular and has expanded steadily in Japan, Norway and Iceland, as well

as in Caribbean countries that have actively supported commercial whaling activities although the potential ecological and economic impacts that whaling could have on tourism have been highlighted.<sup>100</sup> Since 1975, the IWC has collated, analysed, and disseminated leading-edge research and information on whale watching, as well as providing a forum for the discussion and dissemination of scientific studies addressing all aspects of whale watching.<sup>101</sup> The IWC also has its own online handbook for whale watching on its website, a joint venture with the Convention on the Conservation of Migratory Species of Wild Animals (CMS).<sup>102</sup> As such, the IWC contributes at the global level to the pursuit of sustainable whale watching, while addressing the educational, socio-cultural and economic development opportunities that are widely associated with it.<sup>103</sup>

## Recommendations

The IWC has made no formal statement expressing concern about commercial whaling for more than 20 years,<sup>104</sup> and substantive discussion at Commission meetings has been limited; the IWC does not even have a standing agenda item on commercial whaling.

Decades of silence by the body recognised as the global authority on the conservation and management of whales gives the false impression that the continuation of commercial whaling by Iceland, Japan and Norway is acceptable to the international community.

### We therefore urge IWC Contracting Governments to:

#### Strongly support proposed resolutions and Schedule amendments to IWC69 that support and extend IWC protections from commercial whaling:

- Proposed Resolution 9.5 on International Legal Obligations in Commercial Whaling
- Proposed 8.1 Schedule Amendment to create a South Atlantic whale sanctuary

#### Reject proposed resolutions that seek to undermine the moratorium on commercial whaling:

- Proposed Resolution 9.1 on Food Security and
- Proposed Resolution 9.2 for the Implementation of a Conservation and Management Program for Whale Stocks Aimed Towards the Lifting of the Moratorium and Orderly Development of the Whaling Industry

#### Support increased efforts to expand IWC's cooperation with other intergovernmental organisations:

- Proposed Resolution 9.3 on Co-operation with CCAMLR in Antarctica
- Proposed Resolution 9.4 on Synergies between the IWC, the Kunming Montreal Global Biodiversity Framework and the BBNJ Agreement.

#### Consider the provision of additional financial support to the IWC in order to strengthen the valuable work of the Scientific Committee and the Conservation Committee to address other human-caused threats to all cetaceans.



