

RUSSIA LOON STUDIES

2012



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The mission of Biodiversity Research Institute is to assess emerging threats to wildlife and ecosystems through collaborative research, and to use scientific findings to advance environmental awareness and inform decision makers.

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FRONT PHOTO CAPTION: Adult Pacific Loon (*Gavia pacifica*).

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1.0 BACKGROUND

Over the past 20 years, Biodiversity Research Institute (BRI), and collaborators, have conducted some of the most extensive loon studies in North America. Long-term intensive studies of loons in Europe and Asia are lacking. In addition, some loon species that nest in North America likely migrate through or winter in Asia where contaminant exposure is a potential threat. Wildlife biologists from the Russian Academy of Sciences have recently expressed interest and the need to initiate loon studies in Chukotka, in the Far North region of Russia. Funding within Russia and former Soviet republics is quite limited therefore Russian scientists rely on financial and technical support from countries in Western Europe and North America. Thanks to the Trust for Mutual Understanding (TMU) foundation we were able to join and assist talented Russian biologists and contribute to their wealth of knowledge about Arctic birds.

Russian biologist Diana Solovyeva oversees avian studies at the Chaun Biological Station located on Ayopechan Island within the Chaun Bay River Delta, Chukotka Autonomous Okrug, Russia (Figure 1). This area supports breeding pairs of Yellow-billed Loons (*Gavia adamsii*), Pacific Loons (*G. pacifica*), Arctic Loons (*G. arctica*), and Red-throated Loons (*G. stellata*).

The Yellow-billed Loon is a protected bird species in the United States and is under consideration for listing by the U.S. Fish and Wildlife Service, under the Endangered Species Act. In Russia, it is listed as a category 3 species in the Red Data Book, indicating it is a rare species. Little research has been conducted in the recent years, specifically on the Yellow-billed Loon in Russia, and no ongoing management or conservation measures are currently in place to protect the species; all of the breeding sites are located outside of protected areas. Through the generous support of TMU, BRI biologists traveled to Chukotka and joined Russian scientists at their field station, with the purpose to train Russian biologists in the safe capture, handling, and sampling techniques of loons.

