

ORCA Foundation's quarterly newsletter

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RESEARCH

SPERM WHALE STRANDS AT SWARTVLEI BEACH

CONSERVATION

ALIEN CLEARING IMPROVEMENTS BEGIN TO SHOW

EDUCATION

RENOVATIONS BEGIN AT SIYAKILA CRECHE

EDITOR'S NOTE

he ORCA Foundation Volunteer Programme continues to grow as we approach the end of the year. Since our June newsletter, we have helped the Nelson Mandela University to launch a new research project on the intertidal foraging behaviour of Chacma baboons along the Garden Route. Volunteers also had amazing opportunities to assist biologists in collecting samples for the Port Elizabeth Museum during numerous cetacean stranding events, one of which involved a large sperm whale that came ashore near Sedgefield. Our Indian Ocean Humpback dolphin surveys are now in full swing, and already we are gaining fascinating insights into the movement patterns of certain individuals. Volunteers continue to join Ocean Blue Adventures on their whale and dolphin watching trips to collect valuable data on Plettenberg Bay's charismatic marine life. Land-based fieldwork on the behaviour and diet of Cape fur seals is also ongoing, and thanks to the detailed observational data collected by volunteers, patterns in white shark presence/absence at Robberg Peninsula are starting to appear.

On the conservation front, volunteers made great progress clearing alien invasive plant species over the past few months. Their ongoing efforts at many sites are starting to show. Monitoring sites in the Bitou River have improved in health after the recent heavy rainfall, and the state of the river is now considered natural. Volunteers continue to keep Plett's beaches free from plastic and other marine debree during routine beach-cleanups. These events are now coordinated with the Natures Valley Trust in order to combine our efforts and collect data for research. Another highlight was the involvement of volunteers in the release of a number of African Penguins that were rescued and treated at the Tenikwa Wildlife Rehabilitation Centre. We are also very proud of our ongoing assistance with basic education at the Siyakula crèche, where volunteers make lasting impressions on young children.

On 24 September our latest group of volunteers were fortunate to celebrate National Heritage Day in a true South African flavour – during a traditional 'braai' (kind of like a barbeque). They also enjoyed a few surfing lessons on Lookout Beach and were treated to a social gathering at the Rocky Road Backpackers in the Crags. To top it all off our biologists had the fantastic opportunity to attend the 2018 African Marine Mammal Colloquium, where they presented their research and showcased the valuable work done by volunteers. It has truly been an eventful three months and we hope that you enjoy reading further about our work. We are optimistic that the remainder of the year will be just as exciting.

The ORCA Team

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WHALE & DOLPHIN RESEARCH

Stranding response and necropsy

his past quarter proved to be a busy, and exceptionally exciting one, in terms of cetacean strandings. Our biologists and volunteers at the ORCA Foundation had the opportunity to assist with five different cetacean strandings and dissections! This included two dolphin species and three whale species, of which two strand very rarely.

The first dissection was of a female striped dolphin (Stenella coeruleoalba) on 10 July at the Port Elizabeth Museum. This unfortunate dolphin had come ashore on Diaz beach in Mossel Bay on the 21st of March this year. Her body was collected by the Stranded Marine Animal Rescue Team (S.M.A.R.T) and transported to the Port Elizabeth Museum at Bayworld for dissection at a later date. Striped dolphins are an offshore dolphin species that occur in the deep waters beyond our continental shelf. As such, they do not frequently strand along our coastline and this was an exciting opportunity for our volunteers to see a rarely seen

cetacean species. During the dissection, our volunteers learnt about many aspects of dolphin anatomy and physiology from Dr. Greg Hofmeyr,



Dr. Greg Hofmeyr with a striped dolphin at the Port Elizabeth Museum. (Photo credit: Danielle Conry)

who led the event. What a privilege for our volunteers to have the opportunity to attend a necropsy on such a beautiful animal!



ORCA Foundation cetacean biologist, Danielle Conry, samples a bottlenose dolphin along Goukamma. (Photo credit: Lea Müller)

In August, we had a busy two days! On the evening of 2 August, Cape Nature notified the Plett Stranding Network of a dolphin washed ashore along a remote beach within Goukamma Nature Reserve. The next morning our cetacean researcher and two of our volunteers set out to go identify the species and collect some samples. After an exciting river crossing and a lovely hike, we reached a male bottlenose dolphin (*Tursiops aduncus*). We took standard body measurements and a few basic samples, including skin for genetics, blubber and muscle samples, as well as the head of the animal. We then had a strenuous hike back with the skull in tow. After a good night's rest, we awoke to a report by S.M.A.R.T of a beaked whale washed ashore at Klein brak, near Mossel Bay, which then quickly became two beaked whales, a cow and a calf. Beaked whales are deep water cetaceans that strand extremely rarely and many species are only known from a few strandings. Plett Stranding Network members, Dr. Gwen Penry and our two researchers, therefore, quickly gathered some volunteers and their stranding kits before hitting the road westwards in the ORCA combi. En route, we established

that the animals were most likely True's beaked whales (Mesoplodon mirus), a rare species of beaked whale with only a few stranding records for South Africa. The first recorded stranding of the species in South Africa was in 1959 at the tip of South Africa. Ten years later, a cow and calf washed ashore 300 km to the east, in an area close to this latest stranding. The species is believed to have an antitropical distribution, with no records of the species between 28 degrees North and 27 degrees South.



