

# OCEAN News

## Teacher's Guide



The Public Education Program Staff  
Bamfield Marine Station



# OCEANNews

## Teacher's Guide

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The *Ocean News* is a project of the Bamfield Marine Station Public Education Program. This Program also instructs visiting student and adult groups during hands-on marine science 'field trips' to the Station, lasting from two to seven days. These are carried out during the period of September to May. For information on the Public Education Program please contact the Bamfield Marine Station at (604) 728-3301.

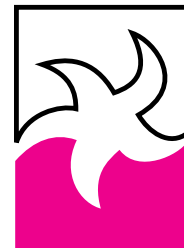
If you have any feedback about the *Ocean News* learning resource materials, we'd love to hear from you. Please contact: *Ocean News* Coordinator, Bamfield Marine Station, Bamfield, B.C. V0R 1B0.

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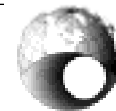
**Fisheries  
and Oceans**

**Pêches  
et Océans**

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# Forward

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## The goals of *Ocean News*:

The *Ocean News* is an extension education package produced by the Bamfield Marine Station Public Education staff. In developing the project, we wanted to:

- 1) provide educational materials to help learners gain a better understanding of the marine environment and its importance to everyone's life;
- 2) provide learning materials for teachers who have little opportunity to visit the marine environment, and;
- 3) provide teachers and classes who use the Station's Public Education Program\* with a set of materials that would help prepare for or follow up their experiences in the marine environment.

## *Ocean News* packages cover marine science themes:

Each *Ocean News* Resource is a three-part package of learning/teaching materials on a theme of marine science. The five themes covered by this guide are:

Exploring the Fluid Frontier (Using technologies for ocean exploration)

Marine Mammals (Insights into the biology of West Coast marine mammals)

Seabirds (Seabird biology and human influence on seabirds)

Marine Pollution (What causes it and what can be done about it)

Marine Biodiversity (What is it, and what should we do about it?)

## A three-part resource:

Each theme issue of the *Ocean News* is an integrated package consisting of three parts:

Part 1: The *Ocean News* newsletter is directed to readers from grade 7 to adult. Articles and activities in the newsletter provide background concepts in marine science and insights into current research on the theme topic. **Portions of four newsletters are included on this CD-ROM. To order complete copies of the *Ocean News* newsletters, please phone the Marnie Station at: 250- 728-3301.**

Part 2: The Teacher's Guide provides a number of learning activities designed to teach basic concepts in an engaging, hands-on way. Activities in the Guide extend the concepts of the newsletter and make them concrete. They also frequently refer back to the newsletter to promote further reading for detail and understanding. The entire Teachers Guide is included in this CD-ROM.

Part 3: The *Ocean News* Computer Programs are stand-alone computer programs for the Macintosh™ computer (in Hypercard or Supercard) designed to provide information that will complement and enhance the readings of the Newsletter and the activities found in the Teacher's Guide. **Ocean Explorer 5, The Marine Biodiversity Quiz is a cross-platform program that plays on both colour Windows and Macintosh computers.** All five Ocean Explorer Programs are included on this CD-ROM.

## *Ocean News* and the Curriculum

The learning approach favoured by the Marine Station Public Education staff is hands-on action learning. Learning is best promoted when the learner is both physically and mentally engaged. Providing learners with opportunities to work with experiences, ideas and concepts in a variety of different approaches and settings can be an effective method to stimulate learning.

The combination of the materials in the *Ocean News* resource should help to link the classroom with the real world of the ocean realm. It should also help to integrate experiences of science with other activities such as art, technology or language arts. Other activities, such as watching a video about the ocean or visiting a local pond or writing an 'ocean journal' will also help make the concepts of this resource come to life in the learning of each student. A list of "Teaching Resources" and a section of "Further Information" is provided in the appendices.



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The *Ocean News* learning resource covers concepts appropriate to learners in grades 7-10, and it may be of value at other grade levels. Teachers will find many ideas for theme-teaching integrated concepts of the science curriculum — bringing physics, biology, chemistry and the earth sciences together into a complementary way of understanding — as they are in the real world.

Overall, the activities combine both individual and group cooperative work. The approach suggested for each activity is certainly not a formula — we expect that many new approaches or variations will be invented, and we would love to hear about them.

### Using the Teacher's Guide

The Guide contains the following parts:

- 1) A Topic **Background** provides information and vocabulary for the teacher on a general topic such as 'plate tectonics'. Readings from the *Ocean News* newsletter are listed in a shaded box. Activities in the Guide on the topic are listed in a second shaded box at the end of the section.
- 2) Pages of **Activities** follow the topic background. Activities range from quick demonstrations to those with more elaborate set ups but all materials will be easily found in the school or acquired. Extensions to enhance the information learned are included with most activities. Activity pages generally have the following sections:

**Main Ideas** - Gives the core concept behind the activity.

**Objectives** - Lists one or two learning objectives for the activity.

**Background** - Helps the teacher prepare the activity. Acts as an information base during discussions that find out what the students already know about the topic.

**Materials, Procedures** - Describes the activity

**Discussion** - Questions, information and ideas

**Extensions** - Ideas for further activities

*Where required, copy masters for the activity follow the activity page(s).*

- 3) You may print this entire guide or a portion of it for use in single classrooms or home settings only. This guide may not be printed for wider use, nor republished in any way without written permission from the authors and Bamfield Marine Station.

### Using the Newsletter

The *Ocean News* newsletter is a resource that may be referred to over and over. Through the newsletter students can learn about basic concepts and they can learn about how science is actually being carried out in a variety of different areas of marine studies. Students should be encouraged to read about and think about the problems faced by scientists as they investigate the ocean realm and its living organisms. As well, interviews with marine scientists are designed to provide models and mentoring for all students, no matter where they are headed in the world of work. *Storing the newsletters in a dark place will allow them to be used for several years.*

### Using the Disk

Generally, learners can be encouraged to work with the disks alone or in small groups to explore the information provided. This information contains much of the same material as the newsletter. As well, the program frequently refers to the newsletter, to encourage students to see value in both readings and computer mediated approaches. Activity sheets are provided in the disk user's guide.

\* Other facilities such as the Vancouver Aquarium, the Royal British Columbia Museum and the Cowichan Bay Marine Ecology Station also provide marine education programs for school groups and individuals. Please see the the appendix for further information.

