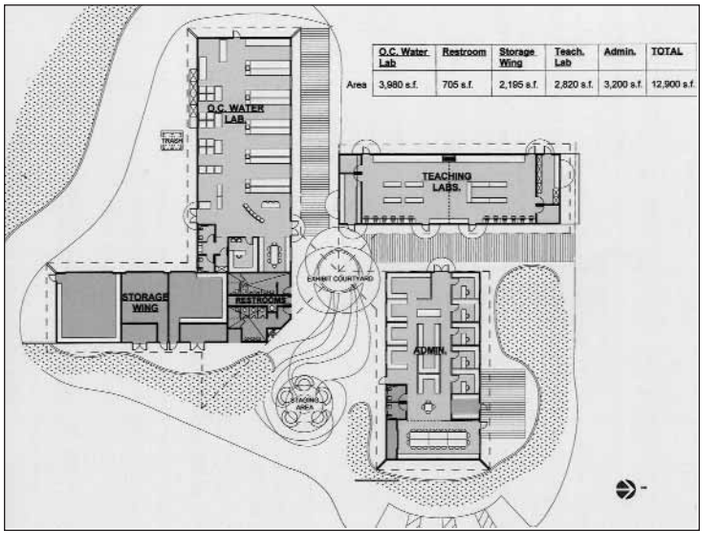
TRACKS

A Publication of the Newport Bay Naturalists & Friends

June–August

2006

The New Back Bay Science Center



Top: Artist's conception of students using the new teaching lab.
Above: Floor plan of the new BBSC

It has taken a while, but the new Back Bay Science Center (BBSC) on Shellmaker Island at the south end of Upper Newport Bay (UNB) is finally a reality. The Newport Beach City Council voted on February 28 to proceed with construction, and the groundbreaking ceremony for the project took place on April 23.

The BBSC is a collaborative effort of the city, California Department of Fish and Game (DFG), Orange County Health Care Agency (HCA), Newport Bay Naturalists and Friends (NBNF) and others. This multifunctional facility, which will complement the Peter and Mary Muth Interpretive Center at the north end of UNB, will include:

- A state-of-the-art water quality testing laboratory
- Teaching/research laboratories for middle/high-school and college students and others
- Office space for UNB Ecological Reserve, BBSC and other staff and volunteers
- Associated outdoor interpretive stations, aquaria, docks, etc.

The roughly 13,000 square feet building will replace the current temporary structures that fulfill the same function on a limited scale. As part of this project the saltmarsh on the south side of Shellmaker Island will be restored and expanded creating a wetlands rehabilitation demonstration project. Buildings and pervious parking area paving will transform the barren central area of Shellmaker Island created by the deposition of dredge materials several decades ago, and storm-water runoff will be directed to a natural treatment system. All of these site features will showcase responsible environmental citizenship in action, and inspire visitors to help solve ecological problems.

The BBSC will focus on research-based education pertaining to wetland and watershed issues. UNB is the largest of only a few remaining protected estuaries in Southern California, thus making the BBSC the ideal place for estuarine studies. An estuary is a coastal wetland where salt water from the ocean mixes with nutrient-rich fresh water from inland sources, to provide a fertile feeding area for birds, fish and other animals. UNB is an important rest stop and/or winter home for birds migrating from Canada and Alaska, and up to 30,000 birds can be seen here on any one day during the winter months. During the spring and summer many birds that have migrated from the south nest here, together with other birds that are year-round residents. Nesting birds include the endangered light-footed clapper rail and California least tern. UNB is also an important spawning ground and nursery for many fish, including halibut and bass.

An area of approximately 154 square miles of urban Orange County drains through the Upper Bay to the Pacific Ocean. Storm water runoff from this watershed brings with it trash and other less-obvious pollutants including fertilizers, bacteria and other pathogens, and sediment. The diligent, long-term efforts of organizations such as NBNF to protect the fragile ecosystem of the Upper Bay have resulted in improved water quality for both the Upper Bay and the Lower Bay. Constant attention to the health of the Upper Bay will continue to pay dividends for the health of the Lower Bay and with it the health of Newport Beach as a prestigious coastal community. The work performed at the BBSC will provide a deeper understanding of the link between the watershed and the ocean, and allow decisions affecting UNB and its watershed to be driven by the application of sound science.

