

MINKE WHALE PROJECT



RESEARCH UPDATE, 16 DECEMBER 2005 (INFORMATION SHEET # 8)

Minke Whale Project celebrates ten years of field research

2005 marked the tenth year of field research for the Minke Whale Project (MWP), with the minkes again rising to the occasion for another outstanding season of exuberant behavioural displays, re-sightings of old friends, some cow-calf interactions and a higher than ever number of sightings reported by the dive industry. As part of the GBRMPA permit conditions, 276 WSS2005 (263 minke, 12 humpback and 1 orca sighting) were submitted by permitted and some incidental operators to the MWP research team and have now been entered into an Access database. We have also received 849 passenger questionnaires, 182 Encounter Logs and 42 Vessel Movement Logs. We are very grateful for this record return of data.

The six core weeks of field research aboard *Undersea Explorer* led to 83 encounters lasting over 97 hours, with 229-244 whales. Whales were seen on 30 of 36 days and over 70 hours was spent in 41 in-water encounters with 142-150 whales. This whale total for the six-week period is remarkably similar to that of the last couple of years (upper figures were 248 for 2003 and 241 for 2004). The photo-ID study in 2005 also provided some of the most exciting re-sightings ever, including "Wiggly Nape Streak" (seen for the 5th time, in 4 out of the last 7 years since 1999), this time with her new (and possibly first) calf "Little Wiggle", and "Kinky Minke" (for the 7th time, in 4 out of the last 6 years since 2000). There were also some quite extraordinary behavioural displays by individual animals re-sighted several times over the season (see adjacent photo). The "Best of 2005" MWP video footage (to be shown at the 2005 Post-Season Workshop) is particularly captivating and highlights the unique and very special nature of these encounters. After 10 years of researching and interacting with dwarf minke whales, Alastair Birtles (MWP Team Leader) is still amazed by their behaviour.

"I am convinced that dwarf minkes provide among the best (if not the best) wildlife experiences on Earth! It's quite extraordinary to be motionless in the water, in her environment with a six metre long, five tonne young female who swims around you for hours on end, repeatedly stopping less than a metre away, standing vertically on her tail in the water, pirouetting in front of you for minutes at a time, blowing clouds of bubbles, often lifting her head out of the water and all the time she's looking directly at you - often with two eyes focussed on you, allowing her binocular vision and hence immense precision in how close she decides to come! Amazing! I feel incredibly privileged to be able to work with them!" Detailed results and outcomes of the 2005 field season will be presented at the 2005 Dwarf Minke Whale Tourism Monitoring Post-Season Workshop on the 16th of December in Cairns.

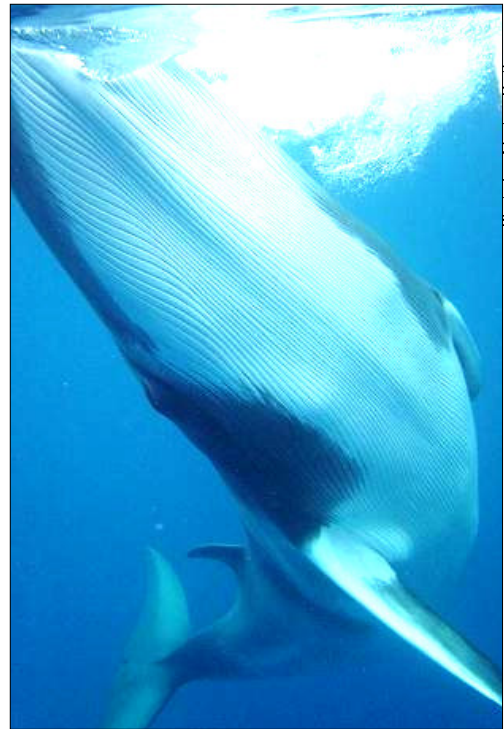


Photo by Alastair Birtles

The world's best wildlife experience? This adolescent female minke (named "Strumpet") treated passengers to very close approaches and exuberant displays over several encounters at different locations in 2005.

