

CHANCE ENCOUNTERS BETWEEN SHIPS AND WHALES

Daria Blackwell

(Daria's account of her and Alex's 'Atlantic Spiral' aboard their Bowman 57 Aleria appeared in Flying Fish 2011/2 and 2012/1.)

Most sailors setting off on a passage dream of encountering wildlife at sea. Yet ask blue water sailors about their biggest fears, and near the top of the list is likely to be 'striking a whale'. It's one of the events most likely to be catastrophic at sea. Today, we can usually avoid really bad weather, but can we avoid a sleeping whale at night? And what is the likelihood of a chance encounter with a whale? It may not be as rare (or as common) as one might think, depending on location. The likelihood appears to be increasing as protected whale species increase in numbers, and like many cruisers Alex and I have had a few very happy encounters. Fortunately, several lessons can be applied to reduce the risk and enhance the experience.



*A fin whale preparing to dive
beneath Aleria's bow.
Photo Alex Blackwell*

Magic at sea – the friendly encounter

Our first encounter with whales came while crossing Stellwagen Bank, a vast marine sanctuary off Cape Cod. We came upon a pod of northern right whales (*Eubalaena glacialis*), which started us off with a magical experience that would be difficult to top. We first sighted a mother and calf feeding near our boats – she was ignoring the humans intruding on her brunch. About an hour later we noted a rock where there should have been deep water. After frantically checking the charts and keeping a



A pilot whale off La Gomera in the Canary Islands
Photo Martina Nolte / Lizenz Creative Commons CC-by-sa-3.0 de

close eye through binoculars, we realised it was a whale with callosities, spy hopping and being groomed by a flock of birds. Then the whale rolled and dived to show off his fluke. Soon afterwards a second whale appeared, much closer, then two more, and five more, until we were surrounded by scores of these leviathans.

As they came closer to get a better look at us with those all-knowing eyes, our first thoughts drifted to the infamous line from *Jaws*, “we’re gonna need a bigger boat”. They were about the same length as *Aleria*. As soon as we realised they were just curious and respectful we ghosted along beside them as we checked each other out. We were under full sail in light winds with no engines running, and worried about them surfacing beneath us after their dives. We kept a close watch, steered cautiously away from any ahead of us, and avoided coming between mothers and their calves.

Whereas the experience was initially silent, suddenly the air filled with whale song. Not just one but a cacophony of voices, which seemed to be amplified by *Aleria*’s hull acting like a stethoscope. There were long wails, short burps, moans, groans, and high pitched squeals of varied duration and emphasis. We were taken aback, perplexed. We looked at each other to make sure we were both hearing this. It sounded surreal. Then, we succumbed to the sheer joy of it. We sang back, jumping up and down, cheering and clapping like children. I don’t recall ever having had such a joyous experience in my life. We were speaking whale! All fear was gone, replaced with sheer wonder. It seemed to go on forever.

Then, suddenly, they were gone. The whale song receded and the whales disappeared from view. We mourned their passing but felt blessed to have met them. Alex described the experience as ‘prehistoric, otherworldly’. We had been so dumbfounded that we forgot to take pictures. We have only a few that Alex took as he sighted that first ‘rock’.

Occasional glimpses

As we left Nova Scotia to cross the Atlantic to Ireland, we were followed out of St Margaret’s Bay by a lone killer whale (*Orcinus orca*). She swam along peacefully and

we wondered if her reputation was deserved. We didn't see any more whales all the way to Ireland, but we sailed through thick fog followed by six gales. We know now that whales are sighted more often on calm, clear days – if the surface of the sea is smooth, you'll spot an unusual disturbance more readily.

We were next rewarded with a visit by a pod of pilot whales (*Globicephala macrorhynchus*) while in transit from Tenerife to La Gomera in the Canary Islands. They are known to be resident there, so we kept a close watch. Not much bigger than dolphins but black in colour, the pilot whales swam gently along in company for some time.

