Code of Practice for dwarf minke whale interactions

in the Great Barrier Reef World Heritage Area

Australian Government
Great Barrier Reef Marine Park Authority

MINKE WHALE PROJECT

Published by the Great Barrier Reef Marine Park Authority 2008

ISBN 978 1 876945 74 9 (pdf)

This publication should be cited as:
Birtles, A., Arnold, P., Curnock, M., Salmon, S., Mangott, A., Sobtzick, S., Valentine, P., Caillaud, A. & Rumney, J. (2008). Code of Practice for dwarf minke whale interactions in the Great Barrier Reef World Heritage Area. Great Barrier Reef Marine Park Authority, Townsville, Australia.

Cover photo: John Rumney

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I. PREAMBLE

This Code of Practice provides information for any person likely to be involved in an encounter with a dwarf minke whale whilst in the Great Barrier Reef Marine Park, in particular swimming-with-whales endorsed tourism operators and their passengers.

This Code of Practice outlines the environmentally responsible way to approach and interact with dwarf minke whales. It has been developed specifically for the permitted tourism operators with an endorsement for swimming-with-whales in the Great Barrier Reef Marine Park, and it incorporates existing legal requirements.

Protocols for divers and snorkellers swimming with dwarf minke whales are designed to minimise potential negative impacts on the whales, and at the same time, maximise the positive experience for the human participants. These protocols were developed based on studies conducted by researchers from James Cook University, the Museum of Tropical Queensland and *Undersea Explorer*, working in collaboration with the diving industry since 1996.

The Code of Practice was originally proposed in Arnold and Birtles (1999) and subsequently revised in Birtles, Arnold, Curnock, Valentine and Dunstan (2001). In 2002, operators conducting swimming with dwarf minke whales activities came together in a workshop and voluntarily adopted the Code of Practice to guide the conduct of their interactions with dwarf minke whales.

In 2003 the Great Barrier Reef Marine Park Authority (GBRMPA) introduced permits to conduct swimming-with-whales activities in the Cairns/Cooktown Management Area of the Marine Park. Nine Marine Parks permits were issued and the industry was capped at this level while research into the sustainability of these interactions was undertaken.

Permit conditions for swimming-with-whales endorsed operators include:

1. Adherence to this Code of Practice
2. The completion and submission of Whale Sighting Sheets for all dwarf minke whale encounters.

Tourism operators conducting swimming-with-whales activities are required to have a Marine Parks permit that lists swimming-with-whales as an endorsed activity. This specific endorsement allows these operators to:

- **Place swimmers in the water for the purpose of swimming with whales**
- **Place swimmers in the water less than 100m (but not closer than 30m) from dwarf minke whales**
- **Use an aircraft or additional vessel to find whales.**

Vessels that do not have this specific endorsement are not permitted to conduct the above activities and must adhere to the *Great Barrier Reef Marine Park Regulations 1983* at all times when interacting with whales.

Vessels that are not endorsed for swimming-with-whales must not place swimmers in the water closer than 100m to a whale and must not place swimmers in the water for the purpose of swimming with whales.

A six-year monitoring program was implemented in 2003, funded by the GBRMPA, with research and monitoring carried out by Minke Whale Project (MWP) researchers from James Cook University and the Museum of Tropical Queensland. This monitoring program included analyses of the Whale Sighting Sheets and reporting of results to swimming-with-whales endorsed tourism operators, Marine Park managers and other key stakeholders at pre and post-season workshops.

II. AN ADAPTIVE CODE OF PRACTICE

This Code of Practice has been developed collaboratively, based on the best available scientific information, with input from key stakeholders including swimming-with-whales endorsed tourism operators, MWP researchers, staff from the GBRMPA and the Queensland Environmental Protection Agency, and key national and international NGOs. The Code of Practice will be reviewed periodically and amendments made as necessary, as part of an adaptive management approach.

