



Annual Report 2014





His Majesty Sultan Qaboos bin Said



Yellow-vented bulbul,
Pycnonotus goiavier, Salalah,
Hamed Al Gheilani.

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Sharqiya Sands, Ahmed Al Shukaili.

Front Cover: Frankincense tree, *Boswellia sacra*,
Dhofar, Hamed Al Gheilani.

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Message from the President

2014 marks a decade in ESO's life. The past 10 years have been a whirlwind of ups and downs, with many successes. We have achieved significant progress and made strides towards our aim of capacity building young Omani's in the field of environmental conservation. We have conducted research with the goal of providing information for conservation and education initiatives, and have raised awareness of both marine and terrestrial habitats in Oman for future generations.

As you will see in this annual report, 2014 has been a year of continued growth for ESO. With the help of our capacity building partner Oman LNG, we were able to continue to train young graduates in the field of NGO work, some of whom pass through the program and move on to pursue different avenues while others remain with ESO. For those that pursue other avenues they are taking their newfound knowledge and experiences to their new workplaces and becoming advocates for the environment, taking with them an understanding of how NGO's operate. For those graduates that remain and take on more permanent positions within ESO, we support them by giving them specialized training opportunities to further improve their skills, as well as field and hands-on experience with awareness raising campaigns. They are given the opportunity to see an idea grow into a project and work towards finding solutions and advocating for those solutions to be implemented, in some instances, by our country.



ESO is currently looking for a new capacity building partner to continue this program and allow Omani graduates to grow in the field of environmental conservation.

Some of our ongoing research has yielded eye-opening results. In some cases they are encouraging, such as the Egyptian vulture, which was thought to be found in numbers as low as 24 individuals, with our research showing that the actual numbers have increased to over 120 individuals on Masirah Island. Results are sometimes very disappointing, such as dwindling loggerhead turtle numbers. It is only through ongoing research and monitoring that we will be able to help bring about positive change.

ESO's ongoing projects can only continue with the unwavering support of companies who continue to believe in our cause and have partnered with us over the years. Our annual report is a testament to what your funds continue to enable us to achieve. The continued strengthening of our relationship with the private sector, the government and the public is critical to our future success.

ESO has built strong ties with the Ministry of Environment and Climate Affairs, the Ministry of Social Development and the Ministry of Agriculture and Fisheries, and we are very grateful for their support and trust in ESO's abilities.

We would like to take this opportunity to thank our supporters who have played a vital role in helping ESO grow into a significant stakeholder in the conservation of Oman's natural heritage.

I'd like to extend a special thanks and appreciation to all the individual members, volunteers and board members who give so much time to ESO, and without whom we would not be where we are today.

Tania S Al Said
President

Introduction



2014 has been a wonderful year for ESO. Our capacity building program and training of young Omanis in the field of environmental conservation has exceeded expectations and enhanced our educational projects, community outreach work, volunteer programs and scientific research.

We have seen the continuation of annual events such as Earth Hour and the Inter-College Speaking Competition, which was an incredible success this year with 56 teams and over 200 students participating!

Our research and conservation projects continue with new discoveries and findings being made; especially in the area of frankincense, where after 4 years of research, it has been determined how to sustainably harvest the tree. This is a great achievement and such research has never been done on this important species. Our Arabian Sea humpback whale research has moved to satellite tracking using tags, and engagement has begun with ports and shipping companies. Turtle conservation has moved to high-level stakeholder engagement with Oman's government, and the monitoring of loggerhead turtles

continues. In addition to this the Egyptian vulture research has begun its second phase and many more locations have been included, enhancing our research data significantly.

Our Native Tree Planting Campaign was exceptional this year and focused on raising awareness within schools on the importance of planting native trees. Over 700 students in Dhofar were targeted.

2014 has also seen seven of our Omani staff being trained in field research, data entry and analysis, dolphin rescues, project management, administrative work and some have even traveled as far as Japan and Jordan for training programs. This has all been made possible through our partnership with Oman LNG LLC and we will continue to ensure that Omanis (both graduates and non-) are given the necessary skills to work in the field of environmental conservation over the coming years.

This year ESO attended conferences, workshops and meetings all over the world including La Reunion, the UK, Jordan, Finland, the UAE, Kuwait, Slovenia and Tunisia and we continue to be a driving force in the international environmental NGO arena.

ESO is also proud to be a member of the Committee for the National Turtle Conservation Strategy as well as the Committee for National Team for Plastic Bag Impacts, which are both chaired by the Ministry of Environment and Climate Affairs.

I would like to take this opportunity to thank the ESO staff, board members and volunteers for all the time and energy they put into making ESO a success. Our work would not be possible without the support of Oman's corporate sector – we thank you for your generous contributions.

Enjoy the 2014 Annual Report and thank you for taking the time to read about our work and achievements.

Best Wishes,

Lamees Daar
Executive Director

The following Board Members were elected in April 2014 for a two-year duration:

President

HH Sayyida Tania bint Shabib Al Said holds a BSc in Marine and Freshwater Biology and a Diploma in Early Childhood Education. She is a founding member of ESO and has served as the President of the board of directors of ESO since its establishment. Sayyida Tania initiated the Say No to Plastic Bags campaign, organizes the annual Fundraising Ball of ESO, and regularly appears in the media representing ESO. She won the GCC Award for the Best Environmental Personality in the Arabian Gulf Region in 2009.

Vice President

Mr Amor Al Mataani holds a BEng (Hons) and an MBA. After graduating from Teesside University, UK as an Instrumentation and Control Engineer he joined Petroleum Development Oman in upstream operations and commissioning. In 1993 he moved to the Ministry of Health where he was Deputy Director General for Administration and Finance at the Royal Hospital. He completed his MBA (Newcastle) in 1997 before being appointed Director General for Sur Industrial Estate in the Public Establishment of Industrial Estates (PEIE). He joined Oman LNG in 2002 as Deputy CEO and occupies the position to date. He has a keen interest in education and he is member on a number of university and technical colleges' boards and chairman of the Board of Trustees for OLN's HAS school. He is also the Chairman of OLN's Tender Board and Chairman of the Oman Road Safety Association as well.

Executive Director

Ms Lamees Daar is a founding board member of ESO, has been on the Executive Board since its establishment and voluntarily manages the organisation. She represented ESO at most regional UNEP meetings in the Society's early years and holds a BSc in Environmental Sciences. She previously worked as an environmental consultant for environmental engineering firms and was seconded to Petroleum Development of Oman to monitor ISO 14000 practices. Lamees has been responsible for the overall managing of all ESO projects and staff, securing the majority of funding opportunities and sponsorships for ESO, writing proposals for current projects, chairing the Ras al Jinz Turtle Center Steering Committee, co-managing the anti-plastic bag campaign, writing regular press releases, and managing a comprehensive overhaul of the ESO website. She is also responsible for the Capacity Building Program, which trains young Omanis in the field of environmental conservation.

Community Outreach Officer

Mr Nasser Al Maskari currently works as an environmental expert at Occidental Oman (OXY). He has a BSc in Fisheries Science and an MSc in Marine Sciences and Environmental Studies. He has worked as a Nature Reserve Specialist, Head of Permits and Head of Projects Evaluation Section at the Ministry of Regional Municipalities and Water Resources (MRMWR). He was also Director of Planning for Nature Conservation at MRMEWR. Nasser has been a Social Responsibility advisor at OXY since 2009 and is a member of the Arabian Oryx Sanctuary Committee and Member of the National Committee for IUCN. He was a member of the National Committee of Selecting World Heritage and Natural Sites in Oman and the Oman Marine Biodiversity Committee. He is a founding member of ESO.

Treasurer

Mr Yasser Macki works as an IT System Engineer with Hill International. He holds a BA in Management Information Systems and has been an ESO member since 2004 as well as ESO's Treasurer on the last board. During his tenure as treasurer, Yasser has been responsible for managing ESO's overall as well as specific project budgets. He has also implemented ESO's accounting system. Yasser is very active in a voluntary capacity and has organised and managed the majority of ESO clean-ups over the years.

Public Relations Officer

Ms Dana Sarhan is a Media Relations and Social Media Strategist at Petroleum Development Oman. Her previous role within the PDO was PR & Community Advisor for the Ras Al Hamra Development Project, managing stakeholder engagement and communications and events. She has held various corporate communication roles over her 16 years of PR & communication experience and has extensive experience in branding. She has headed corporate communications & public relations in these organisations influencing strategic decisions: Omran, HSBC, Al Bustan Palace Hotel, Crowne Plaza Hotel. At Omran, Dana assisted in writing the company's environmental policy as well as writing its Responsible Tourism Policy, which is currently being implemented across the corporation. Dana holds a postgraduate diploma in responsible Tourism Management from Leeds Metropolitan University, UK and a BA in International Hospitality and Tourism Management, from the University of Surrey, Guildford, U.K.

Board Member

Ms Dareen Mehdi is the interim head of the Education and Communication department at Oman Botanic Garden. Upon finishing a degree in Biotechnology at Sultan Qaboos University, she started work as an Environmental Education Specialist at Oman Botanic Garden where she worked to promote the garden, its mission and goals through participating in exhibitions, delivering presentations to a wide range of audiences. Dareen completed her MSc in Conservation Science at Imperial College, London, UK after which she returned to OBG. Dareen has special interests in environmental education, public outreach and the promotion of nature conservation and social empowerment through preservation of local livelihoods and traditional practices.

Board Member

Mr Mohammed Al Mashani holds a BSc in Safety Management from Central Missouri State University and an MSc in Facilities Management and Asset Maintenance from Herriot-Watt University, Edinburgh. He has worked extensively in the field of HSE Management within Port of Salalah, Aromatics Oman LLC and PDO. As a Head of HSSE at the Port Of Salalah he manages and develops the company's Health, Safety, Security and Environmental functions, implementing policies, procedures and systems to provide for a safe and secure business operation. Mr Al Mashani provides leadership and direction for the HSSE Department for Port operations. As a result of his efforts the Port of Salalah reduced the lost time injury rate by more than 80%. He has won 2 Oman Green Awards and the Best Safety Improvements Award in 2009 as well as the Best Safety Award from Lloyds Middle East and Indian Subcontinent in 2011.



ESO Board Members 2014-2016 (from left to right): Amor Al Mataani, Yasser Macki, Dana Sarhani, Dareen Mehdi, Sayyida Tania Al Said, Lamees Daar, Nasser Al Maskari, Mohammed Al Mashani.

Marine Conservation Projects



Tagged loggerhead turtle returning to sea.
Jerome Bourjea

Turtle Research and Conservation

The global importance of Oman to the survival of turtles – where all species are classified under 'endangered' or 'critically endangered' status listings throughout the world - has been definitively established through surveys and research conducted within the Sultanate over the past 35 years. In the last eight years, ESO, in collaboration with the **Ministry of Environment and Climate Affairs (MECA)** and senior international scientists, has played the lead research role on turtles in the Sultanate. We have accelerated our knowledge and understanding of turtle biology, ecology and conservation needs, as well as raised the international profile of Oman's turtle resources. Through funding provided by the **Port of Duqm** and **Oman Oil Company**, ESO has been able to work towards the conservation of turtles through continued monitoring and research efforts, enhancement of resource capacity and management activities, and the engagement of local communities.

