

MARINE STUDIES NEWS

Newsletter of Wet Paper Publications, 14 Milbong Tce, Ashmore, 4214 (075) 39 4187

Winter 1994

The publishers have to the best of their abilities checked all the dates, names and addresses but take no responsibility for any errors beyond their control.



WET PAPER
Marine Education

MARINE SYLLABUS APPROVED

There can't be too many students who can study topics like marine biology, oceanography, navigation, speed boat driving and sailing as well as qualifying for a marine radio licence and skindiving certificate all in the one course that can count for university entry.

In 1985, a proposal was made to the Board of Secondary School Studies in Queensland to trial such a course. With infinite wisdom and the good judgement of trusting a bunch of young, motivated and highly committed teachers, the Board set about the long process of developing such a syllabus. Supported by 25 Government and Non Government Schools the syllabus is finally finished.

CONFERENCE LAUNCH

To celebrate the event, teachers from all over Queensland gathered on Stradbroke Island in August to officially launch the syllabus and fine tune the elements. Its interesting to note that this syllabus has come from the teachers of the subject at the work face.

The conference focused on practical sessions and the now famous "show and tell" where teachers share with their peers, the day to day practical classroom hints that are real gems. You know with all the in-service we get in the new culture, we often forget that when we started teaching, the most useful things to us as beginning teachers were the practical overheads or those simple demonstrations.

It was a real pleasure to see these practical things again - and with such enthusiasm since many of us have been at it now for 10 or more years. Thanks to Col Colston who organised us all over and back.

Pioneering schools

Its worth recording now those schools who formed part of the trial pilot in Queensland Babinda, Bowen, Benowa, Bribie, Burnside, Caloundra, Clontarf, Cooktown, Frawley College, Gympie, Heatley, Rochedale, Pioneer, Noosa District, St Augustines, Mackay North, Maroochydore, The Southport School, Yeppoon, Caboolture, Hervey Bay, Kawana Waters, Mirani and Innisfail.

Copies of the syllabus will be available for a small cost mid November from the Syllabus Officer, Board of Senior Secondary School Studies, PO Box 307, Spring Hill 4004.

WET PAPER MAJOR SPONSOR

Wet Paper was proud to be the major sponsor of the conference using funds from the sales of class sets of books not purchased through booksellers.



Some of the 60 teachers at the recent Queensland Marine Studies Conference

Wet Paper also provided two interstate scholarships in recognition of the support that other states give us by buying our books. Buying the books direct from us enables us to enrich many more teachers professional experience this way in the future.

OTHER VALUED SPONSORS

Other sponsors were the Queensland Department of Education, the Board of Senior Secondary School Studies, Queensland Transport and Queensland Department of Environment and Heritage as well as the individual schools who covered for teachers while they travelled to the conference.

Sponsorship assisted with air fares, travel, meals and accommodation for all 60 participants.

Students manual for 95

After extensive market research it has been decided to attempt to produce the first edition students manual to Marine Studies.

FORMAT AND BUDGET

We propose an A4, sewn and drawn on, single colour, approx. 500 page book with enough exercises, lab experiments, second hand data activities, guide questions, problems and practice tests for two years of study.

If successful, sales of the students manual will finance the second edition edit and publication of the book *Marine Studies*.

We don't get government grants and we don't have a huge staff (just Mark and me), but we are getting there and we are still Australian Made.

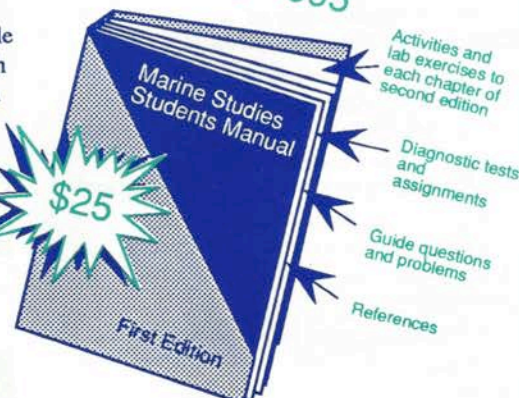
Contents

Based on the Web of Life design and coupled with the layout of CHEM Study, this manual will contain the following:

- Guide questions and problems, diagnostic tests, references
- Practical exercises and activities, useful words to know
- A catalogue of marine living things
- Practical activities - how to build a fishing rod, how to make an aquarium, fillet a fish, spray a drain for community action
- Ideas for Seaweed, ocean care day and other community activities like adopt a beach or Clean up Australia Day.
- Activities to do when you are away from class.

NEW

Students manual due January 1995



WET PAPER MISSION STATEMENT

TO PUBLISH, NETWORK AND DISTRIBUTE EDUCATIONAL MATERIALS FOR MARINE EDUCATORS AND PROMOTE THE NEED FOR CONSERVATION AND MANAGEMENT OF THE SEA



As part of Seaweeek, we sprayed drains and conducted public education programs

MARINE STUDIES 2ND EDITION - JUNE 1995

Proposed date for fully edited second edition is June 1995. With this in mind the following are the proposed contents and if any of you would like to comment, please don't hesitate to write.

