



WHALE PATROL

A **STUDY GUIDE** BY ANDREW FILDES

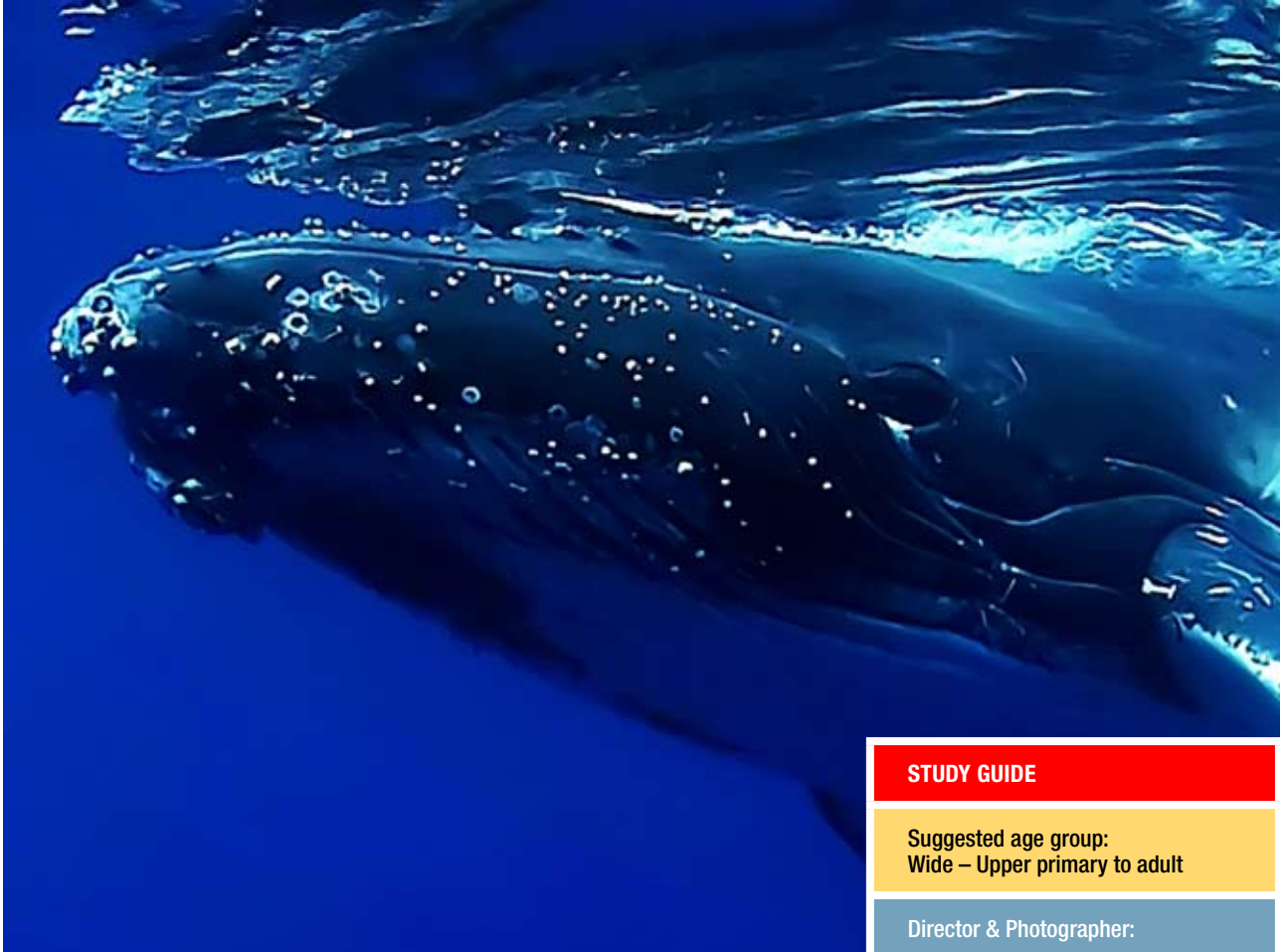


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Whale Patrol (Leighton De Barros, 2009) concerns itself with problems encountered by Humpback and Southern Right Whales as they make their annual migration from Antarctica to the waters off the Western Australian coast. And the problems of the team charged with rescuing them from entanglement in fishing gear.

