



PUBLIC CONCERNS

REGARDING

SHIP-TO-SHIP BUNKERING

IN ALGOA BAY

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PURPOSE OF THIS REPORT

The purpose of this report is to reflect on the issues and concerns raised at the public meeting on Ship-to-Ship Bunkering Operations (Ship-to-Ship Refuelling) in Algoa Bay on the 1st August 2019. The concerns that were raised at the meeting have been summarised and collated in this report. The background to bunkering operations in Algoa Bay is outlined at the start of the report followed by the discussions and concerns. The report ends with an urgent request from the public to your department to stop bunkering in Algoa Bay immediately. Please note this is not intended as a detailed assessment of the environmental impact of bunkering operations, but simply to highlight and list public apprehensions and fears with bunkering in Algoa Bay.

INTRODUCTION

Algoa Bay is a wide moderately exposed bay on the south-east coast of South Africa. It is bounded on the south-west by Cape Recife and in the east by Cape Padrone. The bay is home to two ports: The Port of Port Elizabeth and the deep-water Port of Ngqura.

Both recreational and commercial activities originate from these ports. The metropolitan municipality of Nelson Mandela Bay, which includes Port Elizabeth, is located on the western shore of Algoa Bay. (Features of Algoa Bay are shown in Appendix 1).

Algoa Bay was declared a Hope Spot by Dr Sylvia Earle in 2014, declared the Bottlenose Dolphin Capital of the World in 2016 and was declared the National Addo Elephant Park Marine Protected Area in 2019.

It is easy to see why.

The influence of two continental currents, the protection that the bay affords, and the influence of estuaries all add to the creations of a unique marine biodiversity in Algoa Bay, In addition the land-based biodiversity is spectacular boasting 5 separate biomes in our region. This is simply an eco-tourism heaven.

Two of South Africa's most important seabird colonies are found in Algoa Bay. The islands are home to the largest breeding colony of endangered African penguins in the world, roughly half of the total world population. St Croix Island is the most important penguin breeding island in the bay.

Bird Island holds the largest Cape gannet breeding colony on the planet. A quarter of a million Cape gannets can be seen here, two-thirds of the global population. The islands also support populations of African black oystercatchers, white-breasted as well as Cape cormorants (also endangered), kelp gulls, swift terns, Antarctic terns, and roseate terns.

Apart from birds, a quarter of the world's cetacean species visit or live in Algoa Bay. The bay is an important site for migratory Humpback and Southern Right Whales, which give

birth here. Orca Whales are also seen here while the sardine-eating Bryde's Whale is a resident. Other residents in the bay are Common and Bottlenose Dolphins. Further, the occurrence of Humpback Dolphins, now listed as critically endangered by IUCN, along our coast is of high significance. The bay also have Cape Fur Seals and five out of the seven existing species of turtles, most of them highly threatened.

There is a wide variety of resident shark species, such as Hammerheads, Mako, Ragged-tooth, Great White and Bronze Whaler sharks, which play an important role in the functioning of the oceans.

From March to June, we witness the world-famous sardine run which, in terms of biomass, is the second largest migration on earth. The event attracts camera crews from National Geographic, the BBC and many others, to document this unique event.

Algoa Bay has the highest percentage of endemic marine invertebrates and seaweeds along the entire South African coastline. On our sea beds, the diversity of marine invertebrates, soft corals and nudibranchs is one of the richest on our planet, making Algoa Bay a world attraction for SCUBA diving and snorkelling.

Algoa Bay and surrounds offers numerous 5-star game parks and it is unique in that the big 7 are present in one area, namely the big 5 land animals (Lion, Leopard, Elephant, Rhino and Buffalo) as well as the whales and great white sharks.

Algoa Bay is an important area for ocean and marine research by a number of local and international universities and research institutions.

Furthermore, Nelson Mandela Bay is setting itself up to be the Watersport Capital of South Africa. Port Elizabeth is the only city in Africa to host the prestigious international Ironman competition.

Sporting events and tourism provide our local communities with much needed jobs. In 2017 tourism, largely through coastal and marine tourism, supported 44 227 local jobs. A total of 3,400,000 tourists visited Nelson Mandela Bay, generating over R 7 billion.

One would think that all this is worthy of protection.

SHIP-TO-SHIP BUNKERING OPERATIONS

Ship-to-ship bunkering, a process whereby fuel is transferred from a vessel (barge) to a receiving vessel while at sea, has been authorized in Algoa Bay. It can be compared to a massive fuel station floating in our bay.

In 2016, SAMSA (South African Marine Safety Authority) issued the first STS bunkering licence to Aegean Bunkering Marine Service Pty Ltd.

The bunkering operation took place out-of-port limits initially, but after a spill occurred in 2016 where penguins were oiled, it was decided that bunkering should rather be taken place inside the port where they can enjoy the protection offered by the bay. Bunkering then moved from 2017 to the Anchorage areas No 1 and 2 of the Port of Ngqura and less than 10 km from the port. The anchorage areas are also less than 5km from St Croix, the main penguin breeding island in Algoa Bay, the Swartkops estuary with an important ecological role, and the pristine sandy beaches of Blue Water Bay. (See map in Appendix)

At the time of writing this report, three STS bunkering operators have been issued with licences: Aegean Bunkering Marine Services (2016); South African Marine Fuels (2018), and Colt Marine (2019).

STS refuelling of vessels is attractive because the vessels do not need to pay port fees to dock in the harbour to refuel. It also means that the vessel can take on board less fuel and thus transport more cargo, translating into higher profits for the cargo operators. For the bunkering operators it is a lucrative business with high profit margins.

However, environmentally, STS bunkering has been identified across the world as a dangerous operation because of the risks to the ecology which can be caused by toxic fuel spillages, collisions, accidents, fuel emissions, noise generation and the movement of vessels on the sea surface.

The fuels used for bunkering are: Heavy Fuel Oil (HFO), Intermediate Fuel Oil (IFO) and Marine Gas Oil (MGO). Each operator has 1 mothership, where the fuel is held and 2 to 4 delivery vessels.

Aegean supplied us with the following information regarding their vessels.

MAIN HOLDING VESSEL				
Name	Umnenga I			
Fuel Type	IFO	MGO		
Capacity (MT)	96 682	8 142		
Anchorage Position	1			
TRANSFERRING VESSELS				
Name	Lefkas	Kimolos	Tilos	
Fuel Type	IFO	IFO	IFO	MGO
Capacity (MT)	6 200	4 200	5 200	900
Anchorage Position				

HFO has a varying density depending on the composition. In general the density of 1,010 kg/m³ at 15° (ISO 8217, ISO-F-RM) is accepted.

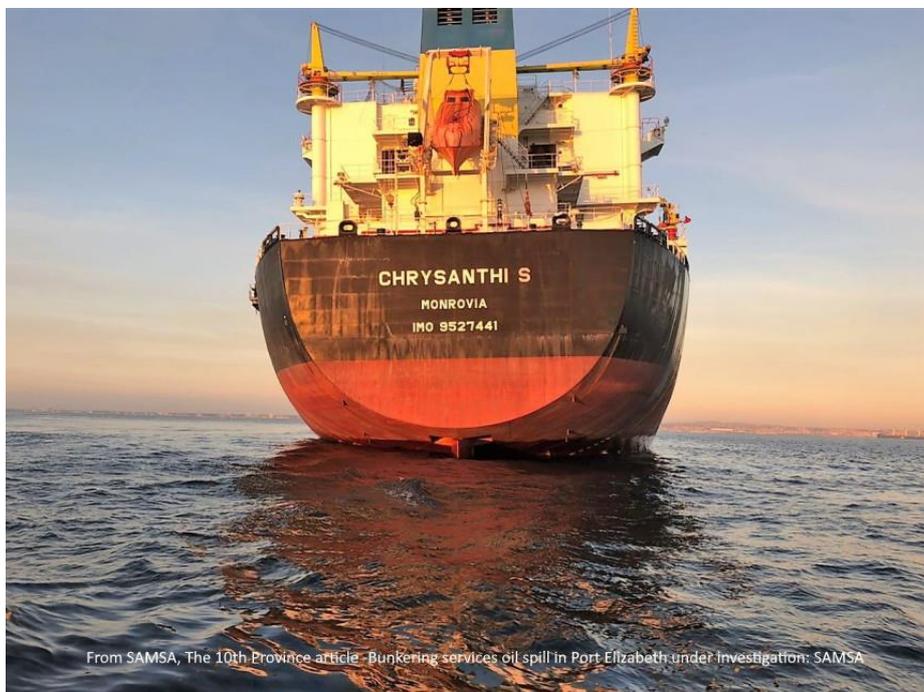
Thus 1 Metric Ton (MT) for a substance with density 1010 Kg/m³ = 990 litres.

From the table above, it can be seen that more than 100,000 metric tons of fuel is being stored and transferred on the sea - roughly 100,000,000 litres. To put it into perspective, a fuel station in South Africa dispenses an average of 300,000 litres of fuel per month. The fuel being stored in Algoa Bay **by each operator** is thus equivalent to the fuel that a South African fuel station will dispense in 27 years. We did not get data from the other two operators, but we can assume that the amount of HFO held by each of the other operators is similar. This means that the fuel being stored by the three STS bunkering operators could be **equivalent to the fuel that one South African fuel station will dispense in 82 years**. To put it into another perspective: at any time, the volume of fuel that is kept in the bunkering vessels in our bay is equal to the fuel that is dispensed in one month from 990 fuel stations on land!

The reality is that 990 fuel stations are floating on our waters, less than 5km from sensitive breeding islands of penguins, an ecological important estuary and pristine sandy beaches! Any spillages of fuel from the bunkering operation can thus have a major impact on the bay. This has, sadly, already befallen our bay during an actual spill in 2019.

HEAVY FUEL OIL (HFO) SPILLAGE on 6 JULY 2019

At around 04h30 in the early morning of 6 July 2019 an ecological disaster occurred during STS bunkering operations less than 10km from St Croix Island, while SA Marine Fuel were refuelling the vessel Chrysanthi S.



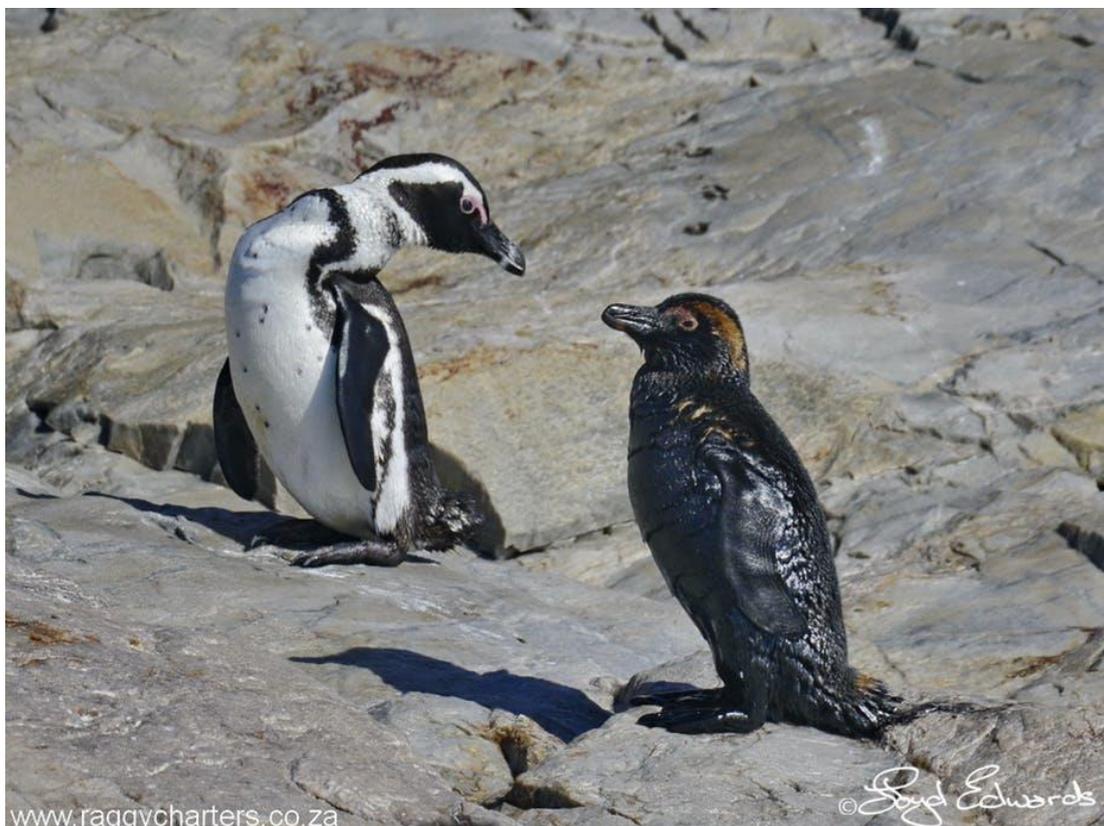
It has been reported that 400L of fuel was spilled into the sea due to an overflow during fuel transfer to the receiving vessel. A final copy of the incident report has unfortunately not been available as it still is under investigation.

As it is understood, HFO was spilled onto the deck of the vessel and because of the rolling movement of the ship in the sea the oil ran over its sides and into the ocean. (the sea was quite rough apparently.) Approximately 1,600 litres of HF oil were collected on the ship deck, while about 400 litres of HFO were spilled over the sides into the sea.

No oil containment equipment or oil dispersants were available on the transferring vessel to deal with this spill. It took about 10 hours to recover 350 litres of the spilled HFO. The remaining 50 litres of HFO was lost to the ocean. Eight 200L drums of waste oil and absorbent material were collected from the deck of the Chrysanthi S and were disposed, together with the recovered oil spilled in the sea, as hazardous waste on land.

Apparently, there was a second spill of HFO to the ocean, when the vessel attempted to clean the sides where the heavy fuel ran down and solidified. This was not reported to the public.

