



MINKE WHALE

PROJECT

IN THIS ISSUE

- Tagging Summary
- 2017 Season Highlights
- Upcoming Research Projects
- Industry Workshop 1st of June

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The Minke Whale Project Research Team is ready for the 2018 Minke Season

By Martha Brians

The Minke Whale Project is very excited to kick off the 2018 Minke Whale Season with an enlarged Research Team. In addition to the friendly faces you already know – Alastair Birtles, Matt Curnock, Gena Williams, Suzanne Hillcoat, and two continuing Volunteer Researchers Brittany Butler and Emily Daley – we now have a new full time staff member (Martha Brians), and six new Volunteer Researchers (Andi Laidlaw, Cecile Vulliet, London Lusk, Claire Barr, Alessandra Sellini, and Michaela Farnham). These new Volunteers have worked very hard over the last 5-10 months to learn everything they can about minkes and are excited for their first Minke Season. All of our staff and Volunteer Researchers gathered on May 23rd and 24th for two intensive research team pre-season training workshops (and a few good laughs).

Pre-season Swim-with Stakeholder Workshop - 1st of June 2018

By Martha Brians

This year we are holding the first Pre-season Stakeholder Workshop since 2015. It is partially supported by funding awarded to PhD student Suzanne Hillcoat through the Reef Guardians Research Grant scheme from the Great

Barrier Reef Marine Park Authority (who are also contributing the venue cost). The Workshop is on Friday June 1st in Cairns and we will use the opportunity to review the 2015, 2016 and 2017 seasons and prepare for the 2018 Season ahead. We will hear from industry and management stakeholders and will discuss some of the exciting research the MWP is working on, including bringing along new interpretative resources to share. We are looking forward to seeing old friends, meeting new staff and crew, and coming together to prepare for the 2018 Minke Season in June and July.



Some of the MWP Research Team at our recent Volunteer Training Workshop in 2018. Image ©MWP

2017 Season Highlights

By Suzanne Hillcoat

The Research Team was anxious going into the 2017 Minke Season after the unexplained low numbers in 2016. We had no idea what to expect. But the minkes showed up in fine form and we had one of the best Seasons ever! Surprise 40+m visibility combined with some really interactive whales led us to our highest ever single-point count of minkes – Alastair saw 20 whales at once! It completely blew the previous record of 14 whales out of the water! 2017 also saw one of the largest quantities of digital imagery ever collected during a minke season. From these images – a lot of which are donated copies of passenger and crew photos – the team is currently undertaking the most complete data analysis of a Season in almost a decade. We also collected 35 dwarf minke whale skin samples for genetic analysis, with the ultimate goal of formally describing this as-yet undescribed subspecies. And to top it off, “Bento”, one of our most famous minkes, made several appearances this Season. She has now been sighted in 10 of the last 11 years! It’s always exciting when we see an old friend but she is particularly special!

Spot’s Extraordinary Journey

By Gena Williams

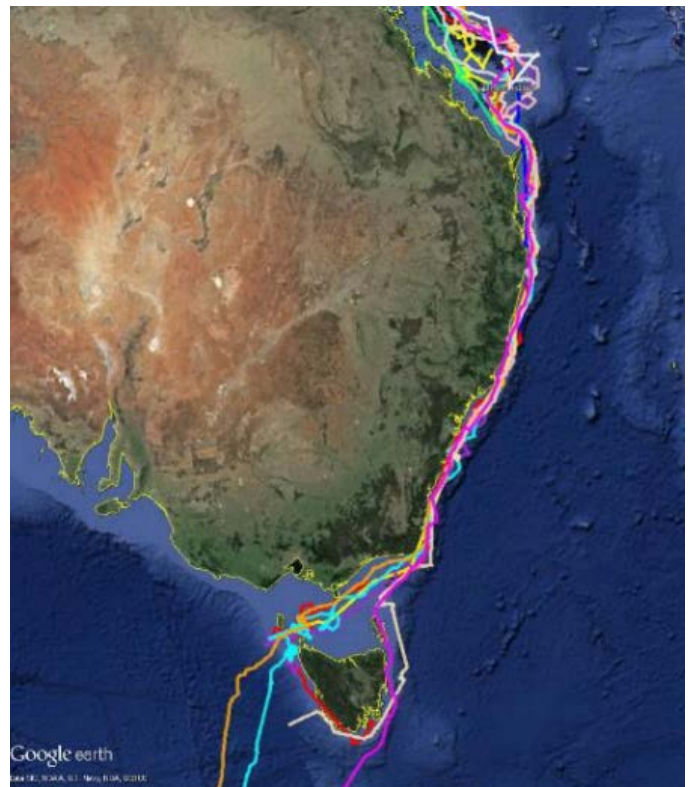


‘Spot’ was the very first dwarf minke whale to be tagged. He also holds the record for the longest-lasting tag: it transmitted for 90 days and recorded him travelling over 7,000km, from the GBR to the sub-Antarctic. The next year, the MWP team really wanted to re-sight the whales tagged the previous Season. Did they travel all the way back to the GBR? How did the tag attachment site heal? But we had over 25,000 images to sort through – not an easy task. After weeks of processing, I came across a video of very poor quality. I had just decided that the whale could not be identified when something caught my eye and my heart skipped a beat. It was ‘Spot’! We went on to re-sight ‘Spot’ in five encounters over 16 days that Season. He was readily interacting with swimmers, and the tag attachment site on his dorsal fin had completely healed. These re-sightings of ‘Spot’ could not have been possible without the generous photo and video donations we receive from passengers and crew each year and shows that even the worst quality imagery could be the key to unlocking another ‘mystery of the minkes’.