The project is based mainly on Masirah Island and focuses on loggerhead turtles. In the past our focus has been both research and monitoring as well as community outreach and capacity building in field research. The data collected from loggerhead nesting beaches over the period from 2008-2012 was compared with historical data collected over 1977-1986 over the same stretch of beaches, the findings suggest an 82% decline with statistical analysis showing this difference to be highly significant. It is our focus now to assess both threats at sea as well as on land to understand potential reasons for population decline, as well as taking on a more proactive role in conservation measures, and stakeholder engagement while continuing to monitor turtle populations.

The annual loggerhead nesting beach survey has been successfully carried out for the eighth continuous year, further building ESO's database on the nesting trend and success. From April-September 2014, track counts were conducted on 'Index Beaches' by day, with 'Nesting Success' surveys conducted at night to account for nesting success. 'Island Wide' surveys were conducted on a weekly basis. Beach use and beach stranding surveys, initiated in 2012, were also carried out in 2014. Copies of this data are being made available in hard and softcopy formats to MECA. This data requires quality control procedures and processing to be applied before it can be used in developing relevant statistical assessments.

Capacity Building in the Local Community

In order to assist in research on Masirah Island, ESO has trained three full-time local field assistants (FAs) over the last 3 years. These FAs work on ESO turtle projects during the nesting season and assist in both the Renaissance Whale and Dolphin Project as well as ESO's Egyptian vulture project during the off-season. In order to ensure sustainability of this program, ESO has a permanent office in Masirah from which the FAs work.

Sustainable Fishing Towards Turtle Conservation Project

In 2013, funded by the US Marine Turtle Conservation Fund (MTCF) ESO initiated the Sea Turtle Conservation and Sustainable Fishing Project on Masirah Island as a pilot project to understand the context of fishing on Masirah and the level of interaction between loggerhead turtles and fishing activities. This project was extremely important to determine whether bycatch is indeed the main threat to loggerheads on Masirah. Bycatch is known to be one of the major threats to sea turtles globally and has been documented as one of the most significant causes of mortality to turtles in Oman.

After extensive engagement with relevant academic, ministerial and local stakeholders, including the Wali of Masirah, and through questionnaires and interviews with the fishing community, 101 skiff and dhow fishermen were interviewed with the help of consultants and SQU interns.

The estimated total turtle bycatch on Masirah Island by skiff fleet ranges between 3,141 - 9,742 turtles per year with 98% of this coming from nets. Of these driftnet is the most important, accounting for 35% of the estimated bycatch.

Most of the interviewees reported that the turtles were released alive. The study further estimates the mortality rate for bycatch to be 4,918 turtles per year for skiffs and 238 turtles per year for the dhow fishery. Annual mortality of loggerheads is estimated to be 2000, which corresponds to 20% of the nesting female population. This suggests that fisheries bycatch may be a significant factor in accounting for the decline of loggerheads nesting at Masirah since 1980.

It is important to note that there are potential uncertainties with the estimates due to the small sample size and that the estimates are based on interviews.

The findings of this report were presented to members of the steering committee representing the **Ministry of Environment and Climate Affairs**, the **Ministry of Agriculture and Fisheries Wealth** and **Sultan Qaboos University**, with the aim of developing an action plan to advance the mitigation of threats to sea turtle populations on Masirah Island from both land and sea, taking on a community approach to conservation.

National Turtle Conservation Strategy

ESO research over the last 8 years has confirmed that Oman has among the largest and most important populations of turtles in the world and that they are genetically isolated. The work has also shown that turtles are under increasing pressure and that population decline already detected in some populations is likely to worsen in the future. A strategy to effectively conserve Oman's turtles is urgently needed.

We are pleased that the **Ministry of Environment and Climate Affairs** has initiated a committee to work on the development of a National Turtle Conservation Strategy.



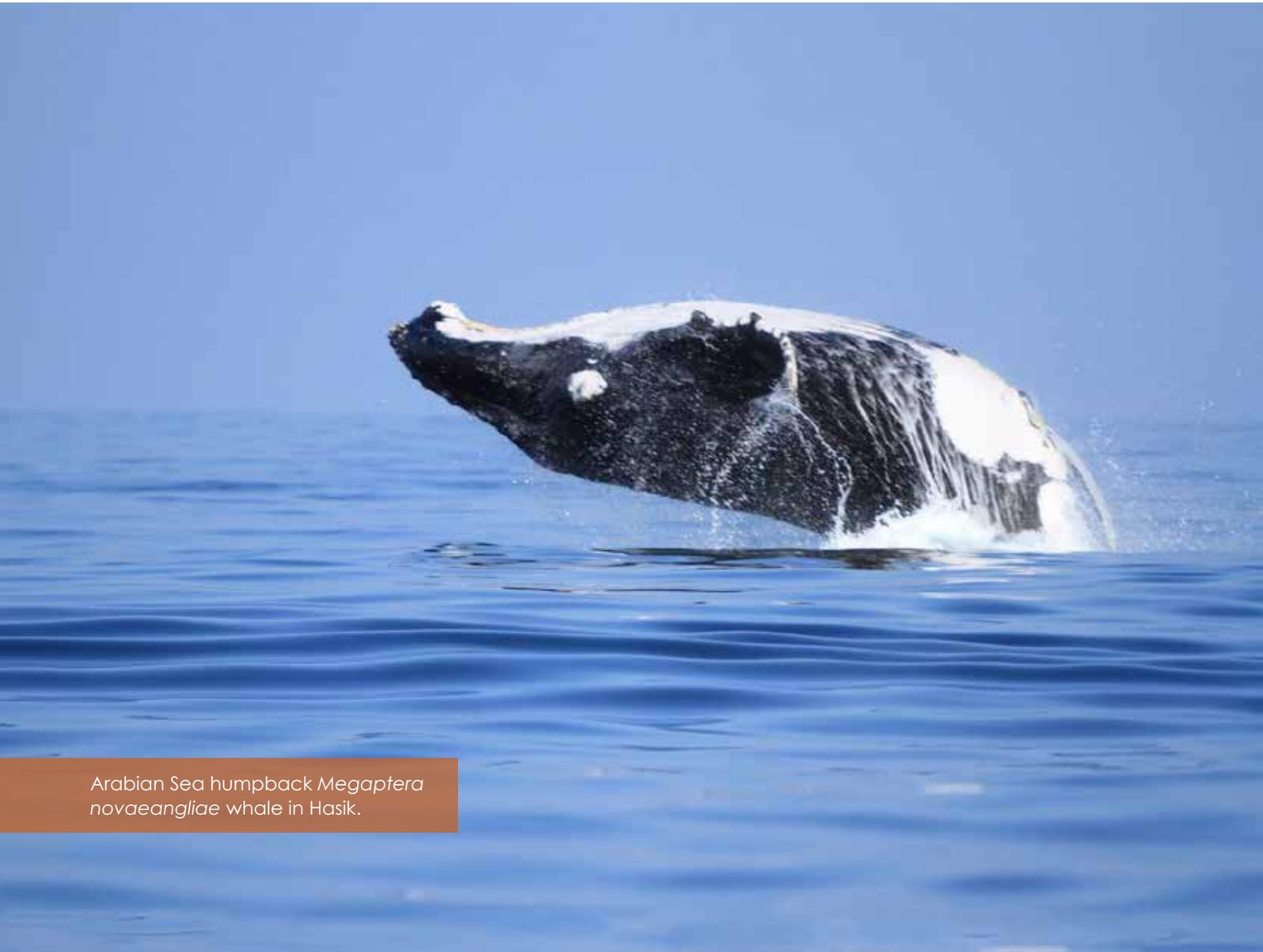
The ESO Team assessing fishing nets on Masirah Island

Renaissance Whale and Dolphin Project

Thanks to the renewed support of **Renaissance Services SAOG**, The Renaissance Whale and Dolphin Project has been continuing throughout 2014. It is a multifaceted scientific and public awareness project established by ESO in 2011 and aims to build on existing research and knowledge of Oman's cetaceans and provide information that can lead to effective conservation management. The work is conducted in coordination with the **Ministry of Environment and Climate Affairs (MECA)** and the **Ministry of Agriculture and Fisheries Wealth (MAFW)**. In 2013 special attention was given to working with the **Ministry of Tourism** in relation to whale and dolphin watching guidelines.

Our research and conservation efforts over the last few years have focused on the Arabian Sea humpback whales. Humpbacks are world famous for undertaking long seasonal migrations between polar feeding areas and tropical breeding areas but our research has shown Oman's humpback whales to be the only known population in the world not to migrate, but rather to breed and feed in the same geographic area. This makes them truly Arabian whales! Not only are these whales distinct in this regard, but our recent research also indicates they are one of the smallest and potentially most vulnerable whale populations in the world, numbering fewer than 100 individuals in Oman. In 2014 the following scientific papers were co-authored by ESO: "The World's Most Isolated and Distinct Whale Population: Humpback Whales of the Arabian Sea" published in *PLOS One* and "Tattoo-Like Skin Disease in the Endangered Subpopulation of the Humpback Whale in Oman" published in *Zoology in the Middle East*.

The overall project aims to cooperate and assist with local and international bodies to improve conservation of cetaceans based on information acquired through scientific research; better define distribution, abundance and population identities in Oman, define critical habitats of cetaceans in Oman; identify, assess and help mitigate threats through conservation management recommendations and action; and raise awareness of marine and coastal environmental issues related to cetaceans and to enhance environmental education in Oman.



Arabian Sea humpback *Megaptera novaeangliae* whale in Hasik.

Whale Tagging

Following special permission from the International Whaling Commission, ESO has been able to successfully tag three humpback whales in February of this year, in collaboration with the **National Oceanic and Atmospheric Administration** (NOAA), **Instituto Aqualie** (IA) and the **Wildlife Conservation Society** (WCS). Local partners include **Five Oceans Environmental Services LLC**, **MECA**, **MAFW** and **SQU**. The satellite tags provided detailed information that contributes to our understanding on the movements, seasonality and behaviour of this unique species. The tagged whales showed localized activity mainly moving between hotspots in the Hallaniyat Bay and the Gulf of Masirah, these areas are also facing rapid industrialization showing importance of strategic management of these important habitats.

The IWC has determined that up to ten humpback whales can be tagged and ESO is now looking for further funding to be able to complete our field survey in 2015.



ESO Team and volunteers in Hasik tagging whales.

Passive Acoustic Monitoring

In 2012 three Marine Acoustic Recording Units were deployed in a triangulation configuration in the Gulf of Masirah and were then recovered 142 days later by divers in 2013. In 2014 they were redeployed and are now providing broader coverage of the area adjacent to the Port of Duqm facility. Data from this work continues to be archived, and it is anticipated that processing will commence through experts setting up a new acoustic lab at the Wildlife Conservation Society (WCS) facilities in New York.