During six months of cruising the Caribbean, where whales come to calve, we saw only one, breaching off the west coast of Antigua. From the shape and acrobatics it appeared to be a humpback (*Megaptera novaeangliae*). In certain islands, the Grenadines for example, fishermen are permitted to take their annual quota of whale meat in the traditional way, and as we passed St Vincent we saw a boat with a bow-mounted harpoon coming in with a cetacean strapped to the side of the hull.

Whales galore

Crossing the Atlantic from the Caribbean to the Azores, we encountered very light wind conditions. In fact, the Azores high overtook us until we were smack in the middle. It was on this leg that we learned the value of a flat sea for whale sightings and learned just how many of these creatures are en route through the area at any given time. No wonder the Azores were so prominent on the whaling scene. Plentiful food, good weather – what's not to like?

We had numerous sightings on one day – sperm whales (*Physeter catodon*) and fin whales (*Balaenoptera physalus*), mothers with calves, juveniles and elderly, in the distance and REALLY close by. In fact, one pod swam along in our bow wave like dolphins, except they were 60ft long fin whales. They dove underneath and we wondered where they'd come back up. They blew air which carried the scent of bountiful fisheries right beside us and stared at us with those penetrating gazes. It happened to be my birthday – one I will never forget!

In all these encounters, we have never truly felt threatened – concerned about proximity, but not threatened. We rarely use the engine even in very light air, and we always keep a close watch. We are respectful of the distance between us. We are respectful of their environment. We are respectful of their intelligence and their place on this oceanic earth. I think they knew all that.

A fin whale swimming alongside Aleria near the Azores. Photo Alex Blackwell





A mother sperm whale and her calf swim alongside and dive together near the Azores. Photos Daria Blackwell



Collisions between ships and whales

The first time I heard about a sailing boat 'encountering'

a whale mid-ocean was when a yacht, the 49ft sloop *Peningo*, collided with a whale about 700 miles from the Azores while en route from the US to the America's Cup Jubilee in England in 2001. The skipper wrote about their ordeal afterwards, providing insight into the experience¹. Although the story is entitled *Struck by a Whale*, from his description of the encounter it is more likely that it was the vessel that struck the whale. The whale was severely injured and the yacht was rendered helpless with serious rudder damage. Luckily for those aboard, the yacht remained afloat with no major water intrusion until a rescue ship arrived to tow them back to Newfoundland. The whale probably didn't do so well.

The sinking of the Essex

A most famous encounter is that of the Nantucket whaling ship *Essex*, which was sunk by a sperm whale in the South Pacific² in 1820. Herman Melville's novel *Moby-Dick* is based on this true story, told by the few crew who survived. The whale struck

1. Dod A Fraser, *Struck by a Whale off Grand Banks*, <http://www.princeton72.org/dynamic.asp?ID=whaletale>
2. Wikipedia Essex (whaleship) [http://en.wikipedia.org/wiki/Essex_\(whaleship\)](http://en.wikipedia.org/wiki/Essex_(whaleship)) and Nathaniel Philbrick, *In the heart of the sea: The tragedy of the whaleship Essex*, Penguin, 2001

the *Essex* with its head just behind the bow while the light boats were out hunting. 'The ship brought up as suddenly and violently as if she had struck a rock,' recalled Owen Chase, the first mate. The whale had smashed through the bulkhead and water was streaming in. Chase set the crew to work on the pumps and signalled the other boats to return immediately. The whale, meanwhile, was apparently badly injured and was leaping and twisting in convulsions some distance away. Then suddenly the animal raced toward the ship again, its head high above the water like a battering ram. It stove in the port side of the ship and the *Essex* sank, leaving the crew thousands of miles from land in three light boats.

In a scientific paper on whale behaviour by Carrier published in 2002, the authors note, 'Head-butting during aggressive behaviour is common and widespread among cetaceans, suggesting that it may be a basal behaviour for the group. Although data is not available for most species, head-butting has been observed in species in each of the four major cetacean lineages'³. They put forth a hypothesis that the spermaceti organ has evolved in whales as a weapon used in male-to-male aggression and was used as a battering ram capable of sinking the *Essex*. Even without this, the sperm whale is the largest-toothed animal alive today with some growing to more than 60ft in length and weighing 50 tons.

