

# WHALE & DOLPHIN TRIP REPORT



*Striped Dolphins*

## MALDIVES NORTHERN ATOLLS CETACEAN RESEARCH EXPEDITION

**6 to 23 April 2022**

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*Our 17-night research expedition repeated scientific surveys carried out in April 1998 and April 2013, providing data for estimation of a cetacean abundance time series. It also provided a platform to collect acoustic recordings and water samples for eDNA analysis, with samples collected in the vicinity of all 14 species seen. These included particularly large numbers of Spinner Dolphins, as well as Striped Dolphins, Spotted Dolphins, Risso's Dolphins, Common Bottlenose Dolphins, Indo-pacific Bottlenose Dolphins and Shortfin Pilot Whales. We also had extraordinary encounters with Pygmy Killer Whales, False Killer Whales, Cuvier's Beaked Whales, Blainville's Beaked Whales and Dwarf Sperm Whales, as well as with Sperm Whale and Rough-toothed Dolphin. Seabirds were not as plentiful as expected, perhaps because this expedition took part during a La Niña event (negative Indian Ocean Dipole), but we did record 13 species including good numbers of local breeders: Tropical Shearwater, White-tailed Tropicbird, Black-naped Tern and Great Crested Tern. Among sea turtles, we had several sightings of Hawksbill and Green, and we also rescued an Olive Ridley Turtle, entangled in some ghost netting. With snorkelling every evening, and some mornings as well, we were able to sample a wide range of reefs. They were always a delight, with a wonderful diversity of reef fishes. Among the larger animals seen while snorkelling were Blacktip Reef Shark, Whitetip Reef Shark, Grey Reef Shark and Nurse Shark, as well as Fantail Stingray, White-tailed Stingray and Spotted Eagle Ray in addition to jumping Mobula Rays and Manta Ray observed from the comfort and safety of MV Keana.*

## Day 1, Wed 6 April 2022

We met at Malé international airport at 11am and were soon on our way to MV Keana, passing a school of **Spinner Dolphins** on the way. Following a safety and orientation briefing, there was time to get settled into our cabins, then lunch, and then we were off (but not before a **Green Turtle** was spotted near our anchorage).

The sea was mirror-calm, and with such viewing conditions it was not long before we had our first sighting – another school of **Spinner Dolphins**. These appeared a bit dozy, so we soon left them and moved on, almost immediately spotting another, larger and far more interactive school of **Spinners**. These were heading south so we turned to travel with them and soon had several bow-riding. We spent some time with this group, and then a

second large group of **Spinner Dolphins** that was also keen to bowride. These dolphins were followed by a sighting of a single **Beaked Whale**, which unfortunately was not seen again despite our waiting 25 minutes for it to re-surface. By now we needed to push on towards our anchorage, so there was no time to linger with three more schools of **Spinner Dolphins** seen on our way north.

Once anchored near Asdu Island, we were soon onto the *dhoni* for our evening snorkel on the nearby reef. The sea was so calm that the reef was invisible beneath the mirrored sky until we were right upon it. These were gorgeous conditions for snorkeling, with plenty of attractive reef fishes, as well as many **Sea Cucumbers** and **Featherstars** starting to come out for the night.

Evening talk: Introduction to the expedition and the participants, on the top deck under the stars

## Day 2, Thursday 7 April 2022

What an extraordinary day! Even before our early departure, **dolphins** had been spotted from the anchored boat. And almost as soon as we left North Malé Atoll, **Spinner Dolphins** were sighted ahead. They were swimming along the outer reef, in the opposite direction to us, so we turned and soon had some under our bows. Not long after turning back on course, we found more **Spinner Dolphins** and soon had them bow-riding too.

But things really heated up once we left those dolphins, at which point a group of about six Beaked Whales appeared ahead of us. They dived before we could get conclusive views, but we waited and 17 minutes later they reappeared, not far from the outer reef (and a luxury resort island). This time we could clearly see their sloping heads and the extensive white on the foreparts of at least two individuals: these were **Cuvier's Beaked Whales**. After another surfacing with more good views, we sent out the launch to collect a water sample from where they had dived (for eDNA analysis) and to try to record any vocalizations. A fantastic encounter!



*Cuvier's Beaked Whales just off a resort island*

Moving on we found more **Spinner Dolphins**, followed by a small group of **Risso's Dolphins**. These seemed particularly chilled,

and in the very calm conditions we were able to follow them as they swam just below the surface.

Next up, another three Beaked Whales. They were moving away from us, so views were not ideal. However, later examination of photos showed that they were **Blainville's Beaked Whales**. Almost as soon as they dived, we spotted another group of **Beaked Whales**, but these ones were too distant to identify to species.

As we passed Kaashidhoo Island (with a neat cap of clouds) a large school of **Yellowfin Tuna** appeared, jumping frenetically at the surface. In complete contrast were a couple of **Dwarf Sperm Whales** spotted logging quietly nearby.

Soon after this we came across four **Blainville's Beaked Whales**. The presence of a mature male, with well-developed barnacle-encrusted tusks made identification simple. Once they dived, we waited 23 minutes for them to reappear, which they did a little distance away. As we moved closer, they dived, but then they reappeared almost alongside, close enough to hear their breathing, and offering an opportunity to collect eDNA and acoustic samples.



*Male Blainville's Beaked Whale*

One more **Beaked Whale** appeared as we approached Lhaviyani Atoll, where a small group of **Spinner Dolphins** was heading out for their night's fishing as we headed in.

