



ORCA FOUNDATION - VOLUNTEER PROGRAM – 2016/17

ORCA Foundation activities 2016/17

1. Dolphin and whale watching boat trips

Volunteers join on the Ocean Blue Adventures dolphin and whale watching boat trips. These trips allow them the opportunity to see a variety of the marine life within the bay and surrounds. Volunteers are instructed on how to take fin profile photos of the whales and dolphins they encounter for the purpose of building an identification catalog based on fin profile photos. Sightings are also added to MammalMAP or iSpot.

2. Fin profiling

2.1 Catalogs

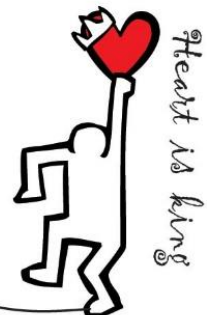
The entire process of fin profiling and developing a catalog is a long one. Volunteers are exposed to the fun data collection process on the Ocean Blue Adventures boats, and then the long arduous process of data processing. The long-term goal is to have a catalog for each species (three dolphin species, and two whale species) that are regularly seen on boat trips.

2.2 Data sharing

ORCA Foundation believes in data sharing and to this end we have contributed photos from our collection to ongoing projects, namely Alejandra Vargas' PhD on bottlenose dolphins, and more recently Summer Newton's MSc on humpback whales. Volunteers have been asked to collate photos relevant to the requests. Volunteers have also assisted on Alejandra's research boat trips when she had need of additional help.

3. Aquarium maintenance, bait collection, and fish capture

The marine aquarium at Ocean Blue Adventures needs regular cleaning and backwashing to ensure the aquarium remains pristine and the indigenous fish are in a healthy environment. To ensure a varied diet volunteers are tasked to collect common sandprawns *Callichirus kraussi* to feed to the fish. Occasionally, volunteers catch fish to restock and add variety the tank. Volunteers gain a sense of responsibility for the duration of their stay to ensure the fish



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and their environment are healthy.

4. Alien vegetation clearing

4.1 Removal

Volunteers assist where needed to remove alien vegetation using saws and pangas. These plants take up a vast amount of valuable water away from our indigenous plants and removing them allows for the area to return to its natural vegetation composition. Once these trees and plants are taken down it must be ensured that they will not grow again and stumps are often painted with old oil to prevent regrowth.

4.2 Use/Disposal

The removed vegetation will either be used constructively (such as building fences and boma walls) or will be burned on a later date once burn permits have been approved. Volunteers have assisted with controlled burns of alien vegetation. This is done with permitted permission and has to be done according to strict protocol. After 12:00pm no more fuel can be added to the fire.

5. Tree planting

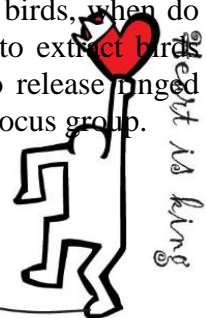
In order to offset some of the carbon footprint of the ORCA Foundation staff and volunteers we plant indigenous trees at various sites. The processes of photosynthesis and respiration are explained, as well as that of global warming and the role carbon dioxide plays. The ORCA Foundation also takes part in the yearly Kurland Greening organized by Nature's Valley Trust.

6. Assisting local rehabilitation and conservation centres

Volunteers have been assisting at Tenikwa Wildlife Awareness Centre (www.tenikwa.co.za) as well as Brackenburn CREW (www.brackenburncrew.com). This includes general maintenance, assisting with construction of new enclosures, or cleaning of facilities. Generally, volunteers are thanked for their hard work with a free 'Wild Cat Experience' at Tenikwa, and guided hikes at Brackenburn. Volunteers are able to see both sides of rehabilitation and conservation: behind the scenes hard work and maintenance that is involved in successfully running such a facility, as well as the glamorous front that tourists see. This gives them a better appreciation and understanding of this aspect of rehabilitation and conservation.

