WKMWI/68/3.1/01/REV1

WKMWI Agenda Item 3.1

Summary of Activities Related to the Action Plan on Whale Killing Methods

Based on Resolution 1999-1

Reporting forms received by the IWC for the period 2018-2021 are attached to this document.

Table 1 shows the forms that have been received from the member nations per year.

Croatia reported that since all whale species in Croatia are protected it is forbidden to intentionally kill any kind of whale specimens, so there are no whale killing methods to report.

Table 1 Forms that have been received from the member nations per year for the 2018-2021 period.

NATION	2018	2019	2020	2021
Kingdom of Denmark (Greenland)	\checkmark	\checkmark	\checkmark	\checkmark
Netherlands	\checkmark			
New Zealand	\checkmark	\checkmark	\checkmark	\checkmark
Russian Federation	\checkmark		\checkmark	\checkmark
St Vincent and the Grenadines	no catch	\checkmark	no catch	*
United Kingdom	√ **			
United States	\checkmark	\checkmark	\checkmark	\checkmark

*A report on catches also describing the hunt was provided noting the following that relates to WKMs: "HUMPBACK WHALE CAUGHT IN BEQUIA 3rd MAY 2021: On May 3 2021, a humpback whale (Megaptera novaeangliae) was caught in the waters surrounding Bequia. The fishing boat Persecution, registered as J8-841-PF and captained by Alston Stowe, pursued the animal and harpooned the whale in the area north of Pigeon Island at 10:00 a.m. ... The whale was subsequently killed at 10:15 a.m."

**The UK data is for the 1st part of 2018 only.

Greenland 2018



The Red House 135 Station Road Impington, Cambridge CB24 9NP, UK

t. +44 (0) 1223 233971 e. <u>secretariat@iwc.int</u> <u>www.iwc.int</u>

Summary of Activities Related to the Action Plan on Whale Killing Methods (based on Resolution 1999-1)

Please note that completion of this form is not compulsory but it will greatly aid the discussions at the next Working Group Meeting. The Secretariat would be grateful if you can complete this form as fully as possible, preferably electronically and return it to <u>secretariat@iwc.int</u> by Monday 20 May 2019

Contracting Government	Greenland (Denmark)
Season	2018
Area	Greenland
Fishery type (e.g. commercial, aboriginal subsistence, scientific permit)	Aboriginal Subsistence

 Table 1. Summary of primary and secondary whale killing methods used (Note that the appropriate Method No. should be used throughout the form):

Method No.	Brief description of method (e.g. penthrite grenade, 'cold' grenade, rifle <i>of stated calibre</i> , etc). Put the most commonly used method first. Insert more rows if necessary.	Used as: (State whether primary killing method, secondary, or both)
1	Penthrite grenade 30 gram (Whale Grenade-99)	Primary (minke whales in West Greenland).
2	Penthrite grenade 45 gram (Whale Grenade-99)	Primary (minke whales in West Greenland).
3	Rifle, calibre larger than 7.62 mm (30.06).	Secondary (minke whales in West Greenland).

Summary of criteria used to indicate unconsciousness and death:

Criteria: When the whale does not move and the flippers are immovable. This includes when the whale has sunk and there is no movement in the harpoon line or floats.

Number of whales killed instantly are whales reported killed within 1 minute.

The presented Greenlandic data on TTD is biased high for those hunts where the TTD are estimated by the hunters and are not corrected by post-mortem examinations. (NAMMCO Expert Group Meeting on Assessing TTD data from Large Whale Hunts November 2015.)

Table 2: Summary of information providers:

Percentage of data provided by:	
 inspectors 	
 scientists 	
 hunters 	99
 other (please specify) 	1

Table 3: Summary of hunt:

ltom	Species 1		Species 2		Species 3	
Item	[Minke whale, W-GRL]		[Minke whale, E-GRL]		[Fin whale, W-GRL]	
	No.	%	No.	%	No.	%
Whale killing methods						
• Total no. killed (all methods summed)	116		2		7	
• Total killed using Method 1 only	46	40 %				
Total killed using Method 2 only					7	100 %
• Total killed using Method 3 only	70	60 %	2	100 %		
 Total needing secondary harpoon or other secondary killing method 						
If bullets used						
o minimum number						
o maximum number						
o median number						
Time to unconsciousness/death (TTD)*						
Total for which information recorded	112	97 %	2	100 %	7	100 %
Total estimated TTD to be instant	30	27 %	0	0 %	3	43 %
Maximum estimated TTD	150		10		30	
Mean time to TTD	15		9		13	
Median Time to TTD	15		9		3	
Other information						
Total targeted and missed						
Total struck and lost	4	3 %	0	0 %	1	14 %

	Species 4 [Humpback whale, W-GRL]					
	No	0/	No	0/	Ne	0/
Whale killing methods	INO.	70	INO.	70	NO.	70
	c					
Total no. killed (all methods summed)	0					
 Total killed using Method 1 only (30 g) 	_					
 Total killed using Method 2 only (45 g) 	6	100 %				
 Total killed using Method 3 only (rifle) 						
Total needing secondary harpoon or						
other secondary killing method						
If bullets used						
o minimum number						
o maximum number						
o median number						
Time to unconsciousness/death (TTD)*					•	
Total for which information recorded	5	83 %				
Total estimated TTD to be instant	2	40 %				
Maximum estimated TTD (minutes)	30					
 Mean time to TTD (minutes) 	9					
 Median Time to TTD (minutes) 	5					
Other information						
Total targeted and missed						
Total struck and lost	0	0 %				

<u>*NB Resolution 1999-1 asks for TTD information for each whale not killed instantly. This can be provided</u> via Table 4 below.

Other: Any other relevant information e.g. with information on technical assistance given to other fisheries or with respect to new studies to (a) improve methods and TTD, (b) develop new criteria for TTD:

Statistics for TTD of minke whales by method, rather than by stock:

- <u>Time to death for minke whales killed with method 1 (N TTD = 46 reports, or 40 % of the catch):</u> 30 whales (65%) were killed within 1 minute. 39 whales (85%) died within 5 minutes. The mean time to death was 3 minutes. The median time to death was 1 minute. The largest time to death reported was 20 minutes.
- <u>Time to death for minke whales killed with method 2 (N TTD = 68 reports, or 60 % of the catch)</u>:
 1 minke whale (1%) was killed within 1 minute, while 5 (7%) died within 5 minutes. The mean time to death was 24 minutes. The median time to death was 20 minutes. The largest time to death was 150 minutes.

Statistics for Struck and Lost minke whales by method, rather than by stock:

- <u>Struck but lost minke whales using method 1</u>: 0 (0 % of struck animals)
- Struck but lost minke whales using method 2: 4 (6 % of struck animals)

Additional information on fin whales and humpback whales:

• The minimum time to death reported for fin whales was 0 minutes. 4 fin whales (57%) died within 5 minutes. The minimum time to death reported for humpback whales was 0 minutes. 3 humpback whales (60%) died within 5 minutes.

Additional information on bowhead whales:

• The hunting of bowhead whales in West Greenland will for the forthcoming quota-block be followed by the Ministry of Fisheries, Hunting and Agriculture to improve killing methods and activities related to the hunt.

Greenland 2019



The Red House 135 Station Road Impington, Cambridge CB24 9NP, UK

t. +44 (0) 1223 233971 e. <u>secretariat@iwc.int</u> <u>www.iwc.int</u>

Summary of Activities Related to the Action Plan on Whale Killing Methods (based on Resolution 1999-1)

Please note that completion of this form is not compulsory but it will greatly aid the discussions at the next Working Group Meeting. The Secretariat would be grateful if you can complete this form as fully as possible, preferably electronically and return it to <u>secretariat@iwc.int</u> by 6 April 2020

Contracting Government	Greenland (Denmark)
Season	2019
Area	Greenland
Fishery type (e.g. commercial, aboriginal subsistence, scientific permit)	Aboriginal Subsistence

Table 1. Summary of primary and secondary whale killing methods used (Note that the appropriate Method No. should be used throughout the form):

Method No.	Brief description of method (e.g. penthrite grenade, 'cold' grenade, rifle <i>of stated calibre</i> , etc). Put the most commonly used method first. Insert more rows if necessary.	Used as: (State whether primary killing method, secondary, or both)
1	Penthrite grenade 30 gram (Whale Grenade-99)	Primary (minke
		whales in West
		Greenland).
2	Penthrite grenade 45 gram (Whale Grenade-99)	Primary and
		secondary (bowhead
		whales, fin whales and
		humpback whales in
		West Greenland)
3	Rifle, with minimum 30.06 (7,62 mm)	Primary and
		secondary (minke
		whales in West and East
		Greenland).

Summary of criteria used to indicate unconsciousness and death:

Criteria: When the whale does not move and the flippers are immovable. This includes when the whale has sunk and there is no movement in the harpoon line or floats.

Number of whales killed instantly are whales reported killed within 1 minute.

The presented Greenlandic data on TTD is biased high for those hunts where the TTD are estimated by the hunters and are not corrected by post-mortem examinations. (NAMMCO Expert Group Meeting on Assessing TTD data from Large Whale Hunts November 2015.)

Table 2: Summary of information providers:

Percentage of data provided by:			
 inspectors 			
 scientists 			
 hunters 	99		
 other (please specify) National wildlife officers 	1		

Table 3: Summary of hunt:

ltem	Species 1		Species 2		Species 3	
	[Minke whale, W-GRL]		[Minke whale, E-GRL]		[Fin whale, W-GRL]	
	No.	%	No.	%	No.	%
Whale killing methods						
• Total no. killed (all methods summed)	160		11		8	
Total killed using Method 1 only	54	34 %				
 Total killed using Method 2 only 					8	100 %
Total killed using Method 3 only	106	66 %	11	100 %		
 Total needing secondary harpoon or other secondary killing method 						
If bullets used						
o minimum number						
o maximum number						
o median number						
Time to unconsciousness/death (TTD)*						
Total for which information recorded	153	96 %	6	55 %	4	50 %
 Total estimated TTD to be instant 	36	24 %	0	0 %	2	50 %
Maximum estimated TTD	300		55		30	
Mean time to TTD	16		30		13	
Median Time to TTD	15		30		10	
Other information						
 Total targeted and missed 						
Total struck and lost	7	4 %	0	0 %	1	13 %

Item	Species 4 [Humpback whale, W-GRL]					
	No	%	No	%	No	%
Whale killing methods	100.	70	110.	70	110.	70
Total no. killed (all methods summed)	4					
• Total killed using Method 1 only (30 g)						
Total killed using Method 2 only (45 g)	4	100 %				
Total killed using Method 3 only (rifle)						
Total needing secondary harpoon or other secondary killing method						
If bullets used						
o minimum number						
o maximum number						
o median number						
Time to unconsciousness/death (TTD)*		-			-	
Total for which information recorded	4	100 %				
Total estimated TTD to be instant	2	50 %				
Maximum estimated TTD (minutes)	10					
 Mean time to TTD (minutes) 	4					
 Median Time to TTD (minutes) 	3					
Other information						
Total targeted and missed						
Total struck and lost	0	0 %				

<u>*NB Resolution 1999-1 asks for TTD information for each whale not killed instantly. This can be provided via</u> <u>Table 4 below.</u>

Other: Any other relevant information e.g. with information on technical assistance given to other fisheries or with respect to new studies to (a) improve methods and TTD, (b) develop new criteria for TTD

Statistics for TTD of minke whales by method, rather than by stock:

 <u>Time to death for minke whales killed with method 1 (N_TTD = 54 reports, or 34 % of the catch):</u> 36 whales (67%) were killed within 1 minute. 46 whales (85%) died within 5 minutes. The mean time to death was 3 minutes. The median time to death was 0 minute. The largest time to death reported was 20 minutes.

<u>Time to death for minke whales killed with method 2 (N_TTD = 105 reports, or 66 % of the catch)</u>:
 0 minke whale (1%) was killed within 1 minute, while 12 (11%) died within 5 minutes. The mean time to death was 24 minutes. The median time to death was 20 minutes. The largest time to death was 300 minutes.

Statistics for Struck and Lost minke whales by method, rather than by stock:

- <u>Struck but lost minke whales using method 1</u>: 1 (2 % of struck animals)
- <u>Struck but lost minke whales using method 2</u>: 6 (5 % of struck animals)

Additional information on fin whales and humpback whales:

• The minimum time to death reported for fin whales was 0 minutes. 2 fin whales (50%) died within 5 minutes. The minimum time to death reported for humpback whales was 0 minutes. 3 humpback whales (75%) died within 5 minutes.

Additional information on bowhead whales:

• The hunting of bowhead whales in West Greenland will for the forthcoming quota-block be followed by the Ministry of Fisheries, Hunting and Agriculture to improve killing methods and activities related to the hunt.