The spill occurred in the Port of Ngqura Anchorage No 2, less than 5 Kms from the penguin breeding island of St Croix and in the general foraging area of penguins. It was thus inevitable, albeit unfortunate, that penguins were in this area. While the spill clean-up was taking place, penguins could be seen swimming through the oily water, getting totally covered by the heavy fuel oil. As you will see later, the penguins were attracted to the spilled fuel, exacerbating the inevitability of being oiled. Most of the oiled penguins originated from St Croix Island. The photograph below was taken the next day after the spill, 7 July 2019, at St Croix Island.



On the 7th July 2019 the oiled birds were collected from St Croix Island by staff of SanParks (South African National Parks) and taken to SANCCOB's (Southern African Foundation for the Conservation of Coastal Birds), rehabilitation centre near Cape Recife. Volunteers were called in to help with the cleaning of the birds. The cleaning process was specifically difficult due to the nature of the bunker fuel that spilled. (To be discussed later in this report). The penguins required numerous washes and took a long time to be ready to be reintroduced into the sea. The last rehabilitated birds were released on the 22nd Of November, nearly 4 months after the spill.

The statistics of wildlife oiling from the spill are as follows (from SANCCOB):

Rescued Wildlife	Oiled	Mortalities
African Penguins	92	4
African Penguin chicks – abandoned because of oiled parents	17	5
African Penguin eggs	5	5
Cape Gannets	13	3
Total - Endangered species	127	17
Mortalities – Endangered species (%)		13%
Cormorants	3	1
Total - Rescued Birds	130	18

The direct impact of the oil spill is 127 oiled endangered wildlife was oiled and had to be captured to be cleaned and then rehabilitated.

13% of the captured endangered birds died due to the toxic oil cover from the spill despite efforts to wash and rehabilitate them. (17 rescued birds and eggs).

It is a sad day for Algoa Bay when endangered species die, in fact for the world.

The Chrysanthi S was fined a mere R350,000 and made to pay for the clean-up operations.

The spill and the oiling of penguins caused an outcry from the public, scientists and environmentalists. Several newspapers published articles, there were social media posts and discussions and TV news programs highlighted the disaster. This led to the organization of a public meeting by NMBT on the 1 August 2019.

Some of the news articles condemning the spill are referenced below:

Conservationists oppose Algoa Bay bunkering, City Press 21 May 2019

<https://city-press.news24.com/Business/conservationists-oppose-algoa-bay-bunkering-20190521>

Oil spill affects penguins in Algoa Bay, SABC Digital News 8 July 2019
<https://youtu.be/Zj-aklvSR8I>

Stop bunkering now to protect marine life, City Press 13 August 2019
<https://city-press.news24.com/Business/stop-bunkering-now-to-protect-marine-life-20190809?fbclid=IwAR2fBpBryQvaCVtWTcDuZFmFOzWxFqnVla-DvMRPAy5tRKxdIEmmSjP8jOk>

Ships' risky fuel transfers are threatening African Penguins, The Conversation 3 September 2019
<http://theconversation.com/ships-risky-fuel-transfers-are-threatening-african-penguins-121575>

Battle to rescue African penguins drenched in oil IOL News by Lisa Isaacs on 12 July 2019
<https://www.iol.co.za/capetimes/news/battle-to-rescue-african-penguins-drenched-in-oil-29085805>

PUBLIC MEETING ON 1 AUGUST 2019

A public meeting was organized by Nelson Mandela Bay Tourism and held on 1 August 2019 at Dolphin's Leap in Port Elizabeth to listen and note the public's concerns regarding bunkering. 80 individuals attended the 18h30 meeting.

SAMSA, TNPA as well as the bunkering operators were invited to attend but declined. The invitation and agenda for the meeting are attached at the end of this report. The presentation slides as well as a summary of the presentation are available on request from Ronelle Friend, whose contact details are at the end of the report.

Shaun Fitzhenry, from Nelson Mandela Bay Tourism, gave an introduction and explained how bunkering is a major concern to his organisation.

Lloyd Edwards, from Raggy Charters, presented slides highlighting the rich biodiversity in Nelson Mandela Bay and explained the importance of protecting this resource.

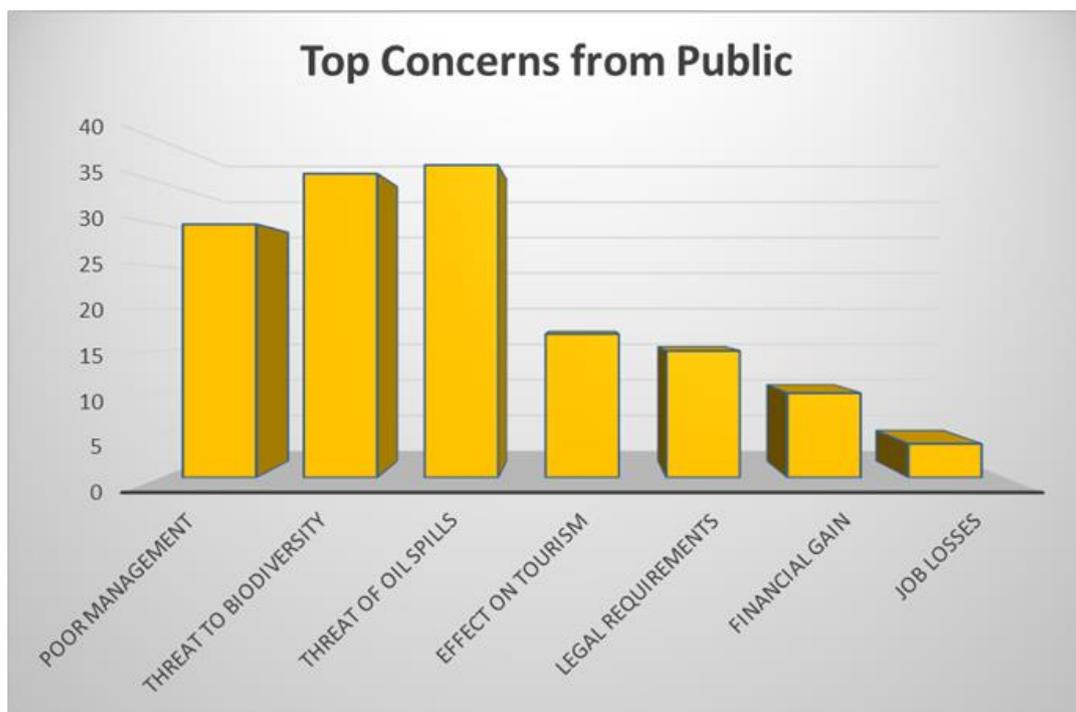
Ronelle Friend, an environmental scientist, explained STS bunkering operations, presented details about the spill that occurred on 6th July and the resultant impact on the environment.

Following the presentations, the floor was open for discussion and attendees were given the opportunity to raise any concerns or issues either verbally or to put these down in writing and hand it in at the end of the meeting. Fifty-one individuals submitted written responses. The top concerns raised are listed below, in order of importance:

1. Threat of oil spills and pollution from the bunkering operations and the type of oil that is used;
2. Threat to the biodiversity in the bay (vessels moving, engine and other noise, spills, fires, eco-system damage);

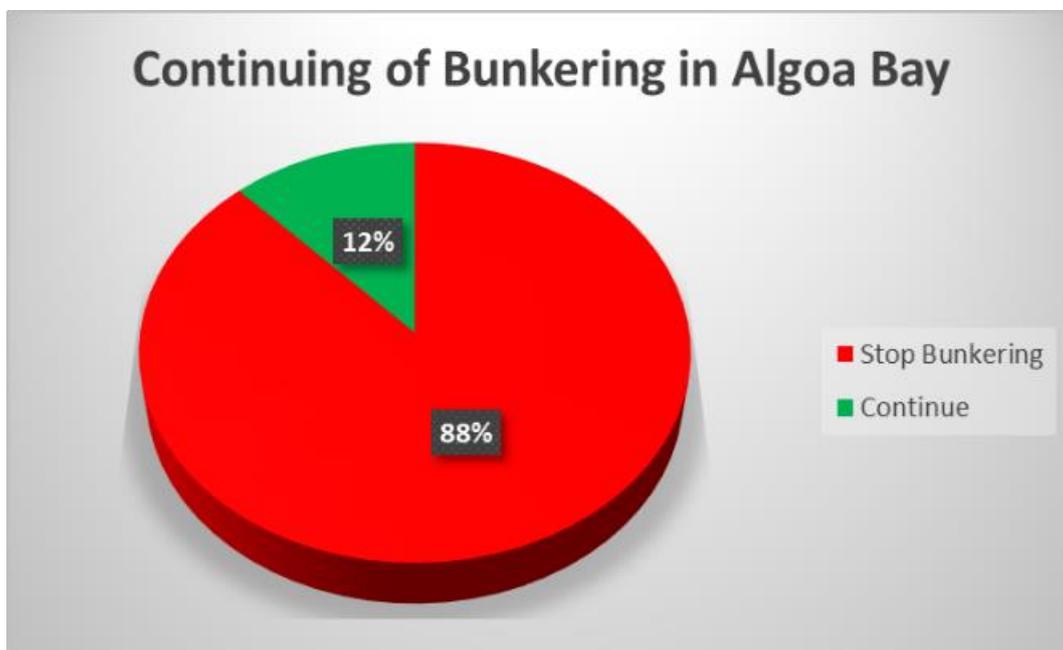
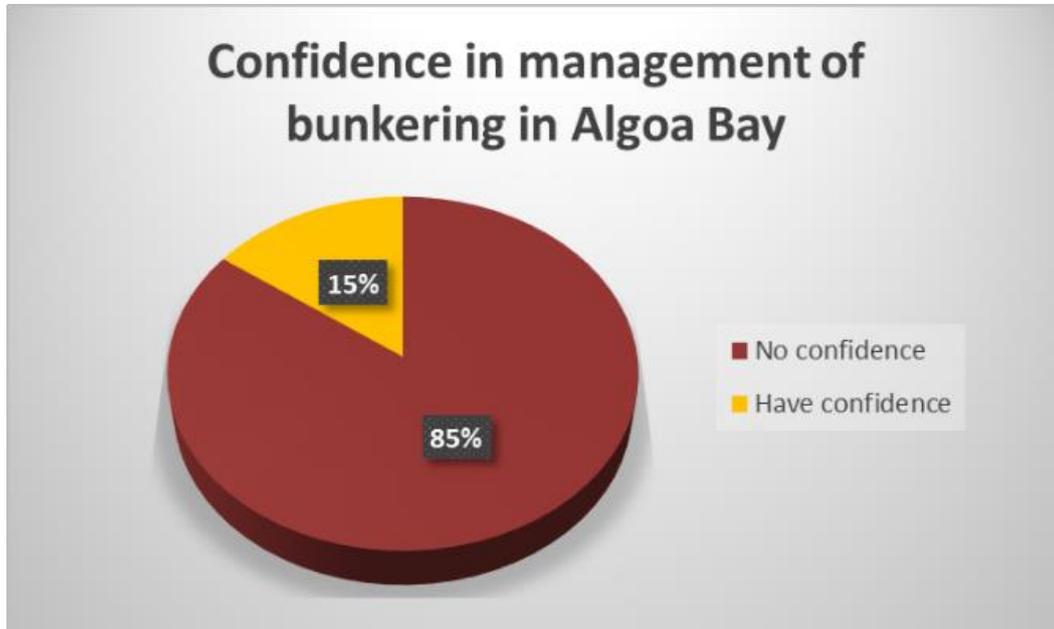
3. Poor management of the bunkering operations – for example no public involvement, no co-governance, 2 spills in 3 years is serious, not proactive but reactive, arrogant disposition, etc.;
4. The visual impact and impact on ecotourism and beaches, having a negative effect on tourism, and leading to probable job losses etc.;
5. Legal issues – why are preventative guidelines not followed, how can this highly dangerous operation to the environment not require an EIA, role of the Department of Environmental Affairs;
6. Financial gain – is the financial gain of a few individuals really assisting the region to the possible detriment of the environment, and possible tourism;
7. Potential loss of tourism and sporting events with resulting job losses.

The most important concerns were obtained from the attendees and are plotted below. **Significantly 80% of the respondents indicated that threat of oil spills and the loss of biodiversity are the top concerns regarding STS bunkering in Algoa Bay.**



The respondents were asked if they have confidence that the bunkering operations are managed efficiently, that procedural controls are in place and that the responsible government departments are effectively overseeing the operations. **85% responded that they do not have confidence that the current STS bunkering operations in Algoa Bay are being performed and managed adequately.**

In response to the question of whether bunkering operations should be continued in Algoa Bay, **88% of the respondents indicated that bunkering should be stopped immediately** while 12% indicated that it should continue with improvements being made. The individual concerns will be discussed in the rest of the report.



ISSUES AND PUBLIC CONCERNS WITH STS BUNKERING IN ALGOA BAY

CONCERN 1: THREAT OF FURTHER OIL SPILLS

There have been two reported incidents of oil spills since bunkering operations started in Algoa Bay in 2016. Twice in three years, several endangered species were directly affected and killed by oil spills. Endangered African Penguins and Gannets were covered in toxic oil while several Penguin eggs were left unhatched and/or oiled. The loss of any endangered species is a major ecological catastrophe and must be identified as such.

For the bunkering industry two spills in three years is an atrocious track record and it is no wonder that the possibility of another spill is the public's number one concern.

The risk of oil spills increases exponentially with more licences being issued. The storage capacity of fuel by the three STS bunkering operators is ~300,000,000 litres at any time! That is an astronomical amount of fuel on the surface of the ocean in Algoa Bay, posing huge risks to pollution that can have catastrophic consequences to the bay.

The result of another oil spill can be devastating to the already rapidly declining penguin numbers, and also for all marine species and coastal organic substrates. The immediate effects of a toxic oil spill could result in mass mortality and contamination of endangered bird, fish, and all other food species. Long term, the ecological impact may be such that the biodiversity of the bay may be lost forever and never recover.

