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NAMMCO/32/NPR/ JP-2023-24	Japan Progress Report on Large Cetaceans – April 2023-March 2024
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Action requested	For Information
Background/content	

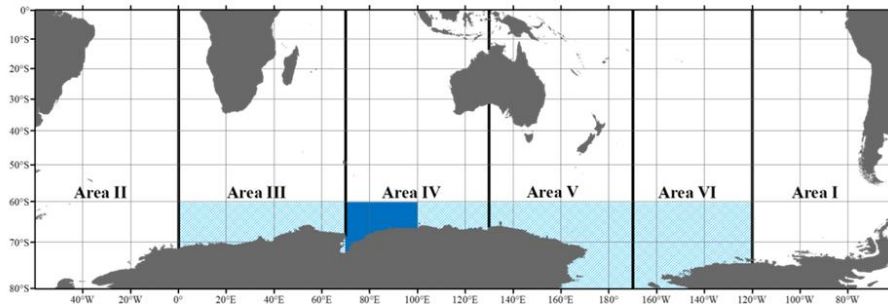
Japan's Scientific Progress Report on Large Cetaceans in the fiscal year 2023 (April 2023 to March 2024), with statistical data for the calendar year 2023

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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 2023 (April 2023 to March 2024), and statistical data for the calendar year 2023. 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. Several 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 prefectural governments to the FAJ, which compiled information from individual fishermen, fishermen cooperatives and general public. Data and samples collected are being analyzed for contributing to the conservation and management of large cetaceans in the North Pacific.

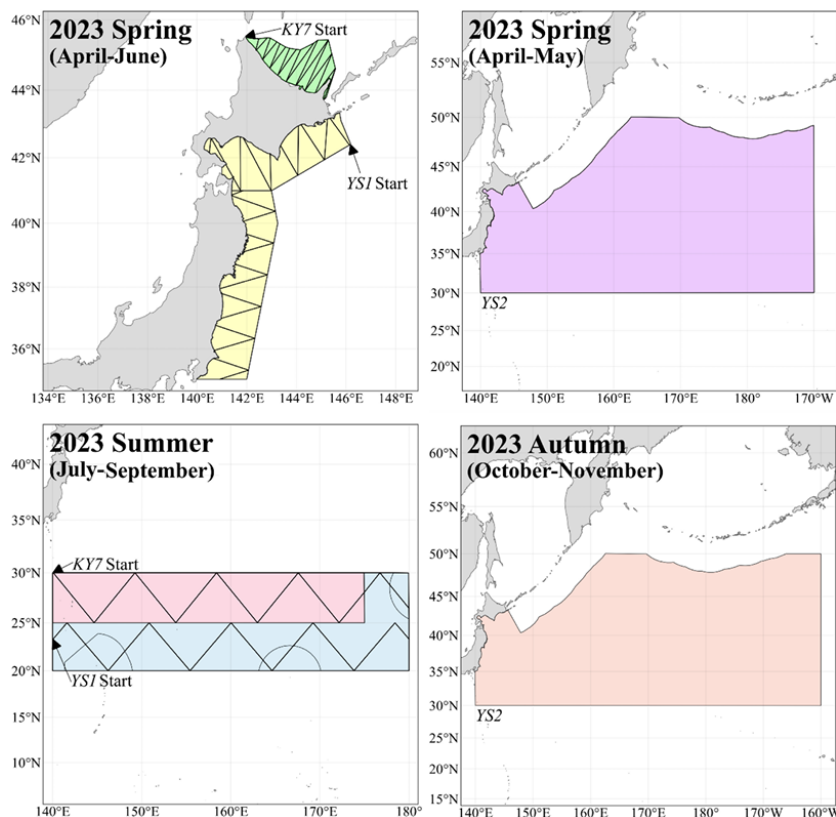
1. SIGHTING DATA

Dedicated sighting survey under the program Japanese Abundance and Stock structure Surveys in the Antarctic (JASS-A) in the Southern Ocean in the austral summer season 2023/24 (vessel: *Yushin-Maru No.2*, *Yushin-Maru No.3*).