Greenland 2020



TheRedHouse 135 Station Road ImpingtonCambridge CB24 9NP, UK

t. +44 (0) 1223 233971 e. <u>secretariat@iwc.int</u>

Summary of Activities Related to the Action Plan on Whale Killing Methods

(based on Resolution 1999-1)

Please note that completion of this form is not compulsory but it will greatly aid the discussions at the next Working Group Meeting. The Secretariat would be grateful if you can complete this form as fully as possible, preferably electronically and return it to <u>secretariat@iwc.int</u> by 12 April 2021

Contracting Government	Greenland (Denmark)
Season	2020
Area	Greenland
Fishery type (e.g. commercial, aboriginal subsistence, scientific permit)	Aboriginal Subsistence

Table 1. Summary of primary and secondary whale killing methods used (Note that the appropriate Method No. should be used throughout the form):

Method No.	Brief description of method (e.g. penthrite grenade, 'cold' grenade, rifle <i>of stated calibre</i> , etc). Put the most commonly used method first. Insert more rows if necessary.	Used as: (State whether primary killing method, secondary, or both)
1	Penthrite grenade 30 gram (Whale Grenade-99)	Primary (minke whales in West Greenland).
2	Penthrite grenade 45 gram (Whale Grenade-99)	Primary and secondary (bowhead whales, fin whales and humpback whales in West Greenland)
3	Rifle, calibre larger than or on 7.62 mm (30.06).	Primary and secondary (minke whales in West and East Greenland).

Summary of criteria used to indicate unconsciousness and death:

Criteria: When the whale does not move and the flippers are immovable. This includes when the whale has sunk and there is no movement in the harpoon line or floats.

Number of whales killed instantly are whales reported killed within 1 minute.

The presented Greenlandic data on TTD is biased high for those hunts where the TTD are estimated by the hunters and are not corrected by post-mortem examinations. (NAMMCO Expert Group Meeting on Assessing TTD data from Large Whale Hunts November 2015.)

Table 2: Summary of information providers:

Percentage of data provided by:			
 inspectors 			
 scientists 			
 hunters 	100%		
 other (please specify) 			

Table 3: Summary of hunt:

Item Species 1 [Minke whale, W-0		t ies 1 ale, W-GRL]	Species 2 [Minke whale, E-GRL]		Species 3 [Fin whale, W-GRL]	
	Ne	0/	Na	0/	No	0/
M/holo Lilling weath ada	NO.	%	NO.	%	NO.	%
			aa (1)			
• Total no. killed (all methods summed)	162		20 (1)		3	
 Total killed using Method 1 only 	44	27%				
 Total killed using Method 2 only 					3	100%
Total killed using Method 3 only	118	73%	20	100%		
 Total needing secondary harpoon or other secondary killing method 	1	0,6%	5	25%		
If bullets used						
o minimum number						
o maximum number						
o median number						
Time to unconsciousness/death (TTD)*						
Total for which information recorded	158	98%	20	100%	3	100%
 Total estimated TTD to be instant 	24	15%	0	0%	0	0%
 Maximum estimated TTD (minutes) 	120 min.		60 min.		30 min.	
 Mean time to TTD (minutes) 	15,5 min.		20,7min.		20 min.	
 Median Time to TTD (minutes) 	15 min.		20 min.		20 min.	
Other information						
Total targeted and missed					0	0%
Total struck and lost					0	0%

(1): Minke Whale quota for Ittoqqortoormiit in East Greenland was allocated to Tasiilaq due to ice conditions.

Item	Species 4 [Humpback whale, W-GRL]					
	No	%	No	%	No	%
Whale killing methods	NO.	70	110.	70	NO.	70
Total no. killed (all methods summed)	4					
Total killed using Method 1 only						
Total killed using Method 2 only	1	25%				
 Total killed using Method 3 only 	2	50%				
 Total needing secondary harpoon or 						
other secondary killing method						
If bullets used						
o minimum number						
o maximum number						
o median number						
Time to unconsciousness/death (TTD)*						
Total for which information recorded	3	75%				
Total estimated TTD to be instant	0	0%				
 Maximum estimated TTD (minutes) 	35 min.					
Mean time to TTD (minutes)	23 min.					
 Median Time to TTD (minutes) 	25 min.					
Other information						
Total targeted and missed	0	0%				
Total struck and lost	0	0%				

*NB Resolution 1999-1 asks for TTD information for each whale not killed instantly. This can be provided via Table 4 below.

Other: Any other relevant information e.g. with information on technical assistance given to other fisheries or with respect to new studies to (a) improve methods and TTD, (b) develop new criteria for TTD:

Statistics for TTD of minke whales by method, rather than by stock:

- <u>Time to death for minke whales killed with method 1 (N TTD = 44 reports, or 25 % of the catch):</u> 32 whales (73%) were killed within 1 minute. 37 whales (84%) died within 5 minutes. The mean time to death was 2.2 minutes. The median time to death was 0 minute. The largest time to death reported was 15 minutes.
- <u>Time to death for minke whales killed with method 3 (N TTD = 134 reports, or 74 % of the catch)</u>:
 0 minke whale (1%) was killed within 1 minute, while 15 (11,2%) died within 5 minutes. The mean time to death was 20,6 minutes. The median time to death was 20 minutes. The largest time to death was 120 minutes.

Statistics for Struck and Lost minke whales by method, rather than by stock:

- <u>Struck but lost minke whales using method 1</u>: 0 (0 % of struck animals)
- <u>Struck but lost minke whales using method 3</u>: 7 (3,8 % of struck animals)

Additional information on fin whales and humpback whales:

• The minimum time to death reported for fin whales was 10 minutes. 0 fin whales (00%) died within 5 minutes. The minimum time to death reported for humpback whales was 8 minutes. 0 humpback whales (0%) died within 5 minutes.

Additional information on bowhead whales:

- No catches of bowhead whales occurred in 2020.
- The hunting of bowhead whales in West Greenland will for the forthcoming quota-block be followed by the Ministry of Fisheries, Hunting and Agriculture to improve killing methods and activities related to the hunt.

Annex 1: Summary Reporting Form Greenland 2021



The Red House 135 Station Road Impington, Cambridge CB24 9NP, UK

t. +44 (0) 1223 233971 e. <u>secretariat@iwc.int</u> <u>www.iwc.int</u>

Summary of Activities Related to the Action Plan on Whale Killing Methods (based on Resolution 1999-1)

Please note that completion of this form is not compulsory, but it will greatly aid the discussions at the next Working Group Meeting. The Secretariat would be grateful if you can complete this form as fully as possible, preferably electronically and return it to <u>secretariat@iwc.int</u> by 12 April 2022

Contracting Government	Government of Greenland
Season	2021
Area	West Greenland (WG) and East Greenland (EG)
Fishery type (e.g. commercial, aboriginal subsistence, scientific permit)	Aboriginal subsistence

 Table 1. Summary of primary and secondary whale killing methods used (Note that the appropriate Method No. should be used throughout the form):

Method No.	Brief description of method (e.g. penthrite grenade, 'cold' grenade, rifle <i>of stated calibre</i> , etc). Put the most commonly used method first. Insert more rows if necessary.	Used as: (state whether primary killing method, secondary, or both)
1	Penthrite grenade	Primary
2	Rifle, minimum calibre .30.06	Secondary, primary in EG, limited as primary in WG
3	Hand harpoon with line and floats only in relation to rifle hunt	Secondary to Rifle hunt in order to minimise struck and lost

Summary of criteria used to indicate unconsciousness and death:

Criteria: When the whale does not move and the flippers are immovable. This includes when the whale has sunk and there is no movement in the harpoon line or floats.

Number of whales killed instantly are whales reported killed within 1 minute.

The presented Greenlandic data on TTD is biased high for those hunts where the TTD are estimated by the hunters and are not corrected by post-mortem examinations. (NAMMCO Expert Group Meeting on Assessing TTD data from Large Whale Hunts November 2015.)

Table 2: Summary of information providers:

Percent	Percentage of data provided by:				
	inspectors				
-	scientists				
	hunters	100%			
-	other (please specify)				

Table 3: Summary of hunt:

ltem	Species 1.1Species 1.2Minke whaleMinke whaleWGEG		Species 2 Humpback whale (WG)		Species 3 Fin whale (WG)			
	No.	%	No.	%	No.	%		
Whale killing methods	Whale killing methods							
 Total no. killed (all methods summed) 	177		21		7		2	
Total killed using Method 1 only	66	37,3%			3		2	
Total killed using Method 2 only	111	62,7%	21	100%	2			
Total killed using Method 3 only								
 Total needing secondary harpoon or other secondary killing method 								
If bullets used								
o minimum number								
o maximum number								
o median number								
Time to unconsciousness/death (TTD)*							
Total for which information recorded	177	100 %	20	95%	7		2	
 Total estimated TTD to be instant 	43	16,2 %	1	4,8%	0		0	
Maximum estimated TTD	420 min		120 min		30 min		25 min	
Mean time to TTD	19 min		20,2 min		12,3 min		17,5 min	
Median Time to TTD	10 min		15 min		5,5 min			
Other information								
Total targeted and missed								
Total struck and lost	10		0		0		0	

<u>NB Resolution 1999-1 asks for TTD information for each whale not killed instantly. This can be provided via Table 4 below.</u>

Other: Any other relevant information e.g. with information on technical assistance given to other fisheries or with respect to new studies to (a) improve methods and TTD, (b) develop new criteria for TTD:

Table 4:	Reporting	of data	on individual	whales killed

Whale:	Species	Killing method(s) used	Time to Death ¹	Samples taken
1	Minke whale	2, 3	20	
2	Minke whale	2, 3	15	
3	Minke whale	2, 3	120	
3	Minke whale	2, 3	45	
4	Minke whale	2, 3	30	
5	Minke whale	2, 3	20	
6	Minke whale	2, 3	30	
7	Minke whale	2, 3	25	
8	Minke whale	2, 3	10	
9	Minke whale	2, 3	10	
10	Minke whale	2, 3	20	
11	Minke whale	2, 3	15	
12	Minke whale	2, 3	15	
13	Minke whale	2, 3	2	
14	Minke whale	2, 3	10	
15	Minke whale	2, 3	10	
16	Minke whale	2, 3	10	
17	Minke whale	2, 3	25	
18	Minke whale	2, 3	10	
19	Minke whale	2, 3	10	Yes
20	Minke whale	2, 3	40	Yes
21	Minke whale	2, 3	20	Yes
22	Minke whale	2, 3	1	
23	Minke whale	2, 3	15	
24	Minke whale	2, 3	45	
25	Minke whale	2, 3	20	
26	Minke whale	2, 3	30	
27	Minke whale	2, 3	30	
28	Minke whale	2, 3	15	
29	Minke whale	2, 3	30	
30	Minke whale	2, 3	20	
31	Minke whale	2, 3	25	
32	Minke whale	2, 3	20	
33	Minke whale	2, 3	15	
34	Minke whale	2, 3		
35	Minke whale	2, 3	25	
36	Minke whale	2, 3	120	
37	Minke whale	2, 3	13	

Greenland 2021				
38	Minke whale	2, 3	25	
39	Minke whale	2, 3	20	
40	Minke whale	2, 3	10	
41	Minke whale	2, 3	20	
42	Minke whale	2, 3	20	
43	Minke whale	2, 3	23	
44	Minke whale	2, 3	15	
45	Minke whale	2, 3	20	
46	Minke whale	2, 3	10	
47	Minke whale	2, 3	5	Yes
48	Minke whale	2, 3	5	Yes
49	Minke whale	2, 3	5	Yes
50	Minke whale	2, 3	5	Yes
51	Minke whale	2, 3	20	Yes
52	Minke whale	2, 3	20	Yes
53	Minke whale	2, 3	25	Yes
54	Minke whale	2, 3	30	Yes
55	Minke whale	2, 3	15	Yes
56	Minke whale	2, 3	10	Yes
57	Minke whale	2, 3	5	Yes
58	Minke whale	2, 3	1	Yes
59	Minke whale	2, 3	1	Yes
60	Minke whale	2, 3	60	Yes
61	Minke whale	2, 3	15	Yes
62	Minke whale	2, 3	20	Yes
63	Minke whale	2, 3	5	Yes
64	Minke whale	2, 3	27	Yes
65	Minke whale	2, 3	10	Yes
66	Minke whale	2, 3	25	Yes
67	Minke whale	2, 3	120	Yes
68	Minke whale	2, 3		Yes
69	Minke whale	2, 3	30	Yes
70	Minke whale	2, 3	30	Yes
71	Minke whale	2, 3		
72	Minke whale	2, 3	90	Yes
73	Minke whale	2, 3	30	Yes
74	Minke whale	2, 3	75	Yes
75	Minke whale	2, 3	10	Yes
76	Minke whale	2, 3		

Greenland 2021				
77	Minke whale	2, 3	30	
78	Minke whale	2, 3	420	
79	Minke whale	2, 3	10	
80	Minke whale	2, 3	20	
81	Minke whale	2, 3	10	Yes
82	Minke whale	2, 3	45	Yes
83	Minke whale	2, 3		
84	Minke whale	2, 3	30	yes
85	Minke whale	2, 3	15	
86	Minke whale	2, 3	150	
87	Minke whale	2, 3	60	
88	Minke whale	2, 3	15	
89	Minke whale	2, 3	25	
90	Minke whale	2, 3	75	
91	Minke whale	2, 3	5	
92	Minke whale	2, 3	1	
93	Minke whale	2, 3	3	
94	Minke whale	2, 3	13	
95	Minke whale	2, 3	30	
96	Minke whale	2, 3	30	
97	Minke whale	2, 3	11	Yes
98	Minke whale	2, 3	15	Yes
99	Minke whale	2, 3	20	
100	Minke whale	2, 3	25	Yes
101	Minke whale	2, 3	30	Yes
102	Minke whale	2, 3	15	Yes
103	Minke whale	2, 3	10	Yes
104	Minke whale	2, 3	27	
105	Minke whale	2, 3	25	
106	Minke whale	2, 3	20	Yes
107	Minke whale	2, 3	30	
108	Minke whale	2, 3	45	
109	Minke whale	2, 3	20	
110	Minke whale	2, 3	10	Yes
111	Minke whale	2, 3	10	
112	Minke whale	2, 3	20	
113	Minke whale	2, 3	15	
114	Minke whale	2, 3	20	
115	Minke whale	2, 3	10	

