

## Program goals and objectives

- Increase public awareness about the problem of marine debris and educate the public on how to help prevent it.
- Develop a practical technology for recovering difficult to reach debris in lakes, rivers, and streams.
- Introduce elementary school children to the issues of marine debris and marine sustainability.
- Challenge elementary school children's perception about what engineers do. Help them make the transition from perceiving that engineers drive trains to that of applying technology to create solutions for environmental sustainability. We do this by having these students help our team 'design' the robot.
- Inspire our peers in the FIRST Robotics community worldwide to follow our example and use their skills and knowledge to pursue similar activities. There are over 42,000 students in our direct peer group and over 200,000 students at all levels of FIRST robotics programs.

## Past, Current, and Future Activities:

- Road shows and Public Events – The team engages in public events promoting science, technology, engineering, and mathematics and FIRST Robotics. These exhibitions incorporate the theme of “Applied Robotics for Marine Sustainability”. These road shows highlight the problem of marine debris and how robotics can be used help solve the problem.
- Classroom Education 2007-2008 - We asked thousands of 3<sup>rd</sup> grade students to use their imagination to design a robot to clean up water pollution. In order to prepare these students for this contest, the team developed a 3<sup>rd</sup> grade lesson plan that aligned with the Georgia Performance Standards (GPS S3L2) for 3<sup>rd</sup> grade science education. The purpose of this lesson is to provide the background knowledge for the art contest. A feature of our educational plan is that we think it is a LOT of fun for the participants. The top entries win a pair of year round tickets to our partner organization, the Georgia Aquarium.

- Locally we have had several newspaper articles in the area paper and other specialty publications.
- Locally we have partnered with CobbED-TV, a local cable channel that could viewed as an educational channel similar to what PBS used to focus on. CobbED-TV is broadcast on closed circuit TV in are schools, and open circuit TV on Comcast and Charter Cable.
- At a statewide level we have partnered with the Georgia State Department of Education (GaDOE) and the CEISMC office of Georgia Institute of Technology to promote STEM education in K-12 education. Our partnership was designed to promote both FIRST Robotics programs and our art contest and environmental education efforts.
- Internationally we have partnered with MarineBiz Television, based in India with offices in Dubai. They broadcast our programming via the Hotbird and Thaicom direct broadcast satellites to Europe, Asia, Africa, Australia and New Zealand, and the greater Pacific Area. Visitors from over 30 countries visit our website based on these broadcasts.
- The team partners with the Keep Cobb Beautiful foundation to help them perform activities such as the Chattahoochee River cleanup with Rivers Alive and also support their electronics recycling and tree planting efforts.
- Team members developed a coloring book that is designed to help K-2 students become familiar with marine debris and robotics. We created a character called Corky the Robot Crab. We are currently presenting this item to several potential sponsors including the Annenberg Foundation. The goal is to publish 500,000 copies for distribution in 22 learning centers affiliated with the Smithsonian Institution. This distribution concept resulted from our partnership with the Georgia Aquarium and our developing relationship with Coastal America. Coastal America is the operational affiliate of the Smithsonian for promoting the Smithsonian's Ocean Literacy Art Contest.

## Contributors

A lot of this program is 'piggybacked' on top of our FIRST Robotics program. Sponsors donate shop and office space, Mentors donate time and energy. The tooling and parts bins are shared with the FIRST program.

General Electric	Funding for the FIRST season, mentors
Women in Technology	Funding, womens development workshops
AIAA - American Institute of Aeronautics and Astronautics Atlanta Chapter	Funding, mentors
PacClad - Peterson Aluminum	All the sheet aluminum we need
The School Box	Gift certificates for teachers, art contest
Color Reflections	Exhibitions grade graphics
Harrison High School	Booth Space
HI Solutions	Workshop and office space
Georgia Aquarium	36 year round tickets as prizes for the art contest
General Cable	wire and cabling, electrical safety outreach
CobbEMC	direct funding for Applied Robotics for Marine Sustainability Program Press Release support
Georgia Tech Research Institute	OSHA safety training courses
Modern Metals	Machine and welding shop services
Thunder Tower Harley Davidson	general cash contributions
Gougeon Brothers, West System	discounted boatbuilding epoxy system materials
Anderson Power Products	power connector products, electrical safety outreach
Arylessence	general cash contributions
Cobb County School District	area and statewide promotional support
Johnnys Pizza	mountains of pizza to feed students
R-Design Works	transportation trailer for exhibition equipment