The link between the teaching laboratory and the working HCA water quality-testing laboratory is an essential component of the BBSC. Linking these operations will allow students, researchers and visitors to better understand how UNB's water quality and marine life, and human actions at home and in the workplace are intertwined. The HCA laboratory is responsible for testing recreational water from Orange County's beaches and adjacent water. Staff works with other departments and agencies to investigate the sources and causes of bacterial pollution to coastal waters. The HCA laboratory is performing cutting-edge research in areas such as the DNA fingerprinting

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Newport Bay Naturalists & Friends

Current Status

For years the bobcat, like the coyote, had been pursued and destroyed as an undesirable predator. Then, in the 1970s—when the world's spotted cats came under international protection—the fur trade turned to the North American Bobcat as a source of fur. Overnight the pelt of the bobcat became one of the most desirable furs that could be taken legally with prices going as high as $650 per pelt.

Motivated by the high value of the bobcat's fur and the recent increase in take by hunters and trappers, the California Fish and Game Commission decided to update the bobcats status from varmint to fur bearer and impose a wintertime trapping season to limit the amount of time when bobcat can be taken. In addition, the Department of Fish and Game initiated a number of studies in order to monitor and better maintain a healthy bobcat population.

Presently, the trapping season extends from November 15 to the last day of February. These measures, plus the fact that fur is no longer popular or valued on the national or international market, has helped to stabilize the decline in bobcat populations seen in the 70s and 80s.

Not Just Any Cat…

The word is out: several recent sightings indicate that there is at least one bobcat at Upper Newport Bay. This is exciting for several reasons. First of all, they are extraordinarily beautiful, clever animals of a character rarely associated with urban or metropolitan areas. In addition, as an indicator species of habitat connectivity, their presence suggests that efforts to create habitat linkages are paying off. They are reclusive, however, and their habits less familiar to most of us. With this in mind, the following offers a primer on the species and their role in the ecosystem, supplemented with some tips for being around them.

There is one species of bobcat *(Lynx rufus* or *Felis rufus)* in California. Also known as the red lynx and wildcat, it has the widest and most continuous range of any California carnivore and is found throughout all the deserts of the American Southwest. Bobcats can be found in a variety of habitats but generally favor rocky, brush-covered hillsides. It is generally accepted that the bobcat's name originated from its short tail, which is only 6 or 7 inches long. The end of its tail is always black, tipped with white, which distinguishes the bobcat from the Canadian lynx, whose tail is shorter and tipped solid black. It is worth noting that the bobcat's tail—as well as its ears—are important signaling devices for the species.

As a member of the Lynx family, the bobcat has characteristically long legs, large paws, tuft ears, cheek ruffs (muttonchops), thick fur and loping gait. Large specimens can weigh up to 30 pounds, but the average bobcat is only 15 to 20 pounds. Size and color vary depending on geography as well as with gender. Those found in forests and heavy brush are darker with rust tones, while those found in desert and chaparral regions generally are a paler tawny-gray, often with a complete absence of spots on the back and less distinct markings. Males are typically larger than females. Like all Lynx, bobcats are agile climbers as well as swimmers and use stealth in hunting, often waiting hours near a trail for prey to come within their 10-foot spring range. They are, however, relatively short-winded and unable to withstand a chase. Whatever stamina they may lack is compensated for by their excellent night vision (their eyes have special light reflectors behind the retina), well developed hearing (ear tufts help serve as antennae) and a discriminating sense of smell (enhanced by Jacobean organs in the upper gum).

Despite its pussycat appearance when in repose, the bobcat is quite fierce and is equipped to kill animals as large as deer. Reportedly, its growls and snarls are often deep and fearsome enough to suggest a larger animal. Food habit studies, however, have shown bobcats subsist on a diet of rabbits, ground squirrels, mice, pocket gophers and wood rats. The bobcat roams freely at night and is frequently abroad during the day except at the peak of summer. It does not dig its own den. If a crevice or a cave is not available, it will den in a dense thicket of brush or sometimes choose a hollow in a log or a tree.

