

## The Rufford Small Grants Foundation Final Report

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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](mailto:jane@rufford.org).

Thank you for your help.

**Josh Cole, Grants Director**

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Grant Recipient Details	
Your name	Aylin Akkaya Baş
Project title	Combining Research with Education for Cetacean Conservation in Fethiye-Göcek SEPA Turkey
RSG reference	17822-1
Reporting period	2015-2016
Amount of grant	£4,607
Your email address	akkayaaylinn@gmail.com
Date of this report	4 August 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
<p>Determining the distribution and abundance of cetaceans in Fethiye-Göcek SEPA to improve our understanding on cetacean biodiversity in the Levantine Sea.</p>			X	<p>In total, we have conducted nine scientific surveys, covering not only the coastline but 2,000 m deep canyons as well in Fethiye Bay. Surveys were carried out for each season twice. We have sighted only bottlenose dolphins in three surveys, all in summer months and no cetacean encounter were recorded for the rest of the seasons. High presence of green turtle and loggerhead turtle in each survey, with an increase in summer months, have been recorded. Moreover, an individual of Mediterranean monk seal was reported to us by fishermen throughout the year which postulate that it can be an important seal habitat due to hosting large number of rocky shores in its waters. All the dolphin sightings were mapped and found highly coastal. None of the dolphins were re-sighted and Fethiye-Göcek SEPA was pinpointed as a highly seasonal ground for bottlenose dolphins. We have enlarged the survey area and covered Antalya Bay, to increase our probability of cetacean sighting and found out that Antalya Bay has somewhat more cetacean abundance in its waters. Thus we have conducted 23 boat and 134 land surveys from Antalya Bay throughout the year due to its closeness to our office. While bottlenose dolphins, Mediterranean monk seals, green turtles and loggerhead turtles were encountered both in Fethiye and Antalya Bay, striped dolphins, Risso's dolphins and beaked were sighted only in Antalya Bay. Two manuscripts regarding these results were already published and another one sent for a publication and</p>

one more is

			<p>being prepared and will be submitted for publication;</p> <p>1. Bas. A.A., Lagoa J.C., Atchoi E. 2016. New records of Cuvier's beaked whales (<i>Ziphius cavirostris</i>) from the Turkish Levantine Sea. Turkish Journal of Zoology. DOI: 10.3906/zoo-1509-19</p> <p>2. Bas. A.A., Piludu N., Atchoi E., Lagoa J.C. 2016. Recent sightings of the critically endangered Mediterranean monk seal <i>Monachus monachus</i> (Hermann 1779) in Antalya Bay, Turkey and implications for conservation. <i>Monachus Guardian</i> (<a href="http://www.monachus-guardian.org/wordpress/">http://www.monachus-guardian.org/wordpress/</a>)</p> <p>3. Bas A.A., Morris N.R.C. 2016. Encounter rates and site-fidelities of unstudied population of bottlenose dolphins in the north-western Levantine Sea, Turkey (submitted for publication to HYL: Herpetological bulletin)</p> <p>4. Bas A.A. 2016. Investigating the marine mammal biodiversity and delineating important marine mammal habitats in the north-western Levantine Sea, Turkey (preparation for publication).</p> <p>Therefore our results support that further research in an extended area covering the area between Fethiye and Antalya Bay is needed and visual surveys has to be carried out with acoustic surveys as well to increase the detection rate of whales. Few previous studies in the area detected sperm whales in the deep waters of Fethiye Bay. However none of them were visually detected and all the detections belonged to the acoustic surveys. Therefore there is a strong need of acoustic surveys in the same areas as well.</p>
Initiating the first photo-ID catalogue of encountered cetacean species to define the residency patterns		X	<p>The catalogue of bottlenose dolphins were started both for Fethiye and Antalya Bay. Around 8,000 pictures were analysed. While only nine individuals of bottlenose dolphins were identified in Fethiye Bay with four being non-adults, 42 individuals were catalogued in Antalya Bay and 17 of them were re-sighted in following year.</p>

