

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. 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. 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.

Thank you for your help.

Josh Cole, Grants Director

Grant Recipient Details	
Your name	Diana Solovyeva
Project title	Conservation of endangered Scaly-sided Merganser (<i>Mergus squamatus</i>) in Russia
RSG reference	1032-C
Reporting period	23rd February 2012 - 23rd February 2014
Amount of grant	£15090
Your email address	diana_solovyova@mail.ru
Date of this report	9 th September 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
Active "incubator" in Zhuravlevka catchment		+		25 nest boxes were made and delivered to Samarka village, Zhuravlevka R, in October 2012. Nine nest boxes (vs 25 proposed) were set up at Zhuravlevka catchment in spring 2013 and none were set up in autumn 2012 as was proposed. The reason for this delay was extremely high water in rivers resulted from Sanba typhoon (see http://en.ria.ru/photolents/20120918/176029149.html). In spring 2013 we also didn't manage to set all the rest of nest boxes again due to high water in the river (see http://ria.ru/trend/Primorye_pavodok_08042013/). Driving rubber boats in forested mountain rivers during high water is dangerous and we cancelled nest box erection due to danger to loose stuff and boats.
Scaly-sided merganser nesting in AN on Avvakumovka River			+	Five new nest boxes were set up on Avvakumovka R: two old nest boxes were repaired there in autumn 2012. Two Scaly-sided Merganser nests were active on Avvakumovka R in 2013. One of them hatched 10 ducklings.
Continuation of "incubator" on Kievka catchment			+	Five new nest boxes were set up on Kievka R and six old nest boxes were repaired there in autumn 2012. We suggested new construction of nest boxes and tested it on Kievka R under this grant. New construction suggests additional side entrance protected from Martin/Sable predation of nesting hen (see photo). New construction was welcomed by nesting duck with one scaly-sided merganser nest and one mandarin duck nest appeared in the first spring 2013 (usually nest box were not occupied by ducks in the first spring after set up).
Building of visitor centre			+	Visitor centre building completed in spring 2013.
Involvement of local community members in			+	Six local personnel involved in the field work 2012-13. Nine volunteers from Far East Russia, central Russia and USA helped during the field work.

scaly-sided merganser conservation				
Location of unknown wintering grounds for birds from western slope of Sikhote-Alin	+			Long-term objective will be reached as soon as females start to occupy nest boxes in Zhuravlevka R.
Location of new river/s suitable for “incubators”(both high pair density and deforested river banks)			+	The database was created with all rivers within the species breeding range worldwide. Google earth images of the rivers with high densities were analysed and several river as follows were selected for inspection in following field seasons, Kema R, Maximovka R. Malinovka R was confirmed as suitable for artificial nest programme (high pair density and deforestation).
Contamination studies		+		Sixteen egg samples were collected from unhatched or depredated eggs. At the moment we are seeking for the laboratory suitable for contamination analyses.

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

The largest difficulties were extreme weather and hydrological events during entire project period. Typhoon Sanba didn't allow us to erect artificial nests along Zhuravlevka R in autumn 2012 as was proposed. In spring 2013 unusual flooding affected surveys for breeding pairs and again erection of nest boxes. In summer 2013 when we sent student team to complete the surveys for broods, check nest boxes and erect the rest of boxes, extreme flooding occurred again and continued until now (see <http://en.ria.ru/russia/20130902/183107531/Water-Level-in-Amur-River-Near-Khabarovsk-to-Peak-This-Week.html> in addition to above mentioned links). The only way to tackle this trouble is to continue fulfilment of project objectives after current grant competition, what we are going to do in autumn 2013 and spring 2014.

Unexplainable decline of number of nesting pair and of artificial nest occupied was reported in spring 2012 at our key study area – the Kievka “incubator”. Twenty seven pairs and only four nests occurred in Kievka basin in 2012. We were unable to give reasons for this decline. In spring 2013 the situation improved with 34 pairs and 10 nests in this catchment.

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

Creation and testing of new construction of nest box that is predator safe for females. Predation of nesting hens was found to be one of the threats on the breeding grounds and now we know how to

eliminate this unwanted event. Next step will be to design nest box safe for clutch depredation (absolute predator safe) if this is possible.