As soon as we were anchored, we transferred to the *dhoni* for our late afternoon snorkel on the house reef of Maduvveri Island. Visibility was not great (with the falling tide carrying warm silty water out of the lagoon) but the fishlife was a joy, and the edge of the reef drop off was crowded with massive corals.

Evening presentation: Dolphins of the Maldives.

### Day 3, Friday 8 April 2022

Another fantastic day! We got off to a particularly good start, running into a school of **Rough-toothed Dolphins** almost as soon as we left the atoll. They allowed an extraordinarily close approach, before moving on. The launch team went out to collect an eDNA water sample plus an acoustic recording, before we left the dolphins and returned to our survey track.



Collecting water sample for eDNA analysis

Soon after this some **Spinner Dolphins** were spotted ahead, first a rather small quiet group, but then a larger and very much more exuberant school.

This was followed by a long series of **Risso's Dolphin** sightings, the largest school consisting of perhaps 200 animals. They were highly active, with the leading animals charging along at about 4 knots in line abreast, with much breaching and tail slapping. In contrast, most of the **Risso's Dolphin** groups seen were small and quiet, as were our two sightings of **Dwarf Sperm Whales** in the same area.

Then we got into the **Spinner Dolphins** again, with three separate groups, the largest numbering about 200, all heading offshore for their night's feeding.

In comparison to our total of 18 cetacean sightings today, we did not see many seabirds. Nevertheless, there were several **Tropical Shearwaters**, which breed in Lhaviyani Atoll, as well as both **Great Crested Terns** and **Lesser Crested Terns**, and a **Brown Noddy**.

Our evening snorkel on the outer reef of Kuredu resort, at the northern tip of Lhaviyani Atoll, was wonderful. In addition to numerous larger creatures including **Fantail Stingray**, **Blacktip Reef Shark**, **Napoleon Wrasse** and **Green Turtle**, there were great schools of Humpback Red Snapper, Red-toothed Triggerfish, Rudderfish, Kashmir Snappers, Collared Butterflyfish, and Eye-stripe Surgeonfish.

Evening talk: Beaked Whales of the Maldives.



Fantail Stingray

### Day 4, Saturday 9 April 2022

Yet another great day, starting with a sighting of **Spinner Dolphins** near *Keana* even before we set off. Then just outside the atoll, we had two more sightings of **Spinner Dolphins**, as well as a large mixed flock of seabirds which included a **White-tailed Tropicbird**.

Skirting Noonu Atoll we had a brief encounter with a small group of **Risso's Dolphins**, which were really not interested in us. But then we spotted some splashing just inside the atoll.

Heading in, we were soon in the midst of a large and active school of **Spinner Dolphins**, spinning and bowriding and cavorting. We spent some time trying to estimate numbers as well as enjoying the spectacle, before sending out the dingy to collect a water sample for eDNA analysis and to record acoustics. *Keana* kept well out of the way, to avoid spoiling any recording with our engine noise, but this left us near the inner reef edge, along which a small pod of **Indo-pacific Bottlenose Dolphins** was travelling.

When the dingy returned we headed back out into deep water again, where, not long afterwards, blows ahead revealed the presence of **Pilot Whales**. They were heading south and once we turned to travel with them they were soon riding alongside, near the bows, and passing close astern. They were so close that in addition to great views we could also hear them squealing alongside. We spent a full half an hour with the Pilots, before turning back on course, at which point a single **Common Bottlenose Dolphin** put in a brief appearance.



*Pilot Whale alongside*

At lunchtime, two impressive flocks of **Black-naped Terns** (plus a couple of **Common Terns**) feeding in a nearby atoll channel drew us inshore. After this the wind picked up and a large shower cloud (complete with water spout) developed ahead. Rather than heading into the rain we turned into and across the atoll

towards our night's anchorage. Just before getting there we transferred to the *dhoni* for our afternoon snorkel near the uninhabited island of Migoodhoo. Again there were plenty of reef fishes, and a sleeping **Nurse Shark** was seen by most.

Evening talk: Blackfish of the Maldives



*Sleeping Nurse Shark*

## Day 5, Sun 10 April 2022

Today was not too windy to start with, but soon after leaving our anchorage the wind picked up, so viewing conditions were not ideal. We encountered many **Bridled Terns**, plus **Black-naped Terns**, **Great Crested Terns** and a **White-tailed Tropicbird**, but no cetaceans until the afternoon.

Then improving weather conditions allowed a sighting of a probable **Dwarf Sperm Whale** (it disappeared too quickly for confirmation). But our main sighting of day was of a superb group of **Pilot Whales** with attendant **Common Bottlenose Dolphins**. We stayed with them for over 1½ hours, as they swam alongside, giving wonderful views. They appeared to be a large family with a mother and calf as well as big males, all in a wide line-abreast. This was also an opportunity to collect our sixth eDNA and acoustic samples.

When we left the Pilots we continued our searching along the outside of the atoll, until it was time to rendezvous with the *dhoni* near Nolivaranfaru, for a snorkel on the outer reef.

The wind had died so the sea was lovely and calm, with just a hint of swell. But the deep grooves in the reef, littered with enormous rounded boulders, hinted at the power of the sea when waves are breaking onto this shore. And appropriately there were plenty of surf zone fishes to be seen, including Surge Damselfish, Surge Hawkfish, Surge Wrasse, Andaman Butterflyfish and Reef Picasso Triggerfish.

