



## EXPEDITION DIARY Azores 2010

By Kathy Wilden & John Highmore

1 April

I arrived yesterday at Horta on the island of Faial, greeted by bright sunshine and the sight of the volcanic cone of Pico covered with snow. It has warmed up here over the last week after a hard winter, so although the days are sunny there is still a chill in the air - so bring warm things!

I'm unpacking the expedition kit and going through the work that we will be doing with Lisa, our scientist, and Chris, who is in charge of the boat and a lot of the logistics. With all the shops closing tomorrow for Good Friday we will be shopping today and ensuring we have all the paperwork we need, and that our base at Casa do Lado (or Azores Ecolodge, as it is also known) is fully prepared.

I look forward to seeing the first team on Saturday. As it says in the dossier, I'll be at Peter's Café at 11.30 on Saturday morning to have some lunch, so if anyone would like to join me that would be great. If not, I'll see you all at the official meeting time between 13.00 and 14.00 at Casa do Lado. I hope you all have good journeys and if you need to contact me before we meet, please call my Portuguese mobile on +351 96 2338060.

See you soon

Kathy Wilden  
Expedition leader

6 April

We have just got in from our first full day at sea and our first sighting of dolphins. There were around 200 common dolphins feeding in a group, which was an amazing sight. During part of our training on Sunday we were taken through the different types of dolphins and whales that we are likely to come across, so we knew what they looked like, but the speed that they move at was a big surprise to me. They are amazingly agile creatures, which can go up to around 20 knots and are very sociable, so you often see a group of several hundred all zipping around together. It is quite a sight, especially when they are feeding in between lots of seabirds as the group that we saw was.

We also encountered a turtle that was very close to the boat, but he had no intention of being picked up for tagging, so we watched him expelling the air in his stomach so that he could dive away from us (something that Chris and Lisa had talked about in our training). We had been passing hundreds of Portuguese Man of War jelly fish during the day (there are a lot going past the islands at the moment), which are very nasty, and which are eaten by turtles. The air in the turtle's stomach comes from trying to digest these creatures, so some of us were cheering on our turtle as it went through the process of burping the air out before it could dive.

The weather has not been very good so far. We did our initial training on Saturday and Sunday and managed to get out in the boat on Sunday afternoon, but Monday was a shore day due to the winds and the rain. We had another excellent talk from Lisa, our scientist, that morning and then spent the rest of the morning working on the computers, identifying individual animals from photographs and matching their pictures, plus entering some data collected pre-computers! That afternoon was free for a wander around Horta, but a number of very dedicated members of the team carried on with the computer work. We have made a good dent in this work already and some of the names of the individual Risso's dolphins are brilliant.

As I write this the forecast for the morning is good, so fingers crossed for another full day at sea and some more sightings.

Adios for now  
Kathy.

9 April

We've had a busy few days, starting on Wednesday (7th) with our first encounter with sperm whales. The seas were still quite 'confused', a term our captain has used in previous days, which seems to mean 'a bit all over the place' and 'quite bouncy', but the forecast of good weather for the day was broadly right. We headed North in sunshine, pausing briefly for an encounter with some common dolphins, and then continuing out to about 3 miles from the island when the first shout of 'Blow' went up. This means that someone has seen the spray of water that comes out of a whale's blow hole. The hunt (if you'll pardon the expression) was on. With all eyes on the sea looking in the direction that our observer was pointing, everyone scouring the sea for the next 'blow' so that they could see the whale.

Sperm whales blow roughly every 10 to 15 seconds, so it wasn't long before we were able to locate the animal and manoeuvre to a good distance away. The whale was one of several in the group. We counted 7 different individuals and at least 2 calves with their mothers. The whales were appearing on the surface, remaining there for around 10 minutes, and then diving again, all appearing at different times, so that we could observe one and then another and then another. By the end of the encounter we had been with the whales for 2 hours and had followed their movements further out to sea, so that we had quite a long, and by then, very boisterous ride home in some very damp conditions. An exhilarating end to the day.

