



UPWIND

from the Arcata Marsh

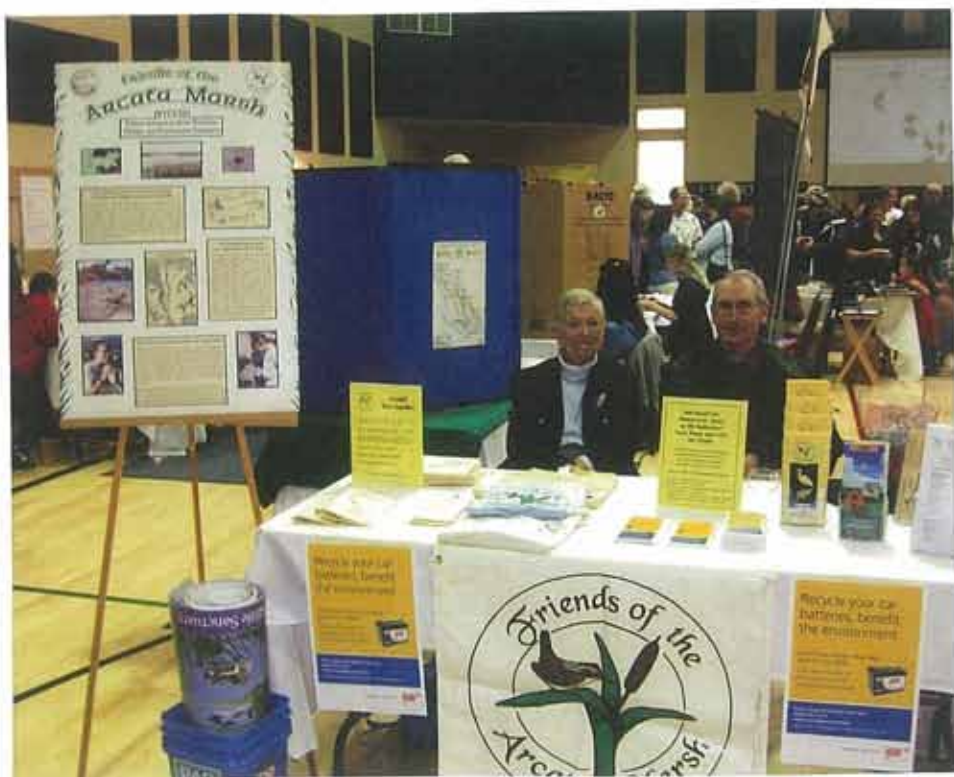
Interpretive Center

Vol 16, Issue 2, Spring 2009

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Thanks, Godwit Helpers

Volunteers who staffed the FOAM booth at the Godwit Days Festival in April were Ken Burton, Elliott Dabill, Bev Post [and friend, see photo below], Florine and Bart Smith, and Janet Zich. Darlene Marlow, Sue Leskiw, Erin Casper, and Hannah Schwent welcomed many children plus their parents for art and nature craft activities. Dave Couch led a field trip of the wastewater treatment plant for FOAM.



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Frog Talk for Wetlands Month

On Thursday, May 28 at 6:30 pm, Michael van Hattem, an environmental scientist with the California Department of Fish and Game, will speak about "Conservation of Native Amphibians in the Coastal Plain of Humboldt County." The talk will be presented at the Marsh Interpretive Center on South G Street.

Van Hattem will discuss identification and general biology of amphibian species within Humboldt's coastal plain. An emphasis on the breeding biology of the northern red-legged frog (*Rana aurora*), a State Species of Special Concern, and conservation issues within the species range in California, including disease, development, and the invasive non-native bullfrog (*Rana catesbeiana*). The lecture is intended for members of the general public that are interested in amphibian conservation. "One of my main goals as a wildlife biologist is to raise public awareness to the plight of native amphibians and to attempt to keep common frogs common," states Van Hattem.

For more info, call 707-826-2359.

Science Fair Award Winner

The winner of FOAM's fourth annual award at the Humboldt County Science Fair for the best project related to wetlands was Tanner Doan, a 6th grader at Blue Lake Elementary School. The purpose of his project, entitled "Oil Spill," was to find out which material will work the best to clean motor oil off of the surface of water. He tested rubberizer (a product made to clean crude oil spills), polypropylene, diatomaceous earth, human hair, cotton, and sawdust. Tanner found that human hair absorbed the most oil (61%), followed by polypropylene (58%), sawdust (43%), rubberizer (40%), diatomaceous earth (36%), and cotton (8%). The \$50 prize was awarded in March at a ceremony at Humboldt State University. Judges were Sue Leskiw and Elliott Dabill.

