# Final Evaluation Report

| Your Details | |
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| **Full Name** | Nika Paposhvili |
| **Project Title** | Supporting the conservation of Velvet Scoter at Lake Tabatskuri by determining the direct causes of the Scoters' poor reproductive success. |
| **Application ID** | 24912-2 |
| **Grant Amount** | £5,000 |
| **Email Address** | birder_nik@yahoo.com |
| **Date of this Report** | 15.05.2020 |

**1. Indicate the level of achievement of the project's original objectives and include any relevant comments on factors affecting this.**

| Objective | Not achieved | Partially achieved | Fully achieved | Comments |
|---|---|---|---|---|
| Evaluating potential breeding pairs of the Velvet Scoter at Lake Tabatskuri. | | | | The observations revealed that 25-35 potential breeding pairs of velvet scoter were present at Lake Tabatskuri from late April to early June 2019 (see Fig. 1). |
| Studying the competitive interaction between the Velvet Scoters and other existent animals on the island during the incubation time. | | | | We conducted a study with seven camera traps from 26th June to 25 Augustth 2019 on the only breeding island in the lake. Within that time, we collected 42127 images and 2892 videos (each video - 15 seconds, in total 43380 seconds). Based on the obtained data, one of the nests (N5) was attacked twice by a marsh harrier. Only the first attack was successful with the bird eating only one egg before it was expelled by the brood hen. The second attack was repulsed without loss by the brood hen.<br>There were only three attempts to attack the active nests by Armenian gull, all without success. In each of the three attacks it was repulsed by the brood-hen.<br>In one case, the nest N1 was occupied for 2 hours by another female scoter with six ducklings. This happened when the brood hen was not on the nest. Scoters usually leave the nest for about 2 hours each day to feed. The intruder and ducklings were expelled by the brood hen after her return on the nest.<br>Notwithstanding the above, there was no nest abandonment and finally, 42 (67%) eggs successfully hatched from a total of 63 (see Table 1). The incubation time was about 30 days and broods left the nest 1-2 days after the first duckling hatched.<br>It is noteworthy that there are no land |

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| | | | | predators on the island. In addition, neither the camera traps nor our direct monitoring have recorded collection of scoters' eggs on the island by people in 2019. |
| Determining the effects of human, other existent animals and adverse weather on the Velvet Scoter ducklings. | | | | We concentrated our observations in the north part of the lake (see Fig. 2) on the broods during the first 3 weeks after they entered the water (from 25th July to 14th August 2019). After that, we also continued the observation once a week until 9th October 2019. During this whole time, disturbance by boats and the presence of large gulls were continuously scanned, as well as recording the daily weather. A total of the 11 broods and 40 ducklings were sighted on Lake Tabatskuri (see Table 2). The whole observation time for all broods was 83 h 30 min. During that time 35 (87.5%) of the ducklings died before the age of 3 weeks. The main predator of ducklings in the study area is the Armenian gull. 21 (52.5%) ducklings were caught/eaten by Armenian gulls during the first 3 weeks. The predation by Armenian gulls is no longer important when the ducklings reach the age of 21 days. The success of gull attacks was much higher in disturbed rather than in undisturbed situations. During 83 h 30 min of observation of 11 broods, 13 boats passed or stopped near the broods. When a boat passed or stopped at a distance of less than 20-30 m the brood dived and dispersed over a radius of 20-30m for 5-10 min. In a situation like this, gulls had great opportunities for catching a duckling. 11 (52.4%) of the predated ducklings were caught in this way.<br>2 (5 %) of the ducklings were entangled |

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| | | | | and died in a fishing net and another 12 (30%) disappeared; it is likely they became a victim of Armenian gull, got entangled in a fishing net or died due to a lack of food and bad weather (it was a cold and windy summer). |
| Raising awareness of local residents and visitors. | | | | At the beginning of the project two prohibition signs (one on the island and another in a rural bay) were placed in order to keep the visitors away during the incubation time. In addition, three information boards have been updated and installed near to Lake Tabatskuri in 2019. Information brochures have been delivered to local communities around Lake Tabatskuri giving information about the status of velvet scoter, the factors that threaten their future survival and how local people can contribute to reduce these threats. All classes in local schools have had lectures and received the information along with brochures, notebooks, and pens with velvet scoter and Rufford logos. At the same time, children took part in field trips to see and identify the species and participated in bird counts. 20 t-shirts with velvet scoter and the Rufford foundation logo were gifted to active local stakeholders. |

