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The Rise and Fall of Fin and Minke Whaling in Iceland, with Special Reference to the 2018 and 2019 Whaling Seasons

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The Rise and Fall of Fin and Minke Whaling in Iceland, with Special Reference to the 2018 and 2019 Whaling Seasons¹⁾

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1. Introduction

The International Union for Conservation of Nature (IUCN) down-listed the status of fin whales from “endangered” to “vulnerable” in its Red List on November 14, 2018.²⁾ The global population of fin whales has doubled since the 1970s; their adult populations have reached approximately 100,000.³⁾ This came as good news for the world’s only fin whaling company in Iceland.

On February 19, 2019, the Icelandic Fisheries and Agriculture Minister set the new catch quotas for fin and minke whales for the five years from 2019 to 2023;⁴⁾ that a total of 209 fin whales and 217 minke whales can be harvested every year until 2023⁵⁾ was also a positive development for Icelandic fin and minke whaling companies. Although a total of 144 fin whales and six minke whales were harvested in 2018,⁶⁾ Icelandic whaling companies temporarily suspended all whaling activities in 2019.

This paper examines the reasons behind the rise and fall of fin and minke whaling in Iceland in recent years; it presents updated information, problems, and predictions related to Icelandic commercial whaling. It begins with a brief history of commercial whaling in Iceland. This history is followed by a review of Icelandic fin and minke whaling today, including an inquiry into the circumstances surrounding the successful harvest of 144 fin whales in 2018 and a discussion of the reasons for the decreased minke whale harvest in recent years. The paper ends with a discussion of the background behind the temporary suspension of whaling in 2019 and the future of whaling in Iceland.

2. Brief History of Commercial Whaling in Iceland

As early as 1865, foreigners such as the Americans, the Danes, the Dutch, and the Norwegians had been engaged in whaling in Iceland (Tønnessen and Johnsen 1982: 19–21; 75–76). Modern whaling in the region began around 1883 with the construction of a whaling station by Norwegian whalers on the west coast of Iceland (Jónsson 1965: 245; Sigurjónsson 1988: 327).

Between 1889 and 1915, an estimated 8,100 fin whales, 5,800 blue whales, and 2,800 humpback whales were harvested (Sigurjónsson 1988: 327). On an average, some 620

whales were caught each year. These prodigious catches drastically reduced the populations of large cetaceans. Accordingly, the Icelandic Parliament prohibited whaling activities at the end of the 1915 whaling season (Sigurjónsson 1988: 327; 1997: 22). After a hiatus of 20 years, whaling was resumed in western Iceland in 1935, but operations again ceased in 1939 due to World War II (Sigurjónsson 1988: 327; 1997: 22).

An Icelandic whaling company, Hvalur hf.,⁷⁾ was established in 1947. The company purchased a former US Navy base at Hvalfjörður (one and a half hours drive from downtown Reykjavík) in southwestern Iceland. Hvalur hf. converted the base into a whaling station (Photo 1) and started whaling operations with four whaling boats in 1948. Hvalur hf. is the only whaling company that has harvested large cetaceans in Iceland since 1948. It caught 8,887 fin whales, 2,886 sperm whales, 2,574 sei whales, 163 blue whales, and 6 humpback whales between 1948 and 1985 (Sigurjónsson 1988: 327).



Photo 1 The whaling station at Hvalfjörður (Photo by Hisashi Hamaguchi, July 30, 2016)

At the 34th annual meeting of the International Whaling Commission (IWC) in July 1982, the Commission amended Paragraph 10 of the Schedule to the *International Convention for the Regulation of Whaling (ICRW)*, which regulated “commercial whaling”, and it added a new Paragraph 10(e)⁸⁾ (IWC 1983: 21; 40). Under the revised Schedule, Iceland’s catch quota of whales for commercial purposes would change to zero after the 1986 coastal season unless Iceland lodged a formal objection against the amendments. The government of Iceland unwillingly accepted the IWC’s decision in 1983 and stopped commercial whaling in 1985. Behind Iceland’s decision to discontinue

commercial whaling was its fear of trade sanctions by the United States, then Iceland's largest export market (Ívarsson 1994: 17).

Paragraph 10(e) of the Schedule to the *ICRW* stipulated that by no later than 1990, the IWC would undertake a comprehensive assessment of whale stocks and review the zero catch quotas (see note 8). However, the IWC failed to comply with its own provision. Therefore, the government of Iceland decided to withdraw from the *ICRW* in December 1991, effective from June 1992 (Ívarsson 1994: 159–160). In July 1992, Iceland, in collaboration with Norway, the Faroe Islands, and Greenland, established the North Atlantic Marine Mammal Commission (NAMMCO) as a formal organization concerned with the management of marine mammals in the North Atlantic (Ívarsson 1994: 161).

Iceland's withdrawal from the *ICRW* did not give it unrestricted whaling rights. Article 65 of the *United Nations Convention on the Law of Sea (UNCLOS)*⁹⁾ stipulated that each government had to conserve and manage cetaceans through appropriate international organizations. By joining NAMMCO, the government of Iceland considered that it had fulfilled its obligations under the *UNCLOS* (Ívarsson 1994: 211). However, there were differences about NAMMCO among the governments of Norway, the Faroe Islands, Greenland, and Iceland (Ívarsson 1994: 172–173).

Norway, having lodged a formal objection against the amendments to the Schedule (IWC 1983: 40), had legal grounds to engage in commercial whaling within the jurisdiction of the *ICRW*. Whaling in Greenland was accepted as a form of “aboriginal subsistence whaling” under Paragraph 13(b)(4) of the Schedule (IWC 1983: 40). The drive fishery of small cetaceans in the Faroe Islands was outside the jurisdiction of the *ICRW* (Ólafsson 1990: 135). These three governments did not need NAMMCO's endorsement of their whaling activities, whereas Iceland needed an oversight organization in order to resume commercial whaling. However, Iceland found it difficult to obtain NAMMCO's endorsement.

In the end, the government of Iceland chose to re-adhere to the *ICRW* with a view to resuming commercial whaling. In June 2001, the government of Iceland submitted a document of re-adherence to the *ICRW* with a reservation to the commercial whaling moratorium in Paragraph 10(e) of the Schedule (IWC 2002: 5). However, Iceland's application of re-adherence to the *ICRW* with a reservation was rejected at the 53rd annual meeting of the IWC in July 2001 (IWC 2002: 7–8). Iceland resubmitted the same application document in the following year, and it was rejected again at the 54th annual meeting of the IWC in May 2002 (IWC 2003: 5; 7). Finally, in October 2002, Iceland was successful on its third try at the 5th special meeting of the IWC (IWC 2004: 141–142).

