

Predicting intention to hunt protected wildlife: a case study of Bewick's swan in the European Russian Arctic

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SUPPLEMENTARY MATERIAL 1 Survey questions used in interviews with 236 hunters in the European Russian Arctic.

(A) Do you regard yourself as a hunter?

Please circle relevant answer

- i. Yes
- ii. No
- iii. I don't know

[If the respondent answers YES, proceed with the interview. If the respondent answers NO or DON'T KNOW, explain that this survey is intended for hunters, thank them for speaking with you and FINISH HERE]

If YES:

Why do you regard yourself as a hunter?

First I'm going to ask you some questions about yourself.

Section 1: Socio-demographic variables

1. Gender: Male / Female *Please circle relevant answer*
2. Age: *Please circle relevant answer*
 - (a) 18-24
 - (b) 25-34
 - (c) 35-44
 - (d) 45-54
 - (e) 55-64
 - (f) 65+
3. Ethnicity:
4. Place of residence (name of community/village):
5. Sector of occupation: *Please circle relevant answer*
 - (a) Industry
 - (b) Agriculture (Reindeer herding)
 - (c) Fish industry
 - (d) Transport and communications
 - (e) Building industry
 - (f) Trade and catering
 - (g) Medicine
 - (h) Education and culture

- (i) Housing and utilities
- (j) Administration
- (k) Tourism
- (l) Other: please explain

6. Your occupation: *Please circle relevant answer*

- (a) Full time job
- (b) seasonal work
- (c) Currently unemployed
- (d) pensioner
- (e) student
- (f) Other: please explain

Section 2: Perceptions about hunting activity

Next I am going to ask you a few questions about hunting activity in your area.

7. Bewick's swans are hunted near my village

Please circle relevant answer

- (a) Yes
- (b) No
- (c) I don't know

8. Bewick's swans are hunted on the tundra

Please circle relevant answer

- (a) Yes
- (b) No
- (c) I don't know

Section 3: Attitude towards protective laws

Now I would like to ask your opinion about regulations protecting Bewick's swans in the {insert area}.

Please tell me how much you either agree or disagree with the following statement, where 1 is strongly disagree, and 5 is strongly agree.

9. Local people should be authorized to hunt Bewick's swans in [insert region] under some circumstances

| | | | | |
|----------------------|----------|---------|-------|-------------------|
| 1 | 2 | 3 | 4 | 5 |
| Strongly Disagree | Disagree | Neutral | Agree | Strongly agree |

- (a) If AGREE or STRONGLY AGREE, under which circumstances do you think this should be permissible?

Section 4: Attitude towards hunting Bewick's swans

Now I would like to ask how you feel about hunting Bewick's swans. On a scale of 1 to 5, how do you feel about the following statements:

10. For me the hunting of a Bewick's swan in this area would be

| | | | | |
|----------|-----|---------|------|-----------|
| 1 | 2 | 3 | 4 | 5 |
| Very bad | Bad | Neutral | Good | Very good |

- (a) If the respondent answers “GOOD” or “VERY GOOD”, please ask them to explain Why:

Section 5: Social context

I am now going to read some statements. On a scale of 1 to 5, how do you feel about the following statements:

11. People who are important to me think that it is ok to hunt Bewick’s swans in this area

| | | | | |
|-------------------|----------|---------|-------|----------------|
| 1 | 2 | 3 | 4 | 5 |
| Strongly disagree | Disagree | Neutral | Agree | Strongly Agree |

Section 6: Practicalities

With the following statements, please tell me how much you either agree or disagree with each, where 1 is strongly disagree, and 5 is strongly agree.

12. There is nothing stopping me from using guns and ammunition to hunt Bewick’s swans in this area

| | | | | |
|-------------------|----------|---------|-------|----------------|
| 1 | 2 | 3 | 4 | 5 |
| Strongly disagree | Disagree | Neutral | Agree | Strongly Agree |

- (a) Are there any barriers to **shooting** Bewick’s swans in this area?

Section 7: Motivations for hunting

I am now going to read some statements about possible motivations for hunting Bewick's swans in [insert region]. Please rate each statement from 1 to 5 where 1 is 'very unlikely' and 5 is 'very likely'.

| 13. People in this area hunt Bewick's swans because: | | Very unlikely | Unlikely | Neutral | Likely | Very likely |
|--|--|---------------|----------|---------|--------|-------------|
| (a) | Bewick's swans provide food for those in villages/towns | 1 | 2 | 3 | 4 | 5 |
| (b) | Bewick's swans provide food for inhabitants of the tundra (Reindeer herders) | 1 | 2 | 3 | 4 | 5 |
| (c) | It is an enjoyable sport | 1 | 2 | 3 | 4 | 5 |
| (d) | People think Bewick's swans have a negative impact on other breeding waterbirds on the tundra | 1 | 2 | 3 | 4 | 5 |
| (e) | People think Bewick's swans have a negative impact on other breeding waterbirds near the village | 1 | 2 | 3 | 4 | 5 |
| (f) | People think that the number of Bewick's swans in the area is increasing / high | 1 | 2 | 3 | 4 | 5 |
| (g) | Bewick's swans usually arrive during the hunting season | 1 | 2 | 3 | 4 | 5 |
| (h) | Bewick's swans often arrive before the geese in the spring | 1 | 2 | 3 | 4 | 5 |
| (i) | There is no enforcement of protective laws | 1 | 2 | 3 | 4 | 5 |

14. Do you think there are any other reasons for hunting Bewick's swans in this area?

Please circle relevant answer

- (a) Yes
- (b) No
- (c) I don't know

If you have answered **YES**, please explain further:

Section 8: Behavioural intentions

[Please reiterate to respondent that all answers will remain anonymous and confidential]

Please tell me how much you either agree or disagree with the following statement, where 1 is strongly disagree, and 5 is strongly agree.

