

1. INTRODUCTION

1.1 Main idea

This unit introduces students to the history of whaling, the effect this has had on whale and dolphin populations, and the steps now taken by the various governing agencies that support their conservation and protection. Explain to students that this theme is the second part of an overall topic that will lead them to develop their understanding on a range of issues concerning Australian whales and dolphins. An outline of the content covered within each unit of work is listed below:

| | |
|---------------|---|
| Unit 1 | Unique features of whales and dolphins. This introductory unit of work enables students to investigate the anatomy, communication, feeding and migratory habits of whales and dolphins. |
| Unit 2 | Whale & dolphin conservation and protection. This unit enables students to learn about the history of whaling, current conservation and protection rules and the agencies responsible. It addresses issues such as the types of research conducted in various countries and the concerns and actions taken by the international community to promote the conservation and recovery of whales and dolphins. |
| Unit 3 | Whale watching. This unit enables students to investigate information regarding rules and regulations applied to the practice of whale watching. It provides opportunities for students to explore the benefits and impacts that whale watching as a tourism industry has upon these marine mammals. |

1.2 Key understandings

- In the past, humans hunted large whales for the materials that could be obtained from their bodies, such as oil and baleen. Because this hunting was not managed sustainably, the effect was a catastrophic decline in whale populations.
- It took a long time for people to realise that our whales were disappearing due to continued hunting (known as “whaling”).
- In 1946, an international treaty was signed by those countries involved in whaling called the International Convention for the Regulation of Whaling (ICRW). The body formed to implement the ICRW was called the International Whaling Commission (also known as the IWC). The main duty of the IWC is to keep under review and revise as necessary the measures laid down in the Schedule to the Convention which governs the conduct of whaling throughout the world. The IWC set limits to the numbers of whales that could be hunted legally. Because of the continuing fall in whale population numbers, in 1986 the IWC implemented a moratorium on further whaling until it could be shown that the populations of whales had recovered sufficiently to allow further whaling.
- Today however, despite the moratorium still being in place, some whaling is conducted by a few countries. Two countries have ‘reservations’ against the moratorium, which means they have exempted themselves from this rule. Where groups have a history of hunting whales for food and other products necessary for their subsistence, ‘aboriginal subsistence whaling’ is permitted (it should be noted that Australian Aborigines never hunted whales or dolphins). Another form of whaling which is still allowed is “scientific whaling” whereby a country issues permits to itself to take whales for

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scientific purposes; however this method of research still requires the whales to be killed. The Australian Government maintains that it is not necessary to kill whales for scientific purposes and that most research can be conducted by non-lethal means.

- Much can be learned about our whales and dolphins by conducting research that does not harm these creatures.
- Despite the efforts and rules set up to protect our whales, for many species the population numbers are still well below what they were before whaling.
- A variety of institutions have been established that are dedicated to the conservation and protection of whales and dolphins.
- As individuals, our actions count. We can all contribute towards the goal of making sure the conservation and protection of whales and dolphins is continued.

1.3 Focus questions

- In the past, why have humans been so interested in hunting whales?
- In what ways are whales and dolphins important to humans in today's society?
- List the different groups of people that use whales and dolphins.
- What are the benefits of conducting research on whales?

Key terms

Biodiversity, conservation, ecosystem, endangered, extinct, flensed, habitat, history, populations, protected, rendered, strandings, subsistence, whaling, bycatch

Key Learning Areas (KLAs)

- Studies of Society and Environment (SOSE)/Human Society and Its Environment (HSIE)
- Science & Technology
- English
- Visual Arts

2. SAMPLE LEARNING AND TEACHING SEQUENCE - TUNING IN

2.1 Why is the conservation and protection of whales and dolphins necessary?

Pose questions to the class such as:

- Q What do we already know about the practices of whaling in the past? Do these still occur today? Why?
- Q Outline the negative impact that can occur from using whales and dolphins.
- Q Do you think the attitudes of people on the issue of whaling changed over the years? Why?
- Q What are some of the methods used to help us learn more about whales? Are these harmful to the whales and dolphins?
- Q Do you think that whaling should be allowed to continue? If so, which group(s) should be allowed to continue whaling and why?
- Q Who has the power to make a positive contribution towards the conservation and protection of whales and dolphins?

Facilitate a whole-class discussion. Capture student responses, asking students to draw and record comments offered by the class, arranging this in a manner that is suitable (i.e. using a brainstorm diagram, listing). Retain this chart as a reference tool to display at the end of the unit to illustrate how students' understanding about this issue has increased throughout the unit and the overall topic.