Species	Date (research period)	Local area	No. of schools/No. of individuals	Contact person	
Blue whale	YS2 (10 Dec/23– 12 Mar/24)	Area IVW + Transit	16/19	G. Yasunaga (ICR) yasunaga@cetacean.jp	
Fin whale		Area IVW + Transit	204/472		
Sei whale		Transit	14/24		
Southern right whale		Transit	4/5		
Antarctic minke whale		Area IVW + Transit	116/183		
Humpback whale		YS3 (10 Dec/23– 12 Mar/24)	Area IVW + Transit		900/1,768
Sperm whale		Area IVW + Transit	Area IVW + Transit		58/69
			Western North Pacific		16/31
Southern bottlenose whale		Area IVW	12/24		
Bryde's whale		Western North Pacific	2/2		

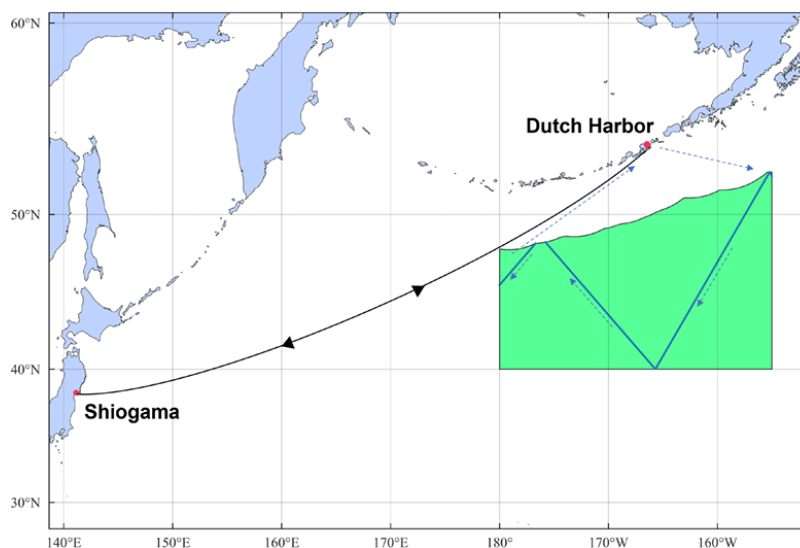
Dedicated sighting surveys under national program in the North Pacific in 2023 (vessels: *Yushin-Maru* (YS1), *Yushin-Maru No.2* (YS2) and *Kaiyo-Maru No.7* (KY7)).



Species	Date (research period)	Local area	No. of schools/No. of individuals	Contact person
Blue whale	KY7 (8 Apr – 2 May, 9 May – 3 Jun/23) YS1 (9 Apr – 20 May /23) YS2 (13 Apr – 29 May /23)	Western North Pacific	28/32	G. Yasunaga (ICR) yasunaga@cetacean.jp
	YS2 (12 Oct – 5 Nov/23)		2/2	
Fin whale	KY7 (8 Apr – 2 May, 9 May – 3 Jun/23) YS1 (9 Apr – 20 May /23) YS2 (13 Apr – 29 May /23)		233/401	
	KY7 (31 Jul – 25 Aug, 9 Sep – 4 Oct/23) YS1 (31 Jul – 21 Aug, 4 Sep – 28 Sep/23)		6/7	
	YS2 (12 Oct – 5 Nov/23)		35/49	
Sei whale	KY7 (8 Apr – 2 May, 9 May – 3 Jun/23) YS1 (9 Apr – 20 May /23) YS2 (13 Apr – 29 May /23)		93/155	
	YS2 (12 Oct – 5 Nov/23)		67/88	
Bryde's whale	KY7 (8 Apr – 2 May, 9 May – 3 Jun/23) YS1 (9 Apr – 20 May /23) YS2 (13 Apr – 29 May /23)		20/23	
	KY7 (31 Jul – 25 Aug, 9 Sep – 4 Oct/23) YS1 (31 Jul – 21 Aug, 4 Sep – 28 Sep/23)	36/37		
	YS2 (12 Oct – 5 Nov/23)	24/29		
Common minke whale	KY7 (8 Apr – 2 May, 9 May – 3 Jun/23) YS1 (9 Apr – 20 May /23) YS2 (13 Apr – 29 May /23)	71/83		
	KY7 (31 Jul – 25 Aug, 9 Sep – 4 Oct/23) YS1 (31 Jul – 21 Aug, 4 Sep – 28 Sep/23)	3/3		