Greenland 2021				
116	Minke whale	2, 3	10	
117	Minke whale	2, 3	25	
118	Minke whale	2, 3	15	
119	Minke whale	2, 3	5	
120	Minke whale	2, 3	20	
121	Minke whale	2, 3	10	
122	Minke whale	2, 3	2	
123	Minke whale	2, 3	10	Yes
124	Minke whale	2, 3	120	
125	Minke whale	2, 3	35	
126	Minke whale	2, 3	1	Yes
127	Minke whale	2, 3	22	
128	Minke whale	2, 3	30	
129	Minke whale	2, 3	10	Yes
130	Minke whale	2, 3	15	Yes
131	Minke whale	2, 3		
132	Minke whale			Yes
133	Minke whale	1	0	
134	Minke whale	1	0	
135	Minke whale	1	3	
136	Minke whale	1	15	Yes
137	Minke whale	1	15	Yes
138	Minke whale	1	0,02	Yes
139	Minke whale	1	0,01	Yes
140	Minke whale	1	5	Yes
141	Minke whale	1	1	Yes
142	Minke whale	1	0,1	Yes
143	Minke whale	1	2	Yes
144	Minke whale	1	5	Yes
145	Minke whale	1	0	Yes
146	Minke whale	1	0	Yes
147	Minke whale	1	0	Yes
148	Minke whale	1	13	Yes
149	Minke whale	1	5	Yes
150	Minke whale	1	0	Yes
151	Minke whale	1	0	Yes
152	Minke whale	1	0	Yes
153	Minke whale	1	0	Yes
154	Minke whale	1	0	Yes

Greenland 2021					
155	Minke whale	1	0	Yes	
156	Minke whale	1	10	Yes	
157	Minke whale	1	0	Yes	
158	Minke whale	1	5	Yes	
159	Minke whale	1	0	Yes	
160	Minke whale	1	5	Yes	
161	Minke whale	1	0	Yes	
162	Minke whale	1	15	Yes	
163	Minke whale	1	0	Yes	
164	Minke whale	1	4	Yes	
165	Minke whale	1	0	Yes	
166	Minke whale	1	1	Yes	
167	Minke whale	1	10	Yes	
168	Minke whale	1	3	Yes	
169	Minke whale	1	4	Yes	
170	Minke whale	1	3	Yes	
171	Minke whale	1	3	Yes	
172	Minke whale	1	5	Yes	
173	Minke whale	1	10	Yes	
174	Minke whale	1	10	Yes	
175	Minke whale	1	0,3	Yes	
176	Minke whale	1	0,3		
177	Minke whale	1	1	Yes	
178	Minke whale	1	0	Yes	
179	Minke whale	1	0,3	Yes	
180	Minke whale	1	1	Yes	
181	Minke whale	1	0	Yes	
182	Minke whale	1	0,3	Yes	
183	Minke whale	1	1	Yes	
184	Minke whale	1	0,01	Yes	
185	Minke whale	1	5	Yes	
186	Minke whale	1	2	Yes	
187	Minke whale	1	5	Yes	
188	Minke whale	1	5	Yes	
189	Minke whale	1	1	Yes	
190	Minke whale	1	0,05	Yes	
191	Minke whale	1	0	Yes	
192	Minke whale	1	2	Yes	
193	Minke whale	1	10	Yes	

Greenland 2021						
194	Minke whale	1	0	Yes		
195	Minke whale	1	0	Yes		
196	Minke whale	1	0	Yes		
197	Minke whale	1	0	Yes		
198	Minke whale	1	1	Yes		
199	Humpback whale	1	15	Yes		
200	Humpback whale	1	3	Yes		
201	Humpback whale	1	3			
202	Humpback whale	1	30			
203	Humpback whale	Bycatch in fishing gear	10	Yes		
204	Humpback whale	Bycatch in fishing gear	25			
205	Humpback whale	2,3, euthanized because of injuries				
206	Humpback whale	Bycatch in fishing gear				
207	Fin whale	1	25			
208	Fin whale	1	10			

¹ Resolution 1999-1 encouraged reporting of time to death for each animal not killed instantly

Method for humane termination of suffering in large stranded cetaceans



Author: van Elk C.E. Date: 7th March 2019

Introduction

In the Netherlands the course of action in case of the stranding of a large cetacean is under the authority of the Ministry of Agriculture, Nature and Food Quality and is documented in the "guideline beached large whales"[1]. In this guideline euthanasia is an option when the best interest of the animal is served by termination of suffering. Euthanasia has to be performed in a manner which puts animal welfare and public safety as top priorities but also reconciles the emotions of the general public.

A method for whales between 6 and 15 meters length has been devised based on scientific publications, guidelines developed in other countries and trials performed in the Netherlands on dead cows and a dead sperm whale. The largest whales which strand alive on the Dutch coast are historically less than 16 meters long (mostly humpback whales and sperm whales). This document gives a detailed description of the method, gives go and no go criteria for applying this method and finally outlines briefly what arguments were considered to be in favor of applying this specific method.

Description of method

In summary: after general sedation and analgesia and local anaesthesia a hollow pointed needle with 30 grams of explosives in the tip is inserted into the thoracic cavity. The explosive tip of the needle is aimed at the heart and large blood vessels. The explosion in the thoracic cavity must ensure immediate death by two mechanisms:

- 1. The shock wave generated by the explosion destroys the brain [2]
- 2. The metal projectiles from the explosion destroy the heart and/or the large blood vessels (see pictures 4,5,6 and 7)

General sedation and analgesia

Adequate analgesia and sedation is imperative in order to be able to put the hollow needle into the thoracic cavity. To this effect the animal is anaesthetized with medetomidine (10 mg/ 1000 kg Intra Muscular (I.M.)) and Zoletil (tiletamine and zolazepam) (1500 mg/ 1000 kg I.M.) [3, 4]. The weight of the animal is estimated using the whale scale app [5]. The intra muscular injection is given with a long 17 g needle (minimum length 30 cm) in the neck muscle of the animal. This muscle is approached laterally. The ideal point of injection is halfway between the dorso-ventral lines that run through the angle of the mandible and the shoulder joint in a line drawn straight cranio-caudally from the eye. If the ideal point cannot be accessed then a point as close as possible to the ideal point is chosen in the same dorso-ventral line of the ideal point (see figure 1).



Figure 1 Location of intra muscular injection with general sedatives and analgesics.

The full dose of medetomidine (10 mg/1000kg) is given in the first injection. Further injections with 50 ml Zoletil are given until the predetermined dose has been reached. Zoletil will be brought into solution at a maximum concentration minimizing the volume needed for injection. After the introduction of these medications a 10-20 minute pause is taken to let these medications take their effect.

Local anesthesia

A local anesthetic (20 ml lidocaine 20 mg/ml) is applied subcutaneously on locations which are used to find a suitable inter-rib space providing access to the thoracic cavity. If a proper location has been found then a second depot (100 ml lidocaine 20 mg/ml) is administered underneath the blubber layer close to the pleura by placing a long custom made needle (17g 50 cm long) into the channel made by the probe. The Inter-rib access is found using a 3 or 4 mm diameter metal probe of 60 cm length. After the introduction of the lidocaine there is a 5 minute break to let the lidocaine take its effect. After the lidocaine has taken its effect a hole is drilled through the thoracic wall following the premade channel.

Introduction of the hollow needle into the thoracic cavity

A point for introduction of the hollow needle is chosen with the aim to locate the explosive close to the heart, large blood vessels and in the vicinity of the foramen magnum. The insertion is in the caudal thorax because the caudal ribs have the largest intercostal spaces. The penetration of the abdomen and its viscera is avoided. Depending on the length of the animal the needle is inserted at a point in a straight line caudal to the shoulder joint: for an animal with a length of 8 meter the point is 110 cm caudal of the shoulder joint, for an animal with a length of 16 meter the point is 175 cm caudal of the shoulder joint. At an angle of 45 degrees to the skin in a caudal cranial direction the probe is inserted. If the channel is suitable for introduction of the needle between the ribs then using an 62 cm long auger bit of 20 mm diameter is used for gaining access to the thoracic cavity by drilling a hole. The hollow needle is then introduced to a depth of 110 cm (8 meter long animal) to 160 cm (15 meter long animal).



Preparation and detonation of the hollow needle

The explosives used, together with the expertise to prepare the explosive needle, are provided by the Ministry of Defense. This capacity comes from the Dutch explosives clearance service (explosieven opruimingsdienst, EOD).

A team of two EOD operators support in the process of euthanasia by assembling the explosive needle and controlling the detonation of the explosives at the requested moment. The needle is inserted by the veterinarian.

The use of the limited amount of explosives requires minimal safety perimeter and the initiation of the explosion is controlled with a remote wired firing device. Therefore the procedure can be executed without large environmental impacts.

Verification of death

Before and after detonation of the hollow needle an electrocardiogram is made of the animal. Using this method the stop of heartbeat can be established. If this method fails then criteria as set out in the report by the Virginia aquarium foundation scientific report 2012 No 6 are used [3]:

- Lack of jaw tone
- Absence of menace, palpebral and corneal reflexes
- Fixed and dilated pupils
- Absence of respiration over an extended period (this can be hard to assess in animals that can hold their breath for a prolonged period of time)
- Lack of response to painful stimulus
- No capillary refill time

Go No Go criteria

Assuming the decision has been made to euthanize a whale then the procedure can go ahead only if the following criteria have been met:

- 1. Position and behavior of the animal allow safe operation
- 2. The area of operation is safely accessible
- 3. The animal is less than 15 meters long (maximum size of observed stranded whales in the Netherlands in the past)
- 4. The premedication has sufficient effect

Especially the latter point is critical. Sedation and pain killing must be sufficient to allow a hole to be drilled through the thoracic wall without unacceptable distress to the animal. The medications which are used are assumed to work based on observations on other species, including cetaceans. However for some species (e.g. sperm whales) no data are available. There is a small chance therefore the effects are not as predicted. Another point of concern is resorption from the injection site. Stranded whales may have a severely compromised circulation and this may interfere with resorption of administered intramuscular medications. Again the effect may differ from what is expected. Therefore if the whale shows an obvious reaction towards the drilling of the hole by behavior, breathing (increase in frequency) or an increase in heart frequency (doubling of heart rate) then the operation must be stopped. Behavioural reaction and breathing frequency can be monitored visually, heart rate monitoring is done using a portable ECG.

Accountability of choices made

A large whale can be euthanized using chemicals, artillery or explosives [3, 4]. The use of artillery devices is an inappropriate method in the Netherlands as it does not reconcile strong public emotions associated that will be caused by inflicting gross trauma on a dying whale. The use of chemicals has two options, either an overdose of opioids I.M. (i.e. etorphine) or intra-cardial administration of KCI. The option of working with etorphine has the severe disadvantage that the substance is highly toxic for humans. Inadvertent contact with a drop of etorphine on the eye or mouth mucosa necessitates immediate administration of antidote to prevent death. The circumstances in which a whale has to be euthanized are not ideal for the careful handling of this substance. Whales moving or one may operate standing in shallow water in stormy weather are examples of less than ideal conditions. Furthermore it is uncertain how dangerous remains of etorphine at the injection site are for persons that have to handle the cadaver after the whale has been killed for example during autopsy. The use of KCl has the disadvantage that it has to be administrated strictly intravenously. This has not been done in a large whale before and gaining access to the heart or large blood vessels can be problematic. Besides, the search for large blood vessels and the heart may take time and is also at least as compromising for the welfare as the introduction of the hollow pointed needle with explosives. Both methods need adequate sedation and analgesia to be permissible.

The choice for a small explosive is in the Dutch situation a suitable combination of effectiveness and appropriate reconciliation of public emotions, as whale strandings in the Netherlands always attract a large crowd. The method makes little noise and no external damage is visible after the detonation. Effectiveness is assumed based on a study with similar sized explosives in similar sized animals (expected sizes of stranded large whales on the Dutch coast are animals below 50 ton) and on the trial of the method on a dead 50 ton sperm whale (see pictures 4, 5, 6 and7).

The choice for medetomidine and Zoletil for premedication is based first on the demand to have a limited volume for injection (medetomidine and Zoletil can both be prepared in high concentrations) and second on the demand to be safe for handlers that assist with autopsy of the dead whale after euthanasia.

Medetomidine is an $\alpha 2$ agonist and has strong sedating and analgesic properties. Duration of action is 60 to 120 minutes. Zoletil has two working components. Zolazepam is a sedative and tiletamine is a strong dissociative anaesthetic with good analgesic properties. Duration of action is 20 to 60 minutes. Dosages are based on experience with other species and have been set after consultation of the Pharmacy and department of Anesthesia of the Faculty of Veterinary Medicine of Utrecht University.

