South Bay Salt Pond Restoration Project

Restoring the Wild Heart of the South Bay

December 2008

Welcome to the nineteenth issue of the quarterly electronic newsletter of the South Bay Salt Pond Restoration Project (SBSP). The restoration process is managed collaboratively by the California State Coastal Conservancy, the U.S. Fish and Wildlife Service, and the California Department of Fish and Game. This newsletter provides a brief update on our effort to restore more than 15,000 acres of former commercial salt ponds in the South Bay which were purchased by state and federal agencies in March of 2003. For more detailed information about the restoration project (or to unsubscribe from this publication) please visit our web site at www.southbayrestoration.org.

In this issue:

1. Stakeholder Forum Reviews Schedule for Phase One

The 30-member Stakeholder Forum, which began its work in 2003 shortly after the salt ponds were purchased from Cargill Inc., met on November 20th in Fremont. Forum members represent a wide array of stakeholders including conservation organizations, local community groups, business leaders and elected officials. This year the Forum welcomed four new members including: Christine Epres from Senator Dianne Feinstein's office, Mike Mielke from the Silicon Valley Leadership Group, Diane Ross-Leech with PG&E and Ken Johnson from the Eden Shores Community. For a complete list of Forum Members please visit the project web site.

During the November meeting, Forum members were briefed on this year's accomplishments including research and analysis from the Science Program **(link to article below)** and the current status of recreation, habitat and interpretive program planning at the

three pond complexes. They also reviewed the schedule for final permit approvals including the signing of the federal Record of Decision, which is expected to take place by the end of this year. The Record of Decision is the last step before the Fish and Wildlife Service can start Phase One construction and restoration activities. The Dept. of Fish and Game can commence Phase One actions upon the issuance of all permits.

Although it will take several decades to complete all of the restoration and public amenities planned for the ponds, below is a summary of what we expect to accomplish during Phase One, between now and 2012. One of the first recreational improvements at the ponds will be the opening of a new trail near Moffett Field. The trail is expected to open shortly after Cargill and the NASA finalize the transfer of property for the last link in the trail. This is expected to take place in the first quarter of 2009. To view detailed maps of Phase One restoration activities for each of the three pond complexes please visit the project web site.

2008 – 2012 Implementation
Ravenswood Pond Complex
Enhance 240 acres of ponds for nesting and resting shorebirds and snowy plovers. (2009)
Construct 0.7 miles of trail near the Dumbarton Bridge.
Create interpretive displays and build 2 new viewing platforms near pond habitat and historic salt marsh areas. (2009)
Create an overlook in Menlo Park's Bedwell Bayfront Park with views of the Ravenswood ponds. (2009)
Alviso Pond Complex
Enhance 250 acres of shallow ponds with nesting islands for migrating shorebirds.
Connect 900 acres of ponds to the Bay, creating new marsh (Pond A6) and shallow water habitats (Pond A8) for pelicans, cormorants and ducks.
Open 2.5 miles of new Bay Trail between Mountain View and Sunnyvale, adjacent to Moffett Field. (2009)
Eden Landing Pond Complex
Restore 630 acres of tidal habitat for endangered species.
Create 230 acres of pond habitat for a variety of species including ducks and snowy plovers.
Build 3.8 miles of new trail including a seasonally restricted loop trail.
Build an interpretive site with raised walkways and viewing platforms overlooking the remnants of the historic salt works.
Create a new kayak launch on Mt. Eden Creek.

2. Join Us For A Saturday Tour of the Salt Ponds!

This winter the Project continues a popular series of weekend tours and presentations about the restoration project. Don Edwards San Francisco Bay National Wildlife Refuge Ranger Jennifer Heroux provides an overview of the historic restoration project and an on-the-ground view of what is to come. The winter tours include a range of options from basic information about the restoration, to bird watching to aerial kite photography. You can find more information about all of these programs on our web site. All tours and presentations start at the Refuge Environmental Education Center in Alviso. Please call Jennifer at 408-262-5513 ext. 106 to reserve your spot on the tour.

Winter Tours and Programs at the Salt Ponds		
Program	**Date**	**Time**
Salt Pond Restoration 101: *An Introduction to the project*	Saturday, December 20, 2008	1:00 p.m. to 2:00 p.m.
	Saturday, January 24, 2009	1:00 p.m. to 2:00 p.m.
	Saturday, February 21, 2008	11:00 a.m. to 12:00 p.m.
Beginning Birding Clinic	Saturday, December 20, 2008	8:30 a.m. to 10:30 a.m.
	Saturday, January 19, 2008	8:30 a.m. to 10:30 a.m.
	Saturday, February 20, 2009	8:30 a.m. to 10:30 a.m.
Kite Photography Demonstration	Saturday, February 28, 2009	2:30 p.m. to 4:30 p.m.