On Thursday we woke to another rather damp morning but set off out to sea with the promise of better conditions off shore. The seas were calmer than they had been at the beginning of the week and as we headed up to the north of Faial, the clouds parted to warm sunshine. Today we went back to the area that we had seen the whales the day before and dropped the hydrophone over the stern to see if we could pick up any sounds of sperm whale activity. We stop every 15 minutes for 1 minute to listen to the underwater sounds without the noise of our own engines interfering. The hydrophone is set to listen specifically in the frequency range that the sperm whales communicate in and it can pick up animals as far as 8 miles away. Because it is set up this way it does not pick up the sounds made by the baleen whales, but it can pick up some dolphin communications. Unfortunately for today, our pod from the day before had moved on, and there were no sperm whales to be heard in our area. We did, however, have a pleasant time at sea with good conditions for collecting data on some common dolphins that were spotted at the northern tip of the island, but otherwise a quiet time was had.

Friday offered us the promise of the best conditions that we have had for the whole slot. On the way to the boat spirits were high, but an unfortunate accident left us sadly short-handed. One of the team had a nasty fall in the marina on her way to the boat and had to get into a car and head for medical assistance rather than heading out to sea (more of this later).

The rest of the team headed out to sea following information from the vigias (look outs who are positioned on the cliffs) who had told us that sperm whales had been sighted 10 miles off the coast of Sao Caetano, one of the villages on the south side of Pico. As we headed out, we saw the first of 4 turtles that day (loggerheads) and shortly after passing the port of Sao Mateus we encountered a small group of common dolphins which we watched briefly before returning to our 'quest for the holy whale' (this is a new phrase that our captain has coined). After around 2 hours we came upon the whales as expected but around 8 miles past their reported position. The group consisted of one male with a large number of females and calves and we were able to make 19 observations of animals over the course of the next two and half hours. There were likely to have been more whales there, but as the whales come up from their dives at different times it is difficult to be sure about the exact numbers. The group was also lucky enough to collect and tag the first turtle of this year, a loggerhead turtle with a shell (carapace) size of around 45 cm in diameter. All in all a brilliant day at sea.

So back to our casualty on land.....arriving at Horta hospital at around 9 am there was luckily almost no waiting in casualty and so our intrepid team member was whisked into a room, checked out by a doctor, x-rayed several times, checked out by another doctor, and then asked to wait to see a further doctor who was an orthopaedic surgeon but was in surgery at the time. A rather prolonged wait, a consultant visitation, a declaration of no bones broken and then a hard splint, directions not to put any weight on it for at least 2 weeks, injections and instructions for painkillers and crutches, and she was free to go.....about 2pm, not bad considering!! Our patient was tough throughout, but unfortunately unable to go to sea again.

13 April

We have just waived off the last of the expedition team members at the end of a tough but rewarding slot. The weather for the last couple of days remained quite windy so we didn't get out on Saturday but did end our time with an exciting day on the Sunday by tracking a whale underwater. We used the hydrophone and heard one whale somewhere underwater, and then used its directional abilities to work out where the whale was so that when he came up from his dive we were waiting right by to make our observations and get some good pictures of his fluke as he dived back down. He was a big solitary male and, as one team member put it, it was 'awesome'.

I was very sorry to see the team leave. Everyone has worked hard and put up with some not so good weather with a smile on their face. We only had two days when we didn't go to sea, which was great. The numbers that we saw also speak of a successful time: 5 turtles, with one tagged; 12 different encounters with dolphin and 490 animals seen, plus 29 encounters with sperm whale which were made up of a total of 48 animals. A big thank you to slot 1 and I look forward to meeting slot 2 on Saturday (Peter's Café at 11.30 or at Caso do Lado between 13.00 and 14.00).

22 April

I think it's safe to say that the volcanic eruption in Iceland took us all by surprise. Inevitably, it meant that some of the Slot 2 team members weren't able to travel to the Azores as planned, and we would like to extend our full sympathies to them. However, we were very pleased to welcome those who did make it past that troublesome ash cloud to Horta on Saturday morning.

The new team was able to get out to sea the following afternoon, although rough weather and 'sloppy seas' (a technical term for bad weather) led to a bumpy ride on the boat. There was a similar sea-state the following day, but this was soon forgotten when several sperm whales and a pod of common dolphin made their appearance.