Whale attack!

During a passage from the Canaries to the Caribbean we heard one of the boats in our SSB net report an attack by a whale. She was a vessel in the 35ft range, heading back to Boston from Europe with two people aboard. While under sail in light wind they sighted several whales, one of which turned towards their boat and rammed it head on. It circled, and came back at them repeatedly. They were terrified that the whale was going to keep battering until they were holed and sunk, then suddenly it swam away. They had the presence of mind to take photos and were able to identify it as a false killer whale (*Pseudorca crassidens*). The net controller asked what colour their hull was, as a crew member suggested that whales tend to attack boats with red bottoms. Interestingly, they had just had their bottom repainted – and the colour they had chosen was red. *Aleria's* bottom is green and her hull is white.

There are multiple reports of yachts colliding with whales, including two in the 1970s when British yachts were lost. Maurice and Maralyn Bailey were on their way from Panama to the Galapagos Islands when, at dawn on 4 March 1973, their 31ft *Auralyn* was struck by a whale and holed. The Baileys survived for 117 days and drifted 1500 miles on an inflatable liferaft before being rescued. They wrote an account of their ordeal entitled *117 Days Adrift (Staying Alive! in the US)*.

Dougal Robertson left England in 1971 aboard *Lucette*, a 43ft wooden schooner, with his wife and four children. On 15 June 1972 *Lucette* was holed by a pod of killer whales and sank approximately 200 miles west of the Galapagos Islands. The six people on board took to an inflatable liferaft and a solid hull dinghy, which they used as a tow-boat with a jury-rigged sail. They were rescued after 38 days by a fishing trawler.

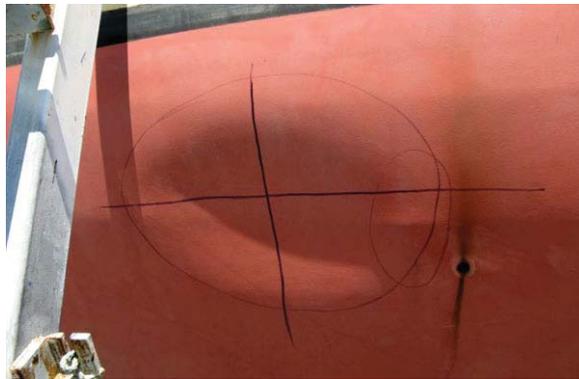
3. Carrier, DR et al: *The face that sank the Essex: potential function of the spermaceti organ in aggression*. J Exp Biol 205: 1755-1763, 2002

Robertson wrote two books, *Survive the Savage Sea* and *Sea Survival: A Manual*.

More recently there's the 1989 account of a pod of pilot whales sinking the yacht *Siboney*, after which owners Bill and Simone Butler awaited rescue in a liferaft. He documented their story in the book, *66 days Adrift: A true story of disaster and survival on the open sea*.

In October 2011 *Yachting Monthly* reported on a boat which had been attacked by a whale mid-ocean in the mid 1990s. The animal made three glancing blows before swimming away, and scientists whom the author spoke to afterwards suggested that she must have had a calf and was chasing them off. They did not report the colour of their bottom paint, but noted that sections of paint had been scraped clean in the collision. The vessel, an Oyster Lightwave, did not suffer any significant damage.

Anecdotal reports on blogs include one by Paul J who reported being attacked by what may have been a sperm whale about 150 miles off the Great Barrier Reef. He posted a photo (right) on ybw.com of the bottom of his steel boat dented by the whale's head – the bottom of his boat was painted red. In the same thread, two other cruisers noted encounters with pilot whales around their red-bottomed boats, but no attacks.



Can whales see colour?