It is suitable for primary school children so long as some scenes are not shown (see below) as it deals with one of the most physically challenging aspects of wildlife rescue.

Equally it is suitable for junior and middle level SOSE students in Secondary schools with the same proviso. In senior school, it would be appropriate

for Geography, Environmental Studies/ Science courses.

The wildlife management components would be suitable for tertiary Environmental Management units, especially the parts dealing with the modification of fisheries for environmental reasons and the ethics of euthanasia.

Important Note:
The second half of the documentary includes explicit footage of whale euthanasia which is unsuitable for younger students and is challenging for all viewers, although valuable. Teacher preview and selective use of the program is strongly recommended for use with students under fifteen years old. Check the Time Log for details.

Introduction

The ocean is not the world's rubbish dump. Tonnes and tonnes of lethal debris is still being dumped into our oceans, debris that is responsible for killing and maiming marine wildlife – whales, seabirds, dolphins, turtles and many other marine animals are suffering greatly and it has to stop.

– Leighton De Barros, Director

STUDY GUIDE

Suggested age group:
Wide – Upper primary to adult

Director & Photographer:

Leighton De Barros

Producers:

Jodie and Leighton De Barros

Executive Producer:

Dione Gilmour

Writer:

Michael Bright

Narrator:

Catherine McClements

Music:

Tim Count, Keith Van Geyzel

Produced by Sea Dog TV International Pty Ltd in association with ABC TV and the assistance of ScreenWest.

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Duration:

52 minutes

Aspect ratio: 16:9



KEY THEMES

General

Marine pollution
 Marine ecosystem
 Wildlife management
 Fisheries management
 Human impact on the natural environment
 Incident risk management

Specific

Whale ecology
 West Australian conservation (DEC)
 Marine wildlife officers
 Work and techniques
 Animal euthanasia and cruelty

Synopsis

Whale Patrol follows the annual journey of Humpback whales as they leave their summer feeding grounds in the Antarctic to travel to tropical waters off the west coast of Australia to breed. It's a journey that they have been making for thousands of years, and there are many dangers, not all of them natural.

Australian winter storms can be a threat, as can exhaustion, disease and predators eager to pick off the old and tired as well as the calves. But the whales' greatest threat is man-made – a potentially fatal obstacle course of nets, buoys and ropes. The WA coast is one of the largest lobster fisheries in the world. Whales are air-breathers and so entanglement can mean a slow and painful death for a humpback

whale as it struggles to reach the surface, weighed down by a necklace of ropes and pots.

So an elite team of wildlife officers are ready. Led by whale rescue veteran Doug Coughran they are the 'Whale Patrol', the whale rescue team of the Department of Environment and Conservation (DEC). This documentary is a world-first – with unprecedented access to a highly skilled whale disentanglement crew, 'Whale Patrol' captures the drama, action and raw emotion of whale rescue through the eyes of the environmental guardians who are at the coal face. The camera work is exciting, engaging and at times, unique.

It's whale season. The emergency calls are coming in and freeing a distressed 30,000 kilogram whale in dangerous

seas is not for the timid – but with thirty years of whale rescue experience, Doug is up to the challenge. Relying on his vast knowledge of whale behaviour and the skill, speed and razor-like precision of his crew, Doug frees an entangled humpback. This one is lucky. Its injuries are not debilitating and it's quickly on the move.

But it's not just those whales who run into trouble out at sea that need the Whale Patrol's help. When a young calf loses its way and gets beached in the shallows, it's too late to help and Doug and his crew are faced with the first casualty of the season. But there's little time for reflection – with more sightings and emergency calls coming through, Doug and his crew are soon on their way to investigate a new entanglement sighting. Along the way, they witness some unique and spectacular whale behaviour, before pulling off another successful disentanglement. It's all in a day's work but sadly they can't all be saved ...



Whale Patrol tackles the confronting and sensitive issue of whale euthanasia as Doug and his crew members make an emotional decision to end the life of a beached whale which has no hope of survival, only a painful, lingering death ahead of it. Killing an animal of this size quickly and humanely presents a challenge and the solution is neither pleasant nor easy to watch. But it is a necessary task and part of the work of these environmental watchdogs.

With breathtaking whale footage and unprecedented access, *Whale Patrol* is the exhilarating and moving story of the fight to protect the migrating whale population off the coast of Western Australia.