Tuesday dawned sunny and clear, so we put out to sea bright and early for what proved to be a very productive day of research. In the space of seven hours we logged no less than eleven separate sperm whale sightings, plus observations of common dolphin, bottlenose dolphin, striped dolphin and the more reclusive Risso's dolphin.

Wednesday was an equally valuable day: five sightings of sperm whale, which were located using the hydrophone; playful pods of common dolphin; and the first observation in the Azores this summer of a fin whale. But wait... what does that enormous 9-metre spout of water over there indicate? Why, it is none other than that mighty leviathan of the deep, the blue whale! All of us were awestruck by the rare chance to observe the largest creature that ever lived, here in its natural environment. We are agreed that this is one of the most incredible wildlife encounters we are ever likely to experience.

The team members are now enjoying a well-earned day of shore-leave, and are taking the opportunity to explore the beautiful island of Faial.

Best wishes from the Azores,  
John (and Kathy)

25 April

A full day at sea on Saturday saw the team log sixteen valuable encounters with sperm whales. This allowed us to gather data on eleven separate cetaceans, including two pairs of mothers with calves. One of the team was also fortunate enough to observe a young sperm whale throw its body above the surface of the sea in a spectacular 'breach'.

The weather in the Azores is notoriously changeable, but on days when it has been too rough to put to sea, the team has been ably employed in various important research projects at the expedition base in Horta. Friday saw half the team engaged in comparing photographic records of the dorsal fins of various dolphins and whales that have been observed in this region and logging the data on the computer for further analysis. The other team members assisted Lisa (our scientist) in cataloguing the profiles of sperm whale flukes and analysing these with the help of a computer programme to determine the frequency of each animal's appearance in these waters. Work of this nature continued on Sunday. In addition, Lisa gave a presentation about the ongoing turtle research with which Biosphere is providing assistance.

The team is now looking forward to a farewell meal in a restaurant on the seafront, where the end of a successful phase of the expedition will no doubt be celebrated in style. Kathy and I would like to thank all the team members for their hard work and dedication during the past eight days of research. A wealth of beneficial data has been gathered, and everyone can leave Faial knowing that they have made a positive impact in the field of conservation in the Azores.

Tomorrow we will also bid farewell to Kathy Wilden, who has ably led the first two slots of this project. I would personally like to thank her for all her advice and hard work in preparing me to take over the leadership role during the final slot. I hope everyone has a safe trip home; and Lisa, Chris and I will look forward to welcoming the new team in just a few days' time.

Meantime, happy Portuguese Independence Day from Horta!

#### 4 May

A truly international team arrived in Horta on Saturday for Slot 3 of this year's Azores expedition, comprising participants from as far afield as England, Wales, Germany, Belgium, Portugal and the USA. Their first afternoon at sea proved to be a truly memorable one, for various reasons...

Sunday was one of the team member's (Leslie's) birthday, and her birthday wish was simple: she wanted to see a blue whale. Obviously we couldn't make any promises, but at 14.22 precisely, what should appear on the horizon? None other than *Balaenoptera musculus* himself: a young adult blue whale, moving with graceful majesty through the steely grey waves. He proceeded to make everyone's day by displaying his tail flukes as he dived below the surface. This magnificent display is seldom observed, but the team were lucky enough to witness it no less than three times in one afternoon.

Not to be outdone, three fin whales chose to make an appearance. As the team recorded their blow-rates and behaviour patterns, a shout of amazement went up as a pod of common dolphin was then seen bow-riding in the fin whales' wake. Surely this had to be the culmination of the day's performance? Oh no- there was more to come! Lisa's sharp eyes picked out a turtle which was swimming within ten metres of our boat; not any old turtle though- it was an extremely rare leatherback turtle. In some eighteen years of research in the Azores, Chris and Lisa have only ever seen four or five of these creatures here before. Needless to say, the team felt very privileged to have observed such an amazing conglomeration of animals within the space of just a few hours. And Leslie's birthday cake? One in the shape of a blue whale, of course!

A popular tradition in the Azores is for boat crews and expedition teams to paint a mural on the wharf in commemoration of their visits to the islands. After a morning spent learning the requisite computer skills for converting observations into scientific data, the team members decided to venture outside and to have a go at painting a logo of their own. (An artistic design had already been created by the Slot 1 team, and the Slot 2 team members had put down two layers of undercoat, in an area close to the murals produced by previous Biosphere teams). The artists made an admirable first attempt, before adjourning for an informal debrief in Horta's world-famous sailors' haunt, Peter's Cafe Sport.