			<p>As we conducted only 1-year study in Fethiye, it is really hard to say if re-sighting happens the following year. Thus continuous of this study is needed to identify the residency pattern more in detail. Moreover, currently we have an up to date photo-ID catalogue of north-western Levantine Sea through this project, however DMAD like to share this knowledge with public (from scientist to locals) to extend its sustainability and effectiveness. Due to the lack of funding, we couldn't create the photo-ID website yet but this will be accomplished in early 2017 as the website is in preparation phase.</p>
<p>Identifying critical habitats and major threats</p>		<p>X</p>	<p>Through the land and boat observations, critical habitats were defined both in Fethiye and Antalya Bay. Even though we have a more accurate critical habitat mapping in Antalya Bay, due to the relatively high cetacean encounters, Fethiye Bay need continuous work on critical habitat delineation, the surveys should carry specifically for summer months.</p> <p>Major threats were also defined through visual surveys and informal meetings with the locals. Marine debris, petroleum pollution and overfishing have been reported in high numbers throughout the study. We are planning to focus on marine debris problem and sample the marine litter on the sea surface for plastic and seawater for micro plastic both in Antalya Bay and Fethiye Bay in 2017. While the study on the marine litter presence in sea surface of Antalya Bay has been started in June 2016, there is an urgent need of launching the same project in Fethiye Bay. Even though Fethiye is a protected area, having wide distribution and density of marine litter in its water is unacceptable. Therefore necessary studies have to be conducted to implement the conservation measures.</p>

<p>Building a two-way channel between DMAD and local fishermen/tourist boat crews.</p>	<p>X</p>		<p>While we have developed a good network between the local tour boat crews, the fishermen cooperative hasn't liked our presence in Fethiye and agreed neither to fill the questionnaires nor to have a chat on marine biodiversity of Fethiye. However small scale fisheries were interested in our project and several times our team has joined in to their fishing effort to develop a sustainable ground between the researchers and the stakeholders.</p> <p>We have a solid ground both with the individual fishermen and local tour boat crews in Antalya Bay and developed an active cetacean sighting network. More work with the head of fishermen cooperative in Fethiye has to be carried out as they have an important effect on marine biodiversity. Additionally, we have started a good relationship with the local organisations as Fethiye Municipality, FETAV (Fethiye Environmental Foundation of Tourism Publicity Education and Culture), TURMEPA (Clean Sea Association) and ÇODEM (Children Education and Support Centre) and together with them dispersed free t-shirts, booklets, leaflets on marine biodiversity of Fethiye and Antalya on the Ocean Day. Lastly, we have organised an open public presentation on marine biodiversity, with specific emphasis on marine mammals, and the importance of its protection in collaboration with TURMEPA but due to the coup attempt in Turkey, we have to postpone this activity in a later day.</p>
<p>Involving children that are in-need to our projects for the aim of teaching them new skills and alternatives to help them overcome their trauma and hopefully to give them a hope for</p>	<p>X</p>		<p>Even though originally we have planned to cooperate with Association of Preventing Child Abuse in Fethiye", they were really passive and did not keep their any words regarding project activities when we initiated the project. So we discarded them and quickly reached other relevant and eager organizations. Thus we have contacted with Fethiye Municipality and ÇODEM (Children</p>

better future			<p>Education and Support Centre) and reached over 30 girls who were under the government protection from their families and relatives. In addition we have organised several dolphin tours for over 50 in-need kids resident in undeveloped areas of Fethiye. We have taken them out to the dolphin tours, trained them to be a scientist for a day and thought them the importance of marine life and its protection. T-shirts, posters, booklets and meals were distributed to the kids. Even though all of them enjoyed being in the boat with us and it was obvious that they got more aware of marine world. This kind of activities has to be continued more frequently not only for increasing awareness but also helping them to overcome their past and create a better future. Due to the period of time with the lack of agreed participated NGO on child protection, we have lost important time to find a new organisation for the children. For this reason, we could conduct 8 surveys instead of 12 planned in the proposal.</p>
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**2. Please explain any unforeseen difficulties that arose during the project and how these were tackled (if relevant).**