Evening talk: Whales of the Maldives. Plus **Striped Mantis Shrimp** under the stern light after dinner.

### Day 6, Monday 11 April 2022

Today was a bit breezy, which kept us largely confined to areas in the lee of the atoll. As we left our anchorage at Nolivaranfaru lagoon, distant splashing suggested the presence of **Spinner Dolphins**, although we could not locate them. Outside the atoll, however, we had a bit more luck with a small group of **Spinner Dolphins**, which proved to be our only positive cetacean sighting for the morning.

We had travelled up the outside of the atolls, passing the long island of Hanimaadhoo, and as we approached Baarah there was more splashing ahead. Instead of the expected dolphins these proved to be **Mobula Rays**. There were perhaps four animals jumping, with about 20 leaps seen in all, a rather rare sighting for the Maldives.

Soon afterwards we stopped for a late morning snorkel on the wreck of the *Captain Pentails*, which smashed onto Filaadhoo reef in June 1963. Despite its exposed position, the massive engine block, with four huge cylinders, is still intact and was providing a perch for many **Black-naped Terns** as we approached. Large sections of the wreck are still visible on the seabed, much of it covered with *Pocillopora* corals, and a refuge for a host of fish. After enjoying the wreck site, we

snorkelled over to the main reef, where, with only the gentlest of swells rolling in, we could snorkel comfortably in the very shallows. With excellent light and visibility, and splendid spur-and-groove formations all along, we had excellent views of many surf zone specialists. These included Andaman Butterflyfish, Vagabond Butterflyfish, Indian Yellow-tail Angelfish, Surge Damselfish, Surge Hawkfish, Surge Wrasse, Jansen's Wrasse, Reef Picasso Triggerfish and **White-tailed Stingray** as well as **Hawksbill Turtle** and **Whitetip Reef Shark**.

Back on board *Keana*, lunch was ready, then we were off around Filadhoo reef looking for the resident pod of **Indo-pacific Bottlenose Dolphins**. We found them at the far northern end of reef. Initially there appeared to be just 3, but they were soon joined by another 3 or 4 more. The dingy went out to collect a water sample and an acoustic recording, but these dolphins proved to be a bit shy, so neither may have been particularly successful.



On Dhapparu beach

We had another search along the outer reef of Kelaa island before turning back (and spotting a **Green Turtle** at the surface). After anchoring in the lagoon of Dhapparu (the northern end of Filaadhoo island), it was all ashore in the dingy, for a walk along the white sandy beach. The beach was lined with lush coastal vegetation, littered with *Spirula* shells and cuttlebones (and not a little plastic!), while a snorkel just a few metres away revealed broad beds of *Acropora* corals, with dense

algal gardens at base, defended by pugnacious Damselfishes.

Evening talk: Cetaceans and Indian Ocean tuna fisheries.

### Day 7, Tuesday 12 April 2022

With the forecast predicting strongish winds today, we decided to stay inshore, starting with a snorkel on the outer reef of Kelaa island. There were **Indo-pacific Bottlenose Dolphins** near our anchorage as we left for our snorkel, and a **Whimbrel** flew by as we approached our snorkel site. The wind was from the west when we jumped in, so the waters were calm. These were ideal snorkelling conditions, with hardly any swell, so we could get right into the shallow waters amidst the spur-and-groove formations and the surge fishes. There were also particularly nice corals along the reef edge. However, we had not been in long before the wind veered to the north, bringing increasing waves down upon us and encouraging our return to *Keana* for breakfast.

By the time breakfast was finished, the weather was improving, and we set off out to sea, soon spotting some dolphins offshore. These turned out to be closely associated groups of **Spinner Dolphins** and **Indo-pacific Bottlenose Dolphins**. Both species bowrode, at which point some of the Bottlenose Dolphins revealed their characteristic ventral spotting, and one mother brought a particularly young calf right in alongside.

These dolphins were heading north into choppy water, so we eventually turned south and left them. Another couple of **Spinner Dolphins** were seen spinning in the distance, but despite searching we could not locate them. Our next cetacean sightings were after lunch when we had a series of **Risso's Dolphin** encounters on our way up the outside of Hanimaadhoo. We then turned in to the atoll for our afternoon snorkel, on the house reef of Muraidhoo Island. The bright afternoon

sunlight reflecting off white sandy patches amongst the corals made for a particularly enjoyable snorkel. Also among the many nice corals were great areas of **Giant Seas Anemones** (with many Maldivian Anemonefish). **Hawksbill Turtles**, **Spotted Eagle Rays** and **Clown Triggerfish** were also spotted. Back on the boat at sunset **Fruit Bats** were flying between the islands, right over our anchorage.

Evening talk: Corals and reef life.



*Common Tern (not so common in Maldives)*

### Day 8, Wednesday 13 April 2022

It was a lovely calm morning as we set off from our anchorage near Alidhoo. This island is home to a ghost resort, with deserted and dilapidated water bungalows, and vines growing high up telecoms mast: a vivid example of the logistical and economic difficulties of operating in such a remote location.

As we passed out of the atoll, south of Baarah, two **Great Egrets** were flying along the shoreline. Just outside we encountered a group of **Spinner Dolphins** heading in for their daytime rest within the atoll.