Unit 1 Boating

- Ch 1a Boats and equipment
- Ch 1b Outboard engines
- Ch 1c Small craft safety
- Ch 1d Small craft handling

Unit 2 Navigation / communication

- Ch 2a Inshore navigation
- Ch 2b Offshore navigation
- Ch 2c Marine communications

Unit 3 Surfing and Skindiving

- Ch 3a Skindiving
- Ch 3b Surfing
- Ch 3c Managing marine accidents

Unit 4 Non living aspects

- Ch 4a Oceans
- Ch 4b Coastlines
- Ch 4c Sea water
- Ch 4d Coastal engineering
- Ch 4e Tides and weather

Unit 5 Living aspects of the sea

- Ch 5a Marine aquariums
- Ch 5b Plankton
- Ch 5c Nekton
- Ch 5d Benthos and the deep sea
- Ch 5e Marine ecosystems

Unit 6 Commercial/ recreational use

- Ch 6a Commercial/ recreational fishing
- Ch 6b Aquaculture
- Ch 6c Marine industries
- Ch 6d Seafood cooking

Unit 7 Management and conservation

- Ch 7a Coastal management
- Ch 7b Conservation
- Ch 7c Case studies

APPENDIX

- Possible catalogue of living things
- Glossary
- Index

TEACHERS GUIDE

Based on the CHEM study model of a teachers guide, this perfect bound A4 version will come out with the students manual. Proposed contents include, answers to diagnostic test questions, spaces for student responses from the exercises in the manual, summative exam questions, lists of suppliers and costs, instructions for how to build equipment, objectives for each chapter, helpful hints.

SEAFOOD COOKING CHAPTER

Authors Joan Edwards and Barbara Harper from Wentworth Falls, have written a great chapter that specifically addresses the NSW syllabus topic - Seafood Cooking. I guess I'll just have to try out those restaurants to get the photography now. Tim Ryan and Dave Claridge have offered to supply the fish.

ABORIGINAL AND PACIFIC ISLANDER CONTEXT

Its not easy to write in this area. To overcome this inadequacy, Wet Paper is purchasing under licence, Aboriginal and Islander stories written by our first Australians.

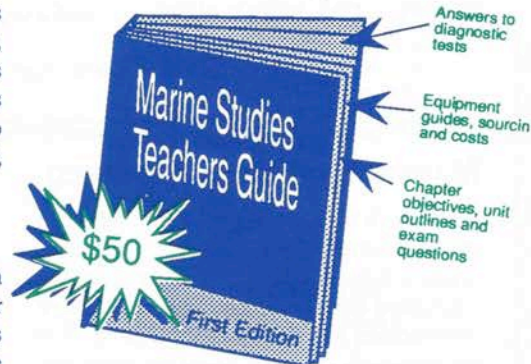
Stories of the Rainbow Serpent will be mixed with the theory of continental drift and how the turtle got its shell, will go with the text on classification of Class Reptilia.

WESTERN AUSTRALIA

In March this year the Wet Paper team, Paula, Mark, Trent and Bob, went to the west for market research. Bob and Trent also attended a workshop run by Alan Wolfe from South Fremantle High School and organised by the Science Teacher Association of Western Australia.

Alan organised a program to help teachers study the nature of sea water, how to navigate local waters along with Pam Rutledge and Stephen Meagher who have teamed to write workbook outlines for the Senior Science course. Units include Navigation, Aquaculture, Oceanography,

Teachers Guide - January 1995



Humans in Water, Boating Science and Marine Biology with Seafood Cooking and others on the way.

The afternoon was spent with old friends Paul Wilkinson and Boddington at the expedition boat shed where Alan showed teachers how they could teach many aspects of science through boating.

Alans address is South Fremantle High School, Lefroy St, South Fremantle 6162 WA.

We also studied wave dynamics at Margaret River and Strickos at Rotto. and caught up with Rob and Jo Lucas who now run a great outdoor Ed Camp at Quaranup. A wide variety of Marine Ed programs are available for Primary and Secondary schools as well as adults. Address is Camp Quaranup, RMB Quaranup Rd, Albany, 6330, Ph 098 444 087.

