The Rufford Foundation
Final Report

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

Thank you for your help.

Josh Cole, Grants Director

Grant Recipient Details	
Your name	Aylin Akkaya Baş
Project title	Towards eco-system based management of marine mammals in the north-western Levantine Sea
RSG reference	20955-2
Reporting period	1 March 2017 – 1 March 2018
Amount of grant	£4.992
Your email address	akkayaaylinn@gmail.com
Date of this report	20 March 2018

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
Gather scientific knowledge on marine mammals and the dimension of human impact in the north-western Levantine Sea, where the data is scarce.				During the project which served as a continuation of the first one, revealed the presence of eight marine mammal species, previously thought to be rare in the basin. Bottlenose dolphins (*Tursiops truncatus*) were regularly recorded in coastal and offshore waters, with higher concentration in Antalya Bay. Cuvier's beaked whale (*Ziphius cavirostris*) and Mediterranean monk seal (*Monachus monachus*) showed high site fidelity to Antalya Bay whereas striped (*Stenella coeruleoalba*) and Risso's (*Grampus griseus*) dolphins were sighted on a few occasions. Additional sightings of false killer whales (*Pseudorca crassidens*), rough toothed dolphins (*Steno bredanensis)* and humpback dolphins (*Sousa* spp.) underlined the biological importance of the study area. The data on interaction between human presence and marine mammals during the surveys has also been collected and analysed, especially the impact of fishing activities and marine vessels traffic.
Provide a solid understanding on the population statues of flagship species and the state of the ecosystem.				All the marine mammal sightings during the projects timeline were mapped with Esri ArcGIS. Low sighting rates of species prevent us to create density maps, except bottlenose dolphins. Density maps directed us to understand their baseline distribution on their population. The impact of marine traffic, specifically fishing vessels, were currently getting analysed by our team. Saying this, a

				detailed methodology with pre-determined transects are needed to estimate their population number, which was missing in the current study due to the budget limitations.
Seasonal and annual abundance, distribution, encounter rate of flagship species (bottlenose dolphins, striped dolphins, sperm whales, Mediterranean monk seals).				While bottlenose dolphins were frequently sighted in Antalya Bay, they were sighted in Fethiye Bay only in two occasions, an area previously known to have lots of cetaceans in its waters. Striped dolphins were only sighted once in the Antalya Bay. Rest of the species were unfortunately couldn't documented on the survey area. Therefore the encounter rate analyses are carried on only for bottlenose dolphins. According to our results, they have showed high seasonal site fidelity with an average encounter rate of 3 groups/10 km, where this rate climbs up to 11 groups/10km in spring. The lack of sightings prevented us to run encounter rate analysis for striped dolphins, sperm whales or monk seals. However, through the online sighting platform we have created (cetazoom.org), we have received calls of sperm whale sightings in Fethiye Bay and striped dolphin sightings off the deep waters of Cyprus. Saying this, the future projects should cover both coastal and offshore waters of the Levantine Sea.
Assessing the dimension of human impact, in the form of marine traffic and fishing practices, on marine mammal species.				Distribution maps of marine traffic and dolphin sightings were created and released to the governmental bodies, due to their high overlapping condition. Further almost in each sightings, dolphins were feeding in Antalya Bay. Yet the same area is also charasterised with heavy touristic activities. Marine traffic effect on the behavioural budget of bottlenose dolphins are currently investigated by our team and it would be published in 2018. A seperate study is also underway to understand the fishing