Out at sea conditions were good, and we headed offshore. But unfortunately apart from a few distant jumps and splashes we did not come across any cetaceans until our return. However, there were plenty of seabirds including good numbers of **Black-naped Terns** as well as **Brown Noddies**, **Lesser**

**Noddies, Great Crested Terns and Lesser Crested Terns.** There were also numerous shearwaters heading north and west, although only one was seen closely enough to confirm identification, and that was a **Flesh-footed Shearwater**. These birds cross the Indian Ocean from their nesting islands off southwest Australia to winter on feeding grounds in the upwelling area off Arabia. There was also a single skua (probably a **Pomarine Skua**), spotted sitting on the water, although it flew off to the east as we approached and before we could confirm identification.

Returning towards the atoll after lunch we encountered a very active school of **Spinner Dolphins**. These dolphins were especially frisky with mating groups rushing by and copulation occurring right under our bows.

As we approached the atoll, the sky darkened and the wind picked up. These were not the most enticing of conditions for a snorkel, but those who did venture out in the *dhoni* enjoyed what turned out to be a very pleasant snorkel on the outer reef of Kelaa island. There were spectacular spur-and-groove formations, with deep grooves worn out by the strong swell of the NE monsoon season. These smooth-sided trenches contrasted with the ornately ridged tops which were festooned with corals and coralline algal arabesques. Sea urchins, cowries, and numerous surge fishes crowded the reef, which also hosted a few larger animals including **Hawksbill Turtle, Blacktip Reef Shark and Footballer Grouper**.

### **Day 9, Thursday 14 April 2022**

What a fabulous day, starting with a mirror calm sea at dawn, and a sighting of **Indo-pacific Bottlenose Dolphins** even before the anchor was up. As we left the atoll there was another sighting of **Indo-pacific Bottlenose Dolphins**, followed by a string of **Spinner Dolphin** sightings. The largest of the groups seen (numbering perhaps 150-200 individuals) readily bowrode, and gave excellent views as

they rushed in alongside beneath the flat calm water.

Moving offshore we had two dolphin schools visible in the middle distance at the same time, but in different directions. Checking out the nearest first, this turned out to be another group of **Spinner Dolphins**, heading towards the atoll. The second group was a highly active school of **Striped Dolphins**, speeding eastward. We angled onto the same course and soon had exuberant Striped Dolphins stacked up beneath our bows, while other leapt alongside. It was an exhilarating show, but one we had to halt to allow the launch out to collect an eDNA sample and record their vocalizations.

Further on we found yet another group of **Spinner Dolphins**, soon followed by a mixed school of **Spotted and Spinner Dolphins**, this time with four **Great Crested Terns** in attendance. The Spotted were easily recognised by their darker colouration, more curved dorsal fin, and black bill with white tip. It was another superb encounter, and another opportunity to collect an eDNA sample and sound recordings.

By now it was midday, and we changed course towards Ihavandhippolhu Atoll. Soon after this some fins were spotted not too far from the boat. At first they seemed a bit like Risso's Dolphins, but careful driving by our Captain allowed us to get clear enough views to confirm that these were **Pygmy Killer Whales**. This is an uncommon species in the Maldives, and a delight to see. Once again the launch went out, even though the chances of collecting a positive eDNA sample seemed remote with such an elusive target. And that was before the dingy was waylaid by an **Olive Ridley Turtle**, entangled with a ball of discarded fishing net. Such entanglements are not uncommon for this oceanic species, which investigates all floating objects as potential sources of food, unfortunately becoming ensnared by ghostnet fragments which drift



into Maldivian waters from neighbouring countries. This animal was lucky, being picked up by our team, cut free and released back in to the ocean. By now the wind had picked up a bit, and time was pressing, so we pushed on to the atoll, diverting only briefly for a school of **Spinner Dolphins** that was heading out as we headed in.

We stopped next to the uninhabited island of Medhafushi for our afternoon snorkel, with one going ashore in the launch while others snorkelled directly from the *dhoni*. It was an odd experience, for the reef itself was almost entirely devoid of living coral (which had presumably been killed during the last El Niño) and yet there were plenty of fish and other creatures of interest. In addition to a **Fantail Stingray** there were schools of Fusiliers and Bengal Snappers, Lionfish and Stonefish, as well as many Sea Cucumbers and delightful Nudibranches.



*Sea slug, Phyllidia varicosa*

Evening talks: Three short but fascinating expositions by our junior scientists: Distance sampling, fisheries development activities and Maldivian ETP (endangered, threatened and protected) marine species.

### **Day 10, Friday 15 April 2022**

Another calm sunrise, and an early start, leaving our anchorage before 0700h. As we approached the exit from the atoll, a large school of **Spinner Dolphins** was making its way in. A few came to bowride, but most seem dozy, presumably after a hard night of fishing

offshore. So we left them to their slumbers and continued on out.

With only a slight swell and a light wind viewing conditions were good, so we were full of anticipation. But no cetaceans appeared. We did see birds, including several large dark shearwaters (probably both **Flesh-footed and Wedge-tailed Shearwaters**) heading north-westwards on their annual migrations. And there were several sightings of probable **Bridled Terns** heading in the same direction. We later saw a feeding flock of more **Bridled Terns**, spotted a solitary **White-tailed Tropicbird** and were followed by **Great Crested Terns**.