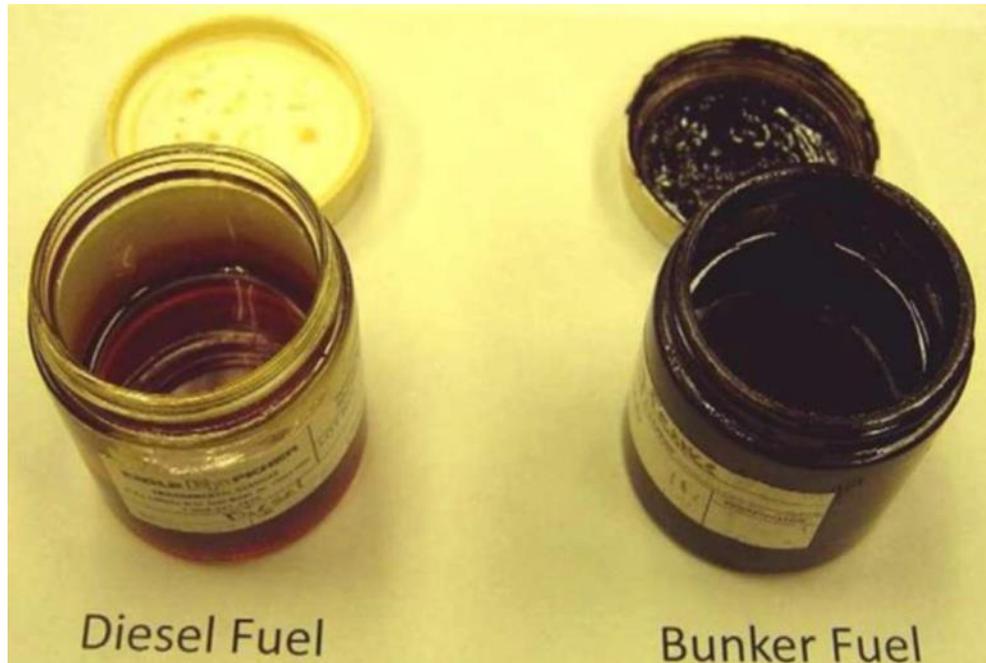
To understand why another spill would be an ecological disaster, we need to comprehend the nature of the bunker oil that is currently being stored, handled and transferred by the STS bunkering in Algoa Bay.

CONCERN 1A: THE NATURE OF HFO

Heavy Fuel Oil (HFO), Marine Gas Oil (MGO) and Intermediate Fuel Oil (IFO) are the oils stored and transferred in the bunkering operations in Algoa Bay. HFO is a residual fuel oil, MGO is a distillate fuel oil and IFO is a blend of MGO and HFO. HFO and IFO are the most common oils used in transfers. (Reference to bunker fuel further on in the report will mainly refer to HFO.)

Bunker oils are viscous tar-like substances. They are the last section of the cracking and distillation process of crude oil and in general have not been "cleaned". They are contaminated with impurities, including sulphur and nitrogen compounds, as well as various metallic compounds. Since they are "residual" substances from the distillation petroleum processes they are relatively cheap and for this reason are the preferred fuel for marine vessels.

The chemical composition of bunker fuel can vary significantly, and this has an impact on their physical properties, such as specific gravity and viscosity, important characteristics when oil is spilled in the ocean. The photo below indicates the viscous tar-like nature of bunker fuel compared to diesel fuel.



During the combustion of bunker fuel (propulsion of marine vessels) the impurities cause several environmental issues, mainly air pollution (greenhouse gas emissions) and carbon black particle emissions.

HFO has been classed by the Global Harmonized System (GHS) as a **Dangerous** substance and an aquatic polluter. It is labelled as “**extremely toxic to aquatic environment with long lasting effects**”.

Following a spill bunker fuel is retained in the environment for several years as it is extremely slow to biodegrade. Because of the toxins found in the oil, even at low concentrations it will kill birds, certain species of fish and algae. The organic chemical substances will also bioaccumulate in marine life. In addition air pollution from the combustion of bunker fuel has far reaching effects.

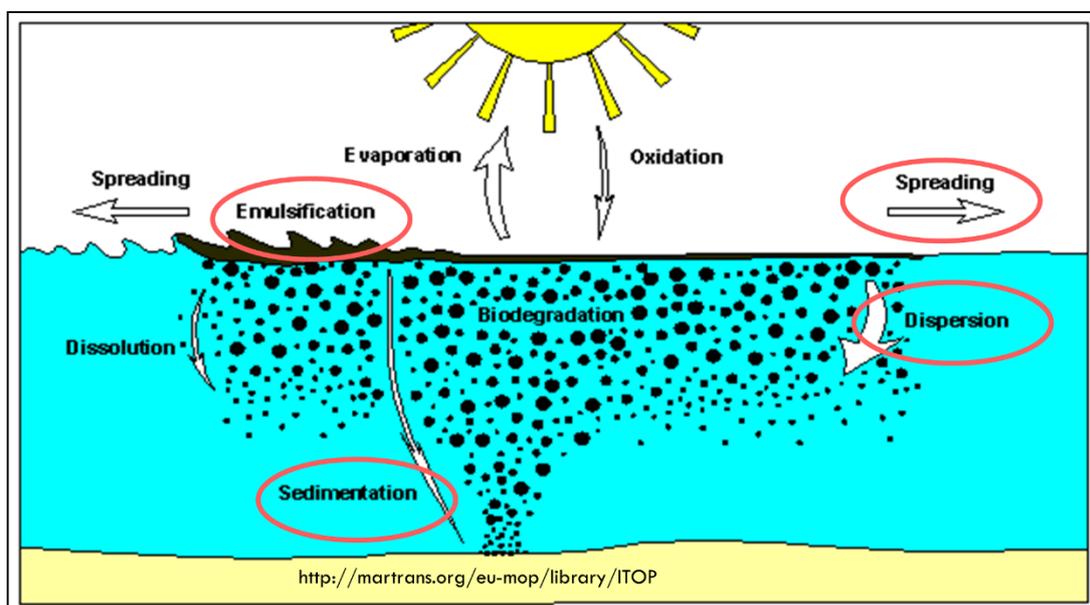
It is for these reasons that the use of HFO as a fuel source in marine vessels travelling in the Antarctic areas has been banned by the Polar Code as set by the International Maritime Organization (IMO) (Polar Code - International Code for Ships Operating in Polar Waters). Currently there is a proposal to ban HFO from the Arctic areas as well.

In addition, due to the particulate and greenhouse gas emissions caused by bunker fuel combustion, IMO has set in motion IMO2020. This is a proposal for a move to cleaner fuels in 2020.

The sulphur content of HFO is currently 3.5%. By 2020 marine vessels must either equip themselves with scrubbers to clean sulphur and black carbon emissions or move to an alternative bunkering oil containing 0.5% sulphur or switch to liquefied natural gas, which poses less of a threat to the environment.

During an oil spill at sea the physical properties of the oil, such as the density, viscosity and chemical composition, will determine the fate of the oil, the spatial extent of the spill and the nature of release of the toxic constituents in the fuel.

The conditions of the sea, such as temperature, wave action, sea currents, wind and proximity to land, also impact on the spill extent and toxic releases. The possible ways that bunker oil can react when spilled in sea water are illustrated below.



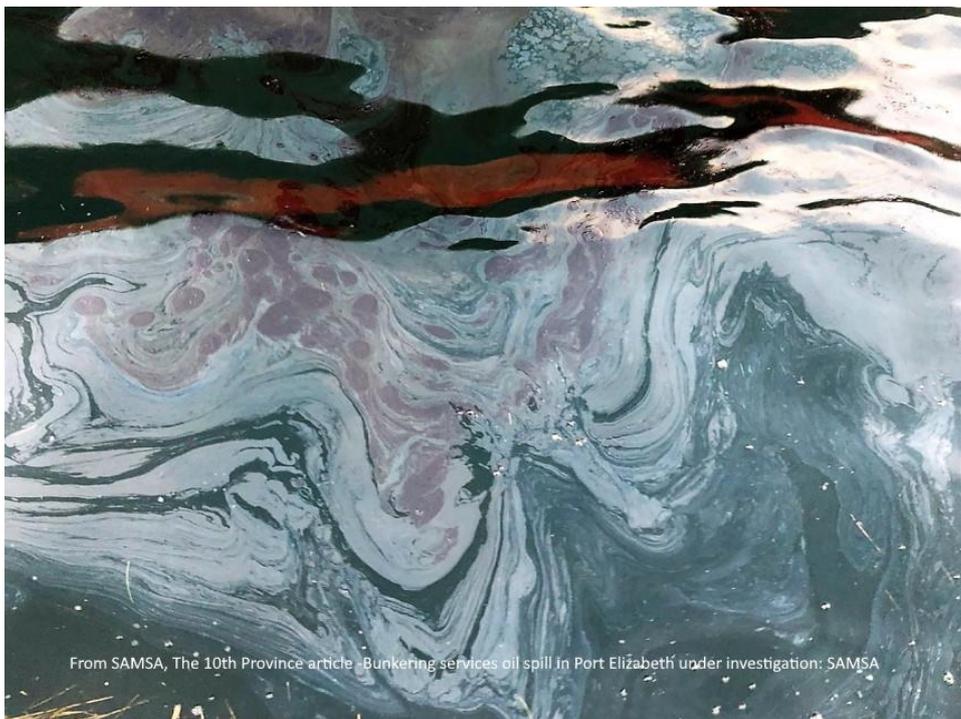
It is important to know that bunkering fuel needs to be heated prior to transfer because of its low viscosity. Therefore, it is hot oil that interacts with cold water when a spill takes place.

When hot bunker fuel is spilled the following can happen: the low amount of solvent contained in the oil will evaporate into the atmosphere. Within the initial stage of the hot fuel reacting with the cold water some of the oil will contract and will form blobs. Depending on the viscosity, specific gravity and the temperatures of the oil and water, these blobs can sink, forming a sediment on the seafloor. Some of the oil will spread and will form a sheen on the water surface. Emulsification and dispersion take place over a period. **Biodegradation and dissolution of oil do not take place during the immediate weathering process and it can take years to disintegrate.** Toxins, such as the long-chained hydrocarbons and organometallic compounds, will be released from the spilled material into the surrounding ecosystem during the entire process.

Because of the viscous nature of bunker oil, a section of the oil will tend to sink rather than float, making it impossible to recover by current spill control methods (skimmers and booms). Furthermore, once the toxic oil has emulsified, normal oil absorbents and removal equipment cannot be used to recover the oil. The emulsion will be contained in the environment, polluting the environment.

CONCERN 1B: ATTRACTION OF MARINE LIFE TO BUNKER FUEL

There is another serious concern with bunker fuel spills: penguins and other marine life are attracted to spilled fuel. Dimethyl sulphide (DMS), an attraction for fish and penguins, (a plankton by-product), is a contaminant that is present in bunker fuel. During spillages of fuel oils, DMS is released into the water and, because it smells like food, it attracts fish and birds to the spilled site. Thus, if a spill occurs close to the penguin foraging or breeding areas, penguins will preferentially be attracted to the toxic spilled material. This is indeed what was observed during the spill on 6 July 2019.



Oil spills may be luring penguins. Evidence suggests that bunker spillages could be attracting predators by Guy Rogers, The Herald Live - 05 September 2019

<https://www.heraldlive.co.za/news/2019-09-05-oil-spills-may-be-luring-penguins/>

The impact of the oil spill in Algoa Bay extends further than oiled birds. It will have an impact on all fish, algae and plankton as toxins will accumulate in the water.

Whales, especially baleen whales that feed on plankton, risk their baleen plates being covered in oil, which will prevent them from capturing their food. Fish will also ingest contaminated aquatic vegetation. Adsorption (sitting on surface of plankton) of oil particles on plankton occurs and will attract fish to the contaminated area. Because the toxins from fuel oil are bio-accumulating, they will accrue in all marine life and can detrimentally damage the biodiversity in Algoa Bay.

The Oil Spill Cleanup Illusion. Why do we pretend to clean up oil spills in the ocean? by Andrew Nikiforuk, Hakai Magazine of 12 July 2016
<https://www.hakaimagazine.com/features/oil-spill-cleanup-illusion/>

A spill of toxic bunker fuel, even a small spill, can have devastating effects in the bay. We have witnessed two spills already, both small by all standards (<500L). In both cases hundreds of endangered birds were impacted and event killed. Two spills occurred in 3 years, making the track record of the bunkering operators, by world standards extremely poor, even appalling.

The characteristics of the bunker fuel as a dangerous substance with an extreme long term toxic effect to aquatic environments, combined with the natural attraction of penguins, birds and fish to the toxic oil, position the threat of another spill as the top concern of the public! We need to protect our biodiversity from these threads and actively preserve them. We as the public can no longer accept the situation in Algoa Bay!



A lonely penguin covered in thick toxic oil from head to toe after the bunkering spill in June 2019.

