

TOURisms

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April 2011

AS THE WORLD EVOLVES



More than eighty veteran docents completed the second of the four scheduled training programs for Academy docents, *As the World Evolves* (AWE), on March 12. The class was divided into a dozen small groups, each headed by an experienced advisor. The course was organized around a mix of lectures by Academy scientists, presentations on the floor by docents, and lectures on the techniques of presentation and interpretation.

As might be expected with any new endeavor, some components of AWE worked better than others. The lectures by the researchers were of high quality, both in regard to content and style of presentation. Not only did the scientists do an effective job of teaching, but their sessions also reminded the audience of the excitement of science and transmitted their enthusiasm for their own research as well as for the work of the Academy and the fine people associated with it. The primary concern about the scientific presentations was that there were not enough of them. The veteran docents who took the AWE course are an experienced, diverse group, with a shared interest in the excitement of

contemporary science, particularly evolutionary biology. The general consensus was that we wanted more. This concern was mitigated somewhat by the fact that the monthly specialty meetings will provide continuing education in this topic, certainly one of the most active and interesting in modern science.

The manual for the course was generally viewed as excellent. More than one docent commented that the manual was well worth the price of the class.

There were several interpretation practice sessions, in which the docents presented to their advisor groups. These were judged to be highly worthwhile, in that we could all learn from each other in a comfortable setting and also provide candid appraisals of one another's work. Among the most useful of all interpretation sessions was the opportunity to hear the presentations of about a dozen subjects presented by experienced docents. We felt that we greatly benefitted by seeing the best present their best!



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FROM THE DOCENT CHAIR



April Blooms

What happens when the Chair of the DTL committee resigns two months before her term expires because she has a wonderful opportunity to travel throughout Europe for three months with her hubby? AdCom will certainly miss **Pam Rabinowitz's** enthusiastic, friendly, organized duty as Chair of the DTL program. She has brought so much insight to a fairly new committee and has been a great leader.

Fortunately, two very qualified docents have stepped up to the plate to co-chair this active committee. They are **Anne Kelley** and **Nan Sider**. Anne and Nan have been extremely involved docents and are current DTLs so they have a good understanding of the administrative policies of the DTL part of the docent program. We welcome them to AdCom!

Thanks to Pam's leadership from June 2009 to April 2011 and the induction of Anne and Nan as co-chairs, the DTL program is blooming and healthy.

In a past article (March 2010 – one year ago) I defined the acronym *DTL* as *Daily Team Leader* but also as *Delightfully Talented Liaisons*. A liaison is a *coordinator; somebody who coordinates communication between two or more people or groups*.

Docents have many avenues for communication between docents and staff – weekly e-mails, special e-mails, the Blog, *TOURisms*, staff reports, word of mouth but the one constant is communication between DTLs and their docent constituents.

Every docent, on arrival at the Academy to work a shift, has interaction with a DTL. That DTL acts as an important liaison or conduit, and is the advocate for passing pertinent information to the docents on the shift and connecting to the staff.

Pre-shift time is the 30 minutes prior to the beginning of a shift. The best communication can occur in this valuable prime time.

Staff will continue to give a brief summary of the most pertinent updates about the public floor. The remainder of these 30 minutes will be up to the DTL(s) and their cohorts to decide how to best utilize this time.

Listed below are some possible suggestions of ideas to discuss during this pre-shift time.

- Finalize the schedule of the docents for the shift if it hasn't been done previously.
- Remind docents to read *TOURisms*, the Blog, AdCom minutes and other important communication documents. Advertise special docent events such as Interest Group Meetings or Continuing Education Trips.
- Discuss the Specialty Trainings and the Monthly Meetings.
- Share docent presentation techniques and different ways to use Grab & Go objects on the floor.
- Share unique experiences docents have had on the public floor.
- Discuss meaningful science events.
- Discuss any special issues that might arise about the docent program.
- Learn more details about accessing the Blog.

Have you observed the energy of docents during this pre-shift time? I have, and it is exhilarating – a good reason why this time is so important for DTLs and docents to express their knowledge and feelings.

We do have some shifts that need a DTL and some DTLs might like a co-DTL so if you have an interest in being a DTL, you would be most welcome.

