Soundings

American Cetacean Society- Monterey Bay Chapter
PO Box H E, Pacific Grove, CA 93950

April 2013

INSIDE THIS ISSUE

AMERICAN CETACEAN SOCIETY- MONTEREY BAY CHAPTER

Monthly meeting at **Hopkins Marine Station,** Lecture Hall, Boat Works Building

(Across from the American Tin Cannery Outlet Stores)

Meeting is open to the Public

Date: Thursday, April 25, 2013 Time: 7:30 PM.

PLEASE JOIN US AT 7:00 FOR REFRESHMENTS

Speaker: Bryant Austin
Subject: Connecting Humanity with the Greatest Minds in the Water

Bryant Austin is an experimental multi-media artist whose life-long passion has been exploring the depths of possibility in connecting humanity with the greatest minds in the water. His journey and challenge to recreate the transcendent sensation one experiences floating an arm's length away from the eye of an inquisitive whale, has compelled him to create breath-taking photo mosaics at "whale scale"- both in terms of size and in the level of detail witnessed in 'real life'.

Austin's body of work represents the largest and most detailed photographs of whales in the world. His photographs have been met with international acclaim, and has been received enthusiastically during exhibits worldwide, including shows in Norway and Japan – countries that continue to hunt whales.

Austin's talk will begin with the journey to follow the inspiration given to him by two whales, and the external and personal challenges he had to overcome to document and share these creatures on their scale. He will share stories about his incredible experiences photographing whales and about his extensive work in Norway and Japan. He offers insights to the overwhelmingly positive responses both from the public and from the media in these countries and how it has provided him with a glimpse into the potential for positive change with the simple act of making a whale truly visible. He concludes with a message of hope; knowing that with sufficient time and care, it is possible to connect humanity with the greatest minds in the water.

CALENDAR

Every Monday in April: Viva Vaquita benefit at Hula's Island Grill, 622 Lighthouse Ave, Monterey. 10% of all purchases benefits the most endangered vaquita porpoise. Open at 4 on April 1,8,15, 22 & 29.vivavaquita.org

April 19, 12-1pm: Hopkins Marine Station Seminars. "The Singing Planet: Chronic Noise Impacts on the Acoustic Ecology of Great Whales." Chris Clark, Cornell University

April 26, 12-1pm: Hopkins Marine Station Seminars. "Leveraging Leopold: An Evaluation of the Global Opportunity to Expand Terrestrial into Marine Protection." Caleb McClennen, Wildlife Conservation Society

April 20-21: Moss Landing Marine Lab Open House 2013. Activities will include lectures, demonstrations, open labs, arts and crafts, puppet shows, SLEWTHS sea lion demo, and much more. For a complete schedule of activities go to www.mlml.calstate.edu/

April 27: Monterey Bay National Sanctuary 2013. Sanctuary Currents Symposium. "Change: Observations on the Shifting Ecology of the Sanctuary." California State University Monterey Bay

May 3, 12-1pm: Hopkins Marine Station Seminars. "Underwater Eden: Saving the Last Coral Wilderness on Earth." Greg Stone, Conservation International

May 20-23: 64th Tuna Conference. "Back to Biology: the Role of Life History Characteristics in Tuna Stock Assessments." Lake Arrowhead, CA

June 1, 9am-12pm: Saturday Workshop for Beginners. "Drawing the Sea." Local naturalist and artist Kate Spencer will assist in teaching with drawing and watercolor to illustrate the sea and its life forms. Register at: hopkins.stanford.edu/workshops

June 24-30: Marine Mammal Courses at Moss Landing Marine Laboratory. Techniques and Theories of Animal Training. Bio 348 . For a complete class description and further info please contact Dr. Jenifer A. Zeligs at: slewths.mlml.calstate.edu/

June 29, 9am-1:30pm: ACS Monterey Bay Chapter Summer Whale Watch Fundraiser. "Searching For Natures Giants." We will be searching the biggest animal to have ever lived, the Great Blue Whale. We will also be searching for humpback, fin, minke, and killer whales. Albatross and numerous seabirds are also likely to be encountered. For reservations and Info call: 831-901-7259

July 18-24: Marine Mammal Courses at Moss Landing Marine Laboratory. Working With Marine Mammals: Bio 347. For a complete class description and further info please contact Dr. Jenifer A. Zeligs at: slewths.mlml.calstate.edu/