CONCERN 2: IMPACT ON MARINE BIODIVERSITY

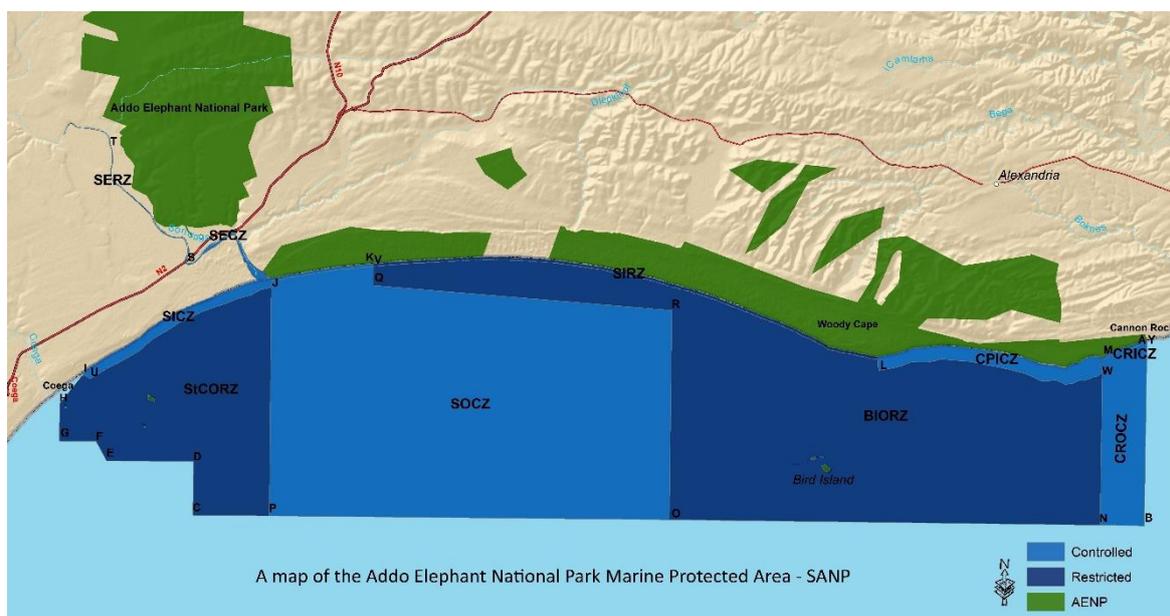
Biodiversity underpins all life on Earth, and the balance is critical for human survival; it is not a “nice-to-have”, it is our life-support system. We are currently in the sixth mass extinction of species of the world and the first to be caused by a species, *Homo sapiens*.

Species are being lost at an alarming rate; 1000 times higher than the natural rate. **Biodiversity loss is the main environmental and ecological problem of today. We therefore need to do everything in our power to protect species! The loss of 17 endangered birds from a bunker spill needs to be recognized as an ecological disaster!**

The protection of species has been recognized by the Department of Environmental Affairs, Fisheries and Forests and protected areas have been declared throughout South Africa. Algoa Bay falls within the recently established Ecological and Biological Sensitive Area identified by the Marine Spatial Management and Governance Programme (MARISMA) team in terms of the Convention of Biodiversity, UNEP 2015, aiming at the protection and sustainable use of biodiversity. This area contains possibly the most significant and special marine features in all South Africa, and it supports key ecological processes.

From a biodiversity point of view, Algoa Bay is immensely rich - it has a significant reservoir of diversity, both in numbers and species. Two currents influence our marine life: the warm Agulhas current, originating in the Indian Ocean, and the cold Benguela current originating in the Atlantic Ocean. Ocean currents have an influence on biodiversity in the bay, as well as other important marine ecosystems such as sandy beaches, rocky shores, reefs, estuaries and islands.

The National Addo Elephant Park Marine Protected Area (Addo MPA) was promulgated on 28 May 2019.



It consists of three zones. Two offshore zones (controlled and restricted zones) and one on land (restricted) - refer to map above. The islands of St Croix and Bird Island fall within the MPA, providing protection for the breeding areas of the endangered African Penguins and endangered Cape Gannet birds. The biodiversity of Algoa Bay has already been highlighted in the [introduction](#) to this document.

Dr Sylvia Earle declared Algoa Bay a Hope Spot in 2014, it was declared the Bottlenose Dolphin Capital of the World in 2016 and, as mentioned already, the Addo MPA was designated in 2019.

The opportunity to view the Big 7 in the Addo MPA is a first in the world and together with the occurrence of dolphins, endangered penguins and all the very rich marine life, Algoa Bay is positioned as one of the key destinations in the world for marine and eco tourists.

Algoa Bay Hope Spot, Nelson Mandela Bay Tourism Web Site

https://www.nmbt.co.za/algoa_bay_hope_spot.html

Algoa Bay Hope Spot, Sustainable Seas Trust

<https://sst.org.za/projects/hope-spots/algoa-bay-hope-spot/>

Port Elizabeth – Bottlenose Dolphin Capital of the World

https://www.nmbt.co.za/port_elizabeth_bottlenose_dolphin_capital_of_the_world.html

Addo Elephant National Park Marine Protected Area

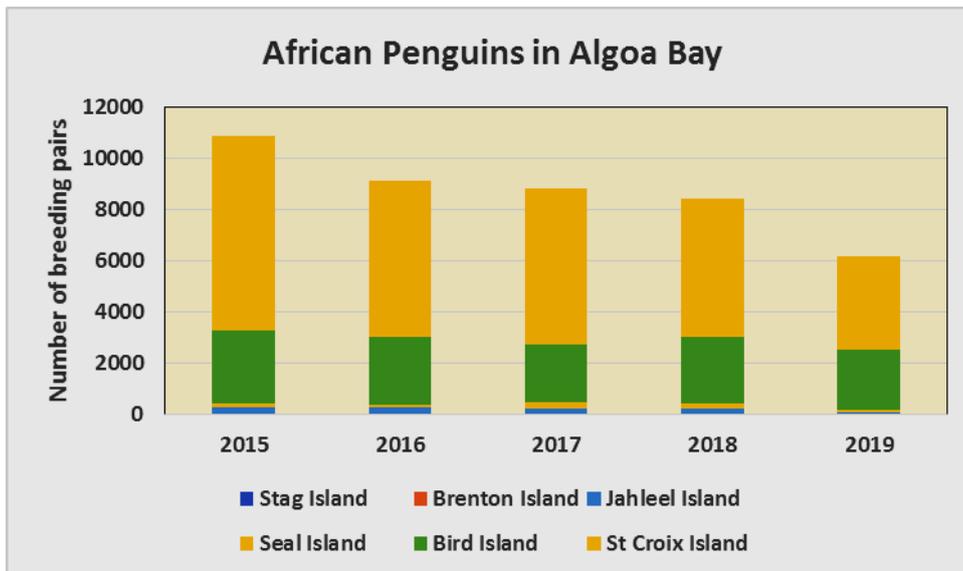
<https://www.sanparks.org/mpa/addo-marine-protected-area.php>

CONCERN 2A: ENDANGERED SPECIES IN ALGOA BAY

Algoa Bay is home to several species that are listed in the International Union for Conservation of Nature's (IUCN) Red List of Threatened Species.

African Penguins - Algoa Bay has roughly **half of the total world's population**, with the main breeding colony at St Croix Island. There are currently about 6,200 breeding pairs of endangered African penguins in Algoa Bay. This is the **lowest number** documented since recording of penguins started in 1980's!

The graph on the next page indicates the number of penguin pairs in the islands of Algoa Bay from 2015 to 2019. The major breeding islands are St Croix and Bird Island. In 2015 there were approximately 10 900 breeding pairs in the bay. There was a gradual decrease in numbers from 2015 to 2018, with a steep decline to 2019. Only 6 200 pairs are left now. Alarmingly, a drop of 4 700 breeding pairs occurred over a 5-year period. **That is a staggering 43% decline in breeding pairs!**

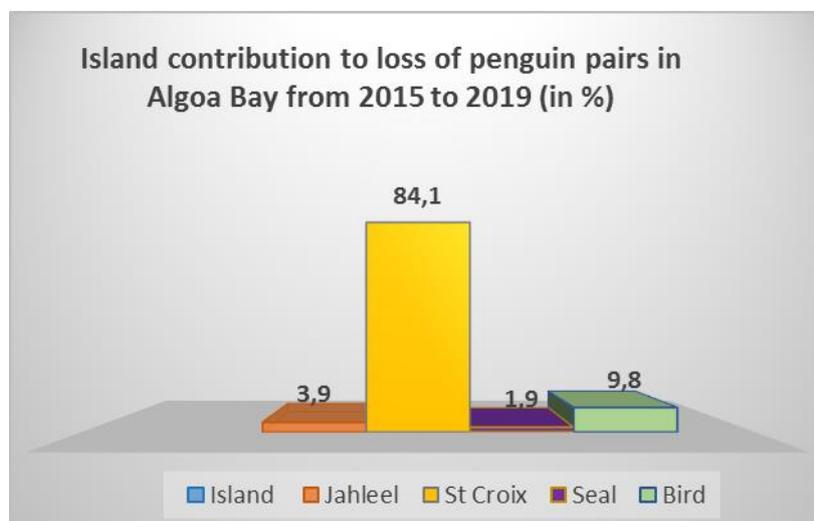


In 2018 alone, 2 266 penguin breeding pairs were lost in Algoa Bay. This is nearly half of the decline over the 5-year period. We need to investigate and determine where these penguins were lost. Is it a loss that is evenly spread over all the islands, or is it confined to a specific island or areas?

The decline of penguins is not evenly spread over the islands in the bay. It is clear that the major loss occurred from St Croix Island, in fact 84% of the decline in total penguin pair numbers over the last 5 years is due to the loss of penguins from St Croix Island! (see graph below) A 10% loss occurred from Bird Island, while Jahleel and Seal Island sustained even lower losses.

Algoa Bay lost nearly **half of its penguin breeding pair population in the last 5 years, and more than 84% of that was lost from St Croix Island.**

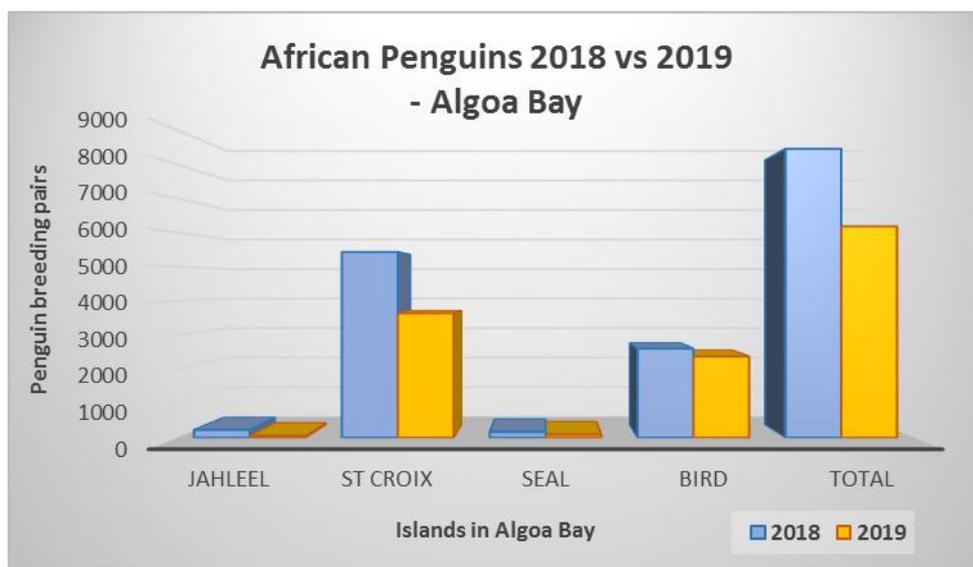
In other words, the loss of penguins from St Croix during the 5 years was 8 times higher than from Bird Island!



The number of penguin breeding pairs at St Croix Island for 2019 is 3638 pairs. Since recording started in the 1980's **this is the lowest number of penguin pairs ever documented on St Croix Island!**

In one year, St Croix Island lost 1 790 penguin breeding pairs - a decline of 33%! This is an alarming decline even though efforts were put in place to protect penguins and their feeding grounds over the last 5 years (data provided by the DEA Biodiversity Management Plan for the African Penguin). Clearly the plan has been a total failure.

If this trend continues there will be no penguin breeding pairs on St Croix Island by the year 2021!



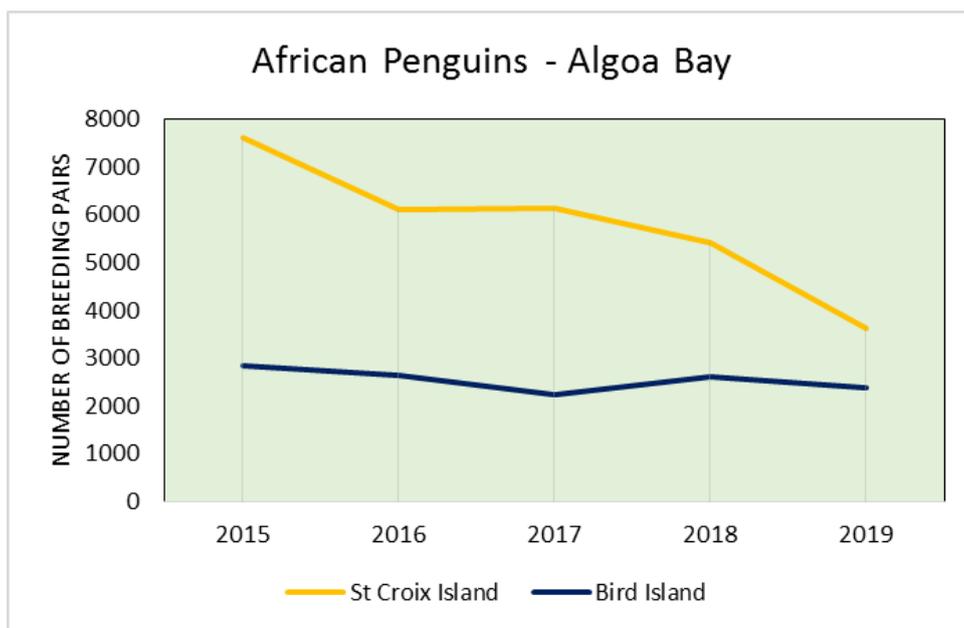
Penguins are considered indicator species for the health of the ecosystem. When their numbers drop, something is wrong.

If we explore the situation at St Croix, since it is the major island of interest in Algoa Bay as outlined above, it is clear that a substantial decrease in penguin numbers occurred during the last five years (graph below). A decline can be observed from 2015 to 2016, then the penguin numbers were stable in 2017, a decrease occurred to 2018 and then a substantial drop in penguin numbers occurred to 2019.