Volunteers and ORCA researchers take body measurements of a True's beaked whale calf near Klein Brak River mouth. (Photo credit: S.M.A.R.T)

We arrived at the beach to find a 4.8m female and 2.4 m calf lying about 800m apart. Inspection of the bodies revealed a pale tail stock on the cow, a characteristic feature of True's beaked whales. The decision was made to split into two teams in order to complete the sampling before nightfall. Dr. Gwen Penry, Nature's Valley Trust volunteer, Caitlin Judge, and a team from Oceans Research tackled the immense task of dissecting the cow, while our ORCA researchers, Danielle Conry and Frikkie Van Der Vyver, along with ORCA volunteers, Laura Park and Hannah Douthwaite, dissected the calf. Detailed dissections were performed on both animals. Standard body measurements were taken along with a number of samples for genetics, pathology, stable isotope analysis, toxicology and cranial morphology.

Then, on Monday 3 October, our volunteers had the incredibly exciting opportunity to assist ORCA researchers at a rare stranding of a sperm whale (*Physeter macrocephalus*) at Swartvlei beach near Sedgefield. The 16.37 m adult male sperm whale had washed ashore the previous Friday morning when it was reported to the Plett Stranding Network. Sperm whales are the largest of the toothed whales and also possess the largest brain on earth. They feed predominantly on squid and are one of the deepest diving mammals on the planet, capable of diving to depths of over 2 km and holding their breath for up to 90 min. These animals are typically found in deep, offshore waters far from coastal areas and strandings of the species along the South African coastline are uncommon. This stranding was, therefore, a valuable opportunity to collect samples which will help us better understand the species. A number of body measurements and samples had already been collected over the weekend in a huge team effort between the Plettenberg Bay Stranding Network, CapeNature, SANParks, Oceans Research, Nelson Mandela University, Port Elizabeth Museum Marine Mammals, S.M.A.R.T and a few eager members of the public.



The ORCA team stands next to the dissected sperm whale at Swartvlei while white spermaceti wax covers the beach. (Photo credit: Cameron Reeder)

On Monday, our volunteers assisted with the collection of the final few samples. The aim was to collect some teeth from the upper jaw as well as some spermaceti oil from a special organ called the spermaceti organ. The spermaceti organ is unique to the sperm whales (3 species) and located within the head above the upper jaw. The spermaceti oil was prized by the whaling industry for its use in oil lamps, lubricants and candles. The

oil consists of a mixture of fats and waxes and is used by the whale to produce powerful and focused

clicks for echolocation and communication. Another theory also suggests that the organ may be used for buoyancy control during deep dives, but this theory is not well supported. In the short window of time around low tide, we successfully managed to collect four teeth from the upper jaw and also managed to cut through the dense, fibrous muscle surrounding the spermaceti organ in order collect some of the oil. It was truly amazing to see how the oil solidified into a white wax as it ran down from the whale and into the sea!

Then, finally, on 26 September, we came across a very decayed adult male humpback whale (Megaptera novaeangliae) during our baboon scat survey at Noetzie. It was so decayed that its flukes were missing and oil was oozing out of its skin and dripping down its body. Our cetacean biologist decided to take a few basic samples, skin samples for genetics and blubber samples

for toxicology and stable isotopes, on behalf of the Port Elizabeth Museum.



Collecting a skin sample from a humpback whale near Noetzie. (Photo credit: Cameron Reeder)

Needless to say, we had a great time at these dissections and learnt a lot. We thank the Port Elizabeth Museum for the opportunity to assist them and learn about these fascinating creatures! All the samples collected at these strandings are accessioned into the Port Elizabeth Museum for future research. We would like to thank everyone for their hard work during the dissections.

Opportunistic surveys with Ocean Blue Adventures

I his quarter we have managed to conduct 31 opportunistic surveys with Ocean Blue Adventures to collect data on the cetaceans and marine life of Plettenberg Bay. During this quarter we had 56 cetacean sightings. With 76% of sightings being made up by our migratory whale species, it is clear that we are now in our whale season! Humpback whales dominated the sightings this quarter with 31 sightings during their migration northwards to their winter breeding grounds off Mozambique, Madagascar and Tanzania, and recently, their southerly migration to their summer feeding grounds off Antarctica. Although we had fewer southern right whales in the bay this year, we still had a fair number of sightings (12 encounters) as they moved along our coastline to mate and calve. Sightings of our two inshore dolphin species, the Indo-Pacific bottlenose dolphin and endangered Indian Ocean humpback dolphin, were very low this month (6 and 2 sightings, respectively) as a result of higher search effort outside the bay to find humpback whales. Bryde's whale sightings were very low, with only 4 encounters during the quarter, and we were lucky to have 1 sighting of common dolphins!



