


PROGRAM COMPONENTS

HOW TO USE THE PROGRAM

The lessons and activities in this program teach students about the importance of clean water through the exploration of aquatic ecosystems. You will use a combination of science and art activities, field notes, and student supplements (called Eco Guides) to help students understand the connections between people, water, animals, and the health of the planet.

The program components are introduced on the following pages. You will find as you review the materials that there are a variety of ways to adapt the contents to fit your needs.

PROGRAM OPTIONS

- Create your own unit of study and include the units with the  icon to teach your students art techniques and ecology. Students will use their new skills and knowledge to go “Wyland style” and create a beautiful large-scale group mural illustrating the aquatic ecosystem studied.
- If you don’t have the flexibility in your classroom to complete several units of activities, select units that cover the science standards you need to meet. Each unit can be used as a stand-alone lesson and includes an art project.

WHAT’S INCLUDED?

TEACHER RESOURCE GUIDE

This *Teacher Resource Guide* contains everything you need to succeed, including comprehensive science and art background information, copies of student activity pages, and ready-to-use classroom aids. You will also find correlations charts aligning the units with both national science and art standards. (See pages 10 and 11.) Use these to help you choose or prioritize the units you will introduce to your students.

There are 18 units in this guide. Each unit contains a detailed lesson and color copies of the student activity pages for reference. Black and white reproducible versions of the student activity pages are provided in the *Student Activities* book. Page numbers to such pages are given in parentheses as (SB page #), where SB stands for “Student Book.”

All lessons include the following sections:

- *objectives
- *a summary of the unit
- *time needed to complete the unit
- *a listing of science and art materials
- *teacher preparation information
- *an activity introduction
- *step-by-step directions for completing the activities
- *review and assessment suggestions
- *extensions
- *copies of the student activity pages

PROGRAM COMPONENTS

Eco Guides

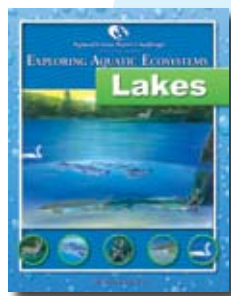
The Eco Guides are full-color student supplements with articles, fun facts, people profiles, lots of images, and a set of organism cards. Five sets of full-color Eco Guides are included in the box.* Each represents a different aquatic ecosystem, and all the guides can be used with the lessons in the *Teacher Resource Guide*.

These guides provide students with valuable background information about each of the ecosystems as well as basic understandings about the ways in which water connects us all. Each guide includes the following information:

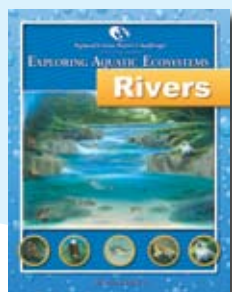
- *Important facts about the ecosystem
- *What a watershed is
- *How water connects us all
- *What kind of water is in the ecosystem
- *Case studies and topics of special interest and concern (related to the specific ecosystem)
- *How humans affect the ecosystem
- *Organism cards (images and facts about species native to the ecosystem/used with lessons)
- *Ways in which students can get involved (includes scenarios of student stewardships)
- *A feature story of one or more people who are making a difference to the world's waterways

Reference to the Eco Guide contents is made throughout the units. The guides can be used in a variety of ways. For one or more lessons, you may wish to have students work in groups, with each group responsible for a particular ecosystem. As new lessons are introduced, student groups can be rotated to another ecosystem guide. In this way, students will be able to learn and share information about each ecosystem first hand. If your academic focus needs to be on one particular ecosystem more than another, adjust the grouping and use of the guides as you proceed through the lessons. The lessons were designed to allow for this kind of flexibility. You can even create your own lessons and extension activities using the material in the Eco Guides!