Interpretation Training

By Bob Rasmussen

On May 9, FOAM board members Bob Rasmussen and Elliott Dabill participated in a docent training workshop sponsored by Friends of the Dunes and FOAM. Bob and Jenny Hanson were the presenters. The 4-hour session began with a discussion of docent attitudes and preparedness and how to handle disruptive behavior by walk participants. The discussions were followed by a 2-hour field trip during which Bob, Jenny, and each of the eight attendees led a short portion of the walk. Each had to give an impromptu interpretive talk. Jenny relayed some magnificent examples of disruptive behavior for the docents to deal with; they all came through with flying colors. Bob focused more on inventive use of simple tools and humor. Following the walk and a refreshment break, the group reprised the training, with suggestions for incorporating the ideas into future docent training programs. All agreed that the session was practical and would improve their future performances as docents for both organizations.



A Successful Spring Docent Training

On March 28-29, FOAM held training to prepare docents to lead Arcata Marsh tours and volunteers to staff the Interpretive Center. Instructors at the 2-day session were Elliott Dabill (who also organized the session), Ken Burton, Sean Craig, David Couch, Melinda Bailey, and Robert Rasmussen. Completing the training were Katy Allen, Desiree Berry, Danielle Carlson, Tim Holborn, Emily Janzen, Jason Price, Brian Robinson, Doug Rojas, Terry Schulz, Erica Stephens, Alex Stillman [see photo, receiving certificate from Bob and Elliott], Bev Strubinger, Sarah Wood, and Lynn Wright.

Research Grant Products

Jesse Conklin, who received a research grant from FOAM in fall 2004, has published two additional scientific papers (see fall 07 UPWIND for information on his other publications). "High variation in roost use by Dunlin wintering in California: Implications for habitat limitation" appeared in the 12/5/08 issue of Bird Conservation International, while "Individual associations in a wintering shorebird population: do Dunlin have friends?" was in 2008's Journal of Field Ornithology 79(1):32-40. Copies of both papers are in the FOAM library.

In 2007, Melissa Kreye received \$250 to support her project dealing with metal accumulation in steelhead trout raised in reclaimed wastewater. Her final report to FOAM informed us that she graduated from the HSU Wastewater Utilization Program in August 08. She applied the FOAM grant to purchase a cadmium lamp for the atomic absorption spectrometer used to analyze tissue and water samples. The results of her research were that concentrations of copper, cadmium, and zinc in the ponds were below toxic concentrations and the wastewater met the metabolic requirements for rearing trout. A summary of her findings is in the FOAM library.

Can Restoring Wetlands Help Cool Our Planet?

By Bob Rasmussen

That question may have been answered by scientists at the US Geological Survey and at McGill University. The answer is a definite "maybe."

It turns out that wetlands are extremely good at carbon storage. They far surpass many other ecosystems in their ability to capture and store carbon. Their rapid photosynthesis takes carbon dioxide from the air, combines it with hydrogen stripped from water, and produces the organic material of wetland plants. As the plants die and sink into the water and mud, the decay process that re-releases carbon dioxide is slowed way down because very little oxygen is available to the bacteria that would normally break down the dead organic matter. If it all stopped there, there would be no "maybe" to the answer.

However, in the absence of oxygen, bacteria that do not require oxygen, called anaerobes, break down the organic material, releasing methane. Methane is a very powerful greenhouse gas, 20 times worse than carbon dioxide. That obviates the benefit of the carbon storage capacity, when it happens.

So, when or where does it happen? Mudflats are low in carbon storage and low in methane production. Salt marshes are high in carbon storage and low in methane production. Brackish marshes are high in both, as are freshwater tidal marshes. In comparison, estuarine forests are, like saltwater marshes, high in carbon storage and low in methane production.

In the final analysis, saltwater marshes and estuarine forests are extraordinarily effective in storing carbon and reducing greenhouse gases, while freshwater and brackish wetlands are not.

Sources

Crooks S. 2009. Carbon sequestration in tidal wetlands (white paper). Resources Legacy Fund, 9 Feb
Pelly J. 2008. *Envir Sci & Technol* 42(4):89-94.



Student Bird Art Contest Results

By Sue Leskiw

Some 540 local K-12 students pulled out paints, pencils, pastels, or paste to enter the Sixth Annual Student Bird Art Contest held in association with Godwit Days. Friends of the Arcata Marsh (FOAM) co-sponsored the competition with Redwood Region Audubon Society (RRAS). All art was displayed at the Arcata Community Center during the Festival (April 17-19). Copies of the winners are displayed at the Marsh Interpretive Center during May and June.