Industry Photo-ID study contributions in 2005 season

In addition to the outstanding data returns from the permitted operators during the 2005 season, we have also received the highest quantity of video and still images, donated by crew and passengers to the ID study. As well as our own *Undersea Explorer* total of >12hrs video and 2,753 digital stills from the 2005 season, we have received: 15 CD-ROMs of 18+ encounters, containing 2182 images and 126 short mpeg clips; two DVDs of 8 encounters, totaling more than 1 hr 20 minutes of footage; and 1 VHS cassette of footage from the surface. We are extremely grateful to all crew and passengers for donating this material, especially the notable contributions from Laurence Buckingham (*Super Sport*), Hidemi Yokota (*Nimrod Explorer*) and Mark Cox (Tech Dive, on *Poseidon III*). Some of the initial exciting findings based on this material will be presented at the Workshop.

Update on funding woes and new opportunities

2005 has been a busy year for the MWP in trying to attract funding for expanding research efforts in 2006, to help address important questions about the sustainable management of the swim-with-minke whales industry. It is vital that the appropriate research information is available to GBRMPA in 2009 when they make their decision about the future of this industry. In April 2005 we submitted an application to the (highly competitive) Australian Research Council (ARC) Linkage program, involving substantial commitments from seven Collaborating Organisations, worth over \$1.1 million cash and in-kind. New Collaborating Organisations (CO's) that have joined the MWP as stakeholders via this application include the Whale and Dolphin Conservation Society (WDCS; www.wdcs.org.au) and the International Fund for Animal Welfare (IFAW; www.ifaw.org). Other CO's include the permitted swim-with-minke whales operators, represented by the Cod Hole and Ribbon Reef Operators Association (CHARROA), GBRMPA, JCU, the Museum of Tropical Queensland (MTQ) and *Undersea Explorer*. Whilst this application was unsuccessful in receiving funds from the ARC, we hope to maintain the financial and in-kind support of the CO's in going ahead with important elements of the proposed ARC project in the 2006 minke season (albeit with a reduced budget), whilst continuing to apply for additional funds from other sources.

After receiving the news about the ARC in mid-November we submitted a further application to the JCU Collaborative Research Grants Scheme for a smaller (c. \$35K) project to expand the minke whale sightings network to capture more complete records of encounters not just from permitted vessels, but also of incidental encounters from un-permitted GBR tourism and recreational vessels. This project, which was also unsuccessful in gaining funding, was designed to help evaluate the full scale of minke whale sightings on the GBR and lead to more re-sightings of identified whales for tracking their movements within the GBR. The information generated by the broader GBR tourism industry will be critical for monitoring cumulative impacts on the whales, and the establishment of the broader network would help provide a stronger basis for a revised MWP ARC Linkage application in 2006.

We were also unsuccessful in gaining funding from the new JCU Research Advancement Program with a proposal for a multi-disciplinary tropical tourism centre with a focus on the sustainable management of iconic marine wildlife. The Minke Whale Project is still in the running for funding via involvement in two research proposals to the new Commonwealth DEH-funded Marine and Tropical Sciences Research Facility (MTSRF) under JCU Programs for "Marine Species of Conservation Concern" (led by Prof. Helene Marsh) and "Sustainable Tourism" (led by Prof. Bruce Prideaux).

Three new PhD studies in 2006

Three PhD students working with the MWP are set to begin their studies in the 2006 minke season. Susan Sobotzick, Arnold Mangott and Matt Curnock are preparing to tackle key questions about the cumulative impacts of human encounters on the behaviour of the whales and the sustainable management of the industry.

Susan Sobotzick (MWP videographer since 2002 who recently completed her Diploma Thesis on minke whale lengths) will conduct a photo-ID study and expand the catalogue of identified individual whales to learn more about within-season movements and the frequency of individual whales returning to the GBR in subsequent years.

Arnold Mangott (marine biologist and recent M.Tourism graduate who has been studying day-boat minke encounter management) will conduct a study into minke whale behaviour. This will include analysing behaviour patterns of the whales interacting with boats and swimmers, and tracking changes in whale behaviour in relation to swimmers' conduct, and towards each other, for example possible courtship displays.

