Upper Newport Bay Ecological Reserve: A jewel in an urban environment

by Ann Hennessey

The Back Bay Science Center – with its blue metal exterior, floating dock, outdoor holding tanks and bluffs covered in native shrub – might seem a bit out-of-place among Newport Beach's villas. The land around the science center is left natural with meandering trails through salt marsh vegetation and pickleweed. A platform for the predatory osprey to roost pierces the sky to one side of the floating dock.

Photo © Ann Hennessey
Kayakers take advantage of a warm Saturday morning.

In stark contrast, Newport Beach estates dot the Upper Newport Bay's shoreline, with private docks keeping personal yachts at the ready. Manicured lawns, palm trees and the occasional Greek statue mark these homes as unmistakably Southern California affluent. The Newport Dunes Waterfront Resort and Marina is the science center's next door neighbor. The Newport Aquatic Center sits directly across the water. The U.S. Rowing Association conducts team training camps there and 12 of the private center's members have won Olympic gold medals.

The Back Bay Science Center may not share the glitz of its neighborhood, but Newport Beach city officials and their Orange County counterparts say residents hold Upper Newport Bay and its accoutrements, like the science center, dear.

"I think people in Newport have a special place in their hearts for Newport Bay, especially Upper Newport Bay," Newport Beach Assistant City Manager Dave Kiff said. "This is such a unique resource to Southern California as estuarial wetlands."

The 752-acre Upper Newport Bay Ecological Reserve includes the upper portion of the bay, one of Southern California's few remaining estuaries, and a saltwater marsh. Recent studies suggest that less than 5 percent of California's original coastal estuaries exist, according to Brian Shelton, Department of Fish and Game's (DFG) Upper Newport Bay reserve manager.

Photo © Ann Hennessey
Visitors wait for their turn on the bottom trawler. Fishing poles line the walkway. Several sport fishing groups, including Flyfishers of Orange County, Southwest Bass Anglers, Fib'ers Fishing Club, Fishing Towards Our Future Club and the Boy Scout Sea Base work co-operatively with DFG through catch-and-release tournaments and youth fishing education programs. DFG loans out fishing gear to several other fishing education non-profit groups during the year.

Almost 200 species of birds live there. Migrating birds stop to rest during the winter months and the habitat in this area is home to several endangered plants and animals. Upper Newport Bay is so beautiful artists regularly bring their watercolors and oils to replicate the scenery on canvas. “It’s kind of a jewel in an urban environment where people can come to recreate and relax,” said Susan Brodeur, senior coastal engineer for Orange County. “It is a regional resource and people do come from all over.”

Photo © Ann Hennessey
Visitors finish their bay tour.

Photo © Ann Hennessey
Visitors receive tours and science presentations.

The local press describes the ecological reserve as a “jewel of Orange County’s coast,” a sentiment David Moore, DFG’s statewide aquatic education coordinator, echoes.

“It’s not just a bit of green open space; it’s something special and rare,” Moore said. Management of such a jewel becomes especially difficult when located in the densest urban region of Southern California. DFG’s successes here has been remarkable.

“When you look out from Shellmaker Island at bay level you’re in the pickleweed,” Moore said. “You can smell the rich bay mud and see the shorebirds poke around for a meal or make their graceful flight. And, when you consider the biodiversity of all that live beneath the surface of the bay that are protected here at the reserve, it’s an awesome feeling. It’s a place where people can go and get in touch with something they need; that we all need.”

DFG’s Back Bay Science Center gives visitors a chance to go deeper into the science and history of the area. Those who participate in the science center’s activities get their hands dirty and their feet wet. They help drag the net through the water to collect marine life samples. They peer through microscopes to learn about plankton living at the base of the estuarine ecosystem. They learn about the bay’s mud flats where medusa worms and bentnose and jackknife clams bury themselves and filter nutrients. Visitors look at flattened stingrays and yellowfin croakers whose under-slung mouth helps them feed at the bay’s bottom. They identify eel grass where fish feed, reproduce and hide from predators, and they explore tidepools found at the lip of the upper bay.