In 2003, 37 minke whales were caught under a special permit (whaling for purposes of scientific research) in Iceland (IWC 2005: 111). The government of Iceland resumed commercial whaling in 2006, and that year a total of seven fin whales and one minke whale were harvested through commercial whaling and 60 minke whales were landed under a special permit (IWC 2008: 111). In 2018, a total of 144 fin whales and six minke whales were harvested through commercial whaling¹⁰⁾ (see Table 1).¹¹⁾

Table 1 Catch records of whales in Iceland: 2003–2018

Year	Fin Whales	Minke Whales	Operations
2003	—	37	Special Permit
2004	—	25	Special Permit
2005	—	39	Special Permit
2006	7*	61**	*Commercial; **Commercial 1; Special Permit 60
2007	—	45	Commercial 6; Special Permit 39
2008	—	38	Commercial
2009	125	81	Commercial
2010	148	60	Commercial
2011	—	58	Commercial
2012	—	52	Commercial
2013	134	35	Commercial
2014	137	24	Commercial
2015	155	29	Commercial
2016	—	46	Commercial
2017	—	17	Commercial
2018	144	6	Commercial
Total	850	653	—

(Source: IWC 2005; 2006; 2007; 2008; 2009; 2010, See Note 11)

3. Return of Fin Whaling in Iceland in 2018

3.1 Brief Overview of Fin Whaling

Hvalur hf. operates two whaling boats, *Hvalur 8* and *Hvalur 9* (Photo 2). They are literally the company's eighth and ninth whaling boats. *Hvalur 8* is a 48-meter-long, 461-gross-tonnage-ton whaling boat¹²⁾ built in Norway in 1948; it has been used in Iceland since 1962 (Brydon 1991: 303; Singurjónsson 1988: 329 Table 2). *Hvalur 9* is a 51-meter-long, 573-gross-tonnage-ton whaling boat¹³⁾ built in Norway in 1952; it has been used in Iceland since 1966 (Brydon 1991: 303; Singurjónsson 1988: 329 Table 2). A Norwegian-made Kongsberg's 90 millimeter harpoon gun is mounted aboard each whaling boat (Photo 3).

Each of the two whaling boats has 13 crew members: a captain/harpooner, two officers, three engineers, two boiler engineers, four deckhands, and a cook. At sea, the captain, an officer, and a deckhand stay on watch, the former two in the upper bridge and the latter one in the crow's nest. Since deckhands in the crow's nest are exposed to the cold winds, they work in one-hour shifts. All the crews are employed on a seasonal basis and are paid a combination of a base salary and commissions depending on the number of whales landed.

Fin whaling season lasts for less than four months in a year, beginning early June and ending in late September. The whaling ground lies within 160 to 220 nautical miles from the whaling station at Hvalfjörður. Each trip can last between 48 and 60 hours. Each whaling boat's crew tries to harvest two whales per trip. Crew members do not process the whales on board. Instead, they pour seawater into the veins and intestines of the whales to cool the meat for later processing at the whaling station.



Photo 2 The fin whaling boats, *Hvalur 8* and *Hvalur 9* (Photo by Hisashi Hamaguchi, July 29, 2016)



Photo 3 Kongsberg's harpoon gun (Photo by Hisashi Hamaguchi, July 28, 2018)

The mainland whaling station operates around the clock, with two groups of approximately 100 workers in eight-hour shifts when a large number of fin whales have been harvested, as was the case in 2018. These workers are also employed on a seasonal basis; some of them are university or high school students.

According to the managing director of the company, the whaling station at Hvalfjörður was built in imitation of the Japanese whaling factory ship *Nisshin Maru*. Workers cut the whales into large blocks at the upper floor of the station, then drop the blocks to the lower floor, where other workers cut them into small blocks, shape them, put them into cardboard boxes, and place them into a freezer.

3.2 Suspension and Resumption of Fin Whaling

In the 2016 and 2017 whaling seasons, Hvalur hf. suspended fin whaling in response to the disagreement between the company and the Japanese government about the accuracy of the testing methods for chemical residues in whale products.¹⁴⁾ The managing director of Hvalur hf. told the Icelandic media, “The Japanese are clinging on to 40-year old analysis method used nowhere else in the world. If Japan does not adopt modern testing methods such as used in Iceland [...], Hvalur will no longer be able to hunt whales for the Japanese market.”¹⁵⁾

After a two-year hiatus, Hvalur hf. resumed whaling in 2018 and harvested 144 fin whales (Photo 4). There were at least two reasons behind the 2018 resumption of fin whaling: deregulation in Japan and deregulation in Iceland. In December 2017, the Japanese Ministry of Health, Labour and Welfare simplified the inspection procedure for identifying the toxic chemicals known as polychlorinated biphenyls (PCBs) in fin whale products imported from Iceland and in minke whale products imported from Norway.¹⁶⁾ Following this simplification, Japan began accepting the results of the exporter’s self-inspection in Iceland, with no need for re-inspection in Japan; this made customs clearance easier. This deregulation was a boon to Hvalur hf., because almost all the fin whale products processed in Iceland are exported to Japan.



Photo 4 A fin whale landed at the whaling station on July 28, 2018 (Photo by Hisashi Hamaguchi, July 28, 2018)

In May 2018, the Icelandic Fisheries and Agriculture Minister amended its May 2009 regulation on processing and health management of whale products which stipulated that the processing of whales had to be conducted indoors or under cover at the whaling station.¹⁷⁾ Under the 2018 amended regulation abolishing this provision,¹⁸⁾ Hvalur hf. was now able to cut whale products outdoors, which made processing operations easier.

Iceland, Japan, and Norway are all fishing nations where commercial whaling is conducted and whale meat is eaten. All three have taken the position that marine mammals, including whales, are living resources that can be used sustainably, providing the resources are properly managed. Icelanders generally do not eat fin whale meat, considering it too coarse;¹⁹⁾ they prefer minke whale meat (Brydon 1991: 304). Therefore, it makes business sense to export fin whale products from Iceland to Japan where both fin and minke whale meat are eaten.

