

# ORCA Times

ORCA FOUNDATION'S QUARTERLY NEWSLETTER

## RESEARCH

PLETT HUMPBACK  
DOLPHIN  
PROJECT LAUNCHED

## CONSERVATION

PLASTIC:  
PLETT'S BIGGEST  
SOURCE OF BEACH  
LITTER

## EDUCATION

ST ANDREWS AND  
DSG PUPILS LEARN  
ABOUT  
CONSERVATION

**JUNE 2018**

## *Editor's Note*

*Over the last three months, ORCA has continued to grow and improve with the enthusiasm and commitment of our team. Since our last newsletter, our team has welcomed a new member, Cameron Reeder. His young, vibey energy is a welcome addition to the team. We have also since seen the launch of our humpback dolphin project which aims to collect data on this Endangered species. The data collected through this initiative will be a valuable contribution to our understanding of humpback dolphins off our coastline, as well as contribute to the conservation of the species. We thank our volunteers for their hard work during this quarter!*

*Danielle Conry*



### Contributing Authors

Laura Bakker – Conservation and Education (centre)

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Frikkie van der Vyver – Pinniped Research (left)



#### **Photo credit**

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**This page: Danielle Conry**



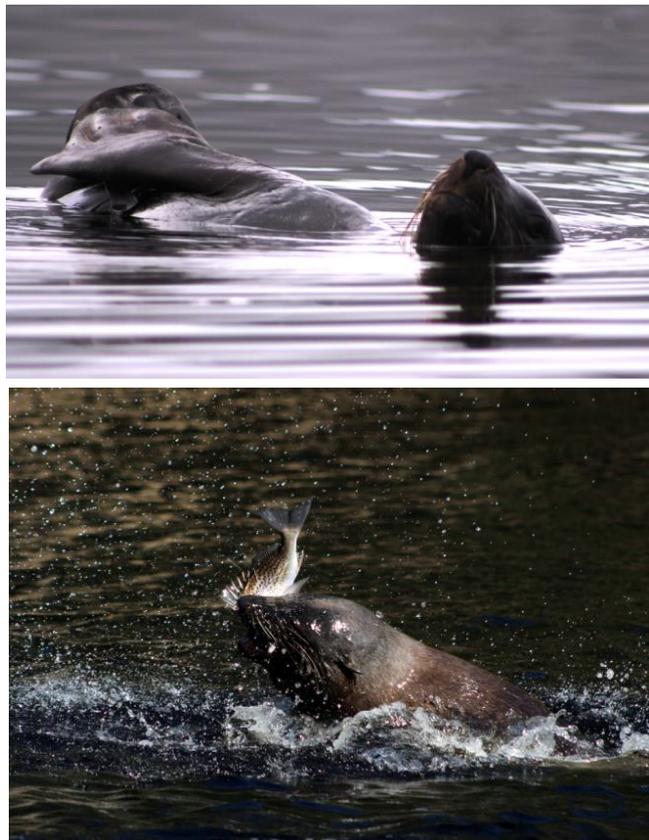
## Seal stranding response and necropsy

Cape fur seal strandings in the Plettenberg Bay region have quietened down drastically over the past few months. Stranding records show that this is normal over the non-breeding period when there is a lower concentration of seals that haul out on Robberg Peninsula. The local squid fishing industry that is responsible for a portion of the overall fisheries-related seal mortality is also closed over the winter months.

Nevertheless, several seal carcasses were recorded ashore since April, most of which were in a very advanced state of decay. Basic samples were collected from four of these during brief necropsies. One of the carcasses, a very old adult male, was found floating in the Keurbooms River estuary. Upon closer inspection it was confirmed that the seal was a known individual, named 'Nessie', who's movements we have been tracking in the estuary since 2017 (Fig. 1). Volunteers assisted our biologists with a brief necropsy and the collection of standard samples for the Port Elizabeth Museum. A healthy layer of blubber was present on the animal, indicating that the seal was in good overall condition and had died relatively quickly. No evidence of external injury could be found and internal organs appeared normal and intact. Interestingly, the stomach and colon was empty. Unfortunately, due to the state of decay we could not take samples for pathology or toxicology. Nessie appeared to be in good condition when we last saw him alive during a routine estuary survey two weeks prior to his death. As per usual he was observed feeding on a shoal of spotted grunter in the Bitou tributary. We concluded that it is possible that he had died from natural causes related to his age. As part of a broader project of the Port Elizabeth Museum, stable isotope samples collected

during the necropsy will be used to examine the extent to which this river specialist relied on feeding in the estuary.

ORCA volunteers further assisted with a full seal necropsy at the Port Elizabeth Museum, which was led by marine mammal curator, Dr. Greg Hofmeyr (Fig. 2). The specimen was bycaught during a mid-water trawl research cruise and kept frozen for the museum as part of a research project that intends to examine specialist behaviour in Cape fur seals that forage in association with fishing operations. A full set of standard samples was collected for future analyses.