Key changes to the Code of Practice since 2002 include:

- Incorporating the Protocols for Vessel Approach and Departure and Interactions with a Cow and Calf (both voluntarily adopted by the industry in 2006).
- Updating the 'black letter law' protocols (in **bold text**) to be consistent with new Environment Protection and Biodiversity Conservation (EPBC) and GBRMP Regulations.
- A new diagram to represent the Vessel Approach Protocol.
- Clarification of the activities that swimming-with-whales endorsed vessels are permitted to conduct (and therefore those that vessels without a swimming-with-whales endorsement are not permitted to conduct).
- Additional background information about the development and context of this Code of Practice and research by the MWP.
- Sorting the detailed protocols into five clear sections.
- New explanation boxes to help interpret dwarf minke whale behaviours, identify calves, enhance the swimming-with-whales experience and give reasons for particular protocols.
- New protocols regarding the use of ropes.

III. LEGAL REQUIREMENTS

The current legal requirements relating to whale watching (which includes swimming-with-whales) seek to minimise the impacts of these activities on whales while, at the same time, allowing humans to enjoy the experience of interacting with the animals in a sustainable way.

These legal requirements have been based on current understanding of whale behaviour, in particular humpback whales, and the whales' responses to contact with boats and people. As we learn more about dwarf minke whales and their responses to interaction with humans, additional specific provisions may be developed that complement existing legal requirements.

Legal requirements are highlighted throughout the Code in **bold text**.

Additional specific protocols for swimming-with-whales endorsed tourism operators and recommended best practice guidelines are listed below.

RELEVANT LEGISLATION

Australian

- *Environment Protection and Biodiversity Conservation (EPBC) Regulations 2000* – Part 8 Interacting with Cetaceans
- *Great Barrier Reef Marine Park Regulations 1983* – Part 4A Interacting with Cetaceans
- *Great Barrier Reef Marine Park Zoning Plan 2003 – Protected Species*

Queensland

- Qld Nature Conservation (Whales and Dolphins) Conservation Plan 1997

Policy and Guidelines

- *Australian National Guidelines for Whale and Dolphin Watching* (2005)
- Great Barrier Reef Marine Park Authority Operational Policy on Whale and Dolphin Conservation in the Great Barrier Reef Marine Park (2007)

IV. COMPLIANCE

Operators conducting swimming-with-whales activities have agreed that they will implement a self-policing system in addition to any compliance activities undertaken by the GBRMPA's Day-to-Day Management Compliance Unit.

At the 2006 Post-Season Workshop the swimming-with-whales endorsed tourism operators resolved unanimously that they will submit an Incident Report Form to the GBRMPA (and provide the same details to the MWP) should they witness any incident or breach of the existing whale-watching regulations (Note: regulations in the following protocols are indicated in **bold text**).

For observations of 'minor' breaches of non-regulatory protocols in this Code of Practice, the swimming-with-whales endorsed operators agreed that the details will be brought in the first instance to the attention of both the management of the operation concerned and the MWP. The MWP research team will analyse and present a summary of industry compliance reports for such 'minor' breaches during the minke season, commencing at the 2008 Post-Season Workshop.

V. RESEARCH

The main research focuses of the Minke Whale Project (MWP) include dwarf minke whale biology and behaviour, and the sustainable management of their interactions with boats and swimmers in the Great Barrier Reef Marine Park. Over the years the MWP research team has worked closely with the swimming-with-whales endorsed tourism operators to develop high quality interpretive material that helps improve compliance with the Code of Practice and enhances people's experiences when swimming with the whales. This has included passenger brochures, a Minke Whale Information Package, several colour posters, DVDs and an interactive CD-ROM.

Swimming-with-whales endorsed tourism operators have made a substantial contribution to dwarf minke whale research, by collecting additional data from their dwarf minke whale encounters (e.g. Interaction Behaviour Diaries, Vessel Movement Logs, digital photos/video footage for whale identification), collecting passenger questionnaires, and by providing MWP scientists and research volunteers with in-kind places on board trips during the June-July season. A long-term photo-identification study has shown that dwarf minke colour patterns are the most complex of all baleen whales (Arnold, Birtles, Dunstan, Lukoschek & Matthews, 2005) and that individual whales are returning to the same Reef location in many subsequent years (Birtles, Arnold & Dunstan, 2002; Sobtzick, Birtles & Marsh, in prep.). When on-board dive tourism vessels, MWP researchers collect a range of additional data from dwarf minke whale interactions and usually present biology slideshows to crew and passengers to help improve their overall dwarf minke whale experience. Research results from each season are reported back to the operators at annual workshops.