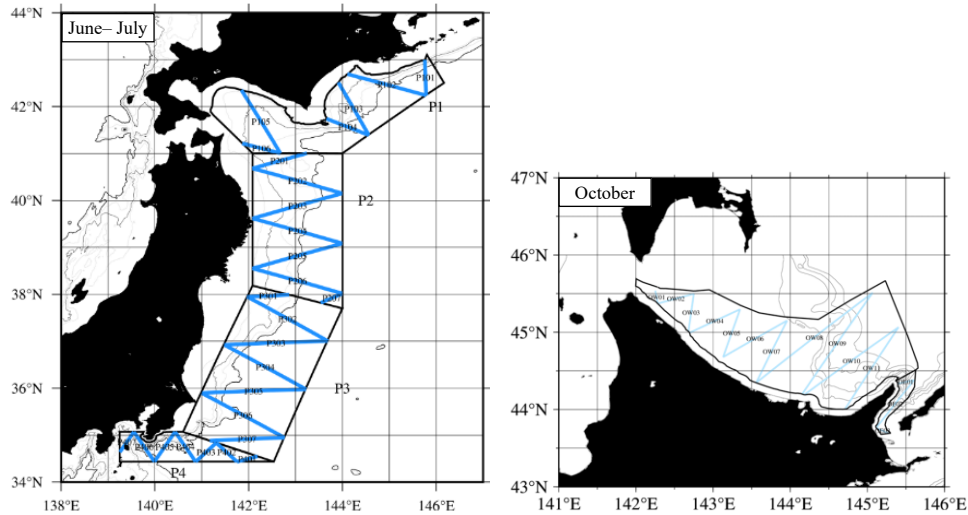
Humpback whale	KY7 (8 Apr – 2 May, 9 May – 3 Jun/23) YS1 (9 Apr – 20 May /23) YS2 (13 Apr – 29 May /23)		34/48	
	KY7 (31 Jul – 25 Aug, 9 Sep – 4 Oct/23) YS1 (31 Jul – 21 Aug, 4 Sep – 28 Sep/23)		3/4	
	YS2 (12 Oct – 5 Nov/23)		21/29	
N. P. right whale	KY7 (8 Apr – 2 May, 9 May – 3 Jun/23) YS1 (9 Apr – 20 May /23) YS2 (13 Apr – 29 May /23)		1/1	
Sperm whale	KY7 (8 Apr – 2 May, 9 May – 3 Jun/23) YS1 (9 Apr – 20 May /23) YS2 (13 Apr – 29 May /23)		30/83	
	KY7 (31 Jul – 25 Aug, 9 Sep – 4 Oct/23) YS1 (31 Jul – 21 Aug, 4 Sep – 28 Sep/23)		42/97	
	YS2 (12 Oct – 5 Nov/23)		22/35	

Dedicated sighting survey under the program International Whaling Commission-Pacific Ocean Whale and Ecosystem Research (IWC-POWER) in the North Pacific in 2023 (vessel: *Yushin-Maru No.2*).



Species	Date (research period)	Local area	No. of schools/No. of individuals	Contact person
Blue whale	28 Jul – 3 Oct/23	Eastern North Pacific	9/9	G. Yasunaga (ICR) yasunaga@cetacean.jp
Fin whale		Eastern North Pacific + Transit	116/193	
Sei whale		Eastern North Pacific + Transit	66/85	
Common minke whale		Eastern North Pacific	2/2	
Humpback whale		Eastern North Pacific	1/1	
N. P. right whale		Transit	4/5	
Sperm whale		Eastern North Pacific	25/26	

Dedicated sighting survey on small cetacean in the North Pacific and Okhotsk Sea in 2023 (vessel: *Kaiyo-Maru No. 7*).