Bobcats occupy areas from 1/4 of a square mile to as much as 25 square miles, depending on type of habitat and sex. Typically, female bobcats occupy smaller areas than males and tend not to associate with other females. Males roam more widely than females and maintain ranges that overlap those of both sexes, despite a lack of tolerance for other males. Mating behavior is similar to domestic cats with the young being born in early Spring after a three-month gestation period. The normal bobcat litter consists of 2 or 3 kittens, often birthed in a rock crevice or burrow.

Born blind, the kittens open their eyes after 10 days and are taught hunting skills by their mother until they leave her at age 9 or 10 months. The father has no role in raising the offspring. Males are usually fertile by their first year, but females do not usually give birth to their first litter until they are two years old (at least according to most of the literature). Females normally produce just one litter per year. As a general rule, bobcats are solitary animals with males and females spending only a few days of the year together, those being during courtship and mating.

In the wild, bobcats may live 12–15 years while those in captivity have been known to live as long as 25 years. Young bobcats appear as lovable and harmless domestic kittens but because they are wild animals and potentially dangerous, it is illegal to keep bobcats as pets without special permits.

Rosemary Flynn, Naturalist

For references and Bobcat Safety Tips, please go to newportbay.org/newsand.htm

Scientific classification: Lynx belong to the family *Felidae.* The Spanish lynx is classified as *Lynx pardinus,* the bobcat as *Lynx rufus,* the Eurasian lynx (below) as *Lynx lynx,* and the Canada lynx as *Lynx canadensis.*

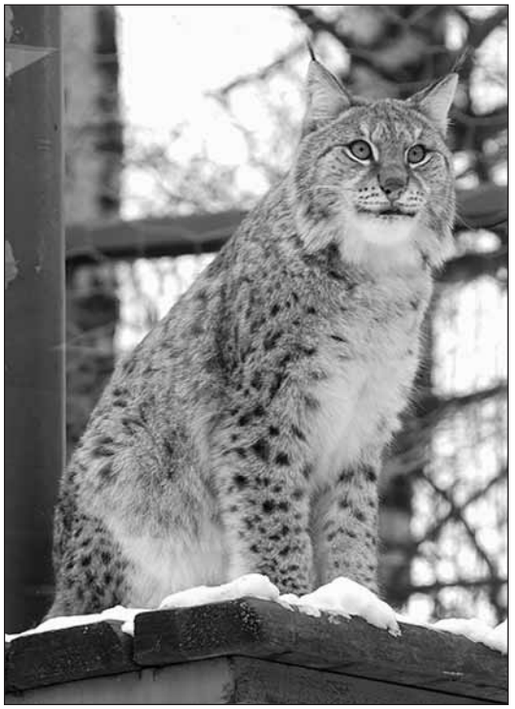

photo © Victor A. Lausas, http://www.shadowcaster.org

The Bobcat's Extended Family:

Generally, four species of lynx are recognized: the Spanish lynx, listed as an endangered species; the bobcat, also known as the wildcat, which is widespread throughout the United States except for the Midwestern Corn Belt; the Eurasian or northern lynx; and the Canada lynx. The Canada lynx is found from the northern United States throughout Canada and Alaska; it is the largest species in North America, averaging 3 feet in head-and-body length. In 1998, the United States Fish and Wildlife Service designated the Canada lynx as a protected species throughout the forests of the lower 48 states.

Bobcats and Coyotes…

…often occupy the same habitat and even hunt the same prey. The ordering of prey preferences and methods of hunting, however, are different enough that they manage to get along, if only by avoiding each other. In general, bobcats are much more solitary than coyotes, living and hunting independently

Upper Newport Bay Calendar of Events

June–August 2006

Steward Days—Every Wednesday, 9: 00–11:00 a.m.

Support the Bay's unique genetics at our restoration sites by collecting seeds & propagating plants. Learn how to grow natives in your backyard, attract wildlife and conserve water. For information call (949) 640-0286. Location code: BBSC

Kayak Tours—Every Saturday, 10:00 a.m.–12:00 p.m.

