It’s our first Electronic Undercurrents so here we go!

I am lucky to live in a perfect land based whale watching site and the Humpback whale migration is a significant part of our community from June to October every year. Not only today do whales captivate a lot of interest and attention and are a symbolic conservation issue but also they have inspired folklore, art and writings since at least 1,500BC.

I have used whales as a theme for this newsletter and as an incentive for starting a unit of work in marine education. We are very grateful to have received units of work to share with you and hope that there are some relevant and useful materials here for the members.

This newsletter is a stepping-stone into our excellent website, take the links and explore the website further. Until the next issue this newsletter will sit in the member’s exclusive zone but then some of it will be moved out for our wider audience on the web, to view and use.

Your comments will be greatly appreciated by Peter Biro and I and most importantly your stories, photographs, articles and ideas would be especially appreciated in response to this newsletter and for the next (Marine parks theme) and following issues too.

MESA Editor: Barbara Jensen  
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Being a MESA Member - Why?

Please use this article as a way to follow the links back to our wonderful website to find out more.

Our membership consists of educators, researchers and all sorts of different people but with a strong, common goal, building awareness, attitudes and actions for our marine environment.

Why join?
A past survey reveals why some people have chosen to be a MESA member:

- I’m an interested environmental educator, currently in the marine sector.
- Networking, ideas, like-minded inspiring people, possible jobs, to contribute to something I believe I’m good at.
- Because I have a great interest in marine conservation and want to be in touch with other marine educators. Keeping me in contact with actions, ideas, issues etc.
- So I can work with a lot of sensational educators. Fantastic down to earth (water) fun and practical educators.
- To learn about the marine environment of Australia, new discoveries and issues and to meet other people who value the sea as much as I do.
- To keep in touch with MESA issues. Support Marine Education. Resources. Events that are on.
- To keep an organisation that focuses on Marine Education running. I feel I can do this by adding my expertise/experience in marine education to the group through events like Seaweek and other state activities.

MESA has achieved a lot over the years and greatly appreciates the work and support of the past and current membership. Its strengths have been: a national marine education focus through Seaweek, publications and many projects. Some of these achievements are reflected in the recognition of MESA members by State/National awards, congratulations, Mark, Tim, Bob and Sheree.

MESA’s current major assets are: A national awareness campaign with Seaweek, an informative website and an inspirational conference. All these can not only develop interest but also provide useful information and great contacts. Each state has a representative, a focal point and a closer link to your state issues. And then there is you (Forum: why did you join?). Maybe you can work at a local level or perhaps you have a personal passion about the marine environment and want to be inspired and informed. Whatever! Your membership gives MESA the capacity to work towards its aims and charter and whether you are vocal and active or choose to be a silent supporter, all is needed and greatly appreciated.

Thank you.

Dive in... enjoy, learn and share

www.mesa.edu.au

Education is the key in raising awareness to protect our coasts and oceans. MESA is your opportunity to be a support and advocate for marine education.

Share, discuss and participate on the website

Find: news, forums, marine links, ask a marine biologist, teaching ideas, job opportunities, habitat of the month, events calendar, publications, Seaweek and new features.

Add: comments, photographs, activities, ideas, questions and news.

Thanks: for your help in building a current, informative and national site.
When we came back from our overseas holiday, the first thing we were always asked was ‘what was the highlight’. Well, without a moment’s hesitation and with a special twinkle in our eyes we simultaneously answer – paddling with the Orca’s in BC, Canada.

Canada has a lot of big things. Big cars, big campervans, big coffees, big mountains, big ferry queues and big dolphins. And of course it was the big dolphins (Orcas) we had come to see.

From nearly the top of NE Vancouver Island we paddled out into the Johnstone strait. It was a busy waterway, fishing (commercial and recreational), ferries, luxury liners, motor cruisers, whale watch vessels, yachts and 50 other kayakers. The first two days the sea was dead calm, no wind and a low cloud. As we paddled and camped we saw bald eagles, kingfishers, giant kelp, deer, tiny porpoises and hundreds of fish jumping but no Orcas. Then on the last day the weather stayed the same but the Orcas came.

As luck would have it we were the only kayak out, every one else was still busy packing away the breakfast things and it was too early for whalewatch vessels. On this still morning it was the approaching sound of their ‘blow’ that triggered our attention and then we saw those tall black dorsals! With hearts racing we positioned our kayak and waited, as they swam towards us.

If Bottlenose dolphins are playful and the Humpbacks graceful, you would have to describe the Orcas as powerful and imposing. They swam fast, gave loud blows and created quite a bow wave. Three, side by side, surfaced three times towards us and then did a deeper dive right under the kayak.

Exhausted and overcome by the experience we had to go ashore and have a cup of tea and a handful of scroggin. On the paddle home we saw them again, this time we could notice more about the behaviour and appearance of this pod of seven.

We departed Canada taking with us a tiny vignette of beautiful BC and a long list of what to do next time we come. But the ‘what we did’ list was short, simple and very exciting.

Send in your marine experiences for the next Undercurrents to bjensen@nor.com.au

Did you know!
Humpback whales consume about 2000 kilograms of krill per day, during their feeding period in the Antarctic. That is 11 times their own body weight per year. Their calves drink 600 litres of fat enriched milk a day to build up that protective blubber layer for those icy southern waters.

How much do you eat?
Most people in developed countries consume 15 to 16 times their body weight a year.
Flotsam and Jetsam - Marine News

Exciting Announcements Marine Protected Areas
A very significant issue for marine education – watch out for more about Marine Parks in the next issue.

Marine National Parks
- Nov 16th a day to celebrate, as the Victorian Upper House has passed the Marine national parks and marine sanctuaries bill to create 13 fully protected Marine national parks and 11 fully protected Marine sanctuaries (covering 5.3% of the State’s coastal waters). More information [www.nre.vic.gov.au](http://www.nre.vic.gov.au), follow the links to Marine, Marine Parks.

Marine Park
- Nov 1st The Cape Byron Marine Park will officially start. It covers 22,740 hectares stretching 40 km from Brunswick to Lennox Heads. It is the fourth park in NSW after Solitary Islands, Jervis Bay and Lord Howe Island. It is anticipated up to two years of detailed community consultation will be required to determine the areas classified as habitat protection (no trawling), sanctuary (no fishing) and general use. More information [www.fisheries.nsw.gov.au](http://www.fisheries.nsw.gov.au) or email cape.byron@mpa.nsw.gov.au

Marine Discovery Centre, Bondi Beach
- Open Days are held on Sundays from 10am - 4pm. More information is available from their website.

Stormwater Pollution ‘The difference is you!’

For marine education, stormwater is a very visible link between the land and the sea. As well it has become a significant issue for State government departments and local council.

If you want to be inspire read ‘Stormwater and the sea’ Jody Plecas’ article recently on our MESA website. (Find in on the Habitat of the month, Open beaches page).