Whilst many discoveries have been made by the MWP since field studies began, much of the biology, ecology and behaviour of dwarf minke whales is still unknown. Long-term monitoring of key indicators to assess the sustainability of the whales' interactions with boats and swimmers in the Marine Park is continuing, however expanded research into the whales' biology and ecology (e.g. VHF and satellite tracking of within-season movements and their annual migration and also genetic studies) is needed to better understand these knowledge gaps and assist with management of potential external threats to the whales (e.g. climate change events, hunting, collisions and entanglements).

VI. DETAILED PROTOCOLS

Detailed protocols (including both Regulations and voluntary measures) for interactions with dwarf minke whales are outlined in the following sections:

1. General protocols
2. Vessel approach to whales
3. Vessel departure from whales
4. In-water interaction management
5. Protocols for snorkellers and divers

1. GENERAL PROTOCOLS

1.1 Whales and dolphins are protected and therefore must not be killed, taken, injured or interfered with.

1.2 Use of prohibited vessels[1] for whale watching is not allowed.

1.3 Incidents involving whales (e.g. entanglements, collisions) must be reported to the Great Barrier Reef Marine Park Authority using an Incident Report Form, and these should be copied to the Minke Whale Project.

1.4 Breaches of compliance with the whale watching regulations must be reported to the Great Barrier Reef Marine Park Authority using an Incident Report Form, and these should be copied to the Minke Whale Project.

1.5 Minor breaches of compliance with non-regulatory protocols in this Code of Practice must be brought in the first instance to the attention of both the management of the operation concerned and the Minke Whale Project.

1.6 Swimming-with-whales endorsed tourism operators must submit a completed Whale Sighting Sheet for each dwarf minke whale encounter to the **Minke Whale Project**
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Tourism, School of Business
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Townsville QLD 4811
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1.7 Swimming-with-whales endorsed tourism operators are encouraged to submit additional research and monitoring data to the Minke Whale Project (e.g. passenger questionnaires, copies of photos/video footage for whale identification, Vessel Movement Logs and Interaction Behaviour Diaries).

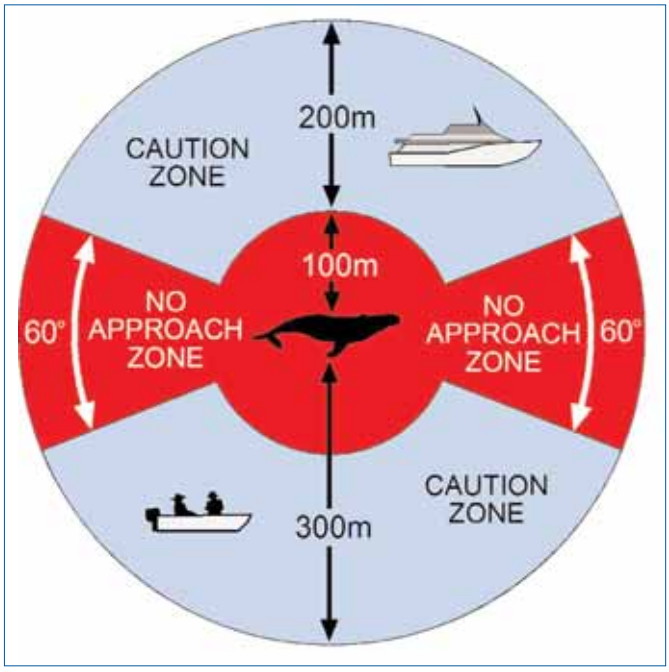
1.8 Whales must not be fed and food or rubbish must not be thrown in the water when a whale is nearby.

1.9 Sullage tanks must not be discharged when a whale is nearby.

1.10 Swimming-with-whales endorsed tourism operators are encouraged to support research and monitoring either financially and/or in-kind (e.g. by providing in-kind vessel berths to Minke Whale Project researchers during the minke season).

2. VESSEL APPROACH TO WHALES

GENERAL PROCEDURES FOR ALL WHALES



2.1. In order to minimise potential impacts on whales all vessels must comply with approach distances as illustrated in Figure 1
(Note: this is the minimum legal requirement).

Figure 1: *Great Barrier Reef Marine Park Regulations* (1983) approach distances to whales

[1] Prohibited vessels include jet ski, parasail, hovercraft, hydrofoil, wing-in-ground effect craft and motorized diving aid. Prohibited vessels must not approach within 300m of a whale or dolphin.