3. PREPARING TO FIND OUT

As a class, discuss student responses to the following questions:

- Q What do we already know about the history of whaling?
- Q Have people's attitudes towards whales and dolphins changed over the years? If so, what has changed?
- Q What happened that made people think that the "old ways" of whaling should not be allowed to continue?
- Q What steps are being taken in today's world to ensure the conservation and protection of whales and dolphins remains a priority? Who makes these decisions?

Debrief:

- Using flip chart paper, create a separate sheet for each of the questions, using the questions as a heading for each sheet.
- Nominate students to act as scribe and record student responses, listing each of the comments as offered by students.
- Store these sheets for display and future reference further on within this unit and overall topic.

3.1 Setting the inquiry

The following list offers a suggestion of tasks to be completed by students once they have completed their research within the *finding out* and *sorting out* stages of inquiry.

For upper-level students (Yr 6-8)

Explain to students that the research activities they are about to undertake will equip them with the information they need to develop and deliver the following item(s).

- Record a video presentation. Working as a whole class, this task involves students completing all aspects of the production of a news item on an issue concerning the conservation and protection of whales and dolphins. Elements or roles required to complete the task would include: the selection and agreement on the issue, researching the issue, script writing, planning and managing the overall project, directing the acting/recording, design of stage sets & costumes, etc. The recorded interview is to run for 3 to 5 minutes. The segment can be presented to other students during a school assembly or at a school event where parents and the community can attend, and can form part of student assessment portfolios.

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- Prepare and present a play. This task is similar to the one described above, however rather than recording the interview. students write a play that depicts the behind the scenes effort required to produce an interview for a TV network. The play will depict each of the stages involved in deciding upon and researching the issue, conducting interviews and arranging this information in order to produce an interview on the topic of conservation and protection of whales and dolphins. This task is an extension alternative to the task listed above as it requires more reflection, consideration and planning – students will have to consider not only how to gather and present appropriate information, but also the process required to collect and present an activity such as researching and conveying a message. The play should conclude with a statement or discussion amongst staff that gives an insight as to their own opinion on the issue and what impact they believe the interview will have on the audience.

For mid/upper-level primary students (Yr 5 & 6 and 7-8)

- Hold a debate. Students research the issues relating to the following statements and conduct a debate. This would be performed both in class, then possibly at a whole school or community event. Divide students into groups of six (6), allocating the three (3) “for” and “against” students within each group. Assign the following statements (either randomly or selectively). Some students will have experience in debating; however others will require support to plan for and prepare for the debate (such as structure and approach, how to present and participate in a debate).

Sample debate statements:

1. Industry, not individuals, can make the biggest impact on the conservation and protection of whales and dolphins.
2. There is no place in today’s society for whaling – it should be banned altogether.
3. Whales and dolphins are no longer under threat now that there are rules to protect them.
4. Whale strandings are a purely natural phenomenon – they have nothing to do with the actions of humans.
5. The lessons of history have taught humans the real value of our whales and dolphins.

For mid-level students (Yr 3-5)

- Prepare and deliver a presentation on the history of whaling in Australia. Working in pairs, students produce a factual recount report (either describing a specific event or providing a general background) on the history of whales and dolphins in Australia. The report should conclude with a statement describing if and how this is different to what happens today. The presentation may be created using PowerPoint or art materials. After students have delivered their presentations, facilitate a whole-class discussion as a way of supporting students in make connections about why the conservation and protection of whales and dolphins is so important.
- Create a brochure that promotes the protection of whales. Working individually, students produce a factual recount to describe either specific or general events that occurred in Australia’s history related to whales and dolphins. Students devise and include a title and brief catch-phrase to head the brochure. The presentation may be created using PowerPoint or visual art materials.

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- Select, investigate and present a report on two (2) different organisations whose main work is to support the conservation and protection of whales and dolphins.

Depending on age and ability, students would work individually, in pairs or groups of 4 to produce these reports. Students would then present their findings by selecting and using an appropriate text type of their choice based on the number of people in the group. For example, individuals may choose to write an information report, pairs might produce a poster, groups or 4 students may prepare a poster or create a multi-media presentation (which would enable the equitable division of effort and allow for independent work to occur prior to group reforming for the collation and production stages).

For each organisation selected, students gather, arrange and analyse the following information. Younger students may require a more scaffolded approach during the location of resources and research stage.

