

TRACKS

A Publication of the Newport Bay Naturalists & Friends

September–November
2009

Adaptive Management Takes Shape

In previous issues of *Tracks* (newportbay.org/track-wsr.pdf and newportbay.org/track3q7.pdf) we have discussed the progress being made to achieve inte-



Naturalist Peter Fuhrer directs fishing net stowage for deployment. Photo by Bill Messier.

grated, adaptive management at Upper Newport Bay (UNB). Adaptive management is a systematic process for continually improving management policies and practices by learning from the outcomes of operational programs. Outcomes need to be science-based and measurable. The Newport Bay

Naturalists and Friends (NBNF) is cataloging the universe of information pertaining to the biology and water quality of UNB in order to establish the baseline data and support the development of a Comprehensive Resource Management Program (CRMP) for the entire Upper Bay and adjacent land. The Data Catalog will be fully described in a future *Tracks* article.

Over the past 20 years many avid birders from NBNF's ranks have assisted with the annual DFG endangered bird nesting surveys which are a key part of the Data Catalog. More recently some dedicated volunteer Naturalists have taken the initiative in establishing other monitoring programs to improve our understanding of the habitat and wildlife at UNB. The large mammal monitoring program set up by Dick Newell and Don Millar, which uses movement-activated video cameras, continues to yield important information about our local bobcats (newportbay.org/track4q9.pdf) and other less-seen animals such as weasels. We are now also starting to see some results from an ambitious wildlife and habitat program led by Naturalist Peter Ridley. A team of 13 trained Naturalists has been conducting wildlife surveys every two months and monitoring percent coverage of native plants every six months at multiple locations around UNB. This is done along marked transects in mature native, degraded non-native, recently restored, and mature restored Coastal Sage Scrub habitat in accordance with rigorous written protocols. The results are entered into a database for scientific analysis.

NBNF Funds Research

A major component of the NBNF 10-year plan is the fostering of scientific research that will assist in adaptive management of UNB and its watershed. Board member Peter Bryant has assembled a talented NBNF Research Committee that includes Peter Ridley, Irwin Haydock, Martha Satula, and Matt Yurko to oversee this. One of its initial activities was to establish a "mini-grants" program which will provide funds to university and other scientists to allow them to initiate new research projects of benefit to the Bay. Seven research proposals were recently accepted under this exciting new NBNF program.

Several of the funded projects will contribute to the development of the Back Bay Science Center (BBSC) as an active research site. Danielle Zacherl, an Assistant Professor at California State University, Fullerton, will receive funding for a promising new component of her long-term research into the performance of native and non-native oysters in UNB under changing environmental conditions. Peter Fuhrer, an NBNF Naturalist and research chemist, will receive funding for DNA barcoding of tissue samples of fish and invertebrates caught during Marine Life Inventories at the BBSC. This hopefully will lead to more effective detection of the appearance of non-native species. Brian Goo, an undergraduate student at University of California, Irvine (UCI) will undertake a pilot project to measure rates of filter feeding of invertebrates in UNB. This is anticipated to develop into an ongoing BBSC research program involving students from UCI. A fluorometer, which will be used for the measurements, will be purchased using funds raised by NBNF as part of its BBSC Capital Campaign. Another project that will use equipment purchased by NBNF is the study planned by Robert Hamersley, an Assistant Professor at Soka University, of nutrient and toxic metal compound removal by wetlands fringing UNB.

The funded research will also contribute to management of freshwater and terrestrial habitats around UNB. Tracy Magrann, a graduate student at Loma Linda University, is studying the prevalence of algal toxins in various lakes and ponds in southern California, including those at Big Canyon and Newport Valley which feed into UNB. This is a follow-up study to Tracy's previous work at Mason Lake, Irvine, showing high levels of cyanobacteria (blue-green algae) that produce

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NBNF Mission:

- To **preserve** and **restore** the ecosystems of Upper Newport Bay.
- To **educate** the public about the ecological value of the Bay and its watershed and help ensure compatible public use.

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Donor News

Goodbye

Congratulations to Jeff Stoddard of the California Department of Fish & Game on his well-deserved promotion to Associate Biologist and best wishes to him, his wife Becca and their two sons as they relocate to Sacramento where Jeff begins his new assignment working with numerous private land owners who are participants in a grassland and wetland restoration incentive program.



Jeff became DFG Orange County Land Manager in December 2006 and quickly impressed people with his thoughtful demeanor and common-sense, collaborative approach. We will miss you, Jeff!