*Great Crested Tern*

But still no cetaceans all morning, and well into the afternoon. Then, on our way back inshore, with the atoll again well in sight, we spotted a tight group of cetaceans just off our trackline. They dived, but we slowed and turned and relocated what at first looked rather like broad-finned Risso's Dolphins. Fortunately they hung around giving increasing good views and allowing us to identify them as **Pygmy Killer Whales**. We were able to approach surprisingly closely in *Keana*, and when the launch team went out to get an eDNA sample and acoustic recordings, all were astonished at how close they came. So when they returned to *Keana* another team went out for photos, and were again treated to some remarkably close views. Which left just one more trip out, during those on the launch recovered a mass of ghost netting in addition to enjoying superbly close views of the Pygmy

Killer Whales. During all this time it had looked as though there were about a dozen in the group, but review of underwater video taken by hanging over the side of the launch showed that there were at least 20 – an indication of how difficult it can be to estimate cetacean numbers.

By now we had spent almost 3 hours with these animals, and it was time to move on. We jumped in for a snorkel on the reef of Vagaru Island, where there are sometimes Mantas, but not this time. As the Manta spot is on the outside of a particularly wide reef, there was a long swim in to shallower water for better viewing. But it was well worth it, with wonderful corals, a great variety of fishes (including Palette Blue Surgeonfish, Reef Picasso Triggerfish, Clown Triggerfish and a large **Napoleon**) as well as **Hawksbill Turtles**. By the time we finished and returned to *Keana* it was getting late, with a spectacular sunset behind Innafinolhu island.

Evening talk: Atolls of the Maldives, on the top deck under the stars and near-full Moon.

## Day 11, Saturday 16 April 2022

Another good day, with light winds throughout. We left our anchorage early and were soon in deep water outside the atoll off the very northern tip of Maldives. There was a surprising lack of seabirds, with only a couple of **Lesser Noddies** seen, rather than the thousands that are normally present here at this time of year. The only other birds seen were two **Tropical Shearwaters**, and a handful of **Great and Lesser Crested Terns**.

Although cetaceans were also in short supply, just before breakfast a **Sperm Whale** surfaced well ahead. It stayed up for 52 blows, so this was clearly a large animal and presumably a male, even though it dived before we got close enough for a really good view. Nevertheless we were close enough to launch the dingy to collect a water sample for eDNA, and to lower

the hydrophone, which picked up feeding clicks.

We waited, and 53 minutes later he surfaced, but a long way off. This time he stayed up for just 29 breaths before diving for 6 minutes, 18 breaths, 22 minutes, and so it went on. Us always trying to get closer, he apparently unconcerned by our presence but always a bit too far away for a close view. However, our persistence paid off and eventually we were lucky to be nearby before he dived and were able to get a second water sample for eDNA (as a back-up in case the first was negative).

We now left the Sperm Whale and continued further offshore for some time before turning south and then eventually back towards the atoll. A large cetacean surfaced just behind the boat on our way in but could not be relocated and remained unidentified.

Entering the atoll we passed a school of **Spinner Dolphins**, frolicking in the rough water thrown up by the tide flowing out against the wind. *Keana* stopped at Ihavandhoo Island, to refuel. Some stayed on board, watching the whole process of entering the crowded fishing harbour to get alongside the jetty. Others went out in the *dhoni* for the 15 minute ride to Gallandhoo Island for our afternoon snorkel. This island is protected, for its internationally important numbers of roosting Lesser Noddies (although not today). The reef here was in particularly good condition, with very large number of massive *Porites* corals, all thriving in the lovely clear blue water. Among the other creatures seen were a small **Nurse Shark**, **Whitetip Reef Shark**, **Hawksbill Turtle**, **Octopus**, and many fishes including marauding schools of surgeonfishes. Wonderful!

Evening talk: seasons in the Maldives, and their impact on marine life. Followed by a Maldivian buffet.

## Day 12, Sunday 17 April 2022

Our sightings started early today, with a pair of **Indo-pacific Bottlnose Dolphins** feeding alongside *Keana* soon after dawn. And more were spotted as we moved across to Gallandhoo Island for our morning snorkel.



*Gallandhoo Island*

And what a snorkel! The water was blue and clear, the sun was shining (most of the time) and the reef was superb, with dense growths of *Porites* corals plus a host of fishes and other animals, including at least one **Hawksbill Turtle**. Even a short but intense tropical rain shower proved a delight rather than a dampener.



*Hawksbill Turtle*

As we returned to *Keana* we passed a large group of **Spinner Dolphins**, which had apparently been playing around the boat for some time. From here we moved outside the atoll, initially heading east. The oceanic water was noticeably clear, suggesting no plankton, and hence no seabirds. There also appeared to be no cetaceans, although we did eventually spot what appeared to be three **Dwarf Sperm Whales**, but they immediately disappeared without trace. After turning back to the west

there was one sighting of a single fin which we could not relocate. And that was all until just before lunchtime when an extremely active school of dolphins was spotted near the far reef. This turned out to be a school of **Spinner Dolphins** apparently indulging in some hanky panky. They were racing so fast we could barely catch them, and we soon had to turn back on course. But not long after this we found another, slightly less speedy group of **Spinner Dolphins**, which included some young juveniles and readily bowrode.

We then headed further offshore, out to the west of the atoll before turning back south. Big leaps and splashes signalled the presence of an exuberant school of **Striped Dolphins**, which put on a wonderful display although they did not stay bowriding for long at our rather staid speed.

Among the few seabirds seen were a handful of **Lesser Noddies**, a single **Brown Noddy**, two **Tropical Shearwaters** and a **Great Crested Tern**. Very much less than the thousands of seabirds normally present at this time of year.