Building of Visitor Centre as a part of the Scaly-sided Merganser Field Station in Kishinevka village, Kievka R, Primorye. Centre will serve for local community/tourist information and should be open as soon as we manage to raise funds for the road and equipment (computers, monitors, exhibition stands, printing of pictures). However the main work, the construction of the building, was completed under this grant

Another 81 scaly-sided merganser ducklings hatched in our artificial nests in 2013 in 12 nests. Considering equal sex ratio this made 40 newly-hatched females, or 10 females ready to breed in 2015-16. With recent rate of breeding habitat destruction in Russia and China (deforestation) the increasing of number of females familiar with artificial nest sites (born in AN) is critically important.

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

Six local people primarily from the target group (fisherman and hunters) were involved in the field work on artificial nest building, erection and in driving boats and cars during surveys for breeding pairs and broods. All their work was covered from the grant per diem on daily basis. Two local hunters received 3 and 10 month salaries as artificial nest keeper (Zhuravlevka R) and visitor centre watchman. Local car-repairing station, food stores, small restaurants, fuel stations in the villages made their profit from our field-works. All these facilities allowed us for the distribution of Scaly-sided Merganser leaflet.

Another set of 300 leaflets were printed and distributed in spring 2013 in local stores, restaurants and schools in addition to 500 leaflets distributed in 2011-12.

Two lectures were given in local schools in Mikhailovka village, Avvakumovka R, and Zavetnoe village, Zhuravlevka R in spring 2013. Talks to local fisherman occurred during field-work in September-November 2012 and April-May 2013.

Five local villagers were benefitted from construction of Visitor Centre in Kishinevka village; they provided gravel supply and construction works. One local wood company benefitted from supply wood for nest boxes and Visitor Centre.

5. Are there any plans to continue this work?

Yes, this work will be continued for at least 15-20 years from now.

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

Information about our work is published on the website of the Wildfowl and Wetlands Trust:
<http://www.wwt.org.uk/conservation/saving-wetlands-and-wildlife/interactive-map/scalysided-merganser/>

and on the website of Partnership for the east Asian-Australasian Flyway
<http://www.eaaflyway.net/scaly-sided-merganser.php>

In 2012 I became a coordinator of the Scaly-sided Merganser Task Force within above Partnership and I am working in a close contact with all world experts and organizations interested in the species conservation.

Two articles were published about our project in local newspapers during this grant period.

One scientific paper is published and three papers are submitted to publish in international journals during grant period (see attachment). An oral presentation was given at 3rd Pan-European Duck Symposium.

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

This Continuation Rufford Foundation Grant was used for the period from August 2012 to August 2013. Actual length of the project was from April 2000 to August 2013 (with break in 2002), or 12 years 4 months. However previous Rufford grants (First, Second and Booster) covered the period of 3 years 6 months. In total the Rufford Foundation supported this project for 4.5 years, or 35% of length.

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.

Item	Budgeted Amount	Actual Amount	Difference	Comments
Enlarging of Artificial Nest Programme, creation of second "incubator", repairing of existent AN (September-November)	5368	4415	953	The rest of sum is stored for autumn 2013 to set up remaining 16 nest boxes.
Construction of visit centre/loft for SSM Field station (September - November)	4912	4912	0	
Regular work with existing AN along all rivers with AN in 2013: cleaning and checking (March-May)	3990	3990	0	
Communication: mobile calls, mail, fax, Internet (March - November)	100	100	0	
Miscellaneous and cross rate GBP/USD/Rub (March - November)	280	190	90	Cross rate was lower than predicted due to Rub decline
Indirect (bank fee 3% from total)	440	440	0	
Total	15090	14047	1043	Cross rate 1 GBP=47.7672 Rub

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

Our short-term (<5 years) next steps are:

- To continue population monitoring on breeding grounds.
- To further increase the species productivity via artificial nest programme in Russia.
- To supervise artificial nest programme in China to make it successful (no any case of AN occupation in China yet, despite a number of AN programmes there).
- To build scaly-sided merganser field station in Kishinevka village for the hosting of the project stuff and for the Information and Education Programme for local people.
- To understand pollution effect on adult survival and productivity of the species.

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

Yes, I used the logo in my presentations for the International Seaduck Conferences (2005 and 2011) and for the Pan-European Duck Symposiums (2009 and 2012).

Yes, the support from Rufford Small grants is mentioned in all my publications.