Selected pictures :



Picture 1 and 2 Probes (3 and 4 mm diameter 60 cm length) and auger bits (20, 24 and 28 mm length)



Picture 3 Hollow pointed needle (first prototype)



Picture 4, 5, 6, and 7 Damage to the heart after testing the method on a 47.000 kg dead sperm whale

- 1. *Leidraad Stranding Levende Grote Walvisachtigen.* 2017 22-12-2017; Available from: <u>https://www.rijksoverheid.nl/documenten/rapporten/2017/12/22/leidraad-stranding-levende-grote-walvisachtigen</u>.
- 2. Knudsen, S.K. and E.O. Oen, *Blast-induced neurotrauma in whales*. Neurosci Res, 2003. **46**(3): p. 377-86.
- 3. Barco, S.G., et al., *Collaborative Development of Recommendations for Euthanasia of Stranded Cetaceans.*, in *VAQF Scientific report.* 2012, Vancouver Aquarium Foundation: Virginia Beach, VA. p. 183.
- 4. IWC, Report of the IWC Workshop on Euthanasia Protocols to Optimize Welfare Concerns for Stranded Cetaceans. 2015, 22nd ASCOBANS Advisory Committee Meeting. p. 33.
- 5. Harms, C., *Whale Scale App*. 2019. https://play.google.com/store/apps/details?id=edu.ncsu.whalescale

New Zealand 2018/19



The Red House 135 Station Road Impington, Cambridge CB24 9NP, UK

 t. +44 (0) 1223 233971
 e. secretariat@iwc.int www.iwc.int

Summary of Activities Related to the Action Plan on Whale Killing Methods (based on Resolution 1999-1)

Please note that completion of this form is not compulsory but it will greatly aid the discussions at the next Working Group Meeting. The Secretariat would be grateful if you can complete this form as fully as possible, preferably electronically and return it to <u>secretariat@iwc.int</u> by Monday 20 May 2019

Contracting Government	New Zealand
Season	April 2018-March 2019
Area	New Zealand Territorial Waters
Fishery type (e.g. commercial, aboriginal subsistence, scientific permit)	Euthanasia of stranded animals

 Table 1. Summary of primary and secondary whale killing methods used (Note that the appropriate Method No. should be used throughout the form):

Method No.	Brief description of method (e.g. penthrite grenade, 'cold' grenade, rifle <i>of stated calibre</i> , etc). Put the most commonly used method first. Insert more rows if necessary.	Used as: (state whether primary killing method, secondary, or both)
1	.303	Primary
2	30.06	Primary
3	.308	Primary
4	.300	Primary
5	.416	Primary
6	.243	Primary
7	Bolt gun	Primary

Summary of criteria used to indicate unconsciousness and death:

- a) complete dilation of the pupils;
- b) onset of unprovoked agonal convulsions (violent uncoordinated thrashing);
- c) absence of palpebral (closure of eyelid when corner of eyelid touched) and corneal (closure of eyelid if eye touched) reflexes;
- d) slack lower jaw

Table 2: Summary of information providers:

Percentage of data provided by:					
 inspectors 					
 scientists 					
 hunters 					
 other (please specify) 	100% Conservation officers				

Table 3: Summary of hunt:

ltem	Species 1 Long finned pilot whale	Species 2 Pygmy sperm whale	Species 3 Pygmy killer whale	Species 4 Humpback whale	Species 5 Common dolphin	Species 6 Bottlenose dolphin	Species 7 Hector's dolphin
Whale killing methods	No / %	No / %	No / %	No / %	No / %	No / %	No / %
Total no. killed (all methods summed)	81	6	7	1	1	1	1
Method 1 only	71/88	3/50			1/100		
Method 2 only	10/12	2/33					
Method 3 only			7/100				
Method 4 only		1/17					
Method 5 only				1/100			
Method 6 only						1/100	
Method 7 only							1/100
Total needing secondary method	0	0	0	0	0	0	0
If bullets used:							
Minimum number	3	1	2	4	1	1	
Maximum number	3	2	2	4	1	1	
Median number	3	1	2	4	1	1	
Time to unconsciousness /death (TTD)*							
Total for which information recorded	70	3			1	1	1
Total estimated TTD to be instant	70	3			1	1	1

Maximum estimated TTD				
Mean time to TTD				
Median Time to TTD				
Other information				
Total targeted and missed				
Total struck and lost				

<u>*NB Resolution 1999-1 asks for TTD information for each whale not killed instantly. This can be provided via</u> <u>Table 4 below.</u>

Other: Any other relevant information e.g. with information on technical assistance given to other fisheries or with respect to new studies to (a) improve methods and TTD, (b) develop new criteria for TTD:

Bolt gun deployed by veterinarian.

Table 4: Reporting of data on individual whales killed:

Whale:	Species	Killing method(s) used	Time to Death ¹	Samples taken
1.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
2.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
3.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
4.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
5.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
6.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
7.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
8.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
9.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
10.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
11.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
12.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
13.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
14.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
15.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
16.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
17.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
18.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
19.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
20.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
21.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
22.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
23.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
24.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
25.	Long-finned pilot whale	1, 1 bullet	Instant	Skin

¹ Resolution 1999-1 encouraged reporting of time to death for each animal not killed instantly

Whale:	Species	Killing method(s) used	Time to Death ¹	Samples taken
26.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
27.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
28.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
29.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
30.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
31.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
32.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
33.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
34.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
35.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
36.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
37.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
38.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
39.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
40.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
41.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
42.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
43.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
44.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
45.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
46.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
47.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
48.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
49.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
50.	Long-finned pilot whale	1, 1 bullet	Instant	Skin

Whale:	Species	Killing method(s) used	Time to Death ¹	Samples taken
51.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
52.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
53.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
54.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
55.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
56.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
57.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
58.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
59.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
60.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
61.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
62.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
63.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
64.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
65.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
66.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
67.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
68.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
69.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
70.	Long-finned pilot whale	1, 1 bullet	Instant	Skin
71.	Long-finned pilot whale	1, 3 bullets	"The first shot greatly aggravated the animal and took some time to settle to the point where I could place two more shots."	Skin
72.	Long-finned pilot whale	2, 3 bullets	Presumed to be instant.	Skin, blubber
73.	Long-finned pilot whale	2, 3 bullets	Presumed to be instant.	Skin, blubber
74.	Long-finned pilot whale	2, 3 bullets	Presumed to be instant.	Skin, blubber
75.	Long-finned pilot whale	2, 3 bullets	Presumed to be instant.	Skin, blubber

New Zealand	2018/ 3	19
-------------	----------------	----

Whale:	Species	Killing method(s) used	Time to Death ¹	Samples taken
76.	Long-finned pilot whale	2, 3 bullets	Presumed to be instant.	Skin, blubber
77.	Long-finned pilot whale	2, 3 bullets	Presumed to be instant.	Skin, blubber
78.	Long-finned pilot whale	2, 3 bullets	Presumed to be instant.	Skin, blubber
79.	Long-finned pilot whale	2, 3 bullets	Presumed to be instant.	Skin, blubber, teeth
80.	Long-finned pilot whale	2, 3 bullets	Presumed to be instant.	Skin, blubber, teeth
81.	Long-finned pilot whale	2, 3 bullets	Presumed to be instant.	Skin, tooth
82.	Pygmy sperm whale	2, 1 bullet	Presumed to be instant.	Skin
83.	Pygmy sperm whale	1, 1 bullet	Presumed to be instant.	Skin
84.	Pygmy sperm whale	2, 2 bullets	"Death was within seconds of the first round"	Skin
85.	Pygmy sperm whale	1, 1 bullet	Instant.	NA
86.	Pygmy sperm whale	4, 1 bullet	Presumed to be instant.	Skin
87.	Pygmy sperm whale	1, 1 bullet	Instant.	NA
88.	Pygmy killer whale	3, 2 bullets	Presumed to be instant	Skin
89.	Pygmy killer whale	3, 2 bullets	Presumed to be instant	Skin
90.	Pygmy killer whale	3, 2 bullets	Presumed to be instant	Skin
91.	Pygmy killer whale	3, 2 bullets	Presumed to be instant	Skin
92.	Pygmy killer whale	3, 2 bullets	Presumed to be instant	Skin
93.	Pygmy killer whale	3, 2 bullets	Presumed to be instant	Skin
94.	Pygmy killer whale	3, 2 bullets	Presumed to be instant	Skin
95.	Humpback whale	5, 4 bullets	"Limp after first shot, dead after second."	Skin
96.	Common dolphin	1, 1 bullet	Instant.	Unknown
97.	Bottlenose dolphin	6, 1 bullet	Instant	Post mortem
98.	Hector's dolphin	7, 1 shot	Instant	Skin, teaching dissection

New Zealand 2019/20

INTERNATIONAL WHALING COMMISSION The Red House 135 Station Road Impington, Cambridge CB24 9NP, UK

t. +44 (0) 1223 233971
 e. secretariat@iwc.int
 w w w.iwc.int

Summary of Activities Related to the Action Plan on Whale Killing Methods (based on Resolution 1999-1)

Please note that completion of this form is not compulsory but it will greatly aid the discussions at the next Working Group Meeting. The Secretariat would be grateful if you can complete this form as fully as possible, preferably electronically and return it to <u>secretariat@iwc.int</u> by Monday 20 May 2019

Contracting Government	New Zealand
Season	April 2019-March 2020
Area	New Zealand Territorial Waters
Fishery type (e.g. commercial, aboriginal subsistence, scientific permit)	Euthanasia of stranded animals

Table 1. Summary of primary and secondary whale killing methods used (Note that the appropriate Method No. should be used throughout the form):

Method No.	Brief description of method (e.g. penthrite grenade, 'cold' grenade, rifle <i>of stated calibre</i> , etc). Put the most commonly used method first. Insert more rows if necessary.	Used as: (state whether primary killing method, secondary, or both)
1	.303	Primary
2	30.06	Primary
3	Unknown	Primary

Summary of criteria used to indicate unconsciousness and death:

h)	slack lower jaw
g)	eyelid if eye touched) reflexes;
-1	
f)	onset of unprovoked agonal convulsions (violent uncoordinated thrashing);
e)	complete dilation of the pupils;

Table 2: Summary of information providers:

Percentage of data provided by:				
 inspectors 				
 scientists 				
hunters				
 other (please specify) 	100% Conservation officers			

Table 3: Summary of hunt:

Item	Species 1 Pygmy sperm whale	Species 2 Pygmy killer whale	Species 3 Southern right whale dolphin	Species 4 Dusky dolphin		
Whale killing methods	No / %	No / %	No / %	No / %		
Total no. killed (all methods summed)	2	3	1	1		
Method 1 only	2/100					
Method 2 only			1/100			
Method 3 only		3/100		1/100		
Method 4 only						
Method 5 only						
Method 6 only						
Method 7 only						
Total needing secondary method	0	0	0	0		
If bullets used:						
Minimum number	1	3	?	?		
Maximum number	1	3	?	?		
Median number	1	3	?	?		
Time to unconsciousness /death (TTD)*					 	
Total for which information recorded	0	?	?	?		
Total estimated TTD to be instant						
Maximum estimated TTD						
Mean time to TTD						
Median Time to TTD						
Other information						
Total targeted and missed						
Total struck and lost						

<u>*NB Resolution 1999-1 asks for TTD information for each whale not killed instantly. This can be provided via</u> <u>Table 4 below.</u>

Other: Any other relevant information e.g. with information on technical assistance given to other fisheries or with respect to new studies to (a) improve methods and TTD, (b) develop new criteria for TTD:

Details of euthanasia for most animals this year has not been provided to the national database but is likely to be within normal parameters.

Whale:	Species	Killing method(s) used	Time to Death ¹	Samples taken
1.	Pygmy sperm whale	1	?	Skin
2.	Pygmy sperm whale	1	Ş	Skin
3.	Southern right whale dolphin	2	?	Skin and blubber
4.	Pygmy killer whale	3	?	Skin
5.	Pygmy killer whale	3	?	Skin
6.	Pygmy killer whale	3	?	Skin
7.	Dusky dolphin	3	?	?

Table 4: Reporting of data on individual whales killed:

¹ Resolution 1999-1 encouraged reporting of time to death for each animal not killed instantly

New Zealand 2020/21

The Red House 135 Station Road Impington, Cambridge CB24 9NP, UK



INTERNATIONAL WHALING COMMISSION

t. +44 (0) 1223 233971
 e. <u>secretariat@iwc.int</u>
 w w w.iwc.int

Summary of Activities Related to the Action Plan on Whale Killing Methods (based on Resolution 1999-1)

Please note that completion of this form is not compulsory but it will greatly aid the discussions at the next Working Group Meeting. The Secretariat would be grateful if you can complete this form as fully as possible, preferably electronically and return it to <u>secretariat@iwc.int</u> by Monday 20 May 2019

Contracting Government	New Zealand
Season	April 2020-March 2021
Area	New Zealand Territorial Waters
Fishery type (e.g. commercial, aboriginal subsistence, scientific permit)	Euthanasia of stranded animals

Table 1. Summary of primary and secondary whale killing methods used (Note that the appropriate Method No. should be used throughout the form):

Method No.	Brief description of method (e.g. penthrite grenade, 'cold' grenade, rifle <i>of stated calibre</i> , etc). Put the most commonly used method first. Insert more rows if necessary.	Used as: (state whether primary killing method, secondary, or both)
1	.308	Primary
2	.303	Primary
3	.223	Primary
4	Unknown	

- a) complete dilation of the pupils;
- b) onset of unprovoked agonal convulsions (violent uncoordinated thrashing);
- c) absence of palpebral (closure of eyelid when corner of eyelid touched) and corneal (closure of eyelid if eye touched) reflexes;
- d) slack lower jaw.