7. Bird ringing

Mist nets are put up at certain locations early in the morning before sunrise with the intention of catching a variety of bird species - we do not target any specific species. Birds caught have a metal band engraved with a unique alphanumeric code placed on their leg, and a number of body measurements are taken. This all gets uploaded to a central database (www.safring.adu.org.za). Bird ringing can help answer a number of important questions: how long do birds live, where do birds go, how is climate change affecting birds, when do birds breed? Long-term volunteers have the opportunity to be taught how to extract birds from the nets and how to ring, while short-term volunteers are allowed to release ringed birds. Volunteers are exposed to a different research method, and a different focus group.



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8. MiniSASS/River health assessments

ORCA Foundation is monitoring 4 sites in the greater Plettenberg Bay area, rotating each week. Macroinvertebrates are collected by drawing a net through the water and surrounding vegetation and identified. Each group present is given a sensitivity score and thereby the relative health of the river can be assessed. These results are uploaded to an online database (www.minisass.org) monitoring river health throughout South Africa. Volunteers are exposed to a different research method, and a different focus group.

9. Elasmobranch egg case collection

A long-term research monitoring project started up in February 2016 involves the collection of washed up elasmobranch (shark, skate, and ray) egg cases along three sandy beaches. Robberg and Keurboomstrand beaches are surveyed during the one week and Nature's Valley beach is surveyed on the alternate week. Volunteers walk the designated length of the beach, spread out along the width to cover as much area as possible while scanning the immediate area for egg cases. These egg cases are small and can be easily missed so sharp eyes and constant attention is required, along with a slow, steady pace. Each egg case found is placed in a numbered bag and the GPS coordinates are recorded. At the ORCA house these egg cases are soaked overnight in numbered tubs corresponding to the bag number. Soaking allows the egg cases to regain their true size and shape. The following day each egg case is identified, measured, and inspected for damage (primarily boreholes formed by gastropods) and coral attachments. The cases are then dried and stored away for future reference. Volunteers are exposed to a long-term monitoring project, as well as given an understanding of what is required theoretically and practically to run a research project.

10. Shark spotting project

In collaboration with the Plettenberg Bay Hope Spot the ORCA Foundation is managing a long-term monitoring project on the Great White Shark presence in Plettenberg Bay. Sightings are collected from participating companies, members of the public, as well as ORCA staff and volunteers. The date, time, estimated length, and sea and weather conditions are recorded. From these data we can plot shark presence in the bay and investigate trends of presence absence and the conditions that may change these.

11. Qolweni

10.1 Siyakula Creche

Once a week the volunteers assist at Siyakula Creche in Qolweni by giving a 45 minute lesson, which the volunteers themselves plan and prepare, and have included a variety of topics. Thereafter they read a story and interact with the children. They also help serve and clean-up after lunch. Volunteers are able to help a disadvantaged community, and are exposed to a different culture.

10.2 Soup kitchen

On a Friday afternoon the volunteers will assist at the soup kitchen run out of Siyakula Creche. Volunteers help by dishing up soup and handing out bread. Volunteers are able to help a disadvantaged community, and are exposed to a different culture.



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12. Sterreweg

Occasionally volunteers spend time at Sterreweg playing with the children and learning about the difficulties associated with having a disabled child and how these can be overcome.

13. Lunchbox theatre

ORCA Foundation funds Lunchbox Theatre shows which use dance, song, and acting to educate school children in Plettenberg Bay and the greater Bitou area about environmental and sociological issues including HIV/AIDS, littering, water usage, and animal cruelty. Volunteers are made aware of the end result that they help fund, they are exposed to local primary schools, and a fun and meaningful way in which children can be educated.

14. Assisting at Plett Animal Welfare Services

PAWS cares for a number of homeless, abused, and/or lost dogs and cats. They are in constant need of donations as well as helpful hands. Volunteers assist PAWS with cleaning of their facility as well as with animal enrichment, and basic training of the dogs. Volunteers have also assisted in the townships with dipping dogs.