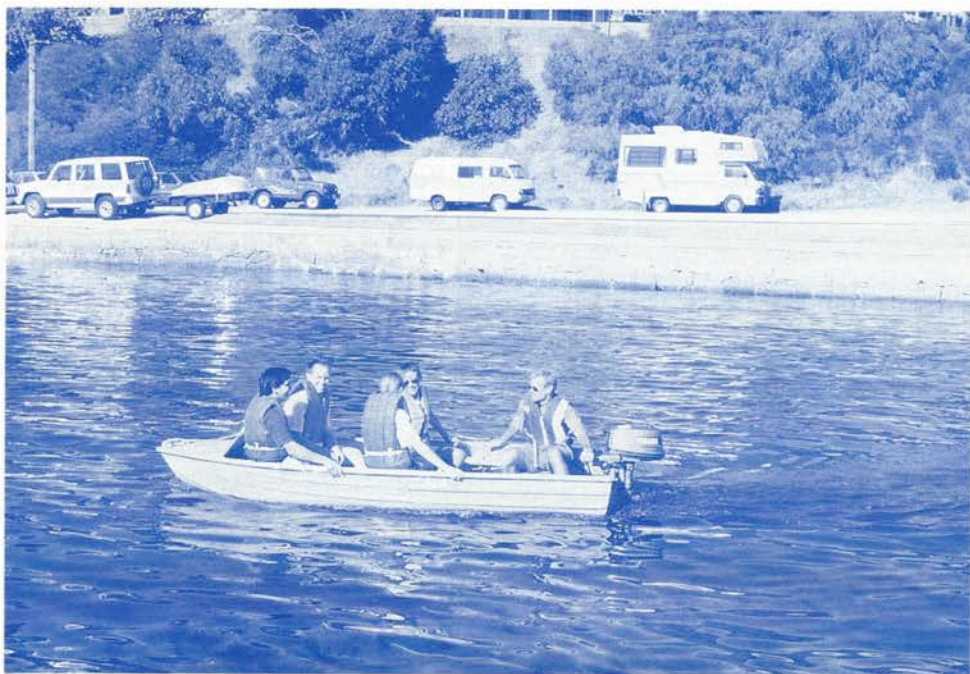
NORTHERN TERRITORY

Channel Is Field Study Centre GPO Box 4821, Darwin, 0801, Ph (089) 22 0720, field notes keep coming in. Newsletter keeps in touch with information on events, publications, wildlife news, book reviews, who is Stuart Traynor?, Seaweeek and AAEE news.

Michael Michie writes he is still education officer with NT Department of Education for next few years.



Part of the Wet Paper - Surfrider - Kingscliffe HS 94 Seaweeek team at Burleigh Heads



Western Australian teachers launch into Marine Studies at the Freo Expedition Boat Shed

SOUTH AUSTRALIA

Lindsay Holthouse from SSABSA has successfully steered the maritime Studies Syllabus. Proposed schools at present are Taperoo HS, Cowell AS, Meningie AS, Kingston AS, Tumby Bay and Victor Harbour HS. We all know how hard it is to start and we wish you all well.

Got a photo of Geoff Bayly with a big snapper from his new fish farm near the power station at Port Augusta. It seems Geoff has swapped his chalkboard for filleting tray and bit the business bullet. Geoff - you go for it. I know you've done the research and we thank you for your MESA work from SA over the many years. Geoff is based at Port Lincoln in South Australia.

SOLITARY ISLAND MARINE RESERVE ANNUAL CONFERENCE

Thanks to Sarah Phillips from NSW Fisheries for inviting Mark and myself to the Solitary Islands Marine Reserve. I had the opportunity to speak on Marine Studies in Australia and listen to a wide range of speakers who introduced many fascinating aspects of the marine park. Over 300 students attended the first day and who had the opportunity to hear about marine studies careers and look at displays.

MARINE STUDIES LSB 452

What a joy to teach Marine Studies at University level and set a two hour exam paper with essay questions worth marks. What a joy to have three hours of practical class with fabulous lab techs.

Such was the case this year at Queensland University of Technology, where 56 students undertake a full semester Marine Studies course. Organised by Dr. Jack Marsh, the course follows the outline of our Marine Studies book Chapters 11-20, but in much greater detail. Additional lectures and practicals will be done in Plankton, Aquaculture and Ocean productivity. University of Queensland also runs Marine Science Programs and Dr. Ian Tibbets is the contact at St Lucia.

NEWCASTLE

Jamie Arthurs from Newcastle High writes that he has started courses in Marine Studies in Years 8 and 9 with a 2 unit course in year 11 and one unit course in year 12.

THOSE DRAIN STENCILS

OK OK, the address is Instant Industries, 137 Northern Rd, West Heidelberg VIC - Nicholas Gibbs, Telephone (03) 459 5822 FAX (03) 459 5222. They can do custom stencils, but you may need to get together as a group to buy a few. Don't forget to use PVA - that quick release stuff fibreglass manufacturers use to coat the stencil so you can peel off the paint after many uses.

HAWAII

Todd Hendricks at Kailua High School, Hawaii, runs a Marine Science program developed in the 1970's and it would be worth a visit to make contact if someone is going past. Out of this program grew a Marine Science Curriculum similar to ours.

VISIT TO CAIRNS AND TOWNSVILLE

A quick visit to Cairns and Townsville during July enabled Paula and me to talk to students and teachers about the possibility of a students manual. Should it be disposable or not., how would it affect book hire schemes and was it a viable production?

Thanks to John Maloney, Dave Mason, Geoff Jensen and Ken McLean for time out from their busy schedules.

SEAWEEK 94

March seems so far back and hope you are gearing up for Seaweed 95. The students manual is going to contain info about what NGO's do for Marine Studies. Often these groups stir public action on many environmental issues and really often set the environmental agenda.

GEOFF JENSEN OFF TO PHILIPPINES

Geoff again will represent us, at a two week regional activity in the Philippines at Bolinao at the end of the year. The 20 day workshop is on Environmental Education for sustainable development with a focus on marine ecosystems and is for teacher trainers. Contacts are Geoff Jensen, from Innisfail SHS and Dr Robyn Harger, UNESCO, Jakarta, Jl MH Thamrin 14, Tromolopos 1273, JKT, Jakarta 10012, Indonesia. Last time Geoff came back from Fiji, he ran training workshops at MESA conference and has had much input into the Wet Paper books. His knowledge will be invaluable for the students manual.

NEVILLE COLEMANS UNDERWATER MAG IS BACK

Bigger, brighter and bolder, it's pleasing to support anything associated with Neville. Terry Cummings, PADI Aus, PO Box 713, Willoughby, NSW, 2068, Ph (02) 417 2800 has details.