- Q What is the name of the organisation? Where was it founded? Where are its offices? Is the organisation large or small?
- Q How did you find out about the organisation?
- Q Who owns the organisation? For example, is it a privately run company or part of the Government?
- Q Where does the money come from to run the organisation? (Government funded, grants, donations, public company)
- Q What are the goals of the organisation?
- Q Whose interests are being met if the organisation achieves its goals?
- Q What types of activities are conducted?
- Q Is the community able to get involved in any of the activities conducted by the organisation? If so, what are these?
- Q Is the organisation achieving its goals? How do you know? How does it measure its success?
- Q What type of employment opportunities exist within the organisation?
- Q Does the organisation promote or advertise its activities? If so, what methods does it use? Is it well recognised within the community?
- Q What is your opinion on the work that the organisation undertakes?

The report should conclude with a statement that summarises how each organisation is different or similar and include a personal opinion comment regarding which organisation the students would support and why.

- Conduct a role play – Interview between a TV presenter and an industry expert. Working in pairs, students identify an issue and the key facts to support this and present this using role play. One student will act as the interviewer while the other student will play the part of an industry expert to be interviewed. The “expert” may be from any industry connected with whales and dolphins (not necessarily involved with conservation). Preparation tasks will include issue identification and research, organising the information, selecting the questions and answers to be included within the interview, writing the script for both roles, rehearsing and then performing the role play for the class or another audience.

For lower-level students (Yr K-2)

- Adding to an existing scrap book. Individual work. Students collect relevant illustrations and facts and arrange them to demonstrate the ideas learned during this unit. This is a continuation activity from that undertaken within the “Unique features of whales & dolphins” unit. As students work through their inquiry within each of the 3 themes (Unique features, Conservation and protection, and Whale watching), a new “chapter” of this scrap book (computer based or made using art materials depending on interest or ability) will be made, creating a visual representation of the learning pathway as their knowledge of the topic deepens and expands.

This activity will be repeated within the final unit (Whale watching), where students will add the final “chapter” of their whales and dolphins research to complete their scrap book for presentation and display within the classroom or Library.

4. FINDING OUT

4.1 Resources

| Content areas | Object | Location |
|--|--|---------------------------|
| The history of whaling around the world | History book shelf | Library |
| History of whaling in Australia | Notice board, “Save Our Whales” brochure | Office |
| About the International Whaling Commission (IWC) | Computer | Office |
| Recommendations of Australia’s “Frost Inquiry” | Notice board, “Frost Inquiry” report | Office |
| How whale populations suffered during the hunting years | Poster behind the librarian | Library |
| Timeline of how whaling activities have changed | Clock | Office |
| How whales and dolphins populations are recovering after the hunting years | “Say No” poster | Research Centre |
| Countries that still do whaling for commercial and scientific research | Notice board, postcards | Research Centre |
| Subsistence whaling | Spear artefact | Office |
| Images of whales & dolphins in their natural habitat | Projector screen | Library |
| Video footage showing whales & dolphins in their natural habitat | Porthole TV monitors | Office Research Centre |

Theme 2: Whale Conservation & Protection

To complete the tasks provided to students (explained in the section “Setting the inquiry”), students will use a variety of web-based and library resources to investigate the questions listed below.

1. DEW Whales and dolphins application – objects and location as per the above table.
2. <http://www.iwcoffice.org/commission/iwcmain.htm>
3. <http://www.environment.gov.au/coasts/species/cetaceans/protecting.html>
4. <http://www.environment.gov.au/biodiversity/threatened/index.html>
5. <http://www.environment.gov.au/coasts/publications/whale-protection.html>
6. <http://www.environment.gov.au/coasts/species/cetaceans/history.html>
7. <http://www.environment.gov.au/coasts/species/cetaceans/rescue.html>
8. <http://www.environment.gov.au/coasts/species/cetaceans/industry.html>
9. <http://www.environment.gov.au/biodiversity/threatened/conservation-advice.html>
10. <http://www.nht.gov.au/nht1/programs/mspp/index.html>
11. <http://www.environment.gov.au/coasts/pollution/cowipp/index.html>
12. <http://www.nht.gov.au/nht1/programs/csp/index.html>
13. Online articles from local and international newspaper
14. www.presscom.com.au

4.2 Finding out questions

Impact on the environment

Ask students to think about what it would be like to live in a world where all the whales and dolphins had become extinct.

Q What impact would this have on the marine environment?

Q What would the impact of this be on humans?