Matt Curnock (Research Officer for the MWP for most of the past seven years) has begun a PhD on developing and testing indicators to be used in evaluating the sustainability of the industry. A key element of this research will be facilitating crew and passengers to help in recording sightings and observations of the whales, utilising automated GPS-loggers to track changes in industry effort, and developing and testing of interpretive materials for crew and passengers. These three PhD studies will go a long way towards providing the data needed to determine whether the current impacts on the whales are acceptable, and assist in evaluating the sustainability of this swim-with-whales tourism industry. Such knowledge will be vital in allowing GBRMPA to decide the future management of this swim-with-whales industry post-2008, when the current nine permits will be reviewed.



Photo courtesy of *Undersea Explorer*

Susan Sobotzick (attached by a rope to the drifting *Undersea Explorer*) films a close pass by a female minke whale for the ID study.

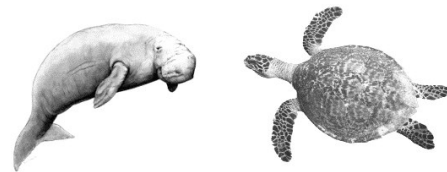
Continuation of day-boat encounter study

With funding from GBRMPA and with support of the three Port Douglas-based minke-permitted day boats, a second year of the study on day-boat minke whale encounter management was conducted over the 2005 field season. MWP Research Assistant Arnold Mangott, who investigated minke encounter management issues for the day boats as part of his M.Tourism thesis in 2004, continued field observations aboard *Poseidon III*, *Aristocat IV* and *Quicksmart* in June and July 2005. A record number of minke whale encounters (41) were reported by these three vessels via the Whale Sighting Sheets, indicating a one-in-five chance of passengers encountering minke whales on these vessels during the 2005 season.

Arnold recorded observations from 13 encounters aboard these vessels during the 2005 season, and collected 271 completed Minke Whale Questionnaires from passengers, providing an excellent data set for comparison with 2004. Findings of this study will be given in a report to GBRMPA and the day-boat operators, and key findings will be presented at the 2005 Post-Season Workshop on 16th December in Cairns.

Minke Whale Project used as a model for dugong & turtle tourism

The successful collaboration of industry, managers and researchers involved in the Minke Whale Project over the past ten years has received both national and international recognition. In 2004 and 2005, the Commonwealth Department of the Environment and Heritage (DEH) commissioned research team members of the MWP to develop National Codes of Conduct for tourism based on dugongs and marine turtles, using the MWP approach as a model.



Towards Sustainable Management of Dugong and Turtle Tourism

The research team consisted of seven Chief Investigators (led by Alastair) including Dr Peter Arnold (MTQ), A/Prof. Peter Valentine (JCU), Dr Kirstin Dobbs (GBRMPA), Prof. Helene Marsh (JCU), Dr Dermot Smyth (Smyth & Bahrtd Consultants), Dr Col Limpus (QEPA), and nine Associate Investigators. A group of over 180 Project Participants were involved (including tourism operators, Indigenous Traditional Owners, management agency staff, conservationists, researchers and expert members of the community) from around Australia and overseas to develop Draft Codes of Conduct and evaluate them at key sites around Australia. Several CHARROA live-aboard dive operators participated in these evaluations by trialing in-water turtle interaction guidelines and collecting passenger questionnaires on their boats. All materials and outputs produced through the course of the Project were made available to Project Participants for comments via an Online Workshop.

For more information and to access this new Code of Practice, visit: www.dugongturtletourism.org

Phase II of the Dugong & Turtle Tourism Project (field evaluations) was completed in October 2005, and our Final Phase II Report to DEH and the new ***Code of Practice for the Sustainable Management of Dugong and Marine Turtle Tourism in Australia*** are now available on the Project website (www.dugongturtletourism.org).

What to expect in 2006

2006 is going to be a big year for the MWP! We hope to expand the minke whale sightings network (given adequate funding) and three new PhD students are set to begin fieldwork. A Pre-Season Workshop for the permitted operators will be held in May 2006 to introduce new research objectives for the upcoming season, new data sheets (including updated Whale Sighting Sheets and passenger questionnaires) and interpretive materials for crew and passengers.

The MWP research team are looking forward to continuing our highly successful partnership with the industry into its 11th year, as we increase our research efforts to address key questions in evaluating the sustainability of these unique swim-with whales interactions.