LEFT) The percentages of cetacean species encountered during 31 opportunistic trips. TOP RIGHT) The flukes of a southern right whale. (Photo credit: Danielle Conry) BOTTOM RIGHT) Volunteers collecting data with Ocean Blue Adventures. (Photo credit: Danielle Conry)

During our time at sea, ORCA staff and volunteers observed a number of interesting sightings. On July 24, our cetacean researcher and two of our volunteers observed a southern right whale off Lookout beach while collecting data on our opportunistic trips with Ocean Blue Adventures. At first glance, there appeared to be nothing out of the ordinary with this whale, but after a while it became apparent that this animal had a very interesting colouration pattern. The animal had some grey markings on its back and also appeared to have a brindled colouration on certain areas of its body. Inspection of the photographs taken during the sighting revealed a distinct division of the colour pattern on the animal's chin. The left side of the animal was the "normal" black colouration present in most southern right whales, while the right half was brindled.



BOTTOM) Southern right whale exhibiting brindle colouration on one half of its body, and, TOP) the normal black colouration on the other half. (Photo credit: Laura Park)

The colouration of southern right whales is determined by a specific gene on the X sex chromosome. The dominant allele of this gene causes the normal black pigmentation, while the recessive allele results in a completely brindled colouration pattern. The animal observed in the below picture's is what is termed a "partial grey". This pigmentation pattern occurs as a result of the presence of both the dominant and recessive alleles of the gene. This is because the dominant allele is not completely dominant over the recessive allele and this results in a combination of the two pigmentation patterns. This pigmentation can only occur in individuals with the gene combination Xx. Partial grey whales are, therefore, always female and about 10.5% of adult females off South Africa have this pigmentation pattern.

Plettenberg Bay Humpback Dolphin Project

Since starting the project in June, we have conducted 16 dedicated research surveys aimed at collecting data on the endangered Indian Ocean humpback dolphin. During 63 hours and 37 minutes at sea, we encountered humpback dolphins on 13 occasions and collected 2841 photographs in order to identify individual dolphins by the unique notches and nicks on their dorsal fins. This project, run in collaboration with Nelson Mandela University, aims to add to previous data collected on Indian Ocean humpback dolphins in this area in order to better understand and conserve this Endangered species. The data will be used to better understand aspects such as trends in population numbers, movement patterns and social structure.



TOP) Michelle sporting her deeply notched dorsal fin. (Photo credit: Danielle Conry). BOTTOM LEFT) Linda jumps while surfing a wave along Robberg Peninsula. (Photo credit: Cameron Reeder). Bottom right: Linda's injured jaw makes her highly recognizable (Photo credit: Danielle Conry)

The project aims to carry out four surveys in quick succession each month and to record and photograph every humpback dolphin encountered during these surveys. During the surveys we have seen a number of familiar dorsal fins belonging to individuals which have been seen in the

area in the past. One such individual, named Michelle, can be easily recognized due to her deeply notched dorsal fin. She has become a regular sight during our surveys and so far we have encountered her every month since the beginning of the project. Another of our regularly sighted individuals is Linda, who is currently a mom to an older calf. Apart from her uniquely marked dorsal fin, she can be easily distinguished by an injury to her upper jaw which appears to have caused the skin to lift upwards from the tip of her rostrum (snout). This injury has helped us to identify her enjoying some surf along Robberg Peninsula earlier in the year!

The notches and nicks on a dolphin's dorsal fin are acquired throughout a dolphin's life and are often caused as a result of social interactions, such as fighting, amongst the dolphins. However, they can also be caused by unsuccessful shark or killer whale predation attempts, vessel strikes and entanglements in fishing gear or plastic. During our September surveys we came across one of our well-known individuals, named Nora. However, our cetacean biologist only realized it was Nora after close inspection of the photographs of the animal's dorsal fin. She had acquired two new deep notches on the posterior end of her dorsal hump which had made her look very different from previous encounters. These notches were acquired in the last three months, as Nora was last seen in Plettenberg Bay in June without them. It is unclear what may have caused these particular notches but the nature of the scars seem to suggest the possibility of an entanglement or boat strike. Regardless of its cause, we are glad to see that the injury appears to be healing well and will continue to monitor its healing when we encounter her again



The difference in Nora's appearance from June to September 2018. (Photo credit: Danielle Conry)

We would like to thank everyone who has contributed towards making these surveys a success. We are ever grateful for the use of Ocean Blue Adventures vessel, Gaia, as well as the contribution towards the costs of the launch fees by Plett Tractor Services. We also thank our volunteers for their hard work at sea!

SEAL RESEARCH

Stranding response and necropsy

Over the past three months there have been very few reports of Cape fur seals ashore in areas outside of their usual haul-out sites at Robberg Peninsula. Stranding records shows that this is normal in the non-breeding period during winter, when

there is a much lower concentration of fur seals that haul out at the colony, and therefore less chance of injured or sick seals that wash ashore on Plett's beautiful beaches.

Nevertheless, three adult male Cape fur seal carcasses were found on Robberg beach between July-August. Although the carcasses were already in an advanced state of decay our biologists were still able to collect basic samples for ongoing research with their collaborators at the Port Elizabeth Museum. The remains of the carcasses were later removed by Bitou Municipality.



One of three Cape fur seal carcasses that washed ashore on Robberg beach between July-August. Marine biologists Frikkie van der Vyver and Danielle Conry collected various samples for research on seal-fisheries interactions.