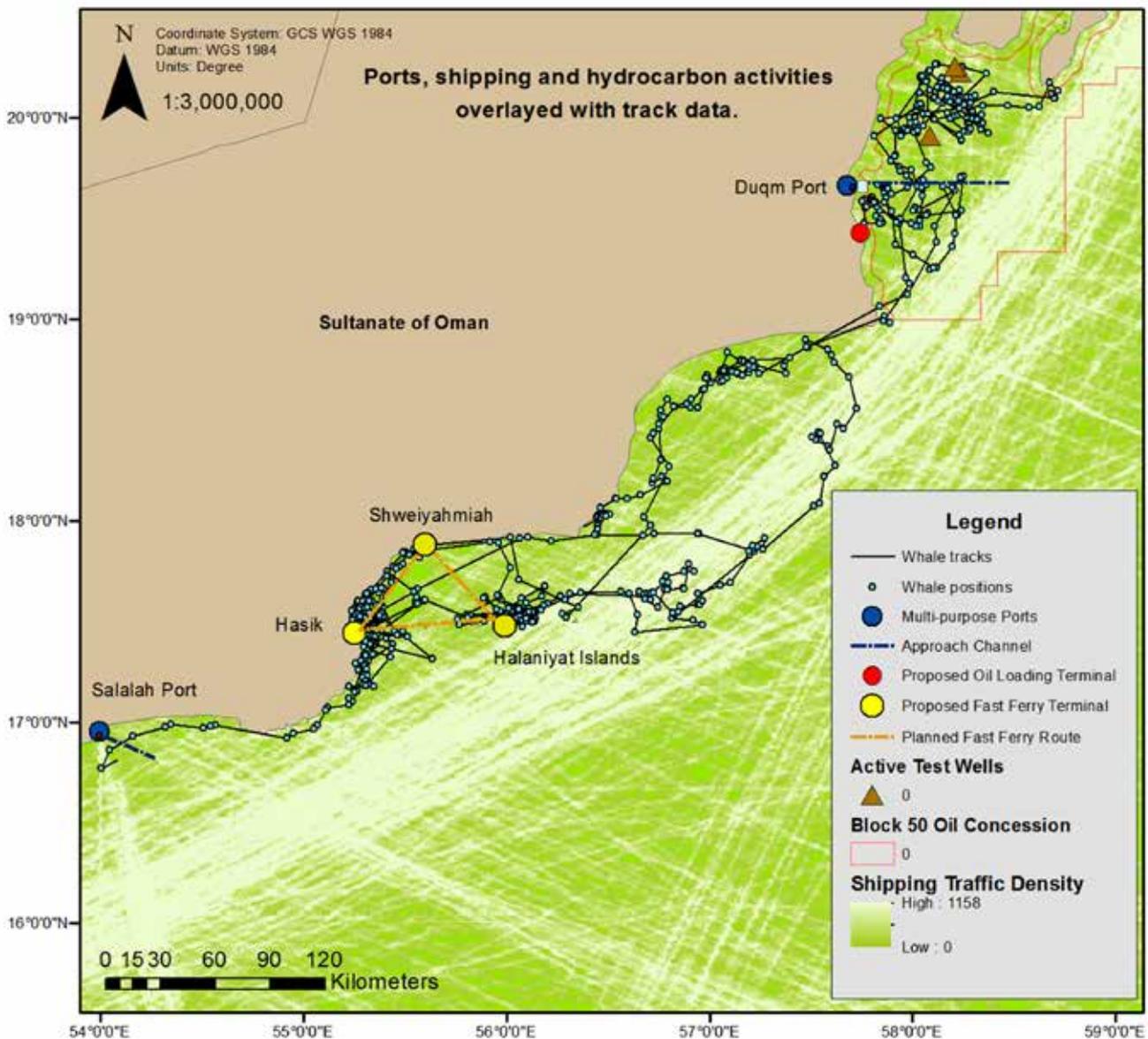
ESO Projects Coordinator Asma Al Balushi monitoring whale songs.

Engagement with Oman's Ports and the Ministry of Environment and Climate Affairs

With such a small population of whales, a loss of no more than one whale every five years is the maximum limit for the population to remain stable. To facilitate recovery through sustained population growth, the world cannot afford to lose any more Arabian Sea humpback whales. The coastline of Oman is becoming increasingly industrialized and whilst Environmental Impact Assessments are routinely conducted, few provide for adequate mitigation against impacts to humpback whales and the cumulative impacts of new development and activities in coastal and offshore areas remains almost entirely unaccounted for in Oman.

As can be seen in the map, the tagged whales move very close to the Ports of Duqm and Salalah. In May, ESO was given the opportunity to present our work on the Arabian Sea humpback whales to HE Dr Ahmed Mohammed Salem Al Futaisi, Minister of Transport & Communications and the CEOs of all ports in Oman. Our research and concerns were discussed and it was asked that all ports begin discussing mitigation measures to ensure whales are not harmed by port activities.

Analysis is currently underway on habitat modelling and sensitivity mapping in hotspot areas to make some preliminary recommendations for management of activities. However, this work requires more data to provide the comprehensive assessment required to guide management. Meetings were held with HE Mohammed Salim Al Tobi, Minister of Environment and Climate Affairs, to ask that the government take on this role and begin to look at conservation measures.



Whale and Dolphin Tour Operator Guidelines

With tourism comes environmental threats and impacts, but also potential opportunities. This project hopes to improve and educate the emerging dolphin watching industry in Oman, and in doing so to protect whales and dolphins from potentially harmful impacts from tourism. The ultimate goal is to contribute to the raising of the standards of whale/dolphin watching tourism in Oman, whilst actively supporting conservation of cetaceans and their habitat.

Over the last 2 years, ESO compiled background research on the industry to be undertaken in Muscat, including operator surveys and the generation of guidelines. The first Whale and Dolphin Watching Guideline Workshop took place in 2013 and was attended by tour operators and representatives from the MAFW and Ministry of Tourism and supported by the **IWC Whale Watching Subcommittee**. The training consisted of classroom training as well as in-water training in which interactions with dolphins and whales were simulated using best practices. In January 2014 a second workshop was organized targeting tour operators in Southern Oman.

Capacity Building and Regional Collaboration

The IWC Scientific Committee meeting in Bled, Slovenia in May presented opportunities for ESO to present the whale tagging data achieved under the Renaissance Whale and Dolphin Project, connect with counterparts and ensure the Arabian Sea humpback whale remains high on the agenda for international support. The Scientific Committee will continue to seek endorsement from IWC commissioners for support in the development of a Conservation Management Plan from range states. Given the long-standing history of its research, ESO has been approached by WWF International to provide advice and contributions in the formation of a regional conservation initiative.

Meanwhile, ESO continues to build the capacity of our three field assistants based on Masirah Island. The training has also enabled them to independently conduct stranding surveys along the entire coastline of Masirah Island, which contributes to the stranding databases used for both cetaceans and sea turtles.



Spinner dolphins,
Stenella longirostris.

Terrestrial Conservation Projects

Frankincense Research and Conservation

Frankincense has played an integral part in the Omani heritage and culture and has been the main source of income for the Dhofari people for centuries. Frankincense trees have also played important environmental roles: they grow on marginal land not suitable for ordinary agriculture, protect the soil from erosion, produce good biomass and provide shade. Few people know that frankincense is harvested by tapping the trunk and branches of the *Boswellia sacra* tree. In the past few years and after close monitoring of the growth patterns of frankincense trees, researchers noticed that the tapping has been too harsh, often leading to the degradation of the tree beyond repair. Changes in the climate over the past few years might have also had an impact on the growth of frankincense trees. Accordingly, it was important to monitor these two factors and record their impacts on the sustainability of frankincense farming in Dhofar.

Sponsored by **HSBC**, this long-term research project focuses on four experimental research locations in the Governorate of Dhofar and aims to determine the right frequency of cutting to produce a good yield without adversely harming the trees. Additionally, by monitoring the meteorological data in three different locations, the project aims to set a baseline for weather data that can be used in the future to monitor impacts as a result of climate change and the effects in growth patterns of frankincense trees. An indirect objective of the project is also to attempt to encourage old frankincense harvesters who are currently quitting the business and moving to the cities, to believe in the viability of this business again and re-grow frankincense trees but this time to harvest them at sustainable levels.



Boswellia sacra flowers.



Frankincense tree, Dhofar
Hamed Al Gheilani.

Results

Initial results showed that the optimal size of tapping should not exceed a surface of 12cm² (3cm high x 4cm wide), barely shaving the external layer of the trunk. The number of taps depends on the tree height, the trunk size and the foliage cover and should be around 30cm distance from each other. This harvesting best practice reduces the side-effect of tapping on trees and guarantees their overall wellbeing and seed germination.

Findings related to harvesting cycles

- Tree harvesting can be continual for three years, but must be followed by a one to two year rest, in order to allow the scars to heal.
- Trees are to be harvested seven months per year (from November to May), and the harvesting period extends over a 21-28 day rotational period. In the hotter months (April-March) the tree needs to be harvested in a 14 day rotational period.
- The tree reaches its maximum olibanum yield productivity in its third or fourth harvesting sequence and in the third harvesting year.

Findings related to harvesting methods

- The trees that were heavily tapped throughout the study produced less flowers than the non-tapped trees.
- The yield estimation can be determined from a single tree according to location, height, form and the overall tree vigour.
- It was found that the lower part of the tree trunk produces more resin while the yield is reduced in the upper parts of the trunk.
- Frankincense trees have a slow growing nature, and are associated with poor seed germination, which poses an implicit threat to *Boswellia sacra* reproduction.

Findings related to climatic conditions

- Climatic factors have an effect on the Frankincense yield (amount of Frankincense produced). The trees studied in monsoon affected areas have produced more resin than other trees.
- The main climatic factors responsible for desertification in the Dhofar Mountains where Frankincense naturally grows are mainly low precipitation and strong wind.

What is next?

These findings have been communicated to relevant authorities, and the project continuation will focus on sharing lessons with key audiences, promoting a conservation culture among the local communities, and fostering good working practice at an institutional level. ESO has produced a comprehensive infographic poster, which has been designed to inform farmers on the sustainable harvesting of Frankincense, which is vital to the survival of this endemic tree. This awareness raising will take place during 2015-2016.

Capacity Building

Former ESO Board Member and Frankincense Project Leader, Dr Mohsin Al Amri has trained Dhofar based Bader Al Shanfari over the last 4 years on the sustainable harvesting of the tree as well as monitoring and data collection practices. It is hoped that Bader will take a lead role in disseminating the important methods found through this research to Frankincense farmers.

FRANKINCENSE

SAVING A TREE A SYMBOL & A WAY OF LIFE

For more than 5,000 years, *Boswellia sacra* trees in Oman's Dhofar region have been tapped for a rare aromatic resin traded across Arabia, Africa and Europe, mostly known as frankincense (or olibanum). This much sought-after resin has been used for centuries in cultural ceremonies, but also as a cosmetic agent, and as traditional medicine to treat a variety of ailments.