				vessel pressure on the survey areas. All the necessary data was collected during the 1th and 2nd Rufford Small Grant Project to run the analysis.
Seasonal critical habitat selection for target species.				Critical habitats were delineated for bottlenose dolphins, beaked whales and Mediterranean monk seals. Despite the low sighting rates, the distribution of striped dolphins, Risso's dolphins, humpback dolphins and false killer whales were mapped for further studies.
Mapping high marine traffic and high marine litter areas in the north-western Levantine Sea.				Marine traffic maps were created for the survey area however marine litter data couldn't be collected due to the limitation on the budget to purchase the proper sampling units.
Identifying marine litter composition and mapping its distribution.				Majority of the Rufford budget has to be spent on boat rent. We couldn't carry on marine litter sampling due to the lack of funding on purchasing the sampling units. Yet, we have collected the macro plastic on our boat routs and recorded their coordinate, size and numbers for five different occasions. However, more detailed study on marine plastic will be carried by DMAD in 2018 to fill the data gap from the region.
Updating Photo-ID catalogue of bottlenose dolphins and sharing it with public.				Photo-ID catalogue of bottlenose dolphins are fully updated and shared with public in our online data sharing platform (www.cetazoom.org). Additionally, we have became a partner NGO of TursioMED, which is an international online photo-ID platform and the photographs taken from our survey effort is currently being updated into the TursioMED software, which is going to play an important role on data sharing between the researchers.
Site fidelity and residency pattern identification for bottlenose dolphins, striped dolphins and				Site fidelity and residency pattern of bottlenose dolphins were identified and published in Hyla: Herpetological bulletin in 2017. However lack of sighting data on striped dolphins and

Mediterranean monk seals.				monk seals prevented us to reach the conclusions for these two species.
Proposing effective and sustainable conservation and management strategies that deliver to the point actions for each species under different seasons.				We have prepared an annual report that includes the proposed effective conservation measures, according to our results of 1st and 2nd Rufford Small Grant and will be sharing it with the related policy makers in April 2018.
Providing stakeholder engagement both through meeting, presentations, project report dissemination and through their active involvement on the surveys.				On 5th June 2017 (the Word Environment Day), DMAD team organised an event with partnership of Konyaaltı Belediyesi, Antalya for the pupils and has presented the pupils about the importance of marine biodiversity and conservation by making a survey using a theodolite with pupils. 40 pupils join the event. Later, we have joined the Biology Congress of Marmara University and our current student presented our findings and conservation implications to over 400 participants. Lastly, DMAD has conducted several meetings with the fishermen cooperatives Antalya and Fehiye, Konyaaltı Belediyesi, Fethiye Belediyesi and the Ministry of Environment and Urban Planning, Environment and Urban Planning Directorate, Antalya and presented the marine conservation activities and the project. The attitude towards the project was positive and they were happy to see that the studies on marine biodiversity are carried out. Especially, Turkey becoming an ACCOBAMS partner, our results are going to play a critical role on any management strategies. After our hard work on the subject, we have been granted by a project, covering both coastal and offshore waters, which brought together the international researchers, conventions and ministries of Turkey.

The raised awareness of fishermen on the importance of marine mammals and to direct their perspective from seeing marine mammals as enemies on their livelihood to seeing them as the source of healthy ecosystem thus the chance of increase livelihood.				Throughout the project, we were in close connection with fishermen and fishermen cooperatives in Antalya, Finike and Fethiye Bay and worked with over 10 different fishermen and rented their boat for an additional income source to them. Almost in seasonal bases, we got sighting reports from different fishermen in different regions, with the recent sighting of sperm whales off the coast of Fethiye Bay. This implies that even though we are at the beginning of our conservation campaigns, we manage to reach them and build the mutually respectful relationship.
Education of our future generation to be field scientists, both in high school and university level, on scientific survey design, data collection/analysis and conservation actions.				During the project, DMAD has trained around 50 volunteers coming from different countries on the scientific survey techniques, data collection/analysis and public awareness activities for the marine mammals and biodiversity conservation. This would help to increase and spread our conservation effect. Additionally, we have joined the third "Environment and Ecology Workshop" in Marmara University, Istanbul. One of our researcher students, Emine Ulusoy, successfully presented our project, its activities, results and the way we work on marine mammals in the north western Levantine Sea. The students participated in the workshop were interested in the conservation activities and the survey techniques. It was a fruitful workshop in terms of capacity building among the young university students. Additionally, DMAD team has organized a boat trip in partnership of "1000motorcu1000cocuk" for the new generations (for kids) and gave them chance to see the dolphins in their natural habitats. The team has also given training to the kids about the way DMAD works and how to be a