In September a young Cape fur seal was reported resting on the bank of the Keurbooms River by a concerned member of the public. The situation was



Marine biologist and member of the Plett Stranding Network, Frikkie van der Vyver, captures a Cape fur seal that was reported resting on the bank of the Keurbooms River estuary. (Photo credit: Danielle Conry)

assessed by our biologists who confirmed the 1-2 year old male to appear strong and in good condition. Cape fur seals are known to enter river mouths at times, and a record of public reports show that small numbers of them have been present in the Keurbooms River for many years. It is believed that certain individuals stay for longer periods than others, during which time they learn to specialize in foraging on estuarine prey species. However, the existence of river specialists has not been

assessed. In order to examine the extent to which this seal may have relied on feeding in the estuary it was captured to collect stable isotope and scat samples for diet analysis. Results will accompany those from another old river seal that died in the estuary earlier this year.

After collecting samples the seal was tagged with uniquely numbered yellow plastic flipper tags and released back into river. As part of our biologists boatbased surveys to study Cape fur seals in the Keurbooms River, it was hoped that the tags would help volunteers to record its future presence and behaviour in the estuary. Unfortunately, for reasons left unexplained, the seal was found dead the following morning. The carcass was collected for a future necropsy to try to determine the cause of its unexpected death.



Marine biologist Danielle Conry releases a tagged Cape fur seal back into the Keurbooms River to study its future presence and behaviour. (Photo credit: Frikkie van der Vyver)



An emaciated juvenile sub-Antarctic fur seal resting ashore in Buffalo Bay, moments before being captured for rehabilitation at the Tenikwa Wildlife Rehabilitation Centre. (Photo credit: Danielle Conry)

from starvation or disease.

In addition, between July-September we received four reports of vagrant seals ashore along our coastline. Three of these involved juvenile Antarctic and sub-Antarctic fur seals, two of which were found in poor condition while resting on Walker Bay and Buffalo Bay beaches. Being roughly 2200 km away from their closest breeding colony located on sub-Antarctic Marion Island, these seals are not frequent

visitors to our coastline, and

most that come ashore die

After assessing their condition our biologists transported both animals to the Tenikwa Wildlife Rehabilitation Centre where they assisted with further examination and treatment of wounds, starvation and dehydration. Upon closer inspection the

Antarctic fur seal had deep lacerations and puncture wounds on its rump, possibly caused by a dog or a shark. Unfortunately, despite treatment, both seals died overnight. Their carcasses were later transported to the Port Elizabeth Museum where Dr. Greg Hofmeyr will perform detailed necropsies to establish the cause of death and collect samples for research.

There were also reports of two vagrant southern elephant seals ashore. One of these was the resident adult male known as 'Solo', who regularly hauls out on Robberg Peninsula where he has been observed killing and eating Cape fur seal pups over many years. Only a handful of elephant seals come ashore along our coastline each year, some of which are tagged by researchers in order to study their movement and origin. One such individual that previously came ashore in Algoa Bay was tagged with a satellite tag by Dr. Greg Hofmeyr of the PE Museum, which recorded his tracks all the way to Antarctica and back over the course of a year. A few years ago Solo was marked with a plastic flipper tag by researchers from the Nelson Mandela University and the Department of Environmental Affairs, but unfortunately his tag was lost at some stage. When our volunteers reported Solo's return to the Cape fur seal colony on Robberg Peninsula, our biologist headed out



Hanlie Roux and her team from the Tenikwa Wildlife Rehabilitation Centre examining the condition of an injured Antarctic fur seal before administering treatment.



Marine Biologist Frikkie van der Vyver flipper tags 'Solo', the adult male southern elephant seal that regularly hauls out on Robberg Peninsula. (Photo credit: Eben Lourens – CapeNature)

with Cape Nature to re-tag the huge animal. Although Solo has been returning regularly to Robberg for many years, it is still unknown where he goes when he is absent for 1-2 months at a time. But, if he hauls out on sub-Antarctic Marion Island, the closest island where elephant seals breed and moult, there is a good chance that his uniquely numbered flipper tag will now be recorded by overwinter biologist during their routine round-island censuses.

Monitoring seal-shark interactions

July to September continued to deliver good white shark sightings from our clifftop vantage points along the Robberg Peninsula Nature Trail. The natural aggregation of white sharks at the seal colony during winter each year is strongly

linked to the availability of one of their seasonal prey species - naive little seal pups that learn to swim as they explore the shallow waters of the peninsula. At this stage most pups have been weaned from their mothers, and like the year before, many have been recorded congregating on the wild side of Robberg since July. Here newly weaned pups enjoy the protection of a few calm rocky pools where they rest and play until they



eventually venture out to sea to start catching their own prey.

Recently weaned Cape fur seal pups enjoy the protection of rock pools found on the wild side of Robberg Peninsula.

Since July volunteers performed a total of 80 individual dedicated observational sessions from various cliff-top vantage points located along the Robberg Peninsula hiking trail. Each sessions lasted 1-3 hours which amounted to over 168 hours of observations time. An average of 2 (range 1-4) white sharks were present at the colony in 60% of all observation sessions, during which time a total of 169 independent sightings were recorded. Estimated shark sizes ranged between 2-5m, which remains consistent with size estimates of white sharks recorded since their arrival in April.