**2. Please explain any unforeseen difficulties that arose during the project and how these were tackled.**

The plan was to stay in tents during the monitoring period, as our team had already had experience from past projects. Due to unusually cold and windy weather it was not possible to stay in tents for the 3 weeks. During such bad weather, we used a ranger shelter with permission from the agency of protected areas.

**3. Briefly describe the three most important outcomes of your project.**

During the study, we have found that: (1) the competitive interaction of the velvet scoters and other existent animals on the island during the incubation time did not

have a big impact on the hatching success; (2) after the hatching period predation pressure by Armenian gulls was high; and (3) in combination with human disturbance and adverse weather fledgling success was extremely low.

**4. Briefly describe the involvement of local communities and how they have benefitted from the project.**

One of our group members, Ilia Berdzenishvili, was a local resident of Tabatskuri and is employed as a ranger in Ktsia-Tabatskuri Managed Reserve. Accordingly, with the influence of him, all other rangers were actively involved in various ongoing activities of the project. Five local volunteers were involved in the erection of a prohibition sign and updated information panels. For their help we rewarded them with t-shirts. We hired a boat from locals as planned by the project.

In addition, as we have already mentioned above all classes in local school have had lectures and received informational brochures, notebooks, and pens with velvet scoter and Rufford logos. Children also took part in field trips to see and identify the species and participate in bird counts. 20 t-shirts with velvet scoter and the Rufford foundation logo have been gifted to active local stakeholders.

**5. Are there any plans to continue this work?**

Determining the direct causes of the scoters' poor reproductive success was very significant. Nevertheless, it only reminds us on the next huge task has begun and it will take several years before we can be confident that how to save the scoter successfully. There is a long way to go and there will be many setbacks along the way, but this was a major milestone achieved last year.

We are planning: (1) to continue monitoring on the brood and mark the important territories for velvet scoter at Lake Tabatskuri with buoys to prevent fishing activities and recreational boating in these key areas; (2) to use more (15-20) camera traps to get a real picture about the competitive interaction of the velvet scoters and other existent animals on the island during the incubation time; and (3) to evaluate the isolation level of the Caucasian population of velvet scoter from the northern population. Accordingly, we are going to apply for the Booster Grant to continue this significant work.

**6. How do you plan to share the results of your work with others?**

Since the beginning of this project, we were actively spreading some information about the species and the project. Social networks[1], internet websites[2] [3] [4] and conference of CMF 2019[5] have been used to spread information about the velvet scoter widely.

[1] https://www.facebook.com/Velvetscoter
[2] http://biodiversity-georgia.net/index.php?taxon=Melanitta%20fusca
[3] https://map.nationalgeographic.ge/element/garieli/
[4] https://yourshot.nationalgeographic.ge/planeta-tu-plasmasa/?contest=photo-detail&photo_id=1449
[5] http://caucasus-mt.net/thematic-session.html-11

It was planned for one of our team members to present the survey results at the 2nd Rufford Turkey Conference in May 2020 with a detailed talk. However, due to the pandemic, it was rescheduled to May 2021.

Currently, we are preparing a scientific paper for publication in an international scientific journal.

**7. Timescale: Over what period was the grant used? How does this compare to the anticipated or actual length of the project?**

The Rufford Foundation grant was used from May to December 2019 as it was anticipated in the project initially. Almost all activities have been implemented in accordance with the original work plan.