2.2. *The Great Barrier Reef Marine Park Regulations 1983* stipulate that within the caution zone:
- **There must be no more than three vessels at any one time**
- **Vessels must operate at a constant speed of less than six knots**
- **Vessels must not approach closer than 100 metres to a whale.**

2.3 Vessels should communicate via VHF radio to ensure safe and appropriate navigation in the vicinity of whales.

2.4 If the whale shows signs of being disturbed, vessels must be withdrawn immediately.

2.5 A whale must not be pursued.

ADDITIONAL PROCEDURES FOR DWARF MINKE WHALES (BEST PRACTICE PROCEDURES)

2.6 Dwarf minke whales will often approach boats, and due to their small size, may not be seen until they are already quite close (Mangott, Birtles & Marsh, in prep). **If a whale approaches or is spotted less than 100m from the boat, the motors must be put into neutral immediately, or the vessel engines cut when safe to do so.**

2.7 Only one vessel at a time should be in contact with a group of dwarf minke whales.

2.8 If a vessel is passing another vessel which has dwarf minke whales around it, they should communicate via VHF radio and the travelling vessel should, where practical, keep a distance of 0.6 nautical miles (c.1000 metres) from the vessel with whales and maintain its cruising speed rather than slowing down, drifting or anchoring within 0.6 nautical miles (c.1000m) of the vessel with whales (see Figure 2).

Dwarf minke whale behaviour and potential signs of disturbance

Research into dwarf minke whale behaviour is ongoing and much remains unknown. It is difficult to determine whether whales are disturbed by the presence of boats or swimmers, however it is important to be aware of potential signs of disturbance. The following behaviours, identified from studies of other cetaceans, may indicate that a dwarf minke whale is disturbed:

- Sudden speed ups / startle responses
- Sudden sharp veers away from swimmers or vessels
- Increased distance of passes
- Changes in breathing patterns (i.e. where they surface around the vessel and/or the intervals between breaths)
- Changes in acoustic behaviour
- Any signs of protective behaviour by other whales when a calf is present (e.g. screening/shepherding or back arching displays)

A variety of behaviours have been described in other whale and dolphin species as aggressive (e.g. tail slashes, trumpet blows, bubble blasts, jaw gapes and jaw claps). Some of these behaviours have also been documented in dwarf minke whales (e.g. bubble blasts, jaw gapes and jaw claps) however they are rarely seen and may simply be part of their social behaviour repertoire (Arnold, Birtles, Sobtzick, Matthews & Dunstan, 2005). In 12 years of field research on dwarf minkes, such behaviours have never been followed by a higher level of aggression or been associated with other agonistic behaviour.

