Japan's Scientific Progress Report on Large Cetaceans in the fiscal year 2022 (April 2022 to March 2023), with statistical data for the calendar year 2022

Government of Japan

ABSTRACT

This document summarizes the data and samples of large cetaceans, which were collected by the Institute of cetacean Research (ICR), Fisheries Resources Institute (FRI) and Fisheries Agency of Japan (FAJ) in the fiscal year 2022 (April 2022 to March 2023), and statistical data for the calendar year 2022. Sighting data for abundance estimates of large cetaceans were collected in the North Pacific, Okhotsk Sea and the Antarctic during systematic sighting surveys. During the surveys, photo-ID, biopsy and satellite tracking experiments on large cetaceans were also conducted. A large number of biological data and samples were collected during the surveys for whales taken under the commercial whaling. Species and figures of bycatch and stranding of large cetaceans are based on the reports of prefecture governments to the FAJ, which compile information from individual fishermen, fishermen cooperatives and general public. Data and samples collected are being analyzed for contributing to the management of large cetaceans in the North Pacific.

1. SIGHTINGS DATA

	Large Area	Species	Year	Local Area	No. of Sightings
JASS-A Dedicated sighting vessel (including middle and low latitudinal sighting survey) (*Yushin-Maru No.2, Yushin-Maru No.3*) (2022/2023)	Southern Ocean	Blue whale	2022/2023	Area VIE	32
		Fin whale			209
		Sei whale			7
		Antarctic minke whale			634
		Humpback whale			56
		Bryde's whale			1
		Pygmy right whale			2
		Sperm whale			13
		Southern bottlenose whale			2
	Pacific Ocean - North	Fin whale	2022/2023	Western Central Pacific	3
		Sei whale			6
		Bryde's whale			3
		Sperm whale			17
North Pacific Dedicated Sighting vessel survey in summer (*Yushin-Maru, Kaiyo-Maru No.7*) (2022)	Pacific Ocean - North	Fin whale	2022	Western North Pacific	4
		Bryde's whale			252
		Common minke whale			2
		Humpback whale			3
		Sperm whale			300
IWC-POWER Dedicated Sighting vessel (*Yushin-Maru No.2*) (2022)	Pacific Ocean - North	Blue whale	2022	Southern Aleutian Islands	24
		Fin whale			78
		Sei whale			27
		Bryde's whale			3
		Common minke whale			3
		Humpback whale			53
		Sperm whale			41
North Pacific Dedicated Sighting vessel in spring, autumn and winter (*Yushin-Maru,Yushin-Maru No.2* and *Kaiyo-Maru No.7*) (2022)	Pacific Ocean - North	N.P. right whale	2022	Western North Pacific	1
		Blue whale			3
		Fin whale			161
		Sei whale			44
		Bryde's whale			22
		Common minke whale			170
		Humpback whale			59
		Sperm whale			75
Dedicated Sighting vessel on small cetacean sighting survey (*Kaiyo-Maru No.7*) (2022)	Pacific Ocean - North	Fin whale	2022	Western North Pacific	1
		Bryde's whale			17
		Common minke whale			6
		Sperm whale			164

2. MARKING DATA

2.1 Natural marking data

	Large Area	Species	Year	Local Area	Feature	No. of whales photo identified
JASS-A Dedicated sighting vessel (*Yushin-Maru No.2, Yushin-Maru No.3*) (2022/2023)	Southern Ocean	Blue whale	2023	Area VIE	Head, Dorsal fin, Lateral marking	26
		Humpback whale			Dorsal fin, Fluke, Lateral marking	11
IWC-POWER Dedicated Sighting vessel (*Yushin-Maru No.2*) (2022)	Pacific Ocean - North	Blue whale	2022	Southern Aleutian Islands	Head, Dorsal fin, Lateral marking	16
		Fin whale			Dorsal fin	7
		Sei whale			Dorsal fin	8
		Humpback whale			Fluke, Dorsal fin	6
North Pacific Dedicated Sighting vessel in spring, autumn and winter (*Yushin-Maru,Yushin-Maru No.2 and Kaiyo-Maru No.7*) (2022)	Pacific Ocean - North	N.P. right whale	2022	Western North Pacific	Head	1
		Blue whale			Head, Dorsal fin, Lateral marking	2
		Humpback whale			Fluke, Dorsal fin	7

