



OUTFITTING THE BBSC TEACHING LAB

A Case for Giving

Introduction

The opening ceremony was held in May 2008 for the Back Bay Science Center (BBSC) – a 13,000 square foot state-of-the-art facility built through a partnership of the California Department of Fish and Game, the City of Newport Beach, the Orange County Health Care Agency, and the University of California Irvine. It is uniquely situated adjacent to Upper Newport Bay (UNB) – the largest remaining natural estuary in southern California – with waterfront access to this important ecological reserve.



The mission of the BBSC is to provide a hands-on facility where students and the public can study and enjoy the estuarine ecology of Newport Bay and the marine ecology of the ocean; and to promote natural resource conservation and stewardship throughout the watershed. The facility includes the Health Care Agency water quality lab responsible for bacterial analysis of water samples collected at the local beaches, and a teaching lab equipped for research-based science education for Grades 7 through college. Here junior- and high-school students will be able to work side-by-side with some of the region's top scientists.

Unfortunately construction of the facility coincided with the dramatic worldwide escalation in the cost of concrete, steel and other building materials. As a result the BBSC was built, but there were insufficient funds to furnish or outfit the two teaching lab classrooms. Existing aquaria and other items from the old temporary teaching facility are being used, and new are being gradually added. While the teaching lab is functional, and outdoor programs using the dock, etc. continue, the BBSC will not realize its full potential without several hundred thousand dollars of outfitting.

Compelling Need

Though located in affluent Newport Beach, UNB is an important destination for schools and community groups from underserved areas of Orange, Los Angeles, Riverside and San Bernardino Counties. When students are asked at the start of a BBSC Marine Life Inventory, many students (even those from schools in the adjacent Costa Mesa) have never even been to the beach. A field trip to the BBSC allows the students to see things that most have only heard the teacher talk about in class. They see egrets wading in the shallows, pelicans diving for fish and mullet



jumping out of the water. They see migrating birds feeding in the mud and they can understand why vanishing wetlands have a global impact. Classroom concepts suddenly comes alive. Having stimulated the students' enthusiasm for nature, we also want to be able to nurture their interest in scientific investigation and problem-solving through an examination of the biology of the estuary at a microscopic level.

Many teenagers are curious about the variety of analyses that can be done with sophisticated lab equipment, but are intimidated by their apparent complexity. So in a classroom with only a limited amount of equipment, only the most confident students step up to use it. Those that would most benefit from an extended hands-on lab experience have little opportunity to get comfortable using even basic equipment. And not many schools can afford the array of important analytical equipment the BBSC intends to have.



Middle school and high school teachers throughout Orange County and beyond eagerly await the opportunity to bring their classes to the BBSC. Nearly 200 science teachers from Grade 7 through college responded to a comprehensive survey seeking input on 30 lab and/or field activities that may be offered here.

Funding Sought

The final facility construction cost was approximately \$7.8 million. The estimated cost to outfit the two teaching labs to fulfill the BBSC's mission is \$500,000, broken down as follows:

Student lab counters, tables and chairs	\$110,000
Perimeter wet tables	\$60,000
Aquaria	\$40,000
Cabinetry and shelving	\$10,000
Plumbing and other installation	\$30,000
Basic lab equipment (glassware, microscopes, electronic balances, etc.)	\$60,000
Audio-Visual (AV) and computer equipment (including Smartboards)	\$50,000
DNA analysis equipment	\$25,000
Vernier computer probeware (pH, temperature, etc.)	\$10,000
Ecology and marine biology equipment	\$20,000
Consumable supplies	\$15,000
Donor recognition exhibit	\$20,000
Other costs	\$50,000
Total	\$500,000



As of September 2008 nearly \$100,000 has been received towards the outfitting, including an in-kind donation of a large aquarium and life support system.

With your help we can reach our target and make the fulfillment of the BBSC's mission a reality.

We can show high-school students how easy it is to become real researchers engaged in rigorous scientific inquiry in an important and inspiring context, and provide opportunities for higher level students to perform world class research.