Opinion & Analysis

Overfishing of sharks hits entire marine food chain

JOHN GIBBONS

Eliminating leading predators such as sharks from the seas creates a big problem – a trophic cascade

SLIGO-BASED painter Diarmuid Delargy had his first encounter with a thresher shark as a young boy while out with his father on a small boat off the Antrim coast in the late 1960s.

The experience left an indelible impression, and Delargy's current exhibition simply entitled *Shark* is an ode to these astonishing creatures, the product of 450 million years of evolutionary perfection. Ode, perhaps, or requiem. My six-year-old wondered aloud as to why they looked so sad.

The paintings are indeed achingly sad, each showing a shark, far from water, stretched out on a slab, some almost pleading, in death – a pose Delargy agrees owes something to Michelangelo's famous *Pieta* sculpture. The artist's own anger, etched in paint, is palpable. Mysterious, powerful and woefully misunderstood, sharks have long evoked a visceral reaction. This was skilfully exploited in 1970s blockbuster *Jaws*, which had a rogue great white terrorise (for no apparent reason) a coastal community. Peter Benchley, author of the eponymous book, in later years felt so bad at the pogrom his creation had helped stoke up against sharks that he became a prominent campaigner for their conservation.

Despite their terrifying appearance, you are in fact far more likely to be killed by a dog, pig, wasp or jellyfish, or for that matter be crushed by a vending machine, than you are to die in a shark attack. Worldwide, maybe 10 people a year are killed by sharks. The respect is not mutual; each year we kill around 100 million of them.

Globally, shark populations are crashing. "Humans are pushing shark species to extinction, with devastating impacts on the ocean ecosystem," said marine wildlife specialist Elizabeth Griffin. "There is just no way for these species to withstand the direct pressure of man's voracious fishing practices."

By definition, commercial-scale fishing is brutally extractive, with giant trawlers sweeping life from the oceans. Yet shark fishing is perhaps the most wanton of all. Up to 70 million sharks are killed every year simply for their fins. Many are dragged alive on to the decks of trawlers, where their fins are sliced off and they are then pushed back into the water to die a slow, gruesome death.

The reason for this barbaric practice, in which 98 per cent of each shark's body is dumped, is the booming trade in shark fins, which are hugely popular in Asia, especially China. Its recent economic boom has led to a surge in demand for fins. Shark-fin soup, which is extremely expensive, is served at formal functions such as weddings as a sign of the host's largesse, and used in traditional medicine. Shark-fin soup is also openly advertised on the menus of some restaurants in Ireland.

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The high prices that fins fetch is fuelling both legal and illegal worldwide slaughter. Perversely, their increasing scarcity is pushing up the prices still further, so intensifying the hunt for the remaining fish.

There are some optimistic signs; last week the US passed the 2009 Shark Conservation Act. The EU has had a ban on finning in place since 2006, but last week too the European Commission moved to place tougher curbs on the overfishing of most shark species.

Official concern about the fate of the marine world's apex predators has less to do with sentiment and is more about waking up to the devastating downstream effect this cull is having on the aquatic ecosystem. The removal of sharks has disrupted the entire marine food chain, with chaotic consequences, some of which are only now becoming apparent.

Eliminating the top predator in any system creates what is called a trophic cascade. The species whose numbers sharks used to police, such as ray and skates, are now exploding in population. They in turn are wiping out scallops and other shellfish, and water quality is suffering as a result.

Reefs, too, are under assault as parrot fish, which are key to controlling algal growth on reefs, are being exterminated by the fish whose numbers are no longer being regulated by sharks. "We have literally chopped the top off the ocean food web," according to Canadian marine scientist Julia Baum.

Some 90 per cent of all the large predatory fish in the world's oceans have now been eliminated. It would be facile to imagine that such a profound reordering of marine life on earth would fail to produce far-reaching consequences.

For nearly half a billion years sharks have survived and thrived in the world's seas; they even brushed off catastrophes such as the meteor strike that saw off the dinosaurs. To see such extraordinary animals being pushed over the abyss in a matter of decades is to realise you are bearing witness to the unravelling of evolution itself.

Australian snorkeller Brian Guest was one of the unlucky few to have lost his life to a shark attack. A couple of years before his death, Guest wrote with insight and humility: "If a shark caused my death, then so be it . . . every death is a tragedy, but we have no greater claim to the use of this earth than any of the other creatures we share it with."

As we threaten ocean life, so the oceans now threaten us. Next week, I'll look at how acidification and rising sea levels are reshaping our world.

Shark is at the Taylor Galleries, Dublin, until March 21st