Some 52 awards totaling \$550 were given out, thanks to FOAM and RRAS. Thirty-five were monetary prizes, plus 17 honorable mentions. Five awards for best depiction of a bird in its habitat, funded by FOAM, were distributed.

The sponsors would like to thank the judges for accepting the daunting task of selecting the award-winning pieces: Leslie Anderson, Louise Bacon-Ogden, Art Barab, Gary Bloomfield, Denise Homer, Sue Leskiw, Marsha Mello, and Sara Starr.

A big acknowledgment of appreciation goes to the people who spent 2-3 hours each pushpinning the artwork to the walls of the Community Center: Art Barab, Diane Beck, Dylan Diemer, Carol Lawrence, Sue Leskiw, and Mel McKinney (plus those who helped take it down - Sue Calla, Stella Hawkins, Sue Leskiw, and David Tompkins).

The winners were:

Kindergarten

1st: Ariana Burchill, Homeschooled, Spotted Owl

2nd: Meadow Karrer, Maple Creek School, California Quail

3rd: Nick-ekich Hillman, Junction Elementary School, Northern Harrier

Grade 1

1st: Lauren House, Morris Elementary School, California Quail

2nd: Lindsey Maher, Freshwater Elementary School, Belted Kingfisher

3rd: Hope Adams, North Coast Learning Academy, Anna's Hummingbird

Grade 2

1st: Amethyst Bush, Fuente Nueva Charter School, American Goldfinch

1st: Angelica Meade, Trinidad Union School, Tufted Puffin

2nd: Jeffrey McConnell, Redwood Christian School, Marbled Godwit

2nd: Elijah Mirallegro, Aldergrove Charter School, Red-shouldered Hawk

3rd: Cecelia Ferreira, Morris Elementary School, Anna's Hummingbird



3rd: Liberty Hutchison, Fuente Nueva Charter School, Purple Finch

Grade 3

1st: Hazel Dey, Fuente Nueva Charter School, Marsh Wren

1st: Donovan Lee Young, Fuente Nueva Charter School, White-tailed Kite

2nd: Mina Mayer, Jacoby Creek School, Anna's Hummingbirds

2nd: Amaya Yoon, Arcata Elementary School, Red-breasted Nuthatch

3rd: Reid Mather, Maple Creek School, Wood Duck

3rd: Iain Fox, Cutten School, Chestnut-backed Chickadee

Grade 4

1st: Marcos Carter, Fuente Nueva Charter School, Red-shouldered Hawk

2nd: Olivia Kline, Fuente Nueva Charter School, Marbled Godwit

3rd: Kobi Jones, Fuente Nueva Charter School, Marsh Wren

Grade 5

1st: Olivia Hoffman, Fuente Nueva Charter School, Common Murre

2nd: Cole Haselip, New Life Christian School, Common Raven

3rd: Cait Parker, Arcata Elementary School, Spotted Owl

Grades 6 & 7

1st: Amber Star Gambrell, Big Lagoon School, Great Egret

2nd: Morgan Tuel, North Coast Learning Academy, California Quail

3rd: Margo LaClair, Jacoby Creek School, American Avocet

Grades 8-12

1st: Zoe Rossman, McKinleyville Middle School, Northern Flicker

2nd: Lela Phelps, North Coast Learning Academy, Anna's Hummingbird

3rd: Sheifa Punla-Green, Big Lagoon School, Snowy Plover

Best Depiction of a Bird in Its Habitat

Kindergarten, Farron Gabriel, Snowy Plover

Grade 2, Tsewiniche Van Pelt, American Goldfinch

Grade 7, Devin Bonilla, Killdeer

Grade 8, Olea Stevens, Wood Duck

Grade 12, Anais Rodriguez, Anna's Hummingbird

Honorable Mentions

Kindergarten, Sylvie Benson

Grade 1, Javon Mitchell and Ada Bavin

Grade 2, Lily Marina Thiesfeld

Grade 3, Ryan Reed and Paolo Immitti

Grade 4, Brian Lopez, Kai Narum, and Kyle Woolley

Grade 5, Martina Scarfia, Azoline Gaudin-Dalton, and Zia Oakland

Grade 6, Hannah Mapatis and Rhea Burtram

Grade 10, Serenity Douglass and Kayla Lopez

Grade 12, Rafika Ramli

Plants of the Marsh

A series by Melinda Bailey

POISON HEMLOCK (*CONIUM MACULATUM*)