15. Investigating intertidal rock pools

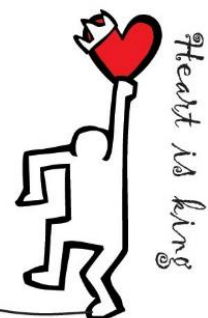
At low tide the volunteers will spend some time investigating the diverse life that occurs in rock pools at two sites, Nature's Valley and the rocks off Beacon Island. This allows them a close up look at some creatures they will have never seen or really closely examined. Volunteers are exposed to a different focus group, and learn about the ecology and conservation of these. Volunteers are strongly encouraged to find something that really interests them and take photos of the species to identify at home. Many of these species are not well documented or found in common identification guides so this process teaches them how to begin identifying species.

16. Hikes and walks

Volunteers explore many beaches during our research projects, but we explore other biomes as well. We incorporate hikes on Robberg Nature Reserve, as well as Brackenburn Private Nature Reserve. These hikes are multifaceted such that the volunteers are able to see more of the beautiful area and enjoy being outside, but are able to learn about different biomes, plants, birds, and animals, as well as do litter clean-ups along the way.

17. Data capturing/processing/entry

While the outdoors fieldwork for the projects we run is an enjoyable process, desk work or office work is not as enjoyable. While very few people like data entry it is an integral part of running a research project. Volunteers are taught to accurately manage information collected, and how to set up their spreadsheets for further statistical analysis. The elasmobranch egg case project is a project that requires a lot of processing of egg cases collected in the field and corresponding data entry.



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18. Citizen science project contribution

While the ORCA Foundation runs independent research projects we aim to regularly contribute to online citizen science projects, including iSpot (which links to a number of other projects using tags), MammalMAP, ELMO, as well as miniSASS (see above) and SAfring (see above). Most of the volunteers who join our project are not in the environmental field, and are not planning to get into the environmental field and as such will never independently run a research project. However, they are able to easily use online citizen science websites to contribute valuable biological and environmental data, something many volunteers show an interest in – iSpot in particular is a worldwide citizen science project. We strongly encourage volunteers to find something during our regular activities on the beach or other areas that really interests them that they want to know more about. This not only encourages the volunteers to pay more attention to their surroundings, and the incredible diversity of this area, but they learn more about the natural environment. This also teaches them about what citizen science projects are, their advantages and disadvantages, and how they can be used. Often people are unaware of projects in their area, or are intimidated by what these projects entail, and by walking through the upload step by step volunteers can gain confidence to do this themselves in their home countries.

19. Beach clean-ups

While we do not generally include this in our program as a separate activity, we do a lot of litter clean-ups during our day to day activities. The cleanliness and health of the various ecosystems (primarily coastal) we work in is important to us and to this end when we are active outside we try our best to carry bags to collect litter. Volunteers learn about marine debris and the associated problems, and do their part to keep our beaches clean. Once a year we also participate in the Kurland clean-up during the International Coastal Cleanup program.

20. Stranding rescues

As can be appreciated this is not a regular activity that the volunteers are able to partake in. Occasionally the ORCA Foundation is notified about birds or turtles that have washed up along our coastline, and to a much lesser extent we hear about stranded marine mammals. ORCA is part of the Plett Stranding Network and when and where we are needed. Volunteers learn about the species involved, and learn about the rehabilitation process.

21. Animal necropsies

As can be appreciated this is not a regular activity that the volunteers are able to partake in. When the opportunity does arrive volunteers are encouraged to be involved in the field necropsy of stranded marine animals. They are able to learn about anatomy and how certain physiological adaptations allow them to live in their chosen environment, and sometimes the cause of death can be inferred.

22. Scientific lectures

When there are public lectures available in the area we take the volunteers to learn more about the research taking place in Plettenberg Bay and the greater area. Also, when there is interest Minke gives presentations on her past research in the area. Volunteers can be exposed to a different research method, and a different focus group.