According to an Icelandic newspaper, a freezer ship loaded with 1,500 tons of whale products left for Japan by way of the Northern Sea Route on October 13, 2018.²⁰⁾ It arrived at Ishinomaki, Japan on November 13, 2018.²¹⁾ This suggested that by the end of the 2018 whaling season, the deregulations by both Japanese and Icelandic governments had helped restore the fin whaling business for Hvalur hf.

4. Decline in Minke Whaling in Iceland in 2018

4.1 Brief Overview of Minke Whaling

In Iceland, two companies, IP Útgerð ehf.²²⁾ and Runo ehf., using one whaling and fishing boat each, harvested a total of 46 minke whales in 2016. The same two companies caught a total of 17 minke whales in 2017. The former operated the boat, *Hrafnreyður* (Photo 5), and the latter operated the boat *Rokkarinn* (Photo 6).

Hrafnreyður, built in 1973, is a 26.7-meter-long, 160 gross-tonnage-ton boat.²³⁾ *Rokkarinn*, built in 1988, is considerably small boat at 14.4 meters long, with a gross tonnage of 21.4 tons.²⁴⁾ A Norwegian-made Kongsberg's 50 millimeter harpoon gun is mounted on each boat.

Hrafnreyður has four crew members: a captain/harpooner, two engineers, and a deckhand. All the crew is employed on a seasonal basis and get paid a combination of a base salary and commissions depending on the number of whales caught. *Hrafnreyður* is based at the Hafnafjörður port, a half hour drive from downtown Reykjavík. *Rokkarinn* is based at the Keflavík port, an hour drive from downtown Reykjavík.

The whaling ground is inside Faxaflói Bay; the capital city of Reykjavík lies along the bay's southeastern shore. Usually, *Hrafnreyður*'s crew tries to harvest two whales per trip. The boat stays at sea for a couple of days, circumstances permitting, during which the time crew members process the minke whales on board at sea, ice them in plastic boxes, and bring them back to the port.

The managing director of IP Útgerð ehf. is also that of IP Dreifing ehf.²⁵⁾ which buys, processes, and distributes almost all of minke whale meat landed in Iceland and imported from Norway. The managing director's father, a parliamentarian of the Independence Party, is former Minister of the Transportation and Local Government,²⁶⁾



Photo 5 The minke whaling boat *Hrafnreyður* (Photo by Hisashi Hamaguchi, August 1, 2016)



Photo 6 The minke whaling boat *Rokkarinn* (Photo by Hisashi Hamaguchi, July 26, 2017)

and he is famously a pro-whaling politician.²⁷⁾ Rumor has it that Runo ehf. had political connections with the Progressive Party, which formed a coalition government with the Independence Party in 2016.²⁸⁾

Usually, Minke whaling season begins mid to late April and lasts for six months. However, in the 2018 whaling season, only *Hrafnreyður* participated. It stopped whaling in the first week of July after harvesting six minke whales (see Table 1) for reasons deeply rooted in Iceland's complicated politics, as the following section elucidates.

4.2 Tug-of-War between Whale Watching and Minke Whaling in Faxaflói Bay

On September 15, 2008, Lehman Brothers Holdings Inc. went bankrupt, triggering an international financial meltdown. The “Lehman Shock” created a combined currency crisis, banking crisis, and sovereign debt crisis in Iceland (Wade and Sigurgeirdóttir 2010: 5). By mid-October, about 85% of Iceland’s banks were bankrupt (Bernburg 2015: 74), and the Icelandic króna (ISK), which had been 70 to the euro at the height of the Icelandic economy, hit 190 in November (Wade and Sigurgeirdóttir 2010: 22). As the result, the money that Icelanders held depreciated by more than half its value in international markets, and the price of almost all consumer products doubled, since they were largely imported (Pálsson and Durrenberger 2015: xvii).

This economic crisis triggered a series of mass protests and demonstrations, and an anti-governmental movement emerged and gained strong support among Icelanders (Bernburg 2015: 63). In January 2009, the coalition government of the Independence Party and the Social Democratic Alliance broke away, and a general election was held in April (Wade and Sigurgeirdóttir 2010: 23–24).

In April 2009, after the general election, for the first time ever in Icelandic politics, the country was headed up by a left and center-left coalition government of the Social Democratic Alliance and the Left-Green Movement (Wade and Sigurgeirdóttir 2010: 22). Not surprisingly, the new coalition government changed whaling policies in Iceland, since the former was pro-EU²⁹⁾ and the latter was anti-whaling.³⁰⁾ As the EU adopted anti-whaling as its common position in 2008 (Takahashi 2009: 41), being pro-EU inevitably meant anti-whaling.

Also in April 2009, the Minister of Fisheries and Agriculture (Left-Green Movement Chairperson) enacted a regulation banning whaling in specific areas,³¹⁾ creating “no-whaling zones” in Faxaflói Bay and two other bays in the northern region. In a historical first, the Icelandic government established “exclusively whale watching zones” in the seas surrounding the country.

In May 2013, as his last task a day before leaving office, the same Fisheries and Agriculture Minister amended the regulation on the ban of whaling in specific areas,³²⁾ enlarging the no-whaling zone in Faxaflói Bay. A month and a half later, in July 2013, the newly appointed Fisheries and Agriculture Minister (a member of the Progressive Party) in the right and center-right coalition government formed by the Independence Party and the Progressive Party amended yet again the regulation on the ban of whaling in specific areas,³³⁾ reducing the no-whaling zone back to its original boundaries.

The political drama continued, contributing to the tug-of-war between the businesses of whale watching and minke whaling against a backdrop of turmoil in the government. In April 2016, the Icelandic Prime Minister (Progressive Party Chairperson) was forced to step down after being named in the “Panama Papers” (the Panama Papers scandal); the scandal resulted in an early election in October 2016.³⁴⁾ After the election, a new three-party coalition government made up of the Independence Party, the Reform Party, and the Bright Future was formed in January 2017.³⁵⁾ Two of these three parties, the Reform Party and the Bright Future, were pro-EU.³⁶⁾

However, the three party coalition collapsed in October 2017 following revelations

that the father of the Prime Minister (Independence Party Chairperson) had supported a convicted pedophile's petition for a restoration of civil privileges (the Pedophile scandal).³⁷⁾ A general election was held that month. In November 2017, a new three-party coalition of the Independence Party, the Left-Green Movement, and the Progressive Party came to power.³⁸⁾

In November 2017, as her last task a day before leaving office, the Fisheries and Agriculture Minister (Reform Party Chairperson) amended yet again the regulation on the ban of whaling in specific areas,³⁹⁾ enlarging the no-whaling zone in Faxaflói Bay again to the same sea area stipulated in May 2013. The exiting minister's actions were in line with the lobbying activities by the International Fund for Animal Welfare (IFAW), the Icelandic Whale Watching Association (IceWhale), and whale watching enterprises, which had all called for the enlargement of the no-whaling zone.⁴⁰⁾

According to the managing director of IP Útgerð ehf., 82.3% of the minke whales landed in the past ten years were harvested from the larger no-whaling zone.⁴¹⁾ Therefore, in the 2018 whaling season, the minke whaling boat needed to go much farther than it had done before, which increased costs. That is the reason only six minke whales were captured in the 2018 whaling season (see Table 1). What is certain is that whaling, whale watching, and politics are intricately intertwined in Iceland.