Hello

Welcome to Adrienne Bosler who was recently hired as the part-time California Coastal Commission UNB Restoration Program Assistant. She will be working mostly to expand the native plant nursery.



Adrienne is a graduate student at CSU Long Beach where she is studying raptor behavior in saltmarsh habitats. She also works part-time for the Los Cerritos Wetland Stewards performing maintenance of urban coastal sage scrub, riparian, salt marsh and dune habitat pockets.

Correction

In the last issue of tracks the bobcat photos were incorrectly credited. The photos are by Toan Thang.

We are thrilled to be awarded a \$50,000 grant from Southern California Edison to outfit a new "Sharkmobile" aquarium on wheels to help DFG expand its educational outreach to local schools and community events. A reliable used shuttle bus will be permanently outfitted with three touch tanks and one viewing tank and associated life support systems. The viewing and touch tanks will be stocked with a variety of sharks, rays and other fish, as well as sea urchins, ochre stars and other invertebrates that are displayed at the Back Bay Science Center.

In another joint venture with DFG, last month NBNF completed the installation of a state-of-the-art Audio-Visual (AV) system in the two classrooms at the BBSC. The project was funded partially by DFG and partially by a very generous donation from an anonymous NBNF member. The system incorporates video microscopes, wireless tablets and other features to allow either room or both rooms combined to be used in classroom, theater, workshop or conference mode. Earlier this year NBNF oversaw the installation of a new AV system in the Peter and Mary Muth Interpretive Center theater. This \$60,000 project was funded by Ray and Elsa Watson, in whose honor the theater is named.

Another Interpretive Center Capital Campaign supporter of note is the Boand Foundation. A \$25,000 donation was used to create the Boand Butterfly Garden on the slopes on the far side of the Interpretive Center amphitheater. An additional \$25,000 donation is being used to install a shade canopy over part of the amphitheater.

Down at the BBSC the California Coastal Commission's native plant nursery is "growing". The nursery is a key component of the community-based restoration programs here at UNB. The UNB Restoration Team is developing a 5-year plan that

will identify specific acreages of coastal sage scrub and other habitats to be planted each winter, the plant palettes to be used and the rough number of each species needed. This will allow the nursery to propagate from local seeds and cuttings in an organized manner. The nursery shade enclosure was funded last year by a grant from State Street and 40 potting benches have just been purchased with money from the NBNF Restoration Fund.

State Street has been a long-time supporter of restoration and education activities at UNB. Most recently NBNF received a grant from them to provide all-day field trips for disadvantaged high school students at no cost. During these outings, which are aligned with state science content standards, the students spend a couple of hours paddling outrigger canoes in the Back Bay and get to see birds such as the great blue heron, great egret, black skimmer, brown pelican and least tern up close. NBNF is also grateful to the Coastal Commission for a Whale Tail Grant award earlier this year for the same purpose. The Coastal Commission grant program is made entirely possible by sales of the Whale Tail Specialty License Plate sold by the DMV. Please consider supporting this worthwhile grant program.

We would like to thank all of our financial supporters. A complete list of donors will be published in our winter *Tracks* issue.



Right and far right: A generous grant from Edison will outfit a new Sharkmobile to teach local schoolchildren about marine life. Photos by John Scholl.



Above: High school students paddle an outrigger canoe in Upper Newport Bay. Photo by Rita Phillips.



Upper Newport Bay Calendar of Events

September–November 2009

Kayak Tours—Every Saturday, 10:00 a.m.–noon at the Dunes

Join a trained naturalist for a guided kayak tour of the Back Bay. Meet at the Newport Dunes Resort. \$20/person, 8 & up. \$10/NBNF members. Be prepared to get wet. Reservations (949) 923-2269. Location code: NDR

Kayak Tours—Every Sunday, 10:00 a.m.–noon at the NAC

Join a trained naturalist for a guided kayak tour of the Back Bay. Meet at the Newport Aquatic Center. \$20/person, 8 and up. \$10/NBNF members. Be prepared to get wet. Reservations (949) 923-2269. Location code: NAC

Twilight Canoe Tour & BBQ—Saturday, Sept. 26, Oct. 24, 4:00–7:00 p.m.

Join a trained Naturalist for a guided canoe tour of the Back Bay, then enjoy a barbeque on the shore courtesy of the Newport Sea Base. \$30/person. Reservations required. Call (949) 642-5031. Location code: NAC

Voyage to Shellmaker Island—Saturday, Oct. 17, Dec. 12, 1:00–4:00 p.m.

