Sharkless Seas?

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Are we witnessing a gradual process leading inexorably to the total demise of sharks on Arabian coral reefs? Throughout the world sharks are under such intense attack by Man that their numbers have declined to the point where certain species are now threatened with extinction. The situation in the Red Sea is also critical and some areas that were until recently renowned for their richly productive reefs, replete with fish of all sizes, including sharks, have been transformed into desolate habitats where both the coral-reef fish and their primitive predators have been wiped out. Meanwhile the general public is still being fed the misleading old line that the seas are full of man-eating sharks and we must protect ourselves at all costs from them. Isn't it time that sharks received a better press and that we turned our attentions to saving both them and their rich underwater habitats rather than continuing the slaughter?

This article examines the question and looks at some pertinent facts concerning the issue.

Sharkless Seas

There is a place that I could take you to in Arabia that was regarded, twenty years ago, as one of the most beautiful wildlife habitats on our planet. It was featured in National Geographic magazine; those who went there were stunned by both its natural beauty and the great variety of its wildlife. Not only did it possess physical grandeur, but it was alive with movement, colour and the vibrant feeling of an ecosystem in the peak of its condition. It was also a place where you could see some of the most impressive large predators on Earth. The legend that was created around this most magnificent place lives on but the reality has changed dramatically and devastatingly. Whilst the physical form remains, much of the life and virtually all the atmosphere has been destroyed. The colourful living carpet has turned a monotonous shade of grey; the shimmering movements of darting exotically coloured animals have been reduced to a mere fragment of its former grandeur and the excitement of witnessing some of the world's most graceful large animals is no longer to be had here. As if this was not enough, the debris of our human race is scattered over the seabed as if it was a large refuse disposal area rather than a site of world importance for wildlife. The remarkable thing about all this is that it has happened with hardly a murmur of protest and, despite the terrible destruction that has been wrought there, it is still a major tourism attraction. Indeed, I would
go further than that; not only is it still a commercial attraction, but it is one where visitors are still awed by its physical beauty and by what remains of its wildlife. The great sadness that the place evokes is with those of us who saw it in its true magnificence and for whom the memory is an indelible reminder of what it should look like today; and of the alarming rate at which we are destroying the very things that we find most beautiful.

The place? Ras Muhammed, on the southern tip of the Sinai Peninsula. The impressive predator? Grey reef, hammerhead, silver-tip and other sharks. The destroyer? Man. The means of destruction? Fishing, pollution and a mushrooming tourism diving industry. The reason for silence? The underwater world is still a mystery for many government administrators and most of the general public. What happens beneath the sea’s surface is out of our everyday gaze and therefore not brought to our constant attention (‘out of sight, out of mind’). Films, magazine articles and books have continued to glorify the great richness of areas like the Red Sea, fearing to diminish the impressions of excitement and even danger that are implicit in their dramatic presentations. Conservation priorities have tended to focus on terrestrial rather than marine habitats, both in Arabia and throughout the world. And finally perhaps, we have demonised the shark to such an extent that neither the general public nor most government administrators would be likely to place shark conservation high on their agendas.

There are over forty different species of sharks found in Arabian waters and until quite recently certain reefs in the Red Sea were regarded as some of the most reliable places for photographing or filming sharks in their natural setting. Unfortunately however the few efforts that have been made to conserve sharks have so far been largely ineffective and in consequence their numbers are in decline almost everywhere. One reason for the rapid drop in shark numbers is to be found in the biology of the animal itself which has a slow reproductive rate.

Whilst most bony fish have reproductive systems in which many thousands of eggs are produced and have the potential to quite rapidly recover from population crashes, a female shark only produces a few offspring and there is quite a long gestation period (from 8 to 18 months in most cases). Added to this slow reproduction is a fairly slow growth rate with many species taking as long as twelve years to reach maturity. Thus sharks do not have the innate ability to replenish their numbers quickly, following intense fishing of a particular area. An additional problem for many Red Sea sharks is the fact that species like the grey-reef shark live for long periods of time on a single reef. Indeed, divers who have taken to shark-watching with as much passion as their land-bound colleagues watch birds, have learned to recognise individual sharks which they have observed feeding at the same sites year after year.

