

## Sardine Fever by Peter Pinnock

"Paul, do you see any sharks from there?" Mark Addison asked into his two-way radio. Paul Buchel was circling 500 feet above us in his single-engine Piper. The plane banked to one side and Paul's voice crackled over the radio: "There are a few on the inside of the shoal and a big one on the outside".

That wasn't what I wanted to hear. I had an aqualung strapped to my back and was about to fall off the side of the boat into the writhing mass of fish. Below us the water had turned from blue to dark brown as the shoal of sardines passed beneath the boat. The water around us seemed to boil as the sardines were chased to the surface by predators. They would swarm on the surface and then retreat to deeper water. The smell of the sardines below filled our nostrils as the greasy little fish left a slick that trailed behind them on the surface.

"Ok, lets do it," called Mark.

"I've come this far", I thought to myself. "There's no turning back now".

With a camera in one hand and my heart in my throat, I rolled into the water. Below us was an endless, moving mass of fish. Cautiously, we descended into it.



The screenshot shows the DIVERNET website interface. At the top, there's a navigation bar with links: HOME, SITE MAP, SEARCH, ADVERTISE, SUBSCRIBE, CONTACT US, ABOUT. Below this, the text reads "DIVER magazine on-line and much more" and "SEPTEMBER 2002". The main headline is "Sardine Fever" in large, bold letters. To the left of the article is a vertical sidebar with menu items: DESTINATIONS, DESTINATION TALK, FEATURES, DIVERMART DIRECTORY, WHAT'S BUBBLING, SEARCH DIVERNET, and a GO button. Below the headline is a photograph of a dense school of sardines. A short paragraph of text is visible below the photo, starting with "Divers 'descending into fish soup' has become a bit of a cliché, but Peter Pinnock has experienced submersion in what must be the ultimate bouillabaisse. He couldn't always see the predators lurking on the fringes; the question was, would they see him?"



The "sardine run" is an annual phenomenon that takes place during the early winter months along the coastline of KwaZulu-Natal. A visitor to the area will be amazed to see copious quantities of the silvery little fish being washed up onto the beaches, to the obvious delight of the local residents. Consumed by "sardine fever" they waded into the water with any suitable container to get their share of the

harvest. The sardines are not always the main attraction. Following the sardines are a host of predators such as game fish, dolphins, birds and sharks. Large crowds assemble on the beaches to watch the spectacle just beyond the waves. It also heralds a time of intense activity for the large fishing community who cram onto the beaches and rocks eager to capture the predatory fish that dine relentlessly on the sardines.

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Our search for the sardines had started the day before. We had driven to Mkambati Nature Reserve in the Eastern Cape hoping for the first sighting of the sardines as they approach the coastline. Reaching Mkambati, a former leper colony, was an adventure all in itself. The two hour drive from Flagstaff along the bumpy dirt road left my kidneys aching and the bumper that fell off my car has never been seen again. We joined a dejected looking group of film-makers and nature lovers - for the last 3 days no sardines had been spotted along this coastline. They were being hosted by Blue Wilderness, the first company to offer the opportunity to view this unique phenomenon from the sea. Perhaps finding the sardines was not going to be as easy as I imagined.



At first light the next morning Paul took off and headed south along the Wild Coast. Flying as far as Port St. Johns he spotted only a few small isolated pockets of sardines. Based on this we made the decision to head north by sea toward Port Edward. After securing our equipment to the boat we launched through the Mzikaba river mouth onto a glassy sea. The former Transkei coastline is still an unspoiled paradise. From the sea we had the opportunity to view areas that are impossible to reach by road. In the early morning sunshine eland grazed on cliffs that

plunged into the sea. At Horse-Shoe falls a river cascaded into the ocean below. We were reminded how the Wild Coast inherited its name when we motored past the steel hull of a rusting wreck, stranded on the rocks high above the water line. The ocean was alive with life. Numerous schools of dolphins tirelessly surfed the waves. Above us was the first tell-tale sign that there were sardines nearby: an continuous stream of Cape gannets circled and heading north with us. There was almost a sense of expectancy in the air.



"I see them!", Paul's voice crackled over the radio above the drone of his aircraft. "There is a shoal about a kilometer long off Margate. Don't waste any time. Come straight here". Mark lent on his throttles and we sped toward Margate. Thirty minutes later we caught sight of hundreds of gannets feeding on the shoal. They would circle and then, arching their wings back, plummet into the water like kamikaze pilots. Popping up on the surface the distinctively marked birds with yellow head and black wing tips gulped down their fresh meal. Taking to the sky they would dive again and again until they were too full to fly. Further out to sea a flock of gannets rested on the surface, digesting their meal.

Descending into the sardines for the first time is the worst. You have absolutely no idea what to expect. The shoal was heading north at an unbelievable speed, as if on a mission to nowhere to keep a secret rendezvous. The solid wall of fish would split up in front of us and reform a few meters behind. I dropped a few meters and held my breath. The sardines swarmed over my head and suddenly day became night. The school was so thick above me that sunlight could not penetrate it. Breathing out, my bubbles rushed to the surface carving a path through the dark mass of fish around me. Instantly daylight returned. I made a conscious decision not to hold my breath again. Amazingly enough with thousands of fish flying silently past me there was dead silence. Sardines make no noise.