Species	Date (research period)	Local area	No. of schools/No. of individuals	Contact person
Fin whale	11 Oct – 28 Oct/23	Western North Pacific	3/3	K. Hattori (FRI) hattori_kaoru68@fra.g o.jp
Bryde's whale	11 Jun – 23 Jul/23		4/4	
Common minke whale	11 Oct – 28 Oct/23		11/13	
Humpback whale	11 Jun – 23 Jul/23		4/4	
Sperm whale	11 Jun – 23 Jul/23		21/36	
	11 Oct – 28 Oct/23		8/11	

2. MARKING DATA

2.1. Natural marking data

JASS-A survey-Antarctic in 2023/24

Species	Feature	Local area	No. of individuals photo identified	Contact person
Blue whale	Head, Dorsal fin, Lateral marking	Area IVW	16	G. Yasunaga (ICR) yasunaga@cetacean.jp
Humpback whale	Head, Dorsal fin, Fluke, Lateral marking		94	
Southern right whale	Head, fluke		5	

National dedicated sighting surveys-North Pacific in 2023

Species	Feature	Local area	No. of individuals photo identified	Contact person
N. P. right whale	Head	Western North Pacific	1	G. Yasunaga (ICR) yasunaga@cetacean.jp
Blue whale	Head, Dorsal fin, Lateral marking		28	
Humpback whale	Fluke, Dorsal fin		22	

IWC-POWER survey-North Pacific in 2023

Species	Feature	Local area	No. of individuals photo identified	Contact person
N. P. right whale	Head	Eastern North Pacific	2	G. Yasunaga (ICR) yasunaga@cetacean.jp
Blue whale	Lateral marking		7	
Fin whale	Dorsal fin		30	
Sei whale	Dorsal fin		9	

2.2. Telemetry data*JASS-A survey-Antarctic in 2023/24*

Species	Tag type	Local area	No. of individuals tagged	Contact person
Fin whale	Satellite	Area IVW	6	G. Yasunaga (ICR) yasunaga@cetacean.jp
Antarctic minke whale	Satellite		2	
Humpback whale	Satellite		3	

National dedicated sighting surveys-North Pacific in 2023

Species	Tag type	Local area	No. of individuals tagged	Contact person
Fin whale	Satellite	Western North Pacific	22	G. Yasunaga (ICR) yasunaga@cetacean.jp
Sei whale	Satellite		44	

IWC-POWER survey-North Pacific in 2023

Species	Tag type	Local area	No. of individuals tagged	Contact person
Blue whale	Satellite	Eastern North Pacific	4	G. Yasunaga (ICR) yasunaga@cetacean.jp
Fin whale	Satellite		5	
Sei whale	Satellite		5	

Abashiri coastal tagging and biopsy surveys-Okhotsk Sea in 2023

Species	Tag type	Local area	No. of individuals tagged	Contact person
Fin whale	Satellite	Off Abashiri	9	G. Yasunaga (ICR) yasunaga@cetacean.jp

3. BIOPSY SAMPLES*JASS-A survey-Antarctic in 2023/24*

Species	Local area	No. of individuals photo identified	Contact person
Blue whale	Area IVW	8	G. Yasunaga (ICR) yasunaga@cetacean.jp
Fin whale		9	
Sei whale		3	
Antarctic minke whale		3	
Humpback whale		24	
Southern right whale		4	

National dedicated sighting surveys-North Pacific in 2023

Species	Local area	No. of individuals photo identified	Contact person
N.P. right whale	Western North Pacific	1	G. Yasunaga (ICR) yasunaga@cetacean.jp
Blue whale		4	
Fin whale		27	
Sei whale		47	
Common minke whale		1	

IWC-POWER survey-North Pacific in 2023

Species	Local area	No. of individuals photo identified	Contact person
Blue whale	Eastern North Pacific	4	G. Yasunaga (ICR) yasunaga@cetacean.jp
Fin whale		8	
Sei whale		7	