It has long been advised not to paint a boat's bottom white because it looks like the belly of a killer whale. Other people advise not to paint it black, grey or blue because it might appear to be a competing whale or a predator. Then the red question came about. Yet scientists have long professed that whales cannot see colour as they do not have the short wavelength cones in their eyes. That to me is short sighted (excuse the pun) as it assumes the human way is the only way to see colour. A study published in 2002 by Griebel suggests that cetaceans do indeed discern colour, but in a different way than we do⁴. So it is possible that colour does make a difference to whales – we just don't know for sure.

Speed is a factor

One certain trend is that more collisions are being recorded as boats get faster (especially racing boats). A British sailing journalist's blog – http://www.ibinews.com/yw/blog/20080422171451blog_elaine_bunting.html – looked back at some of the better-known collisions with whales, and we have now added to the list. There are four reports of collisions during the OSTAR (one in 1964, two in 1988 and one

4. Griebel, U, *Color vision in marine mammals. A review*. Bright, M, Dworschak, PC, and Stachowitsch, M (Eds.) 2002: The Vienna School of Marine Biology: A Tribute to Jörg Ott. Facultas Universitätsverlag, Wien: 73-87

in 1996) the latter including one with Ellen MacArthur's *Kingfisher* in which the whale was killed and found wrapped around the vessel's keel. David Selling's *Hyccup* sank as a result of a collision in 1988. There were two reports during Whitbread Round the World Races, in 1989 and 1998; of the second, Knut Frostad said, 'It was like being in a car crash'. *Delta Lloyd* and *Ericsson 3* both hit whales during the 2008/09 Volvo Ocean Race, with minor damage. There were four other reports during races between 2001 and 2005 in which boats were damaged, with rudders being particularly vulnerable.

That's a total of twelve high-profile collisions reported since the 1960s, but only one vessel (*Hyccup*) was catastrophically damaged. And in the 2011/12 Volvo Ocean Race, *Camper*'s helmsman Roberto Bermudez managed to avoid collision with a whale on Leg 7 from Miami to Lisbon – all caught on amazing video footage at <http://youtu.be/Ci0E4QvZDck> !

Bizarre whale tales

Who can forget the photos of the 40 ton southern right whale (*Eubalaena australis*) that breached onto a 33ft sloop in South Africa in 2010, breaking the mast before sliding into the water with an 'eerie groan'? Amazingly, Ralph Mothes and Paloma Werner were not injured and returned to harbour on their own, and a nearby vessel managed to record the



whole incident on video – see <http://www.youtube.com/watch?v=ptvpwF9r4mM>. It seems this was simply a case of being in the wrong place when a whale came up for air. There are several additional videos on YouTube that show whales ramming boats or breaching onto them. So it does happen.

Photo James Dagmore

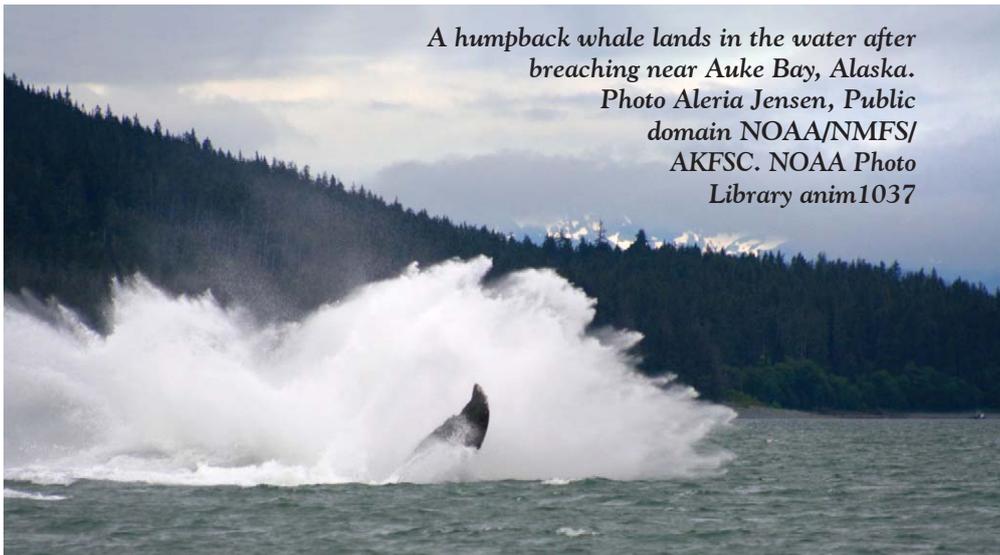
In 2011, a breaching humpback whale off southwest Washington smashed the mast and rigging of a 38ft yacht taking part in the Oregon Offshore International Yacht Race to Victoria, BC 'leaving bits of blubber behind', as Ryan Barnes told the Coast Guard. Ironically, the boat was called *L'Orca*. Her crew were in the cockpit and were not injured during the encounter. See <http://www.youtube.com/watch?v=-JYs92oECFE&feature=colike> and <http://youtu.be/M8MGGRQBtRU>.