If you want posters, stickers or brochures try your local and state governments. In NSW, EPA has some very evocative images in their campaign ‘The Drain is just for rain’ Visit [www.epa.nsw.gov.au](http://www.epa.nsw.gov.au) They also have a HSIE Curriculum Teaching Guide for Stage 2 and Stage 5.

If you want a simple activity for a class or any group use the MESA website again. In the ‘Best of Seaweeks’ Section, find Seaweek 1998 Clean Oceans in the previous theme list and follow the links to more information on understanding the theme, community event/action and ‘Butt Bottles’ and other classroom activities.

‘It’s a living thing’ A NSW government initiative. This copy of poster/postcard courtesy NSW EPA.
**Biodiversity Month– How you can get involved!**

Biodiversity Month is celebrated nationally each year to promote local biodiversity, threatened species and their habitats. Every school is encouraged to participate in this campaign in some way.

The Great Barrier Reef Marine Park Authority has developed a new education resource titled ‘**Biodiversity Matters!**’ to support Biodiversity Month and learning programs in all primary schools.

By contacting the Public Information Unit within the Great Barrier Reef Marine Park Authority, schools can access a free copy of this new resource.

‘**Biodiversity Matters!**’ encourages everyone in a school community to consider how we all can act responsibly for local reef biodiversity, threatened marine species and their habitats.

Teachers and students can use the following ideas to plan, publicise, stimulate, support and inspire biodiversity month festivities and activities.

- Visit the GBRMPA website [www.gbrmpa.gov.au](http://www.gbrmpa.gov.au) Enter ‘biodiversity’ in the search field and spend some time looking at the links to discover how the Authority protects reef biodiversity. Research species that are threatened in the World Heritage Area, identify threats to their survival, and discover how the Authority works collaboratively with others to conserve and protect a variety of species.
- Organise a display in the school or local library. Consider reef biodiversity, their habitats and the reasons why they are threatened. Showcase how communities can help to protect them.
- Make badges that display slogans concerned with preserving and conserving specific marine animals.
- Create a calendar illustrated with our reef’s biodiversity.
- Dramatise and choreograph a performance for theatre, mime, puppet theatre or dance that highlights the plight of a threatened marine species. Present the performance publicly. Interview members of the audience to find out what they thought the important messages of the performance were.
- Access copies of ‘**Biodiversity Matters!**’ a resource and activity package for schools containing activities that support all key learning areas.

**For enquiries, or to order a copy of the resource ‘Biodiversity Matters!’ please contact:**
The Public Information Unit
Great Barrier Reef Marine Park Authority
PO Box 1379
Townsville QLD 4810
Fax: (07) 4750 0700
Email: info@gbrmpa.gov.au

**Marine State Emblems - Blue groper (NSW), Leafy seadragon (SA) and? (Vic)**

Do you know your State's bird or plant emblem? Did you know NSW and SA also have a marine emblem and now Victoria is working on one too?

**New South Wales:** Eastern Blue Groper, *Achoerodus viridis*. Males grey to blue, bright blue in sunlight, small juveniles green changing to brown, large females reddish brown. Juveniles (up to 10cm) in seagrass then moving to vegetated rocky reefs changing colour to suit habitat. Adults (maximum length 1.2m) venture over large reef sections and offshore to 40m. Found in estuaries and off shore along the NSW Vic East Coast. Although the blue groper is NSW’s marine emblem, it is only protected from commercial sale and spearfishing. You can still catch them with a line.

**South Australia:** Leafy Seadragon, *Phycodurus eques* A colourful, spectacular fish, with incredible camouflage. It floats like a piece of weed, which makes it hard to find and also enables it to get close to prey. Males incubate about 250 eggs under their tail. Hatchlings are about 35mm long and adults to 35cm. Mainly found in coastal bays, unique to southern Australian waters.
Under the South Australian Fisheries Act 1982, Section 42, it is prohibited to take a protected species. Leafy Seadragons are listed as a protected species under Part 6 of the Fisheries (General) Regulations 2000. This means it is prohibited to take a Leafy Seadragon for any reason without a ministerial exemption.

If anyone would like more info then they can visit the Dragon Search website http://www.dragonsearch.asn.au/ or call Jeremy on 08 8223 5155.


Victoria has established a program to select a marine icon species for Victoria. This is an exciting opportunity to engage Victorians in learning about local marine life and to provide an opportunity to participate in the selection of an appropriate emblem for our rich and diverse marine environment.

Information and selection forms are also available online on the Natural Resources and Environment website at www.nre.vic.gov.au/marine/emblem

### Marine Education News

**Environmental education policy for all NSW government schools**

In June 2002 an environmental education policy for all NSW schools was launched. The adoption of the policy is mandatory for all government schools K - 12. ‘The Environmental Education Policy aims to foster students’ understanding of the environment as an integrated system and to develop attitudes and skills which are conducive to the achievement of ecologically sustainable development.’

**Endorsed course in marine and aquaculture technology for junior secondary.**

NSW Board of Studies has approved the introduction of a content endorsed course in marine and aquaculture technology for junior secondary. The syllabus writing is underway and it will be available for use in 2003.

**Marine experiences unit**

The Literacy consultant in the Tweed/Ballina District, NSW Department of Education and Training, has been working with Primary teachers to develop a Unit across subjects looking at marine experiences. It is currently being trialed in schools.

**New marine studies syllabus**

The restructured studies authority in QLD is accepting syllabus from private enterprise, planning for a Marine Studies syllabus in 2003 is in progress.

**For reading**

For ‘Educational Resources for Australian Teachers and Students’ ie syllabus, support material, teaching resources start with the NSW Board of Studies at www.boardofstudies.nsw.edu.au or your equivalent organisation in the other States and Territories. Ask your MESA State Representative for help in finding them.

**Northern Territory News**

There is a strong interest in marine science among both students and teachers in the NT, as a result, NT government Fisheries staff have decided to produce a number of integrated units of work focused on marine resources in the NT, currently being trialed by teachers and due for release before the 2003 school year. These units integrate English, Social Education and Science learning outcomes into three modules spanning the five Primary school levels. Read the NT Regional report for more details.
Planning units for Marine Education

Marine education can be approached as an integrated curriculum strategy. A marine focus fits across subjects in Primary and junior Secondary areas. It acquires cooperative planning and programming to develop the mandatory syllabus outcomes. Sample reports and parts of marine units of work are included in this newsletter.

Putting the Sea into Integrated Curriculum

Flinders Peak Secondary College is a school that is well recognised for its innovative programs. This school is located in the northern suburbs of Geelong, and while not directly on the coast, is not far from the shores of Corio Bay.

Teachers within the school have a long history of developing programs that cater for their students in a way that promotes active engagement with learning and teaching. In Semester 2 2002, a new integrated Marine Studies program was developed for students within the Year 8 program. This was a truly integrated program that had students working on marine themes in each of the Key Learning Areas (KLA’s).