A great white shark patrols the shallow waters surrounding Robberg Peninsula, in search of naive little seal pups. (Photo credit: Bettina Kaiser)



A Cape fur seal pup falls prey to a great white shark in the Robberg Marine Protected Area. The image was captured during August by one of our international volunteers, Maria de Cacaeres, while performing dedicated land-based observations to collect data on seal-shark interactions.

Volunteers continued to record groups of seals mobbing passing sharks, an aggressive defence behaviour which prevents potential predations. They also witnessed for the first time a successful white shark predation event on a Cape fur seal pup. As part of standard protocol, volunteers continued to record the movement behaviour and group size of seals travelling to and from the colony. Once a long-term dataset has been established our biologists will be able to use this information to examine the impact of seasonal

white shark presence and environmental factors on seal behaviour.

Cape fur seal population monitoring

Between July - September volunteers performed nine dedicated boat-based seal counts along Robberg Peninsula to help our biologists monitor local seal

population growth, pup survival, entanglements and shark predation rates. Volunteers also took profile photographs of the entire length of the seal colony, which will be used in future computer software counts to validate their tally counts. Averaged tally counts varied a lot between surveys and it is known that time of day, season and environmental conditions affect

the number of seals that haul out at the colony. Once we have established a long-term data set it will be possible to examine the role of these various factors.



A successful re-sighting of a Cape fur seal pup that was tagged by our biologist in May. Pups are typically born between November – January each year, with a peak in December. They remain at the colony for the next 6-7 months until weaned, during which time their mothers make short foraging trips to sea interspersed with suckling bouts ashore.

Interestingly, during September, the numbers of seals recorded ashore almost doubled in comparison to those recorded during previous surveys performed between June – August. It appears that an increasing number of adult seals are starting to haul out in preparation for the upcoming breeding season, which usually spans from November – January.

Volunteers also recorded and photographed a number of seals entangled in plastics and fishing aear, but we are happy to report that such observations were minimal during our surveys. It is surprising that there were such low numbers of seals displaying shark-inflicted wounds, especially given the high number of sharks present at the colony since April. Nevertheless, together with our records from seal stranding events, and direct observations from our land-based monitoring project, this information will help our biologists to investigate future trends in entanglement and white shark predation rates as mortality factors at this breeding colony.



An unfortunate adult female Cape fur seal resting ashore on Robberg Peninsula. Entangled in a piece of trawl net, it is clear evidence of the ongoing interactions between seals and fishing operations far out at sea. Cape fur seals often get trapped or entangled during trawl fishing operations when they attempt to depredate catches. Those that are brought on board alive are cut free, but due to the aggressive nature of seals and the lack of experience or commitment among crew, all material is not always removed.

Cape fur seal diet monitoring

Volunteers continued to assist our biologist with the routine processing of seal scat samples that are collected on a monthly basis at the Robberg Peninsula colony. Over the past three months over 90 scats were individually soaked and prey remains from a variety of species of fish, crustaceans, cephalopods and seabirds



Prey remains such as chokka squid beaks are commonly found in Cape fur seal scats collected at Robberg Peninsula. Other common prey remains not pictured here include octopus, crustaceans, seabirds and a wide variety of fish species.

separated using fine meshed sieves. We continue to find large numbers of chokka squid and Cape horse mackerel remains in our samples. Both are pelagic species that formed only a minor contribution in the local seal population's diet during a previous study conducted over a decade ago. This finding is important in terms of recent changes that has taken place in the ecosystem, including geographical shifts in the distribution of previously important prey species such as sardine and anchovy. All samples will be transported to the Port Elizabeth Museum for further analyses. The data will be used to update the current diet of Cape fur seals that haul out on Robberg Peninsula, and results may also aid in future studies that aim to examine the role of Cape fur seals in the Agulhas Current.

Monitoring Cape fur seals in estuaries

During August volunteers performed seven boat-based photo-ID surveys in the Keurbooms River. One to six seals were present in the estuary during these surveys. One of them, named 'stompie', was easily recognised by his unique flipper scar, and was recorded preying on spotted grunter on numerous occasions. A vast majority of the other river seals still appear to be sub-adult and adult males, but a few yearlings and recently weaned pups were also encountered during surveys. Unfortunately these young seals do not yet bare any permanent scars so we are unable

to track their individual movements



'Stompie' a known Cape fur seal that has adapted to feed in the Keurbooms River estuary. With a uniquely identifiable scar on his left fore-flipper, volunteers have encountered stompie during many of our boat-based surveys over the past year.

and presence in the river. Once we have established a more long-term dataset on marked river seals our biologists will be able to examine the seasonal presence of specific individuals in the estuary, their movements, behaviour and potential impact on vulnerable estuarine fish species that are also of recreational and conservation concern. Eventually long-term data can be used to place the possible impact of river specialists into context with current recreational fishing pressure, which volunteers also record during surveys.



A juvenile Cape fur seal interacts with children on the banks of the Keurbooms River estuary. Boatbased surveys are performed on a weekly basis to study the presence and behavior of Cape fur seals that specialize in foraging in the river.

CONSERVATION

River health monitoring

A river health assessment following the miniSASS (Stream Assessment Scoring System) protocol is routinely performed at 2 different sites along the Bitou River. A continuous score of 'very poor' was obtained at both sites through the course of the last three months. Species groups found at the different sites include true flies, mayflies, damselflies, dragonflies, leeches and snails.



