



The Humpback Whales of Hervey Bay

The Oceania Project's
Annual Whale Research Expedition

INTERNSHIP PROGRAM





Thank you for your interest in The Oceania Project's Whale Research Expedition in Hervey Bay and the Internship Program. Participation of Interns over the last 20 years has supported and assisted the long-term study of the Eastern Australian Humpback Whales in Hervey Bay.

Hervey Bay is situated on the southeastern coast of Queensland, Australia. It is a wide shallow sandy bay formed by the Australian mainland coast to the west, and Fraser Island to the east. Fraser Island's World Heritage listing ranks it with Australia's Uluru, Kakadu and the Great Barrier Reef.

Hervey Bay and Fraser Island are within the recently declared Great Sandy Marine Park, which includes the unique ecological environment of The Great Sandy Straits. The Great Sandy Straits separate Fraser Island from the mainland and is listed in the Convention on Wetlands of International Importance (Ramsar Convention).

Humpback Whales are listed as vulnerable under the Federal *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act.) The EPBC Act also established the *Australian Whale Sanctuary* within the Australian Exclusive Economic Zone (EEZ) that extends 200 nautical miles from the Australian coastline. A Whale Watching Industry began in Hervey Bay in 1987 and the *Hervey Bay Marine Park* was established in 1989 with a single *Whale Management & Monitoring Zone*. Humpback Whales in Queensland waters are protected under the *Queensland Nature Conservation Act 1992 & Nature Conservation (Wildlife) Regulation 2006*.

The Oceania Project's study of humpback whales in Hervey Bay began with two pilot Expedition's in 1989 and 1991. Then in 1992 we commenced a long-term research program of the behaviour and ecology of Humpbacks in Hervey Bay.

The first phase of fieldwork for this research, a photo-id survey of humpbacks in Hervey Bay between 1992-2017 and collection of sloughed skin for DNA analysis between 2000-2008, has been completed. The first phase of the research focused on

social interactions amongst individuals and groups of humpbacks using focal follow methodology and the ongoing monitoring of water quality in Hervey Bay.

The next phase of research between 2022 and 2027 will focus on scientific collaborations related to the primary database obtained during the first phase of research and as well a specific focus on the study of Whalesong

The primary aims of the research being undertaken by The Oceania Project in Hervey Bay are to:

- Add to the body of knowledge about the social behaviour, social organisation, Whalesong and migratory patterns of humpback whales.
- To provide data to assist with the long-term management and monitoring of the humpbacks within the Great Sandy Marine Park.
- To contribute to the process of future conservation and the total protection of humpback whales.

Below is information about what you can expect to experience as an Intern and a Member of the Research Team in Hervey Bay.

Welcome Aboard,



Dr Wally Franklin
Director, The Oceania Project.
Principal Investigator, Hervey Bay Humpback Whale Research Program.

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INTERNSHIP PROGRAM

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GENERAL INFORMATION

PRINCIPAL INVESTIGATORS: Trish and Wally Franklin

POSITIONS/TITLES: Dr Wally Franklin, Director, The Oceania Project,
PhD, Southern Cross University,
Master Mariner (Class 5)

AFFILIATIONS: Southern Cross University (SCU)
Centre for Animal Conservation Genetics SCU
SCU Whale Research Centre
South Pacific Whale Research Consortium
The Society for Marine Mammalogy
Whale & Dolphin Watch Australia (WADWA)
International Fund for Animal Welfare (IFAW)

RESEARCH FOCUS: Humpback Whales of Hervey Bay: behaviour, ecology, distribution, abundance, migratory interchange, and water quality monitoring.

Dr Wally Franklin PhD title: Abundance, population dynamics, reproduction, rates of population increase and migration linkages of eastern Australian humpback whales (Megaptera novaeangliae) utilising Hervey Bay, Queensland

Dr Trish Franklin PhD title: The social and ecological significance of Hervey Bay for Area V Humpback Whales (Megaptera novaeangliae)

RESEARCH AREA: Hervey Bay Marine Park, Queensland, Australia

TEAM DATES IN FIELD 2022:

Team I: July 27th – August 3rd, 2022
Team II: September 6th – September 13th, 2022
Team III: September 22nd – September 29th, 2022

TEAM TIME ABOARD: 7 nights/8 days

TEAM SIZE: Maximum of 8 aboard Expedition Vessel.
(Consisting of 2 research team members and 6 Interns)

EXPEDITION VESSEL: 'Sumo' 41ft Sailing Catamaran

THE WHALE RESEARCH EXPEDITION

1. Project Overview

1.1. Research Aims

Over the next five years the Expedition Research Team will continue to collect baseline data on humpback pods and humpback individuals visiting the study area within the Hervey Bay Marine Park. Utilising photo-identification, focal-follow techniques, genetic analysis and environmental data it will be possible to determine the following:

- Timing and distribution of humpback pods (temporal & spatial utilisation).
- Any variance in habitat usage (spatial variability).
- Group characteristics and group behaviour of pods.
- Behavioural interactions amongst individual humpbacks and pods.
- The return rate (site fidelity) of specific individuals.
- The time specific individuals spend in the Bay (residency).
- Growth rates of humpbacks (abundance & birthing rates).
- Movements between Hervey Bay and other areas (migratory interchange)
- Significant variations in the habitat ecology (eutrophic & environmental conditions).

1.2. Research Area

Hervey Bay is a sheltered, shallow bay formed between the Queensland coast and Fraser Island 60 nautical miles below the southern end of the Great Barrier Reef (Figure 1 & 2).

On the northern migration along the eastern coastline of Australia humpbacks round Byron Bay, the most easterly point, and then travel past the Gold Coast, Stradbroke Island, Morton Island off Brisbane and Fraser Island. At Fraser Island the humpbacks bypass Hervey Bay and disperse widely up into the shallow lagoons of the Great Barrier Reef (Figure 2).

