

Tracks

Spring 2019

A Publication of the
Newport Bay Conservancy

Rare, Threatened and Endangered Plants of Upper Newport Bay

By Ron Vanderhoff, Orange County CA Native Plant Society, Guest Contributor

Almost everyone reading this article already knows that the Upper Newport Bay is an incredible botanical treasure. Orange County, an area of more than 500,000 acres, has about 1,435 recorded wildland plant species of which about 890 are native. Upper Newport Bay, at only about 1,000 acres, has a flora of 580 species. That is 38% of all the plants of Orange County on about one fifth of one percent of the land mass. Upper Newport Bay is a remarkable place.

Upper Newport Bay has several rare plants as well. The designation, "rare," for a plant is defined as being listed as a CA or US Endangered or Threatened Species or a species listed by the California Native Plant Society Rare Plant Ranking. Of the 18 species at Upper Newport Bay that might fit these criteria, two are suspicious or invalid records, one has had a taxonomic change, one is extinct and six are found in very old records or with uncertain details, bringing the list of the current rarest plants at Upper Newport Bay to a tidy eight species.



Southern tarplant

All Photos: Ron Vanderhoff



Salt marsh bird's-beak



Southern tarplant, *Centromadia parryi ssp. australis*.

- Annual. 2–3ft. | Blooms May–Nov. | CA Rare Plant Rank 1B.1

A plant of flat, alkaline, silty soils in full sun along the coast. Flat coastal habitat is declining in Southern California; thus, the species is also declining. Interestingly, Southern tarplant requires disturbed soils for its seed germination, thus it is easy to find at many locations where people are, such as right along the edges of Back Bay Drive near the base of Big Canyon.

The prickly leaves and long summer bloom of small yellow composite flowers are characteristic.

Salt marsh bird's-beak, *Chloropyron maritimum ssp. maritimum*

- Annual. 6–12in. | Blooms May–Sep. | U.S. and CA Endangered

Probably the most important plant species at the Bay. This somewhat inconspicuous plant lives in the intertidal zone, especially among pickleweeds. It is a hemiparasite on a host plant, forming a root attachment with an appendage called a haustoria. It also photosynthesizes and makes food for itself. This relationship causes little impact to the host, which is often pickleweed, fleshy jaumea or alkali heath.

The colonies at UNB are among the most significant anywhere. The plants growing at UNB are of further interest due to their unique 3-lobed floral calyx (left photo), a character unique from few other colonies to the North or South.

Look for it in summer months in the marsh at the base of Big Canyon or off the entrance road to the Back Bay Science Center.

NBC MISSION



To protect and preserve the Upper Newport Bay through education, restoration, research and advocacy

(continued on page 2)

Rare Plants (cont.)



Small spikerush



Decumbent goldenbush



Wire grass

COME EXPLORE

Kayak Tours: Saturday and Sunday mornings 10am–12pm. Join a guided tour to learn about the Bay from the water. \$25/person, ages 8+. Reservations: 949-923-2269

Back Bay Science Center Community Day: Every Sunday from 10am–2pm. Talk to staff and volunteers about research and restoration projects. Tide pool, touch tanks and more! FREE, all ages, no reservations needed. Address: 600 Shellmaker Rd.

Small spikerush, *Eleocharis parvula*

- Perennial. 2–4in. | Blooms Jul–Aug.
CA Rare Plant Rank 4.3

A diminutive little grass-like plant of wet or waterlogged freshwater soils. This species was first recorded in 1985 at UNB by the late Bob DeRuff and it was one of very few records for Southern California. In preparation for this article I revisited Bob's site and re-recorded the species along a narrow 200-meter strip in the Delhi Channel. This is an easily overlooked member of the sedge family and occurs solely in wet brackish soils, not a place where most people are looking for native plants.