LEFT) A volunteer identifying invertebrates to species level. RIGHT) A dragon fly larva. (Photo credit: Laura Bakker)

Over the weekend of 8 September, heavy rains occurred across the Bay. With this came serious flooding of our first miniSASS site. Two weeks later, on the 25th of September, the site was revisited, by which time the water level had dropped immensely. With this came some great finds, as the first mayflies and stoneflies for the year were collected and identified by our volunteers. This was amazing, as these two groups are worth very high scores, and thus our miniSASS score increased dramatically. Our site has subsequently improved from a very poor condition back to a natural condition state. We are interested to see how long it will take before the river begins to deteriorate again or if it will maintain its more natural state.



LEFT) Site 1 flooded. RIGHT) Two weeks later the water level dropped. (Photo credit: Laura Bakker)

Alien plant eradication

We continue at our alien plant eradication site, clearing the invasive species Acacia saligna (Port Jackson). This species originates from Australia and was introduced into South Africa to help with dune stabilisation. The species is a problem as it competes and replaces our indigenous vegetation. Another problem is the fact that it uses masses of water,



Volunteer Ruth Crawford applying the "kaput poison to the stump. (Photo credit: Laura Bakker)

reducing the amount of water available to indigenous species. Our volunteers were hardworking and very determined to remove the plants by their taproots. They put in a lot of effort by digging deep holes in order to find the end of long roots. Port Jackson may grow up to 3 to 7 metres in



Volunteer Sofia Sokolowski standing by the hole she dug to remove the Port Jackson. (Photo credit: Laura Bakker)

height, and thus this method of removing larger trees is not possible. For these we paint cut stumps with "kaput" poison to prevent regrowth.

Even though alien clearing is hard work, we cannot help but get distracted when something catches our eye. Insects, amphibians and scorpions being the most interesting finds. The Painted Reed Frog has various subspecies, the subspecies pictured below is the *Hyperolius marmoratus verrucosus*. The species is threatened due to habitat loss during afforestation and wetland draining.



LEFT) A burrowing scorpion. RIGHT) A painted reed frog. (Photo credit: Laura Bakker)

Another species we found was an *Opistophthalmus*, a genus of scorpions which is commonly known as the burrowing scorpions. These scorpions have broad claws, they also vary in colour, from a yellow to a brown or black. The burrowing scorpion which we found was brown in colour. Because this scorpion has thick claws it is deemed harmless.

Indigenous plant species are beginning to flourish at our alien clearing site. Two noticeable species are the *Pelargonium capitatum* (Kusmalva or rose-scented pelargonium) and the *Carpobrotus acinaciformis* (Sour fig). We are very grateful to see these two species beginning to appear at our alien clearing site. We like to think that the sudden presence of these two species is a great indication as to how much the indigenous species are benefitting by our volunteers' continuous efforts to remove Acacia saligna (Port Jackson) in the area.



LEFT) The sour fig, with its purple flower. RIGHT) The Rose-scented pelargonium. (Photo credit: Laura Bakker)

Pelargonium capitatum (Kusmalva or rose-scented pelargonium) can be found along the coast of South Africa, from Lamberts Bay all the way through to Kwazulu Natal, mainly in disturbed areas of the country (like the site we are currently clearing). The genus Pelargonium comes from Greek because the shape of its fruit resembles that of a storks beak. This species may be cultivated for its geranium oil, while its leaves may be used to help soften someone's skin. This species is also used to help with the treatment of calluses, scratches, cracked skin and rashes. A remedy long ago was used by making a tea from its leaves to help with stomach cramps, nausea, vomiting and diarrhoea. *Carpobrotus acinaciformis* (Sour fig), this species of Carpobrotus produces flowers of pink to purple in colouration. Its fruits are edible and may even be used to make a jam. Tortoises and other herbivores graze on this species, being a succulent, it is a good source of water.

Beach Clean-ups

Our beach clean-ups continued over the past three months along Central and Robberg Beach. Plastic and cigarette butts continue to be the items of rubbish which are found the most. We also had some interesting finds, most noticeably a battery. A new clean-up location was started in the past 3 months along the rocks by Lookout Beach. A popular fishing spot, this area is frequented by fishermen and it is no surprise that fishing line is the most numerous type of rubbish. Another popular find is small pieces of glass of which some have already been washed smooth from the constant impact of the sea water.



LEFT) Glass and RIGHT) batteries found along the Lookout Beach rocks. (Photo credit: Laura Bakker)

On the 27th of August, our volunteers went for a walk along the beach by Enrico's restaurant. Here they decided to do a spontaneous beach clean-up and happened to stumble upon some nurdles which were washed up from the ocean. Nurdles are small pieces of plastic used in the manufacturing process of the plastic products we use in our day to day lives. These nurdles are harmful to the animals which may mistake them for food as they are toxic and indigestible. With the nurdle incident which occurred off the coast of KwaZulu-Natal in October of 2017, we are shocked to see that nurdles are still washing up along our beaches.



