

# Trip Report

THE HUMPBACK WHALES OF TONGA

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# DIVING WITH GIANTS

Snorkelling in the waters of the Western Pacific ocean with courting and mating *Megaptera novaeangliae*, one of the largest living creatures of the planet





### The Heat Run

A freediving photographer faces a trio of gigantic Humpback whales *Megaptera novaeangliae* in the Western Pacific oceanic waters off Tonga. Here groups of males - up to fourteen individuals at a time - which have swam over 6000km from their rich feeding grounds in the Antarctic annually compete to mate with the females in heat.



**Humpback whale** *Megaptera novaeangliae*  
 Mother, calf and a protective adult escort. A fully mature humpback whale can be as long as 14 meters and weigh up to 35 tons - a truly gigantic animal.

TEXT AND PHOTOS  
 BY DON SILCOCK

*I* had read a lot about them, spoken to numerous people who had been in one, but have to admit I was pretty tense sat on the side of the speeding boat about to experience the real thing...

My three weeks in Tonga were almost over and this was looking like the final roll of the dice if I was to photograph the full gamut of humpback whale "encounters" as they are called – interactions in the water with one of the largest creatures in the world. The heat run is the most intense of all the encounters and is initiated when a single female humpback whale signals that she may be ready to mate by repeatedly slapping her huge pectoral fins on the surface of the water. For any male whales in the area this is the siren call they have been waiting for, in fact it's the basic reason they have swam over 6000km from their rich feeding grounds in the Antarctic to the Tongan archipelago in the western Pacific Ocean. But... to win the grand prize and be the one to mate with the lone female the male humpbacks know they will have to

duel with and outwit all the other hopeful aspirants. It is a truly Darwinian contest that only the strongest and most capable males have a chance of winning - thus ensuring the purity of the blood-line. Heat runs with up to 14 male whales chasing a single female have been observed. Do the math... each of those animals is around 14m long and weighs about 35 tons, which means there is a potential physical presence of over 500 tons of large mammals swimming at speeds that can reach 15mph and all focused on one thing – procreation.

Suddenly the engines stop and the skipper is shouting at the top of his voice "*in position - go, go, go*" and go we do - straight in to the deep blue water, camera housings held in vice-like death-grips and in to the path of the heat run. To say that it is a seminal experience would be something of an understatement... I can honestly say that in over 30 years of diving I have never seen anything quite like it! Positioned properly you will be in the water about 100m in front of the whales as they appear

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**Mother and calf**

The bays on the north-western side of the Vavu'a group are sheltered most of the time, providing many calm water areas for the humpback mothers and their calves to gather. The gestation period of humpback whales is 11.5 months and the pregnant females migrate all the way back to Tonga to give birth in the warm, sheltered waters of the archipelago.



### **Courtship and competition**

The so-called heat run is the most intense of all the encounters a freediver can have with the Humpback whales in the waters of the Tongan Western Pacific archipelago, and it is initiated when a single breeding female signals that she may be ready to mate by repeatedly slapping her huge pectoral fins on the surface of the water.



### The fight is on

During heat runs competing males attempting to mate with an available female will often dive down and blow a bubble curtain up in to the path of another male to try and disorientate him.

out of the blue looking like a small armada of submarines, coming right towards you with the female in the lead and the males in a pack behind. The males are jostling and maneuvering for position with some trying direct charges at their rivals to try and knock them out of the race, while others will try a more covert approach by diving down and blowing a bubble curtain up in to the path of a male to try and disorientate him. There is a lot of kinetic energy going around and the heat run can go on for hours till it is all dissipated and the female is finally alone with the winner, which means that if you are lucky and have a good skipper you can get multiple "drops" as the whole spectacle unfurls before you.