WET PAPER SUPPORTS EXMOUTH HS

The Exmouth Marine and Dive studies - linking education to the environment unit began in 1993 and is run as part of the school program. We sent a cheque for a very small amount to encourage the school course because they bought a class set of books from us. Right next door to Ningaloo, the course is obvious and its great to see it in the school curriculum. The school address is PO Box 105 Exmouth WA 6707.

CAROL FORTINO & PROJECT WILD

Carol Fortino is running hands on eight hour workshops from Queensland with a variety of themes. These exciting and motivating workshops have some great ideas and are well worth supporting. Carol works from Queensland University of Technology, George St, Brisbane.

Surfrider head visits US

Wet paper was proud to help organise sponsorship for Brad farmer to visit California in March. Over \$2000 sponsorship was raised from Wet Paper, Gold Coast City Council and



Alan Wolfe explains how Marine Studies can be taught through Senior Science



Iron man Harry at Wet Paper for discussions about Junior Marine Biology book. Good to see you up Harry.

WaterWise Queensland to help Brad collect information specifically on Mega stencil mania - a schools storm water stencilling education program. No doubt the info gained will be published by the end of the year from us here.

WET PAPER WORKSHOPS

In 1995 we are planning a series of one day discover marine studies workshops. Phil King has stuck his hand up to help organise the Coffs Harbour Workshop and Denise Wright from Rockhampton Grammar School looks set to go as well.

If we sell enough of the students manuals direct to schools and not through booksellers, then we will be able use the cash flow to pay for travel and meals and provide the materials necessary to run the workshop.

If you can get funding for us to come, that would be wonderful because we can put the money to another area that might not be so lucky.

Here's the deal

The workshops are open to any school who has bought or intends to buy a class set of Wet Paper books. As sales of books are our only source of income, it seemed only fair to do it this way. If we have to travel far, then we may appoint an organiser and give financial assistance from this end.

The workshops are organised by a local teacher who gets a gets the group together of schools who use Wet Paper books. We come down and run the workshop for free and in return you give up your time and organise your school relief.

THE AIM OF THE WORKSHOPS IS SIMPLE

To assist schools use Wet Paper products. Once the students manual is out, we want to show how to use it and provide you with the opportunity to ask questions about the course as well as network with other teachers in your area.

DISCOVER MARINE STUDIES

These sessions can be flexible and link with existing state projects. All water quality is linked

to the national Waterwatch program. All boating is linked to AYF syllabi but focuses on State regulations.

The following topics can be covered

Hypothetical bay, videos, radios, inexpensive ways to teach navigation, charts, equipment and excursion ideas. Knots, equipment, making models, videos, equipment, lab experiments, cartesian diver, boyle's law. How to build a marine aquarium, keeping live animals and plants, plankton analysis and staining, fish and prawn dissections, skeleton making, coral analysis, fish printing and casting. Model building, sea water analysis, salinity, current measuring devices, beach studies, wave tanks, sand analysis. Water pollution, drain spraying, role plays, faecal coliform detection.

IRON MAN HARRY

We flew up Harry Briedahl earlier this year to learn how Victoria was getting on in the field of Marine Studies. There seems to be no Marine Studies Syllabus yet on the drawing boards in Vic so maybe there may be another angle to promoting the wonderful subject.

Is there a market for a Junior Marine Biology book? Can it be taught in Junior Science or Environmental Studies and how many will buy a copy?

Harry, Jane and family are off to the US in October to research more about Marine Studies education. Bon Voyage and safe return.

LINKS WITH WATERWATCH

Following successful talks with Waterwatch State reps Derek Foster (Qld), Renato Ramsay (NSW) and Paul Reiffer (WA), I am going to link the water quality monitoring section from Chapter 13 of the old book to the national Waterwatch materials where possible. Common tests in dissolved oxygen, turbidity, pH, faecal coliforms have been established and we have signed a deal with Streamwatch, to reproduce the methods used in their publication. States are then free to follow interpretative data and other protocols specific to their state.

MARINE AQUARIUMS

Well known AARE identity John Smith also paid us a visit this year and as a result, we bought the rights to that famous SA marine aquarium booklet.

John has given us a licence to reprint the chapter in the revised book and provide us with advice on student activities for the students manual.

Marine Studies without the hassle

It strikes me that there are many teachers who would like to marinate existing subjects without going out and buying boats, radios and all the other materials. Fair enough, these make marine studies great, but also make it an organisational headache.

Harry and wife Jane may have the answer. Jane is working on writing up her classroom notes and possibly publishing them through Wet Paper.

The book would be aimed at the Junior school and contain many easy activities to stimulate and motivate students.

SURVEYS

This is the first time we have sent a newsletter to everyone in our mailout. I'm hoping to get as

much information back as I can on who's who in Marine Studies and what they do.

THAT RED PLANKTON STAIN

For those who have asked its Phenolic Rose Bengal:

Rose bengal 1.0g

$\text{CaCl}_2 \cdot 2\text{H}_2\text{O}$ 0.01g

Phenol 5% in distilled water 100mL

Thanks Jack Marsh..

QUEENSLAND MARINE STUDIES TEACHERS ASSOCIATION FORMS

At the Queensland Marine Studies Teachers Conference, it was felt that there needed to be a separate network for Marine Studies Teachers.