LEFT) Volunteers showing their green bag filled with rubbish along the Lookout Beach rocks. RIGHT) Nurdles found along the beach. (Photo credit: Laura Bakker)

Knysna Animal Welfare

The Knysna Animal Welfare Society (Kaws) was visited three times over the past 3 months. Our volunteers always enjoy walking and playing with the dogs and cats. We are always happy to see that the animals that were there the previous times we visited had been adopted. It is so heart-warming to know that they have found their loving homes.



The face of a cute puppy at the society. (Photo credit: Shaina Egly)

SANCCOB

On the 10th of July, our volunteers made the journey to Port Elizabeth to go and visit the Southern African Foundation for the Conservation of Coastal Birds (SANCCOB). Here they were able to assist with a full scrub down of the facility. The entire outside of the building was scrubbed down and cleaned, while the clinic area was scrubbed, cleaned and disinfected. Once the full clean had been our volunteers concluded then assisted SANCCOB volunteers with the deweeding of the entrance walkway. Our volunteers truly enjoyed their time at the rehabilitation facility as they



Volunteer Mark Davies proudly scrubbing the walls of the building. (Photo credit: Laura Bakker)

were able to view and experience the African Penguin, Cape Gannets and White Breasted Cormorants up close and personal.

Activities with Nature's Valley Trust

We would like to thank the Natures' Valley Trust team for including the ORCA Foundation in three different activities over the past three months. On the 8th of August, the ORCA Foundation joined their annual Kurland Greening project. During this project forty soetdoring trees were planted around the Kurland village. Our volunteers were among the 130 people who were involved in this event.



Volunteers standing by one of the sweet thorne's that they planted. (Photo credit: Natures Valley Trust)

On the 16th of August, our volunteers had the privilege of attending one of their bird ringing events. Being avid birders themselves, some of our volunteers absolutely enjoyed this event. They got to learn about different bird species within the Fynbos biome from Dr Mark Brown.



Picking up rubbish in the Kurland Village. (Photo credit: Natures Valley Trust)

The 15th of September is known as international coastal clean-up day. Therefore, all around the world, various different beach clean-ups were being coordinated. Nature's Valley trust held two different clean-ups over two days. On the 14th of



Volunteer Mark Blamey learning about birds from Dr Mark Brown. (Photo credit:

September a clean-up in Kurland village was conducted and our newest volunteer at the time, Sofia Sokolowski, joined our volunteer coordinator to assist with this cause. On the 15th of September, our volunteer coordinator assisted with their international

coastal clean-up event on Central Beach.

Seahorse rescue

The weekend of the 8th of September saw heavy rains falling within the Plettenberg Bay area, causing flooding in the lagoon. This caused many Knysna Seahorses to wash out the river mouth and onto local beaches. The Knysna Seahorse is an endangered species found only in three different estuaries around the world, namely the Knysna, Keurbooms and Swartvlei estuaries in South Africa. On the 10th of September volunteers walked along Lookout beach in search of these individuals that had washed up. In total 13 seahorses were found and released back into the Keurbooms estuary.





Volunteer Melanie de Kaenel collecting seahorses in a container for subsequent release back into the estuary. (Photo credit: Laura Bakker)



Many Knysna seahorses washed out the Keurbooms River after heavy rainfall in September. Individuals pictured here were picked up on Lookout beach and released back in the estuary.

Intertidal baboon scat surveys

In September we conducted our first intertidal baboon scat surveys at Cairnbrogie and Noetzie! These are two of four sites between Plettenberg Bay and Knysna that will be surveyed monthly for baboon scats as part of a PhD study by Maxine Whitfield-Smit based at the Centre for Coastal Palaeoscience at Nelson Mandela University. Maxine's study aims to determine whether Chacma baboons forage intertidally along certain stretches of the Cape South coast and what factors influence their preference for certain areas of the coastline.

At Cairnbrogie, we enjoyed a lovely hike along this beautifully wild stretch of coastline, and managed to collect 34 Chacma baboon scats along with their GPS locations, as well as an additional 3 Cape Clawless otter scats. We even observed a troop of about 20 baboons on the cliffs above the beach! Our first intertidal baboon scat survey at Noetzie proved to be a long and strenuous hike, but the stunning beauty of the rugged coastline made it well worth the effort. Here, we manged to collect and record GPS locations for 48 Chacma baboon scats! And we saw some of our beautiful local wildlife like African black oystercatchers and a giant kingfisher.







TOP LEFT) Baboons sitting on the cliffs overlooking Cairnbrogie beach. TOP RIGHT) A typical baboon scat. BOTTOM) The ORCA team collecting a scat along Cairnbrogie beach. (Photo credit: Bernard Ingrisch)

African penguin release

On the morning of September 21, our volunteers had the amazing opportunity to assist Natures Valley Trust and Tenikwa Wildlife Rehabilitation and Awareness Centre with the release of eight Endangered African penguins at Lookout Beach.

The penguins were found in poor condition along various beaches in the Plettenberg Bay area and were rescued and taken to Tenikwa Wildlife Centre for rehabilitation and subsequent release. Once the penguins had passed certain necessary health checks they were given the green light for release at the event.

There was great support from the community with many people attending the event to see the release of the penguins and to show thanks to the great work done at Tenikwa. It turned out to be a beautiful morning and all of the penguins were successfully released! Our volunteers did a great job assisting with crowd control during the release in order to make sure none of the public got too close to the penguins, as this would cause them stress during their release back into their natural habitat.