Turkish Republic's Parliamentary Elections and its extended consequences in addition to the terrorist attacks were the most important problems for the project. Because DMAD's main manpower and support generated from participations of volunteers joining us usually from other countries and due to the unstable country conditions, we have lost so many volunteers helping us to implement the project and other scientific surveys. Moreover foreigner team members of our project team decided to leave the country for the same reasons. However DMAD kept running the scientific surveys in the north-western Levantine Sea. Nonetheless, we have to cut some of our public awareness activities to compensate for scientific surveys.

It's known that acoustic detection plays an important role on deep diving species, as in sperm whales and beaked whales. Even though these species have been recorded acoustically in the area (no visual detection), due to our methodology that only trust on visual sightings, we couldn't detect these target species even though we have covering possible important grounds as in deep water canyons and sudden drop downs. Our surveys were only trusted on visual sightings and

having no hydrophones in the boat limited our sightings of deep diving species. Despite having the original plan of buying hydrophones to increase the detection rate, as it was mentioned previously, lack of funding prevented us doing this expense.

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

- I. *First systematic long term cetacean study in the north-western Levantine Sea were conducted with a promising future studies.*
  - a. Important information on the species conservation that is long missing in the area was collected. Cetacean biodiversity, encounter rate, distribution and residency patterns were defined.
  - b. Critical habitats for bottlenose dolphins and beaked whales were delineated
  - c. Behavioural effects of marine traffic on bottlenose dolphins were investigated to identify the short and long term impacts on the species. All the above information will provide a baseline for effective conservation implications.
- II. *Fist Photo-ID catalogue of bottlenose dolphins in the northern Levantine Sea has been created.*
  - a. Individual habitat usage, residency patterns, the state of the population health has defined.
  - b. The photo-ID catalogue will be online and open to public and scientist around the world. Through this catalogue, exchange of scientific knowledge together with public awareness raising activities will be carried out and home range of identified individuals will be defined in detailed.
- III. *Children that are in-need and abused physically and psychologically have been actively joined to the project. As the future is in their hand, gaining them back to the society has major importance. After their enrolment to our project, they have showed important knowledge on marine biodiversity of Fethiye and the ways of protecting it. Most important, we had got feedback on how happy they were after the tours. However if their enrolment to the project will not continue, the impact on their behaviour will be short-term. Thus for a permanent behavioural change both for nature and for getting over their trauma, the connection between DMAD and selected children should continue and get stronger for the sustainability of project results.*

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

- a. Local tour crews and fishermen were employed as our boat captain during the scientific and education surveys. We paid special attention on working with varies captains to provide a wider participation range. The captains were directly involved to the project both during the scientific surveys and during the public awareness campaigns. All of them were trained not only on our sighting protocol to minimise the effect of research boat but also species identification, behavioural signs and the project aim were explained to them.

Species identification guide with sighting form has been also given to the each boat.

- b. Local tour crews helped us to spread our project aims through not only dispersing our t-shirts, booklets and leaflets but also sharing the knowledge that they were trained on by our scientists.
- c. Educational campaigns for children were conducted through dolphin watch tours. Both the children from nearby villages that are in need and girls who are under the government protection due to their traumatic past were joined to the tours and trained on general marine biology, marine mammals, major threats and how each of them is important to shape the future.
- d. Locals and tourists were informed on Fethiye Marine Mammal Biodiversity and the Major Threats they are facing with, in the Ocean Day through the help of FETAV (Fethiye Environmental Foundation of Tourism Publicity Education and Culture).