Specific Content

Southern Humpback whales feed during the summer in Antarctic waters, building up their body fat reserves. As winter approaches, they head north for tropical waters to mate and give birth. Separate populations migrate up the East and West coasts of Australia in autumn but the largest group cruise the coast of Western Australia. Up to 17,000 individual whales follow this 11,000 kilometre path every year, believed to be the largest community of Humpbacks in the world and possibly approaching the numbers of the pre-whaling era. They are joined by other species, such as Southern Right Whales, Minke Whales, Killer and False Killer Whales and Pilot Whales.

Every year a number of whales get entangled in lobster pot lines off the coast of Western Australia. Up to 50,000 lobster pots are in place every day at this time of year in one of the largest lobster fisheries in the world, catching the Western Rock Lobster that we call a crayfish. Freeing the whales before they drown under the added burden is one of the most challenging tasks faced by any wildlife rescue and management team.



The process involves cutting away the encircling lines with a specially designed sharp knife on a long pole, guided by an underwater camera and a skilled operator. They have become so expert that in recent years, they have saved every entangled whale that they were able to reach in time.

Between 1990 and 2008 there have been a recorded fifty-six whale entanglements along the Western Australian coast including forty-nine Humpbacks, five Southern Rights, one Minke and one Brydes whale. Of these, twenty-nine have been successfully disentangled, a 51.7 per cent success rate. In the last few years there have been almost no entanglements, thanks to changes in practice negotiated with lobster fishermen. An environmental success story achieved by tackling the problem at source.



Cast

Doug Coughran, Senior Wildlife Officer from the WA Department of Environment and Conservation has been working in these waters and saving whales, dolphins, marine turtles, sea lions, seals, sea snakes and other marine animals for over thirty years. Doug is the team leader for the DEC whale rescue team and specializes in rescuing whales that are entangled in marine debris at sea. But he is also in charge of training other Australian government wildlife conservation agencies, personnel from New Zealand and some South Pacific nations in the latest whale disentanglement techniques. Having spent time in the United States through a Churchill fellowship program actively involved in whale disentanglement and learning the latest rescue techniques, Doug is at the forefront of his field.

Director's Statement

Our track record is nothing to be proud of – our greed and self-centeredness has been responsible for the horrendous, wholesale slaughter of whales over the last two centuries, virtually annihilating many species. Thankfully, most whale populations are making a comeback, but for those such as the Northern Right Whale, of which there are only around 400 left in the world, the outlook is still dire. Along with many other concerned global citizens, I strongly support anti-whaling practices and find it difficult to believe that even today, some nations are still actively whaling.

The ocean is not the world's rubbish dump. Tonnes and tonnes of lethal debris is still being dumped into our oceans, debris that is responsible for killing and maiming marine wildlife – whales, seabirds, dolphins, turtles and many other marine animals are suffering greatly and it has to stop.

With the increase in whale numbers, there are also increasingly more baleen

whales like Humpbacks or Southern Right whales that will wash up on our beaches injured or sick, and for most, they will be beyond all hope of rescue. In individual cases, after detailed examination and exhaustive tests, euthanasia may be the only humane option. Albeit with entirely good intentions, a lot of people have unrealistic ideas and expectations in regards to saving beached baleen whales. Whale Patrol deals with the confronting and sensitive issue of whale euthanasia, and my hope is that the film conveys the reality that euthanasia is sometimes the only ethical option for ending the suffering of a dying whale.

Whale Patrol also deals with lobster fishing practices. The whales caught in entanglements at sea in the film, were predominantly caught in lobster pot ropes. These pots and ropes are a major hazard to whales on their migratory path along the Western Australian coast. The lobster fishing industry isn't going anywhere – it's worth around \$500 million and provides over 15,000 vital jobs. Thankfully the industry in Western Australia has recognized the



problem and has reacted swiftly and positively. In conjunction with DEC, it has put many operating procedures into practice that have greatly reduced the number of whales being caught in lobster fishing equipment. In 2006, there were five whales caught in lobster fishing gear, in 2007 when the changes were implemented, only one whale became entangled and in 2008, there were no whales caught in lobster fishing equipment whatsoever.

This positive industry response to whale entanglements was a world first and to me, this represents an important shift – people are willing to make changes and these changes, however small they may appear to be on an individual basis, are collectively having an enormous, positive impact on the environment and I believe this is something that we should all work towards.