**Fig. 1. Top: 'Nessie', a large adult male Cape fur seal who regularly frequented the Keurbooms River estuary. Bottom: Nessie alive and well catching a spotted grunter high up in the Bitou tributary two weeks prior to his death. (Photo credit: Frikkie van der Vyver).**



**Fig. 2. Volunteers assisting Dr. Greg Hofmeyr from the Port Elizabeth Museum during a seal necropsy.**

Between April and June, we received reports of four live seals ashore in areas outside of their usual haul-out sites. The first was of a juvenile southern elephant seal found resting on a public beach in the Knysna River estuary (Fig. 3). Our biologists went out to investigate and found that the seal was marked with uniquely identifiable plastic flipper tags. A call was made to Dr. Greg Hofmeyr, who quickly identified the animal as “Leslie”, a 2 year old female who was previously tagged in Jeffreys Bay last year, where she also came ashore repeatedly for a number of days to rest. Being roughly 2000 km away from the closest elephant seal breeding colony located on sub-Antarctic Marion Island, these seals are vagrants to our coastline. Due to the remoteness of their usual haul-out sites they are not always wary of humans, or dogs, and can pose a danger to the public when they haul-out on popular beaches. Our biologists taped off the area and placed a warning sign near the seal to prevent any further disturbance or incidents involving well-meaning members of the public. Local

SANParks rangers were notified and came to assist with crowd control and monitoring. By the next morning Leslie had disappeared, and it was assumed that she had found her way back to sea through the river mouth. Leslie has not been resighted since.



**Fig. 3. “Leslie”, a tagged juvenile southern elephant seal resting on the banks of the Knysna River estuary. (Photo credit: Frikkie van der Vyver).**

Two other southern elephant seals were recently recorded resting among the hordes of Cape fur seals on Robberg Peninsula, each for a few days at a time. The one, a well-known tagged adult male called “Solo”, who regularly hauls out here, and the other, an unmarked male yearling (Fig. 4). Due to no public access to the site, and therefore no potential disturbance, there was no need for action. Volunteers continued to monitor their condition and presence at the fur seal colony during routine boat-based surveys.

Due to its close proximity to the Robberg breeding colony, Cape fur seals sometimes haul out on Robberg beach to rest. We responded to one such event in April. A large adult male, apparently injured, was reported ashore at Wreck beach. Upon arrival our biologists found the seal in good condition busy making its way back to the water after being disturbed by well-meaning members of the public (Fig. 5). We thank the concerned recreational angler who also reported the incident.



**Fig. 4. Top: “Solo”, a tagged southern elephant seal that regularly hauls-out on Robberg Peninsula. Bottom: A untagged juvenile southern elephant seal which was recently seen resting among Cape fur seals on Robberg Peninsula. (Photo credit: Max Plieninger).**