Summary of criteria used to indicate unconsciousness and death:

Table 2: Summary of information providers:

Percentage of data provided by:				
 inspectors 				
 scientists 				
 hunters 				
 other (please specify) 	100% Conservation officers			

New Zealand 2020/21

Table 3: Summary of hunt:

ltem	Species 1 Pilot whale	Species 2 Pygmy sperm whale	Species 3 Bottlenose dolphin	Species 4 Cuvier's beaked whale	Species 5 Dusky dolphin
Whale killing methods	No / %	No / %	No / %	No / %	No / %
Total no. killed (all methods summed)	28	4	3	1	1
Method 1 only	28/100	2/50	3/100		
Method 2 only		1/25		1/100	
Method 3 only					1/100
Method 4 only		1/25			
Total needing secondary method	0	0	0	0	0
If bullets used:					
Minimum number	1	1	1	1	1
Maximum number	2	3	2	1	1
Median number	1	1	1	1	1
Time to unconsciousness /death (TTD)*					
Total for which information recorded	0	2	0	1	1
Total estimated TTD to be instant		1		1	1
Maximum estimated TTD	2m	10s	2m		
Mean time to TTD	"ttd ranged from instant to less than 2 mins"	5s	"ttd ranged from instant to less than 2 mins"	Instant	Instant
Median Time to TTD		5s		instant	Instant
Other information	Other information				
Total targeted and missed	0	0	0	0	0
Total struck and lost	0	0	0	0	0

New Zealand 2020/21

<u>*NB Resolution 1999-1 asks for TTD information for each whale not killed instantly. This can be provided via</u> <u>Table 4 below.</u>

Other: Any other relevant information e.g. with information on technical assistance given to other fisheries or with respect to new studies to (a) improve methods and TTD, (b) develop new criteria for TTD:

The euthanasia of a pygmy sperm whale occurred during the New Zealand Level 4 lockdown and therefore the normal data wasn't collected, but this was conducted by an experienced staff member. The pilot whales and bottlenose dolphins stranded together on the Chatham Islands.

Whale:	Species	Killing method(s) used	Time to Death ¹	Samples taken
1.	Pilot whale x28	.308	"Time until death ranged from instant to less than 2 mins"	14x skin sample
2.	Bottlenose dolphin x3	.308	"Time until death ranged from instant to less than 2 mins"	3x skin sample
3.	Pygmy sperm whale	.303	Not recorded	Skin
4.	Pygmy sperm whale	.308	10 seconds, used eye test.	Blubber
5.	Pygmy sperm whale	.308	Immediately.	None
6.	Pygmy sperm whale	Not recorded	Not recorded	Not recorded
7.	Cuvier's beaked whale	.303	Immediate death.	Skin, blubber, muscle, heart, liver, kidney, adrenals, ovaries (plus for histology: intestine, oesophagus, liver, pancreas, lungs, heart, kidney)
	Dusky dolphin	.223	"Presume instant death."	

Table 4: Reporting of data on individual whales killed:

¹ Resolution 1999-1 encouraged reporting of time to death for each animal not killed instantly

Russian Federation 2018

Time to Death Summary

Russian Federation

2018

Table 1 Summary table of time to death reported based on the list of passports of gray whales landed by Chukotka Native whalers in 2018.

		Time of	Time of	Time to		Number of shots	i	Body	Weight
#	Date	first shot	whale's death	death (TTD)	harpoon	darting gun	carbine	length (meters)	(hundreds of kilos)
1	28/04/2018	14:25	15:20	00:55	8	2	100	8.00	60.00
2	04/05/2018	15:20	15:30	00:10	11	2	40	13.83	250.00
3	24/05/2018	14:25	14:40	00:15	8	2	100	8.00	60.00
4	25/05/2018	09:30	11:40	02:10	6	3	60	8.00	60.00
5	26/05/2018	12:40	12:45	00:05	11	2	30	8.72	70.00
6	25/05/2018	06:50	07:05	00:15	9		50	9.60	90.00
7	19/05/2018	07:37	07:40	00:03	0	2	15	8.60	67.00
8	11/05/2018	11:24	11:42	00:18	12	2	53	9.50	88.00
9	17/05/2018	10:00	10:30	00:30	11	1	100	13.00	232.00
10	31/05/2018	14:30	14:40	00:10	10	1	100	9.30	82.00
11	22/06/2018	10:25	10:35	00:10	6	3	60	7.50	56.20
12	27/06/2018	11:10	12:05	00:55	6	0	8	11.00	61.00
13	31/05/2018	13:45	14:20	00:35	8	3	120	9.00	74.00
14	27/06/2018	12:35	15:35	03:00	17	6	120	12.80	221.00
15	24/06/2018	10:42	11:10	00:28	10		100	9.80	96.00
16	26/06/2018	03:42	04:00	00:18	12	0	90	10.00	103.00
17	14/06/2018	10:10	10:15	00:05	6	2	16	9.20	79.00
18	15/06/2018	05:00	05:15	00:15	9	0	60	10.10	106.00
19	22/06/2018	06:10	06:35	00:25	8	0	54	9.90	100.00
20	22/06/2018	06:20	06:35	00:15	11	0	36	10.65	127.00
21	15/07/2018	11:10	12:00	00:50	7	0	40	8.10	61.00
22	27/06/2018	09:45	10:00	00:15	8	0	5	8.00	60.00
23	05/07/2018	16:40	18:00	01:20	6	3	80	9.80	96.00
24	26/07/2018	12:04	12:30	00:26	10	2	100	14.10	297.00
25	27/07/2018	13:15	13:30	00:15	10	3	100	9.80	96.00
26	26/07/2018	14:00	14:12	00:12	10	0	50	11.00	138.00
27	24/07/2018	18:20	19:10	00:50	17	5	200	11.60	163.00
28	20/07/2018	12:45	13:10	00:25	15	4	180	12.30	196.00
29	24/07/2018	05:20	06:00	00:40	8	0	33	12.50	206.00
30	12/07/2018	07:43	08:00	00:17	11	0	60	9.50	88.00
31	19/07/2018	17:10	17:45	00:35	12	4	100	11.70	167.00
32	17/07/2018	08:15	08:40	00:25	10	1	100	10.70	127.00
33	14.07.2018	05:17	05:30	00:13	10	0	50	9.00	74.00
34	06/07/2018	06:26	06:36	00:10	8	0	60	8.50	66.00

35	28/06/2018	13:25	13:40	00:15	8	0	46	9.00	74.00
36	17/07/2018	06:20	06:45	00:25	9	0	10	9.80	96.00
37	06/07/2018	05:30	05:40	00:10	8	0	30	8.80	70.00
38	25/07/2018	06:55	07:00	00:05	10	0	7	9.36	85.00
39	16/07/2018	06:15	06:40	00:25	8	0	42	8.80	70.00
40	05/07/2018	05:34	05:40	00:06	7	0	40	9.60	90.00
41	05/07/2018	09:15	09:38	00:23	8	0	24	8.80	70.00
42	29/08/2018	08:55	09:10	00:15	6	4	60	8.00	60.00
43	25/08/2018	15:20	15:45	00:25	12		480	11.00	138.00
44	16/08/2018	14:20	14:50	00:30	8	2	100	8.00	60.00
45	06/08/2018	05:45	06:00	00:15	8		15	9.40	85.00
46	06/08/2018	07:05	07:18	00:13	12		60	10.20	109.00
47	09/08/2018	05:03	05:15	00:12	10		9	9.00	74.00
48	10/08/2018	08:45	09:00	00:15	7	3	60	8.00	60.00
49	16/08/2018	11:30	12:10	00:40	10	1	100	9.70	93.00
50	11/08/2018	07:53	08:10	00:17	10		43	9.00	74.00
51	31/08/2018	10:20	10:40	00:20	10		7	9.30	82.00
52	17/08/2018	09:55	10:15	00:20	8		30	9.40	85.00
53	29/08/2018	08:28	08:40	00:12	10		9	9.40	85.00
54	17/08/2018	09:20	09:25	00:05	8		9	9.60	90.00
55	07/09/2018	16:10	16:30	00:20	8		100	11.20	146.00
56	16/08/2018	07:20	07:40	00:20	6		97	8.00	60.00
57	10/09/2018	12:00	12:30	00:30	8		40	8.80	70.00
58	10/09/2018	19:20	19:20	00:00	11		80	12.20	191.00
59	30/08/2018	06:55	07:40	00:45	13	3	20	12.30	196.00
60	02/09/2018	17:00	17:00	00:00	8	2	100	12.30	181.00
61	29/08/2018	15:15	15:40	00:25	12	4	100	10.20	109.00
62	29/08/2018	07:25	08:25	01:00	8	3	100	9.23	79.00
63	26/08/2018	09:00	09:12	00:12	10	_	90	9.70	93.00
64	06/08/2018	16:10	16:45	00:35	12	4	100	9.00	74.00
65	06/08/2018	13:10	13:40	00:30	12	4	100	9.50	88.00
66	27/09/2018	08:43	09:00	00:17	10	_	20	11.00	138.00
67	19/09/2018	07:10	08:30	01:20	11	3	100	9.00	74.00
68	08/09/2018	08:55	09:30	00:35	9	1	100	9.60	90.00
69	10/09/2018	06:30	06:32	00:02	9		4	9.10	77.00
70	11/09/2018	06:20	06:30	00:10	6		20	9.20	79.00
71	13/08/2018	07:30	07:30	00:00	11	2	60	11.40	154.00
72	17/09/2018	07:10	07:35	00:25	11		54	12.70	216.00
73	18/09/2018	07:25	07:30	00:05	8		10	8.10	61.00
74	18/09/2018	08:30	08:32	00:02	6		6	8.25	62.00
75	20/09/2018	06:35	06:45	00:10	8		20	9.70	93.00
76	21/09/2018	07:00	07:07	00:07	7		10	9.30	82.00
77	24/09/2018	07:40	07:55	00:15	10		55	10.30	113.00
78	25/09/2018	07:34	07:56	00:22	12		57	13.10	238.00

79	04/09/2018	07:15	07:35	00:20	12		45	11.60	163.00
80	07/09/2018	08:34	08:38	00:04	7		3	8.70	68.00
81	19/10/2018	08:40	08:45	00:05	7		7	8.90	72.00
82	18/10/2018	07:05	07:35	00:30	8		29	9.90	100.00
83	21/10/2018	09:40	10:10	00:30	8	2	100	8.00	60.00
84	12/10/2018	08:15	08:20	00:05	8		0	9.70	93.00
85	09/10/2018	07:30	08:05	00:35	10		80	12.90	227.00
86	03/10/2018	10:45	11:00	00:15	10	4	100	10.70	127.00
87	08/10/2018	10:20	10:40	00:20	6	3	60	8.00	60.00
88	20/10/2018	07:50	08:00	00:10	7		0	9.70	93.00
89	22/10/2018	07:10	07:15	00:05	7		10	9.90	100.00
90	22/10/2018	07:15	07:20	00:05	7		62	8.70	68.00
91	28/10/2018	10:05	10:20	00:15	7	3	60	8.00	60.00
92	29/10/2018	11:15	12:00	00:45	10	1	100	8.90	72.00
93	20/10/2018	07:55	08:00	00:05	9		53	8.70	68.00
94	31/10/2018	11:00	11:30	00:30	10	1	100	11.70	167.00
95	05/11/2018	09:25	10:15	00:50	10	1	100	9.00	74.00
96	15/11/2018	12:18	13:00	00:42	10		100	9.00	74.00
97	26/11/2018	10:50	11:10	00:20	6		25	9.00	74.00
98	08/11/2018	10:27	10:36	00:09	9		16	9.20	79.00
99	05/11/2018	09:00	09:45	00:45	7		103	8.00	60.00
100	02/11/2018	09:20	09:30	00:10	6	3	60	8.00	60.00
101	08/11/2018	09:00	09:30	00:30	12		40	12.30	196.00
102	08/11/2018	10:10	10:55	00:45	12	4	100	8.00	60.00
103	07/09/2018	11:40	12:50	01:10	8	3	80	9.40	82.00
104	30/08/2018	10:55	11:50	00:55	8	3	80	9.40	82.00
105	23/11/2018	09:40	10:15	00:35	6		70	8.00	80.00
106	07/11/2018	10:25	11:00	00:35	6		96	8.50	80.00
	Mean			00:25	9	2	64	9.7	103.1
	Sum				957	117	6773		10930