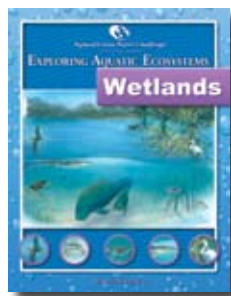
Choose from the following Eco Guides:



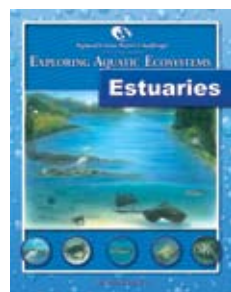
Includes a feature on the Great Lakes



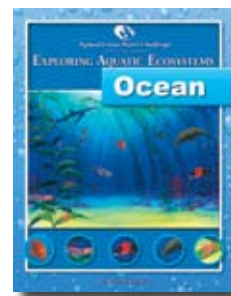
Includes a feature on the Mississippi River



Includes a feature on the mangroves and the Everglades



Includes a feature on the Chesapeake Bay



Includes features on kelp forests and coral reefs

*Additional copies of the Eco Guides may be ordered from the publisher. (For publisher information, see page 24 of any Eco Guide.)

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FIELD NOTEBOOKS

Field notebooks are great tools for scientists and artists. They are valuable in the classroom as well. The activities in this guide call for students to document their learning in field notebooks by sketching, recording observations, writing thoughts, creating stories, and answering questions.

The students' notebooks will help them as they build their knowledge of aquatic ecosystems by allowing them to reflect on and keep a record of what they have learned. The field notebooks will also help you assess what the students have learned and the type of progress they are making. Some students are hard to assess by traditional means so by reviewing the notes, sketches, and activity sheets in their notebooks you will have another tool to evaluate the depth of their learning.

References are made throughout the lessons encouraging students to document their activities and to write about their science and art experiences. Encourage students to use the field notebook for recording data, observations, reflections, and ideas. The field notebooks should be a place for students to not only complete the required work, but also a place for them to do additional sketching and record their thoughts on aquatic ecosystems at any time. Each lesson has one or more student activity sheets that should be added to the student's notebook when it is completed. If you do not wish to copy the student activity sheets, you may have students do that work directly in their field notebooks. The notebooks will be a unique and artful record of student learning.

A full-color cover template has been provided on the CD. (See page 56.) For easy storage and flexibility, consider having students use three-ring binders that will allow pages to be added as students work through the activities. Have them add extra lined paper for writing and blank paper for illustrations. We recommend taking a little time before beginning the program to introduce the Field Notebook to the students and to assemble their notebooks. (Note: The Exploration section of Unit 1 provides a good introduction to students about the purpose and use of the Field Notebook.)

ACTIVITY CARDS

A set of 24 full-color activity cards is included in the program. These are to be used where indicated in the unit lessons. Students may be asked to use the cards as they work in groups or at a center. Twelve of the cards contain photos and information about organisms inhabiting lakes, estuaries, rivers, wetlands, or the ocean. Students will use these cards often, and in a variety of ways. You may wish to cut the individual cards out and place them in envelopes or resealable bags. (Note: Full-color organism cards can also be found in the Eco Guides, and reproducible copies are available in the *Student Activities* book.)

POSTERS

Five habitat posters are included in the kit, each featuring the art of Wyland. The posters can serve as motivational and learning tools. Display and use them in ways that work best for you and your students. When used throughout the program, you will find that these beautiful visuals are also handy references!

CD-ROM

A CD (Windows and Mac compatible) is included to supplement materials referred to in the units. The contents include a variety of supplement pages that accompany the lessons and reproducible pages from the *Student Activities* book, as well as a Field Notebook cover template and a student certificate. The pages have been prepared as PDF files and can be easily printed.

Certificate of Appreciation—Each student who participates in the program should receive a certificate of appreciation. A copy is included on the CD as well. The certificate is signed by Wyland, explorers and scientists Dr. Sylvia Earle and Dr. Bob Ballard, and Charles Kennel from the Scripps Institution of Oceanography.

OTHER FEATURES

Wyland Ocean Challenge Web Site—For additional resources, go to www.wylandoceanchallenge.org. Learn about how to enter the Nationwide Art and Science Contest on this site as well!