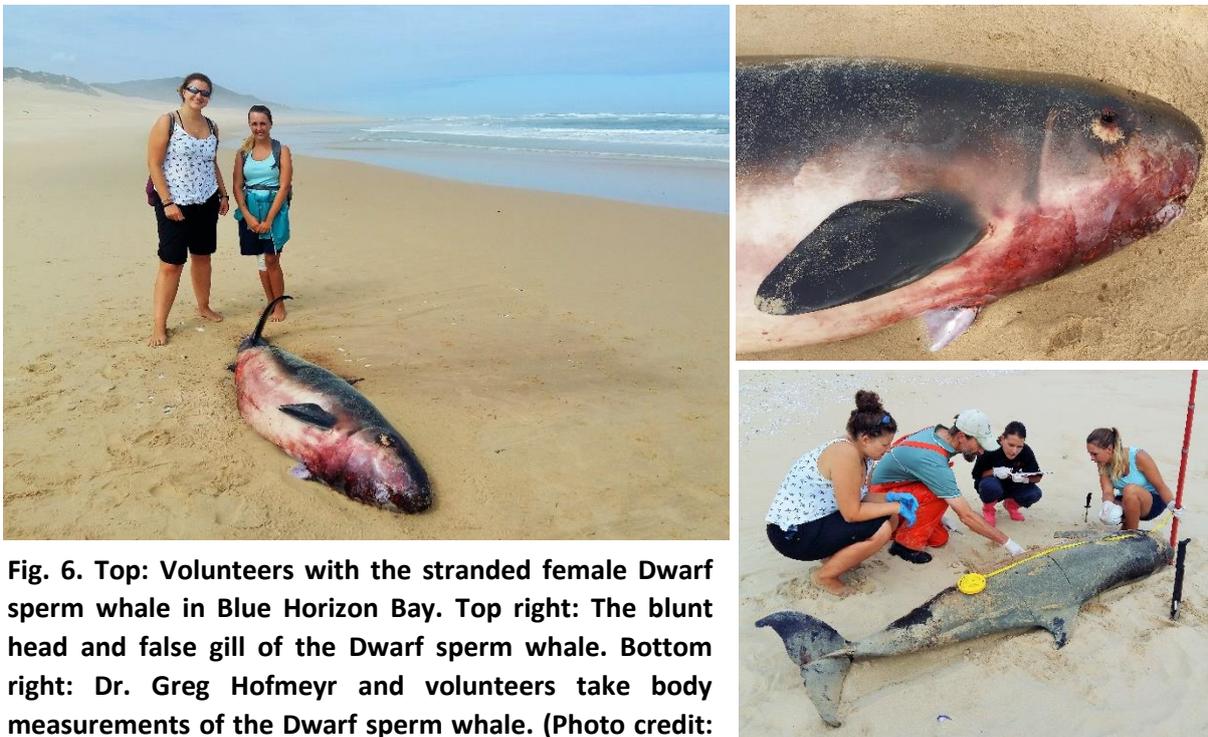


**Fig. 5. A resting Cape fur seal returns back to sea after being disturbed by well-meaning members of the public. (Photo credit: Frikkie van der Vyver).**

## Cetacean stranding response and necropsy

This past quarter, our biologists and volunteers at the ORCA Foundation had the opportunity to assist with two very exciting cetacean dissections.

The first of these occurred on Tuesday morning of April 3, as ORCA researchers and volunteers made their way to Port Elizabeth for a planned seal dissection at the Port Elizabeth Museum. En route, we got a report of a small whale stranded near Blue Horizon Bay. The seal dissection was quickly postponed and we rushed to the location of the stranding where we would meet up with Dr Greg Hofmeyr, who would be leading the dissection. The whale turned out to be a female Dwarf sperm whale (*Kogia sima*) (Fig. 6, left). This unusual looking species is found in deep waters, usually over the edge of the continental shelf, within tropical and warm-temperate seas. It is rarely seen at sea and much of what is known about the species comes from the collection of data from stranded animals. This stranding was therefore a very exciting opportunity for our volunteers to see such a rarely seen cetacean. It is one of two species of small sperm whales which are almost identical in appearance. The Dwarf sperm whale is the smaller of the two, only reaching a maximum length of about 2.7m, and is considered as the smallest whale species. It also has a larger dorsal fin positioned in the centre of the body, rather than towards the tail as in the other species, the Pygmy sperm whale. These animals appear somewhat shark-like in appearance with a blunt head, a narrow, underslung jaw with sharp, curved teeth, and even a strip of light pigment behind the eye which resembles a gill slit. A unique feature of these small sperm whales is the presence of a sac along the lower intestine which is filled with a dark, viscous liquid. When threatened these animals release a cloud of this liquid to evade and deter predators. Standard measurements and samples of the animal's organs were collected and will be kept at the Port Elizabeth Museum for future research on the species.



**Fig. 6. Top: Volunteers with the stranded female Dwarf sperm whale in Blue Horizon Bay. Top right: The blunt head and false gill of the Dwarf sperm whale. Bottom right: Dr. Greg Hofmeyr and volunteers take body measurements of the Dwarf sperm whale. (Photo credit: Danielle Conry and Frikkie van der Vyver).**

The second dissection was of a female striped dolphin (*Stenella coeruleoalba*) that had come ashore in St. Francis. ORCA Foundation staff and volunteers drove through to the Port Elizabeth Museum early on May 15 to assist with the dissection (Fig. 7). The striped dolphin is an offshore dolphin species that occurs in deep waters beyond our continental shelf and occasionally strands along the South African coastline. This was, therefore, another very exciting opportunity for our volunteers to see a rarely seen cetacean species. Unfortunately, due to the state of decay, no pathological samples could be collected, but we helped collect body measurements, genetic samples, samples for toxicology, as well as the cranium.



**Fig. 7. ORCA Foundation staff and volunteers assisting Dr. Greg Hofmeyr with a striped dolphin dissection at the Port Elizabeth Museum. (Photo credit: Danielle Conry).**

During both dissections, we learnt about various aspects of the morphology and physiology of both species from Dr Greg Hofmeyr and Dr Stephanie Plon. For example, we learnt that many species of dolphins only ovulate with their left ovaries until they reach an advanced age, at which time they will begin ovulating with their right ovaries. We also learnt about a special adaptation called the goosbeak, which separates the trachea from the oesophagus and prevents dolphins from getting water in their lungs when feeding under water.

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!



**Fig. 8. Volunteers excited for a day of dissections at Bayworld.**

## Monitoring seal-shark interactions in the Robberg MPA

During April volunteers witnessed the long awaited annual influx of Great white sharks into the Robberg Peninsula Marine Protected Area. Their natural aggregation 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.

Since April volunteers performed a total of 76 dedicated observation sessions from various cliff-top vantage points located along the Robberg Peninsula hiking trail. This amounted to over 200 hours of observations! Thanks to the clear water conditions a staggering 206 independent white shark sightings were recorded during 75% of all observation sessions. A maximum of 5 sharks were present at the colony over all sessions, with estimated sizes ranging between 2.5 – 5m. Although no successful seal predation events were witnessed, volunteers recorded many attempts, including groups of seals mobbing passing sharks (Fig. 9), an aggressive defence behaviour which prevents potential predations.