The following day was once more spent at sea, in pursuit of more cetacean sightings. With the aid of the hydrophone (a shipboard underwater microphone system) five sperm whales were soon located, including three young adult males who were socializing by swimming vertically in close proximity to each other, intermittently raising their heads up above the surface of the sea. In addition, a pod of common dolphin gave us a fine display of leaping and diving, which met with encouraging cheers from the team.

A large amount of valuable data has been gathered during these past few days, and each team member already has many marvellous memories from their time with Biosphere in the Azores. Here's to many more in the coming days!

#### 6 May

...And still the species tally continues to rise! As our vessel the 'Physeter' put to sea on Wednesday, a flying fish whizzed across our bows and glided for some fifty metres across the surface of the ocean. We took this as a good omen. Less than half an hour later, we found ourselves in the midst of a spectacular 'feeding event'. As many as five thousand Cory's shearwaters were wheeling and swooping over the sea between the islands of Faial and Pico. The sea's surface was flecked with large orange patches of krill, and Chris (our skipper) informed us that large shoals of tuna and other fish would be feeding beneath the waves, drawing the birds to this location.

As we passed beyond the huge flock of seabirds, a cry of, "Blow!" went up from the foredeck as the faint puff of mist which indicates a whale's spout was observed. We drew closer, and Lisa was able to identify the species as humpback whale - the first time they have been observed in these waters this year. The team succeeded in photographing the distinctive tail flukes of three individuals, and a few days later Chris was able to provide feedback as follows:

"Hot off the press (and still unofficial), Lisa sent the three humpback pictures to the main guy on this species over in the States and he is pretty confident that one of them was seen in the Cape Verdes on 20th March this year. Very Exciting! This is EXACTLY what Biosphere is here for, and to find this out during the expedition is fantastic."

It seems that good luck often comes in threes. The next species of whale to be observed that same day was the fin whale, with three individuals photographed and monitored by the team. Then came our first sighting of sei whales- the third-largest of the rorqual group of baleen whales. We pursued a group of three for some distance, monitoring their behaviour and taking photographs for identification purposes.

The following day included further sightings of fin whales and sperm whales, with Chris's eagle-eyes also picking out the rapid movements of a shark, which darted in front of our boat before disappearing from sight with a flash of its grey fins. We also made three separate sightings of juvenile loggerhead turtles.

Then, as we turned to head for home, we saw the blue whale that we had observed on preceding days. Lisa has sent the details of these observations to a leading authority on blue whales (who is currently on a research trip in Pico), and he has confirmed that this is a new individual which was not previously included in the scientific catalogue for this region; another valuable contribution made by a Biosphere team.

The team members spent their shore-leave on Friday exploring the neighbouring island of Pico, with its stunning volcanic landscapes. Saturday morning saw them engaged in data entry and photographic analysis in the expedition's field office in Horta. Later that day they again ventured out to sea, logging observations of bottlenose dolphin, and a multitude of seabirds such as terns, petrels, gulls and shearwaters.

The plan is to conduct one more day of research at sea on Sunday, and I will include the results in the final diary entry from the Azores.

11 May

Final Diary Entry

The 2010 Biosphere expedition to the Azores has drawn to a successful close.

On the team's final day at sea, observations were made of common dolphin, bottlenose dolphin and striped dolphin, as well as a group of four fin whales. Some excellent photographs were taken and a wealth of useful data was gathered.

The team enjoyed a celebratory farewell meal in a restaurant in Horta on Sunday night. A special presentation was made to George, who at 82 years of age was our most senior team member, in recognition of his hard work and team spirit. He has been an inspiration to us all.

It only remains for me to thank several people on behalf of Biosphere and the team members of all three slots: Vanessa and Dario from the field base at Casa do Lado for their unstinting hospitality; and Chris and Lisa, the scientific team who have shared their knowledge so willingly throughout the past few weeks, ensuring that each team member felt fully involved in a thoroughly worthwhile research project.

Here's to further successes in 2011!

Very best wishes,

John Highmore