New MWP website under construction: www.minkewhaleproject.org

We're also developing a new MWP website, which will be up and running in time for the 2006 field season. The site will contain updated information on the biology of the whales, the latest research findings (including these newsletters), the Code of Practice, downloadable interpretive materials, research publications, the latest Whale Sighting Sheet (WSS2006), and of course, lots of beautiful minke photos!

Our current MWP pages on the CRC Reef website (www.reef.crc.org.au/discover/plantsanimals/minke/index.html) will remain and the new site will link to this, as well as linking to a new GBRMPA minke whale site, to our new Collaborating Organisations (WDCS and IFAW) and to the websites of the GBRMPA-permitted swim-with minke whales operators.

Recent publications and new research papers

Two new peer-reviewed papers to be published shortly:

Arnold, PW, Birtles, RA, Dunstan, A, Lukoschek, V & Matthews, M (2005). Colour patterns of the dwarf minke whale (*Balaenoptera acutorostrata sensu lato*): general description, cladistic analysis and taxonomic implications. *Memoirs of the Queensland Museum* 51 (2): 165-195. ISSN 0079-8835. Brisbane, QLD.

Arnold, PW, Birtles, RA, Soltzick, S., Matthews, M & Dunstan, A (2005). Gulping behaviour in rorqual whales: underwater observations and functional interpretation. *Memoirs of the Queensland Museum*, 51 (2): 197-220. ISSN 0079-8835. Brisbane, QLD.

Three new papers about to be submitted:

Dunstan, A., Soltzick, S., Birtles, A. & Arnold, P. Size estimation and population demographics of dwarf minke whales in the northern Great Barrier Reef. *J.Cetacean Research & Management*.

Birtles, A., Valentine, P.S., Miller, D.K. & Curnock, M. A closer look at certified SCUBA diving activities on the Great Barrier Reef: Visitors and experiences. *Tourism Management*.

Birtles, A., Arnold, P., Valentine, P., Dunstan, A., Rumney, J. & Curnock, M. Development, evaluation and implementation of a Code of Practice for sustainable management of swim-with dwarf minke whales tourism on the Great Barrier Reef. *Tourism Management*.

Our unsuccessful funding application experiences in 2005 has underscored the vital importance of a strong track record in peer-reviewed, high-impact journals and this will be a major challenge in 2006. Additional papers are being prepared on the management of day-boat operators on the GBR and studies based on the re-sighting of individual whales within a single season and between years which are derived from our ongoing Photo-ID study.

Our thanks

The Minke Whale Project research team extends their profound thanks to the managers, staff and crew of the permitted swim-with minke operators for their ongoing support of the Project. We are also particularly grateful to the vessels who provided in-kind access for our researchers and volunteers during the 2005 minke season, including the live-aboard vessels *Undersea Explorer*, *Nimrod Explorer*, *Super Sport* and *Taka*, and the day boats *Poseidon III*, *Quicksmart* and *Aristocat IV*. We look forward to continuing this highly successful research collaboration in 2006 and beyond, to help improve our understanding of these inquisitive and charismatic little whales and promote sustainable interactions with them.

The Minke Whale Project research team

Members of the Minke Whale Project in 2005/06 include: Dr Alastair Birtles (Project Leader, JCU), Dr Peter Arnold (Museum of Tropical Queensland), Assoc Prof Peter Valentine (JCU School of TESAG), Andy Dunstan (*Undersea Explorer*), Susan Soltzick, Arnold Mangott, Matt Curnock and Dean Miller (JCU), Bryony Barnett (TYTO Consulting) and our 2005 MWP research volunteers Jos Hill, Icha Putu Liza, James Livingstone, Alison Swaddling, Clare Omodei and Theresa Adams (JCU). Dr Kirstin Dobbs (GBRMPA) became a more formal part of the team as an Associate Investigator on the ARC Linkage application.

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The Minke Whale Project is a combined initiative of James Cook University, the Museum of Tropical Queensland and *Undersea Explorer*. The Project has been partially funded by the CRC Reef Research Centre 2004-2005, and the Great Barrier Reef Marine Park Authority 2003-2005, and CHARROA (2004). It would not be possible without the support of *Undersea Explorer* and other members of the Cod Hole and Ribbon Reefs Operators Association.



www.reef.crc.org.au/discover/plantsanimals/minke/index.html

Watch this space: www.minkewhaleproject.org