During observation sessions volunteers also recorded the movement behaviour and group size of seals travelling to and from the colony. Once a long-term dataset has been established it will be possible to examine the impact of seasonal white shark presence on seal behaviour and travel group size.

**Fig. 9. Cape fur seals 'mobbing' Great white sharks in the Robberg Peninsula Marine Protected Area. (Photo credit: Frikkie van der Vvver).**



## Monitoring local Cape fur seal population growth in Robberg MPA

During June, volunteers performed four dedicated boat-based seal counts to assist management authorities in monitoring local seal population growth. Our biologists also took profile photographs of the entire length of the Robberg seal colony (Fig. 10, bottom). Photographs will be used in computer software counts to validate tally counts performed by volunteers.

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.

We are happy to report that observations of seals entangled in fishing gear were minimal during seal counts. It is however 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.



**Fig. 10. Top: 'Witsand', a popular Cape fur seal haul out site located on the eastern side of Robberg Peninsula.**

**Bottom: Example of a 'profile' photograph taken at the Robberg seal colony for use in computer software designed to count seals.**

**(Photo credit: Frikkie van der Vyver).**

## Cape fur seal scat processing and identification of prey remains

Between April and June, volunteers assisted our biologists during routine processing of monthly scat samples collected at the Robberg Peninsula seal colony. Over 100 scats were individually soaked and prey remains, such as fish otoliths, eyeballs, vertebrae, scales, spines and cephalopod beaks, separated using fine meshed sieves (Fig 11).

An interesting find was that a large portion of the prey remains belonged to chokka squid and Cape horse mackerel. 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 have taken place in the ecosystem, including geographical shifts in the distribution of previously important prey species such as sardine and anchovy. All samples were transported to the Port Elizabeth Museum for further analyses. Data will be used to update the current diet of Cape fur seals that haul out on Robberg Peninsula. Results may also aid in future studies that aim to examine the role of Cape fur seals in the Agulhas Current.



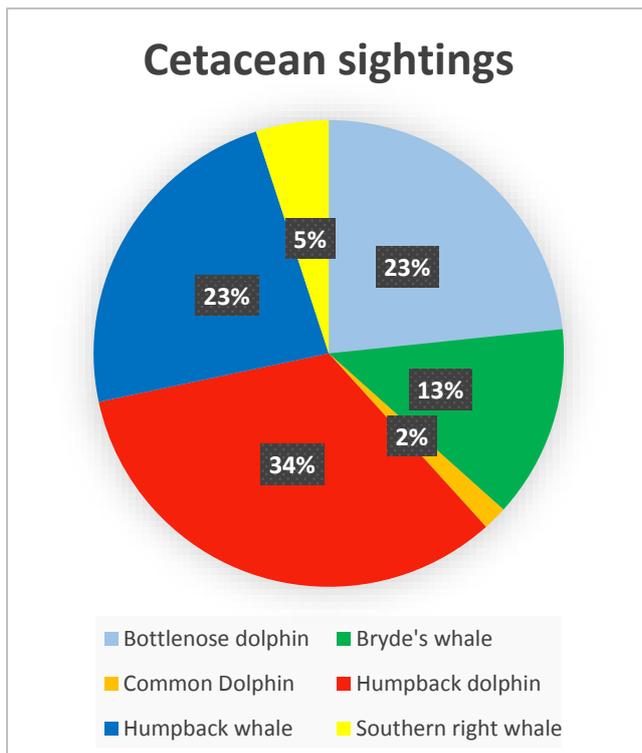
**Fig. 11. Top: ORCA Foundation volunteers assisting biologists with seal scat processing and preliminary identification of prey remains.**

**Bottom: Squid beaks commonly found in seal scats. Prey remains of fish included otoliths, eyeballs, vertebrae, scales and spines (not pictured here).**

# Opportunistic boat based surveys with Ocean Blue Adventures

Since April, we have conducted 45 opportunistic surveys with Ocean Blue Adventures to collect data on the cetaceans and marine life of Plettenberg Bay. During this quarter we only had 60 cetacean sightings as compared to 80 sightings last quarter. With much of this quarter falling within dolphin season when the migratory whales are still absent from our shores, it is not surprising that our two inshore dolphin species dominate the sightings this quarter. However, it is surprising that the

number of sightings of Indo-Pacific bottlenose dolphins (*Tursiops aduncus*) (14 sightings), are outnumbered by the rare and endangered Indian Ocean humpback dolphin (*Sousa plumbea*) (20 sightings). The number of Bryde's whale (*Balaenoptera brydei*) sightings this quarter was much lower than last quarter with only 8 sightings, nearly all of which occurred in April, compared to a whopping 29 sightings last quarter. The decrease in sightings of these animals during this quarter is most likely as a result of the movements of their prey, pelagic fish such as sardine and anchovy. During this time of year, sardines move northwards up the east coast of South Africa during the annual sardine run and, because the movements of these whales are driven by the movements of their prey, they follow the abundance of sardines northwards which results in fewer sightings along the south coast. We were also lucky to have 1 sighting of



