



Explaining Humpback Whale Behaviour with Andrew Ellis

RELATED EXPERIENCE:

Ultimate Hervey Bay Whale Watching
 3 HOURS (SHARED)


For Andrew Ellis, Director of Pacific Whale Foundation Eco-Adventures Australia, there's no better way to spend time than being out on the water. "I've spent my entire working life on boats, and I've been involved with the Pacific Whale Foundation for over 30 years," he says. "Whales have changed my life and I am very much about embracing conservation and teaching others about the marine environment."

Luckily for Andrew, every day out in the water watching Humpbacks is a day he can teach a captivated classroom about the beautiful mammals. "Humpbacks are the most surface active of all the great whales, and there's really no better place to watch them than in Hervey Bay," he says. "They're in very shallow water here, so surface time is dramatically increased when compared to the open ocean."

Andrew explains that one of the biggest highlights of any tour is watching the teaching-and-learning moments between mothers and calves, but any whale sighting is thrilling for guests. "Everyone wants

to see the big breach, although no one really knows why Humpbacks do it. One theory is that they jump out of the water to dislodge all the sea lice and parasites that attach themselves to their bodies.

Another theory is that they breach to see a headland, as they rely totally on sight and sound to get around," Andrew explains. Another interesting Humpback Whale behaviour is what the Pacific Whale Foundation Eco-Adventures Australia team describe as spy hopping.

"A spy hop is when a whale raises its head so as to lift its eyes to the surface of the water, usually near the boat. There is no question about what they are doing – they're checking us out as we are checking them out," Andrew says. "Mugging is another behaviour that often happens when the boat is out, and it's the only time you want to get 'mugged'. It refers to when a whale comes within the approach limit and effectively holds the boat hostage while rolling over and swimming all around the boat. These approach regulations are in place to ensure minimal impact on the behaviour of the whales, so choosing a responsible operator is paramount to ensure whale protection.

Although different theories exist as to why whales act the way they do, Andrew says he is sure that all Humpback Whale surface activity is a form of communication. "Our guests get to see the whales communicating with each other – and us. It really can be life changing."

"Whales have changed my life and I am very much about embracing conservation and teaching others about the marine environment."

CONTACT INFORMATION:

 herveybay@pacificwhale.org
 www.pacificwhale.com.au
 +61 7 4124 9641

Managing the Largest Humpback Whale Photo Database in Australia with Stephanie Stack

RELATED EXPERIENCE:

Ultimate Hervey Bay Whale Watching

3 HOURS (SHARED)



CONSERVATION IN ACTION

- Contribute to long-term citizen-science programs for monitoring whales via Pacific Whale Foundation's free Whale & Dolphin Tracker app
- Profits from our cruises support whale and dolphin research, marine education for children, and ocean conservation programs



Photo identification programs have been the backbone of marine mammal studies for decades, allowing researchers to identify individuals by comparing photos in existing catalogues.

"We track Humpback Whales by photographing the underside of their tail fluke, where they have a unique pigmentation pattern," explains Stephanie Stack, Chief Biologist at Pacific Whale Foundation. "Pacific Whale Foundation Eco-Adventures Australia is a social enterprise owned by Pacific Whale Foundation, and the profits from our marine eco-tours support whale and dolphin research, marine education for children, and ocean conservation programs. We are proud of our database, which is one of the biggest photo catalogues in the world and has over 6,900 individual Humpback Whale files."

Stephanie explains that the identification program is an asset that is used beyond just finding individual whales. "We are using the photo identification program for longevity. We're trying to learn how long the whales live for, since that is one question researchers do not know the answer to yet."

Commercial whaling ceased in Australia in 1978, and identifying whales through photo-taking began in the 1980s. "We photograph whales as calves, and then we keep documenting individuals throughout their life. If we stop seeing an individual whale over a long period of time, it's a fairly good indication it has passed away, but we are still tracking some of the whales that were photographed

in the 1980s," Stephanie says.

Guests can contribute to the project by taking their own photos while on board (photos can be uploaded to www.pacificwhale.org/donatephotos) or after the tour, and by sharing the opportunity with family and friends. "We don't often see the same whales day to day because the population off the east coast of Australia is so large – there are 25,000 or more whales in the area," explains Stephanie.

"We are proud of our database, which is one of the biggest photo catalogues in the world and has over 6,900 individual Humpback Whale files."

"That's why we turn to boat operators and other water users to crowd source the photo identification effort. There are many people out on the water – often with cameras and sometimes telephoto lens' – so we can increase our efforts if others participate."

For those who want stay up-to-date with whale sightings, the Pacific Whale Foundation Humpback whale catalogue is a live file accessible via www.happywhale.com/org/494.

CONTACT INFORMATION:

herveybay@pacificwhale.org
www.pacificwhale.com.au
+61 7 4124 9641

Absorbing the Ethereal Sounds of Humpback Whales with Dr Barry McGovern

RELATED EXPERIENCES:

Ultimate Hervey Bay Whale Watching

3 HOURS (SHARED)



The complexity of a Humpback Whale song astounds scientists every day, and anyone who is privy to hearing a Humpback Whale sing firsthand is almost always left breathless by the beautiful – and what is sometimes described as haunting – melody.