2.2 Telemetry data

	Large Area	Species	Year	Local Area	Tag Type	No. of Deployments
JASS-A Dedicated sighting vessel (including middle and low latitudinal sighting survey) (*Yushin-Maru No.2, Yushin-Maru No.3*) (2022/2023)	Southern Ocean	Fin whale	2023	Area VIE	Satellite	8
		Antarctic minke whale			Satellite	25
		Humpback whale			Satellite	2
		Pygmy right whale			Satellite	1
	Pacific Ocean - North	Sei whale	2022	Western Central Pacific	Satellite	2
IWC-POWER Dedicated Sighting vessel (*Yushin-Maru No.2*) (2022)	Pacific Ocean - North	Sei whale	2022	Southern Aleutian Islands	Satellite	1
Western North Pacific Dedicated Sighting vessel in spring, autumn and winter (*Yushin-Maru,Yushin-Maru No.2 and Kaiyo-Maru No.7*) (2022)	Pacific Ocean - North	Fin whale	2022	Western North Pacific	Satellite	7
		Sei whale	2022		Satellite	18
		Common minke whale	2022		Satellite	1
		Bryde's whale	2022		Satellite	5
Abashiri coastal tagging and biopsy survey (*Chipashiri*)(2022)	Sea of Okhotsk	Fin whale	2022	Off Abashiri	Satellite	5

3. Biopsy samples

	Large Area	Species	Year	Local Area	Number Collected
JASS-A Dedicated sighting vessel (including middle and low latitudinal sighting survey) (*Yushin-Maru No.2, Yushin-Maru No.3*) (2022/2023)	Southern Ocean	Blue whale	2023	Area VIE	8
		Fin whale			20
		Sei whale			2
		Antarctic minke whale			28
		Humpback whale			16
		Pygmy right whale			2
	Pacific Ocean - North	Sei whale	2022	Western Central Pacific	4
IWC-POWER Dedicated Sighting vessel (*Yushin-Maru No.2*) (2022)	Pacific Ocean - North	Blue whale	2022	Southern Aleutian Islands	4
		Fin whale			4
		Sei whale			6
		Humpback whale			2
North Pacific Dedicated Sighting vessel in spring, autumn and winter (*Yushin-Maru,Yushin-Maru No.2 and Kaiyo-Maru No.7*) (2022)	Pacific Ocean - North	N.P. right whale	2022	Western North Pacific	1
		Fin whale			1
		Sei whale			16
		Bryde's whale			6
		Common minke whale			6
Abashiri coastal tagging and biopsy survey (*Chipashiri*)(2022)	Sea of Okhotsk	Fin whale	2022	Off Abashiri	17

4. Direct catches of cetaceans

	Large Area	Species	Year	Local Area	Total Landed	No. of animals examined	No. of research items	Type of Catch
Factory ship type whaling (2022)	Pacific Ocean - North	Sei whale	2022	Western North Pacific	25	25	27	Commercial whaling
		Bryde's whale			187	187	27	
Coastal base type whaling (Hachinohe landstation) (2022)	Pacific Ocean - North	Common minke whale	2022	Off Japanese coast	22	22	27	Commercial whaling
Coastal base type whaling (Abashiri landstation) (2022)	Pacific Ocean - North	Common minke whale	2022	Off Japanese coast	25	25	27	Commercial whaling
Coastal base type whaling (Kushiro landstation) (2022)	Pacific Ocean - North	Common minke whale	2022	Off Japanese coast	11	11	27	Commercial whaling