**Fig. 12. Top left: Our first southern right whale sighting for the year.**

**Bottom left: The percentages of cetacean species' encountered during 45 opportunistic trips.**

**Below: A humpback whale surfaces to breathe during its migration to its winter breeding grounds.**

**(Photo credit: Amy-louanne Veness and Cameron Reeder).**



common dolphins (*Delphinus capensis*) during this quarter. The remainder of the sightings were made up by the arrival of our migratory whales. Humpback whales (*Megaptera novaeangliae*) started making their appearance along our coastline in June and were seen frequently during the quarter (20 sightings) as they made their way northwards to their winter breeding grounds off Mozambique, Madagascar and Tanzania. Unfortunately only three sightings of southern right whales (*Eubalaena australis*) were recorded during this quarter and we hope to see more next quarter.

During our time at sea, ORCA staff and volunteers observed a number of interesting sightings, including a young Southern elephant seal at the Cape fur seal colony on Robberg Peninsula (Fig. 13). These seals are vagrants to the South African coastline, coming all the way from the Sub-Antarctic where they breed on islands. The closest of these are the Prince Edward Islands which consist of two separate islands, Marion and Prince

Edward Island. It is likely that this young seal originates from this island group. The fact that it is not tagged may point to origins on Prince Edward Island as an intensive monitoring program of elephant seals on Marion Island results in the tagging of nearly all elephant seals born there. This is not the first elephant seal to haul out here in Plettenberg Bay. In fact, a particular male named Solo has been hauling out here for the last few years and has become well-known. We hope to see this young new elephant seal again when we next venture out to sea!



**Fig. 13. A young Southern elephant seal hauled out on Robberg Peninsula. (Photo credit: Max Plieninger).**



On some of our trips we were also lucky to see some beautiful pelagic bird species (Fig. 14). These included Subantarctic skuas, white-chinned petrels, sooty shearwaters, shy albatross and even a juvenile yellow-nosed albatross!

**Fig. 14. Top left: A white-chinned petrel sits on the water's surface. Bottom left: A shy albatross soars past the boat. Below: A juvenile yellow-nosed albatross. (Photo credit: Max Plieninger).**



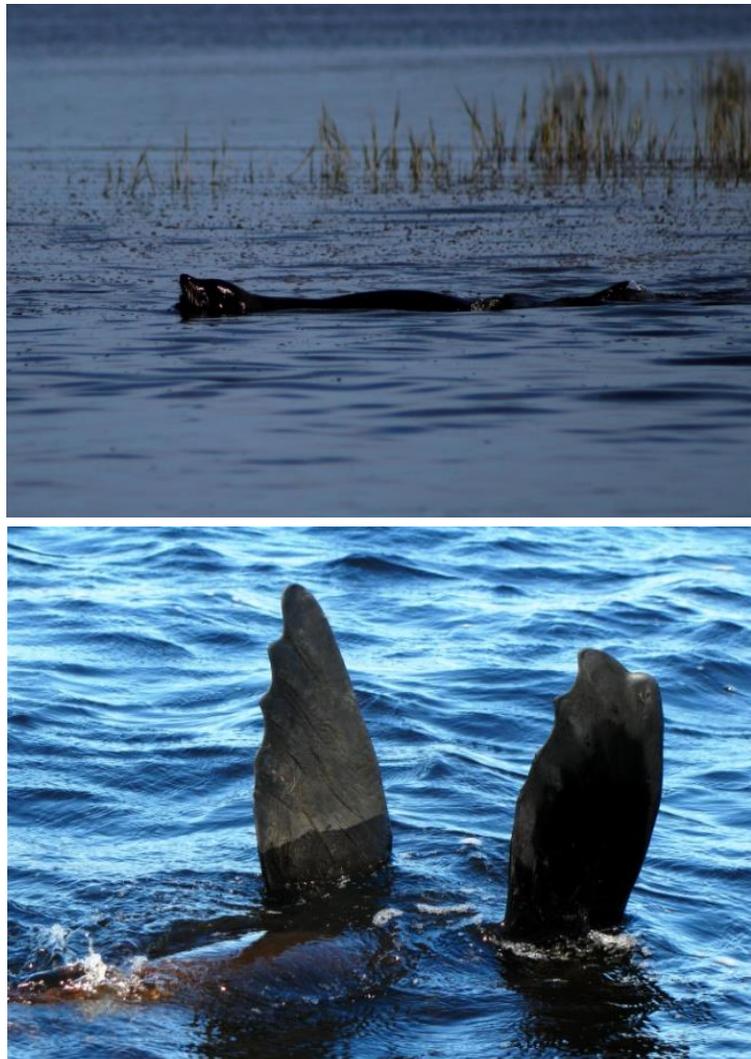
## Monitoring specialist behaviour of Cape fur seals in estuaries

Between April and June we performed 26 boat-based photo-ID surveys in the Keurbooms River estuary. One to four seals were present in the estuary during each survey, some of them easily recognisable by their unique flipper scars. Photographs taken during observed predation events were used to identify three prey species: spotted grunter, Cape moony and striped mullet.