Frankincense is deeply meshed into the Omani identity, and its production persists to this day. But its future is unclear, with incorrect tapping practices and overgrazing – among other threats – placing frankincense trees at risk.

A VALUABLE TREE UNDER THREAT



A PROJECT TO DETERMINE HOW TO SUSTAINABLY HARVEST FRANKINCENSE

Sustainable harvesting must be applied to conserve frankincense trees and the livelihoods they support. Over the course of 4 years, the Environment Society of Oman studied the effects of tapping methodologies on yield

production and the wellbeing of trees. The project was led by Dr Mohsin Al-Amri and field assistant Badar Al-Shanfari, and is the first significant research of this kind in Oman.

4 YEARS STUDY (2010-2014)
4 LOCATIONS WITH 45 TREES EACH
180 NATURALLY GROWN TREES MONITORED
3 METEOROLOGICAL STATIONS TO DETERMINE THE IMPACT OF WEATHER ON YIELD



HOW TO SUSTAINABLY HARVEST FRANKINCENSE TREES

The study has demonstrated how specific harvesting techniques can reduce the mortality of frankincense trees and increase their yield.



12 cm² cut size, barely shaving the external layer. Cuts about 30 cm distant from each other.



March to April
Trees can be harvested every 14 days.

November to May
Trees can be harvested every 21-28 days.

MAXIMUM YIELD

A tree reaches its maximum yield productivity in the 3rd or 4th harvesting sequence, and in the 3rd harvesting year. The lower part of the tree trunk produces more resin compared to the upper parts of the trunk.



Tapping should stop 2-3 weeks before the rainy season.



Harvesting can be continued for 3 years, followed by a 1-2 year rest period to allow scars to heal.

Find out more: www.eso.org.om/frankincense
 facebook.com/EnvironmentSocietyOfOman
 @eso_oman
 @esooman

Funded by **HSBC**

Research carried out by

Egyptian Vulture Research and Conservation

The Egyptian vulture (*Neophron percnopterus*) is globally endangered and in 2014, ESO secured support from **Shell Development Oman** to undertake Phase 2 of researching this species in Oman. While the first phase in 2011 focused on studying the species on the island of Masirah, the second phase covered a broader geographical extent, monitoring new breeding territories around the Wilayats of Muscat, Ash Sharqiyah, Ad Dakhiliyah, Ad Dhahirah, Al Batinah and Al Wusta.

The objective of the field surveys was to identify important congregations and staging sites, key habitats and main threats to the species and its habitat.

The first field surveys took place in August and covered 12 sites in the six areas mentioned above. A total of 19 dumpsites were surveyed throughout these areas. A large-scale of suitable habitats were visited, including mountains and elevated grounds, as well as desert and semi-desert landscapes. Some records were as high as 200 individuals in Ad Dakhiliya. The second field survey took place in November, revisiting the areas covered in the first survey. During both surveys, a large number of Egyptian vultures have been observed congregating at feeding sites, mainly over dumpsites and rubbish tips, using the electricity pylons as perching points. A third survey will be taking place in May 2015.

In addition to the surveys, field trips and presentations were conducted in Muscat, Masirah Island and Al Amerat for school children, the Omani Women's Association and ESO Members.



Egyptian vulture,
Neophron percnopterus.

Production of Educational Material

An Egyptian vulture identification leaflet was designed in both Arabic and English holding the dual purpose of i) assisting field assistants on the species age identification, and ii) informing a broader audience about Egyptian vultures. The leaflet exhibits the field remarks and ID features for the resident and migrant Egyptian vultures in Oman. Furthermore, it holds helpful notes on the species habitats and breeding behavior. The leaflet was designed for distribution among field assistants, local biologists, undergraduate students, local communities, and native wildlife conservationists to elevate their ability to identify the various age stages and morphological plumages of the species in order to promote further conservation activities. It is considered to be the first educational material towards raising awareness of the endangered bird species in Oman.

Egyptian Vulture (*Neophron percnopterus*)

The Egyptian Vulture is one of the smallest vultures in Oman and the Arabian Peninsula. It can be identified by its featherless head, bi-color, thin and long bill, dark iris, distinctive wedge-shape tail, and the contrast of the white and black wing feathers in adult birds. The two sexes are alike and encounter five phases (patterns) of feather replacement (moulting) during its life time. It soars over dump areas and coasts searching for carcasses and other potential food. It is classified as Endangered under the International Union for Conservation of Nature and Natural Resources (IUCN) Red List and is protected under the second annex of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

Objectives of the Egyptian Vulture Project in Oman

The worldwide population of Egyptian Vultures drastically crashed in the mid-1990s, mainly due to the contamination of carcasses with the diclofenac drug, which proved to be a toxic agent to vultures. Studies done in the early nineties, documented a decline of the Egyptian Vulture population throughout mainland Arabia. The objective of this study is to estimate the population size of Egyptian Vultures and identify the major threats in common distribution areas known in Oman, such as Masirah Island and around the governorates of Muscat, Al Dhahirah, Ad Dakhliyah, Al Batinah, Al Sharqiya, Musandam and Dhofar. Study results will contribute to an integrated species and habitat conservation plan at the national scale, and to the development of local capacity to control and preserve these raptors. The programme was initiated in 2012 on Masirah Island, and numbers concluded that the population is four times greater than 1980s estimation.

Working with the local communities

In addition to its core conservation objectives, the Environment Society of Oman has closely worked with local communities since the inception of the project to raise awareness on biodiversity. The Omani Women Association of Masirah has been part of a long term pilot study that provides women with training that could lead to business prospect. Under the project umbrella, female cadres from Masirah Island were trained on printing on fabric and recycling certain outputs of the local environment with the aim of giving women the leading role in preserving the environment and enhancing their income resources.

Sponsored by:



Shell Development



جمعية البيئة العمانية
Environment Society of Oman

Egyptian Vulture

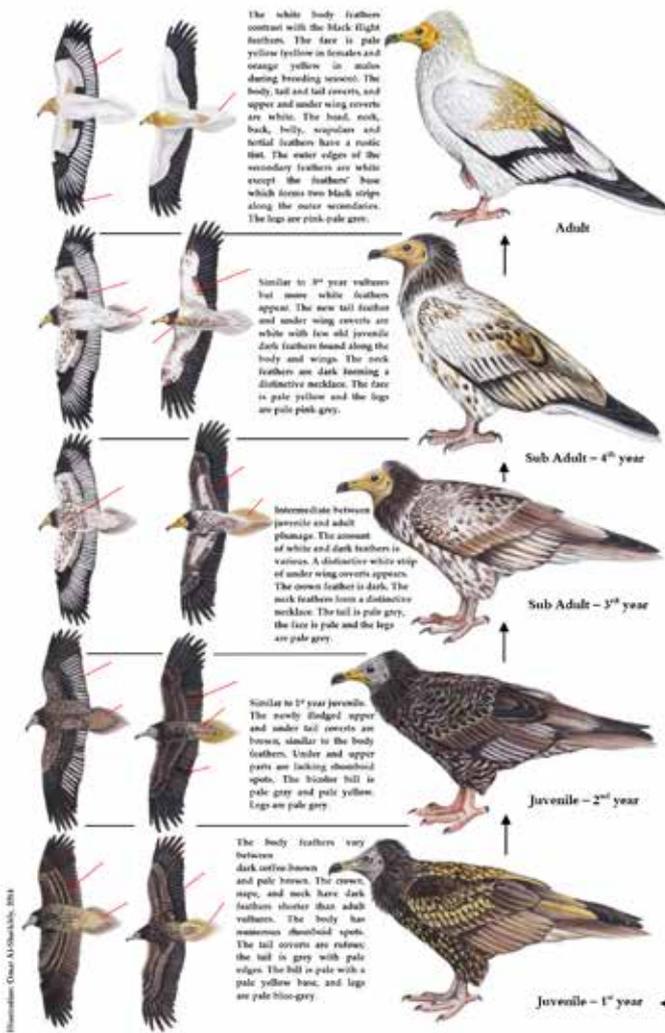
Neophron percnopterus

Help us conserve it



Engagement with Local Communities

Several interviews with local hunters, farmers and villagers were conducted during the August survey. These interviews aimed to increase the public's knowledge about the species' importance to Oman and raising awareness toward its conservation. Many local people and farmers reacted positively with the conservation activities carried out by the field team. Several sites with high numbers of Egyptian vultures were revealed due to the support and guidance of the local people. In addition, vocational training with women from Masirah was held in October – these details can be found in the following section of Community Outreach.



Identification field sheet of Egyptian Vulture *Neophron percnopterus* in Oman

This leaflet contains the most prominent criteria for field mark identification of the Egyptian Vulture in Oman and the Arabian Peninsula. It helps researchers distinguish the different ages and molting patterns of the resident and migrant vultures with notes on breeding, feeding and geographical distribution.

Classification

Kingdom: Animalia
Phylum: Chordata
Class: Aves
Order: Accipitriformes
Family: Accipitridae
Genus: *Neophron*
Species: Egyptian Vulture, Egyptian Eagle
Neophron percnopterus (Linnaeus, 1758)
IUCN Status: Endangered

Worldwide geographical distribution

The worldwide distribution of Egyptian Vultures spreads around southern Europe, Asia and North Africa. Small numbers are found in Canary Island and Green Head Island. Most of the breeding population of Oman is believed to be resident, and passage migrants visit the Sultanate in the winter. As opposed to other raptors, they travel long distances within their resident and breeding areas. They return to the same nesting areas in subsequent years.

Distribution in Oman

Eggs and/or variations

Newly hatched nestling

Young (0 - 40 days)

Young (60 - 70 days)

Feeding

Egyptian Vultures are **carnivorous scavenging raptors** that feed on carcasses. They have been observed feeding on insects, crustacean species, reptiles, young mammals, fledglings, and sometimes on feces of large animals. They have also been observed carrying small rocks in their beaks to break other birds' eggs to feed on. Young Egyptian Vultures mostly feed on young birds, reptiles and mammals which are rich in calcium needed for bone growth.

Breeding

Egyptian Vultures are monogamous species that migrate with their partners to nesting areas. They have one brood per year and the incubation period varies between populations and geographical distribution. Males and females contribute to building and defending their nests. They use their beak to carry food and sometimes adults cut out prey into small pieces to be easily fed to their youngsters. Their nests are typically built in the cracks and cliffs of mountains and rocky valleys. Nests are lined with animal wool, hair and skin and their constituents sometimes contain worn out mats.

Males maneuver towards females before mating. Females lay eggs between March and May and incubate them for a few days before males start taking part in the incubation subsequently. Females lay 1-3 pale reddish eggs at the first time that need 39 - 45 days of incubation before hatching. Nestlings need a period of 71 - 85 days for feather fledging, and a period of 28 - 30 days to leave the nest and develop the ability to hunt and fly. Young birds fly over the nesting area accompanied by their parents in a family party before they leave the nest at the beginning of the migration season. They become self-dependent at around four months and have the ability to incubate after six years (for females and males equally).