In June 2012, Max Young of Sacramento, California, on the last leg of a circumnavigation, had to be rescued after a breaching whale struck his 50ft yacht 40 miles off the coast of Mexico just after dark. He was only about ten feet from the 55ft whale as it jumped about twelve feet in the air and came down on the bow of boat, lifting the stern clear of the water. The collision disabled the steering system and holed

the boat, but he used a mattress to plug a hole, and four bilge pumps to bail water, while waiting to be rescued⁵.

CruisersForum – www.cruisersforum.com – has a report of a man who left harbour in his new 27ft Bayliner just before sunset with two friends. They were off Santa Barbara Point ‘when a 30ft grey whale suddenly breached and landed on top of the boat. The weight of the whale crushed the cabin before it rolled off the boat back into the water ... the beast came around and took another run at the Bayliner and slammed the boat with its tail’. This damaged the boat’s rail and broke one of the owner’s ribs, cut his hand, and embedded barnacles in his back. The whale made a third run at the boat, but just rolled one of its eyes out of the water and stared at them.

Then there’s the truly bizarre story from Australia of a humpback whale that grabbed a yacht’s anchor rode and swam off, towing the boat 1½ miles out to sea at night. It was joined by a second whale that helped along the way. The woman onboard managed to get a video of the encounter before they cut away the rode. The couple had called the Coast Guard and others for assistance but were not taken seriously.



*A humpback whale lands in the water after breaching near Auke Bay, Alaska.
Photo Aleria Jensen, Public domain NOAA/NMFS/ AKFSC. NOAA Photo Library anim1037*

Published studies of collisions

In 2001, researchers from the US and Europe conducted the first survey of reports of collisions between ships and whales⁶. They focused on motorised vessels, as collision reports first started appearing in the 1800s with the advent of steam power. They found that collisions increased as vessel speed increased.

5. See <http://bigstory.ap.org/article/calif-man-tells-sailboat-collision-whale>

6. Laist, DW, et al, *Collisions between ships and whales*. MARINE MAMMAL SCIENCE, 17(1): 35-75 (January 2001)

Of eleven species known to be hit by ships, they reported that fin whales are struck most frequently and right whales, humpback whales, sperm whales and grey whales (*Eschrichtius robustus*) are hit commonly. The most lethal or severe injuries are caused by ships travelling at 14 knots or more, which eliminates many cruising yachts. Today, collisions occur most often with high speed ferries and racing yachts.

Since then other reports have been filed, including the 2009 report of an ExxonMobile tanker returning to port with a humpback whale draped over its bulbous bow. In Alaska, in 2010, an adult female humpback was found on the bow of a cruise ship owned by Princess Cruises – the third whale incident involving the company since 2001. Bizarrely, this same ship had had a similar encounter with a fin whale the year before outside Vancouver. Speed and visibility were considered factors in these events.

In 2011 Fabian Ritter, collaborating with noonsite.com, published a study which constitutes the first attempt to quantitatively assess collisions involving sailing vessels and whales on a global scale⁷. A total of 111 collisions and 57 ‘near misses’ were identified between 1966 and 2010, the majority of which (75%) were reported between 2002 and 2010. He concluded that elevated vessel speed contributes to a higher risk of collisions, although it doesn’t correlate with likelihood of damage or injuries where other factors can prevail.