Abashiri coastal tagging and biopsy surveys-Okhotsk Sea in 2023

Species	Local area	No. of individuals photo identified	Contact person
Fin whale	Off Abashiri	1	G. Yasunaga (ICR) yasunaga@cetacean.jp

4. DIRECT CATCHES OF CETACEANS**4.1. Biological samples from commercial whaling***Offshore component (2023)*

Species	Area	Samples and data	No. of individuals	Contact person/institute
Sei whale	Western North Pacific	Body length and sex	24	FAJ G. Yasunaga (ICR) yasunaga@cetacean.jp
		Photographic record and external character	24	
		Measurement of girth	24	
		Record of external parasites	24	
		Measurements of blubber thickness (two points)	24	
		Body weight	24	
		Skin tissues for DNA analysis	24	
		Muscle, liver and blubber for various analysis	24	
		Collection of blood plasma	23	
		Mammary gland; lactation status and measurement	15	
		Collection of ovary	15	
		Foetal sex (identified by visual observation)	6	
		Photographic record of foetus	6	
		Foetal length and weight	6	
		Foetal skin tissues for DNA analysis	6	
		Testis; weight and histological sample	9	
		Observation of stomach contents and conventional record	24	
		Observation of marine debris in stomach	24	
		Earplug for age determination	24	
Eye lens for age determination	24			
Bryde's whale	Western North Pacific	Body length and sex	187	
		Photographic record and external character	187	
		Measurement of girth	187	
		Record of external parasites	187	
		Measurements of blubber thickness (two points)	187	
		Body weight	187	
		Skin tissues for DNA analysis	187	

		Muscle, liver and blubber for various analysis	187	
		Collection of blood plasma	183	
		Mammary gland; lactation status and measurement	113	
		Collection of ovary	113	
		Foetal sex (identified by visual observation)	41*	
		Photographic record of foetus	41*	
		Foetal length and weight	41*	
		Foetal skin tissues for DNA analysis	41*	
		Testis; weight and histological sample	74	
		Observation of stomach contents and conventional record	187	
		Observation of marine debris in stomach	187	
		Earplug for age determination	187	
		Eye lens for age determination	187	

* Two out of 41 are unknown-sex fetuses.

Coastal component (2023)

Species	Area	Samples and data	No. of individuals	Contact person/institute
Common minke whale	Western North Pacific	Body length and sex	83	FAJ
		Photographic record and external character	83	K. Hattori (FRI) hattori_kaoru68@fra .go.jp
		Body scar record	83	
		Measurements of blubber thickness (two points)	83	
		Skin tissues for DNA analysis	83	G. Yasunaga (ICR) yasunaga@cetacean. jp
		Muscle, liver and blubber for various analysis	83	
		Mammary gland; lactation status and measurement	48	
		Uterine horn; measurements and endometrium sample	48	
		Collection of ovary	48	
		Foetal sex (identified by visual observation)	38	
		Photographic record of foetus	38	
		Foetal length and weight	38	
		Foetal skin tissues for DNA analysis	38	
		Eye lens of foetus for age determination	38	
		Testis; weight and histological sample	35	
		Stomach contents and convenient record	83	
		Earplug for age determination	83	
		Eye lens for age determination	83	
Baleen plate for age determination (body length \leq 6 m)	12			

5. BYCATCHES OF CETACEANS IN FISHERIES

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
	3	Aomori	K	FRN		
	6	Iwate	K	FRN		
	3	Miyagi	K	FPN		
	1	Niigata	K	FPN		
	5	Toyama	K	FPN		
	6	Ishikawa	K	FPN		
	2	Kyoto	K	FPN		
	2	Mie	K	FPN		
	3	Wakayama	K	FPN		
	1	Shimane	K	FPN		
	1	Yamaguchi	K	FPN		
	1	Oita	K	FPN		
	3	Nagasaki	K	FPN		
	4	Miyazaki	K	FPN		
1	Kagoshima	K	FPN			
Fin whale	1	Miyagi	K	FPN	NA	FAJ
	1	Ishikawa	K	FPN		
Sei whale	1	Wakayama	R	FPN		
Bryde's whale	1	Kochi	K	FPN		
N.P. right whale	1	Chiba	R	FPN		
Humpback whale	1	Wakayama	R	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	2	Hokkaido	FAJ
	1	Aomori	
	1	Chiba	
Fin whale	1	Miyagi	
	1	Tokyo	
Sei whale	1	Nagasaki	
Bryde's whale	1	Chiba	
Humpback whale	1	Hokkaido	
	4	Chiba	
	1	Kochi	
	1	Okinawa	
Sperm whale	1	Aomori	
	1	Miyagi	
	1	Fukushima	
	1	Ibaraki	
	1	Osaka	
	2	Okinawa	
Unidentified large whale	1	Yamaguchi	