Decumbent goldenbush, *Isocoma menziesii* var. *decumbens*

- Shrub. 1 x 4ft. | Blooms Apr–Nov.
CA Rare Plant Rank 1B.2

A low spreading form of our common summer-blooming goldenbush. The variety *decumbens* is controversial among botanists, who may disagree about its status. Some consider its prostrate growth and hairy foliage to only be a result of its more wind-swept environments, others believe it is genetically and reproductively distinct.

The common form, *I. m. vernonoides* is seen throughout sage scrub communities at the Bay. This form is exclusive to coastal bluffs.

Wire grass, *Juncus acutus* ssp. *leopoldii*

- Perennial. 5ft. | Blooms May–Jun.
CA Rare Plant Rank 4.2

A distinctive and easily recognized plant. Technically a rush, not a grass. Mature plants look like large rounded masses of straight thin spike-like leaves. The species grows in alkaline and semi-salty environments, sometimes into the upper portion of the marsh but more commonly in the alkali flats slightly above this zone. Look for it along Back Bay drive at many locations.

It is rare due to a decline in suitable habitat throughout its range.



California boxthorn



Estuary seablite



Seablite

California boxthorn, *Lycium californicum*

- Shrub. 2x4ft. | Blooms Mar–Sep.
CA Rare Plant Rank 4.2

A plant strictly of coastal bluff scrub environments, now a limited habitat type in Southern California. This plant colonizes sandy and often steep ocean and bay bluffs, enduring hot dry summers and saline soils and air. Plants are often difficult to access, due to their precarious and usually steep locations.

Boxthorns have small succulent leaves, a common water conserving characteristic of coastal scrub plants. The lateral branches are short and stiff and terminate in a hardened point. Its small white flowers are visited by a number of pollinators.

Estuary seablite, *Suaeda esteroa*

- Perennial. 2–3ft. | Blooms May–Oct.
CA Rare Plant Rank 1B.2

Two species of *Suaeda* are significant at UNB. Once considered the same species, they are now determined to be unique. *Suaeda esteroa* is a plant of the middle to upper portions of the salt marsh, never far from salt water. Like many salt marsh plants (halophytes) it has succulent leaves; smooth in the case of this species. A member of the same family of plants as our saltbushes (*Atriplex*) and pickleweeds (*Salicornia*) also found in salty habitats. Look for it along the edges of the marsh, where its foliage texture distinguishes it from the other marsh plants..

Seablite, *Suaeda taxifolia*

- Perennial. 2x4ft. | Blooms Feb–Nov.
CA Rare Plant Rank 4.2

Suaeda taxifolia is our second rare seablite at the Bay. Unlike the prior species, this one prefers drier feet and is found on the silty soils and bluffs surrounding the Bay. It also has succulent leaves, but unlike *S. esteroa*, they are usually slightly hairy. Often both seablite species may be within sight of one another, but each occupying unique ecological niches.

Onward and Upward: The Battle Against Invasive Limonium Continues

By Amanda Swanson, PhD, NBC Restoration Coordinator

The effort to remove Algerian sea lavender (ASL; *Limonium ramosissimum*) and European sea lavender (ESL; *Limonium duriusculum*) from the saltmarsh of Upper Newport Bay continues on. For several years, our dedicated volunteers have worked relentlessly removing these invasives to restore vital habitat for our endangered salt marsh bird's beak and Belding's savannah sparrow. In 2016, Newport Bay Conservancy (NBC) was granted a U.S. Fish and Wildlife Service (USFWS) grant to help fund restoration efforts, leading to the Wednesday morning ASL events that are held weekly. These events now host an amazing team of passionate volunteers who attend every single week. The dedicated leaders of this project have been Howard Cork, Don Millar, Dick Zembal and Mary Gartung.

Much of the time during the weekly events is spent pulling ASL by hand. But in areas where ASL is extremely dense, the most effective treatment has been solarization using black plastic tarping. Dense patches of ASL create thick mats that prevent native plants from growing and cause unsuitable nesting habitat for birds (see photo). The plastic tarping is secured on top of these ASL mats and is left for several months, generating temperatures high enough to kill the ASL beneath. Within weeks of removing the solarization tarping, growth of native pickleweed, saltwort, and jaumea is visible. As much of the plastic tarping can be seen from Back Bay Drive, many passers-by often mistake it for trash. However, this is an incredibly effective method for removing this invasive plant and is an important tool for restoring the critical saltmarsh habitat of Upper Newport Bay.