Links

There are literally thousands of links concerning whales – they are a very popular animal. Here are some of particular interest to the teacher and student. Note that links decay with time – these were live in early 2009.

Whale Patrol:
<http://www.whalepatrol.com>

Australian Federal Government site with details of conservation plans, species lists and status, guidelines and with links to just about every detail needed. Suitable for teachers and senior student research:

<http://www.environment.gov.au/coasts/species/cetaceans/protecting.html>

ABC Online site with details of whale species in Australian waters – suitable for research by junior students:

<http://www.abc.net.au/oceans/whale/type.htm>

Australian Museum site – FAQ on whales:

http://www.austmus.gov.au/mammals/resources/cetacean_faq.htm

Data on Whales and strandings in Tasmania – details of whale biology and lists of reported strandings, including some very rare species. Note the statement that Tasmania does not have a euthanasia policy:

<http://www.parks.tas.gov.au/file.aspx?id=7087>

Community reaction to whale euthanasia:

<http://www.news.com.au/heraldsun/story/0,21985,24226338-661,00.html>

The life experiences of a Tasmanian vet who specialised in whale strandings and euthanasia. Interesting for the details of spectator and media behaviour and responses, p.18 onwards:

http://ses.library.usyd.edu.au/bitstream/2123/1009/1/avhs_046.pdf

Proposed Whale (Cetacean) Conservation Policy – Queensland, pp.9–18. (Out of date but covers the principal threats to whales in detail – suitable for senior research and policy formulation):

http://www.gbrmpa.gov.au/__data/assets/pdf_file/0012/4233/ws020_paper_02.pdf



Time Log

All timings are approximate.

Start – 01:00	Prologue; titles
01:00 – 03:00	Migration along Western Australia; hazards
03:00 – 04:00	Entanglement
04:00 – 05:50	Whale rescue training and preparation
05:50 – 13:00	First rescue – location
13:00 – 16:00	Young humpback behaviour – curiosity, breaching
16:00 – 19:00	Strandings after a storm – a dead calf, a sick female
<i>Note:</i>	<i>Slightly distressing scenes of natural whale death</i>
19:00 – 23:15	Southern Right Whales; spectator behaviour; white calf
23:15 – 28:00	Humpback stranding; assessment and euthanasia
<i>Note:</i>	<i>Distressing scenes of small whale euthanasia, 26:30 – 28:00</i>
28:00 – 30:15	Humpback behaviour – singing, fighting
30:15 – 34:40	Entanglement and release
32:30 – 37:30	Lobster fishing and changes in technique – ghost nets
37:30 – 39:20	Surviving humpback injured by entanglement
39:20 – 44:30	Stranding – large, sick whale
<i>Note:</i>	<i>Very distressing scenes of disease and explosive euthanasia</i>
44:30 – 51:00	Deep sea rescue
51:00 – end	Conclusion, credits

Key Questions

Whales are big, fat and hard to cuddle. Why then are we so very fond of them?

What is the most effective solution to whale entanglement in WA – rescue or changing fishing techniques?

An enormous investment is required but over the last twenty years, just over fifty whales have been rescued – two to three per year out of a population of 17,000. Is it really worth the expense and effort?

The death of a sick and stranded whale is a natural process, although upsetting. Is it reasonable to intervene and kill the animal humanely?

Viewing Question Sheet

1. How many whales migrate through WA waters every year?

2. How far do they migrate each year?

3. What is the greatest hazard they face off Australia?

4. How does a whale die if it is entangled?

5. Why is the rescue so dangerous for the wildlife officers?

6. What kind of whale is most likely to become entangled?

7. What is the first and most dangerous job for the crew?

8. Why do they attach buoys to the whale?

9. What is the difficult decision they have to make?

10. What is the name for jumping out of the water and crashing back?

11. How are Right Whales different to Humpbacks?

12. What problem do the spectators cause?

13. Why does Doug put down the stranded whale?

14. Why do Humpback bulls sing?

15. What changes have the fishermen made?

16. What is a 'ghost net'?

17. What does a whale do when it's sick?

18. Why is it dangerous to get close to a stranded whale?

19. How is a very large whale euthanased?

20. What special problems are there with a rescue a long way off shore?

Viewing Questions / Answers



1. How many whales migrate through WA waters every year? *Approximately 17,000*
2. How far do they migrate each year? *11,000 kilometre*
3. What is the greatest hazard they face off Australia? *Entanglement in lobster pot lines and floats.*
4. How does a whale die if it is entangled? *It becomes exhausted, can't swim to surface and drowns – they are air-breathing mammals.*
5. Why is the rescue so dangerous for the wildlife officers? *The animal can be 40,000kg and is stressed – the tail and flippers can kill.*
6. What kind of whale is most likely to become entangled? *Juveniles (young ones).*