The following examples highlight some approaches used in this unit.

- **English** students used a diverse range of materials for reading about the sea as a springboard and followed this up with students writing about their experiences in other KLA’s to develop a marine magazine.
- **Maths** students used contours to represent islands and practiced scale drawings and the use of coordinates on axis to develop spatial concepts.
- **Science** programs focused on the ecology of coastal environments and also included a fish dissection to consider structure and function.
- **SOSE** students identified types of coastal landscape as well as investigating the traditional use of the coast by the Aboriginal community, early settlers and current uses, as well as investigating the history of shipwrecks.
- **Technology** students got involved in model boat building.
- **Arts programs** used the marine environment as a source of inspiration that resulted in some colorful fish socks, great fabric designs and some interesting marine sculptures.
- **LOTE** students investigated sea words in Italian.
- **Health and PE** students learned about fishing and snorkelling, and also developed appropriate safety messages to do with safe use of the coast.

Classroom activities were also supported by excursions including a field investigation of Swan Bay mudflats with the Marine Discovery Centre, Queenscliff, and an overnight excursion to Warrnambool on the far west coast to look at whales, shipwrecks and the way in which the coast is used.

Attached are some examples of the approaches used by teachers within the Marine Studies unit and some photos that illustrate student work.

Congratulations from MESA to all the teachers at Flinders Peak for their fantastic work.

For more information on Flinders Peaks integrated curriculum contact the Curriculum Coordinator, Craig Blackman, at FPSC on (03) 5275 2886 or blackman.craig.c@edumail.vic.gov.au
<table>
<thead>
<tr>
<th>WEEK</th>
<th>CLASS ACTIVITIES</th>
<th>LEARNING OUTCOMES - CSF</th>
<th>ASSESSMENT</th>
<th>RESOURCES</th>
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</thead>
<tbody>
<tr>
<td>WEEK 1</td>
<td>Concept Map Salinity Experiment Waves</td>
<td><strong>Level 4.1: Living together: past, present &amp; future.</strong> Organise data in a variety of ways - Concept map to show relationships between ideas and tabulation to show comparisons. <strong>Level 5: skills, Organise information in graphs.</strong> <strong>Level 5.3: Chemical Reactions.</strong> Describe factors which affect the rate of reaction.</td>
<td>Salinity experiment</td>
<td>See lesson plans.</td>
</tr>
<tr>
<td>WEEK 2</td>
<td>Waves Food Chains and Food Web</td>
<td>Manipulation of scientific equipment <strong>Level 4.1: Living together: past, present &amp; future.</strong> Simple food chains. <strong>Level 5.2: Living together: past, present &amp; future.</strong> Describe interactions between living things and their non-living surroundings. Relationships between members of food chains, e.g. producer / consumer. Describe interactions such as predation and competition.</td>
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<td>See lesson plans.</td>
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<tr>
<td>WEEK 3</td>
<td>Food Web Food Pyramids Classification</td>
<td><strong>Level 5.2: Living together: past, present &amp; future.</strong> Relationships within ecosystems. <strong>Level 5.1: Living together: past, present &amp; future.</strong> Explain the biological basis of classification of organisms into major groups. Observation of major structural characteristics. Classify a range of organisms into major groups in the hierarchy of the 5-Kingdom system.</td>
<td></td>
<td>See lesson plans.</td>
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<tr>
<td>WEEK 4</td>
<td>Classification</td>
<td><strong>Level 5.1: Living together: past, present &amp; future.</strong> Explain the biological basis of classification of organisms into major groups. Observation of major structural characteristics. Classify a range of organisms into major groups in the hierarchy of the 5-Kingdom system.</td>
<td></td>
<td>See lesson plans.</td>
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<tr>
<td>WEEK 5</td>
<td>Structure &amp; Function (Fish Dissection)</td>
<td><strong>Level 4.2: Structure &amp; Function.</strong> Describe the features of the main parts of animal systems that help them carry out their functions.</td>
<td>Fish Dissection</td>
<td>See lesson plans.</td>
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<tr>
<td>WEEK</td>
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| WEEK 1 | Define the coastal area to be studied. Familiarization with the coast. Students to mark natural and man made features. Waves & tides. Map to be front cover of calendar. | **Geography: 5.1** Compare the characteristics of significant regions in Australia and the world.  - Explain why natural and human environments exhibit certain characteristics. | Complete map using map conventions | Atlas  
Cattell. Tim. n.d  
Geography – just diagrams  
Wollongong, Dabill.  
Student workbook  
Internet & CD |
| WEEK 2 | Types of coastal landscape. Landforms caused by erosion. Coastal habitats. Students will identify examples of landscape. | **Geography: 5.2** Explain how natural processes and human activities change environments.  - Describe natural process which change environments, using geographical media, such as photographs and maps etc  
**Geography: 5.4** develop a plan to address impact of change  - Describe how environmental change affects places. | Identify Victorian coastal features which match geographic models | Internet sites provided and CD of assignment |
| WEEK 3 | Study of traditional use of the coast by the Aboriginal community, early settlers and shipwrecks. | | Two calendar pages demonstrating:  - historical research of a shipwreck  - research of traditional aboriginal use of the coast | The coast kit.  
Internet sites provided and CD of assignment |
| WEEK 4 | Use of the coast today. Recreation, pollution and industry. Case study of a coastal region of student’s choice. | **Geography: 5.3** Explain how people’s use of natural and human environments changes over time.  - Classify people’s use of natural & human environments  - Describe people’s changing perception of natural & human environment  
**Geography: 5.4** develop a plan to address impact of change  - Describe how environmental changes affects people  - Describe how environmental change affects places.  - Evaluate ways of responding to the impact of change. | Case study of how a coastal area of student’s choice.  - History  - Pollution threats  - Population impact  Produce as a calendar page | Caring for the environment (kit)  
St.Artarmon, Peter Leyden. Chart & questions No.16 & 17  
Internet & CD |
<p>| WEEK 5 | Final production of calendar. | | Victorian Coastal calendar | Internet and CD. Computer access Publishing |</p>
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<tr>
<td>WEEK 2</td>
<td>“On my Towel at the Beach” mixed media.</td>
<td>Make and present art works which explore themes, issues and ideas.</td>
<td>Use a wide range of media. Creative use of media. Appropriate decisions related to each creative process involved.</td>
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<tr>
<td>WEEK 3</td>
<td>Clay models marine creatures.</td>
<td>Make and present art works which explore themes, issues and ideas. Structure and present art works appropriate to chosen styles and forms.</td>
<td>Creative idea for model. Successful manipulation of clay media.</td>
<td></td>
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<tr>
<td>WEEK 4</td>
<td>Plaster sculptures.</td>
<td>Make and present art works which explore the theme of “marine creatures”.</td>
<td>Successful manipulation of plaster media. Creative idea/design for actual project.</td>
<td></td>
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<tr>
<td>WEEK 5</td>
<td>Three sessions will be allocated for completion of practical projects for final assessment. Final presentation of works may involve addition of media, framing and backing, etc. All works are collected into student folios and critical discussion/analysis of works on a group basis is undertaken.</td>
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<tr>
<td><strong>WEEK 1</strong></td>
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<tr>
<td>Sport Ed Class</td>
<td>Snorkelling 1: Introduction, Equipment, Familiarisation.</td>
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<tr>
<td><strong>WEEK 2</strong></td>
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<tr>
<td>Sport Ed Class</td>
<td>Snorkelling 2: Entry / Exit : Finning techniques.</td>
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<td><strong>WEEK 3</strong></td>
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<tr>
<td>Phys Ed Class</td>
<td>Fishing 3: Fish Identification. Rex Hunt video.</td>
<td>Perform, with the correct action, a duck dive, allowing for modifications to improve body movement or position</td>
<td>Participation/Skills Snorkelling: Duck dive Blast method</td>
<td>Pool. PFD’s Bus transport. Pool, Snorkels, Masks, Fins (x25)</td>
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<tr>
<td>Sport Ed Class</td>
<td>Snorkelling 3: Duck Diving : Blast Method</td>
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<tr>
<td><strong>WEEK 4</strong></td>
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<tr>
<td>Phys Ed Class</td>
<td>Fishing 4: Effects on our bays/rivers. Catch limits and sizes.</td>
<td>Demonstrate the application of simple Physics principles to successfully achieve clear mask, and equalise pressure</td>
<td></td>
<td>Pool. PFD’s, Ropes, Bus transport. Pool, Snorkels, Masks, Fins (x25)</td>
</tr>
<tr>
<td>Sport Ed Class</td>
<td>Snorkelling 4: Clearing Mask, Equalising Pressure.</td>
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<tr>
<td><strong>WEEK 5</strong></td>
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<tr>
<td>Sport Ed Class</td>
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**Technology – Boat Building**

