

NEWSBREAKER

CALIFORNIA SHORE & BEACH PRESERVATION ASSOCIATION

April 2004

President's Message

by David Cannon

In February, I attended the 2004 Coastal Summit (Summit) in Washington D.C. on behalf of CSBPA. I was joined by fellow CSBPA Board members Lesley Ewing, George Domurat, and Robert Rundle as well as several CSBPA members including Ann Kulchin and Tony Risko. The Summit was organized by ASBPA, and the title of this year's event was "Back to the Future: Obstacles & Solutions." The Summit was timed to coincide with a meeting of the ASBPA Board of Directors, and as CSBPA president, I am automatically a member of the ASBPA Board. A summary of these two events is the focus of the President's Message for this issue.

The ASBPA Board meeting was held on February 25 at the Washington Court Hotel. There were two agenda items of particular importance to CSBPA: (i) future distribution of funds to chapters and (ii) protection of scholarship funds. As most of you know, CSBPA is a chapter of ASBPA, along with two other chapters. When someone who lives in an area where there is an ASBPA chapter joins ASBPA, their membership dues are sent to ASBPA and, historically, a portion of those dues (i.e., rebate) has been returned to the chapter where they reside. This applies only to those Shore & Beach groups that are chapters of ASBPA, so this would not apply to the Florida, North Carolina, Virginia, and Texas Shore & Beach groups since they are not chapters of ASBPA. Two years ago, ASBPA informed the CSBPA Board that they were not planning to return the rebate because they needed the funds. So CSBPA agreed to this change in practice on a temporary basis. CSBPA, and the other two chapters, informed ASBPA that they would like to resume the practice of receiving the rebates from ASBPA to help defray administrative costs. I brought this issue up to the ASBPA Board, and there was general agreement that the rebates should be resumed for existing chapters to attract new members and as an incentive for new chapters to get started. I was nominated to chair a committee to develop a rebate program for all chapters.

The second issue concerned the protection of scholarship funds set up and administered by the chapters. A few years ago, CSBPA set up the Robert L. Wiegel Scholarship Fund and the fund has been growing steadily ever since. Some members of the

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Accelerated Sea Level Rise in a South San Francisco Bay Tidal Marsh

by Elizabeth Burke Watson

Changes to the global climate system have prompted the Intergovernmental Panel on Climate Change to predict increases of between 9 and 88 centimeters in global mean sea level over the course of the present century (IPCC 2001). In the vicinity of San Francisco Bay, in central California, sea level rise is not a new phenomenon: Sea level has risen more than 100 meters over the past 20,000 years. However, over the past five millennia, sea level rise in this area has been moderate – on the order of 1-2 millimeters per year or between 10-20 centimeters per century. This rate of sea level rise has been verified by 150 years of tide gauge records at San Francisco, near the Golden Gate (PSMSL 2002), and by radiocarbon dated sediment deposits from San Francisco Bay and its tidal marshes (Atwater et al. 1976; Atwater 1979; Byrne et al. 2001).

Although much uncertainty surrounds the degree to which sea level rise will accelerate, it is clear that a rapid and sustained rise in sea level will threaten the coastal zone. In order to maintain existing coastal habitats, ecologically

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CSBPA Board became concerned that ASBPA could gain access to and use the scholarship funds for other purposes since CSBPA is a chapter of ASBPA. For this reason, CSBPA raised the issue with the ASBPA Board. The other two chapters also expressed the same concern. The ASBPA Board was in complete agreement that scholarship funds should be protected from other uses; however, no one knew how to make this happen from a legal standpoint. A committee was formed to develop a plan to protect chapter scholarship funds as well as ASBPA scholarship funds from inappropriate spending. I am a member of that committee as well, and both the scholarship and rebate program committees are expected to report back to the ASBPA Board during the next ASBPA Board meeting on May 19, 2004.

If I had to sum up the content of the Summit in two words it would be "beach nourishment." The Bush Administration, through the Office of Management and Budget (OMB), is currently proposing to restructure the involvement of the federal government in beach nourishment projects. The federal government, working through the U.S. Army Corps of Engineers (USACE), currently covers 65% of the initial and ongoing costs of beach nourishment projects with the local sponsor (e.g., state, county, or city) covering the remaining 35%. OMB is proposing to change the program such that the USACE would still cover 65% of the initial project (i.e., first nourishment event); however, ongoing beach nourishment costs (i.e., subsequent nourishment events) would have to be covered entirely by the local sponsor. The rationale being utilized by OMB for this change is that the ongoing costs represent maintenance costs similar to flood control projects and

that the local sponsor always covers maintenance costs for projects. There were several representatives from USACE and OMB at the Summit so both positions on this sensitive issue were represented.

The Summit consisted of technical sessions as well as sessions on lobbying in Washington, D.C. A lobbying session was held on Thursday afternoon, which gave time for the elected officials that are members of ASBPA to discuss key issues with U.S. Senators and Representatives. As you can probably imagine, most of this time was spent discussing the new OMB proposal regarding changes in the nation's federal beach nourishment policy. If you are interested in obtaining more information on this issue, please contact the ASBPA legislative liaison, Howard Marlowe (Marlowe & Company) at Howard.Marlowe@netlobby.com.