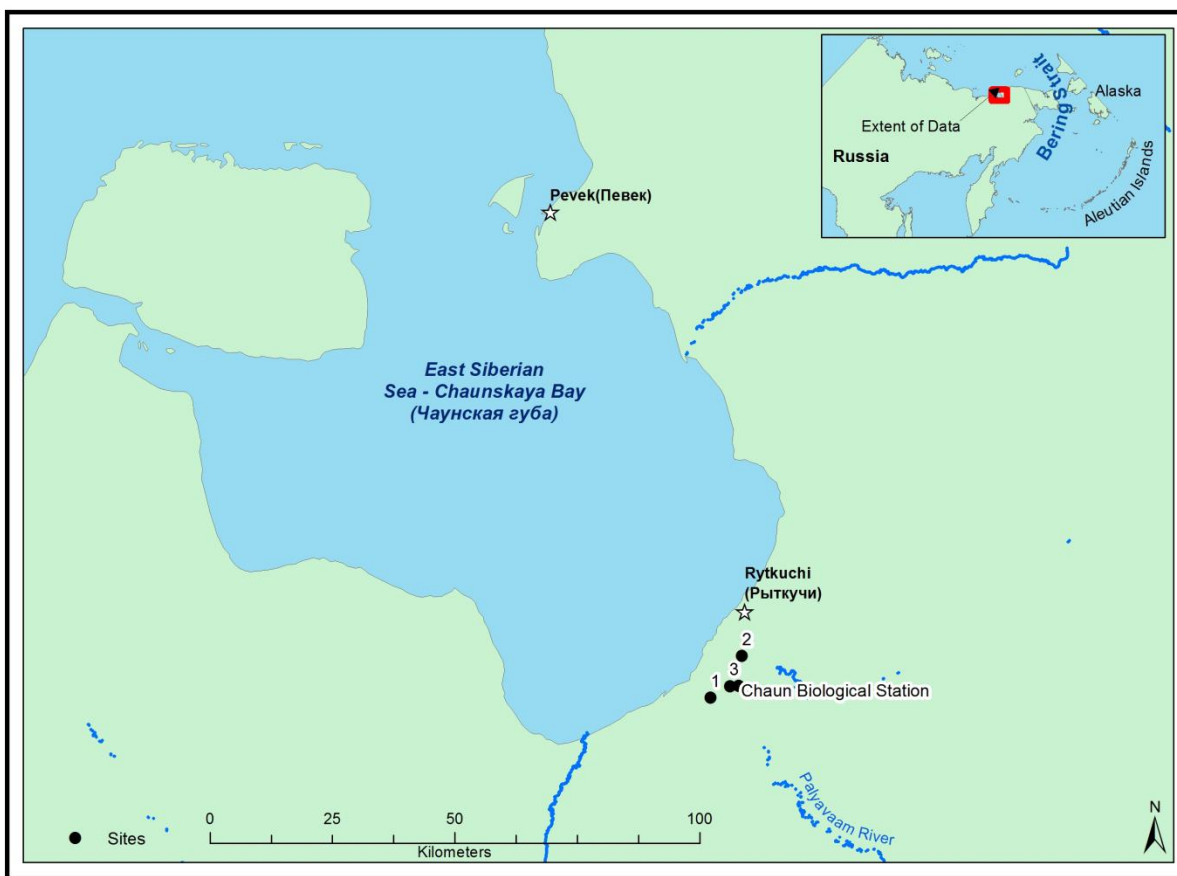


Figure 1. Map of the study area, Chukotka, Russia, June 2012.

2.0 Summary

In June 2012, BRI biologists Oksana Lane and Lucas Savoy traveled to Chukotka. On 18 June after an 8 hour flight on Yakutia Air from Moscow we landed in Pevek, Chukotka (Figure 2).



Figure 2. Pevek airport, Chukotka, Russia 2012.

Pevek, a prosperous northern town during the Soviet era and an important northern port, appears in the state of neglect and is experiencing a population decline.



Figure 3. Pevek, Statue of Lenin, 2012.

Upon arrival we were greeted by the immigration/border control authorities and spent the day obtaining the visitors permits. Pevek is closed to visitors because it is considered a border town. Special invitations and permits are required from a local Chukotka organization in order to visit this region. Our local sponsor was the Chaun Museum in Pevek (Figure 4).



Figure 4. Chaun Museum, Pevek, Russia, 2012.

The following day, we boarded a Chukotavia M-8 helicopter (Figure 5) and traveled 45 minutes to the small native (Chukchi) village of Rytkuchi (Figure 6), where we met Diana's husband and assistant, Sergey Vartanyan (renowned paleogeographer and mammoth expert).



Figure 5. Helicopter arriving from Pevek to the village of Rytkuchi.



Figure 6. Rytkuchi, government center, June 2012.

From the village we traveled 1 hour by a small rubber boat through the Chaun Bay River Delta (Figure 7) to the Chaun Biological Station, established in the 1970s on Ayopechan Island.

Russian bird study crew numbered up to 8 people and they worked on Ayopechan Island from 16 of May to 30 of August 2012.



Figure 7. Aerial view of Chaun Delta, Chukotka.

We remained in Chukotka from June 19 to July 3 and accompanied Russian biologists in the field (Figure 8). Each day, crews explored the tundra and searched ponds on foot for the presence of loon pairs of all species (Figure 9), and located active nest sites. Nests were discovered by walking the shorelines and perimeters of small islands. Loons nest close to the water's edge and walking the shorelines and islands is the most effective technique for locating nests. The weather was unpredictable with temperatures ranging from 2 to 25 degrees Celsius depending on the wind direction. Ice was still covering most of the bay on the north side of the island.



Figure 8. Chaun Biological Field Station, Chukotka, Russia, June, 2012.



Figure 9. Pacific Loon pair on a small pond, Ayopechan Island.

Upon discovering a loon nest, we quickly set up a trap called a bow net (Figure 10), specifically designed by BRI biologists to safely capture loons on nests. We replaced the actual eggs with wooden model eggs, designed to mimic the loon's eggs. Model eggs are used so the actual eggs are not damaged during the capture process. When the loon returns to its nest to resume incubation, the trap is manually deployed by the biologists, and the birds are quickly and safely removed.

