

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	Supatchaya Techachoochert
Project title	Population Size and Ecology of Giant Nuthatch (<i>Sitta magna</i>)
RSG reference	16834-1
Reporting period	1 year
Amount of grant	£4371
Your email address	t.supatchaya@gmail.com
Date of this report	June 2016

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
To study site occupancy and distribution of giant nuthatch in Thailand			✓	Forty-two sites had been observed for 3 times at each site. Our study sites are covered three provinces in Northern Thailand: Chiang Rai, Chiang Mai, and Mae Hongson, But giant nuthatch was only found in Chiang Mai province. We found that some of historical record sites have become agricultural area, especially corn field and cabbage farm.
To investigate relative abundance and density of nuthatches in a range of forest habitats in Chiang Dao wildlife sanctuary and investigate the relationship between nuthatch density in different habitat types (pine forest, mixed forest, and pine plantation)			✓	Thirteen line transects had been placed in three habitat type: pine forest, mixed forest, and pine plantation, in Chiang Dao wildlife sanctuary. Distance sampling had been conduct from November 2014-April 2015. All fieldwork and vegetation within line transect had done. The estimate density of giant nuthatch is 0.067couple/ha (SE=0.031).
To estimate the size of the Thai population through combining forest cover data (including remote sensing data) with presence /absence data across a range of northern Thailand sites		✓		Field work of occupancy survey and vegetation survey had done, but we still need more GIS analysis in order to estimate population in Thailand.

To assess territory, home-range, and habitat requirements of giant nuthatch		✓		Two giant nuthatches (a couple of male and female) were captured and attached the radio transmitter. We found that male territory is about 2.5 times larger than female. Male territory is about 20.34 ha while female is about 8.27 ha. We still keep working on vegetation survey in the territory area in order to assess the habitat requirement of the species.
To study the detailed foraging behaviour, diet, and breeding biology of giant nuthatch (incidental objective)		✓		We had recorded bird activities at the nest site and also photograph a bird diet. Male bird will come to feed female during incubation period and during nestling period, male and female will reciprocally feed chicks. We have achieved more than 80% of recording breeding behaviour, only photographs of food items have to be identified.

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

- The bird nest was so difficult to find due to the terrain and bird activities; bird had low response to the playback after courtship period and the terrain very steep. We could only catch two birds while we aimed to catch six.
- Wildfires makes it difficult to work in some areas and may also change the vegetation structure of those areas. So, we will not record the lower vegetation of the area as it may not be important for giant nuthatch, but we do record all snags, logs, and level of fire.

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

- Project report, species status, and suggestion will be sent to the responsible government agencies (Wildlife Sanctuary, Wildlife research station, Department of National Park, Office of Nature Resources, Environmental Policy and Planning, ONEP) in order to provide specific recommendations on the regulation and management of protecting area for the species.
- Information will be published in international, peer-reviewed journals; oral presentations will be given at national and regional conservation

conferences in order to provide an updated information about species status, limited factor of the species and a proper way to conserve it.

- Local community and the tourists realize more about important of this endangered species to area and understand more about scientific research and conservation.

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

- Rangers from Chiang Dao wildlife research station and wildlife sanctuary received the additional income of helping in the project.
- Rangers and local community (especially the tourist pick-up drivers) understand more about research methods and know more about the important of endangered species in the area. They are able to explain the important bird species and its behaviour to the tourists.

5. Are there any plans to continue this work?

- We still have a lot to do with data analysis: vegetation analysis, food items identification, and population estimation.
- We plan to extend our GIS analysis to the forest area of China and Myanmar.
- We plan to revisit the giant nuthatch territories in next season to check whether the same bird will use the same territory or same nest.
- We would like to apply for RSG to continue giant nuthatch research in other area as well to collecting more data in order to conserve the species.

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

- The results of our research will be published in international, peer-reviewed journals, as well as BCST bulletin (Bird Conservation Society of Thailand).
- We plan to give a seminar to Chiang Dao wildlife research station, Wildlife sanctuary, as well as local school of Chiang Dao district.
- Our project and suggestion will be reported to department of national park.
- Giant nuthatch information will be placed at Den Ya Kat substation to educated tourist and local people in the area

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

Although RSG for one year budget, this grant can also covers some part of my previous field season expense (transportation) for the line transects observation. So, RSG had been used for about 15 months of field research while the project was

planned to collect data for 2 years and a year of data analysis. This grant covers more than 90% of the project.

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
Transportation from Bangkok to Chiang Dao Province (£30/person/round-trip)	720	414	+305	We took the cheapest transportation that most fit with our time schedule.
Travel from Chiang Dao Province to Wildlife Research Station (£31/car/roundtrip)	372	223	+149	During travelling season, we hitchhiked the tourist pick-up. So, we could save amount of money. But during the seasonal close of the wildlife sanctuary, we still need to hire a local pick-up to go to the substation.
Radio transmitters: Holohill Systems BD-2 (1.4 g) 6 units (Unit=£100)	600	935	-335	This additional cost from the product cost, shipping cost, difference of exchange rate, and bank charge of money transfer.
ATS Radio Receiver and antenna 2 units (Unit=£650)	1300	0	+1300	We have been borrowed the transmitter from another university. So, the amount of money will be allocated to use during the occupancy survey which previously we try to find another source of grant.
GPS Garmin	299	246	+53	This cost including a Garmin GPSMAP 64s and the shipping fee.
Field assistant wage (£6/day; about 15 days/month)	1080	1505	- 425	Our working at Chiang Dao wildlife sanctuary, we hired the ranger for £6/day. While the occupancy survey in many different areas, we hired a new graduated student on biology to help with the survey for 3month

				about £240/month.
Car rental (4wheels drive) for occupancy survey in northern Thailand. (£260/month; for 3month)	0	780	- 780	This 4wheel drive was required to access the mountainous area. As I am a student, I do not have my own car.
Fuel for the car during occupancy survey in northern Thailand.	0	180	-180	
Accommodation and entrance fee during occupancy survey	0	199	-199	Some area of occupancy survey we have to stay in hostel or paying and entrance fee to camp in the national park. Moreover, there is a trip that we need to pay for the porters to help us carry food into the forest.
Two posters about Giant Nuthatch information	0	20	-20	These two posters will be placed at wildlife research station and wildlife sanctuary.
Material for sampling (battery, speaker, paper map, measurement tape)	0	34	-34	
TOTAL	4371	4536	-165	The exceed expense will cover by another food.

Notes to Budget

Exchange rate (04/02/2015, Bank of Thailand daily rate) as in my proposal: 1 GBP = 49.73 Thai Baht

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

- Giant nuthatch survey in different countries (Myanmar and China) is very important to do next. I am really concerned about habitat loss in mountainous area as the expanding of agricultural area. The status of each country is important to conserve the species.
- As in Thailand has intensive wildfires every year, the fire regulation and control is required.

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?

- The RSGF logo had been presented in my presentation to Mahidol University and wildlife research station.

- The RSGF logo will be printed on giant nuthatch poster which will present for the tourist at Den Yak at substation, Chiang Dao wildlife sanctuary
- The RSGF will be acknowledged in every publications from this study.

11. Any other comments?

I would like to acknowledge the major contribution of the Rufford Foundation. Our research could not complete without this funding.