Interestingly, after the recent death of one of the other well-known river seals, Stompie started frequenting the estuary again (Fig. 15). After being absent for over 5 months it seems that this large adult male is back to stay. Looking at previous records it seems that he prefers utilizing the estuary in the cooler winter months. He has definitely not forgotten his specialized estuarine hunting technique. We recently witnessed him hydroplaning in shallow water to chase fish out onto dry-land where he can easily catch them.

We also recorded a few juvenile seals, possibly 1-2 years old, regularly frequenting the estuary since May. Unfortunately these individuals do not yet bare any permanent markings so we are unable to track their individual movements.

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



**Fig. 15. Top: Stompie, a large adult male Cape fur seal that regularly frequents the Keurbooms River estuary. Bottom: Stompie is easily recognisable by the unique scar on his left fore-flipper. (Photo credit: Frikkie van der Vyver).**

## Plettenberg Bay Humpback Dolphin Project



**Fig. 16. Searching for humpback dolphins off Keurbooms Village. (Photo credit: Max Plieninger).**

This quarter saw the launch of our dedicated humpback dolphin surveys in June. 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.

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. Our first month of surveys was a resounding success with all four surveys completed on consecutive days and humpback dolphins encountered on all but one survey (although a group was encountered after the end of that survey!). In total we spent 15 hours and 15 minutes at sea searching for humpback dolphins. During this time we encountered 4 humpback dolphin groups which we recorded and photographed. Group sizes ranged from 1 to 18 individuals with an impressively high average of 9.5 individuals (average group size for the species is usually only 4 individuals).

During the surveys we saw a number of familiar dorsal fins belonging to individuals which have been seen in the area in the past (Fig. 17). Over the four survey days, individuals moved into the area, left the area, and some were seen over multiple survey days.

We would like to thank everyone who contributed towards making the first 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!



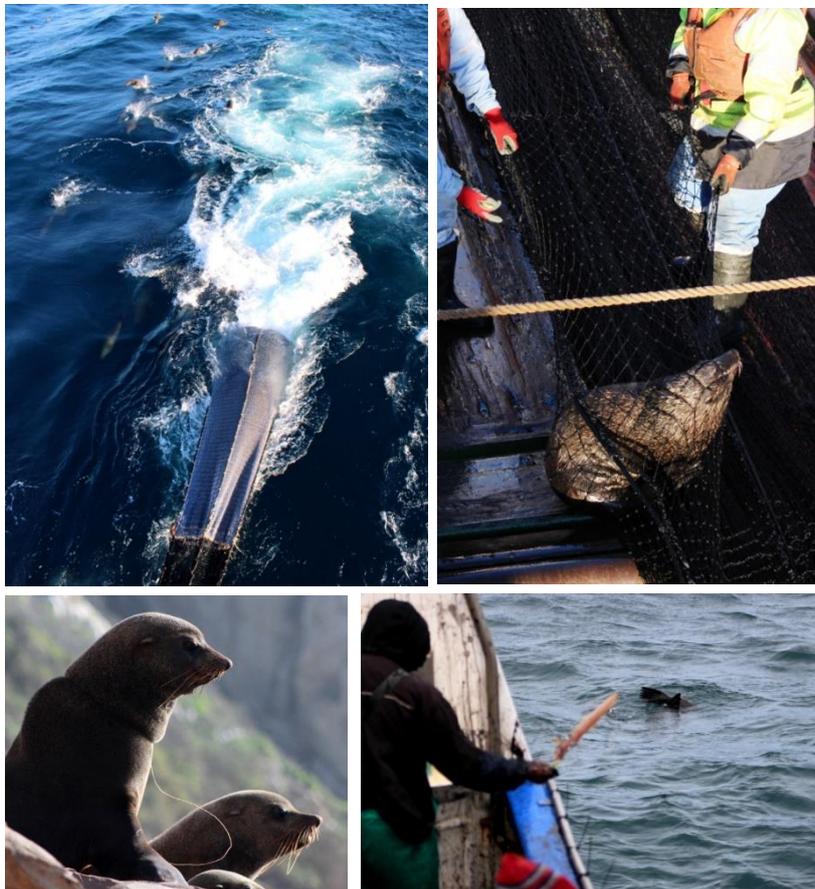
**Fig. 17. Left: "Roslynne", one of the familiar individuals seen during our surveys. Right: Photographs of each dolphin's dorsal fin are taken for photo-identification. (Photo credit: Danielle Conry and Frikkie van der Vyver).**

# Investigating seal-fisheries interactions in the Agulhas Current

Seals are known to feed in association with commercial fishing operations, often depredating catches, disturbing fish aggregations and damaging fishing gear (Fig. 18). Supporting evidence from the Port Elizabeth Museum's stranding dataset on shot animals points to ongoing lethal conflict between Cape fur seals and fishermen in the Eastern Cape. Stranding data on seal mortality from entanglement in fishing gear is also available. Although the existence of specialist seals have been suggested, this is rarely examined and the effect of their removal remains unclear.