7. PUBLICATIONS (2023–2024)

- Best, P.B., Ohsumi, S., Kato, H. and Donovan, G.P. 2024. The SOWER programme in the Antarctic: Background, aims and objectives. *J. Cetacean Res. Manage.* (special issue) 4: 1–11.
- Hamabe, K., Matsuoka, K. and Kitakado, T. 2023. Estimation of abundance and population dynamics of the Antarctic blue whale in the Antarctic Ocean south of 60°S, from 70°E to 170°W. *Marine Mammal Science* 39 (2): 671–687.
- Inamori, D., Yoshioka, M. and Kato, H. 2023. Second occurrence of a dolphin with fin-shaped hind appendages from waters off Taiji, the Pacific coast of Japan. *Cetacean Population Studies* 4: 43–44.
- Katsumata, T., Isoda, T., Matsuno, K., Murase, H. and Matsuoka, K. 2023. Observation of fin whale (*Balaenoptera physalus*) feeding behavior in the Austral summer southern hemisphere mid-latitudes. *Cetacean Population Studies* 4: 34–39.
- Katsumata, T. and Yoshida, T. 2023. Development progress of a long-range vertical takeoff and landing UAV for the improvement of ship-based cetacean sighting surveys. *Cetacean Population Studies* 4: 45–47.
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- Nakamura, G., Al-Zaidan, A., Behbehani, M. and Kato, H. 2023. Preliminary report on the cranial measurements of a Bryde's whale stranded in Failaka Island, Kuwait in 2014. *Cetacean Population Studies* 4: 21–26.
- Pastene, L.A. 2024. A review of biopsy sampling experiments and studies of stock structure, phylogeny and taxonomy of large whales based on samples obtained on SOWER cruises. *J. Cetacean Res. Manage.* (special issue) 4: 43–62.
- Saito, R., Bando, T., Kotaniguchi, M., Tamura, T., Kuno, T., Watanabe, K., Mizukami, Y., Kitamura, S. and Kadokawa, H. 2023. Ethanolamine plasmalogens derived from whale brain stimulate both follicle-stimulating hormone and luteinizing hormone secretion by bovine gonadotrophs. *Animal Science Journal* 94 (1): e13839.
- Sekine, A., Yasunaga, G., Kumamoto, S., Fujibayashi, S., Munirah, I., Bai, L., Tani, T., Sugano, E., Tomita, H., Ozaki, T., Kiyono, T., Inoue-Murayama, M. and Fukuda, T. 2023. Characterization of common minke whale (*Balaenoptera acutorostrata*) cell lines immortalized with the expression of cell cycle regulators. *Advanced Biology*: e2300227.
- Taguchi, M., Goto, M., Matsuoka, K., Tiedemann, R. and Pastene, L.A. 2023. Population genetic structure of Bryde's whales (*Balaenoptera brydei*) on the central and western North Pacific feeding grounds. *Can. J. Fish. Aquat. Sci* 80: 142–155.
- Yasunaga, G., Inoue, S., Bando, T., Hakamada, T. and Fujise, Y. 2023. 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* 39 (2): 368–386.
- Yasunaga, G., Inoue, S., Bando, T., Hakamada, T. and Fujise, Y. 2023. Yasunaga *et al.* (2022) meets the ethics code of Marine Mammal Science, and the journal's decision to publish the paper is correct. *Marine Mammal Science* 39 (2): 709–711.