5. Complicated Situation of Whaling in 2019

The five-year catch quota system for fin and minke whales, which was based on the 2013 version of the regulation on whaling,⁴²⁾ came to an end in 2018. The Fisheries and Agriculture Minister has the authority to enact regulations on whaling without receiving a passing vote in the Parliament. The current Fisheries and Agriculture Minister is a member of the pro-whaling Independence Party and is personally pro-whaling.⁴³⁾ Therefore, it may be as easy to renew the regulation as it was in the years between 2014 and 2018.

However, in May 2018, the Prime Minister, who is the chairperson of the anti-whaling Left-Green Movement, said at a debate in the Parliament, "As of autumn 2018, a new decision on the continuation of whaling must be made, whether a new quota is issued or not. And I think it is very important that the assessment of the environmental, social, and economic impacts of whaling be made before such a new decision is taken."⁴⁴⁾ As the Prime Minister skillfully avoided mentioning her personal views on whaling, it is difficult to assess her intentions accurately. All that is certain is that she neither clearly agreed nor disagreed with whaling.

5.1 New Whaling Quotas for the Five Years from 2019 to 2023

On February 19, 2019, the Fisheries and Agriculture Minister published a decision on whaling⁴⁵⁾ which set the new catch quotas for fin and minke whales for the next five years from 2019 to 2023. A total of 209 fin whales (161 animals in the East Greenland/West Iceland area and 48 animals in the East Iceland/Faroe Islands area) and 217 minke whales can be harvested every year until 2023.⁴⁶⁾

The quota decision was made based on advice provided by the Marine and Freshwater Research Institute (MFRI) (MFRI 2017; 2018),⁴⁷⁾ a report from the Institute of Economic Studies (IES) at the University of Iceland (Ottesen 2019), and a memorandum from the MFRI (Vikingsson 2019). The MFRI's advice addressed the biological aspects of whales and whaling in Icelandic and adjacent waters, and the MFRI's memorandum supplemented its advice. Meanwhile, the IES's report dealt with the economic aspects of whaling in Iceland.

As mentioned above, the Prime Minister emphasized the need to assess "the environmental, social, and economic impacts of whaling," the very topics covered by the IES's report. Thus, this report is considered below.

In his report, *The Macroeconomic Impacts of Whaling*, Oddgeir Á Ottesen, an economist at the IES, examined the incomes of whaling and the impacts of whaling on main commercial fish stocks. According to Ottesen, a total of 699 fin whales were harvested from 2009 to 2016, and export incomes from fin whale products amounted to 11.3 billion ISK (93.6 million US dollars; 82.1 million euros) at the current price in December 2018 (Ottesen 2019: 16). He assumed economies of scale in whaling; therefore, the profitability of a whaling company would increase if harvesting increased (Ottesen 2019: 17).

Considering the direct predation of fish by whales, Ottesen assumed that Iceland's fish export value would increase by 2.4 billion ISK (19.9 million US dollars; 17.4 million euros) a year if the fin whale population were reduced to 60% of its current size (Ottesen 2019: 32). He also assumed that Iceland's fish export value would increase by 13 billion ISK (107.7 million US dollars; 94.4 million euros) a year if the minke whale population were reduced to 60% of its current size (Ottesen 2019: 33). His reasoning was that a 40% reduction in whales would lead to an increase in the tens of billions in Iceland's export value of capelin and cod per year (Ottesen 2019: 36).

Ottesen concluded that whaling was a critical part of Iceland's economic utilization of its natural resources and that it would be profitable for the Icelandic national economy to continue to harvest whales (Ottesen 2019: 5). He also thought that it would be wise to designate more whale species as acceptable for commercial harvest (Ottesen 2019: 5).

Ottesen's report provoked strong reactions from anti-whaling activists and others, who found Ottesen's call to expand commercial whaling to additional whale species particularly alarming.⁴⁸⁾ Another concern was that 16,000 fin whales would have to be slaughtered if there were a 40% reduction in fin whales in Iceland, and that it would mean millions of tons of whale meat.⁴⁹⁾

Although Ottesen's report was controversial, the Fisheries and Agriculture Minister used it to bolster its arguments in support of whaling; ultimately, he decided to set the new catch quotas for fin and minke whales for the five years from 2019 to 2023.

5.2 Temporary Suspension or the Beginning of the End of Whaling?

Despite a green light from the Fisheries and Agriculture Minister, there was no whaling conducted in Icelandic waters in the summer of 2019 for the first time in 17 years. It seemed as though it would be a challenge for Icelandic whaling companies to turn a

profit from whaling in 2019.

The world's only fin whaling company in Iceland, Hvalur hf., announced that it would not harvest fin whales in the summer of 2019 due to commercial reasons.⁵⁰⁾ One reason was domestic, and the other was international. On the domestic front, the company received a whaling permit on February 19, 2019, but it was too late to bring its whaling boats into full working conditions for the summer months.⁵¹⁾ On the international front, on December 26, 2018, the Japanese government decided to withdraw from the *ICRW* and to resume commercial whaling in July 2019.⁵²⁾ As almost all Hvalur's fin whale products are exported to Japan, the company needed to assess how Japan's resumption of commercial whaling would make an impact on its own whale meat market. In the end, Hvalur hf., not having had enough time to assess, took safer route of suspending its fin whaling.

Similarly, IP Útgerð ehf., the only company that conducted minke whaling in the 2018 season, decided to suspend its minke whaling in the 2019 season and to import minke whale meat from Norway due to commercial reasons.⁵³⁾ As mentioned in Section 4.2, the enlargement of the no-whaling zone in Faxaflói Bay increased the company's costs associated with minke whaling, making it a financial burden.

According to the managing directors of both whaling companies, they will resume whaling again in the 2020 whaling season.⁵⁴⁾ The following section discusses the future of commercial whaling in Iceland.