The ORCA Foundation would like to make a special thanks to Tenikwa Wildlife Rehabilitation and Awareness Centre and Natures Valley Trust for the great work they do and for letting us assist in this special event.



TOP LEFT) Eight African Penguins eagerly await their release from their makeshift pen. BOTTOM LEFT) Hanlie Roux guides the penguins towards the sea during the release. TOP RIGHT) All eight penguins are successfully released and swim out to sea! (Photo credit: Cameron Reeder)

EDUCATION

Teaching at Siyakula Crèche

The ORCA foundation continues to work closely with the Siyakula Creche. Our volunteers assist with teaching basic English and assisting children with identifying different objects, animals, etc. We also assist in helping children to improve their writing abilities. Since these



The children at the creche holding up their chalk boards. (Photo credit: Laura Bakker)

children are between the ages of three and five it is important for them to develop these skills in preparation for primary school. All the different subjects which are taught are in accordance with the



Volunteer Laura Park with one of the children at the crèche. (Photo credit: Laura Bakker)

theme of the week

which the school is focusing on. In the past three months, the volunteers have taught the children

about shapes, the big five and colours.

School renovations

On the 25th of September, renovations began at the Siyakula Crèche. A big thank you goes out to Chamäleon Stiftung for sponsoring this amazing project. All the classrooms, bathrooms and roof are being renovated. This is the first time that the school has been revamped since 1997.



Renovations in progress. (Photo credit: Siyakula Creche)

SOCIAL EVENTS

We at the ORCA Foundation are passionate about the work we do. During the day we put our heads down and give it our all, but when the work is done we have fun! Volunteering can be hard work, and learning new skills can be tiring. Therefore, a healthy balance is needed between work and fun. There are a number of social events which helped our volunteers find their balance over the past three months, namely; surfing and braaiing!

Surfing lessons

The newest member of the ORCA team, Cameron Reeder, is an avid surfer and ocean lover. Cameron also possesses a certificate which certifies him fit to teach beginners how to surf. The volunteers were interested in learning and asked Cameron if he would be willing to teach them. He was pleasantly surprised to see that each of the volunteers were able to stand up

on their boards and surf wave after wave. Surf lessons were conducted Cameron Reeder)



Volunteer Sofia Sokolowski surfing the waves. (Photo credit: Cameron Reeder)

for the first time in the past three months and is now becoming a regular afterhours activity. Cameron is delighted to see, since conducting a second lesson with them, that this activity is becoming popular among the volunteers. The best part of it is that all of the equipment is ready and waiting for the volunteers and that the beach is just down the road from the ORCA house!



Volunteers enjoying their lesson.

Friday braai day!

The people of South Africa have a thing for cooking good food over a hot open fire. This is known as a braai. It's similar to that of a barbeque, but only better. It's almost a tradition to braai with friends and family on a Friday evening. At the ORCA Foundation our volunteers are seen as a family, therefore they were taken to the Rocky Road Backpackers in the Crags for a braai. Everyone was in good spirits as we stood around the fire, sharing stories and interacting with the Plettenberg Bay locals. The backpackers is situated amongst a farming community on the outlying area of Plettenberg Bay. The

atmosphere there is stunning! The Tsitsikamma mountain range wraps its



A selection of meat cooking on the braai. (Photo credit: Cameron Reeder)

slopes around the property, giving it a warm, hearty feeling. Part of the Tsitsikamma forest runs down the mountains and into the garden giving it a jungle feeling. The bright white stars are littered across the sky and the fire burns all night long. After filling up on amazing food we all scattered for the 36-degree hot tub where we continued sharing our experiences from different corners of the World. All-in-all everyone had an amazing time and we will be taking our volunteers back to the Rocky Road Backpackers for another Friday Braai Day.

South African Heritage Day

On the 24th of September, the people of South Africa celebrate their different cultures as well as the diversity of their beliefs and traditions, in the wider context of a nation that belongs to all its people. Heritage Day is also known as National Braai Day as it's a tradition to Braai with friends and family on this day as a celebration. The ORCA staff members and volunteers spent the evening of Heritage Day sitting around a braai on the roof of the ORCA house as the full moon rose above the horizon and over the Indian Ocean. It was a beautiful evening that was enjoyed by all. We ate good food and shared great stories. As the evening passed by the houses around us slowly put out their fires and the special smell of burning wood settled over the area. It was truly a South African experience.

SPECIAL THANKS

From all of us here at ORCA, we would like to thank the following volunteers who contributed their time to assist with our work between July – September. We appreciate your motivation and hard work to help further our projects, sometimes during physically and mentally challenging conditions. The success of our projects would not be possible without your contribution.

Hannah Birgani Lily-Mae Rolls Lucas Chapron Mark Davies Sara Schrage Holly Stewart Hannah Douthwaite Samantha Egly Shaina Egly **Ruth Crawford** Laura Park Maria de Caceres Orteu l ea Müller Mark Blamey Caroline Blamey Guimaraes family of 4 Charlie Wickes Thomas Veysey Megan Fowler Melanie de Kaenel Bernard Ingrisch Michaela Ingrisch Sofia Sokolowski Stefanie Regener **Millie Salmons** Lisa Michalek Dana Bienz