As this article is going to press a DTL meeting will happen on March 29 – with the combination of the outgoing chair and the two incoming chairs combining forces. More information about the DTL program will be forth coming. Stay tuned.

Tina DeCloux
Docent Chair

“...it is often the ordinary things that are least understood. The job of a scientist is to recognize quandaries overlooked by most others, and to ask questions in such a way that explanations and answers can be discovered.”

Geerat J. Vermeij, *The Evolutionary World* (2010)

ACADEMY PIC:



Caribbean Octopus (*Octopus vulgaris*)

Friday, March 4, 2011

ACADEMY DOCENT VISIT TO THE SAN FRANCISCO ESTUARY INSTITUTE (SFEI)



Our visit to SFEI on February 25 consisted of two very informative lectures plus a brief tour of the nearby tidal marsh.

Meredith Williams, head of the computer analysis/modeling group, introduced the day with a mission statement summarized as “providing information about wetlands management using good science.” SFEI started out in 1986 as the Aquatic Habitat Institute, but later changed the name to SFEI. They are a nonprofit research group with a \$7 million yearly budget and a staff of 47 scientists from a variety of supporting disciplines. (<http://www.sfei.org/>)

Meredith briefly defined the four project areas in which they work:

1. **Regional Monitoring** of trace contaminant chemicals such as mercury.
2. **Watershed Science** of these contaminants.
3. **Historical Ecology** which involves overlaying current maps with historic maps and recorded descriptions of the areas. This can help define changes in wetlands over the past 200 years in order to give restorers an idea of what they are now recreating.
4. **Conservation Biology** of contaminant movement and storage within wildlife food chains and resulting safety issues.

We had a lively discussion of mercury and methylmercury in the bay ecosystem and were surprised to learn that 51% of the arriving mercury is atmospheric mercury from coal plants in China. SFEI develops computer “tools” to help monitor wetlands changes

over time and gives the resulting data (and the tools) to land managers to help them continue their own monitoring and creating wise decisions for their wetlands projects. Some tools like “Wetlands Tracker” are available on-line to anyone. SFEI has developed the historic mapping tools to such a degree that they are used as the state-wide model and are becoming the national standard of quality. They are very important for planners, but seldom used by others. The Petaluma marsh has been well mapped in the development of the procedures.

Dr. Josh Collins told us about some of SFEI’s research. A conceptual model was used to define the condition of a wetland. This model uses the historical mapping data then “filters” it through two layers of three factors each. The first and largest layer consists of an overlay of climate, geology, and land use. The top layer considers water, sediments, and plants.

Bay Area wetlands are relatively new, created only 8,000 years ago when glaciers melted. Borings and mapping in the south end of the bay have revealed that prior to European contact there was a “flat” edge, or ecotone between the bay and the uplands which was about 1.5 miles wide. This edge contained vast fields of wildflowers between a band of wetland plants and varied upland species. Mapping in the south bay has shown that willow-lined creeks used to flow through the ecotone connecting the uplands with the bay. The ecotone has now shrunk to about 30 – 40 feet wide due to development since 1850. There is little open land left for marshes to move into when global warming causes sea levels to rise. The best remaining spaces for marsh movement are in the Petaluma marsh and parts of the Delta.

Aerial photos of south bay marshes show the presence of channels plus small natural salt ponds called *salinas*. Traces of past willow groves called *sausals* can also be seen which provide indications of where creeks once connected the uplands to the marsh.

When comparing prehistoric to present marsh areas in the south bay about 18% of the marsh remains, along with 2% of the *salinas*, and slightly less than 2% of either the tidal ecotone or the willow marsh habitat.