Back inside the atoll, some went out on the *dhoni* for an afternoon snorkel on the outer reef of Naivaadhoo Island. Here the wide reef, with well-developed spur-and-groove formations, was home to a good selection of live corals, plenty of fishes (including Reef Triggerfish, Gold-spot Blennies, Surge Hawkfish and Palette Surgeonfish) as well as **Hawksbill Turtles**. Others went off in the dingy to a nearby sandbank for a swim in the lagoon. And all enjoyed the wonderful sunset.

Evening talk: Cetacean sound recordings.

## Day 13, Monday 18 April 2022

Today was a transit day, down the west side of Haa Dhaalu and Shaviyani Atolls. With a long way to travel south, we left early and were on

the move for 10 hours. During this time we had only five cetacean sightings, all of them **Spinner Dolphins**. There were not many seabirds either, although we did spot **Flesh-footed Shearwaters**, a **White-tailed Tropicbird** and plenty of **Black-naped Terns**. And we did make good progress, ending the day in an ideal position to continue down the east side of the atolls in the morning.

Our night's anchorage was near Firubaidhoo, a previously inhabited island which was abandoned some 25 years ago, leaving it with a classic jungle-clad appearance. The snorkellers were soon into the *dhoni* for the short ride to the island's house reef. With a bit of swell on the other side, visibility was not great. Nor was the abundance of corals. However the fish diversity was excellent, and among the species seen was the rare **Maori Snapper**, *Lutjanus rivulatus*. There were also many of the red featherstars so characteristic of the northern atolls.



*Maori Snapper*, *Lutjanus rivulatus*

Some took the opportunity to swim ashore and enjoy the deserted beach, although getting back out through the waves proved a bit more challenging than swimming in!

Evening talk: Dragonfly migration through the Maldives, and the Inter-tropical Convergence Zone.



*Featherstar*

## Day 14, Tuesday 19 April 2022

What a great day! Having lifted the anchors we were soon off, and had our first sighting, of **Spinner Dolphins**, even before leaving the atoll. On the outside the sea was calm and within 15 minutes we had our first sighting of **Dwarf Sperm Whales**, with two individuals, possibly a mother and large calf, logging together. The launch went out to collect a eDNA sample, and the hydrophone was also deployed, although no sounds could be heard.

Not long after this we had a small group of **Risso's Dolphins**, including one especially white individual, heading north at speed. These were followed by a particularly active school of **Striped Dolphins** (with another eDNA and acoustics collection).

Next up, two **Beaked Whales**, which dived before we could get a good look. We waited a full 60 minutes in the midday heat, but without spotting them again. As we moved off we another pair of **Dwarf Sperm Whales** appeared, but they then disappeared so we carried on.

However, not long after this things really heated up. There were **Spinner Dolphins**, another distant couple of **Beaked Whales**, and then a whole raft of **Dwarf Sperm Whales**. In a relatively small area we had one pair, then three that turned in to six which came very close to *Keana* (while another one surfaced much further away) and a little later another four all up together. It was a quite extraordinary encounter with what in most

other countries is considered to be a rare and elusive species. The launch went out, avoiding a nearby school of **Spinner Dolphins**, to collect both eDNA and acoustic samples.

We were with the Dwarf Sperm Whales for a full hour, after which some splashing drew us offshore, where we found more **Spinner Dolphins** and **Risso's Dolphins**. By now a storm was clearly brewing so we turned back towards the atoll, with the wind picking up from behind, although the rain kept off. As the waves picked up we passed what looked like Bottlenose and Spinner Dolphins without stopping.

Once inside the atoll the wind abated, and before too long we were anchored in the shelter of Maagoodhoo Island. The *dhoni* was right behind us, and we were soon aboard for our afternoon snorkel on the adjacent house reef. There was reasonable visibility, reasonable corals, plenty of reef fish (including Palette Blue Surgeonfish) and a couple of **Octopuses**. It was a wonderful way to cool down and relax after a productive day out at sea (with 19 cetacean sightings in total), and followed by a glorious sunset.



*Noonu Atoll sunset*

### **Day 15, Wednesday 20 April 2022**

Yet another great day. We left early from our anchorage and, after passing a pair of **Indo-pacific Bottlenose Dolphins** on the way, were soon outside the atoll in deep water, where a small group of **Risso's Dolphins** was logging quietly near the outer atoll reef.

Some distant splashing drew us further offshore, passing another small group of **Risso's Dolphins** on the way. The splashing was coming from a very much larger group of perhaps 250 **Risso's Dolphins**. They were all heading south, and we travelled with them for over an hour. This was an ideal opportunity for the dingy to go out for eDNA and acoustics sampling. As is often the case with such large schools of Risso's, they were exceptionally active, with many breaching and approaching our boat. Of particular note was one partially albino (leucistic) individual.

When we finally moved on we spotted a mixed feeding flock of both **Brown and Lesser Noddies** being harassed by a skua. The latter settled on the water to enjoy its ill-gotten meal, which allowed us to approach fairly closely before it flew past the boat. Although we could not identify it with certainty at the time, later examination of photos clearly showed that it was a **Long-tailed Skua** – only the third record of this species for the Maldives.

Soon after this we had a glimpse of what might have been a **Beaked Whale**, then a couple of other inconclusive glimpses. But finally, our diligent searching paid off when we found a school of **False Killer Whales** charging north.



*False Killer Whales*

We turned to travel with them, and had them alongside, under our bows sometimes just feet away and just astern for 1½ hours. Wonderful!