“It’s one of the most complex communication signals in the entire animal kingdom,” explains Dr Barry McGovern, Australia Research Associate at Pacific Whale Foundation, the parent company of Pacific Whale Foundation Eco-Adventures Australia. “A whale song is usually made up of moans, groans, grumbles and grunts. The sounds are pulled together in a hierarchical structure with multiple units combining to make phrases, and then the phrases are combined to make up a song, which can last up to 30 minutes. This song can then be repeated a number of times to make a singing session.”

The discovery of the Humpback Whale song occurred in 1968, when bio-acoustician Dr Roger Payne and his wife Katy Payne boarded navy engineer Frank Watlington’s vessel. The group discovered that the sounds Frank had been hearing for years were, in fact, whale songs, and the Paynes later produced a record-selling album using Frank’s recordings.

“Humpback Whales have a large repertoire of sounds, including their songs and other non-song communication sounds,” says Barry.

“On board the Pacific Whale Foundation Eco-Adventures Australia tours, the crew bring a hydrophone along, which is a microphone that is able to be used underwater. It picks up any sound within a certain distance, depending on species. Dolphins can be picked up within approximately a 500-metre radius, while a singing whale can be picked up kilometres away, depending on the environmental conditions.” Guests are able to hear whale songs, and sometimes dolphin calls at the same time, almost always.

Barry says that, although guests are already awestruck at this stage, it gets even better. “For many years it was thought that Humpback Whales only sang around the breeding grounds to attract females or compete with males, but now we know songs have been heard all the way along the migration route, and occasionally even in the feeding grounds in Antarctica,” he explains. “When you tell guests that the song changes slightly from year to year, and then once every few years it changes to a completely different song, it leaves a pretty strong impression.”

“The sounds are pulled together in a hierarchical structure with multiple units combining to make phrases, and then the phrases are combined to make up a song, which can last up to 30 minutes.”



CONTACT INFORMATION:

herveybay@pacificwhale.org
www.pacificwhale.com.au
+61 7 4124 9641

Tracking Marine Debris with Andrew Ellis

RELATED EXPERIENCE:

Ultimate Hervey Bay Whale Watching

3 HOURS (SHARED)

Hervey Bay Private Charter

CUSTOM DURATION (PRIVATE)

CONSERVATION IN ACTION

- Contribute to reporting marine debris found in the ocean or along coastlines via the Australian Marine Debris initiative run by Tangaroa Blue



A recent study of marine life found that flexible plastics are responsible for the largest proportion of marine life deaths. In the case of whales, once ingested the plastics can accumulate in the stomach, the mass eventually becoming so big that it obstructs the bowels and the whale starves to death. Sometimes, whales become entangled in fishing nets and rope and die that way.

"Plastics are by far the biggest problem, but all debris is a hazard for marine life," explains Andrew Ellis, Director of Pacific Whale Foundation Eco-Adventures Australia. "We are now trying to understand what exactly ends up in the ocean, and how, so we can tailor better solutions to combat the problem."

Pacific Whale Foundation, a social enterprise and parent company of Pacific Whale Foundation Eco-Adventures Australia, has been running coastal marine clean-ups for many years in Hervey Bay, but since 2019 the aim has been to also record the types of debris found on the Australian Marine Debris Initiative (AMD) Database run by Tangaroa Blue.

"The idea is to establish a comprehensive database that covers marine debris from right around Australia," Andrew explains. "Coastal and beach clean-ups were about removing rubbish and that is still the objective, but we are now trying to understand where the rubbish is coming from. If we can identify the sources and types, we can make suggestions on how to reduce it."

Education through appreciation is the catch phrase while on board any Pacific Whale Foundation Eco-Adventures Australia whale watching tour, and Andrew explains that there is no better time to inspire guests to further help our marine environment than while they are in awe of the Hervey Bay marine life.

"After seeing these magnificent creatures in their natural environment our guests often want to learn how they can help. If we all make small changes – like reduce our use of single-use plastics and make sure that all of our waste is disposed of effectively – the ocean will be a much better place," Andrew says.

"Coastal and beach clean-ups were about removing rubbish and that is still the objective, but we are now trying to understand where the rubbish is coming from. If we can identify the sources and types, we can make suggestions on how to reduce it."

"Many of our guests are inspired to further their efforts through their own beach and coastal clean-ups, and we encourage them to log any debris collected into the AMD database through Tangaroa Blue. Every bit of help is a step towards making a difference."

CONTACT INFORMATION:

herveybay@pacificwhale.org
www.pacificwhale.com.au
+61 7 4124 9641

Studying the Dolphins of Hervey Bay with Dr Barry McGovern

RELATED EXPERIENCE:

Ultimate Hervey Bay Whale Watching
3 HOURS (SHARED)

Hervey Bay Private Charter
CUSTOM DURATION (PRIVATE)



CONSERVATION IN ACTION

- Contribute to long-term citizen-science programs for monitoring dolphins via Pacific Whale Foundation's free Whale & Dolphin Tracker app
- Profits from our cruises support whale and dolphin research, marine education for children, and ocean conservation programs



Although whale watching is a big focus of Pacific Whale Foundation Eco-Adventures Australia tours, all marine life is important to care for – and to teach others about. Dr Barry McGovern says: “I’m the Australia Research Associate at Pacific Whale Foundation, the parent company of Pacific Whale Foundation Eco-Adventures Australia, and my PhD was on the acoustic behaviour of Bottlenose Dolphins, so I’m very interested in continuing to study their behaviour, and to share my knowledge with the public.”