In collaboration with the PE Museum, our seal biologist recently attracted funding from the Society of Marine Mammalogy (US) and the South African Squid Management Industrial Association, to support his planned PhD research on seal-fisheries interactions in the Agulhas Current. Funds will be used to perform stable isotope analyses on samples collected from seals that were killed during commercial fishing operations (deliberate and incidental mortality) in the Eastern Cape. Results will be used to examine potential specialist behaviour in seals that forage in the presence of fisheries.

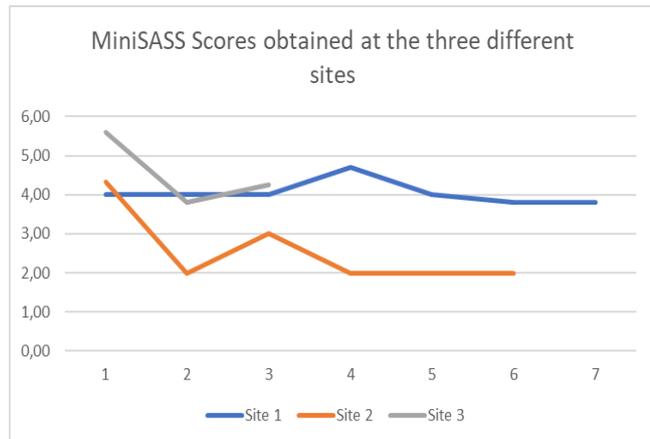
We would like to thank our previous volunteers who helped perform necropsies on all those smelly seal carcasses that washed ashore between January and March. This study would not be possible without your assistance and support.



**Fig.18. Top left: Cape fur seals depredating catches from a trawl net before it is hauled onboard. Top right: A Cape fur seal trapped in the net of a mid-water trawler targeting small-pelagic fish on the Agulhas Bank. Bottom left: An unfortunate Cape fur seal resting ashore on Robberg Peninsula after returning from a foraging trip at sea. Entangled in commercial fishing gear, it is clear that this individual depredate catches from the local hand-line or demersal long-line fisheries targeting either squid, linefish or sharks. Bottom right: Cape fur seals depredating catches while foraging in the presence of a squid jigging vessel. (Photo credit: Frikkie van der Vyver).**

# MiniSASS

A river health assessment following the miniSASS (Stream Assessment Scoring system) protocol is conducted by our volunteers at 3 different sites, each at a different river, namely; the Bitou river, Keurbooms river and the Piesang River. Here, our volunteers had fun kicking up microhabitats to help find macroinvertebrates in the water which they could identify to help them determine the health of the river. The site along the Keurbooms river which is tested was not visited for approximately 2 weeks as a result of an infestation of leeches present in the water. According to the scores obtained during the miniSASS, it has been determined that all 3 sites are in very poor condition, of which site 2 (the keurbooms river site) is currently in the worst condition (Fig 19). Site 3 (the Piesang river site) is a new site and has only been tested 3 times. However, of the 3 sites, this site is currently in a better condition than that of the other 2 sites. All results may be found online on the miniSASS database.



**Fig 19. Top: The change in miniSASS scores at the three different sites. Bottom: ORCA volunteers identifying macroinvertebrates found in the river.**



## Knysna Animal Welfare Society

The Knysna Animal Welfare Society continues to be one of our volunteers' favourite activities. Who could one be happier than to spend the morning playing with dogs and cats? Almost every second week our volunteers help at Kaws, where they walk the dogs, play with them, brush them, and also play with the cats and kittens. Our volunteers also had the opportunity to assist with lead training of the puppies, an exhausting but fun experience with lots of chasing after puppies while they get used to wearing their leads.

**Fig 20. A volunteer walking one of the dogs at the societv.**

## SANCCOB

The SANCCOB seabird rehabilitation centre in Port Elizabeth was visited by the ORCA volunteers on the 15<sup>th</sup> Of May. They got to see how the SANCCOB volunteers feed the penguins which are in the home pen. This was enjoyed by our volunteers as there was one penguin who kept climbing onto the SANCCOB volunteers while they were feeding them. The ORCA volunteers assisted the centre with some maintenance work which their volunteers do not have time for. They were asked to cut down dry reeds which were growing by the fence line. The staff explained to the volunteers that these reeds needed to be removed as they were a fire hazard and if they had to catch alight then the centre was in danger. The ORCA volunteers did an amazing job clearing these reeds and gave their all to remove them as best they could.