Based on my participation in the Summit, I developed a better understanding of the political aspect of coastal issues and the mission the current ASBPA Board seems to be pursuing. It seems to me that the current focus of ASBPA is on sandy beaches and ways to keep those beaches sandy (e.g., beach nourishment). Although California has many sandy beaches and these represent important social, environmental, and economic resources to our State, we also have rocky intertidal shorelines, coastal wetlands, cobble beaches, and seacliffs which are important resources to preserve. With this in mind, I will be working with the ASBPA Board over the next year to make sure these coastal issues of importance to California do not erode from the mission of ASBPA. As always, I welcome your comments and assistance, so please feel free to contact me at david.cannon@everestconsultants.com.

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Integrative Oceanography Division

Scripps Institution of

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La Jolla, California 92093-0209

holly@coast.ucsd.edu

DESIGN/LAYOUT

Sherry Yeager

(eversosly@comcast.net)

PROFESSIONAL SERVICES

LAW OFFICES OF
MYERS, WIDDERS, GIBSON, JONES & SCHNEIDER, LLP

KATHERINE E. STONE
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TELEPHONE (805) 644-7188
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5425 EVERGLADES STREET, SUITE 100
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JC BALDWIN
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2469 Impala Drive • Carlsbad, CA 92008
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Coastal Engineer

Phone: (760) 942-8379

Phone/Fax: (760) 942-3686

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If you have an article that would be of interest to our group, we would like to see it. Please submit articles for the next newsletter to Holly Celico at Holly@coast.ucsd.edu.

Here is our publication schedule for this year:

July issue deadline: June 21, 2004
October issue deadline: September 20, 2004



California Shore & Beach Preservation Association

444 West Ocean Blvd., Suite 1104

Long Beach, CA 90802

www.csbpa.org

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For information on becoming a
member of CSBPA, please visit
www.asbpa.org/membership.html.

Meet one of CSBPA's Newest Directors!

Rob Rundle is a Senior Project Manager with the San Diego Association of Governments (SANDAG). He's been on the job for nine years. Rob is the manager of SANDAG's Shoreline Preservation Committee, which advises SANDAG on issues related to the adopted Shoreline Preservation Strategy and opportunities for beach replenishment. He also manages SANDAG's environmental review and compliance responsibilities for projects subject to the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA).

During Rob's tenure with SANDAG, the Regional Beach Sand Project (RBSP) of 2001 was successfully completed, and was the highlight of several years' worth of work on coastal issues. The RBSP placed 2.1 million cubic yards of sand on 12 beaches in the San Diego region from Oceanside to Imperial Beach. The long-term monitoring program continues to identify lasting benefits to beaches in the region.

One of Rob's major professional challenges on the job with SANDAG is the issue of finding a permanent source of funding for long-term beach restoration in the San Diego region. The region embraced beach nourishment after completion of the 2001 Beach Sand Project, which was funded by the U.S. Navy and the California Department of Boating and Waterways. If the region wants to continue to renourish its beaches on a regular basis, a local source of continual funding will have to be identified.

As a CSBPA Director, Rob says his role is to bring the perspective of local governments to the Board. SANDAG is comprised of all the local jurisdictions in the San Diego region and has taken great interest in issues that impact the shoreline. What's Rob's coastal message for the CSBPA membership? "I have made many contacts through CSBPA and think it is important to get as many perspectives involved in the process that shapes coastal policy." He further says that the coastline is for everyone to enjoy, and the bottom line is ensuring that our coastline is healthy.

Pacifica Savors Coastline Rebirth

Four More Acres of Beach, Renewed Wetlands Added to Popular Summer Spot

by Lisa M. Krieger (Copyright © 2004 San Jose Mercury News. All rights reserved. Reproduced with permission.)

Instructions for how to rebuild a beach:

- Step 1: Remove houses.
- Step 2: Add sand.
- Step 3: Let nature take over.

That's the successful formula followed in Pacifica, which this summer celebrates the birth of a new shoreline and estuary on the edge of Pacifica State Beach, also known as Linda Mar Beach – one of the most loved summer playgrounds of the Bay Area. Four acres of new beach replace the former site of two houses and 100 tons of rubble. Two acres of wetlands thrive on what was once mud and dry land. Wild animals and plants are arriving. So are surfers, sunbathers and other beach-lovers. "We're working hand-in-hand with nature, not controlling nature," said Pacifica Mayor Jim Vreeland, a surfer and environmentalist who has made the project a major goal of his incumbency.

At a time when coastal property values are stratospheric, "It's the opposite of most development trends," said Bernard Halloran of the Pacifica Land Trust, which worked with the town to purchase and restore the land. "This is a wonderful and very rare instance when a piece of private property has been bought and restored back to its natural state," he said.