Migration Satellite Tracking

By Suzanne Hillcoat

The aggregation of dwarf minke whales in the Great Barrier Reef is a seasonal phenomenon, with the vast majority of encounters occurring in June and July each year. Up until recently, it remained a complete mystery where these whales went for the rest of the year. Did they migrate down to Antarctica like humpback whales? Did they go out into the Coral Sea or the South Pacific? We just didn’t know. With the extraordinary telemetry skills of Dr Russ Andrews from USA, the tagging expertise of Dr Jimmy White, the great generosity of Curt & Micheline Jenner (Centre for Whale Research, WA) and Tim North (Tim North Marine) in providing their vessels and the truly outstanding ongoing support of John and the rest of the Rumney clan and Dean Miller, the MWP was able to attach temporary satellite tags to 26 whales over three seasons (2013-2015) to begin to solve this particular ‘mystery of the minkes’. After their time in the GBR, the whales moved southward, migrating along the Australian east coast (although one did travel north to the Torres Strait). Several tags lasted long enough to show whales reaching Bass Strait and waters around Tasmania, where they spent some time, possibly feeding.



Map image with tracks of tagged minkes from 2013 and 2014.

Image adapted from Figure 13, Minke Whale Migration and Habitat Use (2015 Report to AMMC).

‘Bento’ the Ambassador

By Gena Williams

‘Bento’ is arguably our most famous minke (Matt’s photo of her inspired our Minke Whale Project logo!). She appears to have survived a shark attack at a young age which left her with some very visible scars and a damaged dorsal fin. A child on a trip named her Bento after her bent

dorsal fin. With the exception of 2016, the MWP's leader, Dr Alastair Birtles, has swum with her every year from 2007 to 2017. Dean Miller filmed her superbly in 2014 with her first calf, a little male now known as 'Bento Jr.'! His footage was used in the 2nd episode of Sir David Attenborough's recent (2016) three-part series (Great Barrier Reef). Coincidentally, 'Bento Jr.' also appears to have survived a similar shark attack on his back and dorsal fin. This young male will likely have visible scarring on his back AND maybe a bent over dorsal fin - just like his mum! 'Bento' was seen again several times in 2017, but we are still waiting to re-sight 'Bento Jr.' (although he's probably not so little now!).



Bento Jr. ©MWP

Suzanne Hillcoat, PhD Student By Suzanne Hillcoat

Hello friends! My name is Suzanne and I am very excited to be doing my PhD with the Minke Whale Project and helping to unlock some of the 'mysteries of the minkes'. My research focuses on the biology and behaviour of these whales as well as their interactions with humans in the Great Barrier Reef and I'm supervised by Dr Naomi Gardiner (Senior Lecturer and Manager of Postgraduate Studies, JCU Marine Sciences), Matt and Alastair) Some of the questions I am investigating are: How fast do dwarf minke whales grow? Can body length be used to estimate age? How do different whales behave during interactions with the swim-with tourism industry? Does their behaviour change over time? Answering these questions will increase our general understanding of these animals and better inform the organisations that manage human interactions with these whales. You might see me in the water using a stereo video apparatus, which allows me to make very precise measurements of the whales' body proportions. My research also relies heavily on photo-ID of individual whales, and I am grateful to all the wonderful photographers and videographers who are contributing their imagery to the Minke Whale Project photo-ID database. 2018 will be the second field season of my PhD research and I can't wait to get in the water again!

Artificial Intelligence for Whale Identification

By Suzanne Hillcoat

Photo-identification has been a critically important part of the long-term research and monitoring by the Minke Whale Project. By identifying individual whales in images, we can find out lots of interesting things about them, like how long they spend in certain places, who hangs out with whom, and if their behaviour is changing. Automated photo-ID programs have been developed for other species with simpler colour patterns, but this hasn't yet been developed for dwarf minke whales. So, with the enormous quantities of imagery that the team is now getting from each season, our photo-ID analysis takes us a VERY long time. The MWP has therefore teamed up with Dr Dmitry Konovalov (Senior Lecturer in IT, JCU College of Business) and a team from JCU's eResearch Centre, to develop our very own artificial intelligence automated photo-ID method for dwarf minke whales. We're currently in the research & development phase, which has so far delivered some promising results. We're very excited to see where this interdisciplinary research collaboration will take us!