Ritter recommended three courses of action to protect ships and whales – 1: speed reduction, 2: dedicated observers, and 3: the shift of routes. He also recommended publicising the International Whaling Commission (IWC) Ship Strike Data Base⁸ and encouraging sailors to report their encounters so the data can be collected and analysed.

Locations of collisions and near miss events between sailing vessels and cetaceans (1966-2010)⁶

Location	Collision (N=106)	Near miss (N=57)	Total (N=165)	Total % (%)
North Atlantic Ocean	43	26	69	41.8 %
Caribbean Ocean	5	3	8	4.8 %
South Atlantic Ocean	12	3	15	9.1 %
North Pacific Ocean	14	12	26	15.8 %
South Pacific Ocean	21	6	27	16.4 %
Northern Indian Ocean	1	2	3	1.8 %
Southern Indian Ocean	4	1	5	3.0 %
Mediterranean Sea	3	2	5	3.0 %
Baltic Sea	1	0	1	0.6 %
Other	4	2	6	3.6 %

Reproduced with permission

7. Fabian Ritter. *Collisions and near miss events between sailing vessels and cetaceans* – MEER eV, Bundesallee 123, 12161 Berlin, Germany

8. http://iwcoffice.org/sci_com/shipstrikes.htm



*A humpback whale breaching near the Alaska Maritime National Wildlife Refuge.
Photo Wanetta Ayers. Released into the public domain on Wikimedia Commons*

In other studies, sound has been used to try to deter whales from crossing paths with boats. In one, it was documented that harmonics may actually attract rather than deter whales. So running your engine may not be a good way to ward them off.

In the *Oyster* magazine, Pantaenius Insurance reported research they carried out following the loss of a Formula 40 catamaran after it hit a dormant whale in 1991. The advice their experts offered was for yachts to keep their depth sounders on during ocean passages, as a whale can hear the pulse emitted by the transducer.

What can you do?

Minimising risk of collision with whales is a goal of the International Maritime Organization (IMO). They are planning detailed guidance for all segments of the maritime industry, including cruising and racing yachts. In advance of the guidance, the Belgian Department of the Environment has released an information leaflet which includes advice about how to reduce the risk of collisions with whales and provides a link to the ship strikes database developed by the International Whaling Commission (IWC). Their advice includes the following points:

- Plan passages to avoid high density areas
- Keep a close watch, reduce speed, and alter course for direct avoidance
- Report incidents to help improve knowledge
- Heed restrictions and seek advice from the IMO and national authorities
- Contribute to scientific research by reporting sightings and encounters

The IWC database contains 1076 collisions reported between 1877 and 2010. It includes the type of whale and the location of collision, though the IWC is quick to note that these reports are, for the most part, uncorroborated.

The majority of whale fatalities occur off the East Coast of North America and in the Mediterranean. This is hardly surprising, as that is where shipping is most congested and where whales migrate. A recent study by the National Oceanic and Atmospheric Administration (NOAA), however, has shown that whale populations are on the increase in California waters, adding to the risk of encounters. Multiple species of whale feed along the coast, including killer, grey, humpbacks and blue (*Balaenoptera musculus* – the world’s largest animal). NOAA has issued advisories to shipping to reduce speed along the migration paths.

What happens to the vessels involved in collisions with whales seems, in comparison, mild. Few ships have been reported holed, disabled or sunk. It has happened, but it seems – at least from our experience – that the benefits to cruising sailors of being out there outweigh the risks of collision – at least with whales.



Whenever I find myself growing grim about the mouth; whenever it is a damp, drizzly November in my soul; whenever I find myself involuntarily pausing before coffin warehouses, and bringing up the rear of every funeral I meet; and especially whenever my hypos get such an upper hand of me, that it requires a strong moral principle to prevent me from deliberately stepping into the street and methodically knocking people’s hats off – then, I account it high time to get to sea as soon as I can.

Herman Melville