The teachers felt that there needed to be a mechanism for sharing of worksheets and a group that could be consulted specifically on issues that affected teachers such as certification, gender equity and issues that arise when mixed groups of students go snorkelling, boating, fishing or surfing. A group who could also establish communications with tertiary and TAFE was also seen important to represent the needs of students doing the course.

Elected to the steering committee are Ken McLean, Geoff Jensen, Jan Thornton, Geoff Waterhouse, Bob Moffatt, Mark Rickard, Gary James, Tina Derry and Ross Gibbons.

Membership is available to all registered Marine Studies teachers past or present who have taught or are teaching from the Queensland Marine Studies or Marine Education Syllabus.

Highest priorities will be to:

- ★ meet to prepare a submission to Queensland Transport on the needs of certification of Queensland Teachers.
- ★ gather marine studies worksheets on syllabus topics from each other for sharing in a network funded from the membership fee.

WET PAPER TAFE

Old friend Jim Sheffield who pioneered TAFE-Secondary link courses in small motors, came to us many years ago with sets of notes on Motor Mowers and How to look after your car.

Well we have revised the original photocopied materials - our photocopier has just passed the 2 million mark - (A Toshiba BD 7815 what a machine) and to avoid metal fatigue, we revised the notes and have brought out two new copies.

Special introductory offer of \$5 for each booklet. They are:

- *Caring for your Car and*
- *Motor mowers*

They would be really useful in looking after your Marine Studies vehicles and fixing the mower used for cutting the lawn around your marine studies shed.

SEPTEMBER 28 - 50 MY UNDER THE SEA

Don Alcock writes to watch this program ABC 8.30. Don has moved to James Cook - best wishes in new position and thanks for networking.

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Summer 1994/5

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WET PAPER
Marine Education

NEW NAME, NEW MISSION

Because students in Australian classrooms now study from either Marine Studies, Maritime Studies, Nautical Studies or Senior Science Marine syllabi, we have changed our newsletter name to move with the times.

The purpose of this newsletter is to encourage as many teachers to make contact with each other as possible and become aware of Wet Paper products and services.

Circulation

Our circulation is now over 22,000 as we send six newsletters to each Australian secondary school for the Science, Geography, Physical Education, Library, Manual Arts and Marine Studies Departments as well as all Universities, TAFE colleges and key Education Department executives.

FIRST IN-SERVICE COURSE

"It was great", according to Denise Wright and Peter Slaughter from Rockhampton Grammar and Glenmore High. A humble but well researched start to our in-service program for central Queensland schools was held in Rockhampton last December. Teachers from North Keppel Is Environmental Education Centre, Uranang, Yeppoon, Glenmore and Rockhampton Grammar took advantage of attending a free two day seminar organised by Wet Paper. Feedback from this seminar has helped us plan more seminars for 1995 in NSW, Qld and hopefully SA and New Zealand.



First In-service course — Rockhampton Grammar School, thanks Denise and brave participants

plant trees on Cooloolongatta Hill as part of a five year plan to remove non native species. Trees and organisation were supplied by ACF landrap under the direction of Peter Farrell. Ocean Rescue 2000 is lead by David Lloyd from GBRMPA PO Box 1379 Townsville 4810 — (077) 818811. Through its 87 branches, Surfrider foundation plays a leading role in conservation and activism. Address for membership and information is PO Box 444, Mermaid Beach. Telephone (075) 350999, Fax (075) 761527.

Telephone: (08) 372 7472 Fax (08) 372 7590.

Hallett Cove under the guidance of Tony Issacson, starts Maritime Studies course electives this year and Greg Worth continues with Maritime Studies at Victor Harbour HS.

New South Wales

Meetings are being held at Port Macquarie on 16 March and Coffs Harbour, 17 March to discuss wide ranging issues in NSW Marine Studies one of which will be the formation of a teachers association. Contacts for meetings are: Port Macquarie Sea Acres 16 March 1995: Graham Hargreaves, Westport Technology High School, Findlay Av, Port Macquarie 2444, Telephone 065 836 400 Fax 065 840335

Coffs Harbour High School 17 March : Phil King, Coffs Harbour SHS, King St, Coffs Harbour. Fax 066 514 004, Phone (066) 523466.

More syllabus initiatives are underway to explore

SEAWEEK 2 - 9 APRIL 1995

Organised by MESA, the theme for SeaweeK is *Celebrate the Sea — Restore the Balance*. National co-ordinator is Brian Mackness, PO Box 186, Woombye, Qld, 4559 Phone/fax (074) 42 2786. MESA in SA is March 19-26 with Damian Mordney Co-ordinating — Telephone (08) 356 6611.

Wet Paper will again produce its 20 ways to care for our coast brochure as well as help Jan Thornton run an event on the Gold Coast. Over 50,000 copies of this brochure have been printed over the years and orders of 1000 or more can be made direct to: Gerry Ward, Bundall Printing, PO Box 6726, GCMC, Bundall Q 4217. Telephone (075) 380 411 Fax (075) 385 068. Wet Paper is donating 5000 brochures for the SeaweeK co-ordinators on a first in first served basis.