To build upon ongoing removal of ASL, NBC was recently granted \$50,000 from the Warne Family Fund for 2019 to help support restoration efforts and to provide funds for field supplies, tools, and boots. The grant has also allowed the ASL events to expand to the first Saturday of every month.

An important endeavor under the USFWS grant and recently awarded Warne funding is to create maps of where ASL and ESL occur around Upper Newport Bay and to track the progress in areas that have been treated by hand pulling and solarization tarping. These maps will provide invaluable information regarding treatment success and which locations need prioritization in the future. To help with this considerable task, NBC is collaborating with UC Irvine, Chapman University, Project Grow, Tidal Influence, and the California Department of Fish and Wildlife to survey and develop mapping methods. In particular, Marcus Goncalves, a UCI master's student in the Conservation and Restoration Science program and Project Grow Habitat Restoration Project Manager, has taken a leadership role in helping NBC generate standardized protocols and guidelines for mapping ASL. By working closely with NBC volunteers and local stakeholders, development of these tools



A dense patch of ASL in full flower. Pulling ASL before flowering is critical so that it does not add seeds to the seedbank.

Photos by Howard Cork.

will greatly strengthen NBC's restoration and targeted invasive control efforts in Upper Newport Bay.



A site along the Delhi Channel where ASL has created a dense mat, preventing native plants from growing. In the background is black tarping plastic laid out to treat areas such as this with extremely high density of ASL.

HELP RESTORE

ASL Removal: Join us every Wednesday or the first Saturday of the month from 8:30–11am to help remove Algerian sea lavender from the Bay. Contact Amanda.Swanson@newportbay.org for more details.

ROOTS Restoration Program: Fourth Saturday each month (2nd Saturday in December to avoid Holidays), 9am–12pm. Restore some of the valuable habitats around the Bay. FREE, all ages (under 14 w/ adult, under 18 w/parent consent). Reservation Line: 949-640-0286 or myurko@coastal.ca.gov.

Second Sundays: Join OC Parks on the 2nd Sunday of each month, 9am–12pm. Help to restore valuable habitats around the Bay. FREE, all ages (under 16 w/adult). Reservation Line: 949-923-2275 or unbic@ocparks.com.

Building a Native American Tule Boat and Paddling it Too

By Holly Fuhrer, NBC Naturalist



Stanley Rodriguez is described as a “local hero” and “cultural treasure,” and is recognized in the San Diego area and beyond as a leader and advocate of his native people. As a member of the Santa Ysabel Band of the Lipay Nation, his stated mission is to educate the public, and particularly the young members of his community, to appreciate Native American history and sustain its cultural heritage. He gives generously of his time teaching Kumeyaay language classes, performing native songs and dances, teaching traditional games and tool-making, and demonstrating structure building at public events. He is pursuing a Doctor of Education degree at UC San Diego. He serves in several advising roles and has been featured at a Smithsonian Folk Life Festival.

All photos: Holly Fuhrer, except as noted

Newport Bay Conservancy was honored to host Stanley Rodriguez as one of the featured presenters in its World Wetlands Day Symposium on February 2, 2019. A cultural educator and elder of the Kumeyaay Native American community in San Diego, Stan led a hands-on workshop entitled “Building a Tule Boat” using the southern California tule plant (pronounced “too-lee”). The workshop was a robust and energetic project requiring team process and cooperation. The result was a seaworthy tule boat that was paddled successfully in the Bay by members of the class.