3. Science Update: 2008 Symposium and an summary of research highlights

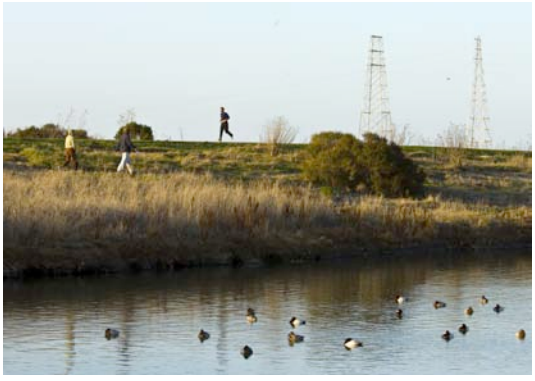
In September over 220 people attended the bi-annual South Bay Science Symposium at San Jose State University. Attendees listened to presentations on the latest findings regarding climate change and restoration, wildlife and public access, invasive species, hydrology, and other topics. All of the oral presentations and most posters are available on the project web site.

The Project Science Team has been busy this year collecting data and analyzing research results on a variety of topics. Below is a short summary of some of their research highlights. Science continues to play a critical role as we move into Phase One of the restoration. All of the research projects summarized below inform the Project's ongoing adaptive management program. For more detailed information on these and other studies, please visit the Science Page of the project web site.

Western Snowy Plovers- Plovers continue to nest at the ponds and this year, researchers successfully banded 83 Plover chicks, the first time this many of the rare and threatened birds have been banded since the early 1990s. Plover chicks are subject to intense predation as they make their way across open gravel and salt flats to the water's edge. But this year, twenty-four of the banded chicks managed to fledge, a survival rate of almost 30%. One chick banded at Eden Landing made it all the way to Santa Cruz.

Experimental Pond Levels– Pond A8 near Alviso is a shallow pond that currently provides habitat for hundreds of shorebirds. As part of the restoration, it will be transformed into a deep-water pond more suitable to fish and diving ducks. Hoping to offset the loss of shallow pond habitat, researchers decided to draw down the water at Pond A12. Early mapping of the bottom of this pond showed that with lower water levels it could provide the same kind of islands and shallow water preferred by shorebirds at Pond A8. The experiment was a success and Pond A12 is now a preferred landing spot for several hundred avocets and Forster's terns. The pond also hosted a few plover and stilt nests this year. Because a large portion of the Project will include managed pond habitat, experiments like these help managers understand the flexibility and adaptability of the pond/marsh ecosystem.

Gull Research –Project managers are reviewing recommendations from several gull research projects about how to address the problems associated with the large number of California gulls in the South Bay. The gull population in the South Bay has doubled in the last five years and is now estimated to be 46,812 birds. Gulls, which are known to prey on the young chicks of other species, spend about twenty percent of their time foraging at landfills in the South Bay. They pose a potential threat to stilt and avocet chicks that fledge just beneath the flight path the gulls use between their current nesting sites and the landfills.



Waterfowl response to trail use. – Early results are in regarding the impact of trail use on ducks and other waterfowl. Based on research completed earlier this year, it appears that ducks are disturbed by people walking on levee trails at a distance of up to 120 meters. Research will continue on trail use in 2009 and the results will inform future decisions about trail buffer zones.

Mercury Uptake in the food web- Mercury that has been deposited in the ponds and sloughs adjacent to the mouth of the Guadalupe River has been a concern of the restoration Project. While biologically active systems have the potential to create bioavailable mercury, no one knows exactly what kinds of conditions increase the likelihood that the toxic element will move through the environment. Early research at Pond A8 shows that mercury in the seasonally inundated *pond* food web is higher than in the nearby Alviso Slough and marsh food web. This

bodes well for the marsh restoration planned at Pond A8. The Project will continue to monitor the movement of mercury through the system as the restoration continues.

Island Ponds – The Island Ponds, which were the first set of ponds to be restored to full tidal action, provide a window into what the future may hold for the rest of the restoration project. Since the levees around these ponds were breached two years ago, the ponds have continued to accumulate sediment at a rapid rate. Researchers continue to monitor changes at the ponds and this year report that higher elevation areas within the ponds are now sprouting native marsh vegetation.