You don't have to give your opinion if you don't want to, but if you feel comfortable then please proceed.

15. I intend to hunt Bewick's swans in [insert region] in the next 3 years

Please circle relevant answer

| | | | | |
|----------------------|----------|---------|-------|-------------------|
| 1 | 2 | 3 | 4 | 5 |
| Strongly disagree | Disagree | Neutral | Agree | Strongly Agree |

Now I am now going to ask two direct questions. Again, you don't have to answer these if you don't want to, but if you feel comfortable then please proceed.

16. In the past 3 years, I have hunted Bewick's swans in [insert region]

Please circle relevant answer

- (a) Yes
- (b) Yes, but accidentally
- (c) No
- (d) I don't want to answer

Thank you very much for your time and participation. Do you have any comments or questions?

SUPPLEMENTARY MATERIAL 2 Socio-demographic characteristics of 236 hunters surveyed in the European Russian Arctic in 2016.

| Variable | Category (no. of respondents) |
|-----------------------------|--------------------------------------|
| Gender | Female (4) |
| | Male (232) |
| Ethnicity* | Nenets (60) |
| | Russian (154) |
| | Komi (14) |
| | Georgian (1) |
| | Mordvian (1) |
| | Pomor (1) |
| | Udmurt (1) |
| | Ukrainian (1) |
| No Answer (3) | |
| Age category | 18-24 (13) |
| | 25-34 (55) |
| | 35-44 (63) |
| | 45-54 (56) |
| | 55-64 (37) |
| | 65+ (12) |
| Sector of occupation | Industry (12) |
| | Agriculture (Reindeer herding) (17) |
| | Fish industry (6) |
| | Transport and communications (21) |
| | Building industry (16) |
| | Trade and catering (22) |
| | Medicine (2) |
| | Education and culture (12) |
| | Housing and utilities (35) |
| | Administration (15) |
| | Tourism (2) |
| | Emergency services (13) |
| | No Answer (35) |
| Other (28) | |
| Occupation | Full time job (169) |
| | Seasonal work (12) |
| | Currently unemployed (17) |
| | Pensioner (33) |
| | Student (4) |
| | Other (1) |

* Ethnicity for five individuals that identified themselves as Georgian, Ukrainian, Pomor, Mordvin or Udmurt, were classified as 'other'.

SUPPLEMENTARY MATERIAL 3 Responses from 26 hunters when asked to suggest motivations for hunting Bewick's swans in the European Russian Arctic. The words and phrases represent themes that emerged from an inductive thematic analysis of responses (Braun & Clarke, 2006) that were translated from Russian into English.

| Theme | Response |
|--|---|
| No geese during hunt | If the goose has not arrived |
| More meat | Swans contain more meat |
| Experience | For the sake of the experience |
| Varied diet | For a variety of food, diet products |
| Interrupts sleeping | If the birds stop me from sleeping |
| Curiosity about meat | Interest (if the person has never tasted meat of swan) |
| Stupidity | Stupidity and greed |
| Swan like a wolf / Misidentification of species | The stories of hunters that "Swan is worse than the wolf" creates a certain attitude to the swan. The swan hunters do not distinguish swans, and then shoot Bewick's swans. |
| Skins for clothes | Skins are used to make vests |
| Swan like a wolf | Swan has a wolf lifestyle. The fish die because of them, the other birds fly away. Swan behaviour is very aggressive and individualistic. They don't allow other animals to live near themselves normally |
| Alcohol | Alcohol |
| Monetary | Money (for sale) |
| Skins for clothes | Manufacture of insoles from down the ventral portion of swan skins |
| Curiosity about meat | Curiosity, a desire to try his meat |
| More meat | The swan has much meat |
| Not aware swans are protected | People do not know that swans are in the Red Book: many believe that they are not in the Red Book |
| Sports challenge/experience | Sporting interest (excitement) |
| Stupidity | Dullness and stupidity |
| Varied diet | For a varied diet |
| More meat / Swans fly slowly | Because swans have more meat than the geese; they fly slowly |
| Fun | For fun |
| Mischief | Mischief |
| Curiosity | Curiosity |
| Sports challenge/experience | Interest to win (outwit) swan |
| Food | A small part for food |
| No birds during hunt | The absence of other birds during the hunt. Seduction |

¹ "Swan like a wolf" refers to the perception that the swans' behaviour is "very aggressive and individualistic" and they "don't to allow other animals to live near them".