## References

1. Rocha, R., Clapham, P. & Ivashchenko, Y. (2015). Emptying the Oceans: A Summary of Industrial Whaling Catches in the 20th Century. *Marine Fisheries Review* 76(4): 37-48. [Available here](#)
2. Ivashchenko, Y. & Clapham, P. (2014). Too Much Is Never Enough: The Cautionary Tale of Soviet Illegal Whaling. *Marine Fisheries Review* 76(1-2): 1-21. [Available here](#). Ivashchenko, Y. & Clapham, P. (2015). What's the catch? Validity of whaling data for Japanese catches of sperm whales in the North Pacific. *Royal Society Open Science* 2(7): 150177. <https://doi.org/10.1098/rsos.150177>
3. Tulloch, V., Plagányi, É., Brown, C. et al. (2019). Future recovery of baleen whales is imperiled by climate change. *Global Change Biology* 25: 1263-1281. <https://doi.org/10.1111/gcb.14573>
4. IWC (2024a). Total catches since the moratorium came into place in 1985. [Available here](#). Total catches between the 1985/86 whaling season and 2023 are: Japan – 24,586; Iceland – 2,040; and Norway – 16,924. In addition, as of 26 August 2024, Japan has killed 48 Bryde's whales, 1 sei whale and 4 fin whales, while Norway has killed 413 minke whales.
5. Wold, C. (2024). 40 years after the Moratorium on Commercial Whaling: Assessing the competence of the International Whaling Commission to confront critical threats to cetaceans. *Pace International Law Review*. Manuscript 1436, 64 pp. [Available here](#)
6. Rocha, R., Clapham, P. & Ivashchenko, Y. (2015), *ibid.*
7. IWC (1979). Twenty-ninth report of the Commission, Cambridge, UK.
8. Chair's report of the 34th Annual Meeting of the IWC. Brighton, 1982. [Available here](#)
9. Based on Rocha, R., Clapham, P. & Ivashchenko, Y. (2015), *ibid.*, and 21st century catches from IWC (2024a) *ibid.* including special permit and catches by non-members
10. Resolutions [2007-4](#) and [2018-5](#)
11. IWC (2024b). The Revised Management Procedure. [Available here](#); IWC (2024b). The Revised Management Procedure – further information. [Available here](#); IWC (2024c). Revised Management Scheme. [Available here](#)
12. IWC (2024c). Catches taken: special permit catches since 1985. [Available here](#) [accessed 30 July 2024]
13. IWC Resolution [\(1986-2\)](#)
14. IWC Resolutions [\(1987-3, 1989-1\)](#)
15. NOAA (2002). Iceland Rejoining International Whaling Commission. Fact sheet 15 May 2002, NOAA Department of Commerce. [Available here](#)
16. Gillespie, A. (2003). Iceland's Reservation at the International Whaling Commission. *European Journal of International Law* 14(6): 977-998. <https://doi.org/10.1093/ejil/14.5.977>
17. IWC (2024d). Iceland and her re-adherence to the Convention after leaving in 1992. [Available here](#)
18. IWC (2024c). Catches taken: special permit catches since 1985. [Available here](#) [accessed 30 July 2024]
19. Hard to Port, WDC, AWI, EIA & Pro Wildlife (2022). IWC68 Briefing for Commissioners – Iceland's 2022 commercial fin whaling season. [Available here](#)
20. Tómas, R. 2023. (2023). Whaling Vessel Suspended for Violating Welfare Protocols. *Iceland Review*, 14 Sep 2023, [available here](#)
21. Government of Iceland (2024). License Issued for the Hunting of Fin Whales. News, 11 June 2024. [Available here](#)
22. Hafogvatn (2017). LANGREYÐUR – FIN WHALE *Balaenoptera physalus*. State of Marine Stocks and Advice 2017. Marine and Freshwater Research Institute, 13 June 2017. [Available here](#)
23. Sverrisson, O. (2024). Sá sæng sína upp reidda. Article in *Visir*, 18 June 2024. [Available here](#)
24. Kristjánsdóttir, I. (2024). Síðasti hvalurinn hefur ekki verið veiddur. Article at RUV website, 14 June 2024. [Available here](#)
25. IWC (2024e). Catches taken: under objection or under reservation. [Available here](#) [accessed 30 July 2024]
26. Tinch, R., Phang, Z. & Mathieu, L. (2011). Norwegian use of whales: past, present and future trends. Report for WSPA. Eftec (ed), London, 84 pp. [Available here](#)
27. Reagan, R. (1986). Message to Congress on Norwegian Noncompliance with the International Whaling Commission Conservation Program. August 4, 1986. [Available here](#)