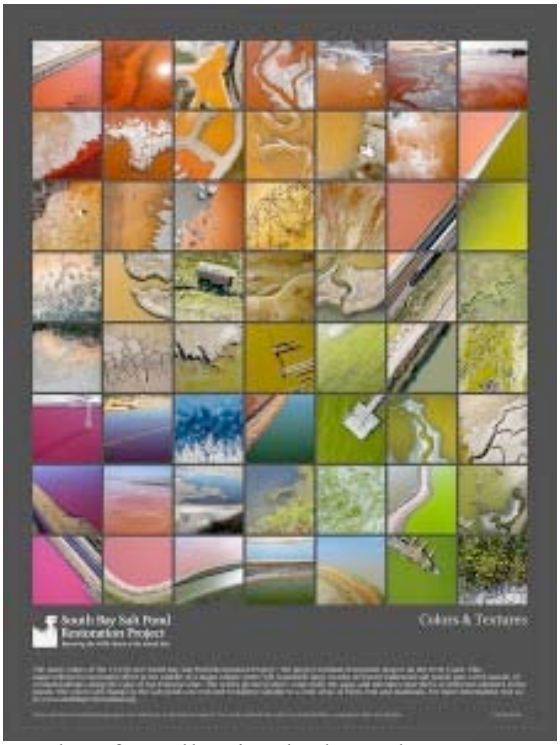
4. Faces of the Restoration: Photographer Cris Benton

Over the past several years of restoration planning, we have examined the South Bay Salt Ponds from every conceivable angle. But some of the most intriguing images to emerge from the ponds are those captured by Cris Benton and his kite-mounted cameras. Benton, a professor of architecture at U.C. Berkeley, has been taking pictures from kites since 1995 and this year he worked with the Project to create the salt pond poster pictured below. The poster will be available for purchase at the Refuge Environmental Education Center in Alviso and the Refuge Headquarters in Newark in January. For those who are interested in learning more about his technique and equipment, Cris will be giving a hands-on demonstration at the Refuge on Saturday February 28th. See the article above for details. You can view more images from kites on Cris' web site. We caught up with Cris as he was preparing to shoot some panoramic views of the salt ponds.

1. How did you first get started taking pictures from kites?

I have been an avid photographer since my college days and spent a decade flying radio-controlled sailplanes. At some point I was pondering the notion of attaching a camera to one of my planes and it occurred to me that kites would be a more stable platform. That was in the early days of the Internet, which ended up playing an important role in connecting the handful of folks who were interested in this approach to aerial photography. Once connected, the small community of Kite Aerial Photographers (KAPers) advanced rapidly through the sharing of equipment design and technique. It remains a particularly friendly and collaborative group to this day.

2. Where kind of equipment do you use?



I am now on my tenth KAP rig. Like its predecessors, this one which uses radio control to adjust the rotation, tilt, and orientation of the camera as well as fire the shutter. When I photograph out in the salt ponds I generally take five different kites. These lifters range from small, tough kites suitable for winds over 20 mph to large, gossamer-like models for the slightest of breezes.

3. What kind of happy accidents have helped your images?

I get spooked just hearing the word accident! And, truth be told, to be successful in kite aerial photography you have to be meticulous. I guess the closest I can come to answering this one is noting that there are occasions I fly the camera without expecting much of the session. Oftentimes, on review of the resulting images, you discover things you had no idea were there: old, softened features of a former landscape, unimagined patterns like the tracks of small animals through grass, or a visual composition formed by shadows at the end of the day.