Russian Federation 2020

Time to Death Summary

Russian Federation

2020

Table 1 Summary table of time to death reported based on the list of passports of gray whales landed by Chukotka Native
whalers in 2020. For more details on the hunt and the methods used also see document SC/68C/ASW/04 ¹

#	Date	Time of first shot	Time of whale's	Time to death		Number of shots		Body length	Weight (centners)
			death	(TTD)	harpoon	darting gun	carbine	(meters)	
1	30/07/2020	08:05	08:16	00:11	14	0	100	11.50	159.00
2	30/05/2020	08:40	09:05	00:25	7	0	100	10.20	109.00
3	26/06/2020	13:20	13:30	00:10	10	2	100	9.70	93.00
4	15/06/2020	17:10	17:30	00:20	10	3	100	9.50	88.00
5	09/07/2020	13:00	13:10	00:10	8	3	100	10.40	116.00
6	24/07/2020	09:40	21:00	11:20	7	0	100	12.00	181.00
7	21/08/2020	05:42	05:57	00:15	10	3	100	13.50	261.00
8	11/08/2020	16:30	17:20	00:50	4	0	100	9.00	74.00
9	30/09/2020	07:32	07:37	00:05	10	3	100	10.00	103.00
10	06/09/2020	04:35	05:00	00:25	10	3	100	12.80	221.00
11	01/10/2020	15:25	15:50	00:25	10	3	100	13.07	232.00
12	19/10/2020	12:12	12:16	00:04	10	2	100	12.05	181.00
13	23/10/2020	16:20	17:00	00:40	8	2	100	10.00	103.00
14	22/06/2020	10:50	11:20	00:30	9	1	100	10.80	131.00
15	17/06/2020	11:45	12:40	00:55	8	1	100	9.70	93.00
16	14/06/2020	04:00	05:10	01:10	12	1	100	11.90	177.00
17	10/07/2020	06:03	06:15	00:12	11	1	100	12.20	191.00
18	16/07/2020	07:30	07:50	00:20	8	1	100	9.00	74.00
19	23/07/2020	18:00	19:00	01:00	7	1	100	8.50	66.00
20	10/07/2020	02:40	03:10	00:30	7	0	35	8.70	68.00
21	05/08/2020	08:25	08:40	00:15	8	1	100	8.80	70.00
22	08/08/2020	04:15	04:30	00:15	8	1	100	9.30	82.00
23	18/08/2020	08:53	09:07	00:14	10	1	100	12.50	206.00
24	26/08/2020	09:20	09:40	00:20	9	7	100	8.50	66.00
25	30/09/2020	06:55	07:10	00:15	12	1	100	12.00	181.00
26	06/09/2020	19:30	20:15	00:45	9	1	100	10.00	103.00
27	27/10/2020	06:00	07:30	01:30	8	1	100	8.00	60.00
28	30/09/2020	11:10	11:30	00:20	9	0	30	9.20	79.00
29	19/10/2020	11:35	11:50	00:15	9	0	40	10.20	109.00
30	25/10/2020	12:55	13:10	00:15	11	0	40	12.50	206.00
31	24/11/2020	08:17	08:40	00:23	9	0	40	10.00	103.00

¹ Lev K. Sidorov, Dennis I. Litovka, Egor V. Vereshagin (2021) Aboriginal subsistence whaling in the Russian Federation during 2020. SC/68C/ASW/04

32	03/11/2020	03:00	08:40	05:40	9	1	100	11.70	167.00
33	27/05/2020	08:40	10:00	01:20	10	1	62	12.60	211.00
34	21/05/2020	10:15	10:40	00:25	12	1	45	12.30	196.00
35	18/05/2020	10:40	11:10	00:30	12	0	70	10.50	120.00
36	02/06/2020	07:27	07:28	00:01	10	0	23	9.50	88.00
37	02/06/2020	10:43	11:00	00:17	12	1	39	12.20	191.00
38	03/06/2020	18:45	19:10	00:25	11	1	36	12.00	181.00
39	16/06/2020	08:43	09:12	00:29	6	0	37	9.10	77.00
40	25/06/2020	16:10	17:00	00:50	6	0	2	9.60	90.00
41	25/06/2020	09:55	10:05	00:10	10	0	8	10.10	106.00
42	26/06/2020	07:40	08:10	00:30	6	0	2	9.72	93.00
43	31/07/2020	15:50	16:30	00:40	8	0	11	10.10	106.00
44	30/07/2020	14:45	15:30	00:45	7	0	6	8.30	63.00
45	27/07/2020	06:58	07:00	00:02	7	0	10	9.00	74.00
46	23/07/2020	15:47	15:48	00:01	8	0	6	9.10	77.00
47	23/07/2020	12:40	12:50	00:10	8	0	7	8.70	68.00
48	17/07/2020	09:05	09:07	00:02	9	0	9	10.30	113.00
49	14/07/2020	23:30	00:30	01:00	9	0	8	10.30	113.00
50	07/07/2020	07:48	08:00	00:12	11	0	27	10.50	120.00
51	06/08/2020	11:25	11:40	00:15	12	2	38	11.10	142.00
52	07/08/2020	10:46	11:00	00:14	6	0	11	8.60	67.00
53	10/08/2020	10:20	10:30	00:10	11	0	13	10.30	113.00
54	13/08/2020	08:42	08:45	00:03	8	0	3	8.00	60.00
55	17/08/2020	08:10	08:15	00:05	9	0	4	9.20	79.00
56	20/08/2020	10:55	10:56	00:01	8	0	5	9.10	77.00
57	21/08/2020	06:53	06:55	00:02	11	0	48	13.20	244.00
58	26/08/2020	09:00	09:15	00:15	9	0	10	8.80	70.00
59	27/08/2020	07:07	07:10	00:03	11	0	50	13.70	274.00
60	29/09/2020	07:45	07:50	00:05	12	3	44	11.00	138.00
61	25/09/2020	09:30	09:40	00:10	11	1	15	12.20	191.00
62	24/09/2020	08:55	09:20	00:25	11	2	12	11.40	154.00
63	18/09/2020	14:10	14:30	00:20	11	1	12	10.80	131.00
64	17/09/2020	14:10	14:50	00:40	10	3	40	12.60	211.00
65	10/09/2020	16:00	17:50	01:50	6	0	6	10.30	113.00
66	03/09/2020	10:00	10:55	00:55	8	0	33	9.50	88.00
67	09/09/2020	08:45	09:20	00:35	7	0	40	9.40	85.00
68	02/09/2020	14:00	15:40	01:40	9	1	10	10.00	103.00
69	04/09/2020	08:15	08:40	00:25	8	3	0	9.80	96.00
70	01/10/2020	11:40	11:55	00:15	10	1	40	12.40	201.00
71	06/10/2020	09:10	10:00	00:50	15	1	57	11.50	159.00
72	14/10/2020	08:40	09:30	00:50	12	0	60	11.40	154.00
73	15/10/2020	07:30	07:40	00:10	16	0	35	14.00	293.00
74	27/11/2020	06:17	06:30	00:13	5	0	75	10.00	103.00
75	28/11/2020	10:55	11:30	00:35	7	0	27	10.30	113.00

76	24/11/2020	09:40	10:00	00:20	10	0	69	9.00	74.00
77	09/11/2020	08:35	08:50	00:15	10	0	74	11.90	177.00
78	02/11/2020	16:10	16:30	00:20	10	0	70	11.90	177.00
79	02/12/2020	05:50	06:00	00:10	9	1	39	9.60	90.00
80	04/12/2020	09:45	10:55	01:10	8	0	40	9.60	90.00
81	15/06/2020	09:50	10:05	00:15	15	2	100	10.00	103.00
82	09/07/2020	08:50	09:05	00:15	15	2	100	11.00	138.00
83	26/08/2020	08:10	08:55	00:45	15	2	100	13.60	268.00
84	20/08/2020	07:10	09:15	02:05	15	2	100	12.60	211.00
85	23/08/2020	13:40	15:20	01:40	15	2	100	12.00	181.00
86	29/09/2020	15:45	16:05	00:20	15	2	100	11.20	146.00
87	23/10/2020	08:15	08:21	00:06	15	2	100	11.80	172.00
88	27/10/2020	08:00	08:03	00:03	6	0	120	8.60	67.00
89	30/10/2020	07:10	07:14	00:04	6	0	200	14.00	293.00
90	23/07/2020	07:25	07:32	00:07	6	1	150	14.50	324.00
91	17/05/2020	08:48	09:10	00:22	8	2	100	8.00	60.00
92	18/07/2020	10:15	10:17	00:02	8	2	100	8.00	60.00
93	06/08/2020	10:27	10:40	00:13	8	2	100	8.00	60.00
94	03/09/2020	09:05	09:30	00:25	8	2	100	8.00	60.00
95	13/10/2020	16:15	16:25	00:10	8	2	100	8.00	60.00
96	30/05/2020	11:00	11:15	00:15	10	0	100	9.00	74.00
97	30/06/2020	11:15	11:30	00:15	10	0	100	9.00	74.00
98	16/06/2020	08:15	08:40	00:25	10	0	100	8.00	60.00
99	09/07/2020	08:22	08:40	00:18	14	0	100	13.03	232.00
100	15/07/2020	08:00	09:00	01:00	10	0	100	8.00	60.00
101	05/08/2020	08:40	09:00	00:20	10	0	100	8.00	60.00
102	10/08/2020	11:30	12:10	00:40	10	0	100	11.00	138.00
103	11/08/2020	10:10	10:30	00:20	10	0	100	8.00	60.00
104	26/08/2020	08:15	09:00	00:45	12	0	100	12.00	181.00
105	11/09/2020	08:40	09:00	00:20	12	0	100	10.00	103.00
106	01/10/2020	11:10	11:45	00:35	10	0	100	9.00	74.00
107	07/10/2020	10:10	10:40	00:30	10	0	100	8.00	60.00
108	10/07/2020	07:12	07:55	00:43	11	1	400	11.00	138.00
109	11/06/2020	08:10	08:30	00:20	4	3	80	8.00	60.00
110	16/07/2020	05:45	06:00	00:15	7	3	60	8.30	62.00
111	06/07/2020	08:40	09:10	00:30	6	3	80	11.00	138.00
112	05/08/2020	09:15	09:35	00:20	7	3	60	8.00	60.00
113	21/08/2020	07:48	08:14	00:26	6	3	60	8.20	62.00
114	29/09/2020	08:41	09:03	00:22	7	3	60	8.10	61.00
115	17/09/2020	09:22	09:32	00:10	6	3	60	7.50	56.20
116	11/09/2020	14:10	15:15	01:05	6	3	80	7.90	59.30
117	06/10/2020	11:40	12:10	00:30	7	3	40	8.00	60.00
118	22/06/2020	10:30	11:00	00:30	8	3	80	8.40	64.00
119	07/08/2020	10:00	10:30	00:30	8	3	80	14.40	317.00

120	29/09/2020	13:35	13:55	00:20	8	3	70	11.90	177.00	
121	14/06/2020	12:30	12:50	00:20	8	1	100	14.70	339.00	
122	04/07/2020	10:31	10:55	00:24	12	2	100	12.10	186.00	
123	01/07/2020	08:40	08:45	00:05	8	2	120	13.80	280.00	
124	16/07/2020	10:00	10:30	00:30	12	2	100	12.10	186.00	
125	10/08/2020	08:55	09:10	00:15	13	2	100	12.00	181.00	
126	20/08/2020	09:20	09:33	00:13	12	2	100	13.80	280.00	
127	11/09/2020	12:00	12:30	00:30	13	2	100	12.30	196.00	
128	07/10/2020	10:08	10:22	00:14	3	0	100	10.82	131.00	
129	22/06/2020	13:50	14:30	00:40	9	4	174	12.50	206.00	
130	24/09/2020	11:20	11:40	00:20	7	5	103	8.00	60.00	
131	09/09/2020	08:30	08:35	00:05	9	4	66	10.00	103.00	
	mean			00:33	9	1	73	10.4	130.9	
	sum				1231	155	9516		17149	

Russian Federation 2021

Time to Death Summary

Russian Federation

2021

Table 1 Summary table of time to death reported based on the list of passports of gray whales landed by Chukotka Native whalers in 2021. For more details on the hunt and the methods used also see document SC/68D/ASW/02¹