BOOK RECOMMENDATIONS

The Bonobo and the Atheist: In Search of Humanism Among the Primates
Frans De Waal

Beautiful Whale: Text and Photography
Bryant Austin

Letters To A Young Scientist
Edward O. Wilson

Last Ape Standing: The seven Million Year Story of How and Why We Survived
Chip Walter

After the Grizzly: Endangered Species and the Politics of Place in California
Peter S. Alagona

BLUE WHALE NAMED IN HONOR OF FRED BENKO

From Cascadia Research
Published: 3/14/13

This distinctive blue whale was named "Fred Benko" by Cascadia Research in honor of Fred's passion, devotion, and contribution to the appreciation of blue whales. This whale was chosen for Fred because of its frequent sightings in the Santa Barbara Channel going back many years and also sightings off Baja California, another area Fred like to go to fish.

Originally given the much less colorful identification of 1139 by Cascadia and BB#229 and CICI#590 by Mexican researchers, this whale has been positively identified over 30 times going back to the earliest identification in 1991. Sightings have been in the winter-spring in the southern Sea of Cortez and in the summers off California primarily in the Santa Barbara Channel, but as far south as San Diego and north to the Gulf of the Farallones. With the frequent sightings in the Santa Barbara Channel starting in 1992 and through the 1990s and the early 2000s when Fred was frequently the captain of the Condor and then the Condor Express, there is no doubt that the two of them came across each other many times. Fred supported blue whale photo-identification research by inviting researchers on board the Condor and Condor Express to take photographs. John Calambokidis fondly recalls Fred's help in his early research in the Santa Barbara Channel in the early 1990s when he would invite John to stop by the Condor so he could talk to the passengers (Fred would have the galley prepare food for him since he knew John tended to forget to bring food). Fred always wanted to learn the latest research on blue whales both to satisfy his own curiosity as well as to share with his passengers. He would never miss a chance to host a gathering at his house to hear about the latest information. This whale will be particularly easy to follow because like Fred, this whale has a distinctive look. It has an almost white dorsal fin and some small dark scars indicative of a killer whale attack at an early age (apparent in the photograph taken 26 June 2005 in the Santa Barbara Channel).

RISK TO ENDANGERED WHALES FROM SHIPS IN SOUTHERN CALIFORNIA ANALYZED IN NEW STUDY

From Science Daily

Published: 3/25/13

Researchers have identified areas off southern California with high numbers of whales and assessed their risk from potentially deadly collisions with commercial ship traffic in a study released today in the scientific journal Conservation Biology.

Scientists from NOAA Fisheries, the Marine Mammal Commission and Cascadia Research Collective analyzed data collected over seven years by NOAA on marine mammal and ecosystem research surveys in the Southern California Bight. Maps predicting the density of endangered humpback, fin and blue whales were developed by merging the observed whale sightings with oceanographic conditions to identify the habitat preferred by the different whale species.

"We know several endangered species of whales occur in the waters off southern California," said Jessica Redfern, a NOAA Fisheries marine mammal biologist and lead author of the paper. "What we didn't know, and what this study helps provide, is an understanding of the areas with the highest numbers of whales."

Knowing where whales are more likely to be found in the ocean environment is vitally important to reduce human impacts. Although this information could be used to assess any number of human impacts, the study specifically looked at current and alternative shipping routes to and from the Ports of Los Angeles and Long Beach and the risk to humpback, fin and blue whales from ship strikes. Researchers selected four routes to study; the shipping route in the Santa Barbara Channel, which is the current shipping route; a Central route south of the northern Channel Islands; a Central Fan route, or just the eastern part of the Central route; and a Southern route, a course south of the Central route and constrained by the protected areas around Santa Barbara, Santa Catalina, and San Nicolas Islands.

Researchers have identified areas off southern California with high numbers of whales and assessed their risk from potentially deadly collisions with commercial ship traffic in a new study. (Credit: John Calambokidis of Cascadia Research)

By overlaying the routes with the predicted whale densities, researchers found the route with the lowest risk for humpback whales (Southern route) had the highest risk for fin whales and vice versa. However, risk may be ameliorated for both species in one of the Central routes. Blue whales, however, were at approximately equal risk in all routes considered because of their more even distribution throughout the study area. The authors' estimate of the number of blue whales likely killed by ships exceeds levels established by the Marine Mammal Protection Act to ensure sustainable populations. This result suggests that it is important to find ways to reduce the risk of ships striking blue whales.