6. Discussion and Conclusion

The future of Icelandic commercial whaling in the year 2020 and beyond is uncertain. It is unclear whether whaling activities will be resumed, temporarily halted, or ceased forever. Fin whaling and minke whaling must be individually considered to evaluate their future in Icelandic commercial whaling.

6.1 The Future of Fin Whaling in Iceland

Almost all the fin whale products processed in Iceland are exported to Japan, and Hvalur hf. is Iceland's only fin whaling company. Since the Icelandic fin whaling industry depends on the Japanese whale meat market, Hvalur hf. is at the mercy of Japanese socio-economic situations. For example, the company suspended its fin whaling in 2011 and 2012 due to the massive socio-economic damages in Japan caused by the Great East Japan Earthquake in March 2011.⁵⁵⁾ It discontinued whaling again in 2016 and 2017 over its dispute with the Japanese government on Japan's chemical residue test methods in whale products (see Section 3.2).

The Japanese government announced officially on December 26, 2018 that it would resume commercial whaling in July 2019 after a 30-year hiatus (see Section 5.2). However, it did not publish its detailed plan until July 1, 2019, the same day a Japanese whaling fleet left port.⁵⁶⁾ It was too late for Hvalur hf. to prepare for the 2019 whaling season; therefore, it could not help but stop whaling in 2019.

According to the Fisheries Agency of Japan, Japan's annual catch quota of

commercial whaling in 2020 is 120 common minke whales, 150 Bryde's whales, and 25 sei whales.⁵⁷⁾ The total planned catch is 295 whales. Meanwhile, a total of 637 whales (333 Antarctic minke whales, 170 common minke whales, and 134 sei whales) were harvested by Japan under a special permit (whaling for purposes of scientific research) in the 2018 whaling season.⁵⁸⁾ Therefore, even though the whaling activities in Japan are successful in the 2020 whaling season, the total catch number will still be less than half of the harvest from the 2018 whaling season. This represents an opportunity for the Icelandic fin whaling company to increase its share of the Japanese whale meat market, making it most likely that Hvalur hf. will resume fin whaling in 2020.

6.2 The Future of Minke Whaling in Iceland

As mentioned in Section 4.2, whale watching companies and minke whaling companies have been fighting a tug-of-war to enlarge their operational territories in Faxaflói Bay since 2009. Minke whaling companies have been adversely affected by the enlargement of the "no-whaling zone" enforced in November 2017, since they have to go much farther to reach the whaling ground, which significantly increases their costs.

The current coalition government, which came into power in November 2017, is composed of the pro-whaling Independence Party, the pro-whaling Progressive Party, and the anti-whaling Left-Green Movement. Although the Fisheries and Agriculture Minister who belongs to the Independence Party has the authority to reduce the whale watching zone, the Prime Minister is the chairperson of the anti-whaling Left-Green Movement. It is, therefore, preferable for the current three-party coalition government to maintain the status quo in its whaling policies.

Whale watching in Faxaflói Bay, along which the capital city of Reykjavík is situated, mainly targets minke whales and humpback whales. Although fin whaling continues in Icelandic waters, it is conducted outside Faxaflói Bay. Whale watching participants generally do not notice the activities of fin whaling. According to the secretary of IceWhale, 99.9% of whale watching participants are foreign tourists.⁵⁹⁾ Therefore, whale watching companies earn foreign currency. As almost all the fin whale products made in Iceland are exported to Japan, the fin whaling company also earns foreign currency. In this sense, whale watching coexists with fin whaling, and they both contribute to the national economy of Iceland.

Given the current political and socio-economic circumstances, it will be difficult to reduce the whale watching zone. The current catch quota for minke whaling is valid until 2023. There will be at least one general election in Iceland by then. If a new coalition government comprising only pro-whaling parties comes into power after the election, the current whale watching zone might be reduced. For now, this period of hardship for minke whaling companies will continue. IP Útgerð ehf., Iceland's sole minke whaling company in 2018, suspended its whaling operations in 2019, and this hiatus will likely continue through 2020 and beyond due to its high operational costs.

As of August 2019, I would like to present the following conclusions; fin whaling in Iceland will most likely be resumed in 2020, however minke whaling in Iceland will likely be suspended again in 2020.

Postscript: In April 2020, the managing director of Hvalur hf. told the media that the company would not conduct fin whaling in the 2020 whaling season due to the COVID-19 pandemic as well as tough market conditions in Japan.⁶⁰⁾

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Notes

- 1) I conducted field research in Iceland between July and August of each year from 2016 to 2018, for a total equivalent of five weeks.
- 2) International Union for Conservation and Nature (IUCN), November 14, 2018, Fin Whale, Mountain Gorilla recovering thanks to conservation action—IUCN Red List. <https://www.iucn.org/news/species/201811/fin-whale-mountain-gorilla-recovering-thanks-conservation-action-iucn-red-list> (accessed November 28, 2018)
- 3) See note 2.
- 4) Atvinnuvega- og nýsköpunarráðuneytið (Ministry of Industry and Innovation), 19. febrúar (February) 2019, Ákvörðun um hvalveiðar (A Decision on Whaling). <https://www.stjornarradid.is/efst-a-baugi/frettir/stok-frett/2019/02/19/Akvordun-um-hvalveidar/> (accessed February 21, 2019)
- 5) See note 4. The details of 209 fin whales are as follows: 161 animals in the East Greenland/West Iceland area and 48 animals in the East Iceland/Faroe Islands area.
- 6) Fiskistofa (Directorate of Fisheries, Iceland), Upplýsingar um hvalveiðar við Ísland árin 2018 og 2019 (Information on Whaling in Iceland in 2018 and 2019). <http://www.fiskistofa.is/veidar/aflastada/hvalveidar> (accessed February 12, 2020)
- 7) I met the managing director of Hvalur hf. in July of each year from 2016 to 2018. In writing on the whaling activities of the company in this paper, I used the information obtained from him. The Icelandic word “hvalur” means “whale” (Hólmarsson, Sanders, and Tucker 2009: 189), and “hf.” is a shortened word for “hlutafélag” which means “public limited company” (Logos Legal Services 2016: 21).
- 8) Paragraph 10(e) of the Schedule to the *International Convention for the Regulation of Whaling* is as follows: “Notwithstanding the other provisions of Paragraph 10, catch limits for the killing for commercial purposes of whales from all stocks for the 1986 coastal and the 1985/86 pelagic seasons and thereafter shall be zero. This provision will be kept under review, based upon the best scientific advice, and by 1990 at the latest the Commission will undertake a comprehensive assessment of the effects of this decision on whale stocks and consider

modification of this provision and the establishment of other catch limits” (IWC 1983: 40).