I had wanted to go to Tonga for a few years having heard great things about the humpback encounters, but it's not the easiest thing to organize and the country is a long way from everywhere. I finally did it on my third attempt and last year I spent nearly three weeks in Neiafu, the main town in the Vavu'a island group in the north of the archipelago, where the majority of the whale watching takes place. In the whale season, from mid-July through to early October, the boats leave Neiafu's scenic Port of Refuge harbor every day but Sunday (Tonga is very religious and by law nothing happens but church on a

Sunday...) to search out the whales that gather in and around the 41 islands that make up the Vavu'a Group. The prevailing winds are from the south-east, which means that the bays on the north-western side of the Vavu'a group are sheltered most of the time providing many calm water areas for the humpback mothers and their calves to gather. The gestation period of humpback whales is 11.5 months and the pregnant females migrate all the way back to Tonga to give birth in the warm, sheltered waters of the archipelago. Those sheltered bays provide the perfect spots for the mothers to recover their strength after giving birth and feed their young calves as they prepare it for the journey south again at the end of the season. The bays also provide reasonable protection from the many predators whose *modus operandi* is to separate the vulnerable calf from its mother and then kill and eat it. What this all means for whale watching is that even on the worst weather days it is usually possible for the whale-watching boats to go out and look for mother and calf pairs in the bays, but if the wind changes it means the large lagoons and open waters to the south can be accessed and that is where the heat runs usually happen! So the chances are always pretty good for a whale encounter – be it the intensity and incredible excitement of a heat run or the

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### **Mother and calf**

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### Bringing Up Baby

Newly born calves are 3-4m long, weigh up to 1 ton and are a very impressive animal in their own right, even though they may appear quite small compared to their mothers.

heart-warming observation of a mother and her calf. In between there are the close encounters with the mature “escort” whales who guard and protect the mothers and calves by running interference between them and the perceived threat (you...), which provides for some stunning photo-opportunities. Or the “competitive groups” where an interloper tries to force out an incumbent escort whale, producing some spectacular interactions as the candidates fight it out and the mother does her best to protect her calf. Then there are the “singers” – the male whales who produce the incredible whale songs that travel huge distances underwater and are believed to play a part in the mating process. Humpbacks don’t have any vocal chords, but the singers are able to produce their complex “songs” by circulating air through the various tubes and chambers of their respiratory system while in a vertical position in the water. The singers remain almost completely motionless in a vertical position when this happens and they appear to enter an almost zen-like state.

Finally, there are the encounters with “playful calves” which are probably as dangerous as in-water whale watching in Tonga gets...Newly born calves are 3-4m long, weigh up to 1 ton and are a significant animal in their own right even though they seem quite small compared to their mothers. Initially they are quite timid

and the mothers are very protective, but consuming as they do up to 200 litres of its mother’s fat-rich milk per day allows the calves to grow quickly and as they do they start to demonstrate playful behaviour at the surface such as breaching and tale slapping. It is believed that this is to strengthen the calf in preparation for the long migration south and so the mother will allow this cavorting around while watching for potential predators. The calves are very inquisitive and may come over to check you out and although not aggressive in nature the calves have very little spatial awareness, unlike the mature whales that always seem to know exactly where you are. So the risk is that you may get side-swiped by the calf’s pectoral fin or fluke as it turns or, even worse get caught in a tale slap! But the risk is well worth it in my opinion as the interaction with the calves is a sheer delight as their youthful energy and enthusiasm seems to positively radiate and makes such encounters truly memorable.

My three weeks in Tonga flew by and I learned so much about these incredible creatures from seeing them in the water and then researching the behavior I had observed. ●

Don Silcock’s images, articles and extensive location guides can be found on-line on his website [www.indopacificimages.com](http://www.indopacificimages.com)



**Enormous escort**

The whales of the Tongan tribe are but a small part of the estimated 60,000 whales that make up the current southern hemisphere humpback population. Incredibly that population had been reduced to less than 5,000 by the time commercial whaling was formally banned in 1986 - taking the humpbacks of the southern hemisphere to the very brink of extinction.



### The Annual Migration of the Humpback Whales of Tonga

Winter comes early in the Antarctic and by May, as the average day-time temperature falls to around -20° C, the Humpback whales of the southern hemisphere know the time is approaching for them to head north in one of the world's largest and longest animal migrations.

The cold waters of the Southern Ocean that surround the Antarctic ice cap are an incredible crucible of marine life which sustains an amazing variety of creatures and the humpbacks have spent the summer months gorging on the huge swarms of krill that abound there. Krill are considered one of the most successful and abundant species on the planet and are a critically important primary element in the Antarctic food-chain. They thrive in the Antarctic summer because of the sheer abundance of phytoplankton - tiny organisms that live near the surface of virtually all oceans and exist by photosynthesizing light energy from the sun

**Playful calf**

Pregnant female humpback whales feed on up to 2 tons a day of schooling small fish and Antarctic krill (above right). Krill are considered one of the most successful and abundant species on the planet and are a critically important primary element in the Antarctic food-chain.