**8. Budget: Provide a breakdown of budgeted versus actual expenditure and the reasons for any differences. All figures should be in £ sterling, indicating the local exchange rate used. It is important that you retain the management accounts and all paid invoices relating to the project for at least 2 years as these may be required for inspection at our discretion.**

| Item | Budgeted Amount | Actual Amount | Difference | Comments |
|---|---|---|---|---|
| Outreach/ Education activities and materials | 838 | 838 | | |
| Camera Traps (including memory card and AA batteries) | 723 | 722 | -1 | |
| Car/Boat Hire | 1185 | 1185 | | |
| Fuel for the Car | 780 | 1067 | +287 | We needed more fuel than it was thought. The difference was added from the food budget. |
| Food for the Team Members | 1214 | 892 | -322 | The remaining amount was shifted to the fuel and camping equipment budget. |
| Camping equipment | 43 | 64 | +21 | We bought a shower tent with a solar shower bag that slightly increased the price. |
| Communications (Telephone/Internet) & Medical Supplies (First Aid/advanced | 217 | 219 | +2 | |

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| medications) & Unforeseen expenses | | | | |
| **Total** | **5000** | **4987** | **-13** | |

**9. Looking ahead, what do you feel are the important next steps?**

First of all, to continue further research, monitoring and conservation we need to safeguard future generations of this small isolated population at its last location in the Caucasus. According to our latest study, the scoters' poor reproductive success is caused by predation. The main predator is the Armenian gull. Consequently, the gull population control can have a positive impact on the scoters' reproductive success. However, an additional 1-year systematic detailed monitoring is still needed before making this decision.

We never gave up and hope that the scoter may one day be widespread across Javakheti plateau in southern Georgia.

**10. Did you use The Rufford Foundation logo in any materials produced in relation to this project? Did the Foundation receive any publicity during the course of your work?**

The Rufford foundation logo has been used in all of the education materials (informational booklets, Informational banners, t-shirts, notebooks, school presentations), as well as at the conference of CMF 2019.

**11. Please provide a full list of all the members of your team and briefly what was their role in the project.**

The team consisted of four people.

**Nika Paposhvili** was team leader, responsible for project management, purchases, field works, data analysis and writing and presenting the report.

**Nika Budagashvili** was responsible for field works and raising awareness of local communities. He also was in charge of social media.

**Nika Melikishvili** was responsible for field works and data analysis.

**Ilia Berdzenishvili** was responsible for field works and relationships with local ethnic Armenian communities.

**12. Any other comments?**

We thank Tony Fox and Ib Krag Petersen for their advice to the project; Sopio Kiknavelidze for assistance with the velvet scoter surveys and the final report; Dr. Steve Carter for financial support; Ktsia-Tabatskuri Managed Reserve's rangers: Gagik Papikiani and Harutun Margariani who enabled cooperation with local people. Our work would not have been possible without the support from the

Institute of Ecology Ilia State University, The Environmental Organization "Garieli" and The Agency of Protected Areas in Georgia.

Special thanks go to The Rufford Foundation for trust and funding the project, and we hope this project will continue.