**LOTE – Italian Dolphins**

**Science – Fish Parts**
Unit on the ‘Sea and Its environment’

Caningeraba State School is named after mangroves and is situated in what would have been the wetlands behind Burleigh Heads. Now it is part of the busy and highly commercial Gold Coast of South Eastern Queensland. It is only about ten minutes from the beach and river estuarine areas. Many of the students are involved in the local Surf Life Saving Clubs and spend their weekends at the beach. As well many of the students will go on to Miami High School and have the opportunity to be part of a well developed Marine studies programme at that school.

These year 6 students are taking part in a review of the ‘Kids and Water, Real Life Marine Readers’, explaining how they were used in their Unit on the ‘Sea and Its environment’. The school plans units of work to integrate the curriculum learning outcomes from all the key learning areas (KLAs). These units are set ahead of time and programmed for specific weeks and terms. The teachers from each school year level come together once a term and plan the educational materials and curriculum outcomes to be used in the unit of work.

As one part to the unit, the Assistant Principal and several students worked together to write a Multiple Intelligences and Blooms Taxonomy Table (see below). The students then completed several of the activities from the table.

The Kids and Water Marine Readers Series, has an accompanying Teacher Resource Book with curriculum learning outcomes from the KLA’s and a set of class activities to match each reader.

### MULTIPLE INTELLIGENCES & BLOOM’S TAXONOMY

**SEA AND ITS ENVIRONMENT**

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<tr>
<th>MULTIPLE INTELLIGENCES</th>
<th>KNOWLEDGE</th>
<th>COMPREHENSION</th>
<th>APPLICATION</th>
<th>ANALYSIS</th>
<th>SYNTHESIS</th>
<th>EVALUATION</th>
</tr>
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<tbody>
<tr>
<td><strong>LINGUISTIC INTELLIGENCE</strong></td>
<td>List 20 sea animals</td>
<td>Write a diary entry of a selected sea animal for 3 days</td>
<td>Design a poster about your favourite sea animal</td>
<td>Write to the editor giving your opinion on trawler fishing</td>
<td>Create your own sea animal frame park</td>
<td>Review the book &quot;Rainbow Fish&quot;</td>
</tr>
<tr>
<td><strong>LOGICAL - MATHEMATICAL INTELLIGENCE</strong></td>
<td>Write the science symbols for Water - hydrogen - salt - oxygen</td>
<td>Prepare a life cycle for a type of fish</td>
<td>Construct a diagram showing the habitat of a selected crustacean</td>
<td>Carry out a P.M.I. on collecting seaweed - Present through technology</td>
<td>Devise an experiment to extract the salt from seawater</td>
<td>Justify why &quot;swimming bags&quot; are necessary on the beach</td>
</tr>
<tr>
<td><strong>SPATIAL INTELLIGENCE</strong></td>
<td>Make a time line of significant changes to Burleigh Beach</td>
<td>Prepare a collage of a sea environment</td>
<td>Draw a map of a sea animal's yearly travels, e.g. whales</td>
<td>Use a Venn diagram to compare 2 types of sea vessels</td>
<td>Illustrate a book titled &quot;Going Down&quot;</td>
<td>Imagine Burleigh Beach in 2050, What will you find there?</td>
</tr>
<tr>
<td><strong>BODILY KINAESTHETIC INTELLIGENCE</strong></td>
<td>Mime the movements of a surferboard rider</td>
<td>Act out the movements of a person caught in a rip</td>
<td>Design a P.E. activity for Yr 1's relating to sea actions/movements</td>
<td>Teach Yr 1's how to play your game activity</td>
<td>Create and perform a play of a sea rescue</td>
<td>Design a board game on beach safety</td>
</tr>
<tr>
<td><strong>MUSICAL INTELLIGENCE</strong></td>
<td>Learn a sea song or chanty</td>
<td>Play songs with a water/sea theme</td>
<td>Write a rap song about the sea</td>
<td>Compare and contrast the noises of 2 sea creatures</td>
<td>Compose a rhythm for the movement of a shark</td>
<td>Act and choreograph a dance relating to the beach</td>
</tr>
<tr>
<td><strong>INTERPERSONAL INTELLIGENCE</strong></td>
<td>Share an activity you have completed from this taxonomy</td>
<td>Discuss the issue of sand pumping</td>
<td>Load a group discussion around a controversial sea issue, e.g. pollution - excess fishing</td>
<td>Carry out an interview with a lifeguard</td>
<td>How would life change if surfing was banned?</td>
<td>Debate why trawler fishing should be banned?</td>
</tr>
<tr>
<td><strong>INTRAPERSONAL INTELLIGENCE</strong></td>
<td>Describe how you felt the first time you entered the ocean</td>
<td>Visualise that you are between the mangroves</td>
<td>Explain how you feel about syringes on the beach</td>
<td>You are the last whale, How do you feel?</td>
<td>Predict what will happen if lifeguards are no more</td>
<td>Carry out a SWOT on building on the actual beach</td>
</tr>
</tbody>
</table>
Main Idea
In this unit, students investigate the Great Barrier Reef and its coastal zone as natural systems, and as places visited and used by people.