جمعية البيئة العمانية
Environment Society of Oman

Capacity Building

Throughout the Egyptian vulture field surveys the ESO field team was trained on different types of raptors surveying methodologies and their technical capabilities were noticeably developed. Some of the skills gained throughout the field activities were: identification skills, data collection and analysis, assessment of breeding vultures according to the British Trust of Ornithology (BTO) breeding codes/evidences, and training on using the IUCN threat assessment Pressure-State-Response (PSR) scoring model to diagnose and measure the severity of the threat impacts on both species and habitats.



ESO Field Assistants Juma Al Araimi and Juma Al Humaidi and Community Outreach Manager Dr Hamed Al Gheilani photographing and identifying Egyptian Vultures.





Greater flamingo, *Phoenicopterus roseus*,
Pink Lagoons, Hamed Al Gheilani.

Community Outreach Projects

Socioeconomic Training of Omani Women on Handicraft Techniques

In 2012, ESO conducted a training program on handicraft techniques for women on Masirah Island. The island is rich in biodiversity and the project gave ESO the opportunity to show the inhabitants that they can benefit financially from the conservation of these important species. 2014 saw a continuation of this project, which was sponsored by **Shell Development Oman**.

Working with the Oman Women's Association

In October in collaboration with **Al Nawakhda Training Services** and the **Omani Women's Association of Masirah**, 24 women were trained in silk printing and paper recycling. The aim was to introduce arts and crafts techniques amongst participants and train them in product development, which could generate income for the local community. The themes were broadly based on environmental conservation, which raises the awareness of Oman's natural heritage and biodiversity.



During the recycling training participants used waste paper to produce recycled paper and develop various products including notebooks, pens and greeting cards. The trainers took a participatory approach to the planning and received ideas from the women through discussions on their culture and their relationship with their local environment.

During the silkscreen print training participants were trained to print on recycled paper as well as t-shirts and drinking glasses. The designs used were reflective of the local biodiversity including Egyptian vultures, loggerhead turtles, whales and dolphins.

The training programs were complimentary and through both recycling materials and silkscreen printing techniques, the women were successful in developing locally produced products which are marketable and could potentially lead to income generation. Additionally, using species from their local environment gave the women a sense of ownership of their local environment.

A closing ceremony was organized at the end of the training program, attended by many local representatives such as the Wali of Masirah and representatives of the Ministry of Environment and Climate Affairs.

ESO will continue to work with this group of women to ensure that they are able to market their products to tourists and companies. However, it is hoped that they will continue to use these skills to produce and sell handicrafts independently, making this program a true ESO/OWA socioeconomic success project!



“Let’s Plant One” Native Tree Planting Campaign

ESO's 2013-2014 Native Tree Planting Campaign was jointly sponsored by **Port of Salalah** and the **Ford Environmental Conservation Grant** and aimed not only to plant native trees, but to engage volunteers and raise awareness of the importance of planting native trees. The campaign focused on the Dhofar region, which is home to more than 800 of the 1200 native Omani plant species and faces desertification, overgrazing, and the invasion of alien plant species. Through this campaign, ESO has built long-standing relationships with the local community, officials, volunteers, schools, universities and colleges. The campaign took place over three phases, the final one being the design of an educational booklet and awareness campaign specifically targeting school students in Dhofar.

Educational Booklet

With the help of the Oman Botanic Garden and volunteers, ESO put together a comprehensive educational booklet detailing Dhofar tree species, their adaptation to local climates, human impacts, and question and answer sections to engage children.



School Involvement

In cooperation with the **Ministry of Education** Directorate in Dhofar, ESO conducted an awareness campaign in 26 schools and gave interactive presentations to students in Salalah, Thamrait, Taqa, Mirbat and Dhalkut.

The ESO Education Team worked with 700 students and, in working groups, asked them to discuss the issues of climate change, overgrazing, desertification and urbanization in relation to native trees. They were asked to design their own tree planting campaigns and discuss goals and challenges.



ESO Education Coordinator Nuhaila Al Sulaimani teaches children in Dhofar about native trees.

Closing Ceremony

In May, a closing ceremony took place under the patronage of HE Sheikh Salim Bin Oufeit Al Shanfari, President of the Dhofar Municipality. The ceremony was hosted at Salalah College of Applied Science where volunteers and stakeholders were honoured for their support throughout the campaign. ESO's tree planting activities will continue in 2015.

Third Inter-College Environmental Public Speaking Competition

In cooperation with **Emirates Environmental Group (EEG)**, ESO held the 3rd Inter-College Environmental Public Speaking Competition, organized with the aim of developing a deep appreciation of the environment and an understanding of the challenges facing it through study, research, discussion and debate.

An open challenge was thrown to the Oman higher education student community. The students built and presented strong cases on different contemporary issues and questions relating to the environment. The competition gave the participants a wonderful opportunity to showcase knowledge and talent, and served as a good networking tool among government and private academic institutions.



Sponsored by **Shell Development Oman** and **Occidental Oman** (Gold Sponsors), **Daleel Petroleum** (Silver Sponsor), and **OHI Group, Be'ah, Oman Cement Co.,** and **Ominvest** (Bronze Sponsors) and supported by **TRACCS Oman, Carillion Alawi, Safer Hotels, Crowne Plaza Muscat,** and **Dunes by Al Nahda,** the competition was held on October 28-29 under the patronage of HH Dr Sayyida Mona Bint Fahd Al Said.



Judges included Yasser Abdullah Sulaiman, District 20 Governor, Toastmasters International, Dr Asadallah Al Ajmi, Advisor to the Minister for Academic Affairs, Ministry of Higher Education, Dr Thuraya Said Al Sariri, Director of Biodiversity Department, Ministry of Environment and Climate Affairs, Shaima Al Lawati, CEO of Oman Road Safety Association, Yasir Al Harthy, Assistant Director of the Department of Studies and Research, Ministry of Higher Education, and Tariq Al Barwani, Founder of Knowledge Oman.

Winning teams

Who is Responsible for Food Wastage: Oman Dental College (Juhina Abdullah Al Balushi, Karishma Vijay Manek, Noreen Mahmoud Mohamed, Basma Said Al Kalbani, Fatma Ameir Al Mukhtar).

How Can a Curriculum Help Protect our Environment: Ibri College of Technology (Anood Mohammed Al Muqrashi, Fatema Said Al Kalbani, Basama Humaid Al Hinai).

Green Economy: Commitment and Responsibility: Dhofar University (Mahir Ali Al Sulaimi, Sheikha Amer Bakhit Labkhit Al Amri, Amna Salim Al Zaabi, Husam Hussein Mahmood Ibrahim, Fatima Amer Masan).

The More Technology We Develop the More Pollution We Create: Intl. College of Engineering & Management (Nourah Masoud Al Abaidani, Ibtisam Humaid Al Shukairi, Fadya Ali Al Falahi, Fatem Hilal Al Kiyumi, Rawan Ibrahim Al Hashmi).

Following the success of the National Competition, ESO held workshops for the winning teams to enhance their design and presentation skills for the Regional Competition, which was held in Dubai in November.



Prior to leaving for Dubai, the winning teams met with HE Mohammed Al Tobi, Minister of Environment and Climate Affairs.



The Dubai Regional Competition saw Oman's winning teams compete against over 60 teams from 8 countries.

Earth Hour 2014

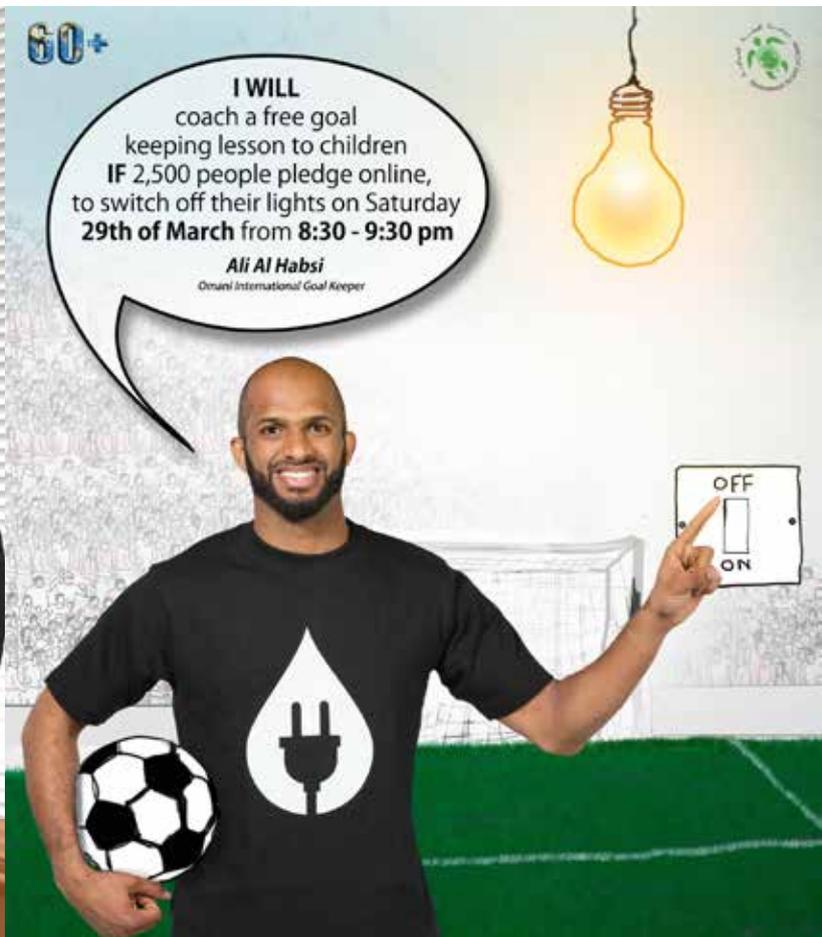
2014 saw a huge success in ESO joining the global initiative of Earth Hour, which aims to demonstrate concerns about the future of our planet by doing something simple, yet remarkable – turning off lights for one hour on the last Saturday in March at 8:30pm. This year, with the slogan “Our Hour, Our Earth”, we were proud to partner with Petroleum Development Oman (Silver Sponsor), **Sohar Aluminium, Towell Engineering, Oman Solar Systems, and Muscat Pharmacy** (Bronze Sponsors).

In-kind supporters included: **The Wave Muscat, Shell Marketing, Crowne Plaza Muscat, Yelo Studio, M Events, Talentz, Hill International, TRACCS Oman, Berger Paints, Foto Factory, Oman Sail and Electricity Holding Company.**

Using social and conventional media, and with the help of Omani celebrities, ESO received over 2600 pledges of support from the public and private sector, government and educational institutions to turn their lights off for 1 hour. It was an incredible display of community participation and culminated in a spectacular event hosted at **The Wave Muscat.**

Social media and support from **Apex Publishing, Al Shabiba, Times of Oman, Eyecomms, Merge 104.8 and Al Wisal 96.5FM** enabled ESO to get the message out across Oman and engage volunteers. ESO was honoured that the **Royal Opera House Muscat, the Grand Mosque, Muscat Municipality and Sultan Qaboos University** also joined in the initiative and turned off all non-essential lighting. In 2014 we were able to calculate that during Earth Hour, Oman saved 67,000 KWh of electricity. This is enough power to provide electricity in 1200 homes for one hour!