- 9) Article 65 of *United Nations Convention on the Law of Sea* is as follows: “Nothing in this Part restricts the right of a coastal State or the competence of an international organization, as appropriate, to prohibit, limit or regulate the exploitation of marine mammals more strictly than provided for in this Part. States shall cooperate with a view to the conservation of marine mammals and in the case of cetaceans shall in particular work through the appropriate international organizations for their conservation, management and study.” http://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf (accessed August 16, 2016)
- 10) See note 6.
- 11) Table 1 was made using data from these sources: IWC (2005: 111; 2006: 115; 2007: 124; 2008: 111; 2009: 120; 2010: 125); Fiskistofa (Directorate of Fisheries), Fjöldi veiddra hvala (Numbers of Whales Caught). <http://www.fiskistofa.is/umfiskistofu/arsskyrsla-2013/hvalveidar/> (accessed January 3, 2019); Upplýsingar um hvalveiðar við Ísland árin 2018 og 2019 (Information on Whaling in Iceland in 2018 and 2019). <http://www.fiskistofa.is/veidar/aflastada/hvalveidar/> (accessed February 12, 2020)
- 12) Hvalur 8 RE-388. <http://sax.is/?gluggi=skip&id=117> (accessed August 19, 2016)
- 13) Hvalur 9 RE-399. <http://sax.is/?gluggi=skip&id=997> (accessed August 19, 2016)
- 14) Japan market forces halt to Iceland whaling. *Iceland Monitor*, February 25, 2016. http://icelandmonitor.mbl.is/news/nature_and_travel/2016/02/25/japan_market_forces_halt_to_iceland_whaling/ (accessed February 26, 2016)
- 15) See note 14.
- 16) Yunyu Shokuhin Anzen Taisakushitsu-cho (Imported Food Safety Section Director, Health, Labour and Welfare Ministry, Japan), December 11, 2017, “Yunyu Geiniku no Toriatsukai ni tsuite” no Ichibu Kaisei ni tsuite (On Partial Amendments to “the Treatment of Imported Whale Meat”). <http://www.mhlw.go.jp/file/06-Seisakujouhou-11130500-Shokuhinanzenshu/0000187665.pdf> (accessed June 7, 2018)
- 17) Reglugerð um vinnslu og heilbrigðiseftirlit með hvalaafurðum (Regulation on Processing and Health Management of Whale Products), Nr. 489/28. maí 2009 (No.489/May 28, 2009), 10 gr. (Article 10), 2 mgr. (Paragraph 2), 23 gr. (Article 23), 2 mgr. (Paragraph 2). <https://www.reglugerd.is/reglugerdir/eftir-raduneytum/atvinnuvega--og-nyskopunarraduneyti/nr/13037> (accessed August 15, 2018)
- 18) Reglugerð um (1.) breytingu á reglugrð nr. 489/2009 um vinnslu og heilbrigðiseftirlit með hvalaafurðum (Amendments of Regulation no.489/2009 on Processing and Health Management of Whale Products), Nr. 533/25. maí 2018 (No.533/May 25, 2018), 4 gr. (Article 4), 6 gr. (Article 6). <https://www.reglugerd.is/reglugerdir/eftir-raduneytum/sjavaroglandbunadar/nr/21080> (accessed August 15, 2018)
- 19) Whale hunting stopped—for now. *Iceland Review*, November 3, 2006. <http://icelandreview.com/news/2006/11/03/whale-hunting-stopped-now> (accessed December 18, 2014)
- 20) 1.500 tonn af hvalaafurðum flutt til Japans (1,500 Tons of Whale Products Exported to Japan). *Morgunblaðið (The Morning Newspaper)*, October 17, 2018. https://www.mbl.is/200milur/frettir/2018/10/17/1_500_tonn_af_hvalaafurdum_flutt_til_japans/ (accessed October 20, 2018)
- 21) Whale and Dolphin Conservation (WDC), November 15, 2018, Iceland Shipment to Japan Could Contain Meat from Rare Hybrid Whales. <https://uk.whales.org/news/2018/11/iceland->

- shipment-to-japan-could-contain-meat-from-rare-hybrid-whales (accessed November 16, 2018)
- 22) I met the managing director of Útgerð ehf. in July 2016. In writing on the whaling activities of the company in this paper, I used the information obtained from him. The Icelandic word “útgerð” means “fishing company” (Hólmarsson, Sanders, and Tucker 2009: 495), and “ehf.” is a shortened word for “einkahlutafélag” which means “private limited company” (Logos Legal Services 2016: 21).
 - 23) Hrafnreyður KÓ-100. <http://sax.is/?gluggi=skip&id=1324> (accessed August 19, 2016)
 - 24) Rokkarinn KE-016. <http://sax.is/?gluggi=skip&id=1850> (accessed August 19, 2016)
 - 25) The Icelandic word “dreifing” means “distribution” and “circulation” (Hólmarsson, Sanders, and Tucker 2009: 65).
 - 26) Anna Margrét Björnsson, Presenting Iceland’s new government, *Iceland Monitor*, January 11, 2017. http://icelandmonitor.mbl.is/news/politics_and_society/2017/01/11/presenting_iceland_s_new_government/ (accessed January 12, 2017)
 - 27) Animal Welfare Institute, April 2013, Briefing on Whaling Links and Cooperation between Norway and Iceland, including Whale Meat Exports. <http://www.awionline.org/sites/default/files/uploads/documents/ML-AWI-Briefing-on-Whaling-Norway-Exports-April2013.pdf> (accessed January 10, 2015)
 - 28) I obtained this information from the secretary of the Icelandic Whale Watching Association (IceWhale) whom I met in August 2016.
 - 29) Hjörtur J. Guðmundsson, Iceland’s pro-EU parties abandon their push for fresh EU accession talks. *Iceland Monitor*, November 7, 2017. http://icelandmonitor.mbl.is/news/politics_and_society/2017/11/07/pro_eu_parties_abandon_push_for_fresh_eu_accession/ (accessed November 8, 2017)
 - 30) Iceland Confirms Whaling Quota for 2009. *Iceland Review*, February 19, 2009. <http://icelandreview.com/news/2009/02/19/iceland-confirms-whaling-quota-2009> (accessed December 8, 2014)
 - 31) Reglugerð um bann við hvalveiðum á tilteknum svæðum (Regulation on the Ban of Whaling in Specific Areas). Nr. 414/29. apríl 2009 (No.414/April 29, 2009). <https://www.reglugerd.is/reglugerdir/eftir-raduneytum/sjavaroglandbunadar/nr/13124> (accessed January 27, 2018)
 - 32) Reglugerð um bann við hvalveiðum á tilteknum svæðum (Regulation on the Ban of Whaling in Specific Areas). Nr. 469/21. maí 2013 (No.469/May 22, 2013). <https://www.reglugerd.is/reglugerdir/eftir-raduneytum/sjavaroglandbunadar/nr/18759> (accessed January 27, 2018)
 - 33) Reglugerð um bann við hvalveiðum á tilteknum svæðum (Regulation on the Ban of Whaling in Specific Areas). Nr. 632/5. júlí 2013 (No.632/July 5, 2013). <https://www.reglugerd.is/reglugerdir/eftir-raduneytum/atvinnuvega--og-nyskopunarraduneyti/nr/18713> (accessed January 27, 2018)
 - 34) Aisurando Shusho Jinin (Icelandic Prime Minister Resigned), *Nihon Keizai Shimbun (the Nikkei)*, April 6, 2016. http://www.nikkei.com/article/DGXLASGM06H51_W6A400C1FF2000/ (accessed August 27, 2016)
 - 35) Vala Hafstað, Iceland’s New Government. *Iceland Review*, January 10, 2017. <http://icelandreview.com/news/2017/01/10/icelands-new-government> (accessed January 11, 2017)
 - 36) See note 29.
 - 37) Paul Fontaine, PM’s Father Endorsed “Restored Honour” for Convicted Paedophile. *Reykjavík Grapevine*, September 14, 2017. <https://grapevine.is/news/2017/09/14/pms-father-endorsed-restored-honour-for-convicted-paedophile> (accessed September 17, 2017); Island’s Government