The graph on the next page, shows the numbers at Bird Island, which indicates that the situation remained more or less the same during the last 5 years. In 2015 there were roughly 3 penguin pairs on St Croix Island for every 1 pair on Bird Island, but now this ratio halved to 1.5 penguin pairs.

It is important to note that the ratio of the loss of penguins over the 5 year cycles is that for every 1 penguin pair lost at Bird Island, 8 penguin pairs were lost at St Croix.

It is also important to take note of the **sharp drop in penguin pairs from 2018 to 2019 at St Croix Island, while only a very slight drop occurred at Bird Island.** Both islands are in Algoa Bay, not far from one another. **How can it be that within one year the rate of penguins lost from St Croix compared to Bird Island is so much higher?**



What could have caused the change in the last year then?

St Croix Island is situated near the Port of Ngqura. However, the port has been in existence since 1999, with different levels of activity. No significant change was made to the amount of ships into the port, other than the normal shipping variation. Thus, the activities at the port could not have impacted on penguins so dramatically during 2018.

The only new activity that has started in Algoa Bay that could possibly have affected the St Croix penguins so significantly, is **Ship-to-ship bunkering in the Anchorage areas of the Coega Port.** In 2018 the operators increased to 2 and early 2019, tripled to 3.

Ships move into and out of the anchorage areas every day. The influence from the ships on the penguin population from St Croix is numerous: transecting the penguin foraging areas, noise generation by ships during movement and transferring of fuel, air pollution from the transfer and receiving vessels, the pollution that is associated with re-fuelling, spills of toxic fuel that already impacted and even killed penguins and eggs, movement of remnant oil from spills towards the islands, etc. All of these could have caused stress and strain in the life of the penguins around St Croix island. If the safety of penguins is threatened, they will not breed.

This is probably why penguin breeding pair numbers have dropped so significantly during the last year at St Croix Islands.

The accelerated demise of the penguins from the St Croix Island is proportional to the increased number of STS bunkering operators in the anchorage areas of the Port at Coega.

It this just a coincidence? We think not.

The importance of St Croix as a breeding colony, and the impact that it has on the country-wide penguin numbers cannot be over emphasized. When the numbers show that there is drastically something wrong, you need to act swiftly and decisively. If the demise of penguins continues (33% drop per year) **there will be no penguins breeding pairs left at St Croix by the year 2021!**

Can we gamble any further?

The African Penguin icon of Algoa Bay Hope Spot

<https://www.youtube.com/watch?v=oQP1UVxO2W4&feature=youtu.be&list=PL0a5OmGIBp4KV8NlqiNHIZ1G8MtYbl8Wi>

*Differences in breeding success between African Penguins (*Spheniscus demersus*) that were and were not oiled in the MV Treasure oil-spill in 2000.*

<https://www.tandfonline.com/doi/abs/10.1071/MU06028>

Cape Gannets - 60,000 breeding pairs of endangered Cape Gannets are found on Bird Island. This is the largest gannetry on the planet and accounts for about two-thirds of the global population. A disaster in the bay from STS bunkering can have devastated effects on the gannet population, and already had by the oiling and killing of Gannets during the July 2019 spill.

Cape Cormorants - The breeding numbers of Cape Cormorants in South Africa have decreased from over a million birds in the early 1970s to about 107,000 pairs in the early 1980s down to 57,000 pairs in the early 2010s. Cape Cormorants are recognisable by their iconic turquoise eye colour and have been classified as Near Threatened (IUCN Red List Category). The numbers in Algoa Bay are not known.

Indian Ocean Humpback dolphins - endangered and endemic to the southern part of South Africa, these dolphins occur close to the shore in shallow water. Their numbers are extremely low, less than 500 at present. Protection is urgently required. Bunkering in Anchorage area 1 is direct in the active feeding area of the humpback dolphins.

Abalone – Needs to be protected. It is now critically endangered because of poaching.

Turtles - Regional Leatherback turtles are on the critically endangered list. Loggerhead turtles who are on the near threatened list migrate through Algoa Bay on the way to their nesting and foraging areas.

Pipefish – Critically-endangered localised endemic estuarine pipefish occur in the estuaries around Algoa Bay.

These are just a few species that need to be protected, or they will be lost forever. We cannot be part of further biodiversity loss on Earth – we have to actively safeguard these species!

We request urgent intervention from the Departments to protect our biodiversity in the bay.... before it is too late.

CONCERN 2B: LOCATION OF BUNKERING AREAS IN ALGOA BAY

It is against this rich biodiversity heritage in the bay that concerns were raised when the STS bunkering moved from out-of-port limits to inside the bay.

STS bunkering is now taken place in the Port of Ngqura's Anchorage 1 and 2 and TNPA is allowing it through an amended permitted scheme. The anchorage areas are situated adjacent to the Addo MPA, close to the shore, near the important penguin breeding islands, near the sandy beach of Blue Water Bay, and in line with the ecological vital mouth of the Swartkops River (Appendix 1).

The Port of Ngqura is, according to TNPA, the only port in South Africa that performed an EIA and as a result it received a Record of Decision (ROD). However, the ROD does not include the STS bunkering operation (an environmentally dangerous operation) in the Anchorage 1 and 2 areas. As far as we are aware, an application to DEFF for inclusion of STS bunkering was not submitted or an amendment of the ROD was not requested.

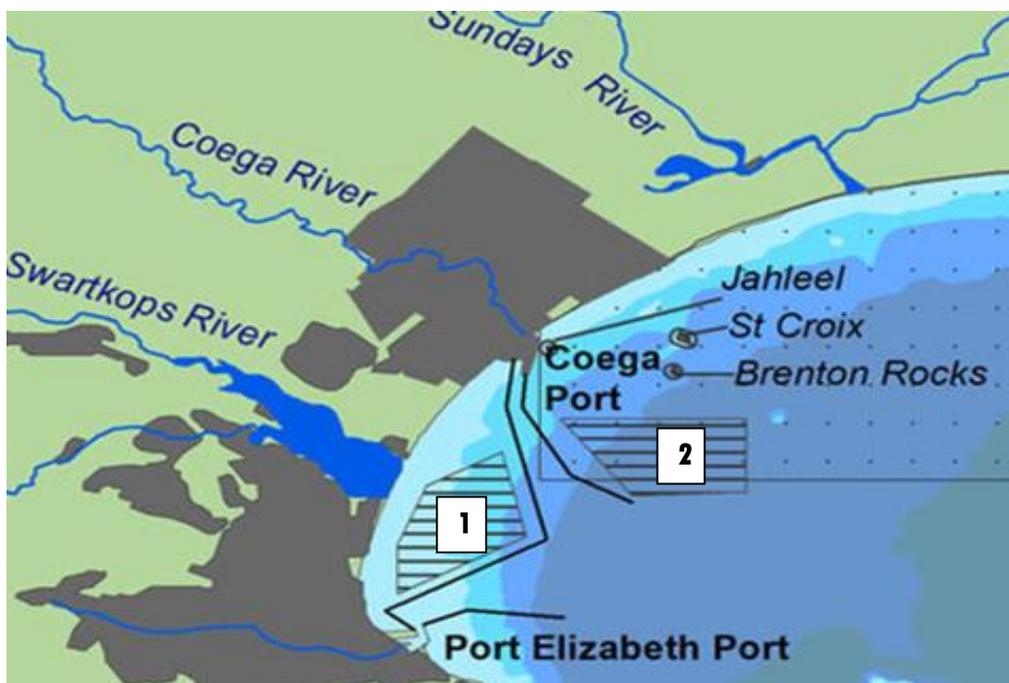
It is interesting to note that the Port does not permit bunkering inside the port, since it is an "environmental protected area" – no doubt because of the environmental risk that it causes. Ironically STS bunkering services are allowed at the anchorage positions of the Port (15 km away), where the risk of severe damage to the environment is so much more likely than within the controlled environment of the port.

So, how is it possible that even though TNPA does not allow bunkering inside the harbour due to environmental concerns, it allows STS bunkering in their anchorage areas in the bay, without due consideration of environmental and ecological impacts? No impact assessment was done, no traffic survey regarding increasing of marine vessels in the port, no assessment was done on possible influences on the endangered penguins at St Croix Island, no study on the effect on the endangered humpback dolphins' habitat, and no modelling to determine the effect of emissions and spills from the bunkering operations on the bay.

These are all specialist studies that should have been done prior to deciding to host bunkering at the anchorage areas, specifically since it lies next to sensitive biodiversity areas.

At this stage it is important to view the positioning of the anchorage areas in more detail. The map below is an extract from Appendix 1, it is not on-scale and is only used to illustrate important features around the Port of Ngqura. The shaded area with horizontal lines are the anchorage areas, indicated as No.1 and No.2. Jahleel, St Croix and Brenton Rock are all penguin breeding islands. Specifically, St Croix Island plays a major role in the penguin population, not only in Algoa Bay or South Africa, but world-wide.

The distance from St Croix Island to the Anchorage areas No. 1 and No.2 are roughly 10 km and 3 km respectively. The Addo MPA neighbours the Anchorage No. 2, in fact it is cut short along anchorage line. (In our view the anchorage area is indeed directly in the path of the Addo MPA.) In addition, the Anchorage No 1 area is in front of the Swartkops estuary, important as an ecological system. **The position of bunkering in the anchorage areas is impacting directly on three of the Algoa Bays prominent endangered species: the African penguin, the gannet and the Humpback dolphin.** The foraging area of the penguins is in general 20 km around the islands (The protected area around Bird Island is 20km). Thus, bunkering occurs directly in the area where the penguins would have hunted in the past. Gannets also feed around the island and anchorage areas. In addition humpback dolphins occur in shallow waters along our shore, exactly where Anchorage No 1 is situated.



Under normal conditions of port activity, prior to the last 3 years, the anchorage areas would not have been that “busy”. However, with bunkering taken place there now, the traffic influx and outflow has increased exponentially.

Further plans to facilitate the entrance of bigger vessels in the bay (>17.5 m draught) were made public in June 2019, when the CEO of SAMSA indicated that they are planning to bring the tug, Amandla to Port Elizabeth. This will enable bigger ships to enter the bay for refuelling. Furthermore, when ships move in and out the bay, noise emanates, air gets polluted and oil in the ballast water can end up in the ocean.

With the increase in the number of ships increase noise in the sea is increased. Noise travels further and louder in water than on land. It has been noted that whales, dolphins and other cetaceans (possibly penguins and fish as well) are sensitive to increased noise levels. Increased shipping noise, oil spills and movement of vessels possibly already had an impact on the sharp drop in the penguin population around St Croix. In addition, it has been observed that the Humpback Whales and Southern Right Whales have moved further from the coast, which can be due to the added movement of vessels, pollution and the noise in the bay (pers. communication Raggy Charters, 2019).

Ocean uproar: saving marine life from a barrage of noise by Nicola Jones, nature 10 April 2019
<https://www.nature.com/articles/d41586-019-01098-6>

Ships' noise is serious problem for killer whales and dolphins, the Guardian
<https://www.theguardian.com/environment/2016/feb/02/ships-noise-is-serious-problem-for-killer-whales-and-dolphins-report-finds>

A further issue to consider when dealing with the location of bunkering, is that of sea currents and wind directions; and a very bleak picture emerges. The current along our shore runs north-eastwards up the coast, thus following the bay outline from PE Port to Bird Island. Our predominant wind directions are mainly SW or SE depending on the time of the year.

Any spillages in the anchorage areas will thus, in our view, move up the coast by the currents towards the north east, directly to the islands and beaches. Oil on the surface of the sea will also be swept by wind up the coast. Thus, both from the predominant current and wind directions, oil spilled on the water can directly impact the islands, beaches, sensitive biodiversity areas, habitat of humpback dolphins, and very concerning, the penguin foraging and breeding grounds at St Croix Island. In real life we already had the occurrence of a small spill in Anchorage No 2, with disastrous effects – oiling hundreds of penguins and birds and killing 13% of the oiled wildlife!

A more serious and imminent threat is spillages that can occur in the case of vessel collisions or acts of god in which a vessel may run aground in the bay. We have roughly 297,000,000 litres of bunker fuel floating in the marine vessels on the waters in our bay. What if any of these vessels collide or run aground? How many litres will spill into Algoa Bay? These are questions that are raised by the public, but no answers are forthcoming. **A study where different scenarios are modelled is urgently needed to indicate the anticipated movement of spilled material from the anchorage areas.** Very basic modelling can be done taken into consideration current, wind, sea temperature, and wave action, so that government and public can fully comprehend how real or not the bunkering threat is to our environment in Algoa Bay. Can this be actioned as a matter of urgency?

The decision to bring the STS bunkering from outside of port limits to inside the port and designate the anchorage areas as suitable for bunkering, was done with no consideration to the breeding colony of penguins, the movement of humpback dolphins, other ecological systems in front of the estuaries, the major currents, the wind movement, etc. It is surely **one of the worst areas in the bay that could have been chosen**, that already had a devastating effect on penguins. **It is therefore no wonder that around 80% of respondents at the public meeting rated the loss of biodiversity as one of their major concerns!**

The Port of Ngqura anchorage areas are not at all suited for STS bunkering and should never have been selected without performing the necessary studies. The public in Algoa Bay are devastated that the government could allow this to happen.

SAMSA have indicated that a capacity study will now be done – this after 3 bunkering operators have already been approved. However, it was pointed out by the acting CEO of SAMSA at a meeting in September 2019, that this study will be done to have scientific numbers to limit further operators that are “knocking on his door”, thus due to economic reasons and not ecological reasons. During the completion of this report in December 2019, the study has not been done, although it was on the agenda of the Bunkering Environmental Working Group from May 2019. The results will probably not be available to the public. This brings us to the next concern... the lack of transparency in the whole of the bunkering operation.

CONCERN 3: POOR MANAGEMENT OF BUNKERING OPERATIONS

CONCERN 3A - LACK OF TRANSPARENCY

Since the advent of bunkering in the bay, environmental groups, stakeholders, academicians, concerned citizens and the tourism industry have voiced their concern and have requested that an Environmental Impact Assessment (EIA) be done.