28. IWC (2024c). Catches taken: special permit catches since 1985. [Available here](#) [accessed 30 July 2024]
29. IWC (2024a). Total catches since the moratorium came into place in 1985. [Available here](#) As of mid-August 2024, Norway has killed 413 minke whales in 2024.
30. E.g. Resolutions [1988-1](#), [1989-2](#), [1990-1](#), [1992-6](#), [1993-8](#) and [1994-11](#)
31. Resolution [1996-5](#), Resolution [1997-3](#) and Resolution [1998-1](#)
32. Resolutions [1992-4](#), [1992-3](#), and [1993-8](#)
33. Resolution [2001-5](#)
34. Tinch, R. & Phang, Z. (2009): Economics of subsidies to whaling. Report to WWF & WDCCS dated June 2009. Etfec (ed), London, 32 pp. [Available here](#)
35. Råfisklaget (2023). Årsberetning 2023. [Available here](#)
36. Statistics on Norway's whaling can be accessed by adding the relevant week and year to <https://www.rafisklaget.no/nyheter/fisknytt-uke-WW-YYYY>. E.g. statistics for week 29 in 2024 [here](#)
37. Fiskeridirektoratet (2024a). Høring-regulering av fangst av vågehval i 2024 – as of 17th January 2024. [Available here](#)
38. Norges Råfisklaget 2024. Fisknytt uke 34. [Available here](#) [accessed August 27 2024];
39. Fiskeridirektoratet (2024a). Ibid.
40. Response Analyse AS (2022). Norwegian attitudes on whaling – Findings from a September 2021 Poll. Commissioned by AWI, NOAA & WDC. [Available here](#)
41. Høyere vågehvalkvote (2024) [Available here](#); Råfisklaget (2023). Årsberetning 2023. [Available here](#); Fiskeridirektoratet (2024b). Fartøys tillatelse: Vågehvalfangst. [Available here](#)
42. Norway (2023). Whaling. Article at Government's website, last update 9 January 2023. [Available here](#)
43. VKM (2022): VKM Report 01 – Compilation of knowledge on the global population of common minke whale (*Balaenoptera acutorostrata*). Scientific Opinion of the Panel on Alien Organisms and Trade in Endangered Species (CITES) of the Norwegian Scientific Committee for Food and Environment. [Available here](#)
44. VKM (2022), *ibid.* Fiskeridirektoratet (2024a). Høring-regulering av fangst av vågehval i 2024 – as of 17th January 2024. [Available here](#)
45. VKM (2022), *ibid.* Christensen, I., Jonsgrd, A. & Rørvik, C. (1981). Catch statistics for minke whales (*Balaenoptera acutorostrata*) and killer whales (*Orcinus orca*) caught by Norway in 1979. Report of the IWC: 635-7.
46. Murphy, S. D. (2001). U.S. Sanctions against Japan for Whaling. *American Journal of International Law* 95(1): 149-152. <https://doi.org/10.2307/2642050>
47. Environmental Investigation Agency & Animal Welfare Institute (2018). Commercial whaling: Unsustainable, inhumane, unnecessary. [Available here](#)
48. Fielding, R. (2019). Japan's Scientific Whaling Ruse is Over. *Foreign Policy*. Available here. See also IWC (2024g). IWC Resolutions. [Available here](#)
49. ICJ – International Court of Justice (2014). Whaling in the Antarctic (*Australia v. Japan*; *New Zealand intervening*). Summary of the Judgment of 31 March 2014. [Available here](#)
50. Ministry of Foreign Affairs of Japan (2017). Implementation of New Scientific Whale Research Program in the western North Pacific (NEWREP-NP) [Available here](#)
51. CITES SC (2018). Introduction from the Sea of sei whales (*Balaenoptera borealis*) by Japan. SC 70 Doc. 27.3.4. [Available here](#)
52. Maron, D. (2019). Why Japan stopped some of its controversial whale hunts. *National Geographic*. [Available here](#)
53. Ministry of Foreign Affairs of Japan. Initial Allocation of TAC (Total Allowable Catch) Catch Quota. [Available here](#)
54. IWC (2024). Total catches since the moratorium came into place in 1985. [Available here](#)
55. IWC (2024). Total catches since the moratorium came into place in 1985. [Available here](#)
56. MAFF (2024). Catch limits for western North Pacific fin whales calculated in line with the IWC's Revised Management Procedure (RMP). RW/S23/02, 28 pp. [Available here](#)
57. McCurry, J. (2024). The vast new whaling 'mother ship' that Japan hopes will revive a shrinking industry. Article in *The Guardian*, 2 May 2024. [Available here](#)