During the southern migration humpbacks divert dramatically to the west of the migratory pathway to travel into and out of, the eastern side of Hervey Bay from the north. On leaving Hervey Bay they travel north around the Great Sandy spit, then east across the top of Fraser Island before turning south to continue their southern migration past Byron Bay and Ballina (Figure 2).

Figure 1: Location of Hervey Bay & Fraser Island

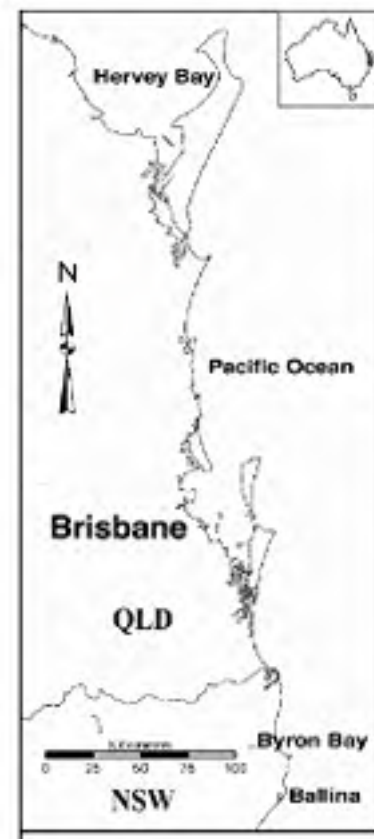


Figure 2: Satellite photograph Hervey Bay & Fraser Island showing Great sandy Spit and the first of the Barrier Reef Islands to the north.

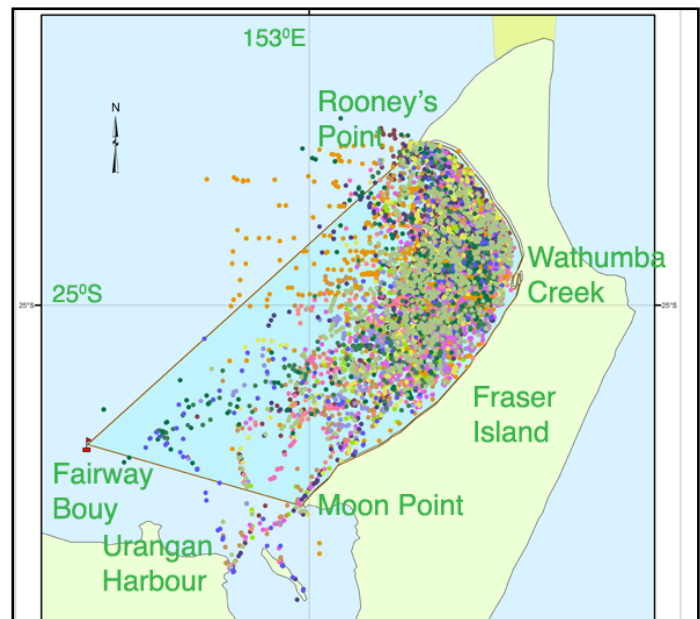


Figure 3: Study area within Hervey Bay. GIS (Geographic Information System) locations are shown of humpback pods observed within the study area between 1992 and 2005.

The Study area (Figure 3) is within the *Whale Management and Monitoring Area* of the *Hervey Bay Marine Park*. The eastern boundary of the study area is the coastline of Fraser Island, the southern boundary is a line from Moon Point to the Fairway Buoy and the western boundary is a line from the Fairway Buoy to Rooney's Point.

The Expedition vessel is moored at Urangan Boat Harbour and the distance to the study area is approximately 15 nautical miles involving two hours of traveling time.

If you have Google Earth (<http://earth.google.com/>) installed on your computer you can use the placemaker **study.kmz** (*attached to the briefing notes email*) to fly to and view the study area, and **gssm.kmz** to fly to and view the location of the Great Sandy Straits Marina, Hervey Bay. Also you can use Google Map (<http://maps.google.com.au/>) to explore the Hervey Bay study area or find the location of the Urangan Boat Harbour by either street map or satellite images.

2. Collaborative Research Projects

2.1. Southern Cross University

The Oceania Project is collaborating with master Student, Hansika Badhugue who is being supervised by Dr Daniele Cagnazzi. The Oceania Project provided Dr Trish Franklin's complete Hervey Bay fluke catalogue for the project. The Hervey Bay Catalogue is being systematically loaded onto the algorithm-based photo-matching platform HappyWhale.org and will be matched to the comprehensive fluke database for the southern oceans and the data obtained will be utilised to review and report on the migratory destinations of Hervey Bay humpback whales.

2.2. University of Sunshine Coast.

Amanda Peterson is undertaking a three-year photo-identification study of humpback whales in Hervey Bay towards Her PhD, titled: 'The current status of Humpback Whales in the Hervey Bay region'. This study will build on the published work of Drs Trish and Wally Franklin in Hervey Bay, see: <https://bit.ly/3oQKMj0> & <https://bit.ly/3rMEdQz>. On a collaborative basis The Oceania Project is providing its complete dataset of sloughed skin samples to Amanda for a chapter on genetics in Her PhD.

2.3. Griffiths University

The Oceania Project has provided on a collaborative basis its complete humpback whale dataset to Dr Olaf Meynecke for use in the major research project 'Whales and climate' research project, see: <https://whalesandclimate.org>. The Oceania Project is a project partner.

Jill Cory at Griffiths University under the Supervision of Dr Olaf Meynecke is undertaking a research project toward her BSc, titled "USING CITIZEN SCIENCE TO ANALYZE INTERCONNECTIVITY OF E1 HUMPBACK WHALE (*Megaptera novaeangliae*) POPULATION IN TWO EASTERN AUSTRALIA BAYS. The project is investigating migratory connections between Morton Bay and Hervey Bay using data on resightings known individual humpback whales from Dr Trish Franklin's Hervey Bay Fluke Catalogue and the Morton Bay fluke Catalogue.