We would like to thank our celebrity ESO Ambassadors: **Ali Al Habsi, Sheikh Khalfan Al Esry, Ahmad Al Harthy, Raiya Al Habsi, Raja Owaisi** and **Ibtisam Al Salmi.**



ESO also held its annual school energy saving competition and special congratulations go to the winners **Hafsa bint Sreen School** in Buraimi.



60+
EARTH HOUR



THANK YOU

WITH YOUR SUPPORT, ON 29TH MARCH 2014

WE WERE ABLE TO SAVE

67,000 KWH

IN ONE HOUR



شركة تنمية نفط عُمان
Petroleum Development Oman



TOWELL ENGINEERING



SOHAR
ALUMINIUM



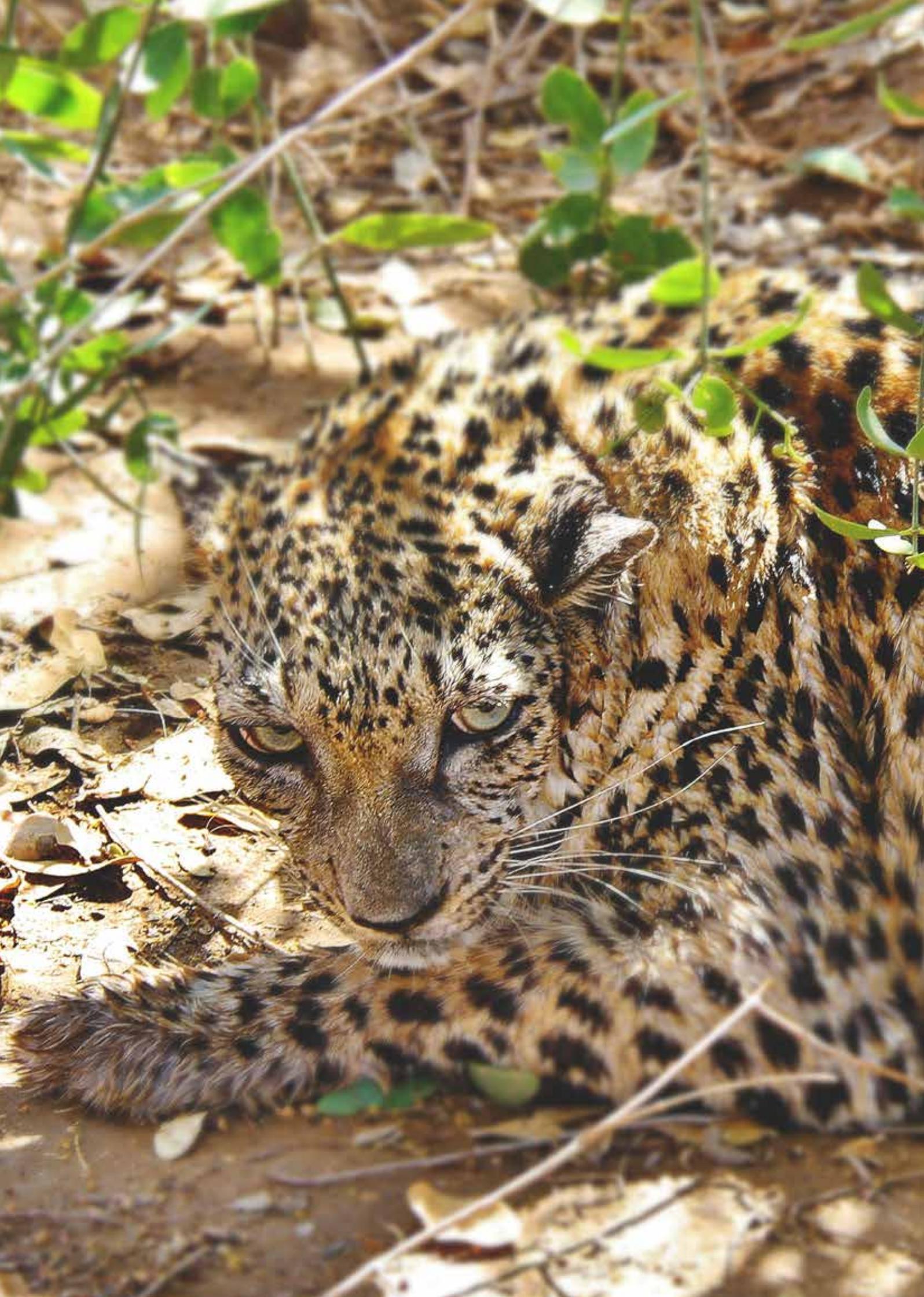
OMAN SOLAR SYSTEMS CO. LLC



<http://www.yellostudio.com>



Special thanks also goes to Gaurang Gondaliya for his Earth Hour design as well as the many volunteers who help make this event a success!





Arabian leopard, *Panthera pardus nimr*, Hamed Al Gheilani.

Masirah Signage

In June 2014, 27 awareness signs detailing the importance of Masirah's biodiversity were placed on the eastern beaches of the island. We would like to thank **Carillion Alawi** for providing the workers, tools and sandbags for eco-friendly installation of the signs. We would also like to thank the **Ministry of Environment and Climate Affairs** for their support in advising on content and location and coordinating with the **Royal Air Force of Oman** to install four signs on their base. Special thanks also goes to the **Omani Women's Association** for providing transport to the workers on site for the whole installation period and **Muscat Municipality** for providing additional workers.



Eco Summer

In the summer, ESO wanted to engage 12-17 year olds in environmental activities during the holiday months. 40 students registered for the Eco Summer Program and activities included debates and storytelling where each student expressed their views on environmental issues; art classes using recycled materials; informative sessions on biodiversity, environmental quizzes, drawing skills, photography classes and clean-up guideline sessions. We would like to thank the **EcOman Center** for the use of their premises and the **Mona Lisa Art Club** for hosting the drawing activity.



Other Outreach Activities in Communities and Schools

In 2014 outreach and awareness activities were held in Muscat, Masirah, Al Wusta, Sharqiya, Musandam, Al Batinah and Dhofar, targeting schools and the wider community. ESO's dedicated community outreach team tailors presentations to different communities based on their local environments and biodiversity. Presentations include areas such as Recycling, Oman's Biodiversity, Climate Change, Clean-Ups and Photography.



Women and children are seen to be key drivers to societal change and ESO has been targeting these groups across the Sultanate, presenting environmental awareness lectures on important biological components and the ways in which our actions impact the environment. School presentations and lectures to the Oman Women's Associations took place in Musandam (Khasab, Dibba, Buka and Madha); Dhofar (Thamreet, Al Mazyonah, Shleem, Sharbtat, Shamiah, Hasik and Halaniyat) and Al Batinah Regions (Wadi Al Maawil, Nakhal and Al Rustaq).

Lectures and field trips were organized by ESO to areas such as Hasik, Al Amerat, Oman Botanical Garden and Bait al Baraka.



Oman Botanical Garden and The Omani Wild Animal Breeding Centre in Bait Al Baraka.



Desert Hedgehog *Paraechinus aethiopicus*, Omar Al Sheikhly.

Capacity Building Program

Oman LNG LLC: ESO's Capacity Building Partner

ESO has been steadily growing over the last seven years and it remains our goal to train Omanis in the field of environmental conservation. Due to natural attrition and because NGO employees were, in the past, unable to secure bank loans, local employees were often recruited to other organizations seeking to improve their environmental capabilities. In 2011 we found ourselves faced with a major restructuring of staff in order to keep up with the growing responsibilities and projects that ESO has and wants to continue taking on.

It was agreed by the ESO Board that a central part of ESO's mandate would be to train Omani graduates in conservation strategies and NGO and community involvement before joining Oman's workforce and give them an opportunity to pursue a career with ESO. However, there was a shortfall in funding between the administrative costs that are brought in from project funding, and the running costs of the Society.

In March 2012 **Oman LNG LLC** (OLNG) became ESO's Capacity Building Partner in order to help cover this short fall of funding, allowing the Society in turn to successfully increase all project capabilities, increase community outreach programs, increase volunteer involvement and start an Omani Training Program in the field of environmental conservation.

Since receiving the OLNG funds in April 2012, ESO has speedily been making progress in the area of capacity building. In 2013 ten Omanis were hired and trained, giving ESO the much-needed support and administrative assistance it requires, in order to further plan for an increased number of research, community outreach and education projects in Oman. In addition, the funds have enabled ESO to reach out more effectively and engage with the public, as well as the various official bodies.

In 2014 seven Omanis were included in the Capacity Building Program. ESO is very grateful for the OLNG support from 2012-2014.

Omani Training Program

Although graduates are trained in a specific area of NGO management, each leave the training program with experience in the following areas:

- NGO Management
- Project Management
- Conservation Management
- In-Field Research Experience
- Community Outreach
- Awareness Raising
- Volunteer Management

ESO would like to thank **Bank Muscat**, **Shell Development Oman** and the **National Bank of Oman** for their support in providing free training courses to our staff.



Asma Al Balushi

Asma graduated from Sultan Qaboos University (SQU) in 2011 with a BSc in Marine Science. She was recruited for the position of Projects Management Coordinator and has been with ESO since March 2012, assisting in consultant management, proposal and report writing, securing scientific research permits and liaising between ESO's Muscat and Masirah offices. Asma has led meetings with the Wali of Masirah, engaged with the Oman Women's Association and given numerous presentations, strengthening ESO's community outreach program and ensuring that results of our scientific projects are shared with relevant parties. Following Asma's 2013 visit to South Africa to attend a 10-day Earthwatch Emerging Scientists Program, her work has seen travel to the UAE, Jordan, and Kuwait most recently for a workshop on the Conservation

of Marine Turtles in the Arabian Gulf. In March 2014 Asma was trained in whale and dolphin field-work when she joined the ESO research team in our efforts to tag five humpback whales in Hasik. Asma was at the campsite for one week along with the ESO project manager and international experts. This was a wonderful experience allowing her to see the whales and dolphins in their natural habitats and learn how to tag, identify and input data for analysis. Asma continues to work in the area of project management and gain experience in the scientific field of environmental research.

Sawsan Al Husaini

Sawsan worked with ESO for two years and as Public Relations Officer and Administrative Assistant. Sawsan attended both English language courses as well as customer service courses and in 2014 completed a pre-intermediary English course at the British Council. Sawsan left ESO in mid 2014 to pursue other goals.



