

A Gathering of Ocean Giants –whale sharks in Qatar

By Steffen Bach, Team Leader at the Maersk Oil Research and Technology Centre in Doha

It is early morning in July, and we are more than 80 kilometres off the North East coast of Qatar. Although the sun only recently emerged from below the horizon, it is already unbearably hot. The boat is moving slowly and the project team is scouting the horizon for one of the most exhilarating natural wonders in the Arabian Gulf; a gathering of ocean giants. Every year huge aggregations of the world's largest fish – the whale shark – are observed in the Al Shaheen oil field - in numbers only recorded in a handful of places around the world. Large groups of these majestic creatures can be seen cruising through the waters in search of food, with their tall dark dorsal fins slicing through the surface. An impressive indication of their presence, but so far today there is no sign of them.



The heat makes the offshore oil platforms resemble a fata morgana, floating where sky and water meet in shades of blue. These immense steel structures have been in the region for almost twenty years and their inhabitants have played an important part in the establishment of the Qatar Whale Shark Research project. Since the 1990s the offshore workers have told stories of giant sharks. And before that, local fishermen were sharing tales of a huge fish seen mainly in the summer months. But it wasn't until production supervisor Soren Stig took pictures of more than one hundred whale sharks surrounding a platform that it became clear something very unique was happening here. The image made its way to David Robinson from Heriot-Watt University who then made contact with the Qatar Ministry of Environment. Although whale sharks have been known to frequent Qatari waters, Mohammed Al-Jaidah from the Ministry was quick to realise the importance of this discovery, and so together they formed the Qatar Whale Shark Research project in 2010.

Both David and Mohammed are on the Coast Guard boat today. The vessel's high powered engines provide an essential means of transportation to this distant location, where public access and fishing is banned around the platforms. Al Shaheen is the largest offshore oil field in Qatar and is operated by Maersk Oil on behalf of Qatar Petroleum, producing approximately a third of Qatar's oil. But the natural riches you find here are not only below the ground.

Thousands of colourful fish that you would normally observe around coral reef find food and shelter between the sponges and soft corral that grow on the subsea structures. Barracudas, jacks and sharks patrol the perimeters waiting to pounce on the unwary. The platforms essentially function as artificial reefs - a marine oasis of life in a desert sea. Consequently, the Maersk Oil Research and Technology Centre and the Ministry of Environment have signed a Memorandum of Understanding in order to shed more light on the biodiversity in the Al Shaheen area and the secrets of the whale sharks.

As the mid-day approaches with no whale sharks in sight it seems unlikely that they will grant us a chance to explore their secret world today. It has been a long and tiring trip to the Al Shaheen field. The crew is about to pack up the equipment and return to shore when the sense of un-accomplishment is wiped away by a sudden cry; "Sharks, sharks.....three o'clock!!!"



The sun is reflecting off their massive dorsal fins and as we approach them more and more sharks appear from the deep. We are soon completely surrounded. The researchers get ready. It is exhilarating sliding into the water - knowing that you are about to come face to face with not only one of the world's largest fish... but up to one hundred of them. On the surface you can see them approaching, but there is less visibility underwater and it is only when the shark is few meters away that a true sense of vulnerability kicks in. The mouth of the shark appears like a gigantic black hole measuring up to 1.5 meters in diameter heading straight towards you. It is at that moment that you prepare yourself for the sensation of being run over by a creature measuring up to 12 meters in length. But the shark senses the obstacle ahead and turns gracefully exposing its huge body decorated with its characteristic white spots. Its small eye gives you a curious look as it majestically passes by. The whale shark is a gentle giant and has no interest in humans. It feeds solely on zooplankton, fish eggs, and the occasional small squid or fish.

But why are they here and in such numbers? That is what the Qatar Whale Research project is trying to answer. Armed with a GPS tag David approaches one of the big female sharks. Once attached to the shark it will send signals to a satellite and reveal its movements. Whale sharks are known to be migratory and travel thousands of kilometres, but their breeding grounds have still not

been identified. A more low-tech but still very efficient method of tracking whale sharks is photo identification. The spot pattern behind the 5th gill slit is unique for each shark and can therefore be used as a 'finger print'. The pictures are entered into a global database to see if it is matched with other observations from around the world. Genetic analysis will also reveal if the Al Shaheen sharks are related to other whale shark populations outside of the Gulf.



Before the researchers head home after a long day at sea they deploy a plankton tow to identify what the sharks have been feeding on. The samples are sent to the Ministry of Environment laboratories in Doha for further analysis. "The platforms attract a lot of fish that spawn here in this area. The whale sharks seem to have figured that out. We are in the initial phase of the research programme and we have achieved a lot. But there is still a long way to go before we truly understand the whale sharks and the ecosystem in Al Shaheen. That is why collaboration between authorities, universities, and industry is important. If we work together we can ensure that this natural wonder will be here for generations to come" concludes Mohammed Al-Jaidah.

Steffen Bach is a marine biologist from the University of Copenhagen working at the Maersk Oil Research and Technology Centre located in the Qatar Science and Technology Park. He is part of the Qatar Whale shark Research team and collates whale shark observations and data from the Al Shaheen field.

To complement the day trips conducted with the Qatar Coast Guard Maersk Oil sponsored a two week whale shark expedition in June 2012 on one of their supply vessels. The expedition was documented by Myriad Global Media and the movie is to be presented later this year in Doha. The BBC Natural History Unit has also filmed the sharks and they will feature in the "Wild Arabia" series that is to be completed in 2013.

In September 2012 the Qatar Emiri Air Force assisted the QWSR in the first aerial whale shark conducted in the Arabian Gulf.