Talk to students about the term biodiversity – the variety of species, their populations, habitat and ecosystems.

Ask students to investigate how whales and dolphins contribute to biodiversity within the marine environment. Prompt students to consider their prior learning, for example how whales and dolphins affect the fish population. Talk about the meaning of “ecological sustainability”.

History of whaling

Q Investigate the history of how people around the world have used whales and dolphins. How is this different to today? Why did it change?

Q What impact did this have on whale and dolphin populations?

Q In Australia, how were whales and dolphins used in the past? How is this different to today? Why did it change?

Whales and dolphins today

Q What sorts of human activity could have an impact on our whale and dolphin species?

Q Do you think whales and dolphins have an impact on us humans?

Q How might the activities undertaken by different industries have a negative impact on whales and dolphins?

Prompt students to consider those facts learned in the previous unit (for example, seismic impact of mining and defence activities, entanglement).

Q What is known about why whales and dolphins strand? Is there a particular group of whales and dolphins that strand more often? What is the procedure for assisting whales and dolphins that have stranded?

Discuss how individuals can (and cannot) get involved or help out at a beach whale stranding site.

Q What are organisations and Governments doing to conserve and protect the whales and dolphins in Australia and in other parts of the world?

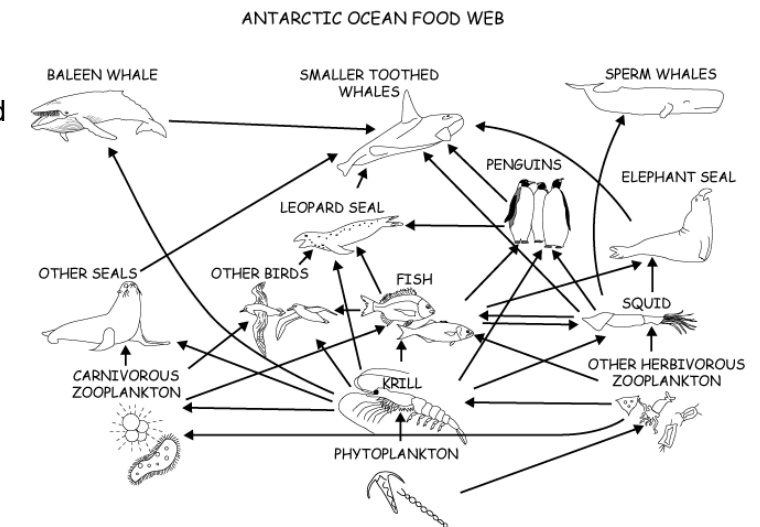
Q How are decisions made about what steps need to be taken to protect and conserve the species?

Q How can we as individuals make a difference?

5. SORTING OUT

- 1. Whole-class knowledge discussion.** Commence the *sorting out* stage of student inquiry by asking students to each share a piece of information learned during their research (*finding out* stage). Facts are to be listed on one side of the board, with students then asked to nominate how the information might be sorted into categories. Ask for various volunteers to assist in drawing and developing a brainstorm chart, ticking off each listed fact as it is assigned. Keep a record of these findings as this chart will be displayed for future reference further within this unit.
- 2. Create a graph to illustrate the changes that have occurred over time to the whale populations.** Working in pairs or small groups, ask students to consider the impact that whaling has had on whale populations, and to present this data using a line graph type. Students gather the information required to include 3 data series on the graph, depicting the following 3 periods: population numbers before whaling, at the end of whaling (the start of the moratorium), and the population of our whales today.
- 3. Create a timeline.** Working individually or in pairs, based on the information gathered and facts learned about the history of whaling around the world and also within Australia, students arrange and display these facts to produce a timeline chart made using art materials.

- 4. Cause & effect diagram (biodiversity).** Working as a whole class, students consider the ecological effects that would occur if our whale and dolphin species were not protected and identify the actions that would cause these outcomes. For older students, this activity would build upon the work undertaken in the previous unit where a food web was developed. If this activity has not been undertaken previously, teachers can commence the activity by displaying a chart similar to that shown below, examining each species and their food source using a reveal technique as they discuss each element of the chart. Students discuss the impact that humans have on whales and dolphins, and the chain of events that that could occur if a single or multiple species became endangered or extinct. The scope of this effect could be limited to the food chain (for younger students) or extended to consider the bigger picture, for example impact on the marine environment and industry. The following marine environment scenario could be given as an example to stimulate a similar discussion about cetaceans:



Sharks eat octopuses, and octopuses eat prawns. What would happen if the sharks became bycatch of prawn trawling (i.e. they are caught unintentionally by prawn trawlers)? (The shark population would reduce, enabling their octopus prey to increase in numbers. More octopuses would eat more prawns, reducing the prawn population. This would mean fewer prawns for the trawlers to catch).

