

# Archived Information

## Gulf of Maine Aquarium: Engaging the Public with Marine Science

**Activity:** The Gulf of Maine Aquarium is developing an innovative Public Interface that utilizes a digital presentation format to engage students and the public with marine science. The Public Interface aims to increase public interest in and understanding of science research, thereby supporting the first goal of the Mathematics and Science Initiative.

**Background:** The Gulf of Maine Aquarium (GMA) was incorporated in 1968 to educate Maine residents about the Gulf of Maine and its watershed and support marine research. GMA's utilization of computing technologies began in 1994 with NASA's first Web-based Cooperative Agreement. The resulting GMA website ([www.gma.org](http://www.gma.org)) now features over 100 classroom activities and records 17 million hits annually from all fifty states and more than 140 countries. NASA has contracted GMA for twelve additional projects, most recently to conduct education for the Maine Biological Nanotechnology Effort, a three-year project with MIT, Bigelow Laboratory for Ocean Sciences and others to investigate how marine organisms assemble billionth-of-a-meter scale building blocks of calcium and silica into elaborate scales and shells. Major funding from the Department of Commerce supports Vital Signs, GMA's innovative program that integrates handheld computers with data probes to allow scientists, students and fishermen to collect and share data and observations about aquatic environments. GMA has recently emerged as a key player in the field of collaborative fisheries research, which places scientists on fishing vessels to conduct fishery research projects. GMA proposes to merge its education and research skills into a Public Interface that will bring students face to face with the endeavors of marine science.

### Brief Summary:

GMA is designing an innovative Public Interface that will illuminate cutting-edge aquatic science projects in the Gulf of Maine. The primary audience for this program will be 5<sup>th</sup> and 6<sup>th</sup> graders from within Maine and throughout the Gulf of Maine watershed. The program includes three main components: interactive, personalized presentations, hands-on activity stations, and Internet activities/resources. Visitors will document their investigations by creating and saving media artifacts that will be featured in the presentations and on the Internet. For example, students might film swimming copepods through video microscopes and later view their own digital video on the Internet. Activities and presentations will adapt to personalize the experience and incorporate real-time information and up-to-date research results. By engaging visitors with marine research, the Public Interface will provide a focal point for the public to learn about marine research and science in general.

### Purpose:

- Create a compelling and enriching sensory experience that illuminates cutting-edge marine research while immersing visitors in the unique character of the Gulf of Maine.

### Educational Goals

- Bring the public face to face with current endeavors of marine science
- Generate a better understanding of and appreciation for the complex ecosystems within the Gulf of Maine and its watershed
- Foster awareness of the complex relationship among coastal communities, marine economies, and the marine environment and its natural resources
- Make the visitor an active participant in the scientific process
- Increase public enthusiasm for science
- Portray scientists as possible role models for students

### Accomplishments and Future Plans

To date, GMA has developed a conceptual design, conducted prototype tests with 70 students (5<sup>th</sup> through 7<sup>th</sup> grade) and their teachers, documented the prototype and design process, and assembled advisory committees of eight technology and education experts and eight prominent marine scientists. In the next year GMA plans to complete the design and development process, beta test activities, and finalize the first content module. GMA is very interested in becoming involved in the Department of Education's Mathematics and Science Initiative as we proceed with developing and launching this new science education program.