

## The Rufford Small Grants Foundation

### Final Report

Congratulations on the completion of your project that was supported by The Rufford Small Grants Foundation.

We ask all grant recipients to complete a Final Report Form that helps us to gauge the success of our grant giving. The Final Report must be sent in **word format** and not PDF format or any other format. We understand that projects often do not follow the predicted course but knowledge of your experiences is valuable to us and others who may be undertaking similar work. Please be as honest as you can in answering the questions – remember that negative experiences are just as valuable as positive ones if they help others to learn from them.

Please complete the form in English and be as clear and concise as you can. Please note that the information may be edited for clarity. We will ask for further information if required. If you have any other materials produced by the project, particularly a few relevant photographs, please send these to us separately.

Please submit your final report to [jane@rufford.org](mailto:jane@rufford.org).

Thank you for your help.

**Josh Cole, Grants Director**

#### Grant Recipient Details

<b>Your name</b>	Olga Filatova
<b>Project title</b>	Conservation of killer whales ( <i>Orcinus orca</i> ) in the Russian Far East: promoting evidence of two separate species
<b>RSG reference</b>	1017-C
<b>Reporting period</b>	August 2011-March 2013
<b>Amount of grant</b>	£18,185
<b>Your email address</b>	<a href="mailto:alazor@rambler.ru">alazor@rambler.ru</a>
<b>Date of this report</b>	April 2013

**1. Please 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
Demonstrate clear differences between resident and transient killer whales in the Russian Far East:				
- in feeding ecology			yes	We observed resident killer whales feeding on fish (salmon, cod) and transient killer whales feeding on marine mammals (minke whale, fur seals). Stable isotope analysis of biopsies confirmed our visual observations.
- in social structure			yes	We found stable group structure in resident killer whales both from the Commander Islands and Kamchatka. Transient killer whales had less stable groups; solitary males were observed in transient but not in resident killer whales.
- in acoustic behaviour			yes	Transient killer whales were silent most of the time, while resident killer whales were much more vocal. Few recordings of transient sounds showed clear differences in fundamental frequency from calls recorded from resident killer whales.
- in phenotypic features			yes	All transient killer whales in our study had closed saddle patches. Resident killer whales had ~70% closed and ~30% open and semi-open saddle patches.
- in genetics			yes	Microsatellite analysis showed that resident and transient killer whales belong to different reproductive groups, which means that they do not interbreed. Mitochondrial DNA haplotypes were different for resident and transient killer whales.
Justify the existence of two separate killer whale species in Russian waters			yes	Our data clearly shows that resident and transient killer whales meet the definition of species in biological species concept, since they represent sympatric reproductively isolated populations with stable ecological, morphological and behavioural differences.
Disseminate the results among the scientists and the officials			yes	To disseminate the results among the scientists, I gave many talks at conferences, workshops and meetings. I participated in the 26th Conference of the European Cetacean Society in Dublin, March

				<p>2012. I organised killer whale workshop in frames of VII International Conference «Marine mammals of the Holarctic» in Suzdal (Russia) in September 2012. Twenty experts from three countries (Russia, Canada, USA) attended the workshop. In November 2012 and January 2013 I gave talks at the meetings of Russian Marine Mammal Council, and finally persuaded the Council to write the official letters to Russian Federal Fisheries Agency and to Russian Research Institute of Fisheries and Oceanography (organisations in charge of capture quotas) claiming that the numbers of resident and transient killer whales must be estimated separately.</p> <p>I have also suggested including transient (mammal-eating) killer whales into the new edition of Russian Red Book, which is now being discussed by the committee.</p> <p>We prepare a scientific paper for the peer-reviewed Russian journal to inform the broader scientific audience about the problem.</p>
Disseminate the results among the public			yes	<p>We had written a popular scientific article for Russian journal "Priroda" ("Nature"), it will be published in May 2013.</p> <p>We informed the public about our progress on <u>our website</u> and on <u>our Facebook page</u> which currently has more than 1900 "likes".</p> <p>We gave talks to the local people in Nikolskoye village (Commander Islands).</p>

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

The main difficulty was not to obtain and analyse the data but to convince the old-style Russian scientists in our results. The idea of two killer whale species (and even two reproductively isolated ecotypes) is too unusual for them, and some of them just refuse to accept it (for example see this video (turn on English subtitles) from the meeting of the Russian Marine Mammal Council <https://www.youtube.com/watch?v=iWN075MgQyA>). However, we made some of them to change their mind, and the most important thing is that we had convinced the Head of the Russian Marine Mammal Council, the renowned Russian scientist Dr. A.V.Yablokov. With his support we have much more possibilities to influence the situation.

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

1. We showed that resident and transient killer whales in Russian waters represent sympatric reproductively isolated populations with stable ecological, morphological and behavioural differences, which meets the definition of separate species in biological species concept.