2.4 HappyWhale (HappyWhale.org) & Flukebook (WildMe.org)

The Oceania Project is collaborating with Ted Cheeseman of HappyWhale.org in the development of multi-feature algorithm-based photo matching. Dr Trish Franklin provided dorsal and lateral body photography which will be used for machine learning processes. Evidence of the importance and value of multi-feature algorithm matching was presented in a recent paper authored by Dr Trish Franklin, see:

Franklin, T., Franklin, W., Brooks, L., Harrison, P.L., Burns, D., Holmberg, J., and Calambokidis, J. 2020. Photo-identification of individual Southern Hemisphere humpback whales (*Megaptera novaeangliae*) using all available

natural marks: implications for misidentification & automated algorithm matching technology. *J. CETACEAN RES. MANAGE* **21**(1): 71-83.

Similarly, the complete dorsal and lateral body photography obtained by Dr Trish Franklin has, collaboratively, been made available to Dr Jason Holmberg and his Team at WildMe.org, who are also developing multi-feature algorithm based photo-matching systems.

3. Suggested Reading

Clapham, P. J. (2000). The humpback whale - Seasonal feeding and breeding in a baleen whale. *Cetacean Societies: Field Studies Of Dolphins And Whales*, Chapter 7; pp 173-196.

Franklin, T., Franklin, W., Brooks, L., Harrison, P., Baverstock, P., and Clapham, P. 2011. Seasonal changes in pod characteristics of eastern Australian humpback whales (*Megaptera novaeangliae*), Hervey Bay 1992-2005. *Marine Mammal Science*, 27(3): E134–E152 (July 2011) ©2010 by the Society for Marine Mammalogy. DOI: 10.1111/j.1748-7692.2010.00430.x.

Franklin, T., Franklin, W., Brooks, L., and Harrison, P. 2018. Site-specific female-biased sex ratio of humpback whales (*Megaptera novaeangliae*) during a stopover early in the southern migration. *Canadian Journal of Zoology* **96**(6): 533-544. doi: 10.1139/cjz-2017-0086.

Franklin, T., Franklin, W., Brooks, L., Harrison, P.L., Burns, D., Holmberg, J., and Calambokidis, J. 2020. Photo-identification of individual Southern Hemisphere humpback whales (*Megaptera novaeangliae*) using all available natural marks: implications for misidentification & automated algorithm matching technology. *J. CETACEAN RES. MANAGE* **21**(1): 71-83.

Franklin, T., Franklin, W., Brooks, L., Harrison, P., Pack, A.A., and Clapham, P.J. 2021. Social Behaviour of Humpback Whales (*Megaptera novaeangliae*) in Hervey Bay, Eastern Australia, a Preferential Female Stopover During the Southern Migration. *Frontiers in Marine Science* **8**: 1761.

DAILY LIFE ABOARD THE EXPEDITION

4. Team Itinerary

Day 1 - The Expedition Vessel is moored at the Great Sandy Straits Marina, Urangan Boat Harbour, Hervey Bay (**gssm.kzm**). Team members will rendezvous at and join the Expedition vessel at 0730 Sunday morning on their joining date.

Following marine safety briefings the Expedition vessel will depart Urangan Boat Harbour at 0800 and travel to the study area (**study.kzm**) within the Hervey Bay Marine Park. This journey generally takes two hours and the route taken will depend upon weather conditions.

Upon reaching the study area a transect course will be selected and maintained until the first available humpback pod is located. Research activities are then commenced and continue throughout the day until 1700. Environmental readings will be taken between 1200-1230 followed by a lunch break. A suitable evening anchorage will be selected at the completion of daily operations.

Day 2 to 6 - Research will be conducted between 0630 and 1630 each day with a lunch break around 1230. Environmental readings are taken daily between 1200-1230. A suitable evening anchorage will be selected at the completion of daily operations.

Day 7 – Research will commence at 0630 and continue until approximately 1230. Environmental readings will be taken between 1200-1230. Following the lunch break we will commence the return journey to Urangan Boat Harbour arriving at approximately 1430 when Interns will disembark for their journey home.

5. Daily Schedule and Assignments

Below is the typical daily operational schedule. Interns should be fully aware that conduct of field research of humpback whales from a vessel are highly weather dependent and therefore the daily schedule may vary accordingly.

Daily Operational Schedule: (Subject to weather and operational factors)

- 0600-0630 Breakfast
- 0630 Anchor up and underway
- 0630-1200 Humpback research
- 1200-1230 Environmental readings
- 1230-1330 Lunch break
- 1330-1630 Humpback research
- 1630-1830 Photo-id archiving, matching and data entry
- 1700 Anchor down
- 1830-1930 Dinner
- 1930-2030 Evening activities.

Generally if the winds are 20 knots or less and range from northeast to southeast sea conditions are workable. If wind conditions exceed 20 knots and are from the southwest, west or northwest then conditions may not be suitable to conduct research.

In this event we will proceed to a suitable safe anchorage and use the time to conduct photo-id archiving, matching and data entry. Operational conditions constitute a safety issue and therefore such operating decisions are the sole responsibility of the Master of the Expedition vessel and the Expedition Leader, Captain Wally Franklin.

Interns are assigned a series of daily tasks working in co-operation with members of the research team on one of three rosters. Rotation of Interns through the three rosters ensures that all Interns have the opportunity to gain experience in all tasks and to have the opportunity to work closely with each member of the Research Team at various times.

The research rosters are divided into 'main deck' assignments and 'bridge deck' assignments and involve half-day rotations. So if you are on the 'main deck' roster during the morning you will rotate to the 'bridge deck' roster during the afternoon. The 'expedition operations' roster is for the full day and generally you will be assigned this roster only once, or at most twice, during your participation. Roster assignments are finalized each Sunday morning and posted in the main saloon. Interns are responsible in checking their daily roster assignments each morning.