"The Southern California Bight is an incredibly complex system with a diverse set of users, including the military, shipping industry and fishing industry. All users have specific needs and their input is necessary to plan the best and safest uses of these waters," said Redfern, "This paper helps to incorporate whale habitat use in the planning process so that their needs can be considered as well."

SATELLITE TAGGING MAPS THE SECRET MIGRATION OF WHITE SHARKS

From Science Daily
Published: 4/4/13

Long-life batteries and satellite tagging have been used to fill in the blanks of female white sharks' (Carcharodon carcharias) lifestyles. Research published in the launch edition of BioMed Central's open access journal Animal Biotelemetrydefines a two year migratory pattern in the Pacific Ocean. Pregnant females travel between the mating area at Guadalupe Island and nursery in Baja California, putting them and their young at risk from commercial fishing.

White sharks are pelagic much of their time, living in the open ocean. However they are also philopatric, in that they return to the same place to find a mate. This commute can be far-ranging, including the Hawaiian Islands, California, and Mexico but while males have been reported returning yearly to mating sites, the behavior of females has before now been more secretive.

Dr Michael Domeier and Nicole Nasby-Lucas from the California based Marine Conservation Science Institute mapped the migration patterns of female white sharks using satellite-linked radio-telemetry tags.

Female white sharks were found to follow a two-year migration pattern with four distinct phases. Firstly the pregnant females left Guadalupe Island, Mexico and remained offshore for most of their 18 month gestation (on average 465 days). This pelagic area was much larger than the foraging area used by males and in fact the females tended to avoid the male's foraging area while the males were present.

The second phase was a two month sojourn in the coastal waters of Baja California where the sharks gave birth. After leaving the nurseries the female sharks began a migratory path back to Guadalupe Island in such a way as to avoid males until ready to reproduce. Finally the mating n phase at Guadalupe Island lasted up to four and a half months before the two year cycle began again.

Females that skipped a year of reproduction returned to the breeding site after only a single year migration.

Dr Domeier commented, "During the mating phase both males and female sharks are seen with injuries. It's unclear whether males are fighting over food or females or both, but this aggression may be why the females avoid males at other times. Our tracking has also highlighted a previously unknown period of vulnerability when the females are exposed to commercial fishing off the coast of North America."

Open access publisher BioMed Central is proud to announce the launch of Animal Biotelemetry. This journal joins our growing portfolio in ecology and conservation and marks a significant development in the area of Animal Biotelemetry research.

AN ANCIENT BIOSONAR SHEDS NEW LIGHT ON THE EVOLUTION OF ECHOLOCATION IN TOOTHED WHALES

By Steve Gorman
Published: 4/4/13

Some 30 million years ago, Ganges river dolphins diverged from other toothed whales, making them one of the oldest species of aquatic mammals that use echolocation, or biosonar, to navigate and find food. This also makes them ideal subjects for scientists working to understand the evolution of echolocation among toothed whales.

New research, led by Frants Havmand Jensen, a Danish Council for Independent Research / Natural Sciences postdoctoral fellow at Woods Hole Oceanographic Institution, shows that freshwater dolphins produce echolocation sig-

nals at very low sound intensities compared to marine dolphins, and that Ganges river dolphins echolocate at surprisingly low sound frequencies. The study, "Clicking in shallow rivers," was published in the journal PLOS ONE.

"Ganges River dolphins are one of the most ancient evolutionary branches of toothed whales," says Jensen. "We believe our findings help explain the differences in echolocation between freshwater and marine dolphins. Our findings imply that the sound intensity and frequency of Ganges river dolphin may have been closer to the 'starting point' from which marine dolphins gradually evolved their high-frequent, powerful biosonar."

The scientists believe these differences evolved due to differences in freshwater and marine environments and the location and distribution of prey in those environments.

A complex, underwater environment

To sustain themselves, river dolphins must find their food, often small fish or crustaceans, in highly turbid water where visibility seldom exceeds a few inches. Like their marine relatives, they manage this using echolocation: They continuously emit sound pulses into the environment and listen for the faint echoes reflected off obstacles while paying special attention to the small details in the echoes that might signify a possible meal.

The environment that freshwater dolphins operate in poses very different challenges to a biosonar than the vast expanses of the sea where most dolphins later evolved.