5. Fisheries bycatches of cetaceans

Species	No. of animals	Location [1]	Fate [2]	Gear [3]	Target fish species [4]	Source or contact
Common minke whale	3	Hokkaido	K	FPN	NA	FAJ
	8	Iwate	K	FRN		
	2	Miyagi	K	FPN		
	2	Kanagawa	K	FPN		
	7	Toyama	K	FPN		
	9	Ishikawa	K	FPN		
	4	Fukui	K	FPN		
	1	Kyoto	K	FPN		
	4	Wakayama	K	FRN		
	1		R			
	1	Shimane	K	FPN		
	1	Yamaguchi	K	FPN		
	3	Kochi	K	FPN		
	10	Nagasaki	K	FPN		
	2	Oita	K	FPN		
	3	Miyazaki	K	FPN		
	1	Kagoshima	K	FPN		
Humpback whale	1	Miyagi	R	MIS		
	1	Oita	K	FPN		

1) Recorded at the place of fishing gears.
2) Fate of whale: D = discarded dead or seriously injured, K = kept for sale or specimen, R = released alive
3) Described using "FAO FISHING DESCRIPTION AND CODES", that is, stationary uncovered pound nets (FPN), set gillnets (GNS) and miscellaneous gear (MIS).
4) Target fish species: NA = not available

6. Stranding of cetaceans

Species	No. strandings	Prefecture	Source or contact
Common minke whale	6	Hokkaido	FAJ
	1	Iwate	
	1	Yamaguchi	
Bryde's whale	1	Tokyo	
	1	Shizuoka	
	1	Oita	
Fin whale	1	Fukui	
Humpback whale	3	Hokkaido	
	1	Ibaraki	
	1	Tokyo	
	3	Kochi	
	1	Kagoshima	
	2	Okinawa	
Like humpback whale	1	Shizuoka	
Sperm whale	1	Hokkaido	
	1	Shizuoka	
	1	Ehime	
	2	Saga	
	1	Nagasaki	
	1	Kagoshima	

7. Publications

Dolar, L., Barbieri, M., Crespo, E.A., Palacios, D.M., Pastene, L.A., Ponnampalam, L.S., Rajamani, L., Reyes, J.C., Rojas-Bracho, L., Secchi, E., Segniagbeto, G.H., Siciliano, S., Sutaria, D.N., Urbán, J., Wang, J.Y., Yamada, T.K. and Van Waerebeek, K. 2022. William Fergus Perrin - a marine mammalogist 'for all seasons': 20 August 1938 - 11 July 2022. *Latin American Journal of Aquatic Mammals* 17(2): 133–141.

Hirose, A., Kodera, R., Uekusa, Y., Katsumata, H., Katsumata, E., Nakamura, G. and Kato, H. 2022. Comparative anatomy of and around the posterior nasofrontal sac of a beluga whale. *Marine Mammal Science* 38 (3): 1272–1285.

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Pastene, L.A., Goto, M., Taguchi, M. and Fujise, Y. 2022. Phylogeny and population genetic structure of minke whales worldwide: a review of recent studies. pp. 11–37. *In*: H.A.E. Kaoud (Ed.). *Marine Mammals*. IntechOpen. 126 pp.

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Takahashi, M., Tamura, T., Bando, T. and Konishi, K. 2022. Feeding habits of Bryde's and sei whales in the western North Pacific inferred from stomach contents and skin stable isotope ratios. *Journal of Sea Research* 184: 102204.

Ten, S., Konishi, K., Raga, J.A., Pastene, L.A. and Aznar, F. J. 2022. Epibiotic fauna of the Antarctic minke whale as a reliable indicator of seasonal movements. *Sci. Rep*. 12: 22214.

Yasunaga, G., Inoue, S., Bando, T., Hakamada, T. and Fujise, Y. 2022. Aspartic acid enantiomer quantification using ultraperformance liquid chromatography–tandem mass spectroscopy combined with deuterium-chloride hydrolysis to improve age estimation in Antarctic minke whale *Balaenoptera bonaerensis*. *Marine Mammal Science* https://doi.org/10.1111/mms.12977.

Zhu, Y., Mizutani, K., Minami, K., Shirakawa, H., Kawauchi, Y., Shao, H., Tomiyasu, M., Iwahara, Y., Tamura, T., Ogawa, M., Tatsuyama, K. and Miyashita, K. 2022. Target strength measurements of

free-swimming sandeel species, *Ammodytes* spp., in a large indoor experimental aquarium. *Journal of Marine Science and Engineering* 10 (7): 966.