6. Intern Field Training and Tasks

The Research Team members will provide training to Interns for all assigned tasks. No previous experience is necessary. Assigned tasks are related to three rosters, main deck, bridge deck and daily operations.

6.1. Main Deck Tasks

6.1.1. Sloughed skin sample collection

Two Interns are assigned to this task each morning and two each afternoon. Skin samples are recovered from humpback footprints after they have moved away. The equipment used is a stainless steel sieve on the end of a long pole. This task is undertaken from the bow of the vessel. To avoid contamination of the skin samples collected they are not to be touched or handled but taken in the sieves to the stern deck for storage.

6.1.2. Storage of skin samples

Upon successful collection of skin samples they are immediately stored by a member of the Research Team in sequentially numbered samples tubes. Sample details will be carefully noted on each label and the sample information sheet for later data entry.

6.1.3. Scanning for pods

When no pods are in sight all team members on the 'main deck' roster maintain a continuous lookout for the next available pod.

6.1.4. Environmental information

Interns assist with Environmental readings taken between 1200-1230. A hydrolab unit is used to measure water temperature and salinity at the surface,

5 meters and 10 meters. Turbidity or transparency is measured using a secchi disc and snapshot of weather conditions are recorded.

6.1.5. Chlorophyll-a samples

A Van Dorm sampler is used by a member of the Research Team to obtain three water samples at an even depth of 1 meter. Interns assist in processing the water samples using a micro-filter system using a hand held vacuum pump. The micro-filter paper is then placed in a sample tube and labeled for later laboratory analysis for Chlorophyll-a. Triplicate (3) sample are taken from 6 geographic areas within the study area each week.

6.1.6. Data entry

On completion of each day's observation those involved in the 'main deck' roster enter all data into the computer database prior to the evening meal.

6.2. Secondary Deck Tasks

6.2.1. Deck roster

The deck has very limited working space for the five-team members on the 'deck' roster. Trish observes and records humpback behavioural data throughout the day and will be assisted by the photo-id photographer and the Intern assigned to scanning.

While working with a pod, Wally operates the Expedition vessel throughout the day and supervises sloughed skin and GPS data collection. One Intern is assigned to assist with the GPS data recording.

Interns assigned to the bridge deck are asked not to bring personal cameras or video cameras onto the flying bridge. We can be conducting observations on up to five pods at any one time, so it is important that the GPS person and the Scanner maintain total concentration. Trish and the photo-id photographer will be constantly moving around the flying bridge following the movements of individual humpbacks. Consequently, Interns need to remain alert and to allow them unhindered freedom of movement to obtain and record the data.

6.2.2. GPS data recording

The date, time and GPS position are recorded on commencement and completion of working with a pod. In addition, GPS positions are recorded every 15 minutes on the quarter hour for the duration of the observation period. When traveling between pods within the study area reference GPS positions are recorded each hour on the hour.

6.2.3. Scanning

The Scanner is responsible for maintaining a vigilant watch for pods other than the pod/s we are working with. Information is recorded on the location and behaviour of pods within and beyond 1 nautical mile of the expedition vessel. Wally will assist with estimating distances.

6.2.4. Data entry

On completion of each day's observation those involved in the 'bridge deck' roster enter all data into the computer database prior to the evening meal.

6.3. Daily Operations Tasks

6.3.1. Food preparation (Chef's Roster)

All on board are involved in preparing meals throughout the week. Two team members are assigned each day to prepare lunch and dinner. Meal planning is completed on the first day. The key with food preparation is to start early to ensure meals are ready at the scheduled times. (See Food & Provisions X below)

6.3.2. Washing up and general cleaning

All team members except those assigned to Chef's Rosters are expected to pitch in and assist with washing up after each meal and general cleaning duties in the galley and main saloon.

7. Evening presentations

Each evening there will be a presentation after the evening meal. The actual topic may vary due to weather or other operating conditions however topics may include:

- Humpback whales: Life history, behaviour, reproduction and song. (Wally Franklin)
- Status of Humpback whales in the South Pacific – Past, Present & Future. (Wally Franklin – Presentation courtesy Professor Scott Baker)
- Humpback whales in Queensland and research in Hervey Bay. (Wally Franklin)
- The Whaling Question? A brief history of commercial whaling and the status of whale conservation and protection. (Wally Franklin)
- A current/topical film about Cetacea.

We often have a guest scientist or expert aboard who may make a presentation. Guest experts may include Paul Hodda, President of the Australian Whale Conservation Society and Adjunct Fellow of the SCU Whale Research Centre; Professor Peter Baverstock, Pro-Vice Chancellor Research SCU; Associate Professor Peter Harrison, Director of the SCU Whale Research Centre; Martin Elphinstone, Senior Research Scientist, Centre for Animal Conservation Genetics, SCU; Lyndon Brooks, Research Methodologist, Graduate Research College SCU; Mark Franklin, Audio Engineer, Film Producer and a Director of The Oceania Project; and Shannon MacKay, PhD Candidate Deakin University.

8. Expedition Vessel 'Sumo'

The Expedition vessel is *Sumo*, a 12-meter sailing catamaran. The spacious foredeck, easy access around the main deck makes her a superb platform for humpback whale research. *Sumo* is powered by twin 29 hp Volvo Penta low noise diesels and has a cruising speed range of 7 to 9 knots.

8.1. Safety

8.1.1. Coastal Life Jackets & Safety Equipment

Prior to departing from Harbour on Sunday morning you will be briefed on how to use a coastal life jacket. Life jackets and marine safety equipment are stowed under the seats in the main saloon. The briefing and demonstration is a mandatory safety requirement of the Queensland Department of Transport, Marine Division.