- Collapses, Uncertainty Lies Ahead. *Reykjavík Grapevine*, September 15, 2017. <https://grapevine.is/news/2017/09/15/icelands-government-collapses-uncertainty-lies-ahead> (accessed September 17, 2017)
- 38) New Icelandic government presented. *Iceland Monitor*, November 30, 2017. http://icelandmonitor.mbl.is/news/politics_and_society/2017/11/30/new_icelandic_government_presented/ (accessed December 1, 2017)
- 39) Reglugerð um bann við hvalveiðum á tilteknum svæðum (Regulation on the Ban of Whaling in Specific Areas). Nr. 1035/29. nóvember 2017 (No.1035/November 29, 2017). <https://www.reglugerd.is/reglugerdir/eftir-raduneytum/atvinnuvega--og-nyskopunarraduneyti/nr/20793> (accessed January 27, 2018)
- 40) Sigursteinn Masson, July 6, 2017, Fishery minister says she's open to changes in whaling policy. <http://www.ifaw.org/international/news/fishery-minister-says-she's-open-changes-whaling-policy> (accessed July 10, 2017)
- 41) Óvissa um hrefnuveiðar (Uncertainty about Minke Whaling), *Morgunblaðið (the Morning Newspaper)*, March 20, 2018. <https://www.mbl.is/200milur/frettir/2018/03/20/issa-um-hrefnuveiðar/> (accessed May 14, 2018)
- 42) Reglugerð um breytingu á reglugrð nr. 163, 30. maí 1973, um hvalveiðar, með síðari breytingum. (Amendments of Regulation No.163, May 30, 1973, on Whaling) 1 gr. (Article 1), 2 mgr. (Paragraph 2). Nr. 1116/12. december 2013 (No.1116/December 12, 2013) <https://www.reglugerd.is/reglugerdir/eftir-raduneytum/sjavarutvegsraduneyti/nr/19056> (accessed January 5, 2018)
- 43) WDC, January 26, 2018, Iceland: A New Dawn for Whales and Dolphins? <http://au.whales.org/blog/2018/01/iceland-new-dawn-for-whales-and-dolphins> (accessed February 16, 2018)
- 44) Elín Margrét Böðvarsdóttir, Gert verði ítarlegt mat áður en ákvörðun verður tekin um framtíð hvalveiða við Íslandsstrendur (A Thorough Assessment Will Be Made before a Decision Is Made on the Future of Whaling in Icelandic Waters), *Vísir (Indicator)*, May 2, 2018. <http://www.visir.is/g/2018180509757/gert-verdi-itarlegt-mat-adur-en-akvordun-verdur-tekin-um-framtid-hvalveida-vid-islandsstrendur> (accessed May 30, 2018)
- 45) See note 4.
- 46) See note 4.
- 47) The MFRI advised that the annual catch of fin whales should be no more than 161 animals in the East Greenland/West Iceland area and 48 animals in the East Iceland/Faroe Islands area for the period 2018–2025 (MFRI 2017). It also advised that the annual catch of minke whales should be no more than 217 animals on the Icelandic continental shelf for the period 2018–2025 (MFRI 2018).
- 48) WDC, January 17, 2019, Icelandic Whaling Report Raises Concerns. <https://uk.whales.org/news/2019/01/icelandic-whaling-report-raises-concerns> (accessed January 22, 2019)
- 49) Valur Grettisson, Controversial Report Says Whaling Has No Effect on Iceland Tourist Industry. *Reykjavík Grapevine*, January 18, 2019. <https://grapevine.is/news/2019/01/18/debatable-report-says-whaling-has-no-effect-on-iceland-tourist-industry/> (accessed January 19, 2019)
- 50) Larissa Kyzer, No Whaling This Summer. *Iceland Review*, June 28, 2019. <https://www.icelandreview.com/news/no-whaling-this-summer/> (accessed June 29, 2019)
- 51) Jelena Čirić, Icelandic Whaling Company Suspends Operations. *Iceland Review*, June 5, 2019.