2. We persuaded the Russian Marine Mammal Council to write the official letters to the Russian Federal Fisheries Agency and to the Russian Research Institute of Fisheries and Oceanography (organizations in charge of capture quotas) claiming that the numbers of resident and transient killer whales must be estimated separately.
3. We suggested including transient (mammal-eating) killer whales into the new edition of Russian Red Book, which is now being discussed by the committee.

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

We gave talks for the local people in Nikolskoye village (Commander Islands) about different problems of whale conservation, including the problem of killer whale capturing.

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

Yes, because the final goal of our conservational activity is to quit capturing killer whales in Russia permanently and ensure their protection from other anthropogenic threats. There is a strong pro-captive lobby in Russian fisheries, and after the successful capturing of young female killer whale in August 2012 they request to increase the quotas. We plan to struggle against this with the help of the Russian Marine Mammal Council, and we will continue to work with killer whales in the field to monitor their condition, gather photo ID data to estimate abundance and calculate the reproduction level of populations.

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

We gave a number of talks and public lectures at various meetings, workshops and conferences. We have prepared the popular scientific paper (will be published in May 2013) about the results of our project. We are now preparing the scientific paper which will be published in the peer-reviewed Russian scientific journal.

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

The RSG was used, as planned, over the period September 2011-March 2013.

**8. Budget: Please 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.**

Exchange rate £1 = 46,5 Russian roubles

Item	Budgeted Amount	Actual Amount	Difference	Comments
Travel expenses	2518	2303	214	
Airplane tickets Moscow-Petropavlovsk-Moscow	440	445	-5	
Airplane tickets Petropavlovsk-Nikol'skoye-Petropavlovsk	297	207	90	Ticket price changes every year depending on subsidies from the local government

Freight Petropavlovsk-Nikol'skoye-Petropavlovsk (fuel, food, equipment)	1781	1652	129	Freight weight was a bit lower than we expected
Rent of a lorry Nikol'skoye – Podutesnaya – Nikol'skoye	98	0	98	We didn't rent a lorry but transported all our stuff using the research boat
Accommodation for team members	373	380	-7	
Accommodation in Petropavlovsk for 1 week	223	228	-5	
Accommodation in Nikol'skoye for 1 week	150	152	-2	
Field expenses	7540	7715	-175	
Per diem, 4 persons, 90 days, £10,44 per day	3758	3758	0	
Communications (telephone, internet)	385	326	59	We had to use the satellite phone less often than we expected
Field supplies	597	435	162	We had some leftovers from the previous field season
Fuel for boat motor (0,8 liters per km, £0,7 per litre)	2800	3196	-396	We spent more fuel because we used our boat for transportation instead of renting a lorry
Educational and communicatory activities	668	637	31	
Lectures and workshops in Nikol'skoye, room and equipment lease, £20,9 per lecture, 2 lectures	42	0	42	One lecture was in our field camp so we didn't have to pay; for the second lecture administration gave the room and equipment for free
Conference participation	626	637	-11	
Field equipment	4185	3914	271	
GPS Garmin GPSMAP 76CSx	371	371	0	
Photo camera Canon EOS 1D Mark III with telephoto lens Canon EF 100-400	3550	3261	289	We bought the camera on Ebay which was cheaper than in Moscow
Batteries	115	130	-15	
Crossbow for biopsy sampling + 5 arrows	149	152	-3	
Genetic analysis	2689	3235	-546	We got more samples than expected (68 instead of 50) so it was more expensive to analyse them
DNA extraction, £2,2 per sample	110	150	-40	
DNA primer selection for	21	22	-1	

amplification				
Synthesis of DNA primer for amplification	42	44	-2	
PCR, £3,2 per sample	160	218	-58	
Genotyping Microsatellite Analysis, 11 loci, £3,6 per 1 locus per sample	1980	2291	-311	
Sequencing, £7,5 per sample	375	510	-135	
Other	213	0	213	
Contingency	213	0	213	We used contingency money to cover the extra costs of genetic analysis
Total	18185	18185	0	

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

We have created the scientific basis for recognition of resident and transient killer whales as different species in Russian legislation, but further effort is needed to implement our ideas. We have already started the process by sending the official letters to the Russian Federal Fisheries Agency and to the Russian Research Institute of Fisheries and Oceanography claiming that the numbers of resident and transient killer whales must be estimated separately. However, Russian official organisations are very conservative, and most likely it will take lots of effort, more official letters, meetings and talks to make a change.

I have also suggested including transient killer whales into the new edition of the Russian Red Book, which is now being discussed by the committee. If they agree, it will be a great progress, because in this case the Russian Federal Fisheries Agency will have to accept this and quit capturing transient orcas.

### 10. Did you use the RSGF logo in any materials produced in relation to this project? Did the RSGF receive any publicity during the course of your work?

Yes, we used the RSGF logo in our presentations, and we mentioned RSGF in the "Acknowledgements" section of our papers. We have RSGF link in the "Like" section of our Facebook page. Besides, many different people asked me who is funding our work and I referred to RSGF.

### 11. Any other comments?

We want to express our deepest gratitude to the RSGF for funding our project! It was a great help in our struggle for the freedom and welfare of Russian killer whales.