8.1.2. Person overboard

In the unlikely event you see someone aboard fall off the vessel there are three actions you must take. Firstly do not take your eyes off the person in the water. You may be the only one on board who knows that there is a person overboard. Secondly while keeping your eyes on the person in the water, raise the alarm by immediately getting the attention of the Captain or one of the Research Team. Thirdly keep your arm raised and pointing to the person in the water. Then follow any instructions given by the Captain or crew during the recovery of the person.

8.1.3. Moving around the vessel

Care must be taken at all times while moving around the Expedition vessel, whether underway, at anchor or in port. A vessel is a moving platform and the decks can become damp and slippery from either sea spray or dew. When moving around the vessel make full use of the safety handrails. Keep in mind the adage: 'One hand for the ship and one hand for yourself'.

Wearing of shoes aboard is optional. However, remember that there is plenty of protrusions on the deck of a ship so pay close attention as you move around. If wearing shoes, non-slip deck style shoes are recommended.

Take particular care moving up and down the staircases within the vessel and in particular on the staircase to the flying bridge. Use handrails and again keep in mind the 'One Hand' adage. Watch out for the edges around the hatch up into the flying bridge and also the edge above the main saloon door. Be extra careful when stepping into or out of the main saloon entrance.

8.1.4. Care & stowage of personal items

If you take personal items out on the deck do not leave them unattended. Be particularly careful with light items that may be blown over the side as conditions can change quickly. If you are no longer using items out on deck take them inside and stow them in your cabin. Do not leave personal items in the main saloon, galley or on the navigational table.

8.1.5. Swimming

There may be opportunities to swim. Hervey Bay is a shallow sandy bay with no reefs. So there is no point in bringing snorkel or goggles. Swimming may only occur at times and locations determined by the captain.

There are extremely strong tidal flows within Hervey Bay, and this makes some anchorage locations dangerous for swimming. If the Captain indicates swimming is permitted, swimmers must not enter the water until the safety line is deployed. This is a long line with a floating buoy attached. Swimmers should test the strength of any current before letting go of the safety line. Swimmers are required to stay between the safety line float and the stern of the vessel.

Sharks are a natural part of the marine environment in Hervey Bay, so whenever swimmers are in the water someone is assigned to maintain a safety watch from the flying bridge.

8.1.6. Smoking

If you are a smoker, smoking is permitted but only on the port (or left) side at the stern (back) of the main lower deck. There is a receptacle for butts in this area. Butts must not be thrown overboard. Turtles have been known to starve because they have ingested butts. Smoking is forbidden elsewhere on the vessel.

9. Food & Provisions

Fresh food supplies are purchased each Saturday prior to the Sunday departures. Supplies include a range of fresh fruits and vegetables, a variety of meats and poultry and pastas. There is also a wide range of dry goods and condiments.

Breakfast consists of cereals, fruits, yoghurt, toast and condiments. The two Team Members assigned to the daily 'Chef's' roster prepare lunch and you can expect to be part of a 'Chef's' roster at least once during your week aboard, sometimes twice.

If you do not feel confident about cooking, it is wise to make sure you team up with someone who is confident. Teamwork on the 'Chef's' roster is a lot of fun.

A broad selection of recipes is available aboard for each day's menu and if you have a favorite menu, please bring it along. Planning the week's menu is usually undertaken during Sunday morning while rosters are being finalized. This ensures that available food supplies are allocated and available for each of the 6-day's planned meals.

The Expedition vessels galley is well equipped and has a two-burner gas stove and a gas oven. Most meals can be cooked on the gas BBQ out on the stern deck. The galley oven is slow so if you plan to use it early preparation is important

Those on 'Chef's' roster are only responsible for food preparation and cooking. Washing up and cleaning in the galley and saloon is a volunteer arrangement on an honor basis. We all take turns during the week. Washing up needs to be completed promptly after a meal is finished to clear the saloon for ongoing data entry and presentations.

It has become a source of delight and wonder at how different the menus and meals are each week of the Expedition. The creativity and individuality of all involved in the 'Chef's' roster is a source of surprise and culinary delight to all aboard!

10. Ships Accommodation & Sleeping

Sleeping berths consist of four double bunk cabins. Each Team Member will be allocated a personal storage space in one of the cabins. Interns are allocated to cabins on a shared basis and sleeping arrangements are sorted out during your first day aboard. There are two additional sleeping locations on the rear deck seats and two on the flying bridge. (See *Packing considerations* in Travel planning Information).

A fitted bed sheet for each double bed and pillows with pillowslips are provided. So please bring your own sleeping bag for use on the beds and/or for sleeping outside under the stars in swags. (See *Packing considerations* in Travel planning Information)

As an alternative to sleeping in-doors we carry several single canvas bush swags, with mattress included, for sleeping out under the stars on the forward deck. These are weather proof and have proved extremely popular over the years.

11. Water Supply

The Expedition vessel has two freshwater tanks. They are located in the port and starboard hulls, and each holds 500 liters, a total of 1000 liters of fresh water. If care is taken with usage this covers our fresh water needs for the 6-day duration of each weekly segment of the Expedition. Hot water is heated by the running of the vessel's starboard engine.

The highest usage of water occurs during food preparation, washing dishes in the galley and showers. The Captain will inform all aboard when the first tank runs dry which provides an indication of the rate of water usage. Be careful and thoughtful about the usage of fresh water. On the occasions when swimming is permitted there is an opportunity to rinse hair and wash down in seawater.

Two plastic containers filled with seawater are used for a pre-rinse and pre-wash of the galley dishes and equipment. For the final rinse the galley sink only needs to be filled by a third with fresh water. Using a minimal amount of detergent will assist with the economy of water usage in the galley.

12. Electricity

House and engine batteries are charged daily by the engines and provide a 12V supply of electricity for lights, water pumps, toilet pumps, navigation instruments and navigation lights. We ask all aboard to use lights carefully and turn them off when they are not being used.