Reed boats have been used for thousands of years in many countries and cultures around the world. The earliest remains, found in Kuwait, are 7,000 years old, but images are also seen in petroglyphs from caves inhabited 12,000 years ago. The type of reed utilized depended on local availability. Ancient Egyptians used Papyrus reeds. Indigenous peoples in North America often used the tule plant, a relative of papyrus, which once grew prolifically in shallow freshwater wetlands, lakes, and rivers in California. The necessary qualities for viable watercraft were the long, sturdy, flexible stems of the tule that are strong and relatively light weight and have pockets of air that provide buoyancy. Large sea-going vessels were built of reeds using tar as a sealant and are speculated to have been used for intercontinental travel. Stan

recounts that his ancestors, who inhabited the San Diego area, once used tule boats to hunt whales. In coastal California, small reed boats resembling canoes and kayaks were wide-spread and often used for fishing and hunting in relatively quiet waters such as the Upper Newport Bay.

The construction of tule boats was a craft honed by the early residents of southern California who used the tule plant for many practical and decorative purposes including baskets, baby cradles, bow strings, mats, duck decoys, tools, cordage, nets, headdresses, clothing and houses. Tule was a versatile, rich, and valuable resource for early cultures across California. It can be woven very finely to make containers for water or used in more coarse construction such as houses. The tule plant that once thrived in California is unfortunately disappearing due to development, drought, disease and water pollution although significant efforts are being made to restore it by local tribes in collaboration with universities. Some of the native practices and uses of the tule continue today, especially among artisans, educators, and native communities interested in sustaining and proliferating their traditions.



Workshop participants with Stanley Rodriguez and the nearly completed tule boat.

Steps involved in building the Tule Boat

Step One: The first step in the process of building the tule boat is the harvesting of the reeds. In this case, they were gathered at the San Joaquin Wildlife Sanctuary in Irvine, California. Typically, native builders would wade into the shallow waters and use a knife to cut them below the water line, tie them into carefully sized bundles and then dry them for several days, turning them to expose them fully to the sun. Due to rainy weather, Stan's class was held inside the Back Bay Science Center.



Reed bundles ready for assembly



Cut ends of two bundles are overlapped and bound at 14"-16" intervals

Step Two: To begin construction, three bundles were assembled, each consisting of two bundles placed with their cut ends overlapping to a combined length of 16-18 feet. A reinforcing rod made of willow branches tied end to end was placed in the middle of each bundle to give it strength.



Three bundles are woven together to become the flat bottom of the boat

Stan demonstrated how the willow bark could be stripped from the branch and used as twine to bind the branches together. He also showed how the softened dried tule stems could be braided to make the cord necessary to bind the bundles together. In the interest of time, commercial twine and rope were used in the workshop.



The left and right sides are constructed and lashed to the bottom

Step Three: Each of the three bundles was then bound securely at 14"-16" intervals but not so tightly as to crush the air pockets in the tule needed for buoyancy. The three bundles were each about one foot in diameter in the middle and tapered to narrower ends which would become the bow and stern of the boat. Together they created the flat bottom of the boat.



Tule stems can be braided to make cord for binding bundles

Step Four: The three bundles were then woven together, over and under at 12"-14" intervals, and pulled tightly to prevent leakage, but carefully to avoid crushing the reeds.

The completed tule boat with uplifted bow and stern



Step Five: Once the bottom of the boat was constructed, two additional long bundles were assembled and bound which would serve as the gunwales (sides). These were then woven and secured in place on top of the two outer bundles of the bottom.

Step Six: The stems of the bow and stern were then pulled together and bent upward, bound with rope, and secured in an upwardly curved position by a cross string to set the form overnight. The curve would provide the boat with the upward lift needed to help make it navigable in the water with a paddle. The next day the tule boat was ready for launch.



Portia Bryant (left) and Joanne Schwartz (right) take the completed tule boat on its maiden voyage. Photos: Peter Bryant

NBC Celebrates World Wetlands Day

By Peter Bryant, Past President, Newport Bay Conservancy

Some of the foremost Native American representatives in the region came together in an innovative symposium held on World Wetlands Day, February 2nd, to discuss and demonstrate the importance of wetlands in their cultures and the resources that

wetlands have provided to their communities. This was the fifth in NBC's series of symposia celebrating the Ramsar Convention, the intergovernmental treaty that provides the framework for the conservation and wise use of wetlands and their resources.