An investigation of, or field trip, to the Great Barrier Reef or a local coastal area forms the centre of this unit.

The inquiry approach is built around the need to prepare for the investigation or the fieldwork, broaden student experiences and understandings during the investigation or the field trip, and consolidate and extend them following the study or visit. Teachers will be able to select and adapt activities to suit student needs and the type of coastal or marine environment investigated. These activities look at natural systems, human use and modification of the Great Barrier Reef and its coast, dangers and safety issues, pollution and care of the Great Barrier Reef and its coastal area.

Key Understandings
The Great Barrier Reef consists of the world's largest system of coral reefs, mangrove and estuarine communities. It is part of a sensitive ecosystem, which includes mangrove and estuarine communities. All are part of an important natural system in our environment.

People value the Great Barrier Reef and its coastal zone as an important natural system and as a place they use. Many people use the Great Barrier Reef and its coast for recreational and commercial activities. What happens upstream in the catchment affects the Great Barrier Reef and its coastal areas. An awareness of safety issues is important to people’s enjoyment and use of marine and coastal areas.

Focus Questions:
- Why do people go to the Great Barrier Reef and coastal areas?
- What would you expect to find at the Great Barrier Reef and other coastal areas?
- How can we care for and value the Great Barrier Reef and coastal areas?
- What are the dangers facing these areas?
- How are the Great Barrier Reef and its coastal areas changing?

Key Terms
Beach, beachcombing, biodiversity, birds, bleaching, boardwalk, boats, breakwater, care, carnivore, catchment, cliffs, coast, coastal, conserve, contaminate, corals, crabs, danger, diving, environment, erosion, estuary, fish, fishing, food web, fragile, future, habitat, herbivore, jellyfish, litter, manage, mangroves, marine, mussels, nutrients, omnivore, organisms, pebbles, pollution, predator, reef, recycle, restore, rock pools, rocks, salt, sand, sand dunes, sailing, sapphire, sea, seagrass, seabirds, seaweed, sediments, sensitive, shells, shore, snorkelling, solutions, stormwater, sun, sunscreen, swim, swimming, system, tides, value, vegetation, walking, wastewater, water, waves.

Learning Areas
Studies of Society and Environment (SOSE);
Science;
Health and Physical Education; and
English.

Key Competencies
Collecting, analysing and organising information;
Communicating ideas and information;
Planning and organising activities;
Working with others in teams; and
Using mathematical ideas and techniques.
Core Learning Outcomes
This unit focuses on the following core learning outcomes from the Years 1-10 SOSE and Science Syllabuses.

In Place and Space:
3.1 Students compare how diverse groups have used and managed natural resources in different environments.
3.2 Students create and undertake plans that aim to influence decisions about an element of a place.
3.3 Students cooperatively collect and analyse data obtained through field study instruments and surveys, to influence and care for a local place.
3.4 Students use and make maps to identify coastal and land features.
3.5 Students describe the values underlying personal and other people’s actions regarding familiar places.
3.6 Students cooperatively identify an environmental issue of concern and contribute to its resolution.
3.7 Students describe how natural and built elements give character and importance to local and internationally recognised places.
3.8 Students articulate a code of environmental conduct for personal use of resources.
4.2 Students predict the impact of changes on environments by comparing evidence.
4.3 Students participate in a field study to recommend the most effective ways to care for a place.

In Time, Continuity and Change:
3.2 Students create sequences and timelines about specific Australian environmental and social changes and continuities.
3.4 Students organise information about the causes and effects of specific historical events.

In Life and Living:
3.1 Students draw conclusions about the relationships between features of living things and the environments in which they live.
3.3 Students describe some interactions between living things and between living and non-living parts of the environment.
3.4 Students recognise patterns of similarity and difference within and between groups of familiar living things.
3.5 Students establish a model environment which meets the needs of living things within it.

Planning Considerations
Some tips help the unit run smoothly
Read through the unit, marking the activities you think are most relevant for your students.
Consider the learning outcomes from the Queensland Curriculum Syllabus that are most likely to be “worked towards” by students and highlight these.
Gather together key learning resources used in the unit.
Contact organisations or venues and book your class excursion or overnight stay.
Sample Unit Sequence

Tuning in:
Reef and coastal memorabilia;
Card games;
Shared reading; and
Survey.

Preparing to find out:
Preparing for the fieldwork: brainstorm;
Getting ready for the day at the Great Barrier Reef, a beach or coastal area; and
Caring for the environment.
Finding out
Visit an Aquarium, library or Marine Discovery Centre;
Observing, collecting and recording; and
Research tasks.

Sorting out:
Post fieldwork research tasks;
What we know: knowledge circles;
Reef or coastal database;
Mapping the area;
Signs, posters, television advertisement or Web page;
Cross-sections or models;
Issues and values continuum;
Aboriginal and Torres Strait Islander use of coastal areas; and
Reef biodiversity.

**Going further:**
How is this reef or coastal area different?
Food chains; and
How have we humans changed the reef or coast?

**Making connections:**
How does what we do at home and school impact on the Great Barrier Reef or coast?
Imagining the future;
Oil spills and other forms of water pollution:
Impacts on food webs; and
Identifying problems.
Taking action:

**Share understandings:**
Revegetation or restoration project;
Get involved in Waterwatch, Coastcare or another such organisation;
Promote the Great Barrier Reef;
PNI brainstorm;
Using popular culture;
Problems and solutions;
Role-plays;
Get involved;
Reflection; and
Identifying emerging issues.

**For more information**
Great Barrier Reef Marine Park Authority
PO Box 1379
Townsville QLD 4810
Fax: (07) 4750 0700
Email: info@gbrmpa.gov.au
Whale watching is an exhilarating experience that only seems to get better each time and for those who live on, or visit coastal Australia from May to October, there is a very good chance of seeing the migration of two of the giants of the sea.

So there you are, sitting on a high coastal point that provides an excellent view out to sea. You are well prepared to be a whale watcher, ready with binoculars, thermos and plenty of patience. After a while you spot something. There it is again; it’s a blow! Yes, you are looking at a whale, but what whale is that?

About 40 species of whales (Cetaceans) live in or migrate through Australian waters, Cetaceans means, whales, dolphins and porpoises, (but there are no porpoises in the Australian waters). Cetaceans are divided into two main groups Baleen (ie filter feeders) or Toothed. As a land based whale watcher you are most likely to see Humpbacks on their annual migration along our eastern or western coastlines. And along the southern coastline they will be Southern Right whales.