**Fig 21. Top: Volunteers hard at work cutting down the dry reeds. Bottom: What the site looked like once the ORCA volunteers were done cutting down the reeds.**

## Alien Clearing

The continuous effort to remove Lantana (*Lantana camara*) from our first site is still under way. The volunteers are currently removing all the cuttings from the area as they have dried and become a fire hazard. They have moved the cuttings up to the side of the road for the municipality to remove. This is to reduce the fire risk of the area. So far, our volunteers have made a major

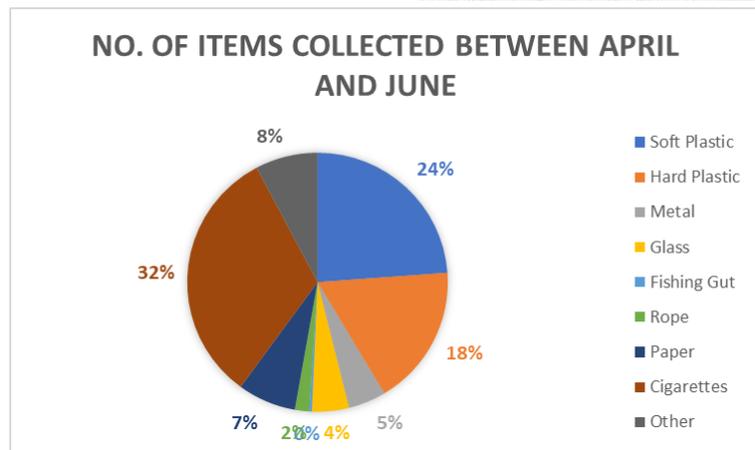


difference and their continuous effort to clear the area is clearly visible when entering the site. A tiresome, tedious and time-consuming job, but our volunteers' spirits are never down due to their enthusiasm to make a difference to help get rid of the pesky Lantana. This alien species originally comes from Central and South America and it competes with, and replaces, our indigenous species, in turn reducing the biodiversity in our country. Therefore, our volunteers' work to eradicate this species is a great help to conservation.

**Fig 22. Volunteers pulling out the alien species known as Lantana.**

## Beach clean-ups

Over the course of April, May and June, 11 beach clean-ups have been conducted along 3 different beaches in the Plettenberg Bay area, namely; Robberg Beach, Keurboomstrand and by the Piesang River mouth with Central Beach. Over the course of 3 months, a total of 5535 pieces of rubbish has been collected by our volunteers on these 3 beaches. The rubbish was then divided into different categories, namely; soft plastic, hard plastic, metal, glass, fishing gut, rope, paper, cigarettes and other, which were then thrown away into the ORCA house recycling bins. Of the 3 beaches, the Piesang river with Central Beach has provided the most rubbish, totalling 4349 pieces of rubbish. As expected plastic has dominated the findings, making up 42% of all the rubbish collected. This is followed closely by cigarette butts, which make up 32% of the rubbish (Fig. 23).



**Fig. 23. Top: Volunteer picking up rubbish found along Central Beach. Bottom: Pie chart depicting the amount of rubbish collected.**

## Siyakula creche

The ORCA volunteers visit the Siyakula creche in the Qolweni township once a week. Here the volunteers are welcomed to teach the children a lesson, read them a story and play a game with them. The school recently introduced themes into their teachings, therefore, our volunteers had to come up with lessons which relate to the theme. They got to teach the children about feelings and safety at home. During the feelings lessons they got to see the children pull different faces to show them their feelings, and during the safety at home they got to teach the children what would happen if they did something they weren't supposed to. They helped the children to spell out a select number of words. This form of education is a great



**Fig. 24. Top: A volunteer asking a child to show the rest of the class what feeling they are going to learn by pulling a face. Bottom: Volunteers presenting a lesson to the children at Siyakula Creche.**

way to help the children with their cognitive development. This is important as this development is when the children learn how to process information, and learn different languages and skills. The safety at home teachings is a good form of classical and operant conditioning, as the children were able to tell our volunteers why they shouldn't do something, because they themselves had learnt from the experience. The volunteers will then read the children a story followed by 5 questions based on the story. This is a good method to help the children to develop their comprehension skills. Our volunteers continue to help make a difference at the school.

## St Andrews and DSG visit.

Students from St Andrews College and Diocesan School for Girls in Grahamstown joined the ORCA foundation from the 21<sup>st</sup> to the 25<sup>th</sup> of June, assisting with some of our research and conservation activities. Their stay started off with a whale watching trip with Ocean Blue Adventures where the students got to see many humpback whales in the Bay. The students then conducted a beach clean-up along central beach where they did a fantastic job, collecting a total of 1632 pieces of rubbish. The students were also able to assist our volunteers in collecting data on Cape fur seals and great white sharks while doing observations from the Robberg Peninsula. They then assisted with the removal of alien plants, namely the Port Jackson (*Acacia saligna*) and did a fantastic job with the removal of the plants which they found in the quadrant. The Saturday they were shown the field band which is funded by Ocean Blue. They were amazed to see the children playing all the different instruments. Their stay with us ended on the Monday morning when they went out on the boat and assisted with the counting of the seals at the seal colony on Robberg.



**Fig. 25. students from St Andrew's College assisting with observations on the Robberg Peninsula.**



**Fig 26. Left: students and ORCA volunteers after finishing a beach clean up along Central Beach. Right: students from St Andrew's and DSG on a boat trip with Ocean Blue Adventures.**