Join a trained naturalist for a guided kayak tour of the Back Bay. Meet at the Newport Aquatic Center. $15/person, 8 & up. $10/NBNF members. Be prepared to get wet. Reservations (949) 923-2269. Location code: NAC

Kayak Tours—Every Sunday, 10:00 a.m.–12:00 p.m.

Join a trained naturalist for a guided kayak tour of the Back Bay. Meet at the Newport Dunes Resort. $20/person. $10/NBNF members. Parking fee. Reservations (949) 729-1150 or 729-3863. Location code: NDR

Walking Tour—Saturday, June 3, June 17, July 1, July 15, Aug. 5, Aug. 19, 9:00 a.m.

Join a trained Naturalist for a 2 hour walk along the Bay. Bring binoculars and sun protection. Free. No reservations needed. For information call (949) 923-2269. Location code: BBSC

Twilight Canoe Tour & BBQ—Saturday, June 10, July 15, Aug. 26, 4:00 p.m.

Join Naturalists and Sea Scouts for a beautiful tour of the Bay followed by a cookout at the Newport Aquatic Center. Fee is $25. Reservations required (949) 642-5031. Location Code: NAC.

Plein Air Painting—Sunday, June 18, July 16, Aug. 20, 1:00–4:00 p.m.

Enjoy a wonderful time painting the Back Bay. Jean Marie will present and demonstrate traditional Plein Air techniques. All materials are provided. $15/child, 8-18, $20/adult. Registration (949) 923 2275. Location Code: MIC

Bird Watching for the Complete Novice—Thursday, June 22, 1:00–4:00 p.m.

Join us for this introduction to the joy of bird watching. No experience necessary; all birding materials provided. Come prepared to hike. $4 per person, ages 8 & up. Registration (949) 923-2275. Location code: MIC

Back Bay Bat Walk—Friday, June 23, August 11; Thursday, July 13, July 27, August 17

Join bat expert Stephanie Remington for an evening stroll searching for the Bay's bats and learning about their habits. $10 per person, ages 8 and up. Call for time and location. Registration (949) 923-2275. Location code: MIC

ROOTS Restoration Teamwork—Saturday, June 24, July 22, Aug. 26, 9:00 a.m. –Noon

Help restore Back Bay habitat by installing and maintaining native plants while learning about wetland ecology. Reservations required. Refreshments, tools provided. (949) 640-0286 for information, reservations and location.

Low Tide Bird Watching Hike—Sunday, July 16, 8:30–10:30 a.m.

Join avid birder Leigh Johnson and Park Staff for this bird watching hike over the mud flats. Come prepared to hike. Free. Meet in the community park at the end of Mesa Drive. There are no facilities at this location. Reservations (949) 923-2275.

Astronomy Night—Friday, July 21, 8:30–10:00 p.m.; Aug. 25, 8:00–9:30 p.m.

Join members of the O. C. Astronomers for an inspirational tour of the night sky including observation with telescopes. Family program. No fee; suggested donation of $2/person. Registration (949) 923-2275. Location code: MIC

Train for a Day, Become a Volunteer—Saturday, July 29, 9:00 a.m.–3:00 p.m.

Become a part of this dynamic estuary! Learn about the habitats and wildlife of the bay. Participate in habitat restoration and special events. Assist with tours. Greet and educate visitors. Registration (949) 923-2275. Location code: MIC

Night Hike—Saturday, Aug. 5, 7:30–9:00 p.m.

Join us for a night hike and learn about the wonders nighttime brings to our nature preserve. Dress warmly. This program may be re-scheduled due to bad weather. $4 per person, ages 8 and up. Directions to meeting site will be sent with registration: (949) 923-2275. Location code: TBD

Junior Park Ranger Academy—Monday–Friday, Aug. 7–11, 9:00 a.m.–1:00 p.m.