"Dolphins that range through the open ocean often feed on patchily distributed prey, such as schools of fish," Jensen says. "They have had a large advantage from evolving an intense biosonar that would help them detect prey over long distances, but we have little idea of how the complex river habitats of freshwater dolphins shape their biosonar signals."

A rare sight of the fast and shy Ganges river dolphin. (Credit: Photo by Rubaiyat Mansur, Whale and Dolphin Conservation Society)

Shy study animals with a surprisingly deep voice

To answer that question, the researchers recorded the echolocation signals of two species of toothed whales inhabiting the same mangrove forest in the southern part of Bangladesh: The Ganges river dolphin, an exclusively riverine species that is actually not part of the dolphin family but rather the Platanistidae family, and the Irrawaddy, a freshwater toothed whale from the dolphin family that lives in both coastal and riverine habitats.

Surprisingly, the echolocation signals turned out to be much less intense than those employed by marine dolphins of similar size and it seemed that the freshwater dolphins were looking for prey at much shorter distances. From this, the researchers surmise that both the dolphin species and the river dolphin were echolocating at short range due to the complex and circuitous river system that they were foraging in.

While both Irawaddy and Ganges river dolphin produced lower intensity biosonar, the Ganges river dolphin had an unexpectedly low frequency biosonar, nearly half as high as expected if this species had been a marine dolphin.

"It is very surprising to see these animals produce such low-frequent biosonar sounds. We are talking about a small toothed whale the size of a porpoise producing sounds that would be more typical for a killer whale or a large pilot whale," says Professor Peter Teglberg Madsen from Aarhus University in Denmark, an expert on toothed whale biosonar and co-author of the study.

A new perspective on the evolution of biosonar

The study suggests that echolocation in toothed whales initially evolved as a short, broadband and low-frequent click. As dolphins and other toothed whales evolved in the open ocean, the need to detect schools of fish or other prey items quickly favored a long-distance biosonar system. As animals gradually evolved to produce and to hear higher sound frequencies, the biosonar beam became more focused and the toothed whales were able to detect prey further away. However, the Ganges river dolphin separated from other toothed whales early throughout this evolutionary process, adapting to a life in shallow, winding river systems where a high-frequency, long-distance sonar system may have been less important than other factors such as high maneuverability or the flexible neck that helps these animals capture prey at close range or hiding within mangrove roots or similar obstructions.

Improved tools for counting animals

Freshwater dolphins are among the most endangered animal species. Only around a thousand Ganges river dolphins are thought to remain, and they inhabit some of the most

polluted and overfished river systems on Earth. The results of this study will help provide local collaborators with a new tool in their struggle to conserve these highly threatened freshwater cetaceans. Using acoustic monitoring devices to identify the local species may help researchers estimate how many animals remain, and to identify what areas are most important to them.

DWARF WHALE SURVIVED WELL INTO ICE AGE

From Science Daily

Published: 4/4/13

Research from New Zealand's University of Otago detailing the fossil of a dwarf baleen whale from Northern California reveals that it avoided extinction far longer than previously thought.

Otago Department of Geology PhD student Robert Boessenecker has found that the fossil of the 4-5 meter long Herpetocetus, thought to be the last survivor of the primitive baleen whale family called cetotheres, may be as young as 700,000 years old.

Mr Boessenecker says the previously youngest-known fossils of this whale were from the pre-Ice Age Pliocene epoch; approximately 3 million years ago, a time before many modern marine mammals appeared. Baleen whales of this type were most common much earlier, about 10-15 million years ago.

"That this whale survived the great climatic and ecological upheavals of the Ice Age and almost into the modern era is very surprising as nearly all fossil marine mammals found after the end of the Pliocene appear identical to modern species.

"Other baleen whales underwent extreme body size increases in response to the new environment, but this dwarf whale must have still had a niche to inhabit which has only recently disappeared," he says.

The find indicates that the emergence of the modern marine mammals during the Ice Age may have happened more gradually than currently thought, he says.