7. What is the first and most dangerous job for the crew? *To attach a line to the whale or the tangled ropes.*
8. Why do they attach buoys to the whale? *To stop it diving.*
9. What is the difficult decision they have to make? *Which is the best rope to cut first. (They don't want to partially free the whale and see it swim off still partly entangled.)*
10. What is the name for jumping out of the water and crashing back? *Breaching.*
11. How are Right Whales different to Humpbacks? *They come closer inshore and do not travel as far north.*
12. What problem do the spectators cause? *They accidentally drive the Right Whales into lobster pots and cause an entanglement.*
13. Why does Doug put down the stranded whale? *Because it has no chance of survival, even if refloated.*
14. Why do Humpback bulls sing? *Possibly to get other bulls on-side before mating.*
15. What changes have the fishermen made? *Shorter lines, no clusters of pots and collect any abandoned lines and nets.*
16. What is a 'ghost net'? *An abandoned net which floats forever, killing marine life.*
17. What does a whale do when it's sick? *Head for shallow water where it's safe – it can lie on the bottom and still breathe.*
18. Why is it dangerous to get close to a stranded whale? *A hollow develops underneath and you can get your legs trapped and broken.*
19. How is a very large whale euthanased? *With an explosive charge on the head to destroy the brain.*
20. What special problems are there with a rescue a long way off shore? *They need a special permit to use the small 'Zodiac' boats that far out.*

Task Sheet # 1



Ghost Nets and Garbage

What is a ghost net? Modern fishing boats set long 'gill nets' – these are like a curtain of fine net hanging in the water from floats and are several kilometres long. They are designed to catch smaller fish which swim into them and get caught by the gill covers, the opening behind the head. However, if they break loose, they become deadly, invisible curtains of death drifting through the deep oceans and continuing to catch fish for years. Larger animals like sharks, turtles, dolphins and whales can become trapped in them and drown, unable to reach the surface to breathe. Birds die when they dive for fish, aiming at the trapped fish and becoming entangled in the net themselves.

Some claim that these deadly traps are one of the most serious threats to wildlife in the oceans. Others respond that because the animals killed by them are eaten by other wildlife anyway, they just become part of the normal ecosystem. Either way, they disrupt the normal processes of the ecosystem and can represent a serious threat to endangered species, especially turtles which roam over thousands of kilometers of open ocean.

The director of the documentary, Leighton De Barros, makes particular mention of this problem and of the tendency of people to treat the oceans as a gigantic rubbish bin. Plastics like PVC, polyethylene and nylon net are a particular problem as they never break down completely. Even so-called degradable plastics disintegrate

into a soup of very small particles of plastic. Marine animals ingest (eat) large pieces of plastic like plastic bags which then clog their digestive systems – dolphins mistake floating bags for jellyfish, part of their normal diet. Fine particles can actually become part of the bodies of some smaller animals and then move up the food chain as they are eaten.



The worst areas of the oceans are the areas known as 'Gyres' – huge areas of water where the ocean currents slowly circle and collect any rubbish in the water. The best known is the North Pacific Gyre, a huge area hundreds of kilometers across which is choked with human garbage, mostly indestructible, floating plastics.

Research resources:

<http://www.ghostnets.com.au/index2.html>

http://www.gbrmpa.gov.au/corp_site/info_services/media/media_archive/2008/action_stops_ghost_net_haunting_the_sea

<http://www.youtube.com/watch?v=YPJigrtwyGA>

http://en.wikipedia.org/wiki/Marine_debris

<http://www.environment.gov.au/biodiversity/threatened/publications/marine-debris.html>

<http://www.greenpeace.org/international/campaigns/oceans/pollution/trash-vortex>

STUDENT TASKS:

Research either ghost nets or marine debris in general. Prepare an argumentative essay, PowerPoint presentation, website or poster series demonstrating the scale of the problem, its causes and possible solutions.