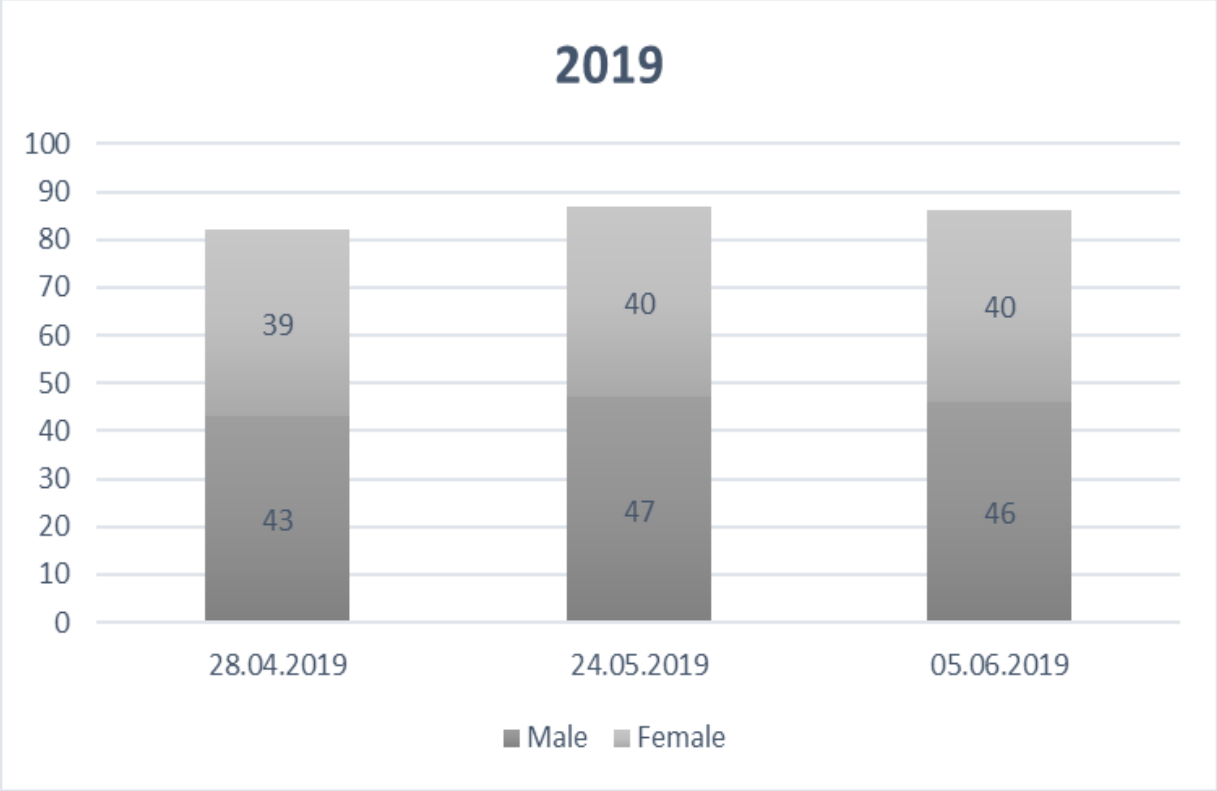


**Figure 1.** Numbers of male and female Velvet Scoter counted on Lake Tabatskuri, Georgia during potential breeding pairs count made before incubation season in 2019.

| Nest code | Clutch size | Hatched | unhatched | Predated |
|---|---|---|---|---|
| 1 | 9 | 4 | 5 | 0 |
| 2 | 9 | 8 | 1 | 0 |
| 3 | 6 | 2 | 4 | 0 |
| 4 | 8 | 4 | 4 | 0 |
| 5 | 9 | 6 | 2 | 1 |
| 6 | 11 | 8 | 3 | 0 |
| 7 | 11 | 10 | 1 | 0 |
| **Total** | **63** | **42 (66.7%)** | **20 (31.7%)** | **1 (1.6%)** |

**Table 1.** The clutch size and hatching success for monitored seven Velvet Scoter nests found at Lake Tabatskuri, Georgia in summer 2019. Note that the unhatched egg in the nest N2 was taken by Armenian Gull after the brood left the nest. It was

not considered predation as the nest had already successfully hatched and the remaining egg was likely to be rotten.