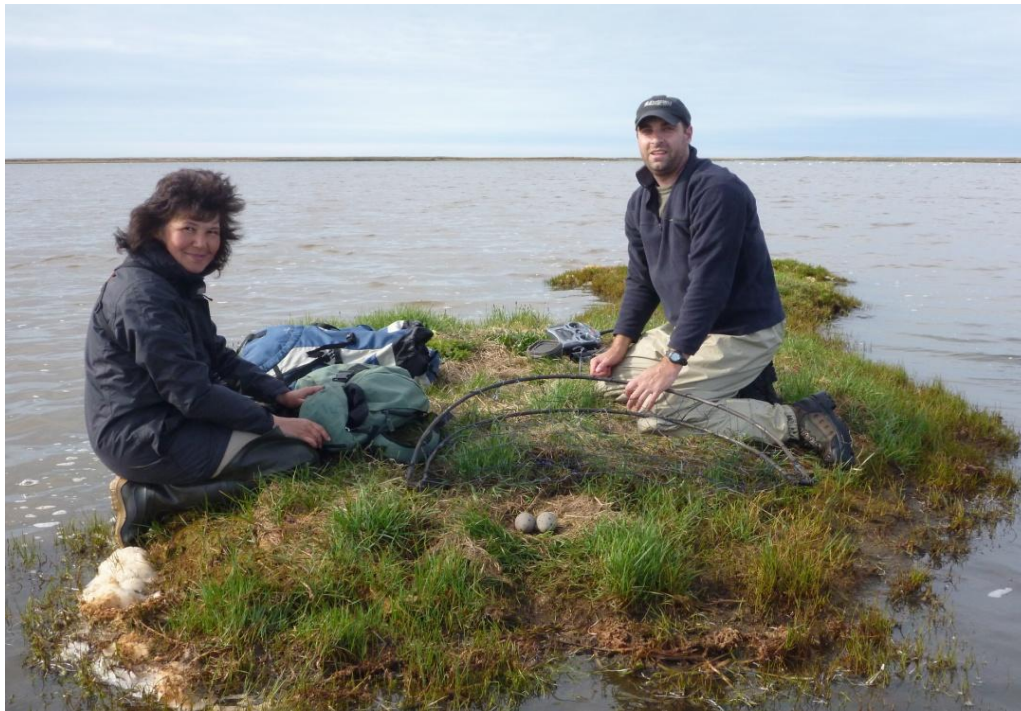


Figure 10. Russian biologist Diana Solovyeva and BRI biologist Lucas Savoy setting up a bow net trap deployed on an active Pacific Loon nest.

Numerous pairs of Pacific Loons nest on Ayopechan Island. Nesting pairs of Yellow-billed Loons, Red-throated Loons, and Arctic Loons have also been observed in previous years by Russian field crews, and are found in much lower numbers than Pacific Loons. We searched the island for nests of all loon species and found nine nests of Pacific Loons and two of Arctic Loons. In total Russian biologists and BRI biologists located five nests of Arctic loons and twenty nests of Pacific loons. There were no Yellow-billed Loons and Red-throated Loons nesting on the island

in 2012. We also found nests of other species including Tundra Swans (*Cygnus columbianus*), Spectacled Eiders (*Somateria fischeri*), and shorebirds.

Loons were in the initial stages of egg-laying when we arrived to the study area. We successfully trapped birds from four different Pacific Loon pairs (Figure 11). Each loon was measured, weighed, identification tags placed on its legs, and a small blood and feather sample was collected for contaminant and genetic analyses. The process of collecting the loon's body measurements and tagging is important to help biologists gain as much information as possible on the species physical characteristics and their life history, which may vary among regions and continents. We place 1-3 small plastic color bands on the leg of each loon we capture (Figure 12), to uniquely mark each bird. These color bands are visible on the loon's legs while swimming, or incubating eggs, and allows biologists to monitor the return of these marked individuals over time without a need to capture and handle the bird again. BRI has placed color bands on over 3,000 loons in North America. Follow-up re-sightings of these marked birds provide important information on many aspects of a species' life history.

The samples we collected in Russia are currently at the lab. We will share the results of the heavy metal analyses with Dr. Solovyeva because of her concern over arsenic and lead pollution in the region.



Figure 11. BRI biologist Oksana Lane safely removing a Pacific Loon from a trap.



Figure 12. Russian biologist Diana Solovyeva with a tagged Pacific Loon, June, 2012.

While loon species vary in size and appearance, the technique used to capture them with the bow net is the same. The capture, handling, and processing of Pacific Loons was extremely valuable in BRI training and sharing knowledge with Russian biologists, with the intentions to capture and initiate studies on the Yellow-billed Loon in future years.

Outreach/publicity

A local newspaper (Polar Star) interviewed us when we returned to Pevek before catching our plane back to Moscow. The article describes our purposes for traveling to Russia and describes some of the conservation issues facing the loons and other birds in the arctic (Figure 13).

2 | События

ПОЛЯРНАЯ ЗВЕЗДА

НАУКА

ГАГАР ОКОЛЬЦЕВАЛИ АМЕРИКАНЦЫ



Оксана Лейн (слева) с исчезающей птицей на руках.

Группа американских ученых-биологов завершила работу на базе орнитологов «Марина», расположенной в Чаунском районе в 20 км от села Рыткучи. В пятницу американцы вернулись в Певек, где рассказали корреспонденту «Полярной звезды» о результатах проделанной научной работы.

По словам руководителя проекта по изучению дикой природы Института исследований биоразнообразия (г. Бостон) Оксаны Лейн, в зарубежную научную группу наряду с ней входили научный сотрудник Института исследований биоразнообразия Лукас Савой и орнитолог из Общества по сохранению дикой природы (г. Портленд) Джо Либбейт.