		Time of	Time of	Time to	ſ	Number of shots	;	Body length	Weight
#	Date	first shot	whale's death	death (TTD)	harpoon	darting gun	carbine	(meters)	(centners)
1	19/11/2021	12:40	14:00	01:20	8	3	80	9.5	88
2	24/07/2021	17:30	18:00	00:30	10	5	100	12	181
3	13/07/2021	14:00	14:20	00:20	8	0	100	11.1	142
4	11/07/2021	11:00	11:30	00:30	8	0	100	10.8	131
5	05/08/2021	09:30	10:00	00:30	10	1	100	10.8	131
6	21/08/2021	15:30	16:00	00:30	10	0	50	10.8	131
7	17/09/2021	16:05	16:50	00:45	10	0	87	11.2	146
8	04/10/2021	13:20	13:45	00:25	10	0	40	8.9	70
9	19/06/2021	04:10	04:20	00:10	8	2	100	10	106
10	25/07/2021	04:45	05:00	00:15	9	3	100	11.1	142
11	14/07/2021	10:40	10:55	00:15	8	3	0	11.1	142
12	07/07/2021	16:09	19:00	02:51	10	2	100	14.1	297
13	25/07/2021	09:16	09:32	00:16	8	2	100	10.6	123
14	30/07/2021	05:27	06:15	00:48	8	2	100	10.1	106
15	15/08/2021	10:15	11:00	00:45	9	2	100	12	181
16	04/08/2021	10:20	10:40	00:20	10	2	100	12.7	211
17	30/08/2021	09:23	10:00	00:37	14	2	140	13.1	238
18	31/08/2021	16:30	17:00	00:30	14	2	100	10.1	106
19	18/09/2021	12:49	14:00	01:11	8	2	180	12.1	186
20	24/09/2021	13:27	13:35	00:08	6	2	100	10.5	120
21	22/10/2021	09:30	10:00	00:30	10	2	100	13	232
22	23/06/2021	06:50	07:30	00:40	8	2	100	8.8	70
23	11/06/2021	15:00	16:40	01:40	12	2	100	12.3	196
24	23/07/2021	16:10	16:45	00:35	12	3	100	10.8	131
25	15/07/2021	10:55	11:30	00:35	9	3	100	8.7	68
26	08/07/2021	12:30	13:00	00:30	8	2	100	9.1	77
27	04/07/2021	08:00	08:30	00:30	8	2	100	8.2	62
28	12/08/2021	08:15	08:40	00:25	8	1	100	8.2	62
29	18/08/2021	16:45	17:10	00:25	7	0	70	8.4	63
30	31/08/2021	07:25	07:40	00:15	8	1	92	8.7	68
31	30/08/2021	11:20	13:40	02:20	9	0	100	13	232

¹ Lev K. Sidorov, Dennis I. Litovka and Egor V. Vereshagin (2022) Aboriginal Subsistence Whaling in the Russian Federation during 2021. SC/68D/ASW/02

32	23/08/2021	17:05	17:50	00:45	10	0	115	9	74
33	18/08/2021	07:50	08:20	00:30	10	1	115	9.5	88
34	08/09/2021	15:30	16:00	00:30	6	0	70	8	60
35	08/09/2021	12:40	13:10	00:30	8	1	53	8.8	70
36	28/09/2021	12:15	12:40	00:25	8	1	68	8.6	67
37	04/10/2021	13:20	14:00	00:40	8	1	78	8.1	61
38	11/10/2021	11:30	12:30	01:00	9	0	50	12.4	201
39	21/10/2021	13:20	13:50	00:30	8	2	85	9.7	93
40	29/10/2021	11:10	11:30	00:20	7	0	60	9.7	330
41	22/05/2021	06:47	07:00	00:13	10	1	41	10	103
42	29/06/2021	10:07	10:45	00:38	7	1	20	12.1	186
43	28/06/2021	13:57	14:15	00:18	6	0	21	8.5	66
44	25/06/2021	10:42	10:59	00:17	8	0	10	9.2	79
45	16/06/2021	05:45	05:47	00:02	1	0	4	9.7	93
46	11/06/2021	06:47	07:00	00:13	12	1	49	12.4	201
47	08/06/2021	05:34	05:41	00:07	11	0	16	9.6	90
48	03/06/2021	16:45	17:00	00:15	12	0	60	11.2	146
49	15/07/2021	05:40	05:45	01:00	7	0	3	9.5	88
50	23/07/2021	12:25	12:30	00:05	5	1	8	9.2	79
51	08/07/2021	10:39	10:43	00:04	14	0	5	10.4	116
52	11/07/2021	07:50	07:52	00:02	8	0	5	10.1	106
53	06/07/2021	10:00	10:20	00:20	7	0	22	10	103
54	06/07/2021	14:25	14:30	00:05	8	0	1	9.6	90
55	27/07/2021	08:56	09:15	00:19	8	0	24	10.9	134
56	02/08/2021	13:03	13:18	00:15	10	0	18	10.4	116
57	18/08/2021	16:15	16:25	00:10	7	2	19	8.6	67
58	17/08/2021	08:00	08:20	00:20	11	0	30	12.3	196
59	12/08/2021	13:20	13:25	00:05	8	1	0	10.8	131
60	11/08/2021	14:20	14:50	00:30	14	1	0	12.2	191
61	10/08/2021	09:25	09:30	00:05	9	0	7	8.6	67
62	26/08/2021	11:30	11:40	00:10	10	2	18	10.5	116
63	25/08/2021	10:15	10:30	00:15	12	0	49	10.4	116
64	23/08/2021	15:33	16:03	00:30	8	2	46	8	59.3
65	20/08/2021	10:20	10:35	00:15	7	1	7	8.5	66
66	03/09/2021	07:42	07:50	00:08	12	1	56	12.6	206
67	06/09/2021	11:20	11:30	00:10	12	2	20	11.8	172
68	16/09/2021	11:35	11:50	00:15	12	2	0	12.3	196
69	21/09/2021	06:50	07:12	00:22	12	3	40	12.6	211
70	22/09/2021	06:40	06:45	00:05	16	3	40	12.1	186
71	24/09/2021	06:25	06:30	00:05	10	0	50	11.1	142
72	27/09/2021	12:15	12:40	00:25	10	2	60	13.3	244
73	28/09/2021	11:05	11:20	00:15	14	2	49	12.5	206
74	02/11/2021	07:45	07:55	00:10	14	0	60	12.2	191
75	03/10/2021	08:30	08:43	00:13	14	1	55	12.4	201

76	04/10/2021	07:30	07:50	00:20	14	0	54	13	232
77	08/10/2021	07:25	07:40	00:15	14	1	40	10.1	106
78	08/10/2021	12:20	12:40	00:20	12	0	40	10.3	113
79	13/10/2021	08:17	08:25	00:08	14	0	50	11	134
80	13/10/2021	06:40	07:00	00:20	11	0	31	10.6	123
81	14/10/2021	09:10	09:35	00:25	10	0	51	9.5	88
82	24/10/2021	10:47	11:07	00:20	8	0	40	10.4	116
83	28/10/2021	10:50	11:40	00:50	10	0	37	10.2	109
84	28/10/2021	07:55	08:10	00:15	11	0	58	12.5	206
85	31/10/2021	08:46	08:57	00:11	10	0	44	9.8	96
86	24/07/2021	11:00	13:00	02:00	15	2	100	11	138
87	20/07/2021	10:00	12:30	02:30	15	2	100	14.2	304
88	19/08/2021	17:40	19:05	01:25	15	2	90	11	138
89	31/08/2021	13:30	14:20	00:50	15	2	100	14.9	353
90	08/09/2021	14:30	17:00	02:30	15	2	60	13.5	261
91	04/10/2021	13:25	14:00	00:35	15	2	100	13	232
92	28/06/2021	03:25	03:45	00:20	7	3	80	8.3	63
93	07/07/2021	04:45	05:10	00:25	7	3	60	8	60
94	13/08/2021	12:10	12:30	00:20	7	3	60	9	74
95	12/08/2021	07:40	08:05	00:25	6	3	60	8	60
96	24/08/2021	09:40	10:05	00:25	6	3	60	8	60
97	28/09/2021	14:10	14:30	00:20	7	3	60	8	60
98	03/10/2021	14:10	14:25	00:15	6	3	80	8	60
99	13/10/2021	11:40	16:25	04:45	12	0	225	14.2	304
100	23/05/2021	07:45	08:15	00:30	8	2	100	10.5	120
101	09/08/2021	07:10	07:30	00:20	8	2	100	8	60
102	17/09/2021	09:20	09:30	00:10	5	3	100	8.3	63
103	21/09/2021	12:00	12:10	00:10	6	3	40	8.5	66
104	03/09/2021	08:18	08:42	00:24	8	2	100	8	60
105	03/10/2021	12:25	12:35	00:10	8	2	100	8	60
106	13/10/2021	10:35	10:50	00:15	8	1	100	8	60
107	19/06/2021	04:18	04:40	00:22	11	0	100	12	181
108	20/07/2021	06:25	06:30	00:05	10	0	100	8	60
109	14/07/2021	07:35	08:00	00:25	12	0	100	12	181
110	07/07/2021	15:42	16:00	00:18	10	0	100	11	138
111	27/07/2021	05:55	06:00	00:05	10	0	100	8	60
112	14/08/2021	06:45	07:00	00:15	10	0	100	9	74
113	04/08/2021	14:25	14:40	00:15	10	0	100	10	103
114	22/08/2021	07:00	07:18	00:18	9	0	92	8	60
115	19/08/2021	07:12	07:28	00:16	10	0	156	12	181
116	01/09/2021	11:52	12:10	00:18	12	0	136	13.4	255
117	09/09/2021	07:42	07:58	00:16	12	0	240	13	232
118	19/09/2021	06:25	06:50	00:25	10	0	150	11.3	150
119	11/08/2021	10:15	10:40	00:25	11	1	200	11	138

	sum				1223	152	8950		16118
	mean			00:30	10	1	70	10.4	132.1
127	23/10/2021	12:00	12:20	00:20	10	0	82	struck&lost	
126	22/10/2021	08:22	08:29	00:07	11	0	45	10.6	stinky
125	06/09/2021	08:20	09:01	00:41	10	2	20	9.9	stinky
124	29/05/2021	07:34	07:47	00:13	9	1	17	9.5	stinky
123	22/07/2021	10:45	11:00	00:15	6	3	60	9.5	stinky
122	18/09/2021	06:20	06:55	00:35	7	3	76	10	103
121	20/08/2021	10:10	10:25	00:15	7	0	23	8	60
120	12/07/2021	10:00	11:10	01:10	8	5	87	10.5	120
					•	_			

St Vincent & the Grenadines 2019



International Whaling Commission

The Red House, 135 Station Road Impington, Cambridge CB4 9NP, UK Tel: +44 (0)1223 233971 Fax: +44 (0)1223 232876 E-mail: <u>secretariat@iwc.int</u> Web site: <u><http://www.iwc.int></u>

Summary of Activities Related to the Action Plan on Whale Killing Methods (based on Resolution 1999-1)

Please note that completion of this form is not compulsory but it will greatly aid the discussions at the forthcoming Working Group Meeting. The Secretariat would be grateful if you can complete this form as fully as possible, preferably electronically and return it to <u>secretariat@iwc.int</u> by 7 June 2013.

Contracting Government	Government of St. Vincent and the Grenadines
Season	2019
Area	St. Vincent and the Grenadines
Fishery type (e.g. commercial, aboriginal subsistence, scientific permit)	Aboriginal Subsistence

Table 1. Summary of primary and secondary whale killing methods used (Note that the appropriate MethodNo. should be used throughout the form):

Method No.	Brief description of method (e.g. penthrite grenade, 'cold' grenade, rifle <i>of stated calibre</i> , etc). Put the most commonly used method first. Insert more rows if necessary.	Used as: (state whether primary killing method, secondary, or both)
1	Harpoon	Primary
2		
3		

Summary of criteria used to indicate unconsciousness and death:

[Include brief description here]

St Vincent & the Grenadines 2019

Table 2: Summary of information providers:

Percentage of data provided by:			
٠	inspectors	50%	
•	scientists		
•	hunters	50%	
•	other (please specify)		

Table 3: Summary of hunt:

Item	Species 1 [insert name]		Species 2 [insert name]		Species 3 [insert name]	
	No.	%	No.	%	No.	%
Whale killing methods						
Total no. killed (all methods summed)	3					
Total killed using Method 1 only	3					
Total killed using Method 2 only	NA					
Total killed using Method 3 only	NA					
Total needing secondary harpoon or other secondary killing method	NA					
If bullets used						
o minimum number	NA					
o maximum number	NA					
o median number	NA					
Time to unconsciousness/death (TTD)*						
Total for which information recorded	3					
 Total estimated TTD to be instant 	0					
Maximum estimated TTD	5 hours					
Mean time to TTD	2.5 hours					
Median Time to TTD	1.5 hours					
Other information	Other information					
Total targeted and missed	0					
Total struck and lost	0					

<u>*NB Resolution 1999-1 asks for TTD information for each whale not killed instantly. This can be provided via Table 4 below.</u>

Other: Any other relevant information e.g. with information on technical assistance given to other fisheries or with respect to new studies to (a) improve methods and TTD, (b) develop new criteria for TTD:

St Vincent & the Grenadines 2019

Whale:	Species	Killing method(s) used	Time to Death ¹	Samples taken
1.	Megaptera novaeangliae	Harpoon	1 hour	Yes
2.	Megaptera novaeangliae	Harpoon	1.5 hours	Yes
3.	Megaptera novaeangliae	Harpoon	5 hours	Yes

 Table 4: Reporting of data on individual whales killed:

¹ Resolution 1999-1 encouraged reporting of time to death for each animal not killed instantly

United Kingdom 2016-2018 WKM-form United Kingdom for instances of euthanasia in 2016-18