“The science center is a wonderful asset to our county,” said Orange County Supervisor Jim Silva. “Not only is this a valuable tool for scientific research, but we are able to use this facility as a classroom to help educate our youth about the environment and ecosystem that is all around us.”

Just during the 2004-05 fiscal year, 110 teachers and 5,143 students and parent chaperones went through the science center’s environmental education program for kindergarten through 12th grade, according to DFG environmental scientist John Scholl, who has served as education coordinator for the Back Bay Science Center. DFG volunteers took 3,599 people on weekend tours and helped more than 1,225 Boy Scouts earn their merit badges.

Volunteers drove the DFG shark mobile to local schools and libraries 28 times, sharing information about watersheds and marine habitat with crowds of excited children at each stop. The DFG loaned out fishing gear to several educational non-profit organizations during the year and worked with many groups to teach children through catch-and-release tournaments. The science center’s 71 volunteers, who help run these programs, completed a nine-week training on the natural history of the Upper Newport Bay and protection of its resources.

Photo © Ann Hennessey

A model of the planned $6.5 million Back Bay Science Center.

So many people use the Back Bay Science Center and the surrounding reserve, plans are underway to build a $6.5 million state-of-the-art facility with several local partners. Construction, stalled earlier due to an inability to find construction workers who weren’t already building public projects in the area, could start as early as this year. Most of the funding has been secured through private and public sources, but the administrative wing will likely need to be phased in at a later date as more money becomes available, Shelton said.

Photo © Ann Hennessey

The remains of marine life help visitors understand the bay inhabitants’ needs and history.

Photo © Ann Hennessey
Starfish in simulated tidepool at the Science Center.

Back Bay Science Center Hours: The science center is only open during scheduled events. To find out what's happening, call the center at 949-640-9959.

Science Center Location: 600 Shellmaker Road, on Shellmaker Island, Newport Beach, Orange County. Exit the 73 freeway at Jamboree. (If traveling from south of Newport Beach, exit University and turn left onto University. Travel about half a mile to Jamboree). Travel about three miles on Jamboree to Back Bay Drive. Turn right onto Back Bay Drive.

Admission: Admission to science center events is free.

Weather: Generally mild year-round. Bring a sun hat and sunscreen. Dress in layers.

Things to do: Visit the science center, kayaking, canoeing, bird-watching, hiking, tidepool viewing, biking.

Access for disabled: Yes

The science center helps DFG get the message out that it needs to protect California's habitat and wildlife so future generations can enjoy them too, Moore said. The bay supports a great deal of wildlife.

The bay serves as a nursery for several fish species, including many important to commercial and recreational fisheries, such as the California halibut, said Ed Roberts, DFG marine biologist.

The science center also helps educate the public about common residential practices that harm the bay and, subsequently, the ocean.

"What we do in our cities, towns and rural areas affects wildlife habitats no matter where we live and work," states a 2005 DFG Education Services public outreach report. "Most Californians share a desire to protect the environment. And their attitudes affect what they do, such as avoiding the use of toxic products where possible and making certain that soaps, paints and oil don't wash into streets, gutters and storm drains." DFG is a lead agency in responding to pollutants and spills in the state.

The Upper Newport Bay estuary is so important U.S. Sen. Dianne Feinstein announced last October an estimated $39 million restoration project of the Upper Newport Bay. Over the next couple years, workers will remove accrued sediment that washed into the estuary from the watershed as a result of development or erosion from natural causes. Another phase of the project will restore foraging areas for migratory and shorebirds, and create a breeding island for the endangered California least tern. These tiny birds like to fish in estuaries and nest in sandy beaches and mudflats near the ocean.

Visitors to the Back Bay Science Center will get the equivalent of front-row seating as the transformation takes place.

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