				researcher for the conservation of marine mammals.
Two publications on cetacean abundance, distribution, impact analysis and marine litter composition in high impact journals.				First publication with the results of our conservation activities in the north western Levantine Sea "Marine mammals in the Levantine Sea: recent sightings and hotspots" has been produced and submitted to the "Journal of Black Sea Mediterranean Sea". It passed the first stage and is now under revision. Second publication took place as a poster in the international conference; BEHAVIOUR2017 (29th July –04th August) and presented by our student. Third publication on the effect of marine traffic on the behavioural budget of bottlenose dolphins is currently written and will be submitted in 2018.

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

Negative perspective towards the safety in Turkey made it hard to find volunteers to work for the project activities. Especially volunteers coming from different countries generally had a question in their mind about if Turkey is a safe country to travel. This perception sometimes made it hard for us to convince them in the project. We have been explaining that the situation in Turkey is not worse than the many other countries. So we could achieve to make our project team wider and implement the activities without big staff/volunteer presence problem.

During the project, we have been presenting our project to many stakeholders such as ministries, municipalities, fishermen and fishermen cooperatives. Especially the way commercial fishermen perceive any conservation project is not so positive, probably due to conflict of interest. Although the commercial fishermen were only one of our project stakeholders, we have tried to explain them the importance of marine conservation and the strong link between the marine mammals and fishes. "If there are healthy marine mammals in the area, it means there is a healthy fish stock in the same area too." So, we could make at least some part of the fishermen communities' idea towards marine mammal conservation milder and better.

Lock of qualified team members on scientific survey techniques sometimes made it hard to implement the project activities with a full qualified team. And also the perception that the field work has been assumed sometimes as hard due to the early and late working hours made it sometimes hard to convince the team to

implement the activities. As a solution, we have trained the team members on scientific survey techniques.

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

With the precious contribution of Rufford grant, we have the chance to carry on long term, systematic and dedicates surveys in the Levantine Sea, where suffered from lack of research. As a result of the project, we assume that the main outcomes of the activities:

- First of all, Antalya Bay is now a candidate important marine mammal habitat (IMMA) with our continuous survey effort in the area.
- Secondly, we carried on wide range of public awareness campaigns and undertake capacity building activities with around 50 students and researchers trained on the subject.
- Lastly, we became the partner NGO of ACCOBAMS and contributed our data to their database, additionally to another international platform (TursioMed) and widen our research to the sperm whales and beaked whales, with a new project.

Additionally, we have developed an *online data sharing platform (CETAZOOM)* for photo identification of cetaceans and received several photographs with rare species sightings such as false killer whale and humpback dolphins.

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

As it was described above, we have worked with fishermen, targeting small and big scale fishery. Instead of renting the boat from tourist agencies, we have chosen this method to have the chance to closely work with them and understand their perspectives. The current project provided a considerable additional income to them and specifically fishermen who perform small scale fishing were highly interested on the subject and always reported their sightings.

5. Are there any plans to continue this work?

We are in our 3rd year on the project. In the first 2 years, we have understood the strengths and weakness of the project and tried our best to learn both from its strength and weakness. Through the help of Rufford Foundation, our scientific results and conservation actions reached wide range of scientific communities and we became partner of important conventions like ACCOBAMS and projects like TursioMED. The data represented the first annual survey efforts from the Levantine Sea and we believe that we presented them right to get the attention of wild range of stakeholders, from local communities to universities. We have build strong international joint projects with no borders between the institutes, such as WWF-Turkey, Archipelagos Marine Conservation Institute from Greece, University of Bari and Jonian Dolphin Conservation from Italy, Natural History Association of Montenegro, Marine Conservation from Cambodia, Sea Mammal Research Unit

from Scotland and many more. With this strong collaborations and partnership, we will be continuing our survey effort in the Levantine, covering the current project site as well, this time targeting data deficient species as in beaked whales and sperm whales through visual and acoustic surveys.