We have provided throughout this report links to articles expressing such concerns. These concerns were generally ignored by the government and the bunkering operators.

Following all the publicity generated in the mainstream and social media following the spill of 6 July 2019, SAMSA sent a last-minute invitation to the media to a workshop. The invitation was sent on the morning of 22 August 2019, the same day of the workshop, to be held from 13h00 at the SAMSA regional office in Humerail, Port Elizabeth. A few hours before the start of the workshop the venue was changed and only those who had sent the requested RSVP were informed via text message.

However, prior to 22 August 2019 no public meeting has been initiated by either SAMSA, DEFF, Coastal management, SANparks, or any of the bunkering fraternity to explain the operations and to address public concerns.

NMB ratepayers, taxpayers and residents had no idea what STS Bunkering was, much less that it has been taking place in Algoa Bay since 2016. This became clear during the public meeting.

How is it possible that ship refuelling could quietly move from out-of-port limits to the establishment of an enormous fuel station at sea, positioned in the bay, right next to a marine protected area, very close to the breeding grounds of endangered penguins and right in front of an estuary? And, we the public, knew nothing about it!

It is disconcerting that affected departments (SANParks, DEFF, Coega IDZ and TNPA) seem to have taken a “backseat” during the unfolding of bunkering in Algoa Bay, even after the 2016 spill. Can it be that the Department of Environment, Forestry and Fisheries had not been aware of what is happening here in Algoa Bay?

*“The Department of Environment, Forestry and Fisheries (DEFF) is mandated to give effect to the right of citizens to an environment that is not harmful to their health or well-being, **and to have the environment protected for the benefit of present and future generations.**”*
The above is a statement from DEFF’s web site (and of course our constitution).

During 2019, three and a half years since bunkering operations started, an environmental working group on STS Bunkering was formed. This is not a public group and it comprises of representatives from SAMSA, Transnet National Ports Authority, DEFF, NMU, SAN Parks, Coega IDZ and SANCCOB. Some positive outcome has been observed, yet there still seem to be a lack of involvement, interest or care of some of the departments, while others just seem arrogant towards the public of NMB.

Throughout the bunkering process the fundamentals of good environmental management governance of collaboration and cooperative between governmental department, stakeholders and the public, were blatantly ignored. It seems that we as the public, were kept disrespectfully in the dark (possibly along with several governmental bodies as well).

Eastern Cape sets sights on becoming Africa’s leading fuel bunkering centre, Creamer Media’s Engineering News by Mia Breytenbach on 12 May 2017

http://m.engineeringnews.co.za/article/eastern-cape-aims-to-be-biggest-bunkering-centre-on-african-continent-2017-05-12/rep_id:4433

There seems to be a conceited operational methodology with a lack of transparency and involvement from SAMSA which is highlighted by the acting CEO’s statement in June 2019. “SAMSA not apologetic about approach of contribution to Eastern Cape development”

<https://blog.samsa.org.za/2019/06/24/samsa-not-apologetic-about-approach-of-contribution-to-eastern-cape-development-acting-ceo/>

Procedure for Bunkering Operation on a Ship, by Anish, Marine Insight, Last Updated on October 2, 2019

<https://www.marineinsight.com/guidelines/bunkering-is-dangerous-procedure-for-bunkering-operation-on-a-ship/>

SAMSA's former CEO, Commander Tsietsi Mokhele is apparently a director of Plan BEE Fuel Distribution who supply Aegean with fuel, the first appointed operator.

<https://maritimematters.net/2017/09/26/weekly-press-review-26-september-2017/>

CONCERN 3B: APPARENT LACK OF PREPAREDNESS FOR SPILLS

Several national and international requirements exist for both the receiving as well as the transferring vessel. Vessels are required to observe procedures and to have equipment to prevent the spreading and for the collection of spilled oil at sea (MARPOL, Marine Notice 3, CMA, Section 52, Prevention of Sea Pollution, etc.).

However, it was clear that during the spill on 6 July 2019 neither the transferring nor the receiving vessel had or chose not to deploy the spill control equipment, apart from the booms between the two vessels. The spill occurred after 04h00 and it took 2 hours for the spill control vessel to reach the spill. The surface clean-up ended at about 17h00. As far as we know, there has been no attempt to recover the rest of the oil that probably sank to the bottom of the bay. Contrary to another requirement by MARPOL, no oil dispersants were used. It is now 4 months after the spill and the incident report has not been made available.

There are several questions that are raised by this spill:

- What procedures were in place to prevent overfilling?
- Why was the oil transfer done at night while the sea was “rough”?
- Why were no containment booms, absorbents, and other containment equipment deployed by the transferring vessel?
- Was the spill only reported as a Tier 2 spill when it was in fact a Tier 1 spill? 2000L HFO was spilled (1600L on the deck and 400L in the ocean) and endangered wildlife was impacted and killed! Does this not necessitate national intervention?
- What happened to the missing 50 litres of oil that could not be recovered?
- Why was no statement made by any other organization besides SAMSA? After all, this was a serious ecological disaster resulting in the death of endangered species.
- Apparently a second spill occurred when the receiving vessel tried to remove the oil from the outside of the ship's hull. What happened to that oil and was it logged as a spill, or was it just ignored?

According to SAMSA themselves, “South Africa's state of readiness for maritime emergencies along its expanse of oceans at the southern tip of Africa remains porous at the very least”. SAMSA board member and chairperson of the agency's Maritime Industry Committee, Ms Sekabiso Molemane described the country's maritime risks as high and the state of readiness for emergencies as “low”. This was stated on 27 March 2019 at a maritime risks workshop in Durban.

Maritime emergencies a real threat for South Africa: SAMSA

<https://blog.samsa.org.za/2019/03/28/maritime-emergencies-a-real-threat-for-south-africa-samsa/>

Ms Molemane expressed the same sentiment as the majority of respondents at the meeting – that we are not equipped to deal with an oil spill. 85% of the attendees at the public meeting indicated that they do not have any confidence in the government departments overseeing the bunkering operations in protecting our bay.

In summary, the concern is mainly that safety and emergency preparedness is severely lacking in the bunkering operations. A spill of 400L oiled over 100 endangered birds, killing 13% of them. **What will happen during a major spill?** Most actions taken for emergency prevention have been reactive, not proactive. With around 300,000,000 litres of toxic fuel floating in bunkering vessels on our bay, this is a **dangerous situation** to be in, one that the public and the tourism industry in Nelson Mandela Bay are not comfortable with.

“An incident is just the tip of the iceberg, a sign of a much larger problem below the surface” - Don Brown.



CONCERN 4: LOSS OF TOURISM

The coastline of Algoa Bay stretches over 100 km from the rocky outcrops at Cape Recife in the south east, to Woody Cape and the Bird Island group in the northeast. It is a well-protected bay and offers so much to tourists. Several unspoilt white sandy beaches and interesting rock pools are found along this stretch, making visits to the beach a highlight for any family.

Algoa Bay is attracting more and more water sports events and is positioning itself as the Water Sports Capital of South Africa. Apart from the International Ironman competition, several national competitions take place throughout the year. Nippers and other lifesaving and surfing competitions are frequently held in our Bay. The Bay provides some of the best sailing conditions in the world, not only because of our wind. We are in the process of attracting international sailing competitions to the bay.

With the numerous interesting reefs containing colourful nudibranches, fish and coral SCUBA diving is also an attraction to tourists and international film crews. Algoa Bay is regarded as one of the best cold-water SCUBA diving sites in the world. Two estuaries, the Swartkops River and the Sundays River, are important and offer many recreation activities such as fishing, swimming and paddling.

Marine life and eco tourists are attracted to the bay, mainly because of the numbers and variety of marine animals and birds that can be observed. Most international tourists are pleasantly surprised by the diversity of cetaceans in Algoa Bay. In addition to the tours offered in the bay, SANCCOB attracts local and international visitors to their penguin sanctuary at Cape Recife.

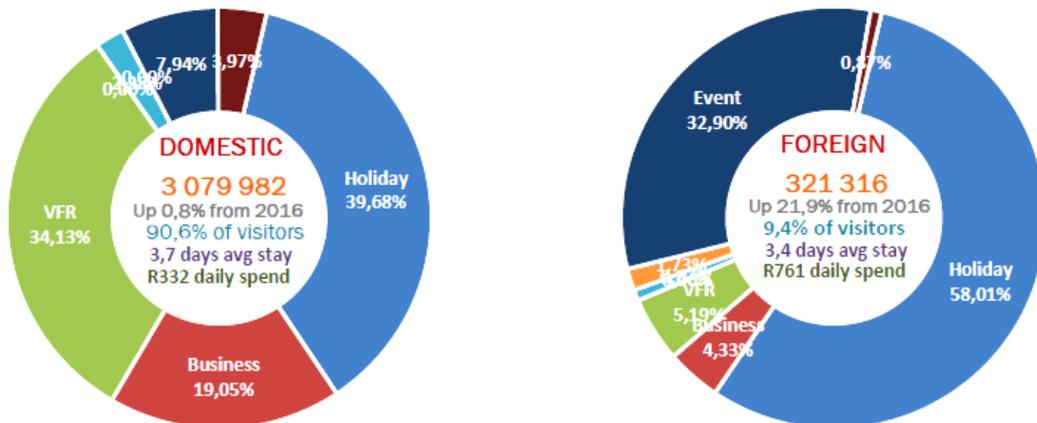
The opportunity to view the Big 7 in the Addo MPA is an important draw card and together with the occurrence of dolphins, endangered penguins and all the very rich marine life, positions Algoa Bay as one of the key destinations for tourists. This sector is set to grow in the future and needs recognition and support from the governmental departments.

Let's consider what we stand to **lose** if we destroy our biodiversity or even if there is a **perception** of toxic fuel in our sea.

In 2017 a total of 3.4 million tourists visited NMBM area. They generated an income for the region of R7 billion. Half of this is attributed to coastal and marine tourism. In 2017 tourism directly supported 44,227 local jobs (NMB tourism department, 2019).

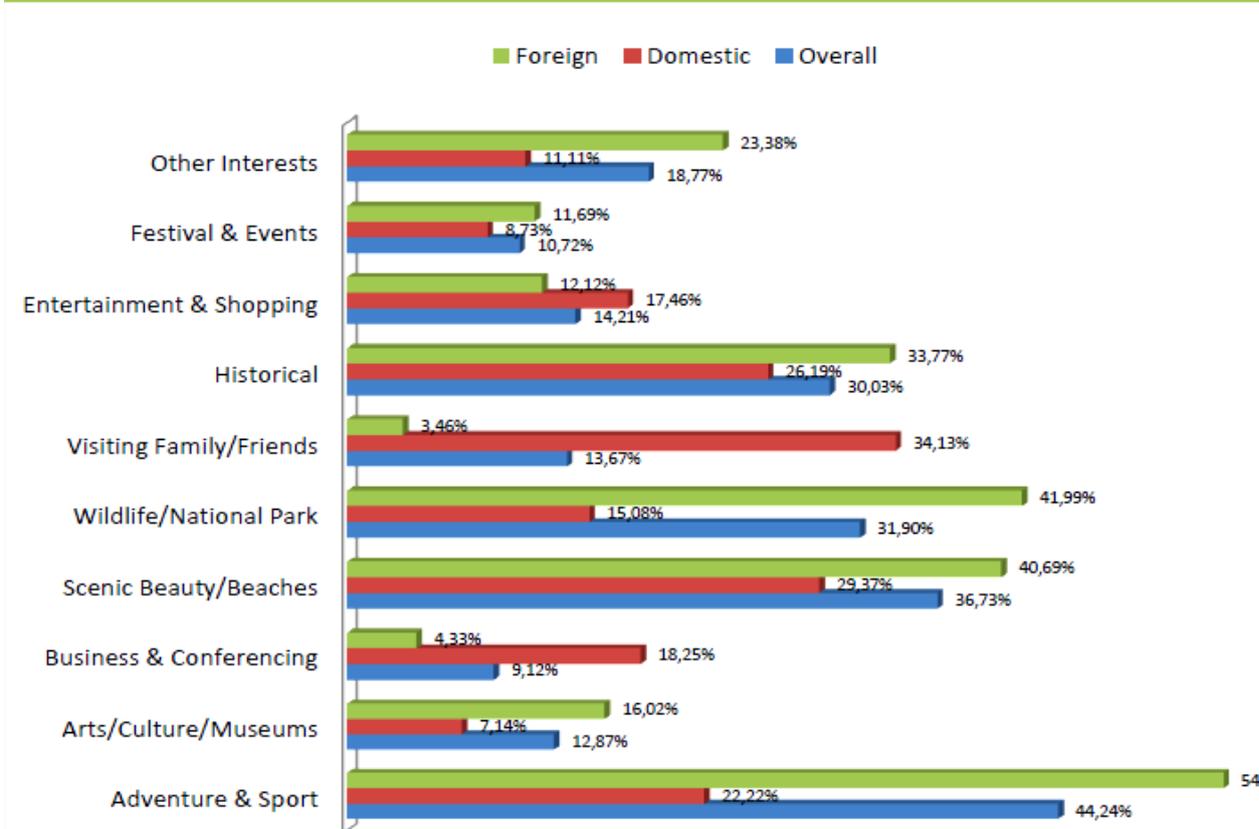
The following diagram indicates the spread in domestic and international tourist visits in 2017. From 2016 there was a 23% increase in foreign tourists, indicating the attractiveness of Nelson Mandela Bay on the international market.

TOTAL VISITORS
3,4 MILLION
 Up 2,5% from 2016



The activities undertaken by local and overseas tourists in 2017, are shown in the diagrams. The top three activities were “Adventure & Sport”, “Wildlife / National Parks”, “Scenic beauty / beaches” - all involving the bay.

ACTIVITIES UNDERTAKEN



In addition to the irreversible damage already caused by STS bunkering, there are increased risks if bunkering continues. The risk of more and bigger oil spillages and the increased risk of vessel collisions as more and more vessel traffic enters the bay are real.