OCEAN CARE DAY

The first Sunday of Summer is now Ocean Care day. Wet Paper helped Surfrider Foundation

TEACHER ASSOCIATION NEWS

Western Australia

First meetings have been held in WA and organised by Alan Wolfe, Howard Grey and Ron Jensen. Draft proposals for workshops, membership structure and networking have been discussed. Two clear distinctions in Marine Education have been made, with Maritime Studies and Senior Science seen as separate issues. The Western Australia Maritime Teachers Association — WAMTA contacts are: Ron Jensen or Mark Morrisy, Christchurch Grammar, Queenslea Dr, Claremont WA, 6010.

South Australia

Lindsay Holthouse organised a successful seminar for 6 schools last year following on from the Launceston AMC consortium meeting with TAFE Port Lincoln and TAFE Port Adelaide attending.

Lindsay also co-ordinates the SA Maritime Studies Syllabus and can be contacted at: SSABSA, 60 Greenhill Rd, Wayville, 5034.



Volunteers from Surfrider Foundation, ACF and Wet Paper help re-vegetate headland for OCD

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Bruce Vidgen, Ann Hocking, and Bob Moffatt discuss prizes for Marine Skills competition

possibilities of developing the syllabus to University entry with Mick O'Connor from Ballina SHS prime mover and would welcome comments, suggestions and a show of support.

QUEENSLAND

State conference July 1-3

Approval has been given from the Director General to write to teachers through their School Principal, to come to the inaugural conference at Rockhampton and North Keppel Island July 1 - 3 this year.

A three day program is planned with information available from Wet Paper and enclosed with this mailout.

Deception day seminar March 6

For teachers of Brisbane North and Sunshine Coast an afternoon seminar is planned for March 6th - Contact Bill Fowels, Deception Bay SHS (07) 204 0920.

Maryborough Seminar March 7

To follow up Rockhampton Seminar for Urangan SHS, teachers are invited to Maryborough SHS for ideas afternoon. Contact is Tim Ryan - Maryborough SHS (071) 212933.

MARINE SKILLS COMPETITION

The aim of this competition is to promote

information processing and reasoning skills among secondary school students studying Marine, Maritime, Nautical Studies or Senior Science subjects.

The first competition will be trialled in Central Queensland with feedback given to the MTAQ inaugural conference so that greater discussion can occur on the nature and rules of the competition.

Students will have to identify a problem in the marine environment and propose some solution in conjunction with their local management authority. The report is to be presented both orally and in writing with the winning school, receiving Wet Paper products and sponsors equipment. Neville Coleman has donated book prizes for students and winners receive T shirts from Billabong, Surfider Foundation and Brothers Nielson.

Selbys donates competition prize

Ann Hocking and Bruce Vidgen have donated a HACH DR 700 to a competition to be trialled in Central Queensland this year.

Wet Paper has found that this instrument is very reliable in determining nitrate and phosphate concentrations in seawater and Selbys has offered to set up a free collection service for the cadmium waste until HACH USA comes up with an alternative chemical method.

Selbys also has free in store service as well as a free 132990 number to give telephone support if you cannot get anything to work.

Selbys Contacts are: Bruce Vidgen (Qld) and Jeremy Bell (Vic), Customer Service 13 2990 (FREE CALL), 368 Ferntree Gully Rd, Notting Hill, 3168.

Mariner Outboards supports competition

Michael Hand from Mariner Outboards Queensland has given support to the Marine Skills Schools Competition by arranging for a 15 hp outboard to be donated as a major prize. If the competition proves a success, we see the competition extending statewide with Wet Paper regional co-ordinators assisting us in a consultancy capacity.

Mariners address and contact in Rockhampton is Steven Cardwell trading as Terry's Marine. Steven will play a key role in the competition and can be contacted at 27 1233.

Wet Paper has had first hand experience with mariner outboards while at Benowa SHS and has had excellent reports from all schools using these motors in the past. The State Office for Mariner is at 7 Pendry Court, Woodridge, Qld, 4114. Telephone: (07) 208 5333 Fax (07) 808 5908.

MARINERS SKILLS MANUAL ROLLS OFF PRESS

Enclosed with this newsletter is our brochure advertising our new manual - Mariners Skills.

The manual has been written specifically for all one, two and four semester unit Australian Marine, Maritime and Nautical Studies Syllabi. It could also be used by AYC, Navy and Coast Guard training courses to supplement existing programs.

In November it was a case of redefine our deadlines to reduce the pressure and avoid a breakdown. Paula and I made a decision to delay the rewrite of the textbook indefinitely, break the manuals into two and possibly three parts and concentrate on getting Part A out.

Two months later, we achieved our aim and the pre-sales have almost paid for the print run meaning we can continue to put food on the Wet Paper table. This time it was a team effort with over twenty teachers contributing activities and new ideas.

AUSTRALIAN MARITIME COLLEGE VISIT

Over forty teachers from around Australia were selected to visit AMC in September last year. Many teachers were able to meet with past students and learn of their successes. The aim of the visit was to create awareness and encourage high quality students to participate in courses.

Contact at AMC for scholarships, course information and general advice about this wonderful establishment is: Academic Registrar, Dr. Jenny Hewson, Australian Maritime College, PO Box 986, Launceston TAS 7250. Telephone: 003 26 0711. Fax: 003 26 6493

2ND EDITION MARINE STUDIES INDEFINITELY DEFERRED

After discussions with many of our consultants and the changing nature of Marine Education in Australia, the concept of a one all encompassing book is now fading. We will however continue to keep stocks of *Marine Studies* topped up with small print runs of 800-1000 at a time.