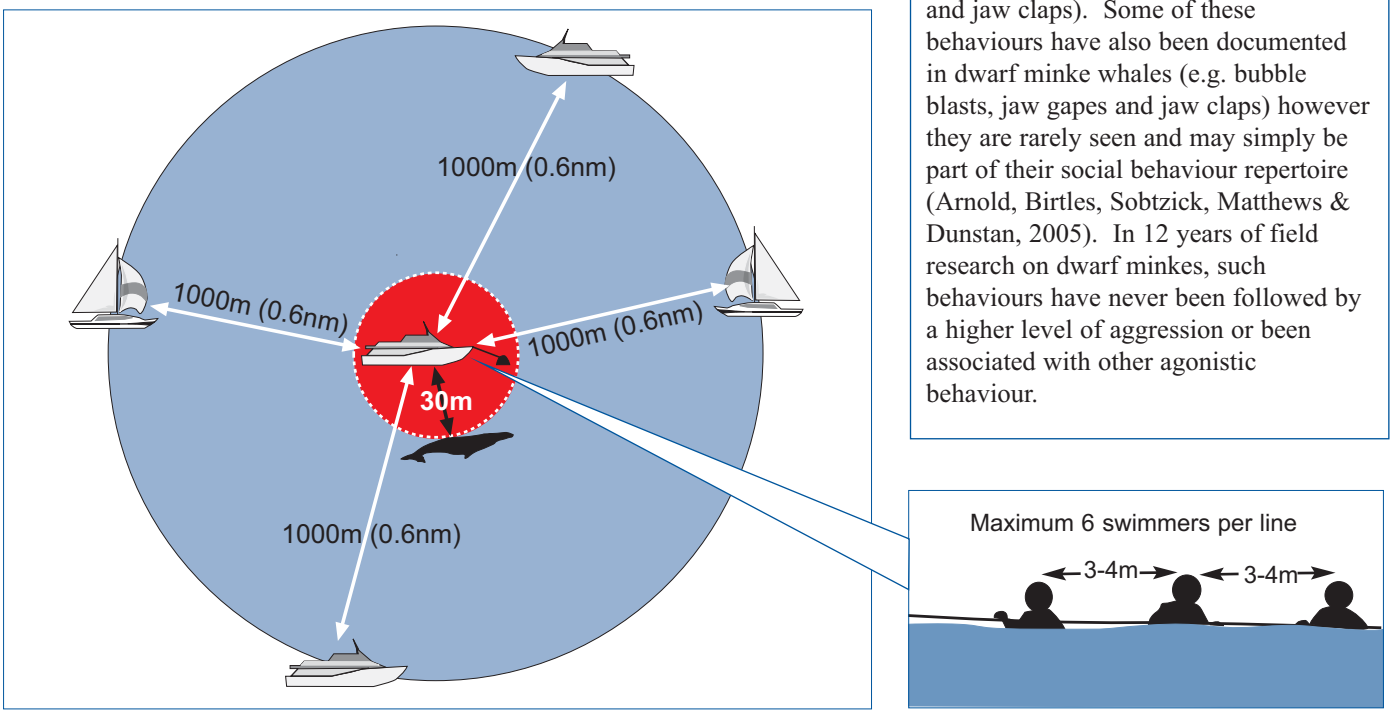


Figure 2: Best Practice Vessel Approach Distances Protocol for interactions with dwarf minke whales. *Note: for swimming-with-whales endorsed vessels, swimmers must not enter the water if a whale is closer than 30 metres to the vessel.*

INTERACTION WITH A COW AND CALF

2.9 Stop the vessel immediately if a cow and calf are seen.

2.10 A calf must not be approached closer than 300 metres.

2.11 If a cow-calf pair remains in the distance or only comes in briefly before heading away, do not motor towards them.

2.12 The Australian National Guidelines for Whale and Dolphin Watching (2005) state that swimming should not occur with whale or dolphin calves, or pods containing calves.

2.13 Record details of the cow-calf encounter when filling out the Whale Sighting Sheet, including the times of the first and last sighting of the cow-calf pair.

RECOGNISING A CALF

Dwarf minke whales are about two metres long at birth and are probably born in May/June (Dunstan,Sobtzick, Birtles & Arnold, 2008). Therefore, a new calf encountered in the June/July Reef minke season is a whale which is less than half the length of the mother. It usually remains in close proximity to her, and is often breathing more frequently. Encounters with cow-calf pairs are usually short. The mother is often particularly wary.

Figure 3: Dwarf minke whale mother and calf (Photo by Alastair Birtles)

3. VESSEL DEPARTURE FROM WHALES

3.1 In most cases, the vessel breaks off an interaction with dwarf minke whales, either to move to a new site or to vacate a mooring for a second vessel. If it is necessary to depart while whales are near the vessel, the skipper should:

- Post someone as look-out at the bow and stern
- Scan the area to determine the position of the whales
- Engage the propeller only when whales are well away from the boat
- Motor away as slowly as sea conditions allow (less than six knots), with lookouts, especially at the bow
- Increase speed gradually when whales are off to the side or well clear of the stern.

DEPARTING THE AREA WHEN A COW AND CALF ARE PRESENT

3.2 If a cow-calf pair is in the vicinity when the vessel is scheduled to leave, try to delay vessel departure until the pair leaves the area (they usually do not remain for long).

4. IN-WATER INTERACTION MANAGEMENT

PRE-SWIM BRIEFING

4.1 Prior to an in-water interaction with dwarf minke whales, all participants must be well briefed for possible weather and sea conditions, their likely reactions to seeing a whale up close when in the water, and the way they must behave during their interaction with the whales. The briefing must also give clear explanations as to why passengers must abide by legal requirements and detailed protocols.

It is the responsibility of the vessel skipper and crew to ensure that all passengers and crew comply with the rules outlined in the pre-swim briefing.