An inverter provides a limited 240-volt supply for the research equipment, presentation equipment, research computers, hydrophones and for charging the batteries for the research cameras and other research equipment. (See *Packing Considerations* in Travel planning Information)

13. Garbage & Toilet

We operate within a Marine Park so all garbage must be kept on board, stowed and returned for disposal at Urangan Boat Harbour. Do not throw any garbage overboard.

There is a small garbage container in the galley and in the toilet. When garbage containers become full, they are transferred to a larger garbage bin on the main rear deck. When the rear deck bin fills it will be double bagged and stowed in the forward deck hull storage locker. When we return to port all garbage is transferred by trolley to council waste bins at the Harbour.

The expedition vessel has two shower/toilet compartment in the portside & starboard Side hulls with a fresh water shower and standard marine toilet. The marine toilet has a simple button flushing system that uses seawater to flush through to an in-built treatment system.

To avoid toilet blockages, use only the toilet paper provided and dispose of any other items in the rubbish container provided. **Do not flush tampons, face-wipes or any other foreign items or objects down the toilet because they will immediately become wrapped around the macerator blade causing the toilet to block, back up and overflow.**

TRAVEL PLANNING INFORMATION

14. Before you leave

14.1. Departure Point

The expedition vessel is moored at the Great Sandy Straits Marina, Urangan Boat Harbour, Hervey Bay, Queensland, Australia (**Google Map place marker: gssm.kmz**). Urangan is 6 kilometers south of the main Hervey Bay township of Pialba and less than 10 minutes by taxi from the Hervey Bay airport. For maps and useful local information see: <http://www.frasercoastholidays.info/> & <http://maps.google.com.au/>

14.2. Joining and Leaving times

Boarding time is at 0730 each Sunday for a departure time of 0800 from the Urangan Boat Harbour. We return to harbour at approximately 1430 the following Friday for disembarkation (return time may vary subject to weather conditions). If you need to contact us in Hervey Bay our mobile number is 0418 797 326.

14.3. Transport to Hervey Bay

There is plane, bus, road and train access to Hervey Bay. See Queensland Tourism site for useful information and contacts: <http://www.tq.com.au/>

14.3.1. Plane

A number of major international airlines have flights to Brisbane and Sydney. Brisbane airport in Queensland is the closest international airport to Hervey Bay for overseas visitors. Qantaslink (<http://www.qantas.com.au/regions/dyn/home/qualifier-region-au>) have daily flights to Hervey Bay from Brisbane. Virgin Airlines and Jetstar fly directly between Sydney and Hervey Bay. Hervey Bay airport to Urangan Boat Harbour is a 10-minute taxi ride and most accommodation places in Hervey Bay provide pre-arranged complimentary bus service pick-ups from the airport

14.3.2. Bus

McCafferty and Greyhound operate bus services daily from the Eastern Capitals to Hervey Bay. The main bus depot is at the Bay Central Shopping complex, Pialba, Hervey Bay. Urangan Harbour is 6 kilometers south of Pialba. A local bus service operates from Pialba to Urangan, or taxi services are available. Most accommodation places provide pre-arranged complimentary bus service pick-ups from the main bus depot at Bay Central.

14.3.3. Road

Access to Hervey Bay by road is north from Brisbane on the Bruce Highway. At Maryborough follow the signs to Hervey Bay. The road from Maryborough to Hervey Bay runs into Pialba and there is a well-marked ring road that runs straight through to Urangan Boat Harbour. Use <http://maps.google.com.au/> for a route map and directions.

14.3.4. Train

There is a train service from Brisbane to Maryborough with a bus connection to Hervey Bay.

15. Car Parking

There is public parking at the Urangan Boat Harbour, however we do not recommend leaving your vehicle in the public car park for your time aboard. There is secure parking near The Great Sandy Straits Marina Resort at:

- Urangan Boat Harbour - Phone (07) 4128 9999. Web <http://www.greatsandystraits.com.au/>
- Fraser Magic 4WD Hire, Kruger Court, Hervey Bay (On the way to the airport) - phone: (07) 4125 6612 - Web <http://www.fraser4wdhire.com.au/>.

16. Accommodation in Hervey Bay

You will need to book accommodation in Hervey Bay prior to joining and after leaving the Expedition. There are a number of resorts, hotels, motels, back-packers lodges and caravan parks in the area. Remember that during the whale season accommodation is scarce, **so it is imperative you book early**.

For general accommodation information and contacts see the Hervey Bay Tourist Bureau website: <http://www.frasercoastholidays.info/>

Accommodation facilities at or close to Urangan Boat Harbour include:

- Great Sandy Straits Marina Resort – (07) 4128 9999. Web: <http://www.greatsandystraits.com.au/>;
- The Outrigger Resort - 07 4197 8200. Web: http://www.outrigger.com/hotels_detail.aspx?hotel=67;
- The Kondari Resort - (07) 4128 9702. Web: <http://www.kondari.com.au/>;
- The Colonial Log Cabin Resort - (07) 4125 1844;
- The Harbour View Caravan Park - (07) 4128 9374.

17. Travel, Baggage and Medical Insurance

We strongly recommend you obtain appropriate levels of personal insurance covering your journey to and from the Expedition including loss or misplacement of your luggage or personal equipment and adequate insurance coverage in the event of any medical emergency. This is your personal responsibility and your Travel Agent and/or insurance agent should be able to provide appropriate professional advice.

18. Contact Information

If you need to contact us while planning and preparing for travel or if you have any questions or queries, use email: <mailto:wally.trish@oceania.org.au>. Once in Hervey Bay contact us on our mobile 0418 797 326. We check both emails and the mobile message service regularly.