Task Sheet #2



Whales in Australia

Every year, twice a year, Australians visit the east and west coasts to observe whales from boats and cliff-tops. It is a major eco-tourism industry. Over the last twenty years we have become fascinated with the largest animals on earth, mammals so big that they can only survive with the support of the water they inhabit. Gravity would kill them.

Humpback Whale

Megaptera novaeangliae

The two most frequently encountered species in Australian waters are the Humpback and Southern Right whales. The Right whale was named by whalers as the 'right' whale to kill because it was richer in oil than any other except the Sperm Whale and floated when killed.

We find the Humpback fascinating because of its strange shape and its habits of singing and of leaping out of the water – breaching. It is a baleen whale, the type that feeds by filtering small creatures out of the water in huge sieves in its mouth and it is a Roqual, the family with dorsal fins and pleats running from mouth to belly.

Research Resources

American Cetacean Society:

<http://www.acsonline.org/factpack/humpback.htm>

Whaling in Australia (with links to other resources):

<http://www.bigvolcano.com.au/human/whaling.htm>

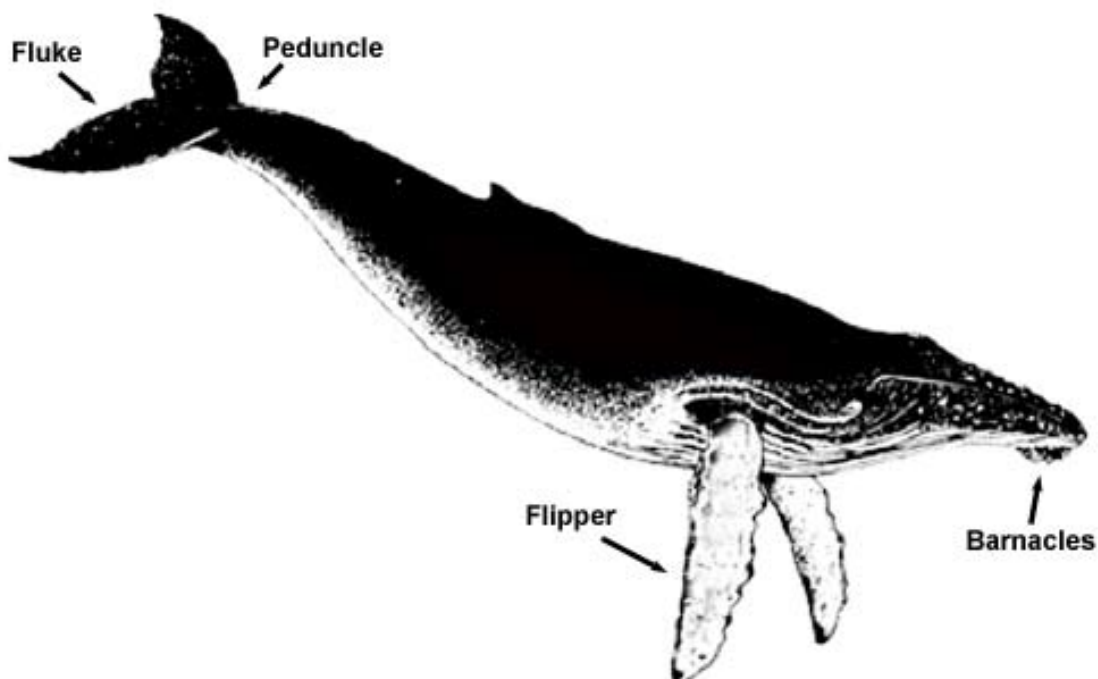
Primary/Junior Secondary (with Humpback song soundtrack):

<http://www.whales.org.au>

STUDENT TASKS:

Research and prepare reports, posters or online materials on either:

- Whale species in Australian waters including sizes, types, habits, range and distribution. Don't forget the smaller toothed and beaked whales.
- Whaling in Australia:
Why was whaling carried out?
Where were the whaling stations?
What species were hunted? When was it banned? What countries are still whaling?
- (Senior) Prepare a management plan for whales in local waters including threat assessments for different species, management strategies for those threats and an evaluation of current practices and problems.
- (Senior) Prepare guidelines for eco-tourism operators which will allow their business, permit members or the public to experience whales and yet still protect the animals.





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AUSTRALIA

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