

Inuit Methods of Identifying Polar Bear Characteristics: Potential for Inuit Inclusion in Polar Bear Surveys

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APPENDIX 1

TABLE S1. Interview guideline.

Topic	Questions
Directed introductory questions	What is your name? How old are you? Where were you born? How long have you lived in this community?
Hunting experience	Have you ever hunted a polar bear before? How many? Why do you hunt? How did you learn how to hunt? How many bears have you hunted by yourself? With other hunters? Do you still hunt? Where do you go to hunt bears?
Hunting preferences	When you hunt bears, are you picky or choosy? Why? Do you prefer to hunt males or females? Why? Do you prefer to hunt old or young bears? Why? Do you prefer big or small bears? Why?
Identifying bears	Can you tell differences between bears? How? Can you tell if a bear is a male or female? How? Can you tell ages of bears? How? Can you tell sizes of bears? How? Can you determine the sex, age, or size of a bear from footprints? How? Can you tell if a bear is healthy? How? Are bears close to or nearby your community? Have you noticed any changes in polar bears? What are the changes?
Experience with polar bear research	How are polar bears monitored? Do you know why polar bears are monitored? What do you know about scientific methods? Have you ever participated on a polar bear survey? Have you ever collected scientific samples? Do you know what the samples are used for? What do you think we need to know in monitoring polar bear populations? In monitoring bears, do you think polar bear sex, age, or size is important? Why? What is the best way to survey polar bears?

TABLE S2. Number of participant responses indicating preferences for characteristics of hunted bears, by community.

Characteristic	Community			
	Gjoa Haven	Arctic Bay	Kimmirut	Arviat
<i>Sex</i>				
Males	6	6	8	10
Females	0	3	1	0
No preference	3	2	1	1
<i>Age</i>				
Young bears	2	1	6	3
Middle-aged bears	0	0	0	1
Old bears	0	2	2	0
No preference	0	6	1	2
<i>Body size</i>				
Large bears	5	6	5	9
Middle-sized bears	1	4	2	2
Small bears	0	2	0	0

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TABLE S3. Number of participant responses corresponding to observations used to identify sex of polar bears, by community. General comments indicate that participants mentioned the observation but did not discuss how that observation was used.

Observation	Community			
	Gjoa Haven ¹	Arctic Bay	Kimmirut	Arviat
<i>Footprint</i>				
General comments	1	2	3	3
Round in females, narrow in males	4	1	0	3
Narrow in females, round in males	0	0	2	1
Larger in males than females	7	7	6	7
<i>Gait</i>				
General comments	1	0	1	1
Smaller stride in females versus males	0	0	0	2
Male tracks more turned in than females	0	2	1	3
Inferences made on behavior	0	1	1	0
<i>Head</i>				
General comments	0	0	1	1
Shorter snout in females	0	1	1	1
Longer snout in females	0	0	1	1
Larger in males	0	2	1	2
<i>Body</i>				
Shorter in females	2	3	0	4
Longer in females	0	2	0	1
Longer in males	0	0	0	6
Larger in males	3	11	6	12
Comments on length	1	0	0	0
Comments on rump	0	2	3	2
Comments on back	0	1	0	0
Comments on legs	0	0	0	2
Comments on neck	0	0	0	3

¹ Includes the single Kugaaruk hunter that was interviewed outside of Gjoa Haven (KU).

TABLE S4. Number of participant responses corresponding to observations used to identify age and body size of polar bears, by community. Most participants associated age with body size. General comments indicate that participants mentioned the observation but did not discuss how that observation was used.

Observation	Community			
	Gjoa Haven ¹	Arctic Bay	Kimmirut	Arviat
<i>Footprint</i>				
General comments on shape	1	3	0	2
Longer in older bears	0	1	0	1
Rounder in older bears	1	0	0	0
General comments on size	5	4	3	2
Cannot determine from shape alone	1	1	1	0
Cannot determine from size alone	0	1	1	0
Comments on claws	0	2	0	1
<i>Gait</i>				
General comments	0	2	0	2
Comments on activity and behavior	0	8	4	6
Younger bears more active	0	2	3	3
Younger bears more aggressive toward humans	0	0	0	4
<i>Body</i>				
Size	0	2	10	8
Use of kamiks	4	2	2	0
Fur color	0	4	0	4
<i>Use of age classes</i>	1	1	2	4
<i>Comments on Tulajuittaq (large bears that never come inland)</i>	0	4	1	3

¹ Includes the single Kugaaruk hunter that was interviewed outside of Gjoa Haven (KU).

Table S5. Number of participant responses corresponding to observations used to identify health in polar bears, by community. General comments indicate that participants mentioned the observation but did not discuss how that observation was used.

Observation	Community			
	Gjoa Haven ¹	Arctic Bay	Kimmirut	Arviat
<i>Footprint shape</i>				
General comments	0	3	0	0
<i>Behaviour</i>				
General comments	0	6	2	0
Unhealthy bears more likely to interact with humans	0	0	1	4
Unhealthy bears seem “drunk”	0	0	1	0
General comments on movement	0	7	4	3
Unhealthy bears move more slowly	0	0	0	3
<i>Body</i>				
Fatness	2	8	8	15
General comments on fur colour	0	3	2	4
<i>Effects on health</i>				
Fighting with other bears	0	3	0	0
Hunting ability	0	4	7	7

¹ Includes the single Kugaaruk hunter that was interviewed outside of Gjoa Haven (KU). Questions on health were generally not discussed during interviews with Gjoa Haven participants and were added to subsequent interviews with Arctic Bay, Kimmirut, and Arviat participants.