Barry explains that one of the highlights of Hervey Bay is that dolphins are found here year-round, so the sighting and researching opportunities are ongoing. “Pacific Whale Foundation built their name and research on Humpback Whales,” Barry explains. “But as we worked, we realised that Humpback Whales are only one of many marine species.

In the past we collected data on dolphins opportunistically, but now we are working on expanding the operation and conduct dedicated surveys on the dolphins of Hervey Bay. Very little information has been published on the dolphins here, and we are working on gathering baseline data on the two most common species.”

The two most common dolphin species who frequent the warm waters of Hervey Bay are the Indo-Pacific Bottlenose Dolphin and the Australian Humpback Dolphin, and Barry says it’s enlightening for guests to learn about the differences between the two.

“We often see mixed groups of dolphins, but the species differ in their behaviour,” Barry explains. “Anecdotally, groups of Bottlenose Dolphins

tend to be larger and are not usually too affected by boat presence, while the Humpback Dolphins are generally a little more boat-shy. This is something we have also seen in other parts of the world. Humpback Dolphins are generally more elusive, harder to study, and seen in smaller numbers.”

While the company’s whale watching tours offer guests an opportunity to involve themselves in dolphin research, investigating the behaviour of these creatures continues long after the whale watching season ends.

“We have a research project dedicated to dolphin health and status. We have a strategic plan in place across several field sites (in Australia’s Hervey Bay, Hawaii and Ecuador), and we focus our research efforts on where there is a gap, then we fill that gap with baseline data,” Barry explains. “Our data will hopefully help government bodies to make informed decisions on how best to protect dolphin species.”

“We have a research project dedicated to dolphin health and status. We have a strategic plan in place across several field sites (in Australia’s Hervey Bay, Hawaii and Ecuador), and we focus our research efforts on where there is a gap, then we fill that gap with baseline data.”

CONTACT INFORMATION:

herveybay@pacificwhale.org
www.pacificwhale.com.au
+61 7 4124 9641

Measuring the Impact of Climate on Whales with Stephanie Stack

RELATED EXPERIENCE:

Ultimate Hervey Bay Whale Watching
3 HOURS (SHARED)

Hervey Bay Private Charter
CUSTOM DURATION (PRIVATE)



CONSERVATION IN ACTION

- Profits from our cruises support whale and dolphin research, marine education for children, and ocean conservation programs including climate change measurement



Since the 1980s, human activities – such as burning fossil fuels and cutting down forests – have been a big driver of climate change, and dire consequences are already being observed. “The rising temperatures have been causing extreme weather events, and we are also noting the temperature change in the water,” explains Stephanie Stack, Chief Biologist at Pacific Whale Foundation, the parent company of Pacific Whale Foundation Eco-Adventures Australia. “One of the main priorities of our climate change research program is to better understand how climate change will affect Humpback Whales and other large migratory whales,” she explains.

As increasing carbon dioxide and other greenhouse emissions trap more energy from the sun, the oceans absorb more heat, and consequently this is causing an increase in sea surface temperatures and rising sea levels. “We are seeing fish stocks change already, and we know that the changing water temperature will impact the whales, too, we just don’t know exactly how,” Stephanie explains.

“The whale population has only recently recovered from commercial whaling, and now there is the looming threat of climate change. We are using modelling to try and calculate how the ocean will warm, and to forecast what habitat will be suitable for the whales as the ocean temperature rises. We predict that there will be a shift towards the Poles. The whales may not travel as far north along the coast as they do right now, or they might even not migrate far at all, and stay in the feeding grounds all the time.”

Stephanie stresses that the issues go beyond the effect on the tourism industry, explaining that the whales’ changing behaviour will also have a big impact on the ocean eco-system. “Whale migrations are important for moving nutrients throughout the ocean,” she says. “And we expect to see this change in the next 50 to 100 years.”

Pacific Whale Foundation Eco-Adventures Australia consider themselves a floating classroom, and the marine naturalists on board take every opportunity to educate guests. “A conservation talk is part of the daily program,” Stephanie says.

“We are using modelling to try and calculate how the ocean will warm, and to forecast what habitat will be suitable for the whales as the ocean temperature rises.”

“We talk about plastics and the importance of minimising our waste. We touch on sustainable fisheries and how to purchase seafood responsibly. We delve into responsible tourism and how to choose a responsible operator. And we talk about climate change. Hopefully we can inspire people to drive community change and lobby together for a greener future.”

CONTACT INFORMATION:

herveybay@pacificwhale.org
www.pacificwhale.com.au
+61 7 4124 9641