4.2 The pre-swim briefing should include:

- What to expect – weather, sea conditions
- Brief introduction to dwarf minke whales, basic biology and behaviour
- The whales' likely responses to humans
- People's likely reactions to seeing a whale up close when in the water
- Legal requirements, and the need to comply (with reasons)
- The protocols for divers and snorkellers and the need to comply (with reasons)
- Procedures for whale-swimmer interactions (when drifting in open water or when moored/at anchor at a dive site) and the need to comply (with reasons)
- Appropriate in-water behaviour

Enhancing the swimming-with-whales experience

For many participants, the opportunity to swim with whales in their natural environment is a once-in-a-lifetime experience. Surveys of swimming-with-whales participants have shown that detracting aspects of people's minke whale experiences include bad weather, overcrowding, observing breaches of the guidelines and having unrealistic expectations of the whales before entering the water (Birtles, Valentine, Curnock, Arnold & Dunstan, 2002).

Providing a good pre-swim briefing is important to ensure that swimmers are well prepared before they enter the water, behave appropriately and have the best possible minke whale experience. Swimmers should also be advised that there is no rush to enter the water to swim with the whales as the average interaction duration is about 1.5 hours (Birtles, Arnold & Dunstan, 2002; Birtles, Curnock, Valentine, Sobtzick & Mangott, 2007).

MANAGEMENT OF IN-WATER INTERACTIONS BY THE VESSEL CREW

4.3 Crew of swimming-with-whales endorsed vessels should be appropriately trained to manage interactions with the whales and interpret the experience for participants.

4.4 If whales approach the vessel of a swimming-with-whales endorsed tourism operator and the skipper decides to allow passengers to enter the water to swim with them:

- The crew should prepare for the in-water interaction by deploying one or two (maximum) surface safety lines attached to the vessel, for use by snorkellers
- A vessel tender should be placed in the water for emergency use only
- A crew member should enter the water first to assess conditions
- **Swimmers must not enter the water if a whale is closer than 30 metres to the vessel**
- Sullage tanks must not be discharged when whales are nearby.

4.5 A designated, appropriately trained member of crew must be on duty to supervise and monitor the interaction at all times.

4.6 One crew member should be stationed on the duckboard to direct passengers and assist entry and exit.

4.7 If scuba divers are in the water observing whales, a crew member acting as dive supervisor must monitor the behaviour of divers and whales and control the activities of divers to minimise disturbance to the whales.

SCUBA versus snorkelling

Studies of in-water interactions with dwarf minke whales have shown that in most cases the whales make closer approaches to snorkellers holding onto a rope at the surface (Birtles et al., 2001; Valentine, Birtles, Curnock, Arnold & Dunstan, 2004). By holding onto a rope at the surface, swimmers maintain a relatively fixed position and their movements become more predictable. Snorkellers on surface ropes are also much more easily supervised and managed by crew than a group of scuba divers (who are able to move in three dimensions).

If both SCUBA divers and snorkellers are in the water at the same time when whales are around, scuba divers should stay well clear of the area underneath the snorkellers to avoid detracting from the snorkellers' experience.

4.8 If any behaviours of concern are observed, crew must carefully assess the level of risk and should consider recalling swimmers and removing ropes from the water.

USE OF SURFACE ROPES / SAFETY LINES

General

4.9 When surface ropes/safety lines are deployed from the vessel, snorkellers should hold onto a line at all times during an interaction with whales.

4.10 The line(s) should stream in a straight line away from the vessel at all times (i.e. not be allowed to lie slack or looped in the water) to minimise the likelihood of a whale becoming entangled.

4.11 A maximum of two surface ropes no longer than 50m should be deployed. *(Note: In some cases, due to the position of moorings at particular dive sites and the prevailing south-easterly winds, ropes attached to the moored vessel sometimes drift directly over the top of a bommie where snorkellers are unlikely to see a whale. In such cases the crew may decide to use a single extended rope for the benefit of the swimmers. Consideration must be given to the sea conditions, the maximum distance that the swimmers and the supervising crew are able to communicate with each other, and the experience level of the swimmers placed furthest from the vessel.)*

4.12 Lines must be removed from the water if they are not being used by snorkellers.

4.13 It is recommended that lines are fitted with floating devices to manage passenger behaviour and minimise the likelihood of a whale becoming entangled.