As the number of schools increases, coupled with our ability to develop curriculum materials on a shoe string for a small market, plans are underway to see if we can produce a book for each state.

Marine Environment Student Manual



"I passed navigation!!", first words from Paula Kenny, former Mackay Student catching up with Peter Hamlyn (L) and Greg McGarvie (R) at Australian Maritime College consortium teachers meeting



Phil King and students from Coffs Harbour in their Marine Studies Room

Queensland is very specific in its syllabus with a broad study followed by an in-depth treatment of a topic. South Australia has two parts to its core with nautical Knowledge and Skills adequately covered by our Mariners Skills manual and Marine Environments. We propose to make a 170 odd manual activities of similar design as Mariners Skills and write it to the Queensland and South Australia Syllabus Cores and Western Australia Senior Science Topics.

Marine Options Student Manual

New South Wales has a different structure with a small core and larger options and so I'm going to spend a fair bit of time with Don Reid, Mick O'Connor, Phil King and whoever else wants to get involved over the next two months writing the manual for NSW. South Australia also has a number of marine options which can be added to a one or two unit course. We hope to snare Lindsay Holthouse and his team to help us with activities in their topics (many are similar to NSW Options and Qld In-depth topics).

FUTURE TEXTBOOKS

The new plan of attack is that once the manuals are out and evaluated and our author and consultancy team has grown accordingly, to produce textbooks for each state as they achieve courses for University Entry with RPL for TAFE and AMC. Wet Paper is completely self funding in marine studies curriculum development and the sales of one book go to developing the next book.

TRUE BELIEVERS

Thanks to the following who pre-ordered class sets of Marine Studies Manuals and gave me the courage to spend the money to print the manual. *Howard Gray, Geoff Jensen, John Maloney, Tim Ryan, Bill Fowles, Steve Meagher, Alan Wolfe, Roger Townsend, Don Reid, David Mason,*

Michelle Fox, Denise Wright, Peter Slaughter, Joe Zlnay, Max Livingstone, Brenda Grieve, John Wiley, Peter Raward, Ken Maclean, Bill Keid, Greg Lynch, Terry Balsom, Trevor Farrier, Phil King, Mark Rickard and Peter Baker.

PHIL KINGS ROOM TO OPEN

Long term marine educator and Reef Ed compatriot, Phil King, will officially open his marine studies classroom at Coffs Harbour High on March 17. The room features aquariums, marine mammal painting and a class set of Marine Studies books!!

The day will focus as an introduction to the Mariners Skills Manual as well as other issues affecting NSW marine teachers.

CONSULTANCY TEAM GROWS

In the beginning there was no money and everything had to be written in-house. Since the beginning teachers ordered class sets and the funding became available to help others write and publish more books.

Today Wet Paper has many consultants who provide a wealth of advice and information to greatly enhance our products. Here are some examples:

Geoff Jensen from Innisfail SHS, our international advisor, has worked with UNESCO now for three years and provides advice, photographs and activities suitable for Aboriginal and Islander people and helps with a wide variety of activities for the teacher with a non-science but Phys Ed background.

Gwen Connolly from St. Augustines College in Cairns has just awakened me to how to maximise reading exercises with learning.

Ken Maclean and John Maloney provide advice from Northern Queensland with Peter Langley, Don Reid, Mick O'Connor, and Phil King the NSW perspective.

Bob Critchely continues to be our Navigation expert and Graham Rodgers provides us with advice on mariners skills and safety. Graham was seconded to help Mark Snartt from Qld Ed. Dept. write large sections of the Marine Safety Manual. Graham and Mark have been invaluable in advising me on safety issues.

Len Couzins and Mark Rickard from my old school Benowa, have been a great help with advice on gender equity and marine radio with Jan Thornton providing advice on other equity issues and curriculum ideas on marine mammals.

Pamela Rutledge St. Hildas School Perth and Kathy Stegges Whitsunday Anglican School Mackay provide me with advice and review. Pamela has written many of the STAWA Senior Science modules and helps Alan Wolfe from South Fremantle SHS with in-service programs.

Dave Claridge has completed a section on fishing with text for hopefully what we will turn into a book on classroom angling. Dave provides us with advice on the reality of marine studies education as well as co-authoring our publication *Mangroves in Focus*.

Graham Anderton South Fremantle Senior High School, is slaving on a marine history book and in time we will publish this after we trial feasible activities for the age group we are targeting marine education.

Peter Hamlyn North Mackay State High School is our central Queensland rep advising on a wide variety of issues, providing assistance with review of activities and supplying additional exercises for curriculum materials.

Tony Isaacson from Hallett Cove High School SA, is writing a series of activities on Marine Aquariums in conjunction with John Smith - Environmental Education Consultant SA.

Don Reid Gympie State High School provides a perspective of how a school copes that is not near the sea.

John Wiley, Maroochydore State High School, gave us many new ideas on boating and acts as a review consultant.

Ted Brambleby, James Organ and Neville Coleman have been working in parallel with the development of curriculum materials for the NAUI underwater education program.

Peter Jordan, Darelle Abbey, Col Colston and Con Kontos from the Board of Senior Secondary School Studies constantly advises me on protocols and syllabus requirements for teachers and schools.