Join a trained Naturalist for a voyage on a 25-passenger pontoon boat from the Newport Sea Base to the Back Bay Science Center on Shellmaker Island and into the Ecological Reserve. \$25/person. Parents accompanied by children 7 and up. Reservations required. Call (949) 642-5031. Location code: Sea Base

Walking Tour—Saturday, Sept. 5, Oct. 3, Nov. 7, 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

Shellmaker Discovery Tour—Saturday, Sept. 12, Oct. 17, Nov. 21, 9:00–10:30 a.m.

Join a Naturalist to learn about Shellmaker Island's rich history; the future of the Back Bay Science Center; and discover unusual and endangered plants, birds and crab habitats. No latecomers. Free. Reservations required. (949) 640-9956. Location code: BBSC

Big Canyon Walking Tour—Saturday, Oct. 17, Nov. 21, 9:00 a.m.

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

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

ROOTS Restoration Teamwork—Saturday, Sept. 26, Oct. 24, Nov. 14, 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. Call (949) 640-0286 for information, reservations and location.

2nd Sundays Restoration Program—Sept. 13, Oct. 11, Nov. 8, 9:00 a.m.–noon

Join the staff at the IC to enhance the Nature Preserve habitat with non-native plant removal, native plantings and Butterfly Garden maintenance. Pre-registration required. (949) 923-2295. Location code: IC

Marine Life Inventory—Saturday, Sept. 12, Oct. 17, Nov. 21, 8:30–noon

Marine biology students ages 12 and up are invited to participate in a variety of hands-on marine life monitoring programs in Newport Bay with the Dept. of Fish and Game. Children under 18 must be accompanied by an adult. Free. Reservations (949) 640-9956. Location code: BBSC

Astronomy Night—Call for dates

Join members of the Orange County Astronomers for an inspirational 2-hour tour of the night sky. This program is open to all ages and will include a presentation and observation with telescopes. There is no fee for this program, only a suggested donation of \$2 per participant. Space is limited and pre-registration is required. (949) 923-2275 or email unbic@ocparks.com. Location code: IC

A "Not So Spooky" Sunset Stroll—Friday, Oct. 30, 5:30–7:00 p.m.

Join us for a twilight nature walk and discover the wonders of our "not so spooky" night-time wildlife friends. Discover how nature's night shift is essential to our habitats and create your own nocturnal critter to take home! May be re-scheduled due to weather. Dress warmly for the evening chill. All ages. \$3/person. Pre-registration required. (949) 923-2275 or email unbic@ocparks.com. Location code: IC

Holiday Hike—Friday, Nov. 27, 2:00–3:30 p.m.

After a day of feasting and shopping, join us for a scenic family friendly hike along the bay. Discover the unique attributes of the wetland and create a holiday keepsake to take home! Trails are narrow and steep—please dress accordingly for an exciting outdoor experience. Strollers may not be suitable for the walk—baby carriers highly recommended. All ages. Free. Pre-registration required. (949) 923-2275 or email unbic@ocparks.com. Location code: IC

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 a Tiger cub, Bear Cub or Webelo badge program. \$7/child including patch. Call (949) 923-2269 or email scoutssi@sbcglobal.net. Location code: IC or BBSC.

Train for a Day, Volunteer at the Bay!—Saturday, Sept. 12, Nov. 21, 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) 923-2296. Location code: IC

For all of the following, call (949) 923-2275 to register or email unbic@ocparks.com. \$5 per child (Conservation Club free). Come prepared for an exciting outdoor experience! Location code: IC

Tidelands Tots (Ages 2–5)

Thursdays, 10:30–11:15 a.m. Join staff for a parent and child experience that may include arts and crafts, story telling, hands-on activities or outdoor nature walks.

"Animal Talk"—Sept. 3

"Bats of the Bay"—Oct. 29

"Birding Basics"—Sept. 10

"Squirrely Friends"—Nov. 5

"Autumn Adventures"—Sept. 24

"Leapin' for Leaves"—Nov. 12

"Hoot! Hoot!"—Oct. 1

"Harvest Hoe-Down"—Nov. 19

"Specialty Spiders"—Oct. 22

Wild! Tales (Ages 2–8)

Fridays, 10:30–11:15 a.m. Visit with staff for story-telling fun! Then, learn more about the natural history of the Bay through crafts, hands-on activities and nature walks.