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

Yes, we plan to continue this work through various modifications;

- a. The study area will extend to the north-western Levantine Sea as Antalya Bay was also defined as an important ground for cetacean biodiversity and residency.
- b. Due to the high seasonal area usage, majority of survey effort will spend during spring and summer months. Nonetheless, winter and autumn surveys will be conducted mainly through land surveys.
- c. A towed hydrophone will be purchased to increase our detection rate of deep-diving cetacean species.
- d. Frequent educational campaigns, specifically for girls that are under protection, will be conducted.

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

We have already started to share and plan to share the results of this work by means of:

- Social media updates through Facebook and DMAD website (This has been carried out frequently throughout the project) (<http://dmad.org.tr/category/news/> and Facebook/DMAD-Marine Mammals Research Association)
- A series of scientific publications in journals (We have already published two papers, one sent out for publication and another one is on the preparation phase)
- A series of scientific and educational conference addressed to marine biodiversity, local authorities and collaborators (We have participated three scientific conference already:
  - World Cetacean Alliance
  - (<http://dmad.org.tr/dunya-cetacean-birligi-wca-konferansi-wca-conference/>)

- The Rufford Small Grants Recipients Conference in Bosnia and Herzegovina
- Turkish Marine Science Conference (<http://dmad.org.tr/turkish-marine-sciences-conference/>)

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

While the project started in July 2015, in accordance with the project proposal, we have run the project activities until July 2016. We have to extend the ending time of the project to cover extra months. Additionally, due to the recent coup attempt in Turkey, we couldn't run the final project dissemination even though all the materials and presentations were ready in collaboration with TURMEPA (Clean Sea Association). (<http://www.turmepea.org.tr/>). This activity has been postponed to last week of August 2016.

**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
Equipment (Field activities)	480	814	(334)	Instead of three go-pros, we bought one go-pro and one camera for better movies and compensated the difference by saving the "Boat rent" budget item.
Meeting with fishermen and tourist boat crews	31	35	(4)	
Boat rent (Field activities)	1,936	1,590	346	The boat fee varied by the boat we have used and with the study carried on, the boat owners were willing to earn less for their project participation.
Dolphin tour rent (Public awareness)	900	959	(59)	We compensated overspend by saving the "Field bag" budget item.
Transportation (Field activities)	450	500	(50)	
Field bag (t-shirts, sticker, booklet etc.) for children	660	587	73	

Documentary Event Day	150	153	(3)	This activity will carry on the last week of August.
<b>TOTAL</b>	4,607	4,639	(32) GBP	

(\*) Local exchange rate is **EUR 1 = TL 4, 2751** which is the average rate of last 11 months (project activities duration)

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

We have covered almost all our objectives and implemented a scientific methodology that the results can direct us to the effective conservation plans. Even though Fethiye-Göcek SEPA is a protected area, we showed that the area is heavily polluted that are all due to the human impacts. Yet, the marine waters, which were holding important marine biodiversity once, are not patrolled continuously which results with presence of various illegal activities as in illegal fishing and dumping. Even though old age fishermen reported that the same waters were holding a high number of dolphin and whale species once, we failed to record high encounter rates. Nonetheless, all the sighted individuals showed considerable starvation signs with many skin parasites. Therefore, all these mentioned signs raised a concern on the healthy survival of the population. For these reasons, scientific surveys have to be carried out for upcoming years to evaluate the changes on the population health and the pattern on their area usage. Most importantly, governmental bodies has to be involved to the project activities and the results has to be used for effective conservation measures that should be implemented as soon as possible for protecting the marine biodiversity of Fethiye-Göcek SEPA.

### **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?**

We used the RSGF logo in presentation materials (PowerPoint), rollups, posters, booklets and leaflets. We have also used the logo in the boat as a banner during our scientific and education surveys.

### **11. Any other comments?**

We would like to once again thank the Rufford Small Grant Foundation for their important contribution to this project. We couldn't carry on all these activities without their fund. We are looking forward to collaborating with the Rufford Small Grant Foundation again in the future.