58. Sanada (2024). Will commercial whaling be revived? Expanding the scope of fin whales, but the reality of the 'time bomb' that the whaling company is facing. 4 June, 2024. [Available here](#)
59. Wold, C. (2020). Japan's Resumption of Commercial Whaling and Its Duty to Cooperate with the International Whaling Commission. *Journal of Environmental Law and Litigation* 35: 87-143.
60. MAFF (2024). Catch limits for western North Pacific fin whales calculated in line with the IWC's Revised Management Procedure (RMP). RW/S23/02, 28 pp. [Available here](#)
61. External Panel (2024). Report from the external Panel requested to review the proposal from Japanese scientists for catch limits of fin whales for Japanese commercial whaling. 8 pp. [Available here](#)
62. IWC (2024c). Catches taken: special permit catches since 1985. [Available here](#) [accessed 30 July 2024]
63. Fin whales can measure up to 25m and weigh up to 70 tonnes. Sei whales can measure up to 19.5m and weigh up to 30 tonnes
64. McCurry, J. (2024). The vast new whaling 'mother ship' that Japan hopes will revive a shrinking industry. Article in *The Guardian*, 2 May 2024. [Available here](#)
65. Sanada (2024). Will commercial whaling be revived? Expanding the scope of fin whales, but the reality of the 'time bomb' that the whaling company is facing. 4 June, 2024. [Available here](#)
66. Fisheries Agency of Japan (2021). Director for Fisheries Negotiations, Hideki Moronuk. Points to be noted on Extension of contract for Executive Secretary and Results of Working Group on Operational Effectiveness. At COMHAFAT IWC Preparatory Meeting (7 September 2021). [Available here](#) and [here](#)
67. Siemeni, R. (2024). Economie bleue/Comhafat : les pays membres aiguissent leurs armes en prévision du sommet de Lima. 23 July 2024. [Available here](#)
68. CITES (2024): Trade in specimens of species and stocks of whales protected by the International Whaling Commission. Notification to the Parties No. 2024/007. [Available here](#)
69. Proff (2024). Lofothval AS. [Available here](#).
70. CITES Resolution Conf. 4.25 (Rev. CoP19). [Available here](#)
71. See UNEP-WCMC (2024): CITES Trade Database. (2024). Compiled by UNEP-WCMC for the CITES Secretariat. [Available here](#). Accessed July 2024. And Statistisk Sentralbyrå (2024). Utenrikshandel med varer, etter varenummer, import/eksport, land, måned og statistikkvariabel. [Available here](#)
72. UNEP-WCMC (2024) *Ibid.*
73. Hagstofa Íslands (2024). Útflutningu eftir tollskrárnúmerun 2002-1024, kafli 1-40. [Available here](#)
74. Norwegian national statistics: Statistisk Sentralbyrå (2024). Utenrikshandel med varer, etter varenummer, import/eksport, land, måned og statistikkvariabel. [Available here](#). Data reported to CITES: UNEP-WCMC; taxon = cetacea; purpose = T (commercial trade); term = meat; unit [g/kg]. [Available here](#). Japanese national import records: Trade statistics of Japan. [Available here](#).
75. Icelandic national statistics: Hagstofa Íslands (2024). Útflutningu eftir tollskrárnúmerun 2002-1024, kafli 1-40. [Available here](#). Data reported to CITES: UNEP-WCMC; taxon = cetacea; purpose = T (commercial trade); term = meat; unit [g/kg]. [Available here](#). Japanese national import records: Trade statistics of Japan. [Available here](#).
76. IWC (1983). Report of the Workshop on Humane Killing Techniques for Whales IWC/35/15. Presented to the 35th meeting of the IWC.
77. IWC (2024f). Whale Killing Methods and Welfare Issues (WKM&WI). [Available here](#).
78. See Resolutions [1992-1](#), [1993-1](#), [1994-1](#), [1995-1](#), [1999-1](#), [2001-2](#), [2004-3](#)
79. Øen, E.O. (2015). Document 8, Norwegian minke whale hunt 2011 and 2012. In NAMMCO Expert Group meeting to assess TTD data large whales, 4 – 6 November 2015, Copenhagen, Denmark. [Available here](#)
80. Ishikawa, H. (2009). JAPAN: Progress report on the killing method of whales in the Second Phase of Japanese Whale Research Program in the Antarctic Sea (JARPAII) and Northwestern Pacific Ocean (JARPNI). Meeting of the NAMMCO Committee on Hunting Methods. Marine Research Institute, Reykjavik, Iceland. 2009/4/23.