4. ***What is the most difficult part of working with the kites?***

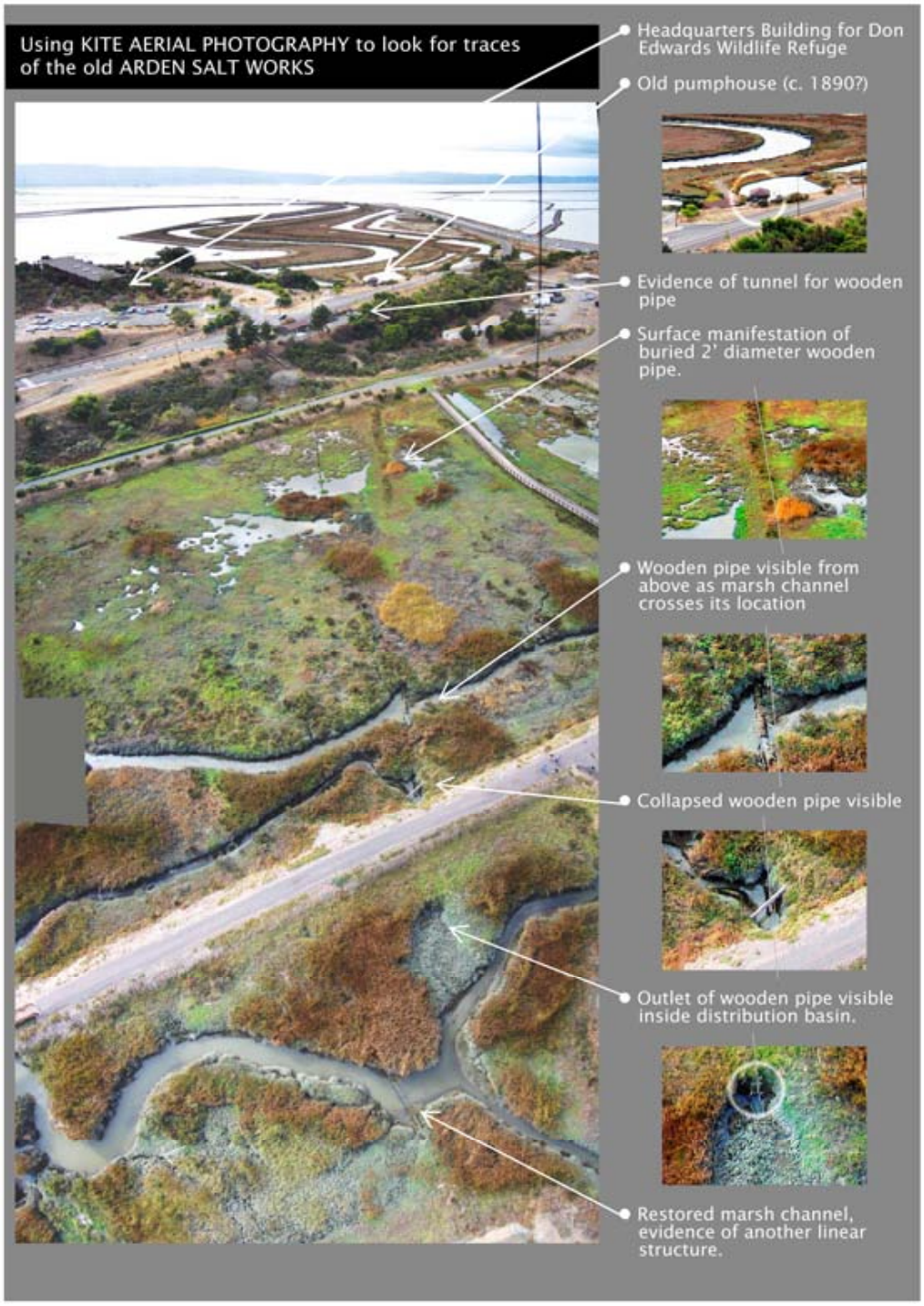
I have two answers for this one. The first is learning to compose images without looking through the camera. By far the most common question I encounter in the field is whether I can see what the camera sees. The answer is no. I mentally compose my images by watching the camera and imagining the scene from that vantage point and through that lens. A different challenge is the cultivation of patience. A successful KAP session requires an interesting subject, complementary light, favorable wind and a gear that is tuned and ready to go. It is not unusual for one of the requisites to be missing. For instance, while the Snowy plovers are off nest I have a brief window for taking aerial images at the ruins of the Oliver Brothers Salt Works on Mt. Eden Creek and over the last six weeks I have made seven trips to that site. On three of the trips the wind was too calm for useful work, on one I was sidelined by a camera lens failure, and on another the weather turned dark just as I was getting the camera aloft.

5. What is your favorite image of the Salt Ponds taken from the air?

I don't really have an absolute favorite because I am drawn to so many of them for different reasons. My favorites do tend to share some characteristics. They are often painterly and capture a view in which scale is not immediately obvious. The patterns in these images reveal some aspect of the physical gradients or past activities in the landscape. For example, in this photo (Bush Past Prime) the bleached skeleton of a dead

bush serves as a visual indicator of transition after a pond is returned to tidal flow. The circular depression at the base of the bush remains a mystery.

6. What is the most surprising thing you have captured from a kite mounted camera?



For many years I was curious about the small pump house on Newark Slough just down the hill from the Don Edwards Headquarters building. A few years back you could see remnants of the large pipe that fed this pump house from ponds to the north. But to what destination did the house pump? A photograph taken over the La Riviere Marsh provided a clue that helped me figure this out. In the photograph, just a few meters from the trail (where I had stood on a dozen occasions), a large diameter redwood pipe was evident in the bottom of a marsh channel. Having spotted that I could see in another aerial the subtle indications of a buried pipe leading from the pump house directly toward the crescent-shaped distribution pond of the former Arden Salt Works #1 that once occupied this site. Thus it seems the pump house once delivered brine to this distribution crescent through a path that involved a tunnel leading to the La Riviere Marsh and the pipe buried below it. The poster here illustrates this.

7.What is the next step for you with this kind of photography?
I have just spent a very pleasant decade designing equipment and honing experience in kite aerial photography. I look forward to applying the technique in documenting the South Bay as a landscape in transition. The next decade will be an interesting time in the South Bay and I believe these low level aerial images are a fine way to capture change as the work progresses.

Photo Credits*: Judy Irving, Marc Bittner, Cheryl Strong, and Cris Benton.*