Join a Park Ranger, Naturalist and guest experts to learn about the Back Bay. Topics to include bay habitats, wildlife, birds & migration, mud study, native Americans, plants and geology. Ages 8–11, $75 for the series. Registration (949) 923-2275. Location code: MIC

Toddler Time

Join a Park Ranger for a parent-child experience with stories, movement and hands-on fun. Programs run 45 minutes. $5 per child. Call (949) 923-2275 to register. Location code: MIC

Frogs and Family—Wednesday, June 7, 10:30 a.m. (ages 3–5)

Learn all about frogs and their toad and salamander family members.

Butterflies—Wednesday, June 21, 9:00 a.m. (ages 2–3) or 10:30 a.m. (ages 3–4)

Learn all about butterflies!

What Animals Live Here?—Wednesday, July 5, 10:30 a.m. (ages 3–5)

Learn all about the animals that live here at the Upper Newport Bay.

Sneaky Snakes—Wednesday, July 19, 9:00 a.m. (ages 2–3) or 10:30 a.m. (ages 3–4)

Learn all about sneaky snakes!

All About Bees—Wednesday, Aug. 2, 10:30 a.m. (ages 3–5)

Learn about bees and their amazing lifestyle.

Mud and Muck!—Wednesday, Aug. 16, 9:00 a.m. (ages 2–3) or 10:30 a.m. (ages 3–4)

Learn all about mud and the creatures that call it home. Wear old clothes.

Dr. Sue "The Bug Lady" Programs

Join Dr. Sue and her traveling zoo for a learning experience all about bugs. Activities include a hands-on craft and an edible craft. Programs run 1 hour. $12 per child, ages 5 and up. Call (949) 923-2275 to register. Location code: MIC

Silkworms—Saturday, June 24, 10:00 a.m.

Learn all about the lifecycle of the fabulous silkworm, a very special moth species.

Ladybugs and Beetles—Saturday, July 8, 10:00 a.m.

Learn all about the lovely ladybug and other kinds of beetles, including how they help keep plants healthy.

Basic Bugs—Saturday, Aug. 12, 10:00 a.m.

Learn about bugs, study their bodies and learn how they do different jobs to survive.

Marine Programs

Join staff from the Cabrillo Marine Museum to learn about life in the ocean. Programs run 1 hour. Call (949) 923-2275 to register. Location code: MIC

The Adventures of C. Weed the Snail—Thursday, July 13, 10:30 a.m. (ages 3–5)

Learn about ocean animals using puppets and hands-on specimens including a touch tank. $10/child.

At Home in the Sea—Thursday, Aug. 10, 10:30 a.m. (ages 4–6)

Learn about what lives in the sea. Extensive class interaction makes this interesting for little ones. $10/child.

The Greatest Fish Story Ever Told—Thursday, Aug. 31, 2:00 p.m. (ages 6 & up)

Learn about the many fish types that live in our oceans, their senses, breathing and movement. $12/child.

"The Animal Guys"

Join "The Animal Guys" and their traveling zoo for a first-hand look at some of nature's most fascinating creatures. Programs run 1 hour. Call (949) 923-2275 to register. Location code: MIC

Endangered and Threatened Species—Saturday, July 22, 1:00 p.m.

Learn all about some animals that may become extinct. $12/child.

Our Big Back Yard—Saturday, Aug. 26, 1:00 p.m.

Learn about some animals you might find in your own big back yard. $12/child.

Special notice regarding BBSC programs—Because of construction of the new BBSC on Shellmaker Island we are unable to publish a schedule for marine programs and electric boat tours at this time. Please call (949) 923-2269 for latest information.

Newport Bay Naturalists & Friends

Tracks, June–August 2006

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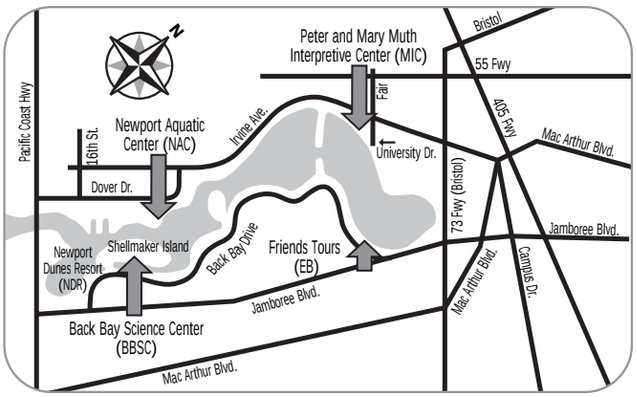

