

Supporting Materials

Distribution, trends and threats to Eastern Taiga Bean Goose *Anser fabalis middendorffii* in the River Lena basin, East Siberia

Table S1. Basic information about routes followed during surveys of waterbirds and wetlands in the River Lena basin during 1979–2014 (from Degtyarev 2007; Degtyarev *et al.* 2008).

River	Start	End	Length (km)	Year
Alakit, on northern slope of the Vilyuiskoe Plateau	66°16'N, 110°38'E	67°07'N, 109°54'E	157	2002
Syan, on southern slope of the Vilyuiskoe Plateau	65°51'N, 108°32'E	65°02'N, 109°13'E	162	2002
Vilyui, on southern border of the Vilyuiskoe Plateau	65°03'N, 109°13'E	63°49'N, 109°35'E	264	2002
Vilyui, on southern border of the Vilyuiskoe Plateau	65°37'N, 107°33'E	65°16'N, 108°01'E	63	2006
Olenyek (upper reaches), on the northwestern border of the Vilyuiskoe Plateau	67°20'N, 106°31'E	67°08'N, 109°54'E	224	2002
Olenyek (middle reaches), on the northern border of the Vilyuiskoe Plateau	67°08'N, 109°54'E	68°30'N, 112°27'E	363	2002
Markha, at the junction of the Vilyuiskoe Plateau with the Central Yakut Plain	65°04'N, 116°42'E	64°38'N, 116°40'E	65	1999
Nakyn, in the border zone of the Vilyuiskoe Plateau with the Central Yakut Plain	64°46'N, 116°57'E	64°38'N, 116°40'E	45	1999
Khannya, in the border zone of the Vilyuiskoe Plateau with the Central Yakut Plain	65°26'N, 117°25'E	65°04'N, 116°42'E	114	1999
Chilli, in the border zone of the Vilyuiskoe Plateau with the Central Yakut Plain	65°07'N, 117°55'E	65°04'N, 117°58'E	7	1999

Table S1 (continued).

River	Start	End	Length (km)	Year
Muna, on the eastern periphery of the Vilyuiskoe Plateau and its border zone with the Nizhnelenskaya lowlands	67°20'N, 115°12'E	67°53'N, 123°02'E	592	2005
Arga-Sala, on the northwest border of the Vilyui Plateau	67°54'N, 106°39'E	68°27'N, 112°11'E	395	1987
Munakan, on the eastern periphery of the Vilyuiskoe Plateau and its border zone with the Nizhnelenskaya lowlands	67°20'N, 119°46'E	67°43'N, 120°18'E	78	2003
Lower Tomba, in the northwestern part of the Vilyuiskoe Plateau	66°32'N, 107°57'E	67°14'N, 107°29'E	130	1992
Ulakhan Vava, in the northern part of the Syverma Plateau	64°51'N, 108°02'E	65°03'N, 109°13'E	135	1998
Lena, the Prilenskoe Plateau and the Central Yakut Plain	64°22'N, 126°25'E	60°32'N, 116°18'E	1,318	1979–1983
Markhachan, on the Prilenskoe Plateau	61°21'N, 123°47'E	60°36'N, 123°32'E	170	1989, 1990
Tuolba, on the Prilenskoe Plateau	59°33'N, 122°42'E	60°36'N, 124°14'E	240	1986
Biryuk, on the Prilenskoe Plateau and the Central Yakut Plain	60°28'N, 119°26'E	60°39'N, 118°43'E	90	1996
Vilyui, on the Central Yakut Plain	63°46'N, 121°32'E	64°22'N, 126°25'E	332	2001
Aldan, on the Central Yakut Plain	63°27'N, 129°33'E	63°17'N, 132°4'E	145	1979, 1982, 1983
Aldan, on the Prilenskoe Plateau and in the Aldan highlands	62°39'N, 135°34'E	58°59'N, 126°07'E	1,130	2010, 2011
Aldan, in the Aldan highlands	59°16'N, 125°17'E	58°55'N, 125°8'E	50	1994
Amga, in the Aldan highlands and on the Prilenskoe Plateau	60°52'N, 131°52'E	58°57'N, 122°48'E	860	1992, 1993
Bel'kachy, on the Prilenskoe Plateau	59°15'N, 131°03'E	59°10'N, 131°53'E	30	1993
Maya, in the Yudoma-Maya highlands	60°24'N, 134°34'E	59°5'N, 135°20'E	180	2006–2014
Uchur, in the Aldan highlands	58°47'N, 130°35'E	57°20'N, 131°16'E	266	2010

Table S2. Characteristics of Eastern Taiga Bean Goose broods recorded along rivers surveyed on the Vilyuiskoe Plateau (from Degtyarev *et al.* 2008). The survey year for each river is given in parentheses.