- <https://www.icelandreview.com/news/icelandic-whaling-company-suspends-operations/> (accessed June 10, 2019)
- 52) Prime Minister of Japan and His Cabinet, December 26, 2018, Statement by Chief Cabinet Secretary. https://japan.kantei.go.jp/98_abe/decisions/2018/_00008.html (accessed January 10, 2019)
- 53) See note 50.
- 54) See notes 50 and 51.
- 55) Whale Hunting to Recommence in Iceland. *Iceland Review*, May 3, 2013. <http://icelandreview.com/news/2013/05/03/whale-hunting-recommence-iceland> (accessed August 23, 2016).
- 56) Suisan-cho (Fisheries Agency of Japan), December 20, 2019, Reiwa Ninen no Hogeigyo no Hokakuwaku ni tsuite (On the Catch Quota of Commercial Whaling in 2020). <https://www.jfa.maff.go.jp/j/whale/attach/pdf/index-40.pdf> (accessed December 21, 2019)
- 57) See note 56.
- 58) See note 56.
- 59) I obtained this information from the secretary of the IceWhale whom I met August 2016.
- 60) Vala Hafstað, No Whaling This Summer. *Iceland Monitor*, April 24, 2020. https://icelandmonitor.mbl.is/news/news/2020/04/24/no_whaling_this_summer/ (accessed April 25, 2020)

References

- Bernburg, J. G.
- 2015 Overthrowing the Government: A Case Study in Protest. In E. P. Durrenberger and G. Pálsson (eds.) *Gambling Debt: Iceland's Rise and Fall in the Global Economy*, pp. 63–77. Boulder: University Press of Colorado.
- Brydon, A.
- 1991 The Eye of the Guest: Icelandic Nationalist Discourse and the Whaling Issue. Ph.D. Dissertation, McGill University.
- Hólmarsson, S., C. Sanders, and J. Tucler (eds.)
- 2009 *Concise Icelandic-English Dictionary*. Second edition. Reykjavík: Forlagið.
- Ívarsson, J. V.
- 1994 *Science, Sanctions and Cetaceans: Iceland and the Whaling Issues*. Translated by J. Cosser. Reykjavík: Centre for International Studies, University of Iceland.
- IWC (International Whaling Commission)
- 1983 Chairman's Report of the Thirty-Fourth Annual Meeting. *Report of the International Whaling Commission* 33: 20–42.
- 2002 Chair's Report of the 53rd Annual Meeting. *Annual Report of the International Whaling Commission* 2001: 5–46.
- 2003 Chair's Report of the 54th Annual Meeting. *Annual Report of the International Whaling Commission* 2002: 5–53.
- 2004 Chair's Report of the 5th Special Meeting. *Annual Report of the International Whaling Commission* 2003: 139–146.
- 2005 Annex J: Catches by IWC Member Nations in the 2003 and 2003/2004 Seasons.

- Annual Report of the International Whaling Commission* 2004: 111.
- 2006 Annex J: Catches by IWC Member Nations in the 2004 and 2004/2005 Seasons. *Annual Report of the International Whaling Commission* 2005: 115.
- 2007 Annex I: Catches by IWC Member Nations in the 2005 and 2005/2006 Seasons. *Annual Report of the International Whaling Commission* 2006: 124.
- 2008 Annex H: Catches by IWC Member Nations in the 2006 and 2006/2007 Seasons. *Annual Report of the International Whaling Commission* 2007: 111.
- 2009 Annex K: Catches by IWC Member Nations in the 2007 and 2007/2008 Seasons. *Annual Report of the International Whaling Commission* 2008: 120.
- 2010 Annex K: Catches by IWC Member Nations in the 2008 and 2008/2009 Seasons. *Annual Report of the International Whaling Commission* 2009: 125.
- Jónsson, J.
- 1965 Whales and Whaling in Icelandic Waters. *Norsk Hvalfangst-Tidende* 54(11): 245–253.
- Logos Legal Services
- 2016 *Guide to Doing Business in Iceland*. Reykjavik: Logos. <https://www.lexmundi.com/Document.asp?DocID=8159> (accessed January 12, 2019)
- MFRI (Marine and Freshwater Research Institute)
- 2017 Langreyður: Fin Whale. *State of Marine Stocks and Advice 2017*. <https://www.hafogvatn.is/static/extras/images/Langreydur174.pdf> (accessed January 2, 2018)
- 2018 Hrefna: Common Minke Whale. *State of Marine Stocks and Advice 2018*. https://www.hafogvatn.is/static/extras/images/Hrefna_2018567384.pdf (accessed July 13, 2018)
- Olafsson, Á.
- 1990 Faroese Whale- and Whaling-Policy. *North Atlantic Studies* 2(1/2): 130–137.
- Ottesen, O. Á.
- 2019 *Þjóðhagsleg áhrif hvalveiða (Macroeconomic Impacts of Whaling)*, Skýrsla (Report) nr. C19:01, Hagfræðistofnun Háskóla Íslands (Institute of Economic Studies, University of Iceland). <http://www.ioes.hi.is/sites/hhi.hi.is/files/sjz/skyrslan-endanleg17.1.2019.pdf> (accessed January 19, 2019) (in Icelandic)
- Pálsson, G. and E. P. Durrenberger
- 2015 Introduction: The Banality of Financial Evil. In E. P. Durrenberger and G. Pálsson (eds.) *Gambling Debt: Iceland's Rise and Fall in the Global Economy*, pp. xiii–xxix. Boulder: University Press of Colorado.
- Sigurjónsson, J.
- 1988 Operational Factors of the Icelandic Large Whale Fishery. *Report of the International Whaling Commission* 38: 327–333.
- 1997 Whale Resources in the North Atlantic and the Concept of Sustainability. In G. Pétursdóttir (ed.) *Whaling in the North Atlantic*, pp. 17–32. Reykjavik: Fisheries Research Institute, University of Iceland.
- Takahashi, M. (高橋美野梨)
- 2009 Whaling, a Battleground: Regulatory Empire EU and Denmark/Greenland. *International Political Economy* 24: 41–57. (『闘争の場としての捕鯨—規制帝国 EU とデンマーク／グリーンランド』『国際政治経済学研究』(24): 41–57。)

Tønnessen, J. N. and A. O. Johnsen

1982 *The History of Modern Whaling*. Translated by R. I. Christophersen. Berkeley and Los Angeles: University of California Press.

Víkingsson, G.

2019 Minnisblað um hvalveiðar, 23, janúar 2019. *Hafrannsóknastofnun*. (A Memorandum on Whaling, 23, January 2019. *Marine and Freshwater Research Institute*.) <https://www.stjornarradid.is/lisalib/getfile.aspx?itemid=e313af02-339e-11e9-9432-005056bc530c> (accessed February 21, 2019) (in Icelandic)

Wade, R. and S. Sigurgeirdóttir

2010 Lessons from Iceland. *New Left Review* 65: 5–29.