It is clear to the public of Port Elizabeth; **STS bunkering cannot reconcile with tourism.** The risk is just too high! Combined with the lack of preparedness for major spills we cannot sit back and accept the risks. We do not wish to longer wager with this situation.

Dr Andrew Muir, Wilderness Foundation Africa CEO was quoted on 4 September 2019: *“Algoa Bay has an extraordinary wealth of diverse biodiversity which is the cornerstone off a booming nature-based tourism industry, renewable energy and other sustainable development. We are oozing with potential. But these sectors can only grow with the correct government policies in place at municipally and regional level, together with enforcement of environment law”*

‘Nelson Mandela Bay has potential of top biodiversity city’ by Guy Rogers, The Herald Live, 4 September 2019

<https://www.heraldlive.co.za/news/2019-09-04-nelson-mandela-bay-has-potential-of-top-biodiversity-city/>

NMB | A Biodiversity capital of the world?, Wilderness Foundation Africa, 16 November 2018

<http://www.wildernessfoundation.co.za/blog/posts/nmb-a-biodiversity-capital-of-the-world>

CONCERN 5: HAVE ALL LEGAL REQUIREMENTS BEEN SATISFIED?

While there exists a proliferate of environmental legal requirements and obligations that are applicable to STS bunkering, we are only listing our main concerns in this section.

We have examined the following:

- National Environmental Management Act 62 of 2008,
- Environmental Impact Assessment Regulations of 2014 and,
- Maritime Notice 3.

The following NEMA (National Environmental Management Act) definitions apply:

“environment” means the surroundings within which humans exist and cover:

- the land, water and atmosphere of the earth;
- micro-organisms, plant and animal life;
- any part or combination of (i) and (ii) and the interrelationships among and between them; and,
- the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being; “pollution” means any change in the environment caused by:

- substances, radioactive or other waves, or noise, odours, dust or heat, emitted from any activity, including the storage or treatment of waste or substances, construction and the provision of services, whether engaged in by any person or an organ of state, where that change has an adverse effect on human health or well-being or on the composition, resilience and productivity of natural or managed ecosystems, or on materials useful to people, or will have such an effect in the future.

National Environmental Management Act 62 of 2008

Section 2 - Principles: sustainable development

Section 4(a) - (r) - “Development must be socially, environmentally and economically sustainable; - Sustainable development requires the consideration of all relevant factors”

While social and certainly economic issues have been considered for STS bunkering in the bay, environmental issues and impacts have largely been ignored. The procedures for dealing with oil spills and affected marine life are inadequate, which is evident from the recent spills and resultant death of endangered species. Furthermore, there seems to be a lack of understanding of the hazards posed by the fuels to the aquatic environment. The effect of the increase in vessels movement and noise emission from ships on endangered African penguins and cetaceans have not been addressed and no specialist studies were undertaken to understand these potential impacts.

Our concern:

- The relevant departments and bunkering operators have not comprehensively investigated the environmental sustainability, including ecological impacts, of STS bunkering in Algoa Bay.

Section 23 - General Objectives of Integrated Environmental Management: -

“Promote integration of principles set out in Section 2; Identify, predict and evaluate actual and potential environmental impacts; Ensure adequate consideration of effects of environmental activities before decisions; Ensure adequate and appropriate opportunity for public participation in decisions that effects the environment and ensure consideration of environmental attributes”

No evidence as to the identification and evaluation of actual and potential environmental impacts of STS bunkering (such as an EIA and specialist studies) have been provided, although it has been requested numerous times. **To our utter disappointment, the public did not get an opportunity at all to participate when STS bunkering was plunged onto our sea in Algoa Bay.**

Our concerns:

- The departments appear not to have adequately considered the consequences of STS bunkering in Algoa Bay before decisions were made.

- It appears that cooperative decision-making with all interested parties, stakeholders and other departments has not taken place. No provision at all has been made to provide for the “adequate and appropriate opportunity for public participation in decisions that affect the environment”
- The decisions that were made did not follow the principles of integrated environmental management.

Section 24 - The Minister of Environmental Affairs and Tourism may:

“Identify activities which may not be commenced without prior authorisation”

Although we believe that STS bunkering is an activity that requires an EIA (this will be highlighted later in the document), we feel that the minister should have identified it as an activity that can have serious impacts on the environment. This is specifically true after the event of spillages that occurred which caused the death of endangered African Penguins, impacted on the broader marine environment and on tourism. During the last 3 years the minister has had the power to declare STS bunkering as a listed activity requiring authorisation. This is especially concerning if you keep in mind that the fuel stored in the bunker vessels equates to what 990 fuel stations on land will dispense in a month. **If you want to establish ONE such land-based fuel station, the department demands and EIA, otherwise you cannot do business. However, 990 fuel stations can float in our bay without the need to do an EIA... totally absurd!**

Our concern:

- The minister has not identified STS bunkering as an activity requiring authorization, even after two serious past incidents which resulted in the death and degradation of several endangered species.

Section 28 - Duty of care and remediation of environmental damage:

“Every person who causes, has caused or may cause significant pollution or degradation of the environment must take reasonable measures to prevent pollution or degradation”

We are of the opinion that inadequate measures are taken to prevent the damage to our marine biodiversity in Algoa Bay during STS bunkering. Due to the toxicity of bunker fuel to the aquatic environment and the long-lasting effect in the waters, control measures should be in place, such as adequate spill control equipment, booms around the vessels, oil dispersants, no bunkering during night-times, personnel with know-how on dealing with spills on the transferring vessel and not relying on contractors from ashore to deal with spills. These were seriously lacking during the spill of HFO in July 2019. Furthermore, no procedures seem to be in place for dealing with oiled marine wildlife.

Considering the sites where bunkering is currently taking place, we feel that additional precaution measures are crucial. The anchorage areas are close to the breeding islands of penguins and other birds, next to the habitat of humpback dolphins and next to the Addo MPA. **This, in our opinion, calls for extraordinary measures of protection** and yet not even normal, sensible measures to control the spills are taken.

Our concerns:

- The bunkering operators did not ensure that reasonable measures to prevent spillages from impacting on the environment,
- The departments that permitted STS bunkering do not enforce extraordinary measures to prevent pollution from spillages, since the anchorage areas are so close to sensitive biodiversity areas.
- The extent of the degradation to the environment is not adequately addressed. Oiled penguins have been rehabilitated, but the impact on the wider marine life has not been established. Endangered African Penguins and their eggs died during the latest spill. Some “lost” oil probably sank and no attempt was made to recover it. What is the impact on the marine life?
- The minister has not requested an investigation on the effects of the spills to the wider environment (in and out of the bay).

Environmental Impact Assessment Regulations, 2014

Purpose of Regulations

“2. The purpose of these Regulations is to regulate the procedure and criteria ... relating to the preparation, evaluation, submission, processing and consideration of, and decision on, applications for environmental authorisations for the commencement of activities, subjected to environmental impact assessment, in order to avoid or mitigate detrimental impacts on the environment, and to optimise positive environmental impacts, and for matters pertaining thereto.”

In a nutshell, we understand that the purpose of these regulations is to describe the processes to be followed in obtaining necessary authorization prior to embarking on a listed activity. Lists of activities, outlining the required assessments to be done, are given and, depending on the size and extend of the proposed development and potential impact on to the environment, an EIA may or may not be required. EIAs are performed to ensure that the development avoids detrimental impacts on the environment, or where it cannot be avoided, ensures mitigation and management of the possible impacts. The EIA process has been designed according to integrated environmental management principles where various state departments as well as the public are part of the decision-making process.

The “Lists of Activities” are published under “Listing Notices” and identify developments which may not commence without environmental authorisation as well as details on the nature of assessment to be followed.

The onus for performing an EIA rests with the developer, in this case, the STS bunkering operators. Even though, we feel that the bunkering operations trigger several activities in Listing Notices 1 and 3, only the more pertinent and important ones from Listing Notice 2 are discussed below.

Listing Notice 2 - Activity 4

“The development of facilities or infrastructure, for the storage, or storage and handling of a dangerous good, where such storage occurs in containers with a combined capacity of more than 500 cubic metres”

In the STS bunkering case it applies as follows: *The development of infrastructure for the storage and handling of bunker fuel in marine vessels with a combined capacity of 100,000 cubic metres.*

In our opinion, Activity 4 applies to STS bunkering due to the following:

- (i) Bunker fuel (HFO, IFO or GMO) is classed as a “dangerous good”, as categorized by the GHS (Globally Harmonized System of Classification and Labelling of Chemicals);
- (ii) The fuel stored in motherships exceeds the stated capacity of 500 m³ (in fact it is 200 times higher!);
- (iii) Dangerous goods are handled during transfer and filling processes;
- (iv) The storage of the fuel is within containers that float on the surface of the water (and not fasten on land), i.e., the motherships and the transfer vessels; and
- (v) The storage areas, i.e., anchorage areas of the Port of Ngqura, are within the jurisdiction of TNPA, Department of Transport and Coastal Management, DEA and DEFF.

Our concern:

- The STS bunkering operators did not perform an EIA and did not obtain authorization for the development of infrastructure for the storage and handling of bunker fuel. It is our opinion that this is indeed required by the legislation.
- The Minister did not request an EIA to be performed by the bunkering operators.

Listing Notice 2 - Activity 6

“The development of facilities or infrastructure for any process or activity which requires a permit or licence in terms of national or provincial legislation governing the generation or release of emissions, pollution or effluent ...”

In the STS Bunkering case it applies as follows: *The development of infrastructure for STS bunkering which requires a permit from SAMSA in terms of Marine Notice 3 governing the prevention of oil pollution at sea.*

The SAMSA permit, among other issues, regulates the measurements, procedures, inspections and equipment to be in place to prevent oil pollution at sea. It also requires compliance with international pollution prevention standards, as stipulated by MARPOL. The SAMSA permit is issued in terms of national and marine legislation.

Our concerns:

- The STS bunkering operators did not perform an EIA and did not obtain authorization for their operations from DEFF. It is our opinion that this is required by the legislation.
- SAMSA issued permits without requesting an EIA to be performed.

SAMSA MARINE NOTICE NO. 3 of 2016

SAMSA's Marine Notice No. 3 of 2016 is an "Application for permission to conduct the following Ship to Ship (STS) transfer operation: 1. A Bunker transfer operation outside a Harbour or Fishing Harbour of the Republic of South Africa OR 2. An Oil Cargo Transfer Outside or inside a Harbour or Fishing Harbour of the Republic of South Africa"

"1. Introduction

It is illegal for any person to conduct bunker or oil cargo transfer operations outside a harbour or fishing harbour of the Republic of South Africa."

"2. MARPOL and SOLAS Requirements"

Marine Notice No. 3 of 2016 stipulates several requirements pertaining to oil spills and pollution prevention for the STS bunkering operation to be approved. All vessels are required to comply with the requirements as set out in MARPOL (The International Convention for the Prevention of Pollution from Ships) and with SOLAS (The International Convention for the Safety of Life at Sea), international bodies governing and preventing oil pollution from ships.

"5. SAMSA Requirements

A written application requesting permission to undertake a ship to ship transfer outside a port should be lodged, at least five working days before the transfer is to take place, with the Principle Officer at the port nearest to the proposed place of transfer."

"5.1 Letter of application must contain compelling reasons of why the bunker transfer cannot take place inside the port;"

Our concerns:

- STS bunkering is routinely performed in Algoa Bay. However, it is clear that the intent of the issuing of the permit is for emergency situations, and not routine situations. SAMSA indicated that they cannot issue a permit for every transfer, thus a blanket permit for STS transfers is done.
- From our understanding "compelling reasons" relate to emergency situations. STS bunkering is being performed in an area 15 km from the port of Ngqura. What "compelling reasons" can there be preventing ships from refuelling inside the port?

"5.11 Extracts from the "Shipboard Oil Pollution Emergency Plan" of both ships showing the on board procedures in the case of an accidental spill during a transfer operation."

"5.12 The list of equipment on board both ships for combating and cleaning up an oil spill;"

Our concern:

- It appears that both the receiving as well as the transferring vessel did not comply with requirements 5.11 and 5.12 above and yet a permit must have been issued for the STS bunkering operation that took place on 6 July 2019. Neither ship contained nor attempted to clean up the spill while waiting for the spill control vessel.
- The bigger concern is: if the ships did indeed have the required equipment on board, why did they wait two hours for the arrival of the spill response vessel.

SAMSA announced that the vessel supplying the HFO was not to blame for the spill on 6 July 2019. How can this be?

Is it not the responsibility of the bunkering operators to ensure that the process is performed in accordance with the mandated regulations and that all safety procedures are enforced?

<https://www.heraldlive.co.za/news/2019-08-28-fuel-supply-vessel-not-to-blame-for-recent-oil-spill-in-algoa-bay/>

Record of Decision (RoD) for the Port of Ngqura in terms of EIA Regulations

Following the spill in 2016, it was suggested that it is safer to refuel ships closer to the shore. The anchorage areas 1 and 2 of the Port of Ngqura were identified as appropriate (indicated in Appendix 1). (pers. comm. Agean)

The Port of Ngqura (TNPA) has a RoD for the building and operation of the port and the anchorage areas. The RoD does not include the anchoring of fuel-carrying ships for long period of time, or for the transfer of fuel from one vessel to another.

The carrying capacity of the anchorage areas also increased and the impacts of this was not considered. No specialist studies were performed and no application for the extension of the activities in the anchorage areas, as outlined above, have been made to the departments.

Our concerns:

- Under what mandate did TNPA issued permits for STS bunkering services in the anchorage areas 1 and 2 of the Port of Ngqura?
- TNPA did not perform an EIA nor did they request an EIA from the bunkering operators. In our understanding, the additional activities listed above trigger an EIA.
- The minister has not identified that STS bunkering was not approved in the RoD granted to TNPA for the Port of Ngqura.