Out of nowhere a bronze whaler shark flashed over my head and slammed into the wall of sardines. The school split up as if hit by an explosion as the shark vanished inside them. I blinked in disbelief



as the sardines closed the gaping hole left in them by the shark and continued on their endless journey. I shuddered at the thought of how many predators there could be in the water around me. A shark could be feeding a few meters away and we would never see it. Out of the gloom appeared a school of dolphins, their distinctive echolocating clicks breaking the silence. One of them glided toward me, curiously inspected me and gulped down a sardine as the rest of the pod indulged in the free feast.



Mention to anyone that you have been diving in the sardines and the immediate reaction will be: "What about the sharks?". With us was Frenchman Didier Noirot, director of photography for Jacques Cousteau for 12 years. There are few places on this planet that he has not dived. I asked him if he was concerned about sharks. He looked me up and down with a look of disgust so well perfected by the French and replied in his broken English accent: "The sharks! I am not worried about the sharks. They are too interested in the sardines to eat me".

Brave words but Vic Peddemors from the Natal Sharks Board in Durban agrees. "There is so much food around why would they look elsewhere?". During the sardine run the shark nets along the KwaZulu-Natal coast are lifted. This is done to spare the huge numbers of dolphins and sharks that would be caught in the nets. Shark nets do not discriminate between dolphins or sharks. Vic is researching methods to prevent the bottlenose and humpback dolphins that frequent the area from becoming entangled and drowning in the nets. "Following the sardines are mostly bronze whaler sharks



which could be potentially dangerous to man. There are also spinners, hammerheads and of course great whites". Interestingly enough, the last shark attack that was recorded during June along the KwaZulu-Natal coastline was in 1964 off Port Edward. There was no evidence at the time that sardines were in the area. "Historically, swimming was banned when the Sharks Board lifted its nets; now many local authorities use our preferred system of discretionary bathing. This allows the nets to be kept out of the water for longer, while still placating the occasional die-hard swimmer and thereby reduces the death of many species during the sardine run feeding frenzy".



"We wouldn't put a diver in the water if there was a lot of shark activity," reassured Michele Addison of Blue Wilderness. "Our tours are not aimed specifically toward the diver. They are for anyone who wants the adventure of going out to sea and witnessing the wealth of marine life that follow the shoals of sardines. It's a wildlife experience".

But are there as many sharks following the sardines as everyone suggests? Three days later my worst fears were realized. Bouncing down the Margate airfield I took off with Paul on his daily flight to spot the shoals of sardines. He would then radio directions to the boat below. The crisp winters air swirled



through the tiny aircraft - we had removed a door to make photographing out of the plane easier. Off Port Shepstone we found a shoal about 2 kilometers long, lying just behind the surf zone. Feeding on the outside of the shoal was a pack of at least fifty sharks. Circling 500 feet above we watched with fascination as the sharks surged into the shoal, leaving a wake of sardines behind them. Unaware of the feeding frenzy a few hundred meters from him, a surfer happily caught a wave into shore. Ignorance is truly bliss.

The origin of the sardines, *Sardinops sagax*, has always been the subject of much speculation. Although sardines are also found in deep waters off Japan, Australia, California and the west coast of South Africa, they are only known to migrate close to the shore along the South African east coast. There has been surprisingly little research done on the sardine run.



"No one really knows anything about the sardines," fumbled Lyneth Beckley of the Oceanographic Research Institute in Durban. Instead I spoke to Alan Connell of the C.S.I.R. - for 12 years he has been sampling fish eggs and larvae off the KwaZulu-Natal south coast. Squinting through a microscope, he can identify the fish and collect statistics about their migratory habits.

"It all happens because of the configuration of our coastline and the currents that flow down them," he patiently explained to me.

During the summer months the warm Agulhas Current sweeps down the east coast with its associated tropical fish fauna. The sardine is a cold water species and does not inhabit this water. In summer they are found in the cooler, deeper waters between Storms River and Port Alfred.

With the onset of winter the warm water of the Agulhas current moves offshore and is replaced by a cool band of water that moves in from the south. This counter-current hugs the entire length of the coastline of Transkei and KwaZulu-Natal and offers a range extension for the sardines to move into. Sardines are filter-feeders and they readily follow the planktonic food supply that drifts north in the winter months. Concentrated into a very narrow area close to the coastline, the schools are soon located by fish, bird and mammal predators. The sardines are often driven ashore by predators, caught up in the strong surge of the waves and dumped onto the beach.