— На базе орнитологов мы пробыли десять дней, с 19 по 29 июня. Целью нашей поездки было наладить сотрудничество с российскими коллегами, а также провести изучение некоторых видов гагар, в частности, белоколовой и белошейной. Эти виды относятся к исчезающим как на Аляске, так и на Чукотке, причем точные причины сокращения их численности на-

уже до сих пор неизвестны, — сообщила Оксана Лейн.

На базе американские ученые совместно с российскими орнитологами провели несколько выходов в тундру, где занимались отловом и кольцеванием гагар, после чего пернатых выпускали обратно в дикую природу.

— В следующий приезд в российскую Арктику во время кольцевания гагар мы планируем закрепить на них небольшой прибор, называемый геолокатором. Это устройство позволяет детально отслеживать маршрут движения птиц и даже места их посадки на землю. Это, в свою очередь, предоставит возможность уточнить, где именно (в местах гнездования, на зимовке или в процессе перелета) происходит ги-

бель гагар, приводящая к сокращению их популяции, — добавила наша собеседница.

Кроме продуктивной работы по основному профилю, прилетевшие из Москвы американцы получили на Чаун-Чукотке массу других впечатлений. Жители одной из наиболее развитых и богатых стран мира поразила неустроенность мест обитания человека. Брошенные поселки, разбитые дороги, ветхие жилые дома, закопанные металлоломом и мусором окрестности населенных пунктов... Но все негативные моменты, по словам зарубежных гостей, бледнели и таяли на фоне величественной и прекрасной арктической природы.

Сергей НИКИТИН.
Фото Оксаны ЛЕЙН.

СПОРТ

КУБОК САВИНА УШЕЛ К «ЭНЕРГИИ»

25 июня состоялась торжественная церемония награждения победителей XIII футбольного турнира на Кубок памяти выдающегося футболиста Чаун-Чукотки Александра Савина, который проходил в Певеке с 16 июня.

По итогам футбольных матчей победителем среди взрослых стала команда «Энергия», ставшая обладателем Кубка памяти Александра Савина. В этой команде, кстати, некогда играл сам

НАША СПРАВКА
Александр Савин родился 5 декабря 1951 года в городе Северо-Задонск Тульской области. В 1972

ТВОРЧЕСТВО

КОНЦЕРТ НА ДВОИХ

В минувшую субботу в кинотеатре «Айсберг» состоялся концерт дуэта Кристины Турчинской и Григория Сугробова «Взрослеют дети», организаторами которого стали Светлана Печерица и Ирина Надмитова.

Имена молодых артистов Григория Сугробова и Кристины Турчинской известны в Пе- «Мы выросли вместе!». В дуэте с Кристиной

Figure 13. Polar Star newspaper article (in Russian) published on our activities in June, 2012.

3.0 CONTINUATION OF COLLABORATIVE EFFORTS

Russian biologists attempted loon captures following our departure from the field, and were successful in safely capturing, tagging, and collecting measurements from Pacific Loons. The Yellow-billed Loon pairs present at the field site were continually monitored by the Russian field crews, in the hopes the pairs would nest, and captures could be attempted. However, Yellow-billed Loon pairs did not appear to nest at the field site during the 2012 season.

The Russian field teams are now familiar and comfortable with the loon capture, handling, and processing techniques, and have all the necessary capture and sampling equipment on site at

the Ayopechan Island field camp. BRI and Russian biologists are currently working together to transport various biological tissues to labs in Russia and the United States for analyses. These analyses are focused on contaminants and genetics. Contaminants are of global concern for many wildlife species, including loons. Loons are exposed to a wide variety of environmental toxins on their arctic breeding grounds and their Asian wintering areas.

4.0 ACKNOWLEDGMENTS

BRI wishes to acknowledge many kind folks for their tremendous assistance, hospitality, and life-long memory. First and foremost, Diana Solovyeva and Sergey Vartanyan (Figure 14). The field crew: Gleb Danilov, Gregory Solovyev, Peter Romanov, Vera Kokhanova, Misha Ettuvgi, and Georgiy Pavlukov (Figure 15) and sweet Joy (Figure 16). We want to thank the director of Chaun Museum Valeria Shvets-Shust for providing the legal paperwork and hosting us in Pevek and huge thanks to Tatyana and Vladimir Chasovskiy for letting us stay at their warm apartment while we were stranded for 4 days in Rytkuchi waiting for the helicopter to arrive. Many thanks to TMU for funding this project and to Stefania Strzalkowska and Jim Paruk for planning trip logistics.



Figure 14. Sergei Vartanyan, making a fire for cooking lunch in the tundra, June, 2012.



Figure 15. Crew of the Chaun Biostation, visiting Americans at the kitchen table, June, 2012.



Figure 16. Joy with a mammoth bone, Chaun Biological station, 2012.



Figure 17. View of Pevek, July 2, 2012.