Also be on the look out for other Cetacea too. The Orcas are now said to be following the migrating whales. Bottlenose dolphins are among the most commonly observed coastal dolphins. While in the warmer waters Indo-pacific humpback dolphins and Spinner dolphins are seen. If you are in a boat Common dolphins are often observed riding the bow waves. Minke whales are said to have an inquisitive nature and swim around boats too. Pilot, Bryde’s and Sei whales could be sited while Fin, Blue and Sperm whales are usually sighted in the off shore waters.

Here are a few things to look for to start on identifying your sighting.

**Flippers (pectoral fin)**
The Humpbacks scientific name is *Megaptera novaeangliae*, derived from the Greek *mega* meaning great and *pteron* a wing, because of its huge wing-like flippers. These exceptionally long flippers, with knobs along the leading edge, are more like oars, than the paddle-like flippers of the other whales.

**Head**
The Southern rights have a very large head. It is usually encrusted with large callosities (looks like rocky lumps), on the upper and lower jaws and above the eyes. Sperm whales have a large head too but their body is long and blunt, quite a different shape.

**Tail and fin (fluke and dorsal fin)**
Position and shape of the fin and tail can help with identification. Southern rights have no (top) fin. Humpbacks have an irregular wavy edge to their tail. And of course Orca males have a very tall distinctive fin.

**Blow and blowholes**
If you get favourable weather or a close encounter, you can identify much about the whale from its blow. Baleen whales have two holes and two separate blows can sometimes be seen, while toothed whales have one. The actually shape of the blow varies too. Sperm whales have the blowhole on the top left side of the forehead so their blow comes out to that side. And smaller (size and age) whales will have smaller blows.

**Colour and markings**
Whales are mostly black on the top and white beneath. Many of the big whales seen by whale watchers belong to the baleen group and are distinguishable by the long pleats or folds of skin running from their nose to their bellies, which expand during feeding. The Ocra’s have that familiar white patch above the eye and white saddle across
their back. Bottlenose dolphins have a blissful grin while the common dolphins have a dark strip from their beck to around their eye.

**Behaviour**
As you get to know a species of whale you will also start to build up an understanding of it behavioural characteristics. While you may not be sure what species it is, if you notice a different pattern of behaviour, it will give you the clue, to start looking for other identifying characteristics.

**Regulations**
The governments have imposed regulations to ensure whales are not disturbed on their migration or at any time while in the national/state waters. Excellent brochures explaining identification, migration, behaviours and regulations are available from National Parks and Wildlife Services or Environment Departments in your state.

Whatever your whale watchers luck, I am sure your will also enjoy observing the movement, moods and moments of your marine and coastal environment.

**For further whale information, education and links start with these websites:**

- [www.ifaw.org](http://www.ifaw.org) International Fund for Animal Welfare
  An International animal welfare organization, we campaign to change policies and practices to improve the welfare of animals and also assist animals directly through our own program work and grants to other organizations.
  “IFAW mounts rescue and relief operations to help animals in distress, whether from natural or man-made disasters; collaborates with local communities around the world to preserve critical tracts of wilderness habitat; promotes economically viable alternatives to commercial exploitation of wildlife; and supports sanctuaries for animals around the world. Our campaigns are based on scientific research and bolstered by advocacy with legislators and world leaders for strong laws to protect animals, as well as public education to promote more enlightened coexistence of all living things on this planet we share.”
  Campaigns include protecting critical Gray whale nursery in Baja Mexico and using science to protect harbour porpoises. The site also includes fact sheets on several whales with classification, description and natural history, status of species, author and sources.
  “Whales Alive is a non-profit organisation dedicated to the protection and celebration of whales and their fragile marine habitat. We are working in a number of different areas on behalf of the endangered whales. Through education, training and vital research we are working to educate people about the whales fascinating natural history and what threatens their survival.

  Whales Alive promotes whale watching as a means of understanding whales and provides interpretative narrations by professional naturalists on board whale watching boats. We host training workshops for professionals working in the whale watching industry and, are at present, working together with organisations such as the South Pacific Regional Environment Program (SPREP), and IFAW, on the sustainable development of whale watching nature tourism in the South Pacific.”

Start there for the Triple J Whale Tale site to celebrate this years whale season or straight to it at [http://abc.net.au/triplej/whales](http://abc.net.au/triplej/whales)
www.oceania.org.au The Oceania Project
“The Oceania Project site provides current News and Information about Whales and Dolphins and offers the means for you to directly Participate in their care, protection and conservation.

It has a comprehensive and expanding library of www information about Cetacea. With a listing of recommended sites to assist you in finding what you want and also a selection of search options if you need to find more specific Cetacean information.”

www.whaledolphineducation.com Barbara Todd’s Educational resource kit
“The World of Whales Educational Resource Kit is a well thought out, user-friendly kit that provides everything an educator needs for a class study of whales, dolphin and porpoises. The kit includes:
- The whales, dolphins and porpoises chart
- To the depths of the sea chart
- 8 concept charts
- Resource manual
- Research booklet
- 20 activity sheets
- and over 100 learning activities”

Pacific waters, haven for whales
Whale species using the Pacific waters as migratory routes to their Antarctica feeding grounds or as mating and breeding grounds will find the Pacific waters a heaven if Pacific island nations agree to declare their Exclusive Economic Zones (EEZs) as whale sanctuaries. So far the Pacific island nations and territories of Cook Islands, Papua New Guinea, Samoa, Niue and French Polynesia have declared their EEZs as whale sanctuaries with WWF hoping that with its campaign, other Pacific nations will acknowledge the benefits of whale sanctuaries and declare their EEZs as sanctuaries. Whale Sanctuaries are designated areas of ocean in which whales including severely depleted and or/vulnerable marine species can find a safe refuge from human threats to their survival.

The Pacific Ocean as the world’s largest marine habitat provides for the whales as a breeding ground for the whales and as a route to the whales feeding ground in the Southern Whale Sanctuary in Antarctica. At least 90 of the 120 known living marine mammals in the world pass through the Pacific Ocean – an indication of the importance of Pacific waters towards their survival. Yet whales and other members of their family, like the dolphins, porpoise are in danger mainly from human induced threats. Whales Sanctuaries are tools that protect not only whales but also the entire marine environment.

Click here to make a link for more information on:
- Importance of whales to Pacific Islanders
- Whales and Pacific island economies
- Whales and scientific research
- Whales and marine conservation
- And further issues

For more information about this story contact:
Bernadette Masianini, Communications Manager, WWF South Pacific Programme, Tel: (679) 3315 533
Email: bmasianini@wwfpacific.org.fj

Southern Right Whales
Encounter Bay lies about 80km south of Adelaide, and its sheltered coastline is fast becoming a hive of whale activity in South Australia. Each year from May until September, the Bay is visited by Southern Right Whales who arrive to mate and give birth in the shallow coastal waters. The whales come close to shore (often only 50m out), grow to 18m long and are one of the most active large whales. Accordingly, Encounter Bay is becoming a popular destination for whale watchers. The area also presents an opportunity to conduct preliminary research into the whale population.