4.14 To ensure effective management of the in-water interaction and maximise the positive experience for swimmers, it is recommended that crew limit the number of people on a line at any one time. A maximum of six snorkellers per line is recommended.

4.15 Swimmers should space themselves three to four metres apart from each other along the rope to avoid bumping into each other and unnecessary kicking/splashing.

Behaviours of concern

Some dwarf minke whale behaviours may pose a risk to the safety of swimmers and/or the whales if they occur in close proximity to swimmers, ropes or the vessel. While there have been no recorded instances of any harm to humans from swimming with dwarf minke whales, it is important to be mindful that these are large, powerful, wild animals in their own environment. The risk associated with the following rare behaviours increases, the closer the whales are to swimmers, ropes or the vessel:

- Breaching
- Headrise/spyhop
- Motorboating
- Jaw claps
- Jaw gapes
- very close approaches

On very rare occasions it has been observed that a whale made physical contact with a swimmer, a rope and/or other objects (e.g. the vessel tender). Such an occurrence poses an increased risk to any swimmer involved, and/or to the whale (e.g. risk of entanglement in a rope). If a calf is present, any signs of protective behaviour by other whales (e.g. screening/shepherding or back arching displays) should be regarded as a potential risk to the safety of swimmers.

Drifting in open water

4.16 Safety line(s) must be used and swimmers should remain on the line(s) at all times.

4.17 SCUBA diving is not recommended during drifting interactions.

Moored or at anchor

4.18 Use of safety lines is recommended for snorkellers where practical. If lines are not used, suitable alternatives for managing numbers and restricting the movements of snorkellers must be developed and passengers need to be especially well briefed.

Limiting the number of swimmers

It is recommended that crew limit the number of swimmers in the water at any one time to ensure effective supervision and management of the encounter, and to enhance the swimmers' experience. A study of passengers over 2006-07 found that with seven to ten swimmers on a rope, 29 per cent felt that there were too many people and for interactions where there were more than ten swimmers on a rope, 40% felt that this was too many (Mangott, in prep).

Prior to each pre-swim briefing, crew should assess the weather and sea conditions and the experience level of the swimmers when deciding an upper limit for the number of swimmers.

5. PROTOCOLS FOR SNORKELLERS AND DIVERS

5.1 Follow instructions from the vessel crew at all times.

5.2 Passengers and crew of swimming-with-whales endorsed tourism operators must not enter the water closer than 30m to a dwarf minke whale. **(Note that for vessels not endorsed for swimming-with-whales, this distance is increased to 100m.)**

5.3 Snorkelling (using a mask, snorkel, fins and wetsuit, without a weight-belt) rather than scuba diving is recommended. (Note that weight belts can work loose in rough conditions and have been observed to detach and fall onto a whale.)

5.4 If whales approach during a scuba dive, the dive should continue as usual, including a safety stop on return to the vessel. SCUBA divers approached by a whale should hold on to a safety chain/bar or mooring line when available. **Divers must never swim directly at a whale.**

5.5 Enter the water calmly and with minimal noise to reduce potential disturbance to whales.

Why you must not touch a whale:

1. **It is illegal to touch a whale.**
2. You might startle the animal and put yourself at risk of injury (remember these are very large and powerful wild animals). A startled whale could also injure itself (e.g. by becoming entangled in a rope).
3. There is the potential for disease transmission (from human to whale and vice versa).

5.6 Never swim closer than 30 metres towards a whale.

5.7 If a whale approaches a person in the water, they must move slowly to avoid startling the whale.

5.8 Do not touch or make physical contact with a whale.

5.9 When surface ropes/safety lines are deployed from the vessel, swimmers should hold onto a line at all times.

5.10 Snorkellers should space themselves three to four metres apart along the line to avoid bumping into each other and unnecessary kicking/splashing.

5.11 Snorkellers should remain in contact with crew on board the vessel in case the crew needs to recall the swimmers to the boat.

5.12 Natural light only must be used for photography (i.e. no flashes/strobes or video lights). Dwarf minke whales have large eyes that may be adapted for low light levels and they may be startled by camera flashes. The natural light near the surface is sufficient for capturing a high quality image.

5.13 If whales display signs of disturbance, swimmers must exit the water.

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