And of course the dingy went out for eDNA and acoustic sampling

By now the afternoon was drawing on. So we turned back to the nearest channel, entered Lhaviyani Atoll and crossed over to our planned anchorage site on the southwestern side. Our *dhoni* was waiting and came alongside to pick up the snorkelers as soon as *Keana* dropped anchor. The edge of the nearby house reef was packed with excellent corals, and home to a nice selection of reef fish plus a **Hawksbill Turtle**.

Evening talk: Cetacean-watching across the Indo-west Pacific.



*Leather Coral*

## Day 16, Thursday 21 April 2022

For those who were up particularly early, before dawn, four planets were visible in the western sky: Jupiter, Saturn, Mars and Venus. For the rest, we left our anchorage early and were soon out in deep water. Not long before our first sighting: a boisterous school of **Striped Dolphins**, from which the launch team obtained eDNA and acoustic samples.

This was soon followed by a distant sighting of a probable **Dwarf Sperm Whale** and then a definite encounter with a large and active school of **Common Bottlenose Dolphins**. These were big, chunky animals which readily bowrode, providing another opportunity for eDNA and acoustic collection.



*Common Bottlenose Dolphin*

By now we were approaching Kaashidhoo Island where we spotted a distant Beaked Whale rolling at the surface. We approached the area where it had dived, and sure enough a Beaked Whale popped up after 29 minutes. Identification was confirmed by photos which showed the characteristic flat-topped dorsal fin of **Blainville's Beaked Whale** together with its olive-brown colouration and hunched shoulders. Another two surfacings followed, but neither as close as the first, as is often the case with Beaked Whales. Kaashidhoo still has a small breeding population of **White-tailed Tropicbirds**, and while waiting for the Beaked Whales up to five were in view at once.

As we moved away a **Dwarf Sperm Whale** was spotted ahead, soon followed by an extraordinary mixed school of **Common Bottlenose Dolphins** and **Risso's Dolphins**, both of which bowrode. Lunch followed, during which four **Beaked Whales** were spotted in the distance, but we carried on. Then we had a small group of **Risso's Dolphins** near the boat, but again pushed on.

By now we were off the northeast of North Malé Atoll. Some very distant splashing and jumping lured us slightly further back offshore, passing another couple of **Beaked Whales** en route. The splashing turned out to be from another hyperactive school of **Striped Dolphins**. They were putting on such a show that we were happy to spend some time with them before turning back toward the atoll.

Approaching the atoll we spotted three **Cuvier's Beaked Whales**, one presumably an older male as it was extraordinarily white. An additional three **Beaked Whales** just a bit further in near the outer reef may well have been the same species but we did not have time to wait for them to resurface.

Inside the atoll we soon transferred to the *dhoni* for our final snorkel (and dive for two). It turned out to be a particularly good one with clear incoming water, excellent light, many, many young branching corals, and a diversity of reef fishes (including a **Spotted Eagle-ray** and a **Whitetip Reef Shark**).

Evening talk: Briefing for final day, expedition recap and highlights.

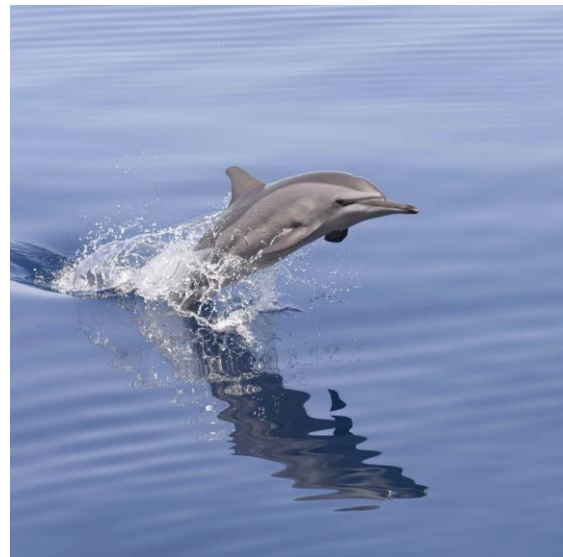
### **Day 17, Friday 22 April 2022**

This was our final full day, which started full of promise. Not long after leaving our anchorage and exiting the atoll we spotted a **Beaked Whale** near the outer reef. It dived just near a corner of the reef, in an easily identified spot. So we waited full of anticipation, but it did not reappear and eventually we had to move on. However, by way of partial compensation we did see a **Manta** at the surface as we left.

Again there were relatively few seabirds today, although we did encounter flocks of **Brown Noddies** and **Black-naped Terns**, as well as the occasional **Shearwater** heading north.

We travelled all the way down the outside of North Malé Atoll to the very end of the airport island, without another cetacean sighting. Turning back, we were just about to head in towards our anchorage when we spotted **Spinner Dolphins** heading out. They seemed a bit dozy, but did come in to bowride lazily.

This was an ideal opportunity for the dingy team to go out one last time to collect a final eDNA sample and to record vocalisations.



*Spinner Dolphin*

Now it was time to head for our anchorage in Hulumalé lagoon. What a shock to see so many boats, tall buildings and general bustle. But a final sighting of two **Indo-pacific Bottlenose Dolphins** inside the harbour reminded us of all the cetaceans we had seen.

The MMRI team left on the *dhoni*, taking the eDNA water samples to the Malé office, with Flavia tagging along to see something of the city. She returned in good time for our final dinner, after which we gathered the crew together to thank them all for their work ensuring that we had had such a productive, enjoyable and safe time on board.