Lazaro Arvizu leads symposium participants in a Native American song accompanied by clapper sticks. Photo: Holly Fuhrer

Adelia Sandoval, singer and ceremonial leader from the Acjachemen Indian Community in San Juan Capistrano, introduced the symposium with a Native American opening prayer and song, setting a peaceful mood for the day despite the stormy weather. Lazaro Arvizu, a Native American of Tongva-Gabrielino ancestry, performed traditional songs accompanied by native musical instruments including flutes and rattles, using a bow and clapper sticks to provide background rhythm. He demonstrated how the clapper stick is used as a percussion instrument, much like a drum. Clapper sticks were provided to members of the audience so they could have a hands-on experience playing the instrument. He then led participants in singing native songs using the clapper sticks.

Several of the presentations focused on Native American watercraft. One type of watercraft used in the wetlands was made from tule reeds bound together in tight bundles. Stan Rodriguez, from the Santa Ysabel Tribe of the Iipay Nation in San Diego County led a hands-on workshop during which a tule boat was constructed (See article in this issue pp 4 and 5). The boat was launched and proven seaworthy by Joanne and Doug Schwartz and Portia Bryant and is now on display at the Muth Interpretive Center.

Native Americans used more solid wooden boats for ocean crossings. Cindi Alvitre, of the American Indian Studies Faculty at California State University, Long Beach, spoke about the restoration of the Ti'at Moomat Ahiko (Ocean Wind), a sewn plank canoe built in 1990 as an example of one of the oldest modes of transportation along the Southern California coast. Brian Fagan, Distinguished Emeritus Professor of Anthropology at UC Santa Barbara, provided a historical account of watercraft, wetlands, and life afloat in Southern California before European exploration. Alan Salazar, "Spirit Hawk," a Native American elder, spoke about his experience in the 2001 voyage across the Santa Barbara Channel to Santa Cruz Island in the traditional tomol plank canoe, 'Elye'wun. He introduced a film produced by the Chumash Maritime Association and the Santa Barbara Museum of Natural History entitled "Return to Limuw" (Santa Cruz Island). The Chumash people originally lived on several of the Channel Islands as well as coastal Southern California. This 20-mile voyage to the original site of their island village at Scorpion Cove marked the first time since 1834 that they had returned as a community to the island.

Patricia Martz, President of the California Cultural Resources Preservation Alliance and Professor Emerita of Anthropology and Archaeology at California State University, Los Angeles, spoke on The First People of South Orange Coast. Angela Mooney D'Arcy, Executive Director of the Sacred Places Institute for Indigenous Peoples, introduced the Institute and its work in saving the village of Genga (Banning Ranch). Peter Bowler, UCI Professor and Arboretum and Herbarium Director, provided a delicious collection of edibles found in local wetlands. NBC naturalist and teacher, Joan Kitchens, provided some lovely Acorn Bread.

The overall message of the day, as expressed in the film by Roberta Cordero of the Chumash Maritime Association, was that we are always part of nature and that we can never separate ourselves from the earth and the ocean. Through this symposium NBC honors this message and its mission of protecting and preserving the wetlands of Upper Newport Bay.

SPOTTING WILDLIFE

Reservation Line: 949-923-2269.
All walks are free.

Family Hike: 3rd Saturday of each month, 10:30am–11:30am. Start at the patio of the Peter and Mary Muth Center for an easy hike for all ages to learn more about the Bay and the trails around it.

Big Canyon Citizen Science Monitoring Program: Selected Saturdays in April, July, October & January; 9am–11am. Help Naturalists assess the health of a conservation easement in Big Canyon.

