

All Hands On Deck: A NY/NJ Harbor Education Program
New York-New Jersey Harbor Estuary 2004 Mini-Grant Program

FINAL REPORT

Submitted by

**The Education Program at the
New Jersey Marine Sciences Consortium**

PROJECT SUMMARY

Minigrant funds received were used to partially offset ferry charter fees incurred for 14 student field trips of NY/NJ Harbor. During the grant period, 689 students and 33 teacher/chaperones representing grades 3-12 were served. The programs were organized and led by the staff of the Education Program at the New Jersey Marine Sciences Consortium (NJMSC) on behalf of their *All Hands On Deck (AHOD)* program. The *AHOD* program was implemented to increase knowledge and stewardship of the NY/NJ Harbor Estuary and to provide K-12 educators with resources to interpret the importance of the Port of NY/NJ and its environs in their classrooms. In addition to the narrated tour, *AHOD* participants gain knowledge of the Harbor through on-board learning activities including water quality testing, touch tanks, microscopy activities, educational games and open discussions. Career awareness is also integrated through the inclusion of volunteer guest speakers from Harbor-related agencies and industries. During the grant period guest speakers from The Sandy Hook Harbor Pilots, The US Coast Guard, Stevens Institute, The Port Authority of NY/NJ, The NY/NJ Harbor Estuary Program, Army Corps of Engineers, NJDOT Office of Maritime Resources and others volunteered their time to contribute to the on-board instruction. Most participating schools also hosted in-school, pre or post trip visits provided by NJMSC staff.

GOALS REACHED

During the grant period the NJMSC exceeded its goal to reach 600 students and 24 teachers from the metropolitan area. Response to this program was much greater than anticipated with all available tour slots filled quickly.

To support these tours, the NJMSC set of goal of developing, publishing and distributing an *AHOD* orientation package to teachers and group leaders which was successfully introduced during the grant period (Attachment 1). The package communicated basic information and guidelines to assist teachers and group leaders in planning their trip. Included are an overview of the topics and concepts that are covered during the *AHOD* field trip and materials and suggestions for pre-trip classroom activities and lessons. During the grant period, the NJMSC also starting planning future, more detailed curriculum materials. A student workbook is underway along with the development of Internet-based activities. As this project progresses, it is the aim of the NJMSC to greatly expand in this area, eventually developing comprehensive NY/NJ Harbor-specific curriculum materials and student workbooks for area teachers. All materials developed will support and correspond to both NY and NJ Core Curriculum Content Standards.

HIGHLIGHTS

Response to the availability of this program was extraordinary. As mentioned previously all available slots for trips during the grant period were filled quickly.

The high level of interest and participation by organizations involved with the Port and the Harbor was also gratifying. Guest speakers willingly volunteered their time to come on board and assist with instruction. Guest speakers make the AHOD program extra special by providing students with exciting first-hand knowledge as well as career awareness and workplace readiness.

A database of potential guest speakers has been compiled consisting of personnel from many Harbor-based organizations and businesses who have expressed a desire to come aboard. The group includes contacts from The Sandy Hook Harbor Pilots, The US Coast Guard, Stevens Institute, The Port Authority of NY/NJ, The NY/NJ Harbor Estuary Program, Army Corps of Engineers, NJDOT Office of Maritime Resources, Rutgers University, NY Watertaxi, Seaman's Church, NY Shipping, COSCO, Maersk, the River Project, and others. This group receives periodic emails from the NJMSC regarding the progress of the AHOD program as well as upcoming trips.

A webpage was introduced for the project. It can be viewed at <http://www.njmssc.org/Education/AHOD.htm>.

EVALUATION RESULTS

An *AHOD* specific evaluation form was developed (Attachment 2) to measure teacher and student satisfaction with the program. These forms proved difficult to retrieve for several reasons are still in the process of being refined, completed and compiled. Those who have responded have been very positive so far. Future plans include on-line surveys and making the completion of an evaluation form a requirement of receiving the program.

During the grant period, valuable feedback was best obtained through informal discussions with participating teachers and group leaders, usually during and immediately following each trip, by telephone or during post-trip classroom visits. This allowed for the identification of problems and the gathering of feasible suggestions for improvement. As much as possible, these ideas and suggestions were applied to subsequent trips.

An important suggestion was giving students opportunity for some "down-time" to reflect on what they were seeing and learning. In an attempt to cover a vast majority of material in a very short amount of time, NJMSC staff left little time for students to process what they had learned. For the overwhelming majority of students (and teachers and chaperones) the information conveyed during this program was all new. The NJMSC now tries to include some reflection time, a little more back and forth discussion and, in general, cover a little less material but cover it in more depth. The development of more Harbor-based curriculum materials for teachers to implement in their classrooms will help in this area by preparing students with more prior knowledge.

Teachers made us aware of the importance of a lunch or snack break, especially for younger students and for students who are accustomed to an early lunch break. This issue is now discussed with the teacher prior to the trip and time is allotted in the day's schedule for lunch and/or snack.

Teachers also made us aware that students needed a tangible, concrete way to identify where they were and that geographic orientation was proving a difficult concept for students to grasp. A student-friendly Harbor map was developed (Attachment 3). This map is now distributed to each student on board along with a highlighter. NJMSC staff and speakers frequently provide updates to inform students as to just where they are in

the Harbor at any given time. A "Port-Bingo" card is included on the other side of the map. Port Bingo provides students with a visual reminder of what they've seen and heard about and provides an active inventory of all the things they are seeing. A prize for completion is provided for additional motivation.

Another suggestion was to include activities that would accommodate all learning styles. Certainly the trip is a feast for visual and auditory learners. Accommodation for Tactile/Kinesthetic Learners has been incorporated through activities that include body movement and learning by doing (tide and current demonstrations, port-charades, touch tanks). Teachers also indicated that small group activities were effective and that student's liked the intimacy of small group work.

Following each *AHOD* program the staff met with guest speakers to de-brief and evaluate the day's program. These discussions resulted in the identification of problems and yielded good suggestions for future program improvement. One decision, based on observation and experience was to limit future programs to middle and high school students and to not mix grade levels on the same trip unless the groups are "buddied-up" with specific tasks to perform together. For example, a very successful program was conducted with the Marine Academy of Science and Technology (MAST), a Monmouth County NJ high school with a marine focus and two fifth grade classes from nearby Long Branch, NJ. The high-schoolers were assigned specific younger students to mentor and were given specific tasks to help the younger students complete. For instance, students developed interview questions for guest speakers with the help and guidance of the high-schoolers. A game of "Port Pictionary" was also included.

A number of schools were able to participate in pre and post-trip classroom visits. During these sessions, the NJMSC assessed what students knew about the Harbor (very little) and their opinions (very polluted). Post-trip visits also allowed the NJMSC to assess what they learned from their participation in the *AHOD* field trip program.

PROBLEMS and RESOLUTIONS

Several programmatic problems were identified and resolved through discussions with teachers participating in *AHOD* programs. These are discussed within the "Evaluation Results" section of this report.

Retrieving evaluation forms has proved difficult. Forms were distributed to teachers on trips and also mailed to schools but few have been returned yet. This was more than likely an issue of timing as the bulk of the programs were conducted near the end of the school year. To better gather evaluation data, the NJMSC is planning an on-line survey that teachers can complete easily and submit electronically. The NJMSC is also considering requiring the completion of an evaluation form as part of the terms for going on an *AHOD* trip.

Although a good problem, the tremendous response to this program by area schools has made it necessary to implement an application process (Attachment 4) as well as seek additional funding to expand the program to meet demand. By instituting an application process we hope to do a better job of geographically distributing tours (in the past grant period only two school were from New York because trips were allocated on a first-come first-serve basis. We also hope the application will result in greater involvement of the teachers and more pre-trip classroom instruction.