### **Day 18, Saturday 23 April 2022**

After breakfast there were final farewells and two transfers to the airport by *dhoni* at different times.

## CETACEAN SUMMARY

During our cruise we recorded an excellent total of 14 different species, from 143 sightings (which made 148 records since two species were seen together on five occasions):

Species	Scientific Name	No. Sightings	Est. no. Individuals
Spinner Dolphins	<i>Stenella longirostris</i>	52	1992
Spotted Dolphins	<i>Stenella attenuata</i>	1	80
Striped Dolphins	<i>Stenella coeruleoalba</i>	5	265
Common Bottlenose Dolphins	<i>Tursiops truncatus</i>	4	95
Indo-pacific Bottlenose Dolphins	<i>Tursiops aduncus</i>	10	51
Unidentified Bottlenose	<i>Tursiops</i> sp.	3	14
Risso's Dolphin	<i>Grampus griseus</i>	20	639
Rough-toothed Dolphin	<i>Steno bredanensis</i>	1	20
Shortfin Pilot Whales	<i>Globicephala macrorhynchus</i>	2	46
False Killer Whale	<i>Pseudorca crassidens</i>	1	30
Pygmy Killer Whale	<i>Feresa attenuata</i>	2	26
Sperm Whale	<i>Physeter macrocephalus</i>	1	1
Dwarf Sperm Whale	<i>Kogia sima</i>	10	23
Probable Dwarf Sperm Whale		4	7
Blainville's Beaked Whale	<i>Mesoplodon densirostris</i>	3	8
Cuvier's Beaked Whale	<i>Ziphius cavirostris</i>	2	9
Unidentified beaked whale		10	20
Unidentified dolphins		10	51
Unidentified cetaceans		7	8
		148	3385



Pygmy Killer Whales



## BIRDS

Maldives does not have a great diversity of birds, so our total of just 21 species seen in April is not unexpected:

1	Tropical Shearwater	<i>Puffinus bailloni</i>
2	Flesh-footed Shearwater	<i>Puffinus carneipes</i>
3	Wedge-tailed Shearwater	<i>Puffinus pacificus</i>
4	White-tailed Tropicbird	<i>Phaethon lepturus</i>
5	Great Egret	<i>Casmerodius albus</i>
6	Grey Heron	<i>Ardea cinerea</i>
7	Maldivian Little Heron	<i>Butorides striata didii</i>
8	White-breasted Waterhen (H)	<i>Amaurornis phoenicurus</i>
9	Whimbrel	<i>Numenius phaeopus</i>
10	Common Sandpiper	<i>Actitis hypoleucos</i>
11	Saunders Tern	<i>Sterna saundersi</i>
12	Common Tern	<i>Sterna hirundo</i>
13	Black-naped Tern	<i>Sterna sumatrana</i>
14	Lesser Crested Tern	<i>Sterna bengalensis</i>
15	Great Crested Tern	<i>Sterna bergii</i>
16	Brown Noddy	<i>Anous stolidus</i>
17	Lesser Noddy	<i>Anous tenuirostris</i>
18	Bridled Tern	<i>Onychoprion anaethetus</i>
19	Long-tailed Skua	<i>Stercorarius longicaudus</i>
20	Asian Koel	<i>Eudynamys scolopacea</i>
21	House Crow	<i>Corvus splendens maledivicus</i>

The small number of Lesser Noddies seen was unexpected. This species normally occurs in the thousands in Haa Alifu Atoll into April, after which they depart for an unknown breeding location. But this April we saw very few indeed, perhaps the result of lack of food in the area associated with this being a La Niña year (negative Indian Ocean Dipole). Other seabird species seen on migration included Flesh-footed Shearwaters and Wedge-tailed Shearwaters heading northwest, Bridled Terns heading west, and a probable Pomarine Skua which disappeared in an easterly direction.



*Black-naped Tern*



*Lesser Crested Tern*

## ANCHORAGES

Day 1	6 April 2022	Asdu	North Malé Atoll
Day 2	7 April 2022	Maduvveri	Lhaviyani Atoll
Day 3	8 April 2022	Kuredu	Lhaviyani Atoll
Day 4	9 April 2022	Narudhoo	Shaviyani Atoll
Day 5	10 April 2022	Nolivaranfaru	Haa Dhaalu Atoll
Day 6	11 April 2022	Filadhoo	Haa Alifu Atoll
Day 7	12 April 2022	Alidhoo	Haa Alifu Atoll
Day 8	13 April 2022	Dhapparu	Haa Alifu Atoll
Day 9	14 April 2022	Hoarafushi	Haa Alifu Atoll
Day 10	15 April 2022	Innafinolhu	Haa Alifu Atoll
Day 11	16 April 2022	Ihavandhoo	Haa Alifu Atoll
Day 12	17 April 2022	Naivaadhoo	Haa Dhaalu Atoll
Day 13	18 April 2022	Firunbaidhoo	Shaviyani Atoll
Day 14	19 April 2022	Maagoodhoo	Noonu Atoll
Day 15	20 April 2022	Lhosalhafushi	Lhaviyani Atoll
Day 16	21 April 2022	Gamarugiri	North Malé Atoll
Day 17	22 April 2022	Hulumalé	North Malé Atoll
Day 18	23 April 2022	Disembark	



*Gallandhoo Island, Haa Alifu Atoll*

## CONTACT DETAILS

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