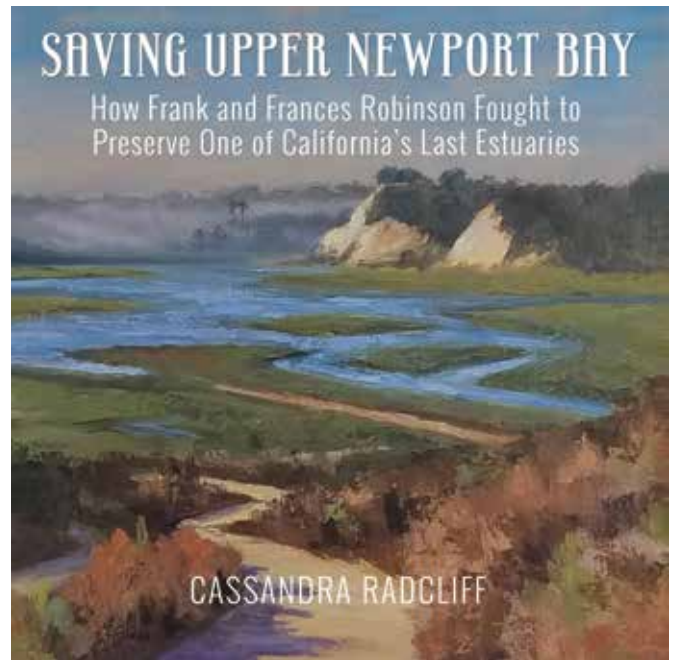
Big Canyon Bird Walk: Last Sunday of each month except December, 8am. This 2–3 hour hike is guided by one of our bird experts who documents all bird sightings on eBird.

Announcing: The Book We Have All Been Waiting For!

Saving Upper Newport Bay, How Frank and Frances Robinson Fought to Preserve one of California's Last Estuaries by Cassandra Radcliff

The Upper Newport Bay is rich in natural and cultural history. It is a natural wonder and ecological storehouse of broad and valuable dimensions, enjoyed by the public for its beauty and recreational assets and studied by researchers and educators for its unusual biodiversity. Equally as inspiring as the Bay itself is the story of how it was rescued from the intentions of commercial interests and developers and transformed from a proposed exclusive extension of the lower maritime harbor to a cherished ecological jewel now preserved for posterity. The transformation began innocently and quietly in the early 1960's when 14-year-old Jay Robinson rode his bike down to North Star Beach where local residents and their families enjoyed relaxing and playing. There he saw for the first time a sign saying, "Private Property" and went home to tell his parents, Frank and Fran Robinson. Local residents were used to having access to the Bay for waterskiing on the calm waters, fishing or digging clams in the shallow mudflats and never imagined that it would not be theirs to freely enjoy in its natural and unspoiled state. What followed was one of the most important ecological battles in California led by the Robinsons with the help of friends and neighbors, newsmedia, an energetic publicity campaign, government and the courts all taking sides until the Upper Newport Bay was designated a State Ecological Reserve in 1975. The results underscored the meaning of Margaret Mead's famous quote, "Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it's the only thing that ever has."

Read this inspiring tale of UNB history and lore in a long-awaited book produced by NBC. It will be available in late spring and can be purchased at the Muth Center, online and at other outlets. Stay tuned.



FiiN: "Fostering Interest in Nature," an Exciting New Program at NBC

By Sherry Marger, NBC Board Member

A new program providing outdoor nature experiences for youth in Orange County kicked off on February 19 and will run for two months. This unique nature program for 5th grade students is designed to enhance their understanding of our coast and the role we all play in protecting it. The program is a collaboration between the City of Newport Beach, the Coastal Commission, NBC, Newport Dunes and the school districts of Santa Ana and Newport Mesa, and was inspired by the California Coastal Act which requires that lower-cost visitor and recreational facilities be encouraged and provided.