River	Number of broods									
	Accompanied by adults			Without adults	Brood size (no. of goslings)					
	Pair	One individual	Three individuals		Total	2	3	4	5	6
Alakit (2002)	10	0	0	10	1	2	2	3	2	2
Syan (2002)	4	0	0	4	0	1	2	0	1	0
Vilyui (2002)	0	1	0	1	0	0	0	0	0	1
Vilyui (2006)	0	0	0	0	1	1	0	0	1	0
Olenek (upper reaches) (2002)	4	7	1	12	0	0	4	4	4	0
Muna (2005)	9	3	0	12	1	2	3	4	3	0

Table S3. Population density of Eastern Taiga Bean Geese for rivers surveyed on the Vilyuiskoe Plateau (from Degtyarev *et al.* 2008).

River	Average number of individuals/10 km			Average number of breeding pairs/10 km
	Goslings	Non-breeding adults	Adults breeding and non-breeding	
Alakit (2002)	3.4	0.5	1.9	0.8
Vilyui (2006)	4.8	0	0.5	0.8
Olenyek (upper reaches) (2002)	2.5	0.8	1.7	0.6
Muna (2005)	1.0	2.7	3.4	0.5
Syan (2002)	1.4	1.1	2.0	0.4
Kannya (1999)	—	—	0.3	0.2
Nakyn (1999)	—	—	0.2	0.2
Vilyui (2002)	0.1	0	0	0.0

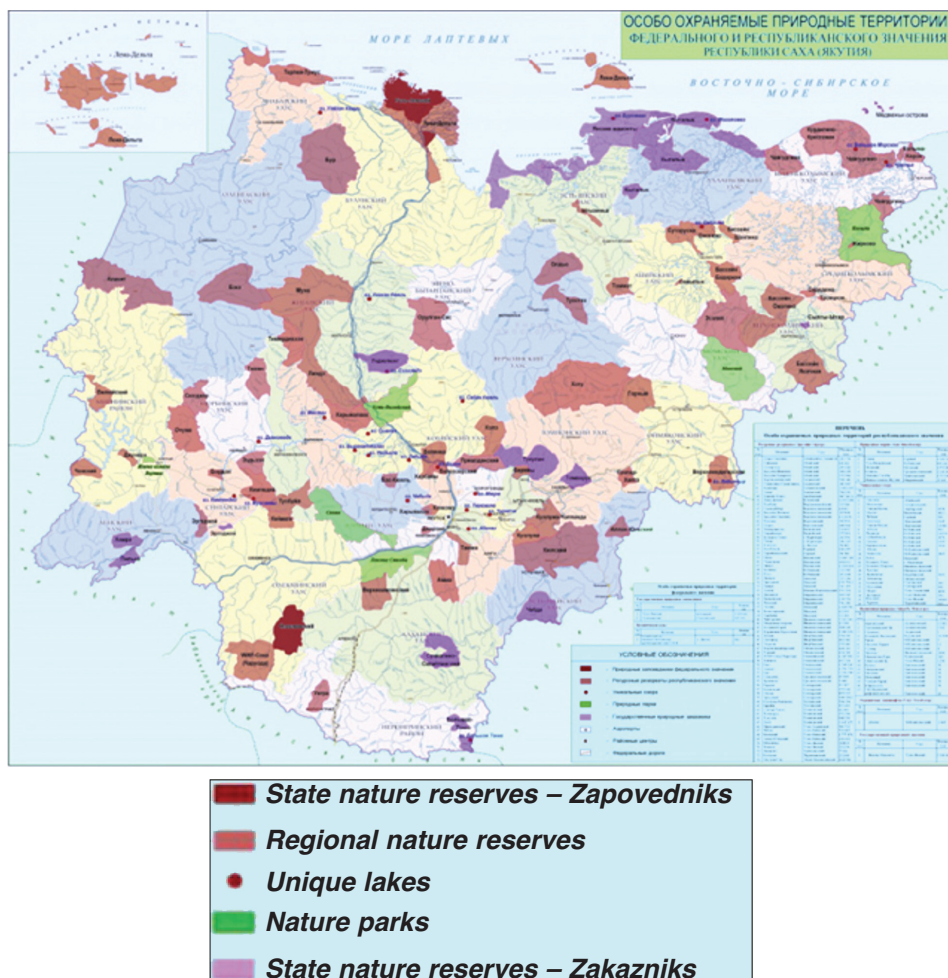


Figure S1. Map of protected areas in the Sakha Republic, Yakutia, Russia. An interactive map is available at <https://sakhagis.ru/map/oopt>. See also: <https://yakutmuseum.ru/app/uploads/2020/06/Karta-OOPT-030216.jpg> <https://ysia.ru/wp-content/uploads/2018/08/Karta-OOPT-030216-1353x1080.jpg> <https://cf3.ppt-online.org/files3/slide/k/KJa9NqVW2I6cwuH8YOC3SLXB5bnsAF47UjgolZ/slide-8.jpg> https://minpriroda.sakha.gov.ru/uploads/ckfinder/userfiles/files/Ытык%20кэрэ%20сирдэр_271118_final.jpg

References

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- Degtyarev, V.G., Egorov, N.N., Okhlopkov, I.M. & Tomshin, M.D. 2008. The structure of the Middendorff's bean goose (*Anser fabalis middendorffi*) population on the Vilyuiskoe Plateau. *Zoologicheskiy Zhurnal* 87: 1084–1091. [In Russian with English summary.]