WEB SITES

Newport Bay Naturalists & Friends: www.newportbay.org

Peter & Mary Muth Interpretive Center: www.ocparks.com/unbic

Back Bay Science Center: www.backbaysciencecenter.org

California Coastal Commission: www.coastal.ca.gov

TRACKS CREDITS

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◄ LOCATION KEY

Peter and Mary Muth Interpretive Center *(MIC)*
2301 University Drive
Newport Beach, CA 92660

Back Bay Science Center *(BBSC)*
600 Shellmaker
Newport Beach, CA 92660

Newport Aquatic Center *(NAC)*
1 Whitecliffs Drive
Newport Beach, CA 92660

Scout Programs

Tuesday through Saturday upon request

Join a naturalist for a 2-hour Brownie or Junior Girl Scout Try-it or badge program; or for Tiger Cub, Bear Cub or Webelo badge programs.

Call (949) 923-2269 or email scoutssi@sbcglobal.net. $7/child includes patch. Location code: BBSC

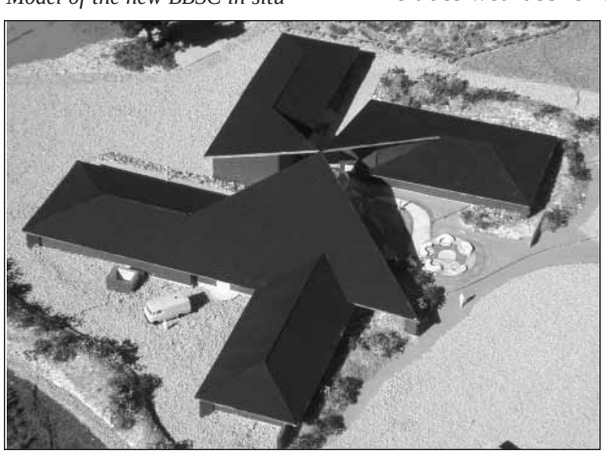
Science Center *(continued)*

of bacteria. It is hoped that this research will provide the basis for sound policy-making in addressing beach closure and watershed pathogen control issues.

"The Science of Clean Water is what our laboratory is about," notes Douglas Moore, HCA Laboratory Director. "However, public education of causes of pollution and how to improve water quality is necessary to make lasting improvements. That is why we look forward to being part of this educational facility."

The current design of the BBSC teaching laboratory is the end-product of more than seven years of planning that has involved numerous groups and individuals with diverse education backgrounds. The current layout includes wet-labs for two 30-student classes, with the classrooms overlooking UNB, as well as various outdoor learning stations. The modularized layout provides for future expansion of teaching facilities as and when more funding is obtained. More significantly, it has allowed the project to proceed, despite large increases worldwide in the price of concrete, steel and other building materials in the last two to three years, by deferring construction of the administrative wing. The temporary teaching laboratory building will be converted to administrative office space when the new BBSC is ready to open in the spring of 2007. The construction cost for the BBSC as approved by the City Council on February 28, 2006, including the administrative wing slab but excluding the administrative wing is roughly $6.6 million. More than half of this is contributed by the City directly or though private funds the City has secured. NBNF has committed to help raise money to outfit and equip the facility to fulfill its education mission and has already received a pledge of $250,000 from an individual donor to fund the outdoor interpretive exhibits and teaching areas.

Model of the new BBSC in situ



Regina Fodor, NBNF Board President, summed it up by saying, "The BBSC affords a wonderful opportunity to establish a comprehensive education and outreach program for the entire UNB. Building upon the outstanding education programs targeting pre-school and K–6 that take place at the Interpretive Center, we will be able to offer high-quality estuary science programs through to college level. Working with the Walter Quality Laboratory we will be able to improve the public's understanding of watershed issues and help policy makers at the local, regional, state and federal levels to base their policies on sound scientific evidence."

Roger Mallett, Naturalist