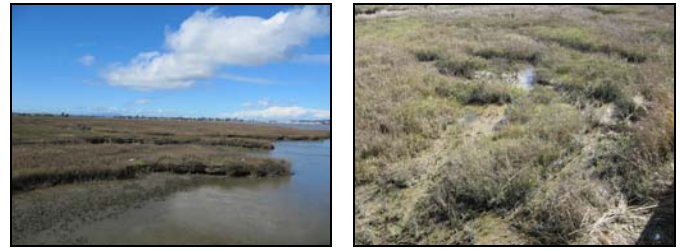
Josh explained the hydrology model for sediment distributions in a tidal marsh. During high tides water and sediment flow into the marsh via the channels and at the highest tide spills over the channels onto the marsh surface. Sediment is dumped along the way, the largest-sized material first and the smallest last. During low tides much of the sediment is picked up and carried back out to the bay. The tides are driven by the moon. The channels are generally of three orders with the largest, found nearest the bay, called tertiary channels. Side channels off the tertiary one are called secondary channels, and smaller channels off of the secondary are named primary channels and have no branches. At extremely low tides these channels are readily seen and frequently have the shape of a large dormant deciduous tree. At the tips of the primary channels the plant material tends to be very thick and falls over into the channel where it traps sediment during high tides. This can plug the expansion of the primary channels at their tips creating a back pressure which will cause more water to be pushed up other channels, causing them to grow. Sometimes one primary channel will overtake another. Both of these channel modification processes can cause noticeable changes in water flow and sediment distribution in a marsh. Thus, the moon and the sun (via plants) control the growth and flow changes in the marsh. Sediment deposition and plant colonization are principle processes in natural marsh building.

We discussed marsh restoration and how it is a delicate balancing act since restoring for one group of species may be detrimental to another (*e.g.*, waterfowl vs. shore birds). Careful thought and experimentation are needed along with an adaptive management plan. We discussed several disruptive developer-driven development plans being promoted for the bay and the need to rally against them.

Josh led our group on a short walk in the marsh in spite of 30 mph winds. Josh pointed out the channels,

evidence of past channels, marsh depth indicators, *salinas* and possible *sausals*. The tide was right to witness many bird species feeding. For marsh lovers this was a great day.

Gerald Moore



During lunch we listened to a talk and slide presentation by **Chuck Stiplen** who is an associate environmental scientist at SFEI. As a Native American from the Bay Area Ohlone tribe, he described several on-going projects furthering the development of mutual collaborations among scientists and Native Americans. He began by describing the Cosmic Serpent Project (<http://cosmicserpent.org/>) which includes tribes, museums and scientists in seven western states including California. The projects invite members to explore commonalities between western and native science, which over millennia has developed knowledge that is highly adapted to local environments.

He then focused the presentation by describing a current proposal, The Valley Oak Project. This is collaboration with **Lindsay Irving** and **Healy Hamilton** at the Academy, the SFEI, and the Amah Mutsun Tribal Band, to study Bay Area Valley Oak habitats to create a cultural, ecological, and historical narrative describing the interactive networks sustaining these habitats and human communities through time. Chuck ended his presentation by explaining some of the ways that California Indians utilized, managed, and preserved their natural environment before the arrival of the Spanish in the 18th century. Such management required knowledge of ecosystems, plants, animals as well as their responses to use by natives for food, medicines, shelter and other needs. Such remarks gave our visit to the SFEI an added dimension with its emphasis on alternative affects of enduring human footprints on natural landscapes.

Kathleen Slobin

PETALUMA WETLANDS VISIT

March 22, 2011

Evolves continues from Page 1

The lecture material on interpretation was generally regarded to be the weakest part of the course. It has been recommended that, in the future, the good and bad methods of interpretation be taught by demonstration, in which experienced docents show the best and worst practices in talking to our visitors.

Finally, the course schedule was a challenge, in that we met for two evenings and a full day Saturday for the two week period of the course. Given the fact that most docents have very busy lives, this schedule was judged to be a substantial burden by many attendees. We have suggested that future courses be based on a two day/evening per week schedule and the course be extended by one or two weeks as appropriate.

All in all, the course was a good start in teaching docents about some of the research activities in evolution at the Academy, and how that information can be used in speaking with our visitors. The docent-to-docent presentations were judged to be valuable, in that we can all learn from each other. The lectures on interpretive techniques were less successful, in that they did not effectively address some of the wide variation in interpretive capabilities among the docents. Most docents do a good to very good job; those who are less skilled can have their skills improved by learning from the more skilled of their colleagues rather than by lecture.

Continuing education in the newest scientific information that underlies the educational mission of the Academy is essential. The new courses that are intended to provide new knowledge about science and its interpretation to the public are a good step in this direction.