Whale:	Species	Date	Killing method(s) used	Time to Death ¹	Samples taken
1.	Striped dolphin	26/01/16	Chemical- barbiturate	Not recorded	Various- samples collected by the UK strandings investigation programme
2.	Short-beaked common dolphin	21/02/16	Unknown	Not recorded	Various- samples collected by the UK strandings investigation programme
3.	Harbour porpoise	14/03/16	Unknown	Not recorded	Various- samples collected by the UK strandings investigation programme
4.	Harbour porpoise	23/04/16	Chemical- 20mls euthatal intra- peritoneal	Not recorded	Various- samples collected by the UK strandings investigation programme
5.	Harbour porpoise	08/06/16	Unknown	Not recorded	Various- samples collected by the UK strandings investigation programme
6.	Atlantic white-sided dolphin	27/06/16	Chemical- IV 100ml of Pentobarbitone into the tail fluke vein	Not recorded	Various- samples collected by the UK strandings investigation programme
7.	Short-beaked common dolphin	31/07/16	Chemical- IV 50ml pentobarbital into the left dorsal tail fluke vessel	<2 minutes	Various- samples collected by the UK strandings investigation programme
8.	Harbour porpoise	14/08/16	Unknown	Not recorded	Various- samples collected by the UK strandings investigation programme
9.	Short-beaked common dolphin	28/08/16	Chemical- IV 50ml euthatal into dorsal tail fluke	<1 minute	Various- samples collected by the UK strandings investigation programme
10.	White-beaked dolphin	01/09/16	Chemical- IV injection 100ml of pentabarbitone into tail fluke vein	Not recorded	Various- samples collected by the UK strandings investigation programme
11.	Short-beaked common dolphin	02/09/16	Chemical- IV 50ml pentobarbitone into the tail fluke vessels	Not recorded	Various- samples collected by the UK strandings investigation programme
12.	Harbour porpoise	22/01/17	Chemical- IV 15ml Dolethal into tail fluke veins	<2 minutes	Various- samples collected by the UK strandings investigation programme
13.	Long-finned pilot whale	27/01/17	Shooting- shot gun	Not recorded	Various- samples collected by the UK strandings investigation programme
14.	Long-finned pilot whale	08/08/17	Shooting- 0.270 calibre rifle using soft point ammunition	Not recorded	Various- samples collected by the UK strandings investigation programme
15.	Short-beaked Common dolphin	28/09/17	Unknown	N/A	Various- samples collected by the UK strandings investigation programme
16.	Risso's dolphin	17/10/17	Chemical- 100ml IM Pentobarbitone	Not recorded	Various- samples collected by the UK strandings investigation programme
17.	White-beaked dolphin	04/01/18	Chemical- 100ml Pentobarbital sodium IV tail stock, caudal veins	<3 minutes	Various- samples collected by the UK strandings investigation programme

 Table 4: Reporting of data on individual whales killed:

	United Kingdom 2016-2018				
18.	Harbour porpoise	14/01/18	Chemical- 20mls of intracardiac pentobarbiturate following initial sedation (medetomidine and ketamine)	Not recorded	Various- samples collected by the UK strandings investigation programme
19.	Striped dolphin	13/02/18	Chemical- 30ml of intrathoracic pentobarbiturate	Not recorded	Various- samples collected by the UK strandings investigation programme
20.	Harbour porpoise	14/04/18	Chemical- 25ml Pentoject IV tail fluke ventral venous plexus.	~2 minutes	Various- samples collected by the UK strandings investigation programme
21.	Harbour porpoise	17/04/18	Unknown	N/A	Various- samples collected by the UK strandings investigation programme

¹ Resolution 1999-1 encouraged reporting of time to death for each animal not killed instantly

USA 2018

The Red House 135 Station Road Impington, Cambridge CB24 9NP, UK

INTERNATIONAL WHALING COMMISSION t. +44 (0) 1223 233971 e. <u>secretariat@iwc.int</u> <u>www.iwc.int</u>

Summary of Activities Related to the Action Plan on Whale Killing Methods (based on Resolution 1999-1)

Please note that completion of this form is not compulsory but it will greatly aid the discussions at the next Working Group Meeting. The Secretariat would be grateful if you can complete this form as fully as possible, preferably electronically and return it to <u>secretariat@iwc.int</u> by Monday 20 May 2019

Contracting Government	USA
Season	2018
Area	Alaska
Fishery type (e.g. commercial, aboriginal subsistence, scientific permit)	Aboriginal Subsistence

Table 1. Summary of primary and secondary whale killing methods used (Note that the appropriate Method No. should be used throughout the form):

Method No.	Brief description of method (e.g. penthrite grenade, 'cold' grenade, rifle <i>of stated calibre</i> , etc). Put the most commonly used method first. Insert more rows if necessary.	Used as: (state whether primary killing method, secondary, or both)
1	Penthrite	Both
2	Black powder	Both
3		

Summary of criteria used to indicate unconsciousness and death:

Full cessation of movement for a time determined at the discretion of the whaling captain.

USA 2018

Table 2: Summary of information providers:

Percentage of data provided by:				
 inspectors 				
 scientists 				
hunters	100%			
 other (please specify) 				

Table 3: Summary of hunt:

Item		Species 1 [insert name]		Species 2 [insert name]		Species 3 [insert name]	
	No.	%	No.	%	No.	%	
Whale killing methods							
 Total no. killed (all methods summed) 	47						
 Total killed using Method 1 only 	6						
 Total killed using Method 2 only 	21						
 Total killed using Method 3 only 							
 Total needing secondary harpoon or other secondary killing method 	20						
 If bullets used 							
o minimum number							
o maximum number							
o median number							
Time to unconsciousness/death (TTD)*							
 Total for which information recorded 							
 Total estimated TTD to be instant 							
 Maximum estimated TTD 							
 Mean time to TTD 							
 Median Time to TTD 							
Other information	•	•	•	•		•	
 Total targeted and missed 	NA						
 Total struck and lost 	21						

<u>*NB Resolution 1999-1 asks for TTD information for each whale not killed instantly. This can be provided</u> via Table 4 below.

Other: Any other relevant information e.g. with information on technical assistance given to other fisheries or with respect to new studies to (a) improve methods and TTD, (b) develop new criteria for TTD:

USA 2019



The Red House 135 Station Road Impington, Cambridge CB24 9NP, UK t. +44 (0) 1223 233971 f. +44 (0) 1223 232876 e. secretariat@iwc.int www.iwc.int

Summary of Activities Related to the Action Plan on Whale Killing Methods (based on Resolution 1999-1)

Please note that completion of this form is not compulsory but it will greatly aid the discussions at the next Working Group Meeting. The Secretariat would be grateful if you can complete this form as fully as possible, preferably electronically and return it to <u>secretariat@iwc.int</u> by Monday 21 May 2018

Contracting Government	U.S.A.
Season	2019
Area	Alaska
Fishery type (e.g. commercial, aboriginal subsistence, scientific permit)	Aboriginal Subsistence

 Table 1. Summary of primary and secondary whale killing methods used (Note that the appropriate Method No. should be used throughout the form):

Method No.	Brief description of method (e.g. penthrite grenade, 'cold' grenade, rifle <i>of stated calibre</i> , etc). Put the most commonly used method first. Insert more rows if necessary.	Used as: (state whether primary killing method, secondary, or both)		
1	Black powder only	Both		
2	Penthrite and Black Powder	Both		
3	Penthrite only	Both		

Summary of criteria used to indicate unconsciousness and death:

[Include brief description here]

USA 2019

Table 2: Summary of information providers:

Percentage of data provided by:				
 inspectors 				
 scientists 	57%			
hunters	100%			
 other (please specify) 				

Table 3: Summary of hunt:

Item	Speci [insert	es 1 name]	Species 2 [insert name]		Speci [insert	Species 3 [insert name]	
	Balaena mysticetus						
	No.	%	No.	%	No.	%	
Whale killing methods							
 Total no. killed (all methods summed) 	30						
 Total killed using Method 1 only 	19						
 Total killed using Method 2 only 	8						
 Total killed using Method 3 only 	3						
 Total needing secondary harpoon or other secondary killing method 	25						
 If bullets used 							
o minimum number							
o maximum number							
o median number							
Time to unconsciousness/death (TTD)*							
 Total for which information recorded 							
 Total estimated TTD to be instant 							
 Maximum estimated TTD 							
 Mean time to TTD 							
 Median Time to TTD 							
Other information							
 Total targeted and missed 	NA						
 Total struck and lost 	6				1	1	

<u>*NB Resolution 1999-1 asks for TTD information for each whale not killed instantly. This can be provided via Table 4 below.</u>

Other: Any other relevant information e.g. with information on technical assistance given to other fisheries or with respect to new studies to (a) improve methods and TTD, (b) develop new criteria for TTD:

USA 2020



The Red House 135 Station Road Impington, Cambridge CB24 9NP, UK

t. +44 (0) 1223 233971 e. <u>secretariat@iwc.int</u> <u>www.iwc.int</u>

Summary of Activities Related to the Action Plan on Whale Killing Methods (based on Resolution 1999-1)

Please note that completion of this form is not compulsory but it will greatly aid the discussions at the next Working Group Meeting. The Secretariat would be grateful if you can complete this form as fully as possible, preferably electronically and return it to <u>secretariat@iwc.int</u> by 12 April 2021

Contracting Government	United States of America		
Season	2020		
Area	Alaska		
Fishery type (e.g. commercial, aboriginal subsistence, scientific permit)	Aboriginal Subsistence		

 Table 1. Summary of primary and secondary whale killing methods used (Note that the appropriate Method

 No. should be used throughout the form):

Method No.	Brief description of method (e.g. penthrite grenade, 'cold' grenade, rifle of stated calibre, etc). Put the most commonly used method first. Insert more rows if necessary.	Used as: (state whether primary killing method, secondary, or both)
1	Black powder	Both
2	Penthrite and Black powder	Both
3	Penthrite only	Both

Summary of criteria used to indicate unconsciousness and death:

[Include brief description here]

USA 2020

Table 2: Summary of information providers:

Percentage of data provided by:					
inspectors					
• scientists					
hunters	100%				
other (please specify)					

Table 3: Summary of hunt:

Item		c ies 1 name]	Species 2 [insert name]		Species 3 [insert name]	
	Balaena mysticetus					
	No.	%	No.	%	No.	%
Whale killing methods						
Total no. killed (all methods summed)	54					
Total killed using Method 1 only	35	63				
Total killed using Method 2 only	15	28				
Total killed using Method 3 only	5	9				
 Total needing secondary harpoon or other secondary killing method 	52	96				
If bullets used						
o minimum number						
o maximum number						
o median number						
Time to unconsciousness/death (TTD)*						
Total for which information recorded						
• Total estimated TTD to be instant						
Maximum estimated TTD						
Mean time to TTD						
Median Time to TTD						
Other information						
Total targeted and missed	NA					
Total struck and lost	15					
*NB Resolution 1999-1 asks for TTD information for each whale not killed instantly. This can be provided						

<u>via Table 4 below.</u>

Other: Any other relevant information e.g. with information on technical assistance given to other fisheries or with respect to new studies to (a) improve methods and TTD, (b) develop new criteria for TTD:

USA 2021



The Red House 135 Station Road Impington, Cambridge CB24 9NP, UK

t. +44 (0) 1223 233971 e. <u>secretariat@iwc.int</u> <u>www.iwc.int</u>

Summary of Activities Related to the Action Plan on Whale Killing Methods (based on Resolution 1999-1)

Please note that completion of this form is not compulsory, but it will greatly aid the discussions at the next Working Group Meeting. The Secretariat would be grateful if you can complete this form as fully as possible, preferably electronically and return it to <u>secretariat@iwc.int</u> by 12 April 2022

Contracting Government	United States
Season	2021
Area	Alaska
Fishery type (e.g. commercial, aboriginal subsistence, scientific permit)	Aboriginal Subsistence

Table 1. Summary of primary and secondary whale killing methods used (Note that the appropriate MethodNo. should be used throughout the form):

Method No.	Brief description of method (e.g. penthrite grenade, 'cold' grenade, rifle <i>of stated calibre</i> , etc). Put the most commonly used method first. Insert more rows if necessary.	Used as: (state whether primary killing method, secondary, or both)		
1	Black powder only	Both		
2	Penthrite and Black Powder	Both		
3	Penthrite only	Both		

Summary of criteria used to indicate unconsciousness and death:

[Include brief description here]

USA 2021

Percentage of data provided by:				
• inspectors				
• scientists				
hunters	100%			
• other (please specify)				

Table 2: Summary of information providers:

Table 3: Summary of hunt:

Item		c ies 1 name]	Species 2 [insert name]		Species 3 [insert name]	
	Balaena mysticetus					
	No.	%	No.	%	No.	%
Whale killing methods						
Total no. killed (all methods summed)	57					
Total killed using Method 1 only	29	51				
Total killed using Method 2 only	22	39				
Total killed using Method 3 only	6	11				
 Total needing secondary harpoon or other secondary killing method 	47	82				
If bullets used						
o minimum number						
o maximum number						
o median number						
Time to unconsciousness/death (TTD)*						
Total for which information recorded						
Total estimated TTD to be instant						
Maximum estimated TTD						
Mean time to TTD						
Median Time to TTD						
Other information						
Total targeted and missed	N/A					
Total struck and lost	13					

<u>*NB Resolution 1999-1 asks for TTD information for each whale not killed instantly. This can be provided</u> via Table 4 below.

Other: Any other relevant information e.g. with information on technical assistance given to other fisheries or with respect to new studies to (a) improve methods and TTD, (b) develop new criteria for TTD: