

Studies at Sea aboard the RV Sea Dawg revised 6/28/0

Abstract - Studies at Sea is a full day program using a combination of shore based and onboard facilities providing a unique opportunity for students to experience field research and data collection on board the Marine Education Center and Aquarium's 43' vessel RV Sea Dawg. The field experience is enhanced by shore based labs and equipment. As promoted by the Georgia Department of Education "Do science not View science", students use all their senses to experience and record the flora and fauna collected by the RV Sea Dawg's trawling nets, plankton nets, water quality monitoring devices, digital microscope, document camera, GPS, video camera, digital camera and onboard computer network. From the specimens collected both microscopic and macroscopic images are captured digitally, burned to CD and data sheets are photocopied for later, timely use back in the home school classroom. Studies on board are not limited to the sciences but are cross curriculum and readily adaptable, modifiable and usable by language arts, social studies, math and the fine arts.

Aligning with the Georgia Department of Education's science mandate of "Do science, not View science" - Studies at Sea utilizes an inquiry-based approach and is student centered. The main objective is for **STUDENTS** of any age to utilize equipment and procedures to collect field data and images of species on board the RV Sea Dawg as well as the total sensory experience of field research to use in conjunction with MECA's presentation hall, computer lab and/or other labs for preliminary analysis depending on the group's objectives and length of stay. Much of the experience focuses around the actual experience of collecting and handling the specimens as well as cataloging their images and other data. The greatest effort identifying many of the species (*other than that necessary for our state trawling permit which is done by an intern/educator*) will be done by students on shore at MECA or back at their home school through the use of the digital images collected. Major analysis and identification should be done and integrated in the home school curriculum at an appropriate time as deemed by the classroom instructor at their classroom/lab site. **The total experience of the trawl, data collected and images captured is not limited to science classes but is cross curriculum and can be adapted and used by a variety of disciplines.** In time a database of all data from all groups will be made available on MECA's web site with the goal of incorporating the field data into GIS programs.

Typical Day's Schedule (approximately 8:15 – 3:30 – times are flexible)

- The program starts with 45 minutes in the lecture hall to introduce the coastal waters, form teams, coordinate assignments, learn the equipment to be used, go over data collection sheets, review the day's itinerary and answer all questions.
- The group then participates in a 45-60 plankton lab (may be done at day's end or not at all depending on group schedule of time and classes).
- Board the RV Sea Dawg and do a series of 3-4 trawls and plankton tows from estuarine waters to approximately 5-6 miles out in the ocean (weather permitting). The assigned teams will collect and record all data. Lunch will be on board the RV Sea Dawg.
- Optional depending on group needs - a 30-45 minute wrap up of the day done either on board the RV Sea Dawg on the way back to port and/or if requested, a presentation of the images on the large presentation screen in MECA's lecture room.
- Some overnight groups may want to either check out a computer to work on the images and data in the evening and/or schedule computer lab time at MECA to work with all the students together.

All trips will:

- Allow students to collect, handle, observe and capture digital images of specimens in the field;
- Allow students to use navigation and water quality/monitoring equipment;
- Provide preliminary identification of trawl organisms;
- Record spatial data;
- Measure and record weather, tide and water chemistry data;
- Provide documentation of the field collection;
- Provide a CD of all images and collected data for use by the group in a timely manner in their home school curriculum.

Depending on length of stay, program length and facilities, groups may at night:

- Collate and analyze data;
- Use large screen imaging in the lecture hall;
- Create spreadsheets to analyze data in MECA's computer lab or signed out laptops;
- Produce PowerPoint presentations in MECA's computer lab or signed out laptops;
- Incorporate spatial data into GIS in MECA's computer lab or signed out laptops;
- Word process the experience as a concept based (technical) lab report ;
- Use the art room, cafeteria or other areas to sketch, label and describe the organisms or the experience as a fine arts or language arts, technical writing or field journaling exercise;
- Create written reflections; poetry or any genre of writing using their boat-based experience.
- View ship based videotape in the cafeteria if a video was produced during the Studies at Sea experience.

As they become available, all new state and national standards contained in Studies at Sea will be documented and provided to teachers and administrators.