81. Hard to Port, WDC, AWI, EIA & Pro Wildlife (2022). IWC68 Briefing for Commissioners – Iceland's 2022 commercial fin whaling season. [Available here](#)
82. Øen, E. (2015a). Killing efficiency in the Icelandic fin whale hunt 2014. Report to the Directorate of Fisheries in Iceland, February 19, 2015. [Available here](#)
83. MAST (2023). Veiðar á stórhvelum samræmast ekki markmiðum laga um velferð dýra. Press release 8th August 2023. [Available here](#). Also see MAST final report report: Jónasdóttir, Þ. J. (2023). Eftirlitsskýrsla Velferð hvala við veiðar á langreyðum á Íslandi 2022. MAST (ed), report, 55 pp., [available here](#).
84. Ministry of Fisheries (2023). Hunting of fin whales suspended. Press release 20 June 2023. [Available here](#)
85. Stjórnarráðið (2023). Hert skilyrði og aukid eftirlit forsenda áframhaldandi veiða á langreyðum, Press release by Matvælaráðuneytið, 31 August 2023. [Available here](#)
86. MAST (2024). Eftirlitsskýrsla Velferð hvala við veiðar á langreyðum á Íslandi 2023. Report.
87. Øen, E. (2015) *Ibid.*
88. Øen, E. (2015b). Killing efficiency in the Icelandic minke whale hunt 2014 and 2015: Report to the Directorate of Fisheries in Iceland, October, 2015. [Available here](#)
89. Friedlingstein, P., O'Sullivan, M., Jones, M. et al. (2020). Global Carbon Budget 2020. *Earth System Science Data* 12: 3269-3340. <https://doi.org/10.5194/essd-12-3269-2020>
90. Pearson, H., Savoca, M., Costa, D. et al. (2023). Whales in the carbon cycle: can recovery remove carbon dioxide? *Trends in Ecology & Evolution* 38(3): 238-249. <https://doi.org/10.1016/j.tree.2022.10.012>
91. Pershing, A., Christensen, L., Record, N. et al. (2010). The impact of whaling on the ocean carbon cycle: why bigger was better. *PLOS ONE* 5(8): e12444. <https://doi.org/10.1371/journal.pone.0012444>
92. Roman, J., Estes, J., Morissette, L. et al. (2014). Whales as marine ecosystem engineers. *Frontiers in Ecology and the Environment* 12(7): 377-385. <https://doi.org/10.1890/130220>
93. Lavery, T. J., Roudnew, B., Gill, P. et al. (2010). Iron defecation by sperm whales stimulates carbon export in the Southern Ocean. *Proc. R. Soc. B* 277(1699): 3527-3531. <https://doi.org/10.1098/rspb.2010.0863>
94. Roman et al. (2014) *Ibid.*
95. Gilbert, L., Jeanniard-du-Dot, T., Authier, M. et al. (2023). Composition of cetacean communities worldwide shapes their contribution to ocean nutrient cycling. *Nature Communications* 14(1): 5823. [Available here](#)
96. [Resolution 2007-3](#) Resolution on the non-lethal use of cetaceans
97. Hoyt, E. (2018). Tourism. In: *Encyclopaedia of Marine Mammals*. Third Edition. Edited by Würsig, B., Thewissen, J.G.M. and Kovacs, K.M. Elsevier Academic Press.
98. Michel, H. (2022). Everything you wanted to know about Whale Watching – Part One. Article 16 Feb, [available here](#)
99. O'Connor, S., Campbell, R., Cortez, H. & Knowles, T. (2009). Whale Watching Worldwide: tourism numbers, expenditures and expanding economic benefits, a special report from the International Fund for Animal Welfare, Yarmouth MA, USA, prepared by Economists at Large. [Available here](#)
100. Hoyt, E. (2018) *Ibid.* Hoyt, E. & Parsons, E. C. M. (2014). The Whale Watching Industry. In: *Whale Watching. Sustainable Tourism and Ecological Management*. Edited by Higham, J. Bejder, L. and Williams, R. Cambridge Press.
101. Carlson, C., Rose, N., Kato, H. & Williams, R. (2014). The International Whaling Commission (IWC) and Whale Watching. In: *Whale Watching. Sustainable Tourism and Ecological Management*. Edited by Higham, J. Bejder, L. and Williams, R. Cambridge Press.
102. IWC & CMS (2024). Whale watching handbook - Designed to support managers, regulators, operators and everyone interested in whale watching. [Available here](#)
103. Carlson et al. (2014) *Ibid.* IWC & CMS (2024) *Ibid.* [Resolution 2007-3](#) Resolution on the non-lethal use of cetaceans.
104. Resolution on Commercial Whaling ([Resolution 2001-5](#))