"Little Owl"—Sept. 4

"On One Flower"—Nov. 6

"Quiet Night"—Sept. 11

"What Do You Do With a Tail Like This?"—Nov. 13

"Eliza and the Dragonfly"—Sept. 25

"Harvest Moon"—Nov. 20

"Whispers in the Woods"—Oct. 2

"Lucky Little Duck"—Nov. 27

"The Barn Owls"—Oct. 23

"Bat Loves the Night"—Oct. 30

Bayside Buddies (Ages 2–8)

Thursdays, 3:30–4:30 p.m. Calling all junior naturalists! Discover our amazing natural world at the Bay through hands-on activities, crafts and nature walks.

"Amazing Amphibians"—Sept. 10

"Creepy Crawly Critters"—Oct. 29

"Fall Fiesta"—Sept. 24

"Crepuscular Critters"—Nov. 12

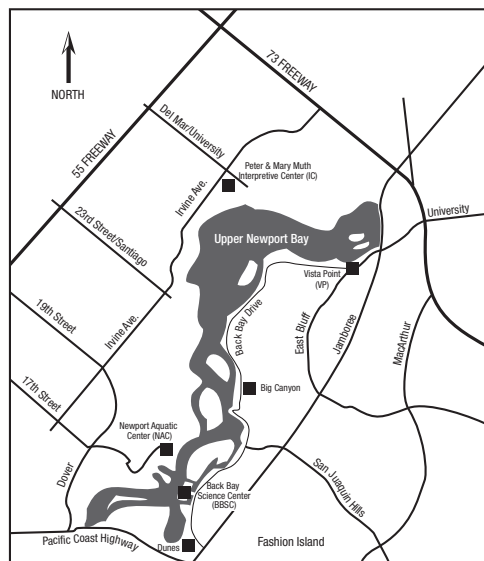
"Nocturnal Nightlife"—Oct. 22

"Go For Gourds"—Nov. 19

Conservation Club (Ages 2–13)

3:30–4:30 p.m. Ready to dig in and get dirty? Come work with staff to establish healthy habitat for Bay wildlife and important native plants. Activities may include weeding, watering, planting and debris clearing. Adult guardian required with participants. Older students welcome also. Free.

Thursday afternoon—Sept. 3, Oct. 1, Nov. 5



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

LOCATION KEY

Peter and Mary Muth Interpretive Center (IC) 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
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TRACKS CREDITS

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25th Annual Coastal Cleanup Day at Upper Newport Bay

When: Saturday, Sept. 19 from 8:00 a.m. to 1:00 p.m.
Where: Peter and Mary Muth Interpretive Center
 2301 University Drive (at Irvine Ave.)

Organized by Newport Bay Naturalists & Friends, OC Parks, California Dept. of Fish and Game, and others. This is the one day of the year we are able to enter many sensitive areas of Upper Newport Bay to remove harmful and unsightly trash. Please come and help us. Free lunch. Families welcome.

General Information:
 (949) 640-6712 or
newportbay.org

Group (10+) Registration:
 (949) 923-2295



Adaptive Management Takes Shape (cont.)

toxins capable of causing liver damage in fish, birds, and humans. Tracy will study the relationship between cyanobacteria levels and the nitrate and phosphate contamination in the water. NBNF will partially fund the cost of water sample analysis by a specialist lab, in order to identify the specific strains of cyanobacteria present. UNB is listed as an impaired body because of high nitrate and phosphate concentrations that have led to large algal blooms in the past.

Jessica Pratt, a graduate student at UCI, will be comparing growth rates of California sagebrush plants obtained from different locales from San Diego to San Francisco, when they are grown under standard conditions. This will help to determine whether transplantation (“assisted migration”) can help speed up the adaptation of plant communities to climate change. The NBNF funds will cover the costs of research supplies and plant chemical analysis costs associated with this research. Margaret Royall, President of the OC Chapter of the Society for Conservation Biology (SBC), will receive funding on behalf of the SBC volunteers who are restoring habitat at what is known as Bayview Slope on the north side of UNB. The money will pay for temporary fencing and other supplies for use in field research to determine the best methods for the removal of invasive mustard plants. This work ties in with the efforts of the UNB Restoration Team which is gradually developing Best Management Practices for community and contractor-based restoration projects and programs. NBNF looks forward to sharing the results of this exciting and diverse research at a symposium early next year.

Roger Mallett, Newport Bay Naturalists & Friends