19. Expedition Conditions

The Whale Research Expedition takes place in Hervey Bay in late winter and early spring during the months of August, September and October. Weather conditions in the Hervey Bay region are summarized in *Figure 4* below.

Figure 4: Hervey Bay Climate Information

Month	Mean Temperature °C		Mean Total Rainfall (mm)	Mean Number of Rain Days
	Daily Minimum	Daily Maximum		
Jan	21.8	30.5	266.7	13.9
Feb	21.7	30.2	283.0	14.8
Mar	19.8	29.2	265.9	15.6
Apr	17.4	27.3	159.1	11.8
May	15.1	24.7	130.1	10.1
Jun	11.1	22.9	97.8	7.5
Jul	10.4	22.0	84.9	6.9
Aug	11.2	23.0	52.1	6.2
Sep	13.9	25.1	61.3	6.6
Oct	16.5	26.3	103.9	8.9
Nov	19.4	28.2	130.9	10.5
Dec	20.6	29.6	180.7	11.3

Source: <http://www.worldweather.org/>

Generally wind conditions are mainly influenced by the steady southeasterly trade winds at this time of year. However, weather systems move consistently through the area from the west and can be associated with changeable and sometimes strong winds. On average over the last few years there have only been a few days during the season when we were unable to conduct research owing to weather conditions.

20. Health Considerations

If you are traveling from overseas please ensure that you are aware of any health requirements related to travel between your country and Australia. This information should be available from your Travel Agent.

Participants joining the Expedition are required to make a declaration that they are physically fit to spend a week aboard a sea-going catamaran. If you have any doubts or concerns about your fitness to participate you should consult your Doctor. Tasks assigned to Interns involve light physical activity and require only a general level of fitness. If you have any medical condition that you think might be an issue with your participation in the Expedition it is your responsibility to declare the condition and seek your doctors advise as to whether or not it might interfere with your fitness to participate with the Research Team aboard the Expedition vessel.

21. Packing Considerations

21.1. Expedition briefing notes

This section should be read in conjunction with your *Expedition Briefing notes*.

21.2. Baggage

Use a medium sized soft traveling bag such as a duffel bag or nylon barrel-shape zip bag. A good planning size is approximately 30cm wide x 30cm high x 65cm long.

A soft traveling bag can be stowed away easily, whereas a suitcase is just too awkward and bulky and there is very limited stowage on board.

NOTE: If you are on a longer trip and traveling with more luggage than you will need aboard the Expedition, please make prior arrangements to leave ashore what you will not need aboard. The accommodation you are using in Hervey Bay, prior to and after the Expedition, will usually provide guests baggage storage facilities.

21.3. Bedding

A sleeping bag is essential. We provide a fitted bed sheet and pillow with pillow case on-board the Expedition vessel. If you have a favorite pillow please feel free to bring it.

You have the option of sleeping out on deck and will not need any extra gear to do so. We have available, waterproof canvas bush-swags with mattresses and airbeds

21.4. Clothing

Casual clothing is fine aboard the Expedition. Include shorts and t-shirts and/or slacks and shirts for during the day. Evenings and early mornings may be cool on deck - so a warm top and/or jeans and tracksuit pants are worth including. A waterproof/windproof jacket is essential. Do not forget to bring a sun-hat, sunscreen and sunglasses. You will also need to bring two towels.

21.5. Accessories

Only you know your own personal needs (such as a particular herbal tea or bottled water) and what comfort and ease means to you, so bring what you feel you need. All we ask is that you try to fit all you bring into your medium sized soft traveling bag. You will be surprised how little you need on a ship at sea.

21.6. Personal Cameras, Computers, Mobiles & iPods

If you bring a digital camera, we ask that it be a smaller type camera similar to the Canon Power Shot or Nikon Cool Pix series.

We ask that you **DO NOT** bring personal computers, large cameras or large video cameras or large lenses aboard. This is because of the limited working and storage space available for the research computers and equipment. As well there is a very limited electricity supply for needed research computers, cameras, video and other equipment.

Personal cameras are not permitted on the bridge deck during observations of humpback pods (*See Expedition Briefing Notes*). There is only sufficient space on the flying bridge for those involved in the research work. The photo-id research photographer needs to be able to move quickly and freely around the small area on the flying bridge. There will be plenty of opportunity to obtain personal photographs while you are not assigned to a roster.

If you need extra memory storage space for your personal digital camera images we recommend that you bring sufficient memory cards to cover your needs for the 6 days.

If you want personal music aboard bring your iPod. However it is a safety requirement that you do not use your iPod or your personal camera while on a roster. We ask that the use of mobile phones while aboard be kept to an absolute minimum.

Batteries for personal devices such as iPods, digital cameras, video cameras and mobile phones can be charged only if power slots are not required for research cameras and other research equipment.

21.7. Contact or questions about travel & packing

If there is anything we haven't covered or you have any questions or queries about packing or travel considerations please email us at: wally.trish@oceania.org.au

22. Emergencies in the Field

In the event of an emergency, there is access to the Hervey Bay Hospital by cell-phone and Volunteer Marine Rescue, Hervey Bay (VMR466) by either radio or phone. If required First Aid can be provided by Expedition staff.