The South Australian Whale Centre works with the local community to record whale sightings throughout the year. The 2002 season kept the staff and volunteers very busy, with over 200 right whale sightings recorded by the Whale Centre. This was the best whale season since the Centre began to keep records in 1993. The Whale
Centre’s sighting service also participated in whale research conducted by Environment Australia. Posted at coastal vantage points, the Centre’s sighting team helped the researchers find the sometimes elusive whales. Once located, the researchers would take a skin sample from the whales, in hopes of determining the genetic makeup of the local population.

In future, the Whale Centre hopes to contribute to a national database for identifying individual right whales. Individual right whales can be recognised by the callosity pattern on their head, and professional photographic records can yield information on individual whale movements, breeding frequency and preferred habitat.

Without access to the proper equipment at present, it is impossible for the Centre to tell exactly how many whales visit Encounter Bay. However, we do know that 4 calves were born here this year and we can estimate (based on times and locations of sightings) that approximately 40 whales were recorded throughout the season. The 2002 figures compare with 1 calf and an estimate of 25 whales in 2001 - and so it certainly seems as if their use of the Bay may be on the increase.

Although the Southern Right Whales have now returned to the sub-Antarctic to feed on krill and copepods throughout the summer, the Centre continues to educate the public about whales and the marine environment, with a particular emphasis on how to whale watch in an environmentally responsible manner. It is important to minimise disturbance to the southern rights to ensure they return again next winter. This theme is conveyed to visitors through the 3 floors of displays, and numerous school groups from Reception to University also participate in special educational tours and programs.

For further information on Southern Right Whales, whale watching in South Australia, or the SA Whale Centre, please write to PO Box 11, Victor Harbor SA 5211.
EMAIL: mailto:whale@granite.net.au

Marine Fun Page – have a whale of a time!

Mystercete

Who am I?
- I am a whale that has been sighted in the Australian East Coast waters.
- I have two blowholes.
- I have throat pleats.
- I am a filter feeder preying on small fish and krill.
- I am a slender medium sized whale, similar to the Sei whale.
- I have three long ridges on my head.
- I have slender short flippers.
- My name is hard to pronounce.
- If they existed, I would like to live with the ‘groom’ whales.

I am a _ _ _ _ _ _ whale.

Words on whales
As slippery as an eel, as hard as a rock.
Make up your own:
As as a whale.
As as a dolphin.
Missing parts
From August the Humpbacks are traveling south back along the East Coast of Australia with their calves. It is during this time that some spectacular activity can be seen, as mothers teach their calves the art of survival through play. Complete the whales body beneath the water and name each behaviour.

Dinner time
Follow the lines to lead each whale to its prey.

Whale Education

At this time of the year a very significant marine event is taking place along three quarters of our coast lines, the whale migration of two of the big whales ie Humpbacks and Southern Rights. Not only is it an amazing spectacle but it links Australian and International communities and promotes marine awareness and many marine conservation issues.

With charismatic megafauna like whales how can you avoid marine education! And once you are into the whale’s world you can move from the mighty to the microscopic and all those other wonderful uglies.

Blooms Taxonomy Jeni Stratford 1995

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Comprehension</th>
<th>Application</th>
<th>Analysis</th>
<th>Synthesis</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Write a short report about a type of whale you are interested in.</td>
<td>Find out about a large prehistoric sea creature and compare this with a whale of today.</td>
<td>Design the cover of a magazine about Humpback whales.</td>
<td>If you met a Humpback whale that could talk, what question would you ask it to find out how it lives? List five questions with the whales answers</td>
<td>Hypothesise about what would happen if whaling began again in every country in the world.</td>
<td>Make a concept map showing the things you know about the Humpback whale.</td>
</tr>
<tr>
<td>List all the words you can think of that describe parts of whales.</td>
<td>Make up a legend about one of these: Why Humpback whales are so large. Why Humpback whales sing. Why whales beach</td>
<td>Imagine that you are a whale. Write a diary about a ‘Week in My Life”</td>
<td>List five skills a calves would need to will learn</td>
<td>Just suppose people were as large as a Humpback whale. Predict all the things that might happen.</td>
<td>Judge the value of krill in the ocean. Prepare a report.</td>
</tr>
<tr>
<td>Make of list of all the whales you can think of.</td>
<td>Construct a food triangle showing the Humpback and its food web.</td>
<td>Compose a song about a whale to a well known nursery rhyme tune.</td>
<td>Run a survey in your class to find which is the most well known whale. Present your results.</td>
<td>Imagine you were a whale released from an aquarium, what are the first three things you would do?</td>
<td>Prepare a talk on: Which whales will be extinct in the future? What do you think will be the cause of their extinction? Could they have been saved? How?</td>
</tr>
</tbody>
</table>

**Whale Education Resources**

A reference list from the SA Gould League Telephone 08 8277 2851

- *Whales of Australian Southern Oceans* Poster ($6.50)
- *Australian Guide to Whales and Dolphins Book* ($16.95), but currently $9.90 as stock clearance until 30th November
- There are other books available which include whales and dolphins, both informational and for teachers.

**Australian Guide to Whales and Dolphins includes:**
The lives of Whales and Dolphins / Toothed and Baleen Whales; 22 individual species and how to identify them; Comparative size graphic / Where to see them in Australia Threats / Strandings/ Research / What you can do / Table of Contents, Glossary and Index

**Whale Science**

**Whale strandings**

In Tasmania we have been involved in research on whales particularly to do with stranding events. Three years ago we had several mass strandings of whales: including long finned pilot whales at Marion bay on our east coast in 1998 and also several sperm whale strandings off our west coast the same year.

As a result a whale stranding action plan was written by Nick Mooney that identified what actions needed to be taken during a stranding event along with how to be prepared for future stranding events ahead of time. This resulted in our volunteer training program, organising several rescue trailers with all gear required which is now kept as hotspot locations. My role is as education officer for the Parks and Wildlife Service is to provide training.

I run lectures on the how understanding the biology and ecology of whales assists us in saving whales during a stranding. I also run a practical session on reporting a stranding, refloating whales, dealing with volunteers and DR ABCs of whale first aid. Chris Leitch from Wildcare co-ordinates our field days and the volunteers. Nick Mooney also runs a lecture on gear to bring to a stranding, large whale stranding events and how to refloat large whales using a boat and floats. More recently Dr Rosemary Gales has taken over much of Nick's role. Follow the links to a Dr ABC brochure on whale rescue.
There is a film on the ABC next month, In the Wild, Roger Morcroft on whales and whaling and stranding on 5th October and 20th October. These look at whales in Tasmania and the efforts we are going to assist whales during stranding. The documentaries cover various research happening on whales.