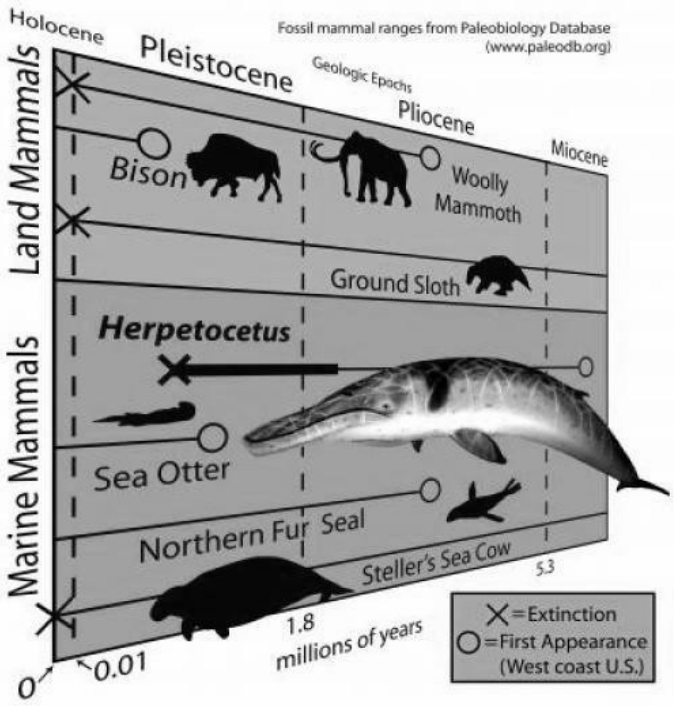
The discovery also lends indirect support to a hypothesis about the modern pygmy right whale (Caperea marginata) recently published by Mr Boessenecker's colleagues Professor Ewan Fordyce and Dr Felix Marx. The pair posited that this enigmatic Southern Ocean whale is not a true right whale but actually a member of the cetothere family and one of the closest relatives of Herpetocetus.

"If their hypothesis is correct, this latest discovery indicates that other close relatives of the pygmy right whale nearly survived to modern times within the Northern Hemisphere.

"In this light, Herpetocetus can be viewed as a Northern Hemisphere equivalent of the pygmy right whale: both are small-bodied with peculiar anatomy, possibly closely related, with feeding habits that are seemingly divergent from other baleen whales."

All baleen whales lack teeth and instead use baleen to strain small prey like krill and fish from seawater. Many whales, such as humpback and blue whales, gulp enormous amounts of water during lunges, while others such as gray whales filter prey from mud on the seafloor.

Owing to a strange jaw joint, Herpetocetus could not open its mouth more than 35 degrees, unlike any modern baleen whale.



Research detailing the fossil of a dwarf baleen whale, Herpetocetus, from Northern California reveals that it avoided extinction far longer than previously thought. The 4-5 metre long whale, thought to be the last survivor of the primitive baleen whale family called cetotheres, may be as young as 700,000 years old. The previously youngest-known fossils of this whale were from the pre-Ice Age Pliocene epoch; approximately 3 million years ago, a time before many modern marine mammals appeared. Baleen whales of this type were most common much earlier, about 10-15 million years ago. This graphic shows the geologic ages of Herpetocetus and various well known marine and land mammals from California, with a life restoration of Herpetocetus. (Credit: R.W. Boessenecker)

SIGHTINGS Compiled by Monterey Bay Whale Watch.
For Complete listing and updates see gowhales.com/sighting