**Whale sightings** from the surface boats taking divers at sea.

into chemical energy that sustains them. The fine balance of a profusion of phytoplankton creating an equal abundance of krill, which in turn allows the southern humpbacks to restore their body mass in preparation for their mammoth annual migration, is one of the many wonders of the Antarctic.

For the whales of the "Tongan Tribe" their migration involves a journey of over 6,000 kms which takes them up the east coast of New Zealand in to the waters of the South Pacific and then along the sub-sea volcanic arch that leads to the archipelago of 170 plus islands that forms the Kingdom of Tonga. These epic migrations are integral to the humpback whale's cycle of life and their survival as a species, as the waters of the Antarctic are too cold for newly-born calves to survive, so the pregnant females swim all the way to Tonga to give birth in the warm waters and sheltered bays of the of the Tongan islands. Once they leave their Antarctic feeding grounds there will be very little to eat – which is why they must bulk up in preparation by consuming up to 2 tons of

schooling fish per day, building up a 150mm thick layer of rich, fat blubber which will sustain them through the winter months ahead. Bulking up is particularly critical for the pregnant females who lose around 25% of their body weight by the time they have given birth, nursed the calf in Tongan waters and then guided it back to the southern feeding grounds. Come spring when the return journey begins that order is reversed with the pregnant females leaving first and the mothers and calves departing last. That first passage south, and the return journey some 5 to 6 months later, is when the calf learns the long migration path between the Antarctic and Tonga it will use for the rest of its life. Each winter the humpback whales visit Tonga in a cycle of life characterized by a remarkable annual migration north from their feeding grounds in the Antarctic to the 170+ islands of the Tongan archipelago where they breed and give birth.

The whales of the Tongan tribe are but a small part of the estimated 60,000 whales that make up the current southern hemisphere humpback population.

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### **Playing at the surface**

Recent appraisals have put the global humpback population at around 100,000 which is 80% of the pre-whaling estimate of 125,000. The recovery has generally been so strong that some 45 years after they were formally protected, NOAA is proposing removing most of the global population groupings from the endangered list.



### **A loving mother**

In Tonga the humpback population is well below the 80% global average and current estimates put the Tongan tribe, as it is often referred to, at around 1000 whales in total - some 50% of the pre-whaling guesstimate. The tribe was one of the last to be hunted by the commercial whalers and also suffered from the country's domestic whaling industry.



### Singing in the blue

Male whales will often produce incredible whale songs that travel huge distances underwater and are believed to play a part in the mating process.

Incredibly that population had been reduced to less than 5,000 by the time commercial whaling was formally banned in 1986 - taking the humpbacks of the southern hemisphere to the very brink of extinction! Whaling was so devastating because humpbacks are creatures of habit... Those in the southern hemisphere return to the same feeding grounds around the polar ice-cap every summer to gorge on the huge schools of krill that abound there. Then, come May as winter starts to fall on in the Antarctic, they start to migrate north to their mating and breeding grounds using the same migratory corridors. A similar pattern is repeated across all of the independent but co-existent groups that make up the southern population and as the Tongan tribe starts its journey north, so do the much larger eastern and western Australian, South American, South African and Hawaiian groups. For the whalers, as the Americans would say, this was like shooting catfish in a barrel! Not only did the whalers target the humpbacks in their feeding grounds and migratory corridors they also hit them in their breeding grounds by taking advantage of the strong bond between the fast moving, deep-diving, slow breathing mothers and their surface-bound calves that need to breach on the surface and breathe every few minutes.

Nature however has an incredible potential to heal itself when we humans allow it to do so, and the recovery of the southern and northern hemisphere humpback populations (which incidentally never meet, because of the polar opposite nature of the seasons) is testament to that ability. Recent appraisals have put the global humpback population at around 100,000 which is 80% of the pre-whaling estimate of 125,000. The recovery has generally been so strong that some 45 years after they were formally protected under the federal Endangered Species Act, NOAA the US National Oceanic and Atmospheric Administration, is proposing removing most of the global population groupings from the endangered list.