- 5. Pros & cons of whaling.** Working individually, students produce a list of positive and negative outcomes that arise from whaling.

6. **Produce a directory of organisations that support the conservation and protection of whales and dolphins.** Include company name, a sentence that describes the work they do, and the URL of the organisation's website.

6. GOING FURTHER

1. **Extension to “Timeline” activity.** Write a factual recount to support the information presented within the timeline chart. This report can then be orally presented to the class or at a whole-school or community event.
2. **Extension to the “Cause & effect diagram (biodiversity)” activity.** The scope of this cause and effect discussion could be extended by asking students to consider the bigger picture, for example impact on the marine environment and industry. This activity could be carried out as a whole-class discussion or with students working in small groups. The findings of this report are to be written using an exposition text type and presented to the class or at a whole-school or community event.
3. **Extension to the “Pros & cons of whaling” activity.** Building upon the work done previously where students produced a list of positive and negative outcomes that arise from the practice of whaling, students write a few additional sentences for each listed item to further substantiate the statement and list the resources and references they located that support each claim.
4. **Extension of the “Conservation organisations directory” activity.** This investigative activity can be extended to gather information to produce a short summary of each organisation within the existing directory listing. Students extend their investigation to locate the following data for each entry within their existing list:
 - a. What are the goals of the organisation?
 - b. Whose interests are being met if the organisation achieves its goals?
 - c. What types of activities are conducted?
 - d. Is the community able to get involved in any of the activities conducted by the organisation? If so, what are these?
 - e. What type of employment opportunities exist within the organisation?
 - f. Does the organisation promote or advertise their activities? If so, what methods do they use? Are they well recognised within the community?

7. MAKING CONNECTIONS

1. **Whole-class debrief/reflection of knowledge development:** Retrieve the fact sheets drawn up during class discussions at the *tuning in* and *sorting out* stages of this unit of inquiry. As a whole class, review and compare the facts known by the class about conservation and protection issues relating to whales and dolphins.
2. **Complete the inquiry activities** described in “Setting the inquiry”, (pg 3-6). Based on the information gathered during the *finding out* and *sorting out* stages of inquiry, students will now have the information they require to complete the appropriate activities as outlined below:

For upper-level students (Yr 6-8)

Explain to students that the research activities they are about to undertake will equip them with the information they need to develop and deliver the following item(s):

- Record a video presentation
- Prepare and present a play

For mid/upper-level primary students (Yr 5 & 6 and 7-8)

- Hold a debate

For mid-level students (Yr 3-5)

- Prepare and deliver a presentation on the history of whaling in Australia
- Create a brochure that promotes the protection of whales
- Select, investigate and present a report on two (2) different organisations
- Conduct a role play – an interview between a TV presenter and an industry expert

For lower-level students (Yr K-2)

- Adding to an existing scrap book

3. **Write a journal.** Working individually, students reflect on their own learning journey as they work through each stage of the inquiry completed to date. A final entry will be made as the final unit of this is explored (Theme 3: Whale watching).

8. TAKING ACTION

1. **Prepare and deliver a presentation for a whole-school assembly or parent & community event.** Plan, prepare and deliver a presentation using an exposition text type format. The presentation should aim to provide a descriptive, persuasive and compelling argument that supports the following issue:

Identify and describe the most important issues to be aware of to ensure that our whales and dolphins are protected. How will successful conservation and protection of whales and dolphins impact upon areas such as our marine ecosystems, tourism opportunities, habitat, industry groups and those who undertake whaling practices today? Provide information that will enable the audience to take their own action, such as discussing some of the organisations that work towards achieving goals that support the conservation and protection of whales and dolphins. Provide opportunities for the audience to access the contact details of these organisations.

2. **Create and setup an information booth for display within the school library or beyond (community location or event).** Design and produce an information stand that can be used to promote awareness of the need to support the conservation and protection of whales and dolphins. The stand should provide a context (for example, information about the history of whaling and the effect this has had on whale populations), what steps are now in place to ensure our whales are able to recover, information about a couple of the organisations that support this work, details on how individuals can contribute, and contact details for them to make a difference through their actions.

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