Juma Al Humaidi, Ghasi Al Farsi and Juma Al Arimi

Juma, Ghasi and Juma have been working for ESO since 2009 as part-time field assistants in Masirah. Although they were initially recruited and trained by ESO to help with field surveys of loggerhead turtles, their contributions have been unparalleled in terms of creating ties with the local community in Masirah. Our field assistants have now been working full time with ESO for three years, assisting in the field with our Turtle Research and Conservation, Renaissance Whale and Dolphin Project and Egyptian Vulture Research. Not only have the field assistants been trained in field surveying methods, they have completed courses in computers, English, typing, bird identification and ringing, and whale and dolphin identification. They have worked with experts from the US, Netherlands, Bulgaria and the UK and recently took the lead in ESO's Sustainable Fishing Towards Turtle Conservation Project during which they worked with SQU interns and marine scientists. In 2014 they completed the Oman National Powerboat Course, organised by Oman Sail. Specifically within the Egyptian Vulture Research the field assistants' technical capabilities were noticeably developed and were trained in: identification skills, data collection and analysis, assessment of breeding vultures according to the British Trust of Ornithology (BTO) breeding codes/evidences, and training on using the IUCN threat assessment Pressure-State-Response (PSR) scoring model to diagnose and measure the severity of the threat impacts on both species and habitats.



Nuhaila Al Sulaimani

Nuhaila holds both a BSc in Applied Biology from the Higher College of Technology and an MSc in Environmental Monitoring and Management from the University of Nottingham, Malaysia Campus. Nuhaila joined ESO as Education Coordinator in 2013 and is a great asset to the organization. She has worked with higher education students on the International College Environmental Public Speaking Competition when she liaised with supervisors of student teams and ensured that 200 students from 28 different colleges and universities were properly mentored prior to their presenting at the event. She then accompanied the winning teams to Dubai for the Regional Competition. In March 2014 Nuhaila researched, wrote and designed an educative booklet to be given to students in Dhofar schools outlining the importance of planting native trees in Oman and what the main native tree species are. She almost singlehandedly planned the 3rd phase of ESO's Native Tree Planting Campaign to distribute these booklets and raise awareness in schools and in doing so has worked with Ministry of Education officials, volunteers and agricultural experts. Nuhaila planned an Eco Summer program for children in Muscat and is currently working on a comprehensive education program for 2015. Nuhaila travelled to Tunisia in June to attend a conference on development of civic society in environment education and then to Japan in November for the UNESCO World Conference on Education for Sustainable Development.



Khalid Al Khaldi

Khalid Al Khaldi volunteered for ESO for three months during the preparation for the 2013 Inter-College Speaking Competition and was solely responsible for contacting and engaging college and university students. Khalid has a natural charismatic ability to engage and excite volunteers and students and so it was only natural for him to join ESO full time as Membership Coordinator. In 2014 Khalid worked to increase membership of students within ESO and made many trips to colleges across Oman and worked with them to organize their own events for Oman Environment Day. Khalid has attended numerous conference and exhibitions promoting ESO and our work and has also accompanied volunteers on ESO's field

work in Hasik to tag humpback whales. He has organized activities in schools and worked closely with higher education students in preparation for the 2014 International College Speaking Competition. Khalid worked with over 200 students preparing them for the event and mentoring them through the process and after assisting with the organization of the Oman event, he then accompanied the winning teams to Dubai for the Regional Competition. Khalid is currently putting a program together for initiating environmental activities and clubs within colleges.

Abdulaziz Al Alawi

Abdulaziz Al Alawi graduated from Nizwa Applied Sciences College with a BA in digital and graphic design. He joined ESO in March 2014 as Community Outreach Coordinator and has since worked on raising awareness of environmental issues and ESO in general across the Sultanate. Areas of focus included Dhofar, Al Wusta, Batinah and Musandam where ESO collaborated with The Oman Women's Association, schools and local communities. In Duqm, Abdulaziz presented ESO's whale research and its global significance to the area and in November he attended The First Arab Forum for Best Practices in the Youth Field which took place in Dubai, UAE. In addition to his community outreach work, he has been very involved in design work for ESO activities including Earth Hour, educational booklets and informational posters. He has also become our official photographer and is currently working on a comprehensive outreach program for 2015.



Other Activities

Internship Program

Aditi Kumar interned with ESO from May - June and was invaluable in managing our corporate communication needs while with us. Her tasks included: regularly managing and updating ESO's social media, preparing presentations, and collaborating with the team, assisting with daily tasks.

Manavi Varma interned with ESO from May - June and assisted in managing our corporate communication. Her tasks included: sending out annual reports, updating the corporate database, corporate membership renewal, sponsorships, newsletter drafting, and assisting with ECO Summer activities.

Varun Narayanan interned with ESO from May-June, 2014 and assisted in administrative tasks. These included: organizing letters, updating corporate databases, helping with membership packages, quiz preparation, and helping with ECO Summer activities.

Ahmed Al Bualy interned with ESO from August - September and during that time helped with the following: reviewing background information on the Egyptian Vulture Project, giving ideas for outreach including developing a questionnaire on the value of recycled products as part of the socioeconomic project for women in Masirah, reviewing reports, entering raw data for analysis and preparing reports for the Frankincense Project.

ECO BOWL 2014

14 teams competed in ESO's 3rd annual corporate bowling competition aiming to raise funds for ESO. In first place was Ooredoo, second place went to HSBC and third place to Port of Salalah. This year an environmental quiz was also held for the participating teams and was won by Occidental Oman (OXY). Prizes and support was provided courtesy of **Sifawy Boutique Hotel, Hussein Fadhil & Partners, Mustafa Sultan Enterprises, Enhance, TRACCS, Al Jarwani Hospitality and The Wave Muscat**. We would like to thank all the companies who participated and look forward to the 2015 rematch!



Ramadhan Quiz

ESO's annual Ramadhan quiz saw 30 competitors take part and answer 60 questions on the environment. We would like to thank those that participated as well as our supporters for the evening **Kargeen Café**, **Salma's Chocolates** and **The Nejd**.



Volunteer of the Year Award 2014

The ESO volunteer of the year award recognizes and celebrates the outstanding efforts of our volunteers. It's our way of thanking them for their generous hours and services throughout the year.

The Volunteer of the Year 2014 Award went to Yousef Al Mahrooqi in Dhofar and Muhanad Al Ghafri in Muscat.



Yousef Al Mahrooqi generously donated his time and equipment for the whale tagging work in Dhofar. In addition to his time, he also donated a large van, gave ESO use of several large tents, sleeping bags, mattresses, kitchen equipment, chairs and tables. He also arranged drivers and vehicles to transport many of our volunteers and researchers from Salalah airport to Hasik camp. Later in the year, he invited and arranged a meeting for the ESO team in Salalah to present Dhofar tour operators, which he contacted himself. His support has been invaluable and we are very proud to have Yousef as an ESO member and volunteer.

Muhanad Al Ghafri volunteered at the ESO office for 4 months and was invaluable in the office, helping with many administrative issues, and assisting ESO in preparing, executing and evaluating the Earth Hour event, the Native Tree Planting Campaign, the Annual General Meeting (AGM), Eco Summer Program and the Inter-College Speaking Competition.



Awards, Grants and Donations

ESO would like to give special thanks to all those who have helped us achieve our goals in 2014. These donors, sponsors and grant agencies are listed below in order of the date donations:

- **Ajit Khimji Group LLC** for free office space
- **Oman LNG LLC** for the Capacity Building Program
- **TRACCS Oman** for public relations support
- **Apex Publishing** for their continued support
- **HSBC** for the Frankincense Project
- **Renaissance SAOG** for the Renaissance Whale and Dolphin Project
- **Marina Bandar Al Rowdha** for free berthing of the ESO boat
- **Port of Salalah** and **Ford Environmental Grant** for the Native Tree Planting Campaign
- **Shell Oman** for fuel cards
- **Towell Auto Center** for vehicle rental
- **The Chedi Muscat** for guest donations
- **PDO EcOman Center** for use of their lecture facilities
- **Merge 104.8** and **Al Wisal 95.6FM** for the Earth Hour coverage
- **Drums of India Concert** donation
- **ANZO Surf Carnival** donation
- **Carillion Alawi** for installing awareness signage on Masirah Island
- **Omani Women's Association** for providing transport during sign installation on Masirah Island
- **Oman Oil** and **Port of Duqm** for the Turtle Research and Conservation Project
- **Shell Development Oman** for the Egyptian Vulture Project
- **Shell Development Oman** for providing training opportunities to ESO
- **Saud Bahwan, Mohsin Haider Darwish** and **BP Oman** for Sponsorship of the ESO Fundraising Ball
- **Amouage, Jawad Sultan Group, Mumtaz Mahal, Grand Hyatt, Seaoman & RYA, Ubhar, Alila Hotel, Al Angham, Mistal, Mustafa Sultan Enterprises, Hud Hud Travels** and **Ocean Blue International** for raffle and auction prizes at the ESO Fundraising Ball
- **Al Yousef Group** for annual report printing
- **Petroleum Development Oman, Sohar Aluminium, Muscat Pharmacy, Towell Engineering** and **Oman Solar Systems** for sponsorship of Earth Hour 2014
- **Al Shabiba, Muscat Daily, Times of Oman, Al Isbou'a** and **The Week, Eyecomms, Merge 104.8, Al Wisal 96.5FM** for media support during Earth Hour 2014
- **The Wave Muscat, Shell Marketing, Crowne Plaza Muscat, Yelo Studio, M Events, Talentz, Hill International, Berger Paints, Foto Factory, Oman Sail** and **Electricity Holding Company** for in-kind support during Earth Hour 2014
- **National Bank of Oman** for staff training courses
- **Kargeen Café, Salma's Chocolates, The Nejd** for ESO Ramadan Quiz prizes
- **Shell, Occidental Oman, Daleel Petroleum, OHI, Be'ah, Oman Cables Co., Ominvest** for sponsorship of Inter-College Environmental Public Speaking Competition
- **TRACCS Oman, Carillion Alawi, Safeer Hotels, Crowne Plaza Muscat** and **Dunes** by Al Nahda for in-kind sponsorship of Inter-College Environmental Public Speaking Competition
- **Oman Sail** for Sea Safety Training Courses
- **Imtac** for laptops and technical support
- **Oman Air** for displaying ESO awareness film on board flights
- **UMS** for webmail support
- **Oxy, Renaissance Services, Port of Salalah, Enhance, Shell Marketing Oman, Asha Enterprises, Khimji Ramdas, Omran, HSBC, Services & Trade, Ooredoo, Al Anwar Holdings Group** for ECO BOWL participation
- **Sifawy Boutique Hotel, Hussein Fadhil & Partners, Mustafa Sultan Enterprises** and **Enhance** for ECO BOWL prizes
- **Al Jarwani Hospitality** and **The Wave Muscat** for ECO BOWL support
- **Bank Muscat** for staff training courses
- **The Agency** for their continued support in putting together these annual reports



Indian roller, *Coracias benghalensis*,
in Sohar, Hamed Al Gheilani.

International Highlights

UNESCO ESD World and Youth Conference, Okayama & Aichi-Nagoya, Japan

In November, Nuhaila Al Sulaimani, ESO's Education Coordinator attended the Education for Sustainable Development Conference in Japan organized by the Goipeace foundation and UNESCO. The conference engaged the participants and discussions took place on policy advancement, innovative learning, sustainability challenges and social entrepreneurship. Their statement was then presented to high-level stakeholders from around the world.



Nuhaila, top right, at the ESD Conference in Japan.