Peter Ralston
Lead Advisor

Thanks to **Gerald and Mary Edith Moore**, long time active Academy members, 13 Academy docents were able to take advantage of a break in the March storms and visit Petaluma's Shollenberger Park and the adjoining Ellis Creek Wetlands with its modern Water Recycling Facility.

Gerald, who has been an important leader of the development of these facilities, provided a brief but very succinct review of the history of the Petaluma River with its large tidal marsh and mudflats while pointing out the value of the wetlands and their need for restoration along with emphasizing the development of the Petaluma Water Treatment Ponds.

This was followed by a birding walk led by Gerald and two of his most capable birding friends. Greater than 50 different species of wetland birds were viewed including 15 species of waterfowl and shore birds, seven species of hawks and four species of swallows. Beautiful, prolonged, close up views via our leaders' spotting scopes were outstanding highlights.

Two impressive thoughts we all gained:

- Many functions and activities take place in the wetlands making them among the most productive and valuable ecosystems in the world. Marsh restoration and water recycling efforts are indeed not only valuable but mandatory in light of the overpopulation of the world and its accompanying destruction of our resources.
- This park is being increasingly used by waterfowl as one of their valued migratory stops. For migrating birds traveling thousands of miles there needs to be a source of wetland habitats a day's flight apart in order for the birds to safely reach their destinations.

Bob Hoellwarth

INTEREST GROUPS

If you would like to participate, please e-mail the coordinators.

- Africa: Ginny Pabst, ginnypab@aol.com
- Animal Escorts: Rachael Bertone, 2curious2@comcast.net
First Meetings: Wednesday, April 13
1:00 p.m. – 2:30 p.m
- Aquarium / Coral Reef / Water Planet: Anne Kelley, akell04@gmail.com
Next Meetings: Tuesday, April 5
1:30 p.m. – 2:30 p.m
- Astronomy: Henri Lese, hklese@earthlink.net
Next Meetings: Thursday, April 21
1:00 p.m. – 3:00 p.m
- Evolution: Marlene Dickerman, mldickermn@earthlink.net, and Don Heyneman, dheyneman@me.com
Next Meetings: Wednesday, April 27
1:00 p.m. – 3:00 p.m
- Geology: Sister Maria Foraboschi, geomaria@sbcglobal.net
Next Meetings: Wednesday, April 13
1:00 p.m. – 3:00 p.m
- Green / Global Warming / Climate Change: Tom Dickerman, dickermn@earthlink.net
- Rainforest: Andrea Shearn, andreashearn@mac.com

JIM SHORTS

by Jim Boyer

Jim Shorts



You'll find Docents on the floor in most exhibit areas.

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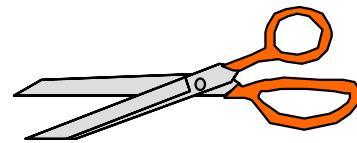
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Our talented staff is here to help!

----- clip along this line and return to Kathleen -----



VOLUNTEER HOURS REPORT

Please estimate the number of extra* hours you contributed to the Academy during March.

NAME _____ HOURS _____

(*Report only those hours for which you have not signed in and out at the Academy.)



April

05	Tuesday – AdCom Meeting	10:00 a.m. – 12:00 noon
11	Monday – <i>Water is Life</i> Specialty Meeting	6:00 p.m. – 9:00 p.m.
13	Wednesday – <i>As the World Evolves</i> Specialty Meeting	6:00 p.m. – 9:00 p.m.
20	Wednesday – Free Day	9:30 a.m. – 5:00 p.m.
30	Saturday – Docent Picnic	10:00 a.m. – 2:00 p.m.

May

03	Tuesday – AdCom Meeting	10:00 a.m. – 12:00 noon
05	Saturday – <i>Snakes & Lizards: The Summer of Slither</i> opens	9:30 a.m. – 5:00 p.m.
09	Monday – <i>Water is Life</i> Specialty Meeting	6:00 p.m. – 9:00 p.m.
11	Wednesday – <i>As the World Evolves</i> Specialty Meeting	6:00 p.m. – 9:00 p.m.

Reminder: Weekly Docent Information is e-mailed and put on the voicemail system (415-379-5118) sometime on Thursdays. If you do not receive the e-mail please check with Kathleen to be certain she has your correct e-mail address.



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