OTHER ENVIRONMENTAL LEGISLATION

In addition to the regulations stated above, several other international environmental laws govern STS bunkering. An evaluation of those environmental laws is outside the scope of this concern report. A separate report will be submitted by an environmental lawyer to address all legal issues with the current STS bunkering operations.

The following are worth noting:

- National Environmental Management: Integrated Coastal Management Act, 2008 (ICM),
- National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004),
- Marine Pollution (Control and Civil Liability) Act No 6 of 1981,
- Prevention of Pollution from Ships, Marine Pollution Act No 2 of 1986,
- MARPOL, International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) which provides technical aspects to controlling pollution from ships.

- SOPEP - Ship oil pollution emergency plan and as per the MARPOL 73/78 requirement under Annex I, and
- ISGOTT Manual

Our concerns:

- In our opinion, SAMSA and TNPA did not consider all the legislation requirements when STS bunkering operations were approved and when bunkering operators were issued with permits.
- We are of the opinion that our constitutional right to a clean environment has been ignored by permitting regular STS bunkering operations to take place at the Coega Port anchorage sites.

Our environmental right is contained in the Constitution of the Republic of South Africa, Act 108 of 1996 :

Section 24: Everyone has the right:

- *To an environment that is not harmful to their health or well-being; and*
- *To have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that:*
 - a) prevent pollution and ecological degradation;*
 - b) promote conservation; and*
 - c) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.*

CONCERN 6: JOB CREATION OR JOB LOSSES?

South African projects are often sold to locals under the guise of “job creation opportunities”, and understandably so, considering the current situation with unemployed individuals in our country. Job creation is a strong motivator for STS bunkering in Algoa Bay, as was accentuated by SAMSA’s acting CEO, Mr Sobantu Tilayi, at a workshop given on 22 August 2019, in Port Elizabeth.

At the same workshop, Mr Tilayi indicated in his presentation that the number of South Africans, not necessarily local, directly employed since bunkering started three years ago, **to be less than 30 individuals**. So much for job creation!

In 2017 tourists visits to Nelson Mandela Bay directly provided employment for 44,227 local individuals. We know that the 3,4 million visitors to Nelson Mandela Bay did not come here for our shopping malls. They came here to enjoy our beaches, nature reserves and play in our ocean. 244,550 domestic visitors and 105,712 foreign visitors came to attend events, such as the Ironman competition. By promoting eco-tourism and co-operation between the various tourist and environmental organisations, this number can increase substantially.

- Are we happy to gamble with the possibility of losing major events such as Ironman and others currently held and those planned for Nelson Mandela Bay?
- Are we happy to gamble with the possibility of a reduction in tourist visits to Nelson Mandela Bay because of the perception of further oil spills occurring?

- Are we happy with the risk of losing protected species as a result of another, perhaps larger, fuel spill? How many jobs would be lost then?

Bunkering is a lucrative business. However, the income is spread very thinly and only a few individuals are benefitting. In contrast, the tourism industry does not benefit a small number of big players but benefits many small players. Clearly this is far more beneficial to the local economy and to the local community.

Is STS bunkering the best way to use Algoa Bay as an income resource? Would it not be better financially and environmentally for the ships to dock (payment of docking fees) and to be refuelled inside the controlled environment of a harbour where spillages can be retained and cleaned and the biodiversity can be protected?

We are petrified to continue to risk the irreversible loss of Algoa Bay's biodiversity. Even if there is only a perception of an oil spill, visitor appeal to the bay will decline, tourist numbers will drop, and many jobs will be lost. Clearly a lose-lose situation for Nelson Mandela Bay. In the event of another spill, this could be a reality.

Operation Phakisa and Oceans Economy.

“Phakisa” means “hurry up” in Sesotho and the application of this methodology highlights government’s urgency to deliver. Is this why we are doing away with environmental impact studies, not involving all interested parties and gambling with our biodiversity?

<https://www.environment.gov.za/projectsprogrammes/operationphakisa/oceanseconomy>

OUR APPEAL TO GOVERNMENT DEPARTMENTS

In view of the documented concerns from the public and Nelson Mandela Bay Tourism, we urge the Department of Environment, Forestry and Fisheries (DEFF), Department of Tourism and the Department of Transport to:

1. STOP STS BUNKERING IN ALGOA BAY IMMEDIATELY!

2. Perform the studies as required and requested numerous times by the public:

Environmental Impact Assessment with associated specialist studies: i.e.

- Impact on African penguin foraging and breeding on St Croix Island
- Impact on humpback dolphin habitat
- Impact on biodiversity around the islands, MPA and Swartkops Estuary
- Fate of spillages and accidents from bunkering (modelling)
- Impact of increase of marine traffic
- Impact of noise on birds and fish species
- impact on proposed fish farm in Algoa Bay
- and so on

3. Transfer the overseeing of this environmental and ecological dangerous operation of STS bunkering operations from DoT to DEFF as a matter of urgency.

4. Consider and investigate alternative sites along the South African coast for STS bunkering to be performed. Harbours such as Mossel Bay already have an off-shore drilling operation and vast experience in managing oil carrying vessels. They are possibly better equipped to deal with spills and other marine incidents.
5. The numbers of penguins at St Croix needs to be increased urgently. An area consisting of a radius of at least 20Km needs to be established as a protected area around St Croix island. This protection must forbid any vessel movements within this area, even if it infringes into the current anchorage areas. Artificial breeding huts for penguins, like those at Bird island need to be erected at St Croix island to help stabilize the breeding colony.

The rapid decline of our African penguins in Algoa Bay signifies that something is terribly wrong. We can no longer ignore these signs. Let us not be part of the generation that continues to make mistake upon mistake. The public urges the Department to do not allow the operations of STS bunkering to continue risking the permanent demise of our endangered species and damage to the rich biodiversity of our precious Algoa Bay. This is our plea to you... please give it your earnest and intense attention!

"Once species become extinct, no corrective legislation can bring them back - they are gone forever." - A.M. Solomon

Port Elizabeth, 6th December 2019

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Cleaned and rehabilitated African Penguins, following the spill on 6 July 2019, being released by SANCCOB at Cape Recife on 5 October 2019

FURTHER LINKS TO ARTICLES AND VIDEOS

ADDO ELEPHANT NATIONAL PARK MPA, "THE BIG SEVEN", Nelson Mandela Bay, Port Elizabeth

<https://www.marineprotectedareas.org.za/addo-elephant-national-park-mpa/?fbclid=IwAR1CBG6UBjhV-GXGIXCXd5wNaHJPVmNciFgbz480LwSbmLLfnzD9RUr7eE>

The world-famous sardine run also passes through the bay, feeding a whole suite of apex predators, and attracting international TV crews every year.

<https://youtu.be/LOQM0VqG7Tk>

<https://youtu.be/0TkM8-Nzval?list=PL0a5OmGIBp4KV8NlqiNHIZ1G8MtYbl8Wi>

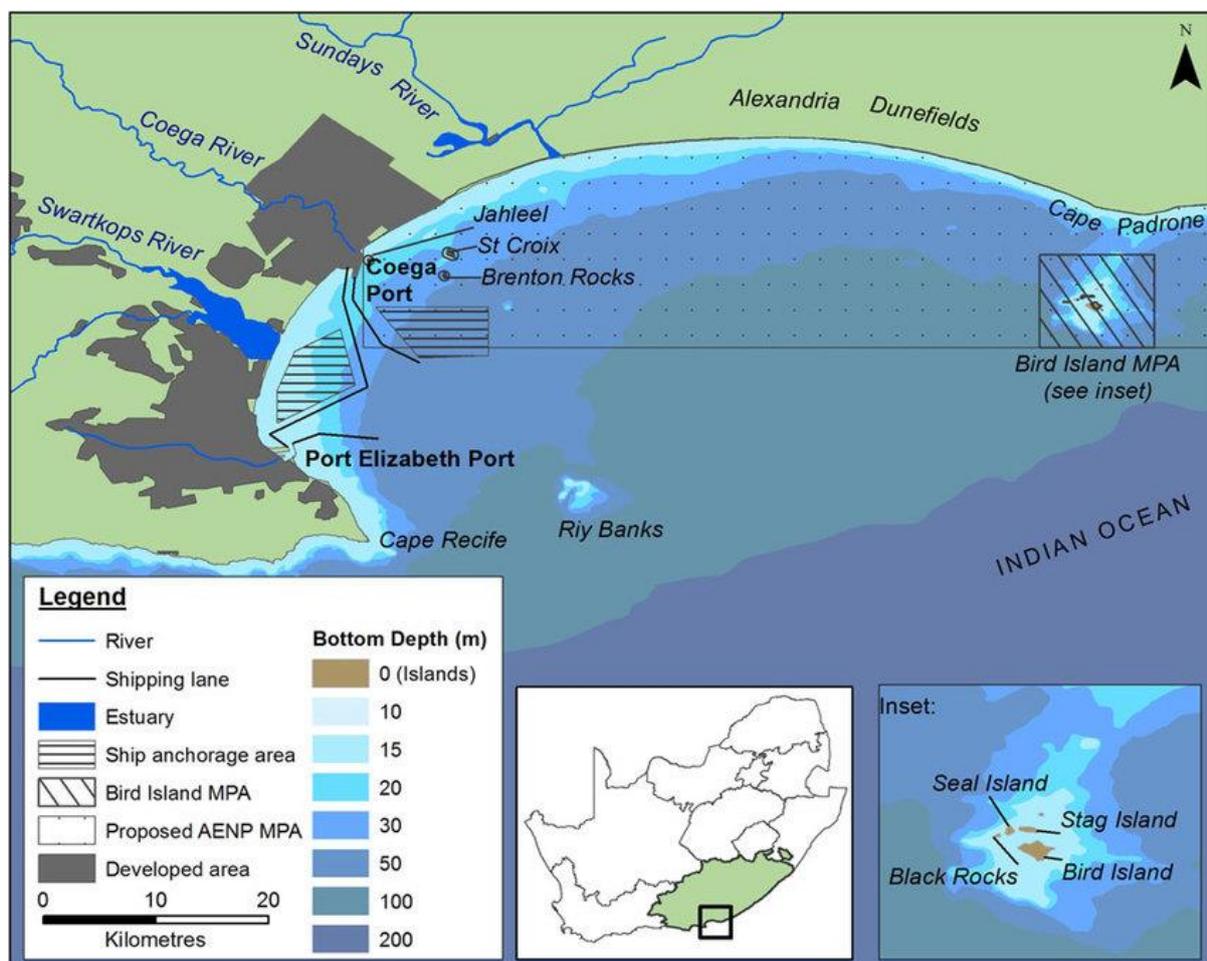
Algoa to Amathole (Offshore of Port Elizabeth), Nelson Mandela University, Institute for Coastal and Marine Research

[https://cmr.mandela.ac.za/EBSA-Portal/South-Africa/Algoa-to-Amathole-\(Offshore-of-Port-Elizabeth\)](https://cmr.mandela.ac.za/EBSA-Portal/South-Africa/Algoa-to-Amathole-(Offshore-of-Port-Elizabeth))

SANCCOB Penguin Release on 5 October 2019

https://www.youtube.com/watch?v=rWhSd3aR4_c&feature=youtu.be&fbclid=IwAR1Bc3HoxL_96Ab5j5PJedpjN6M_-XoMZKWKXBIFm3q65EYVs73hCFfaqA

Appendix 1 – Features of Algoa Bay on the south-eastern Cape coastline of South Africa (SA)



Brigitte Melly; McGregor G; Hofmeyr Greg and Plön Stephanie, May 2017, Spatio-temporal distribution and habitat preferences of cetaceans in Algoa Bay, South Africa. *Journal of the Marine Biological Association of the UK*, DOI: 10.1017/S0025315417000340

Invitation to Public Meeting

SHIP-TO-SHIP BUNKERING

OPERATIONS IN ALGOA BAY

Over the last 3 years, Algoa Bay has witnessed an increase in bunkering operations, with large international vessels frequenting our bay for refuelling. Bunkering, the ship-to-ship transfer of fuel or oil from one vessel to another while at sea, is a high risk operation. An oil spill can have major environmental consequences, impacting on other ocean industries such as tourism, water sports and fisheries. Although numerous objections were raised by marine scientists, environmentalists and tourism groups, licences to operate in the Bay were issued in 2016.

As feared by many an incident took place on 6 July 2019 during offshore bunkering operations less than 10km from the Port of Ngqura. It is reported that 200 – 400l of fuel was spilled into the sea due to an overflow during fuel transfer to the receiving vessel. Even though a commercial oil spill response service provider was summoned to mitigate and contain the spread of the spill, more than 100 birds, all endangered bird species, were oiled.

Algoa Bay is a marine biodiversity haven and has been earmarked to be declared a Marine Protected Area (1 Aug 2019). The offshore bunkering operations pose a real and imminent threat to our marine life, our waters and our beaches. We need to question the total lack of environmental and financial risk assessments for these operations that have quietly been licenced in the Bay. The public has been left out in the cold over this whole period!



As a custodian of the Bay you are invited to this public meeting to voice your concerns over the operations. We plan to compile and submit a concern report to the appropriate departments to reconsider the bunkering operations in Algoa Bay.

**For more information contact:
Shaun Fitzhenry
email: chair@nmbt.co.za**



Public Meeting

SHIP-TO-SHIP BUNKERING OPERATIONS IN ALGOA BAY

Venue: Dolphin's Leap

Date: 1 August 2019

Time: 18h30

AGENDA

18H40 – Welcoming

18h45 – *Introduction*, Shaun Fitzhenry, NMBT

19h00 – *Impact of STS Bunkering in Algoa Bay on Tourism*,

Lloyd Edwards, Raggy Charters & Baywatch Projects

19h20 – *STS Bunkering in Algoa Bay: Issues and Concerns*.

Ronelle Friend, Environmental Scientist

19h50 – Open to floor - collate concerns

20h00 – Closure

BUNKERING PUBLIC MEETING ATTENDEES - 1 AUGUST 2019

On request from Ronelle Friend: ronelle@baymt.co.za