In Tonga however while the humpback population has recovered, it is well below the 80% global average and current estimates put the Tongan tribe, as it is often referred to, at around 1000 whales in total - some 50% of the pre-whaling guesstimate. The Tongan tribe was one of the last to be hunted by the commercial whalers (there were richer pickings elsewhere...) and also suffered from the disproportionate impact of the country's domestic whaling industry. Although small-scale and semi-traditional in nature, the Tongan whalers used large



### Jostling males join the fight

Males competing for the right to mate with an available female in the course of the so-called “heat run” are jostling and maneuvering for position, with some trying direct charges at their rivals to try and knock them out of the mating race. The mother on the right already has a baby.

canoes and handheld harpoons to hunt humpbacks and their only way to harvest the meat, oil and bones of the captured whale was to tow it back to shore. Practically this meant that the only whales they stood a chance of killing were the small 2-3 ton calves, because if they harpooned a large humpback they would be the one being towed – probably far out to sea! Already suffering badly from the commercial whalers, hunting the calves had a double-whammy impact on the already critically small numbers of the Tongan tribe, a situation that was tacitly acknowledged when the King of Tonga formally banned whaling completely in 1978 – 8 years before the rest of the world did. The decision was unpopular at the time, but given the rebound in the numbers of the Tongan tribe from their 1978 low of around 250 whales and the significant impact of whale watching on the domestic economy, there is little doubt that decision was a very wise and far-sighted one. It has been estimated that a single humpback whale returning to Tonga every year could generate US\$1 million in whale-watching revenue over the course of its 45-year lifetime leaving little doubt that a live whale is considerably more valuable than a dead one. D.S. ●

# THE WORLD'S BEST PLACE TO SWIM WITH HUMPBACK WHALES



Neiafu Harbor, Kingdom of Tonga, Western Pacific.

## THE KINGDOM OF TONGA

*The South Pacific nation of Tonga consists of over 170 islands stretched out across an 800 km long archipelago on the western edge of the Pacific Ocean area known as the Polynesian Triangle. An interesting country with a rich history and very strong culture, Tonga is one of the few places in the world where it is possible to swim with the humpback whales that migrate to its waters every year from their feeding grounds in the Antarctic.*

*Physically located about 1600 km north-east of New Zealand, the Tongan islands fall in to three main groupings that occupy an overall land area of just 750 sq km – scattered across a total area of some 700,000 sq kms. Geologically Tonga is an interesting mixture of the volcanic and the non-volcanic. The archipelago lays roughly*





Sunday scenes in Tonga - the only monarchy left in the Pacific.

north to south and is about 70 kms across at its widest point. In the south is the Tongatapu Group, which includes the capital of Nuku'alofa on the main island of Tongatapu and the remarkable island of 'Eua to the east, while in the middle of the archipelago is Ha'apai Group and to the north is the Vava'u Group.

Culturally Tonga is very much Polynesian and the original settlers are believed to be the Austronesian Lapita people of Southeast Asia. The Lapita settled in the islands of what are now the independent countries of Tonga, Samoa and Fiji, somewhere around 3000 BC. According to oral history, around 950 AD the Tu'i Tongan empire first emerged, which reached its zenith in the 12th century, stretching some 9500 kms across the Pacific Ocean from the tip of the Solomon Islands in the west to Easter Island in the east! The expansion of the Tu'i Tongan empire was enabled by their long-distance "kalia" double-canoes, which established the Tongans as the most advanced ship builders in Polynesia. These ocean-going vessels, with their big and distinctive triangular sails, reached lengths of over 25m and were capable of carrying 200 warriors, at speeds of up to 11 knots, across huge expanses of the Pacific. Numerous wars, internal dissent, assassinations and tyrannical rulers saw the Tu i Tonga empire slide in to serious decline in the 14th century and by the 16th century the party was over!

Unique among Pacific nations, Tonga has never completely lost its indigenous governance and the islands of the Tongan archipelago were united into a Polynesian kingdom in 1845. Tonga became a constitutional monarchy in 1875 and a British protectorate in 1900, then in 1970 it withdrew from the protectorate and joined the Commonwealth of Nations. Tonga remains the only monarchy in the Pacific.

The humpback whales are present in Tongan waters from the middle of June to early October and can be seen all over Tonga, but the Vava'u group of islands in the north of the archipelago is by far the most popular area to see them.