Marine Turtles Gulf Conservation Workshop, Kuwait

In December Asma Al Balushi, ESO Research Projects Coordinator travelled to Kuwait for a workshop on marine turtles in the Gulf, organised by the Kuwait Institute for Scientific Research. The workshop brought together individuals from NGOs, government, schools, colleges and volunteers in the region to discuss turtle conservation. Main points of discussion were regional research and conservation activities, links with international initiatives, understanding threats and challenges and practical actions.



Asma, second from right, at Marine Turtles Workshop in Kuwait.

Loggerhead Turtle Collaboration Mission, La Réunion

ESO and SQU are collaborating with Kelonia and IFREMER in La Réunion under the COCA LOCA Project with the objective of increasing scientific knowledge on spatial dynamics and stock structure of loggerhead turtles in the Indian Ocean. Sub-adult loggerhead turtles caught in longline fisheries off the coast of Madagascar and La Réunion are rehabilitated and then released with satellite transmitters. The study shows that the majority of these turtles make their way north towards Masirah Island. In order to understand the connections between Oman's loggerhead population and those accidentally caught in fisheries off La Réunion, ESO has collected tissue samples from female loggerhead turtles nesting on Masirah to be sent to La Réunion for genetic and isotope analysis. Additionally, a dispersal model will be developed for hatchlings emerging from Masirah to better understand linkages. Suaad Al Harthi, ESO's Programs Director, visited La Réunion in November to discuss this cooperation project.



Suaad in the water just about to release a tagged loggerhead turtle in La Réunion.



Arabian gazelle *Gazella arabica*, Haima
Hamed Al Gheilani.

Conferences, Lectures and Workshops attended in 2014

ESO is represented by volunteers, staff and board members at national, regional and international conferences and workshops. Below is a list of those attended in 2014:

Marine Turtle Conservation Project Stakeholders Workshop (EWS-WWF); Dubai, UAE

Hima Regional Forum; Amman, Jordan

Development of Civic Society in Environment Education (ISESCO); Sidi Bousaid, Tunisia

The Role of Environmental Education in the Community (MECA); Muscat, Oman

UEF-UNEP Course on Multilateral Environmental Agreement; Joensuu, Finland

UNESCO ESD Youth Conference; Okayama, Japan

UNESCO ESD World Conference; Aichi-Nagoya, Japan

Marine Turtles Conservation Workshop (Kuwait Institute for Scientific Research); Kuwait City, Kuwait

The Natural Heritage of the Sultanate of Oman (Royal Geographical Society); London, UK

Arab High-Level Forum on Sustainable Development; Amman, Jordan

Regional Workshop on the Implementation of Principle 10 of the Rio Declaration; Amman, Jordan

Arab Consultative meeting on an Accountability Framework for the post 2015 Development Agenda; Tunis, Tunisia

Regional Seminar on Strengthening Capacities in the Arab Region to Support Green Production Sectors; Muscat, Oman

Oman Power & Water Efficiency and Conservation; Muscat, Oman

Oman CSR Summit; Muscat, Oman

The First Sustainability Talk (Omran); Musannah, Oman

Social Entrepreneur Training Program (Tawasul); Muscat, Oman

Oman Marine Festival; Muscat, Oman

Waste Management Conference; Muscat, Oman

Agriculture and Fisheries Research Workshop (SQU & MAFW); Muscat, Oman

Conference on Harmful Algal Blooms and Their Effect on Desalination Plan and Aquaculture; Muscat, Oman

Recycling Workshop (Sohar University); Sohar, Oman

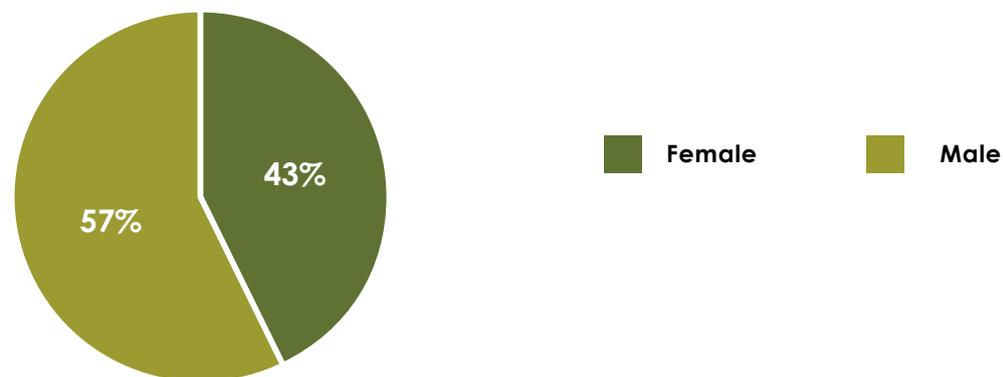
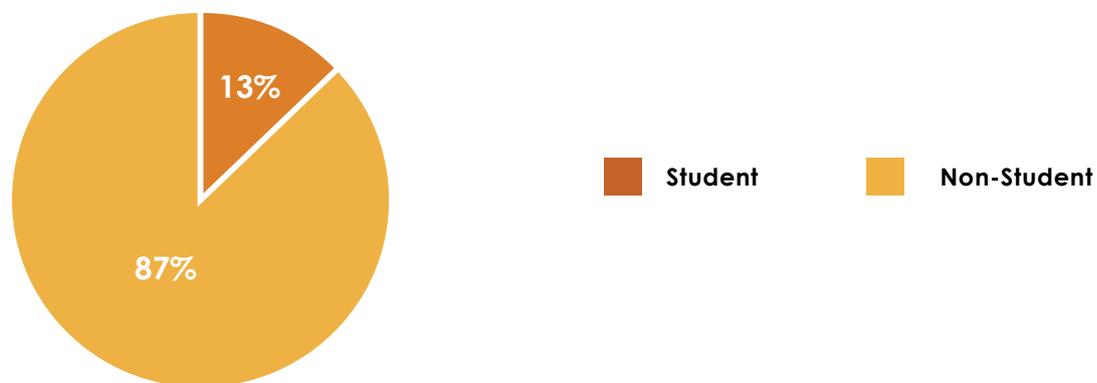
The first Arab Forum for Best Practices in the Youth Field (League of Arab States with General Authority of Youth & Sports Welfare); Dubai, UAE

Loggerhead Turtle Collaboration Mission to La Réunion (IFREMER/ KELONIA); La Réunion.

Membership

Individual Membership

As of December 2014 there were a total of 1084 ESO individual members. The charts below show percentages of Omanis, students and male vs female members.



Corporate Membership

ESO is grateful for the support of all our corporate members below:

- Al Jarwani Hospitality
- Al Mashriq International Engineering Consultancy
- Berger Paints
- BP Oman
- Carillion Alawi
- Daleel Petroleum
- Ernst & Young
- Khimji Ramdas
- Be'ah (Oman Environmental Services Holding Company)
- Omran
- Oman Trading International Ltd.
- Port of Salalah
- PricewaterhouseCoopers
- Salalah Free Zone
- Shell Development Oman
- Shell Oman Marketing Services
- The Wave Muscat
- Towell Auto Center LLC

Affiliations with International Organisations

- United Nations Environmental Program (UNEP)
- United Nations Educational, Scientific & Cultural Organisation (UNESCO)
- International Union for the Conservation of Nature (IUCN)
- International Whaling Commission (IWC)
- US Fish & Wildlife Service
- Wildlife Conservation Society
- Birdlife International, Middle East Branch
- Emirates Environmental Group
- Emirates Wildlife Society/WWF
- Ford Foundation
- National Oceanic & Atmospheric Association
- Sackler Institute of Comparative Genomics, American Museum of Natural History
- University of Exeter, Center for Ecology and Conservation
- Cetacean Conservation Medicine Group (CMED)
- Peruvian Center for Cetacean Research (CEPEC)
- Durham University
- South West Fisheries and Science Centre
- IFREMER (French Research Institute for Exploitation of the Sea)
- Instituto Aqualie
- Sri Lankan Blue Whale Project
- Center for GeoGenetics, Natural History Museum of Denmark, University of Copenhagen
- Motte Marine Laboratory
- Florida Wildlife Commission
- Kelonia, La Réunion
- International Avian Research
- Spanish National Research Council

Photo credit:
Talal Al Abdelsalam.

Acknowledgements

There are many people we wish to thank for their support, hard work and dedication to ESO:

First and foremost special thanks go to ESO Patron, HH Sayyid Tarik bin Shabib Al Said, who has always supported the Society and has been instrumental in its success.

The Ministry of Environment and Climate Affairs, the Ministry of Agriculture and Fisheries, the Ministry of Education and the Ministry of Social Development have always been staunch supporters of ESO and we thank them for their guidance and understanding of our work.

None of ESO's work would be possible without much needed funding from our corporate members, sponsors and supporters. We thank all of them and hope that their generosity will continue for years to come.

Dr Mehdi Ahmed Jaaffar, ESO's Vice President (2004-2014), is now an advisor and valued volunteer who regularly attends conferences and meetings on ESO's behalf.

Dr Mohsen Al Amri, former ESO Board Member who has completed four years of research on frankincense and initiated the tree planting campaign in Dhofar.

ESO Staff are the backbone of the Society and its work and we thank all that have come and gone over the years. They have all made a lasting difference and will always be remembered. We would especially like to thank Sawsan Al Huseini who was with ESO for 3 years and has moved on to other opportunities.

ESO Members are the organisation's ambassadors and we thank every one of our dedicated members for coming to events, dedicating their time and supporting the conservation of Oman's environment.

Ajit Khmiji Group who have given ESO free office space for the last few years and Towell Auto who provide our staff vehicles.

Oman's media have been extremely supportive in making our efforts public and ESO would like to thank all media houses for their continued coverage of our projects and successes. Special thanks go to Apex Publishing who have given free advertising space to ESO over the last five years for which we are extremely grateful and TRACCS Oman for providing our PR services.



Volunteer Acknowledgements

Volunteers are a very important part of our ESO's work. In particular Yousef Al Mahrooqi who helped with whale and dolphin surveys by providing transport, catering, camping equipment and also liaised with tour companies for our dolphin watching guideline workshops. Muhanad Al Ghafri volunteered at the ESO office and was invaluable during Earth Hour, speaking competition, tree planting project, our AGM, and Eco Summer educational workshop. Maiya Al Hajri volunteered with ESO for the duration of the speaking competition as ESO's Ambassador, mentoring students and helping with pre- and post event administration.

Our 2014 interns Aditi Kumar, Manavi Varma, Varun Narayanan, Ahmed Al Bualy.

Volunteers/members who attended during the whale tagging field trip: Anita Schuh, Marina Tsaliki, Kais Muhammed, Hawwa Al Qusimy, Ravi Ramanath, Saleh Al Jaafari and Salim Al Jaafari who assisted during the whale tagging trip. Darryl Macdonald who was involved as paramedic, boat skipper and freelancer photographer during whale fieldwork.

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Thank you to all our volunteers without whom our work would not be possible.

Thomas' Spiny Tailed Lizard,
Uromastyx thomasi.





سحلية توماس ذات الذيل
الشائك، إيان رينسن.