Schools which have helped us with photographs



Tim Ryan practicing his splicing



Analiese Caston, Bob Moffatt, Mike Julian and Ray Lipscombe discuss Marine Pollution proposals at Australian Maritime Safety Authority, January 1995

are Benowa State High, Coffs Harbour High, South Fremantle High, Gympie State High, Clontarf Beach State High, Innisfail State High, Expedition Boat Shed, Fremantle.

TIM RYAN ADDS WEALTH OF EXERCISES

Over thirty exercises from Mariners Skills were prepared by Tim who has made a great contribution to our publications over the years.

Tim now is teacher in charge of Marine Studies at Maryborough State High School, author of our Pollution book and all diagnostic tests written to date. Tim has assisted with our WaterWise books and continues to be of great assistance in providing practical advice and questions.

MARINE POLLUTION EDUCATION PROPOSAL

In January 1995 Wet Paper was invited to the Marine Environmental Protection Service section of AMSA (Australian Maritime Safety Authority). During the day we explored ways Australian students could learn about marine pollution. As a result, Wet Paper is drafting proposals for a long term project for marine pollution education — and that's not just oil from ships, it involves oil from land in both storm water and sewerage systems.

Who wants to be involved?

Wet Paper is seeking expressions of interest from teachers who have existing marine pollution activities and would like to see them published. Initially, materials will be developed for the forthcoming student manuals that incorporate existing AMSA information materials. In the long term it is hoped to produce more stand alone materials that can be given to schools in either a Primary or Secondary package.

If you are interested in seeing existing materials on Marine Environmental Protection, an information kit and video is available from Annaliese Caston, Marine Environmental Protection Services, PO Box 1108 Belconnen ACT 2616. Phone (06) 279 5935 Fax (06) 279 5076.

There are other excellent videos on Sea Safety called *Mayday*, *Boating Safety*, and *Alive via Satellite* from David Grey, Sea Safety Education, PO Box 1108 Belconnen ACT 2616. Phone (06) 279 5972 Fax (06) 279 5858

WET PAPER TURNS SEVEN

Publishing and in-service

This year Wet Paper turns seven and passes the \$750,000 mark in expenditure on Marine Studies in Australia. Over \$285,000 has been on research and development so I hope that we have products that match what teachers really want. Each of the students manuals will cost over \$50,000 with the sales of the first going into paying for the second and third etc.

To date we have published 12 textbooks, three teachers guides, begun our teacher in-service program and a humble competition.

Consultancy

Substantial consultancy projects have been completed. WaterWise Queensland is one such program where a teachers guide, student textbook and local community education program have been developed. State WaterWise manager John Clowes heads up the team and materials are available from John at WaterWise Queensland, Water Resources DPI, GPO Box 2454, Brisbane, 4001.

Another program in Queensland where Wet Paper is involved is WaterWatch. Here we work with community groups and schools using the Waterwatch curriculum materials organised by State Co-ordinator Derek Foster. WaterWatch Qld is based at Meiers Rd, Indooroopilly, 4068 and a technical manual is available for \$25. Other manuals are set to be released this year.

The Gold Coast City Council beaches education program was also developed by Wet Paper where a video and education materials are available from Ros Brakenridge, Gold Coast City Council, P.O.Box 5042, Bundall, Qld, 4217

AFTER SALES SERVICES

To ensure the best quality possible use of our manuals, Wet Paper offers the following services.

For schools who purchase single copies, a free telephone support service is available in office hours by simply telephoning Wet Paper on (075) 972 806 or by faxing your request or leaving a message on our answering machine on (075) 39 4187 any time.

For schools who use class sets of the book, an in-service program is available for staff wishing to implement any of the activities. A program can be arranged by contacting the manager and be tailor made to suit the school.

We can bring equipment for you to measure and copy, slides of marine studies buildings, contacts where excellent programs run or organise just a few informal drinks so as to provide an opportunity for feedback — all this free of charge.

QUALITY ASSURANCE

Wet Paper is committed to total quality management and the implementation of a quality system throughout each project undertaken, to ensure the highest standards of professionalism, ethical practice and client and customer satisfaction. Our manual has been commenced and is in its first revision.

Quality assurance is the responsibility of the manager who has the authority to manage all functions to quality, and is the nominated Quality Assurance Manager as defined in AS 3901/ISO 9001.

NEW FISHERIES BOOK

This excellent 432 page, fully illustrated, book called *Australian Fisheries Resources*, ISBN 0 642 18876 9, is available from Patricia Kailola, PO Box 3841, Manuka, ACT, 26703. Telephone 06 295 3185, Fax 06 295 0680. Cost is \$120 + \$8 p & p and is good value as this is a really great resource. Go for it Patricia.

VIDEO ON AUSTRALIAN JELLYFISH STINGS

Peter Fenner is regarded as a world authority on Australian Jellyfish stings and has just produced a video for the ASLA called Identification and First Aid treatment for Australian Jellyfish Stings.

Available from Specialized Video: 111 Paradise St, Mackay, Q 4740 Telephone: (079) 521991 for about \$40.



Surfrider members and school reps monitoring local creeks for bacteria, nutrients and other potential pollutants from the back of the Wet Paper WaterWatch portable laboratory.

WET PAPER PUBLICATION AND EDUCATIONAL CONSULTANTS

14 MILBONG TERRACE ASHMORE 4214, TELEPHONE (075) 972 806, FAX (075) 394 187, MOBILE (018) 769 790