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

We have shared our project activities by using our social media accounts, Facebook (1.2 K followers) and Instagram (14.8 K followers) and our website (visited from 44 different counties in 2017). We will keep sharing the results by again using our social media accounts which we think it as the most interactive and effective awareness tool. Additionally, after the final project report covering the exact results of the project, we will share it with ministries and municipalities.

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

The grant for the project has been received on March 2017 and most of the project activities have also been initiated after this time till the end of project timeline (1st March 2018). The grant has been used in line with the project timeline (1st March 2017 – 1st March 2018). Some activities, such as writing the third scientific paper and conducting the last boat survey, may be completed after the project timeline due to fact that these activities are depended on the results of the previous ones and needs time for analysis of the data gathered. This slightly may affect the anticipated length 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. The exchange rate GBP 1 = TL 4,5137, which was T.C. Ziraat Bank's rate on 8 March 2017 and on that day the project amount has been received and converted to TL for project activities, was used.

Item	Budgeted Amount £	Actual Amount £	Difference £	Comments
Equipment (Field activities)	1009	1119	110	A hydrophone for acoustic surveys, portable hard drive and small laptop for land surveys. Overspend has been compensated by co-funding of DMAD.
Boat survey (Field activities)	2357	2747	390	12 scientific boat surveys were achieved. Overspend has been compensated by saving the "Scientific Publication" budget item.
Land survey (Field	72	72		Transports for the land surveys (inside

activities)				Antalya and Antalya to Fethiye)
Student enrolment (Field activities)	853	1014	160	Item has been used for the students/volunteers costs of transportation and accommodation for project activities. Overspend has been compensated by saving the "Project report" budget item.
Project report production (Education activities)	300	133	167	
Scientific Publication	400		400	
TOTAL	**4992**	**5085**	**93**	

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

Our strength at this point is our national and international colorations between the institutes and the recent partnership of Turkey in ACCOBAMS Agreement. In hand with both, we will be conducting visual surveys, accompanied by DRONE footage and acoustic surveys, employing Passive Acoustic Monitoring on data deficient species. Levantine Sea is still an unexplored area, even though anthropogenic impacts are widely dispersed in its waters like rest of the basin, if not more. Systematically planned dedicated surveys are in big need to define the species distribution before the negative consequences of human pressure has an irreversible change on the populations, if not already. Therefore, inter-joint research and conservation projects between the neighbouring countries in hand with open-source data sharing platforms and capacity building activities pose critical importance not only for the cetaceans but also for the marine ecosystem protection.

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

The RF logo is used in most of our presentations, rollups, posters, booklets and leaflets. Also during the scientific boat surveys, we have used a banner regarding the project with the Rufford Foundation's logo. Lastly in our social media links such as Facebook page, Instagram account, we have stated the activities of project regularly and used the Rufford Foundation's name. As a result, we think that we have contributed enough to the publicity of the Rufford Foundation.

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

Here below are the core team who has implemented the project and their roles:

Dr. Aylin Akkaya Baş: She was the project coordinator and was responsible to conduct/supervise the project's core team and activities such as scientific marine mammal surveys, scientific marine mammals survey technique trainings, data

analysis, writing the scientific paper. She also created opportunity for DMAD to be accepted as a member of ACCOBAMS and to be granted by WWF-Turkey by promoting the RSG project activities to these institutions.

Emine Ulusoy: She was responsible for some community engagement activities such as workshop in Istanbul University and helping the scientific data collection process during the land and boat surveys.

Elif Aslan: She helped the project in terms of scientific data collection and organization for some public awareness activities like university and municipality presentations.

İlke Erŧem: He was responsible for the design of our media materials and also for IT issues.

Ersin Baş: He was responsible for the financial follow up of the project and financial reporting and communication between DMAD and decision makers.