While camping in tents for 4 days and 3 nights at Newport Dunes' Camp James, students explore the coastal areas of Newport Beach and develop an appreciation of ecology and nature-based recreation. In a truly collaborative effort,

students are taught by Newport Beach Life Guards about water safety and by Back Bay Science Center (BBSC) staff about marine life. They are taken on a tour by the Fun Zone Boat Company, go on kayak trips on the water and on hikes to study land plants. In addition, they get their hands dirty at the BBSC nursery propagating native plants to be used for restoration activities, practice knot tying, map sea level rise, spot marine mammals, build sand castles, discuss nocturnal animals and astronomical constellations at night and perform skits and songs around the campfire. In the process they have exciting new experiences, journal their observations, all while learning, having fun, and interacting meaningfully with leaders, teachers and classmates. The week culminates with Conservation Poster projects and a closing awards ceremony.

WANT TO HELP?

Volunteer: We are always looking for folks to help in a number of ways from restoration to research to marketing. Contact Hilary Cunningham, Assistant Coordinator at 949-923-2296 or Hilary.Cunningham@newportbay.org.

Become a Friends Member!

- Your tax-deductible donation helps us fund our education, restoration and research programs around the Bay.
 - Enjoy membership discounts at NBC's gift store and on kayak tours
 - Gift memberships available
- Contact Heather Cieslak, Operations Director, at 949-923-2269 or Heather.Cieslak@newportbay.org.
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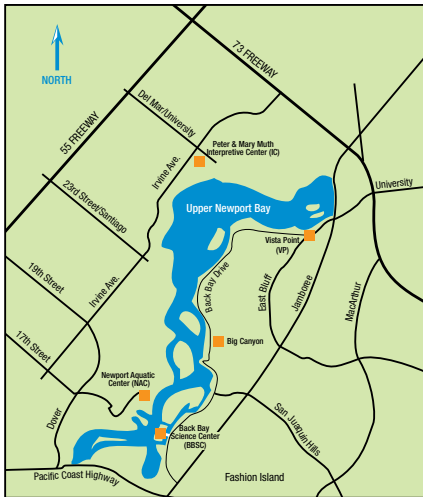
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Newport Bay Conservancy: www.newportbay.org

LOCATION KEY

Peter & Mary Muth Interpretive Center (IC)
2301 University Drive
Newport Beach, CA 92660
www.ocparks.com/parks/newport

Back Bay Science Center (BBSC)
600 Shellmaker
Newport Beach, CA 92660
www.backbaysciencecenter.org

Newport Aquatic Center (NAC)
1 Whitecliffs Drive
Newport Beach, CA 92660
www.newportaquaticcenter.com

Tracks Editorial Board: Peter Fuhrer, Editor, Howard Cork, Peter Bryant, Holly Fuhrer, Heather Cieslak
Design & Layout: Jim Cokas, Debora Brown, cover photo © Peter Bryant

Earth Day at the Bay

When: Saturday, April 20, 10 a.m. to 4 p.m.

Where: Peter and Mary Muth Interpretive Center
2301 University Drive, Newport Beach

Free and open to the public!

- Environmental Exhibits
- Family-friendly activities
- Unique food trucks
- Live animals
- Live music by Danny Maika
- Arts and crafts
- Science discovery for fun and learning
- Scavenger hunt with small prizes for all participants
- Opportunity drawing featuring great prizes from local merchants (proceeds will benefit the Bay)
- Bring money for the opportunity drawing and food trucks



Photos: Holly Fuhrer

*** Volunteer to help! Go to <http://signup.com/go/cmSqYLH>**

The Newport Bay Conservancy in partnership with Orange County Parks presents the 28th Annual **Earth Day at the Bay** at the Peter and Mary Muth Interpretive Center, an Orange County Parks facility, located in the OC Parks Upper Newport Bay Nature Preserve.

The Newport Bay Conservancy is a non-profit organization dedicated to the protection and preservation of the Upper Newport Bay, the largest remaining natural estuary in Southern California.

As a steward of significant natural and cultural resources, Orange County Parks manages and operates a system of regional parks, beaches, harbors, trails and historic sites that are places of recreation and enduring value.

For more details about Earth Day at the Bay, visit newport.org or call 949-923-2290