After passing Hibberdene they break up into small pockets and eventually move offshore into colder water where they remain until November. "I know they are there," says Alan. "You don't see the fish but their larvae is particularly abundant during June and November". With the onset of summer and warmer water, the sardines then migrate south back to the colder waters off the



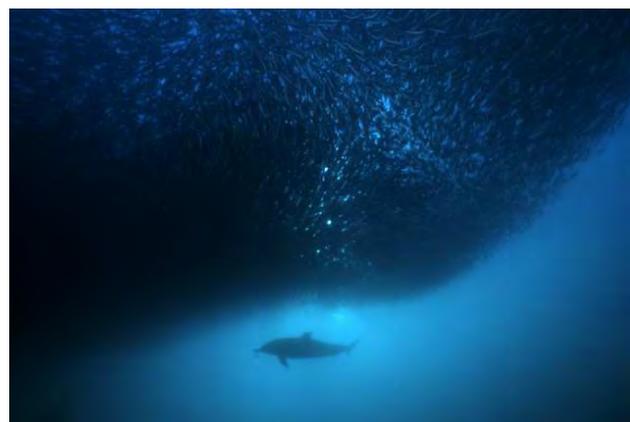


Cape coast.

Surprisingly, the number of sardines that migrate during the sardine run is only a very small percentage of the total population. The majority of the stock remains behind in the Cape. It is still not clear why they only come ashore along the KwaZulu-Natal south coast and not the beaches of East London or the Transkei.

Sardines caught by commercial operations off the Western Cape are canned, frozen or reduced to meal and oil. In KwaZulu-Natal the 35 licensed beach-seine operations can net up to 700 tons during the sardine run. A small percentage of the catch is frozen for bait by the large recreational angling community, but the majority is eaten fresh. "You have to be the first one to net the sardines," says South Coast fisherman Bobby Naidoo. His eyes are continually searching the waves for the telltale dark shadows of the sardines. "Then you get the best price. We sold the first *sards* that we netted for R120 a crate. Now we get between R30 and R60 a crate depending on how many are caught on the day". There is good money to be made during the short sardine run. Not surprising then that tempers can flare.

On a cold Sunday morning the beach at Rocky Bay is buzzing with activity. The sardines are being washed onto the beach by the strong swells and sardine fever is running high. People wade fully clothed into the chilly water with plastic bags, nets and even washing baskets to scoop up the writhing little fish. I watched as a beach-seine fisherman launched his boat from the shore. One end of the net is held on the beach while the skipper circles the sardines, casting the net around them. In his haste the skipper of the boat entangles a spear-fisherman in his net. The spear-fisherman is justifiably upset. For the next 20 minutes a running battle breaks loose on the beach. Punches are thrown and I was shocked to see some fishermen threatening each other with knives. "That's sardine fever for you," casually commented an onlooker. "People are prepared to fight each other just for a few little fish".



During the morning I estimated that 10 tons of fish must have been netted on that small stretch of beach. It's hard to visualize that so much fish could be consumed fresh, mostly by the local Indian community.

Early one grey June morning we experienced what must be the highlight of the sardine run - a sardine bait ball. Feeding frenzies do occur although very few divers have been privileged enough to witness one. The telltale sign of a bait



ball is hundreds of birds diving into a small area of water. The surface churns and bubbles from the frenetic action just below the surface. Gannets and sooty shearwaters popped up on the surface, some with sardines in their mouth. What is visible from the surface is only a small part of the madness. Below us we knew there were sharks, dolphins and possibly any marine predator feeding. "Be careful," warned the skipper as we scrambled for our diving equipment and cameras. Some divers wisely opted to stay on the boat. Hovering in the middle of the bait ball there was movement above, below and behind us. Bronze whaler sharks and bottlenose dolphins appeared out of nowhere to drive into the bait ball. With my eye glued to the viewfinder, I fired off shot after shot. This is good fodder for a camera. A shark swam into me - I pushed it off with a strobe. "Are we crazy?" I thought to myself. Moving away from the bait ball it became evident that the dolphins were undertaking a coordinated attack. The school circled the bait ball keeping it in a tight formation - once the sardines scatter it is far more difficult to feed on them.



Below the sardines the dolphins released bubbles of air that drove them further to the surface. One by one the dolphins took turns to charge through the whirling mass - a coordinated flash of grey into a silver cloud. The sharks, excited to the point of frenzy by the activity of the dolphins, charged into the bait ball with mouths wide open. After 30 minutes the sardines disappeared into the depths. The predators had ended the feast. We boarded the boat, adrenalin pulsing through our veins - we all knew that we had witnessed a rare feeding phenomenon.

That night we dined on sardines that had been fried in batter and served with a garlic laden sauce. The fish have small bones but once we learnt how to eat around them, we kept on going back for more. Although skeptical at first, we were all surprised at how edible the tiny little fish were. They are very rich but surprisingly tasty. Perhaps they deserve a higher status than to be used only at the end of the month when nothing is left in the cupboard. We celebrated late into the night toasting a unique phenomenon that is still not fully understood, but annually brings a bonanza to the people of KwaZulu-Natal.



### Who to contact

Reservations can be made with Blue Wilderness Dive Expeditions, 21 Elizabeth Street, Umkomaas, 4170. Tel/Fax (039) 9732348. Email: [info@bluewilderness.co.za](mailto:info@bluewilderness.co.za)

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Mark Addison has an unsurpassed knowledge of the local fish fauna and sea conditions.

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