For more information contact
Ingrid Albion
Interpretation and Education Officer
Parks and Wildlife Service
GPO Box 44 Hobart
Telephone 03 6233 3807 fax 03 6224 0884

General Whale Research, a conversation with Dave Paton

Dave Paton is a well-known East Coast Australian whale researcher; he has spent many hours out in a boat taking photographs of Humpback whale tails. The tail of a Humpback is said to be unique and therefore by building up a collection of tail photographs he can create a catalogue of the migrating animals. Dave has been doing just that for a number of years and along with other researches along the East Coast, they now have a photographic record of about 2000 Humpbacks. Other researchers are building up a record with genetic sampling, one of those being Nick Gales at the Antarctic Division looking at whale faeces and C & M Keener doing both photo ID and genetics on the West Coast. There is about 1000 Humpbacks in the genetic catalogue.

Acoustic work by Mike Noad, University of Queenslands on the East Coast is complimenting and supplementing the photo and genetic data. By setting up a series of hydrophones he can track the whales position and the singers behaviours. With a link to a landbased site, this has been a wonderful addition to whale watching, seeing and hearing the whales passing by.

A South Pacific Whale Research Consortium has been created and by sharing the data of the Pacific Humpback whale populations and their movements, is providing a lot of interesting results for Australia and other Pacific countries like Fiji, Samoa and Tonga. Reports are being written for journals and for the International Whaling Commission, providing data and information for more projects and government policy.

The coastal waters off South Western Victoria are an important feeding ground for Blue whales between December and May, but little is know about their movements for the rest of the year. Peter Gill is undertaking research in this area, and may report to us later in the year, watch the website for more.

Dave says, even though we are learning more about the big whales like the Humpbacks and Southern Rights there is still plenty of research projects to develop, because it really isn’t long ago since we nearly hunted those magnificent creatures to extinction.
Dolphin Research News

‘In an effort to further protect the dolphins and reverse some of this environmental damage through ensuring continued and improved ecosystem functioning within the area, the South Australian Government wants to create the Adelaide Dolphin Sanctuary in the Barker Inlet/Port River and associated waters.

A booklet about the development of the Adelaide Dolphin Sanctuary has been released for public information and is now available. This document addresses the proposed study area (not final boundaries), why the Bottlenose Dolphins and their habitat are special, current human usage and associated impacts, public participation and the development process.’ Find out more and see a pdf version of the booklet at www.environment.sa.gov.au/coasts/dolphin.html

For more about Dolphin Research news visit:

The Dolphin Institute

The Australian Dolphin Research Foundation
www.tne.net.au/adrf/index.html

Marine Science Marine Careers

For those interested in Marine Science this newsletter marks the launch of our latest website section – Marine Careers.

We greatly appreciate those working in the Marine Field who have given us a brief description and insight to their type of work. May it inspire others to follow in your footsteps towards marine study and work. We would welcome anyone else who would like to send a short story and photograph to add to this collection.

From there, follow the links to discover more about actual career paths, possible studies, course requirements and educational institution.

Partnerships for cleaner seas - AUSMEPA

The Australia Marine Environment Protection Association, known as AUSMEPA has been formed to raise awareness of the need to care for our marine environment through education and action by ocean users and communities. It complements many existing initiative and programs and is keen to develop partnerships and work with these programs to maximise the effects of these efforts.

AUSMEPA is a non profit organisation that is building partnerships for cleaner seas. It is seeking membership from all users of our marine environment to support its sustainable future whether for recreational or commercial use and at the same time contribute to:

- Promoting environmentally responsible practice among ships, ports and communities that use the sea
- The education of all Australians in the protection of the Australian marine environment
- Promoting marine environmental consciousness amongst young Australians, whilst providing leadership and support for AUSMEPA Kids Marine Clubs
- Increasing community recognition of the role of the maritime industry in marine environment management, pollution reduction and sustainable practices.
AUSMEPA Kids Marine Club
The Kids Marine clubs provides an avenue for promoting marine environmental consciousness amongst young Australians. The Marine clubs:
- Encourage school involvement and interest in the marine environment and its conservation by creating opportunities for school and community groups
- Contain projects that can be done in class as part of a unit on the sea, as a lunchtime activity, as an out of class activity for a community project or as personal individual actions
- Introduce children to the world of ships and maritime industries
- Use a website to create an avenue for linking clubs and promoting marine activities and actions.

AUSMEPA Website [www.ausmepa.org.au](http://www.ausmepa.org.au)
The website provides support and enhances the activities of the Marine Clubs with
- Links to other clubs to create national interest and awareness of marine issues and actions
- Reporting page for your clubs activities and achievements
- Information for the club recognition programme
- More activities ideas, news and links to other marine websites
- Future links to Australian and other ships trading internationally

Getting started
An Action Plan booklet and four Project Posters are available now for starting AUSMEPA at your school or in your community organisation. Start up an AUSMEPA Kids Marine Club or use the educational materials for a school unit of work or community activity. Visit *What schools are doing* section on website to view the Posters and Action Plan booklet. Or contact AUSMEPA Office to request the Posters and Booklet (free).

Support and sponsorship opportunity by joining AUSMEPA
Companies, businesses and other organisations can offer their support and sponsorship through membership of AUSMEPA. Visit *Membership* section on website or contact the AUSMEPA office.

For more information
Kimberly Foster
AUSMEPA National Office
PO Box 409 Albert Street Brisbane 4002
Telephone 07 3404 3967 Fax 07 3229 6636

Email
[info@ausmepa.org.au](mailto:info@ausmepa.org.au)
Website
[www.ausmepa.org.au](http://www.ausmepa.org.au)

Coming Conferences and workshops

**Workshop on Recreational Fishing Rights and Resource Allocation in Commonwealth Fisheries**
7-10 October Coolangatta
Graham Pike, Recfish Australia Telephone 0412 960 032

**QLD Conservation council Conference. ‘Caring for Queensland: Catchment, Coasts, the Cape and Communities’**
11 – 13 October Tallebudgera QLD
Telephone 07 5534 1412
conference@gecko.org.au

**Ecotourism Association of Australia Conference**
21 – 25 October Cairns
Telephone 07 3535 5493

**International Conference on’ Prospects for Biodiversity and Rivers in Salinising Landscapes’**
21 – 25 October Albany WA
Telephone 08 9386 4897
[www.biodiversityconference.albany.uwa.edu.au](http://www.biodiversityconference.albany.uwa.edu.au)

**Royal Zoological Society of NSW Forum 2002 ‘Marine and coastal environments: is their conservation a case of out of sight out of mind?’**
26 October Sydney
Coast to Coast 2002 ‘Australia’s National Coastal Conference – Source to Sea’
4 – 8 November Tweed Heads
Telephone 07 3201 2808

Australian Water Association Regional Conference ‘Making Waves – Managing water to protect the coastal zone’
8 - 10 November Mooloolaba
Telephone 07 3397 5644
awaq@powerup.com.au

Annual Scientific Conference of the Australian Coral Reef Society ‘Future of Reefs’
10 November Stradbroke Island
www.australiancoralreefsociety.org/conference/