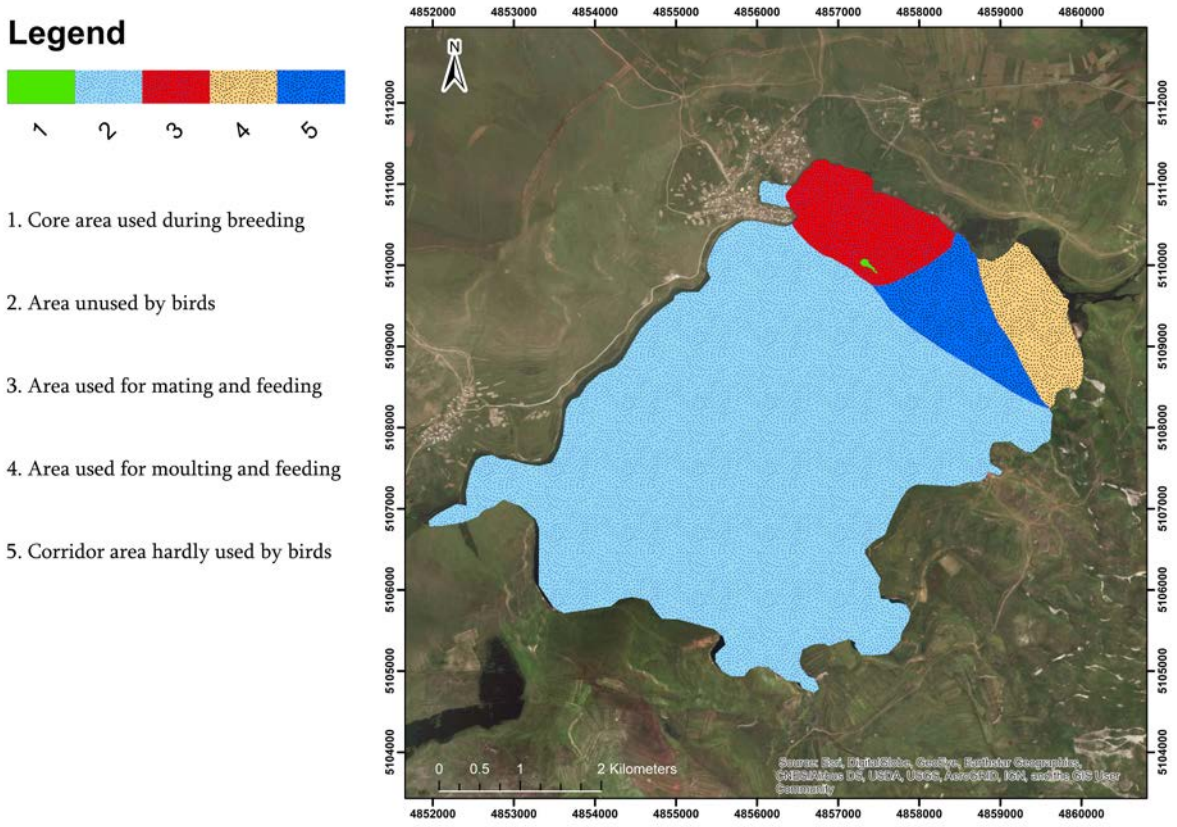


**Figure 2.** The map of Tabatskuri Lake showing the five main areas of the lake and their differential use by Velvet Scoters during different periods of the summer.

| Brood code | Brood Size | Predated | Drowned | Disappeared | Fledged |
|---|---|---|---|---|---|
| 1 | 3 | | | | |
| 2 | 1 | | | | |
| 3 | 2 | | | | |
| 4 | 5 | | | | |
| 5 | 2 | | | | |
| 6 | 5 | | | | |
| 7 | 4 | | | | |
| 8 | 5 | | | | |
| 9 | 6 | | | | |
| 10 | 3 | | | | |
| 11 | 4 | | | | |
| Total | 40 | 21 (52.5%) | 2 (5%) | 12 (30%) | 5 (12.5%) |

**Table 2.** The brood size and hatching success for the monitored eleven Velvet Scoter broods found at Lake Tabatskuri, Georgia in summer 2019.

Note that it was not possible to determine exactly which brood had been predated (also drowned, disappeared, and fledged) because of brood amalgamation. The brood's amalgamation was frequent, especially when two or more brood had concentrated at the same places. The broods amalgamated or not were basically tended by a single female. However, lone females sometimes associated with brood and tried to help brood-rearing females to protect their ducklings during Gull attacks.

It was also not possible to determine the fledging success of individual nests/brood but five ducklings ultimately fledged at the site from a minimum of 100 hatched eggs (we found a total of 31 nests of Velvet Scoter with a minimum of 100 hatched eggs on the island. Only seven nests were monitored by a camera trap) in 2019. That means the fledging success was terribly poor, only 5% of hatched ducklings survived to fledge.