Date	#	Type of Animal(s)
4/7 p.m.	4	Humpback Whales (2 very active)
	4	Gray Whales
	35	Risso's Dolphins
4/7 a.m.	6	Humpback Whales (2 lunge feeding)
	5	Gray Whales
	75	Risso's Dolphins
4/6 p.m.	3	Humpback Whales
	7	Gray Whales
	20	Pacific White-sided Dolphins
	450	Risso's Dolphins
4/6 a.m.	5	Humpback Whales
	20	Gray Whales
	15	Pacific White-sided Dolphins
	230	Risso's Dolphins
4/5 p.m.	7	Gray Whales
	4	Humpback Whales
	25	Risso's Dolphins
4/5 a.m.	7	Gray Whales
	3	Humpback Whales
	50	Risso's Dolphins
4/4 p.m.	4	Gray Whales
	9	Humpback Whales
	80	Pacific White-sided Dolphins
	600	Risso's Dolphins
4/4 a.m.	5	Humpback Whales
	80	Pacific White-sided Dolphins
	600	Risso's Dolphins
4/3 p.m.	2	Gray Whales
	2	Humpback Whales
	10	Risso's Dolphins
4/3 a.m.	4	Humpback Whales
	20	Risso's Dolphins
4/2 p.m.	2	Killer Whales
4/2 a.m.	7	Gray Whales
	10	Humpback Whales
4/1 p.m.	4	Gray Whales
	2	Humpback Whales
	20	Risso's Dolphins
4/1 a.m.	10	Gray Whales
	4	Humpback Whales
	30	Risso's Dolphins
3/31 a.m.	1	Gray Whale (juvenile)
	4	Humpback Whales (lungefeeding)
	2	Killer Whales (Stubby & Fat Fin)
	300	Pacific White-sided Dolphins
	200	Risso's Dolphins
3/30 p.m.	7	Gray Whales
	1	Humpback Whales
	10	Risso's Dolphins
3/30 a.m.	1	Gray Whale
	4	Humpback Whales
	15	Pacific White-sided Dolphins
	100	Risso's Dolphins
3/30 early a.m.	2	Gray Whales
	2	Humpback Whales
	200	Risso's Dolphins
	1	Laysan Albatross
3/29 p.m.	8	Gray Whales
	3	Humpback Whales
	10	Risso's Dolphins
3/29 a.m.	3	Gray Whales
	3	Humpback Whales
3/28 p.m.	3	Gray Whales
	5	Killer Whales (transient type)
	2	Humpback Whales ("friendlies")
3/28 a.m.	13	Gray Whales
	8	Humpback Whales
3/27 p.m.	8	Gray Whales
	4	Humpback Whales
3/27 a.m.	3	Gray Whales
	7	Humpback Whales
	300	Long-beaked Common Dolphins
3/26 p.m.	1	Gray Whale
	2	Humpback Whales
3/26 a.m.	14	Gray Whales
	5	Humpback Whales
3/25 p.m.	5	Gray Whales
3/25 a.m.	5	Gray Whales
	4	Humpback Whales
	15	Risso's Dolphins
3/24 p.m.	22	Gray Whales
	60	Pacific White-sided Dolphins
	200	Risso's Dolphins
3/24 a.m.	26	Gray Whales
	50	Pacific White-sided Dolphins
	600	Risso's Dolphins
3/23 p.m.	3	Gray Whales
	2	Humpback Whales
3/23 a.m.	35	Gray Whales
	40	Risso's Dolphins
3/23 early a.m.	16	Gray Whales
	250	Long-beaked Common Dolphins
3/22 a.m.	7	Gray Whales
	30	Risso's Dolphins
3/20 p.m.	26	Gray Whales
	200	Pacific White-sided Dolphins
	25	Risso's Dolphins
3/20 a.m.	21	Gray Whales
	50	Risso's Dolphins
3/19 p.m.	11	Gray Whales
	50	Long-beaked Common Dolphins
3/19 a.m.	5	Gray Whales
	200	Long-beaked Common Dol phins
	100	Risso's Dolphins

American Cetacean Society
Monterey Bay Chapter
P.O. Box H E
Pacific Grove, CA 93950

Nonprofit
Organization
U.S. Postage
PAID
Monterey, CA
Permit No. 338

RETURN SERVICE REQUESTED

American Cetacean Society Membership Application Chapter#24

New Membership/Subscription ___ Gift Membership/Subscription___

Renewal _____

Name_____

Address_____Email_____

City, State, Zip_____

Membership level _____

Membership levels and Annual dues:

Lifetime $1000 Patron $500 Contributing $250

Supporting $85 International $55 Family $55 Individual $45

Student $35 Teacher $35 Senior (62 plus) $35

Subscription only * $15/11 issues (*not entitled to membership benefits)

Check___Mastercard___Visa___Expiration date_____

Signature_____

Make checks payable to: ACS/Monterey Bay Chapter

Return to: Membership Secretary, ACS Monterey Bay Chapter

P.O. Box H E Pacific Grove, CA 93950

Monterey Bay Chapter
Officers & Chairs, 2013

Jerry Loomis, *President*
Richard Ternullo, *Vice President*
Randy Puckett, *Past Chapter President*
Diane Glim, *Publicity*
Katy Castagna, *Treasurer*
Sally Eastham, *Membership*
Jennifer Thamer, *Secretary*
Tim Thomas, *Historian*
Carol Maehr, *Conservation*
Judith Bloner , *Programs*
Rene Rodriguez, *Education*
David Zaches, Art Haseltine,
Debbie Ternullo, Thom Akeman
Members at Large

Evelyn Starr, *Webmaster*
Tony Lorenz, Mary K. Paul, *Editors*
Email: tonylorenz@bigbluebay.com
kmarypaul@gmail.com