List of recent publications resulted from the project Conservation of endangered Scaly-sided Merganser (*Mergus squamatus*) in Russia

1. Solovyeva, D.V., V. Afanasiev, J. W. Fox, V. Shokhrin & A. D. Fox. 2012. Use of geolocators reveals previously unknown Chinese and Korean scaly-sided merganser wintering sites. *Endangered Species Research* 17: 217–225.
2. Solovyeva D.V. 2012. Low genetic diversity and actual population size in endangered scaly-sided merganser, *Mergus squamatus*. Third Pan-European Duck Symposium: Abstract book and programme: 41-42.
3. Solovyeva, D.V., Vartanayan, S.L. & N. I-F. Vartanayan. 2013. Artificial nest-sites for Scaly-sided Merganser *Mergus squamatus* (Gould, 1864) – a way to breeding habitat restoration. *Amurian zoological journal* V(2): 201-207.
4. Solovyeva, D., Newton, J., Hobson, K., Fox, J.W., Afanasyev, V. & Fox, A.D. (submitted to Ibis). Some Scaly-sided Mergansers are seaducks after all: moult migration revealed by stable isotopes and geolocators.
5. Barter, M., Cao, L., Wang, X., Lu, Y., Lei, J., Solovyeva, D. and Fox, A.D. (submitted to Bird Conserv Int). Abundance and distribution of wintering Scaly-sided Merganser *Mergus squamatus* in China: where are the missing birds?
6. Solovyeva, D.V., Liu, P., Antonov, A.I., Averin, A.A., Pronkevich, V.V., Shokhrin, V.P., Vartanayan, S.L. & Cranswick, P.A. (submitted to Bird Conserv Int). The population size and breeding range of the Scaly-sided Merganser *Mergus squamatus*.

Appendix A.

Artificial nests set up in 2013 in Zhuravlevka catchment, western slope of Sikhote-Alin Range, Russia.

AN #	Latitude N	Longitude E	River	Heath, m	Orientation of entrance	Distance to water, m	Angle to horizontal, degree	Tree species	Time of set up
TUBES									
136	44 47,891	134 13,327	Otkosnaya	10	N	3	70	ash-tree	aut 2013
137	44 45,208	134 11,966	Otkosnaya	7	SSW	3	60	ash-tree	aut 2013
138	44 43,234	134 11,456	Zhuravlevka	9	W	15	35	elm	aut 2013
139	44 42,419	134 11,333	Zhuravlevka	6,5	S	1	50	ash-tree	aut 2013
140	44 41,388	134 09,294	Zhuravlevka	6,5	NE	6	40	ash-tree	aut 2013
141	44 43,868	134 13,401	Zhuravlevka	6	S	1	75	elm	aut 2013
142	44 44,152	134 14,047	Zhuravlevka	8	SE	3	80	manjurian nut	aut 2013
143	44 44,347	134 15,171	Zhuravlevka	?	S	4	45	alnus	aut 2013
144	44 45,123	134 20,023	Zhuravlevka	7,5	NW	16	30	elm	spr 2013
145	44 45,090	134 19,434	Zhuravlevka	9	SE	2	50	poplar	spr 2013
146	44 42,852	134 38,962	Zhuravlevka	6,5	S	1	60	chozenia	spr 2013
147	44 44,488	134 29,290	Zhuravlevka	8	W	2	40	poplar	spr 2013
148	44 44,947	134 26,785	Zhuravlevka	8	W	9	35	poplar	spr 2013
149	44 44,859	134 23,763	Zhuravlevka	4,5	S	2	60	yellow birch	spr 2013
150	44 44,190	134 21,848	Zhuravlevka	7	SE	7	45	elm	spr 2013
151	44 42,942	134 33,008	Zhuravlevka	7,5	S	8	45	philodendron	aut 2013
152	44 44,045	134 30,862	Zhuravlevka	11	SSW	10	60	elm	aut 2013
153	44 43,828	134 30,400	Zhuravlevka	7	SE	6	30	?	aut 2013
154	44 44,137	134 28,814	Zhuravlevka	7	W	?	65	elm	aut 2013
BOXES									
50	44 45,034	134 28,121	Zhuravlevka	7	NE	8		elm	spr 2013
51	take coordinate		Zhuravlevka	7	SE	10		elm	spr 2013
52	44 43,954	134 11,391	Otkosnaya	7	SW	2		?	aut 2013

53	44 41,021	134 08,512	Zhuravlevka	8	WSW	2		elm	aut 2013
54	44 43,588	134 29,053	Zhuravlevka	5	S	10		?	aut 2013
55	43 53,165	134 51,058	Avvakumovka	7	NE	3		manjurian nut	aut 2013