Move to Integrated Monitoring By Matt Curnock

For more than two decades, encounters with dwarf minke whales by permitted tourism operators have been reported on paper [Whale Sighting Sheets](#). Recently the [Great Barrier Reef Marine Park Authority](#) has sought to integrate the numerous marine and catchment monitoring programs across the GBR into a single integrated system – currently known as the [Reef 2050 Integrated Monitoring and Reporting Program](#), or RIMReP. In early 2018, members of the MWP research team contributed to a whale expert working group to identify key indicators for long-term monitoring, and the most efficient means of collecting data. One of the proposed approaches is to create an app for a smartphone or tablet, to make data entry easier for vessel crew, whilst automatically capturing important additional effort data. We will work closely with the industry and GBRMPA to design the proposed new monitoring tool as soon as funds become available.

Funding update By Martha Brians and Alastair Birtles

The MWP is currently seeking new sources of funding, and applications are in progress to continue our long-term research. Continuity of the long-term photo-ID study is particularly important for monitoring potential impacts on the GBR population, including the effects of climate change on ocean productivity and feeding grounds, and for identifying longer-term behaviour changes in individual whales that might be associated with human interactions.

Donations to the [Minke Whale Project Fund](#) received from passengers over the past few years have been immensely helpful in partially covering the ongoing costs of field data collection and analyses, and have been put to further benefit as co-investment in our grant applications. Swim-with-whales endorsed tour operators provide quite extraordinarily generous access to assist our research and monitoring of dwarf minke whales by providing in-kind places on their vessels for researchers, and by facilitating passenger donations to the Minke Whale Project Fund. We are profoundly grateful to them.

We would also like to express our gratitude to all the 'Friends of the Minke Whale Project' who have made donations to the JCU-administered MWP Fund to assist research into the GBR dwarf minke whales. Donation forms can be found on our website, and donations made by Australian residents can be tax deductible. Particularly generous donors are eligible to receive a range of gifts, including a series of high quality postcards, stickers, our videos and fine art prints of some of the stunning dwarf minke whale images taken by Matt Curnock.

Know the rules about swimming with whales

By Martha Brians and Alastair Birtles

The northern Great Barrier Reef is the only known location in the world where dwarf minke whales form a predictable aggregation. Swimming with dwarf minke whales is a rare privilege and we are fortunate that the whales' naturally inquisitive behaviour allows this to happen each winter. However, we cannot assume that our interactions with the whales have no negative impacts, and so only a limited number of vessels are allowed to conduct swimming-with-whales (SWW) activities under a special endorsement, issued by the [Great Barrier Reef Marine Park Authority](#). These SWW-endorsed vessels are required to follow a [Code of Practice](#), and must report details of all their minke whale encounters using a [Whale Sighting Sheet](#).

Vessels that do not have a swimming-with-whales endorsement must adhere to the [Australian National Guidelines for Whale and Dolphin Watching](#), (revised in 2017) and must not (i) place swimmers in the water for the purpose of swimming with whales, nor (ii) place swimmers in the water closer than 100m to a whale.

Key points from the Code of Practice:

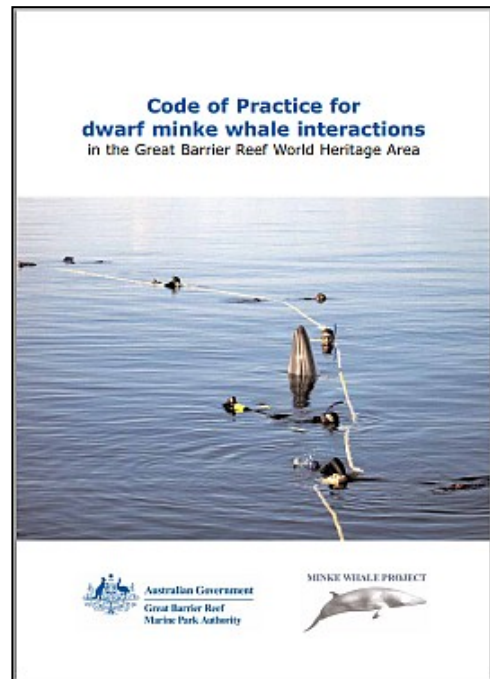
Crew on SWW-endorsed vessels should be familiar with the full Code of Practice and a copy should be available onboard the vessel. Before swimming with whales, all participants must be well briefed on the rules and risks associated with swimming with whales.

Key points: (i) *Follow instructions from crew at all times,* (ii) *Enter and exit the water quietly,* (iii) *Never swim*

towards a whale, (iv) Do not touch or make physical contact with a whale, (v) Hold onto a rope at the surface when available, (vi) Avoid rapid movements when in the water, (vii) Use natural light only for photography, and (viii) Remain in contact with crew on the vessel in case they need to recall swimmers back to the boat.

For more information about management of encounters with dwarf minke whales, please visit

www.minkewhaleproject.org.



Code of Practice for dwarf minke whale interactions. (Birtles et al., 2008)

The Minke Whale Project Research Team

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