For decades, people tried to control this tiny stretch of coastline. To save two homes from flooding and erosion, artificial materials were poured onto the sand. San Pedro Creek was straightened, channeled and deepened. But the solution was temporary. While sea walls, boulders, jetties and breakwaters may stop or slow erosion of a beach in the short term, they can accelerate erosion in the long term. It was also messy, unsightly and hostile to wild plants and animals.

Frustrated, local beach-lovers stepped in. The Pacifica Land Trust, the city of Pacifica and the Coastal Conservancy raised money and bought the site in 2002 for \$2.2 million. The homes were torn down and hauled away. Concrete, rubble, asphalt, reinforcing steel and 250 tires were excavated. Utilities, phone cables and a high-voltage power line were rerouted. Four thousand cubic yards of sand were delivered. Dunes were built. Grasses were planted. When the shoulders of the old channel were removed, the creek widened to create a new freshwater estuary.

It is part of a growing national trend to attempt a "managed retreat" on the coastlines, and structures are destroyed or moved rather than shielded

with rock and concrete. In Capitola, two oceanfront houses were moved from Depot Hill; in Humboldt County, a house was moved from Big Lagoon. The result is nothing short of a transformation.

Pacifica State Beach, which has had a thriving surf scene since the '40s, is now larger, safer and cleaner. "Before, there was a lot of concrete riprap, which was hard to walk on and not very aesthetically pleasing. It created an artificial sea wall," said surfer Karen Cochran of the Pedro Point Surf Club. "Now the beach is back to its original natural state."

And San Pedro Creek, no longer channeled, is free to wander and collect in shallow pools. Its water nourishes plants and animals. Wild grasses have taken root, offering cover. Great blue herons and other birds hunt for food in its quiet waters. Steelhead trout and the endangered red-legged frog are offered a better home. The site is still young and growing. But its future looks bright.

"By purchasing the land and restoring the habitat," Vreeland said, "we're helping it function as a healthy living system."

Contact Lisa M. Krieger at lkrieger@mercurynews.com or (408) 920-5565.



Accelerated Sea Level Rise in a South San Francisco Bay Tidal Marsh

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valuable wetland areas will need to either migrate landward or to accrete vertically. Unfortunately, upland buffer zones are generally not maintained adjacent to coastal habitats. Roads and buildings often encroach very close to the shoreline. Additionally, beaches and tidal marshes often suffer from a reduced supply of inorganic sediments due to capture behind upstream dams, making vertical accretion problematic.

In order to determine how coastal areas in California will respond to a rapid acceleration in sea level rise, we have two unintended experiments in coastal subsidence to guide us. Both the Long Beach-Santa Ana area and the northern Santa Clara Valley experienced rapid subsidence in response to extraction of liquid reserves from beneath the land surface. In the Long Beach area, subsidence was the result of oil extraction, while in the Santa Clara Valley, subsidence was caused by groundwater overdraft. In this study, I used coastal subsidence in the northern Santa Clara Valley as an analog for future sea level rise. I sought to determine how quickly a subsided tidal marsh was able to accrete vertically, and to determine whether rapidly accreted sediments were mainly organic material produced in situ, or inorganic sediments delivered by watershed processes.

Based on three radiocarbon dates and the stratigraphy of the sediment core, I found tidal marsh to have developed at the study site 500 years before present. Substantiated by seed and pollen

assemblages, stable carbon isotope values indicating a strong C4 plant contribution, and abundant *Spartina foliosa* rhizomes, I found the study site to be, for most of its development, a low elevation saline tidal marsh with some brackish influence. Between A.D.1500 and 1870, the rate of sediment accretion was 3.3 ± 0.78 mm/year. During the mid part of the twentieth century, between the 1940s and 1970s, accretion rates accelerated to between 1.5 and 4.0 cm/year. Newly accreted sediments were primarily inorganic silt and clay. Prior to subsidence, marsh sediments were $21 \pm 4.9\%$ organic. After the subsidence began, sediments shifted to $12 \pm 2.2\%$ organic. No significant difference was found between the organic sedimentation rates pre- and post-subsidence, while the inorganic accretion rate increased by approximately three times its pre-subsidence value. This indicates that the accelerated sediment accretion noted at the Santa Clara Valley marsh was supported primarily by inorganic sediment supply. Although tidal marshes of the northern Santa Clara Valley experienced rapid subsidence of up to one meter over a 40 year period, these areas did not become sub-tidal, but maintained tidal marsh vegetation through rapid vertical accretion of up to 4 cm/year. This study provides persuasive evidence that tidal marshes can accrete quite rapidly, exceeding the IPCC predicted sea level rise of 48 centimeters over the next 100 years.

While this study generally supports the potential of tidal marshes to accrete vertically in response to a

rapid rise in relative sea level, coastal marshes are especially sensitive to environmental change. Therefore, it is essential to accept and plan for future sea level rise as we attempt to preserve and restore tidal marsh ecosystems.

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