Proximity to Medical Care	
Expedition Staff certified in Senior First Aid	Staff members of The Oceania Project will be on the Expedition vessel throughout the project
Nearest Hospital	Hervey Bay Hospital Cnr Nissen Street & Urraween Road Pialba Qld 4655 PO Box 592 Hervey Bay Qld 4655 Phone: +61 7 4120 6666 Fax: +61 7 4120 6799 http://www.health.qld.gov.au/wwwprofiles/fraser_hervey_hosp.asp
Distance to Hospital	Approximately 8km from Urangan Boat Harbour. The farthest the Expedition vessel travels from Urangan Boat Harbour is approximately 4 hours vessel travel time.
Volunteer Marine Rescue Hervey Bay (VMR466), located at Urangan Boat Harbour	In the event of a serious medical emergency the VMR Rescue vessel could reach us within an hour or less depending upon our location at the time. http://vmr.herveybay.info/index.php

23. Helpful Resources

23.1. Project-related and Principal Investigator Websites

- The Oceania Project website: <http://www.oceania.org.au>
- SCU Whale Research Centre: <http://www.scu.edu.au/research/whales/aboutus.html>

23.2. Useful Visa Information

- General: <http://www.embassyworld.com>
- For Japanese citizens: http://www.rainbowt.jp/travel/visa_top.html
- For Australian citizens: <http://www.travel.com.au>
- Passport Visa Express: <http://www.passportvisaexpress.com>
- The Visaservice: <http://www.visaservice.co.uk>
- Thames Consular Services Ltd: <http://www.visapassport.com>

23.3. Travel Guidebooks, Booksellers & Maps

- Google Earth <http://earth.google.com>
- Lonely Planet travel guidebooks and site: <http://www.lonelyplanet.com>.
- The Rough Guide travel guidebooks and site: <http://travel.roughguides.com/>
- Amazon: <http://www.amazon.com>
- Barnes and Noble: <http://www.bn.com>
- Airport Codes Worldwide: <http://www.logisticsworld.com/airports.asp>

23.4. Travel and Airline Resources

- Virgin Blue Australia: <http://www.virginblue.com.au/>
- JetStar Australia: <http://www.jetstar.com/au/index.html>
- Qantaslink: <http://www.qantas.com.au/regions/dyn/home/qualifier-region-au>
- Greyhound & McCaffertys Australia: <http://www.greyhound.com.au/default.aspx>
- TravelOnline: <http://www.travelonline.com/>
- TravelOnline - Queensland central coast: <http://www.qldcoastholidays.com/>
- TravelNotes.org: <http://www.1800-fly.com>
- Weather Zone Australia: <http://www.weatherzone.com.au/index.jsp>
- Hervey Bay: [Current Weather Conditions](#).
- Hervey Bay: [Year Round Weather](#)
- World Travel Guide: <http://www.worldtravelguide.com>
- Cheap Flights (worldwide): <http://www.travelix.com/> or <http://www.discountair.com/>
- Airport Codes Worldwide: <http://www.logisticsworld.com/airports.asp>
- Third World Traveler – Links: http://www.thirdworldtraveler.com/Travel/Travel_Links.html
- STA Travel (US): <http://www.statravel.com> Tel: +1 800 781-4040
- STA Travel (UK): <http://www.statravel.co.uk> Tel: +44 (0) 1865
- Wexas International (Europe): <http://www.wexas.com> Tel: +44 (0) 20 7581 8761
- UK Foreign Office travel advice: <http://www.fco.gov.uk/travel>
- Travel website for Australia: <http://www.smartraveler.gov.au>
- Uniglobe Travel: <http://www.onetravel.com/Air/AirSearch.aspx?module=Eair&DK=1000010265>
- Frosch International Travel: <http://www.froschtravel.com> Tel: +1 713 850-1566
- Austin Travel: <http://www.austintravel.com> Tel: 1-800-762-9772 Country Information
- Country Reports - country information from around the world: <http://www.countryreports.org>
- National Geographic Map Machine: <http://plasma.nationalgeographic.com/mapmachine>
- U.S. State Department: <http://www.state.gov/>
- World Time Servers: <http://www.worldtimeserver.com/> or <http://worldbuddy.com>
- Currency Converter: <http://www.xe.com/ucc/>
- Telephone dialing from and to anywhere: <http://kropla.com/dialcode.htm>
- Online Unit Conversions: <http://www.onlineconversion.com>
- ATM Locator - Visa: <http://visa.via.infonow.net/locator/global/jsp/SearchPage.jsp>
- ATM Locator - Mastercard: <http://www.mastercard.com/atmlocator/index.jsp>
- Heat Index (temperature and relative humidity): <http://www.weatherimages.org/data/heatindex.html>
- Exhaustive List of Weather Resources: <http://cirrus.sprl.umich.edu/wxnet/servers.html>

23.5. Health Information

- US Travel Clinic Directory: <http://www.astmh.org/scripts/clinindex.asp>
- Travel Health website: <http://www.mdtravelhealth.com> is a resource for healthy travel.
- Center for Disease Control: <http://www.cdc.gov> Tel: +1 800 311-3435 or +1 888 232-3228
- World Health Organization: <http://www.who.int>
- The Travel Doctor (Australia): <http://www.tmvc.com.au> Tel: +1 300 658-844 (within AU)
- Disease Outbreaks: <http://www.who.int/csr/don/en/>

EXPEDITION PACKING CHECKLIST

Essential Items

- Your copy of the *Expedition Briefing Notes*
- Photocopies of your passport, flight itinerary and credit cards in case the originals are lost or stolen; the copies should be packed separately from the original documents
- Passport and/or visa (if necessary)
- Sleeping Bag

Do not bring on board

- Personal Computers
- Large digital cameras, or large video cameras with large tele-photo lenses
- Any un-needed luggage (make prior arrangements to store ashore)

Required Items

- Clothing: t-shirts/shirts, shorts, slacks/jeans
- Waterproof/Windproof jacket
- Sweatshirt and/or tracksuit (for cool evenings/mornings)
- Deck style shoes
- Sunglasses
- Sun hat
- Sunscreen lotion

Personal Supplies

- Personal toiletries,
- Antibacterial wipes or lotion (good for “washing” hands while in the field)
- Personal first-aid kit (e.g. sun-burn ointment, antibiotics, antiseptics)
- Personal medications
- Motion sickness remedy

Miscellaneous

- Small style digital camera,
- Extra camera batteries
- Extra memory storage cards for personal camera.

Optional Items

- iPod
- Earplugs
- Reading material