Whilst the demise of sharks at Ras Muhammed is due to a combination of factors, i.e. fishing, pollution, habitat destruction and disturbance by divers, each of these factors can operate in their own right as the major triggering factor for a shark population crash. There is no doubt however that the single most important reason why sharks are disappearing from Arabia’s coastal waters is that they are being fished with new levels of intensity and efficiency. There are two main reasons for this: firstly, increased fishing of all stocks has reached a widespread state of over-exploitation, i.e. the level of harvesting is greater than that which can be sustained on an annual basis and therefore stocks are declining, forcing fishermen to spend more and more effort to catch the same or less fish. This has placed pressure on fishermen to catch what were previously regarded as marginal or even undesirable species. The second major reason is that a number of major shark fisheries, elsewhere in the world, have already been almost, or completely, fished-out whereas the Asian market for shark-fin has grown. The result is that prices have risen and new shark fisheries have been developed or existing ones expanded, in order to try to keep up with the demand.

The shark fin industry is a huge one. It was estimated that 100 million sharks were killed in 1989 and it is believed that this figure was significantly exceeded during the early 90’s. As the Florida shark fishery collapsed prices for fins rose...
never were the terrible ogres that they have been held up to be. There are many different ways to explain this; one is that the world-wide death toll on humans from shark attacks is somewhere between ten and twenty-five people per year compared to a world-wide death toll on sharks from humans at around one hundred million! Furthermore, most shark attacks can be explained by behavioural considerations such as swimmers entering seal swimming areas which are known shark feeding grounds. The annual death toll from shark attacks in Arabia is, in most years, zero. Ask any experienced diver who has dived in the Red Sea; when he or she sees a shark it is a moment for celebration and, if they are so equipped, taking its picture, rather than fleeing in fear. If such divers are truthful very few of them will claim to have been directly threatened by a shark, and those that have will have extricated themselves from the shark’s territory without use of any spear-gun or other weapon.

Most such divers will also explain that sharks are more afraid of divers than the divers are of the sharks. Finally, they will tell you that the only time when they are afraid of sharks is when there are spear fishermen in the water. The spear fishermen claim they need the spears for protection but experienced divers know very well that spearing fish attracts sharks, excites them and can, on some occasions, lead to a confused shark attacking a diver in the mistaken impression that he or she is the injured fish. An effective and properly policed ban on spear guns has long been recognised to be a good first step towards marine conservation in all coral-reef areas and indeed in more temperate waters.

The presence of sharks on a coral-reef is generally an indication of the overall health of the ecosystem they occupy. They are at the peak of the pyramid of life whose base is the sea-weeds, sea-grasses and symbiotic zooxanthellae within the reef-building corals. Their absence is generally a signal that all is not well. Let us hope that we can recognise the value of these wonderful animals before we destroy them for ever. It is, I feel, time that concerted action was taken to protect both the habitats and unique species of Arabian waters. As part of this effort shark conservation will need special attention.

dramatically from $12 per kilogram (wet weight) in December 1990 to over $24 in 1992. Since then prices have risen further and fishermen based at several fishing centres around the Arabian peninsula have understandably cashed in on the demand by actively targeting sharks. The report of Yemeni fishing boats in the western Red Sea with their boats loaded to the gunwales with shark fins (see page 42) is just one more indication of this trend. The fact that divers and film-makers may have to go elsewhere to enjoy the sharks which have for so long been a major feature of reefs in the central Red Sea will impact upon previously sustainable local economies, probably to a greater extent than the short term benefits of the relatively small income that will be made from selling the fins. The fact that this is also a cruel method of fishing in which the fins are often cut off the live shark which is then returned to the sea to die a lingering death, is probably of little concern to most people involved in the business, nor indeed to a large section of the general public. As one who has seen these animals in the dignity and splendour of their natural settings, I have to say that this facet of their slaughter simply adds to the general dismay with which we observe what is happening.

If we are going to start caring about sharks and their marine habitats in the same way that we have begun to focus upon terrestrial creatures like the Arabian leopard, then we must also improve our understanding of them. One of the first aspects of this is to try to break down the myth that sharks constitute a major danger to Man. One aspect of the shark’s general decline, world-wide, is of course that whatever threat they may have been in the past is greatly diminished as their numbers dwindle. Apart from this however, sharks

Dramatic change in grey reef shark prices

Grey reef shark
at Sangareb

[Image of a grey reef shark]