Whenever I lead a local plant walk, there is one family of plants I want to make sure everyone is aware of: the Parsley or Carrot Family. This family is well represented at the Arcata Marsh. The true name of this family is Apiaceae; some may know it by the order Umbelliferae. This family includes the plants Queen Anne's Lace (*Daucus carota*), Water Parsley (*Oenanthe sarmentosa*), Cow-Parsnip (*Heracleum lanatum*), Fennel (*Foeniculum vulgare*), and Poison Hemlock (*Conium maculatum*). I mention these five specifically because all of them are very common at the marsh and are emerging from the ground this time of year. Yes, in case you didn't know, Poison Hemlock is common, and one should stay clear of it!

Members of this family are best known and recognized by the shape of their inflorescence (cluster of flowers), which is an umbel. An umbel has the shape of an upturned umbrella, where many pedicels radiate from a common point. Strange isn't it, how members of this family can be so tasty — like carrot, parsley, and celery — while others are deadly? This is an important reason why people should learn to identify members of this group. There has been more than one account of a person mistaking hemlock for wild carrot or parsnip because of its tender, whitish-looking root or for anise due to its similar-looking seeds.

Most likely, the word "hemlock" is derived from the old English haelm or haem, meaning "straw" or "stalk" and leac, meaning "plant." The name was given to any plant with hollow stems like straw. Two of the most-famous poisonous members of this family are Water Hemlock and Poison Hemlock, which both contain dangerous alkaloids. The alkaloid is present in all parts of the plant, but is most concentrated in the seeds. The ancient Greeks used a drink from Poison Hemlock to kill criminals. Most people have heard that Socrates was forced to drink Poison Hemlock after being found guilty in the year 399 BC. This plant is very poisonous; just a few drops can kill a small mammal.

Poison Hemlock is biennial, meaning it completes its life cycle in 2 years, usually flowering in the second year. It is best identified by a hollow, smooth stem that usually has purple blotches. (Young



plants may not have blotches.) The stem will always be smooth and hollow. The leaves are somewhat feathery in appearance because they are pinnately dissected and branch from a central stalk, forming a delicate-appearing plant. Leaves emerging from the ground have a sheath at the base. Flowers are small, white, and numerous. In wet years, Poison Hemlock can easily grow 8 feet high, although 5-6 feet is more common. The plant loves wet, disturbed places like ditches and abandoned fields. Wherever it grows, it is best admired at a distance.

Seasons Around the Marsh – Spring

By Denise Homer

It was sunny, yet not too warm, but more significantly, it wasn't windy. Definitely a day for a lunchtime walk around the marsh. I had read about taking a walk of exactly one thousand steps and it was perfect weather to try it out.

Manjusvara in his book, "Writing Your Way," suggests "Take a walk of exactly 1000 steps. Stop every one hundred steps and write about your experience of walking, such as the thoughts and feelings that have arisen, and/or what you now see and hear in your immediate surroundings."

Feeling partly like a pirate and partly like a Buddhist monk, I set out around Allen Marsh, counting my steps, one, two, three... The air was full of the sound of Marsh Wrens and Song Sparrows. I began watching the Marsh Wrens and I wondered if I could find a nest. My strategy was to find a Marsh Wren singing on the top of a cattail, then look in the vicinity for a nest. Most of the time, I spotted

one. In fact, I counted 13 complete nests and two partial nests on my 1000-step walk.

The nests are lashed to the cattails and made out of cattails, cattail down, and grass, which makes them hard to spot, as they just look like debris that has accumulated. The domed nests resemble a snug little basket with a hole in the side for entry. The males build a series of nests, one of which the female selects and lines with cattail down, feathers, rootlets, and fine plant material. Three to six cinnamon brown eggs evenly sprinkled with dark brown dots or spots will be laid.

At one stop, I heard peep, peep, peep. Looking around, I saw one very young Mallard duckling alone in the middle of the pond. I looked for the rest of the family and spotted a female Mallard with seven ducklings at the edge of the pond, swimming swiftly to the rescue.

I saw a River Otter in Gearheart Marsh diving and returning to the surface with something to eat in its mouth several times. First, you see a furry little face crunching away, then a sort of brown, sea serpent-like hump as it dives, and finally, with a flick of its long tail, it's out of sight.

Much of the time, we are not reflective about our environment. We have seen it so many times before that we start to take it for granted. I have the advantage of talking to people every day who are seeing the marsh for the first time. This gives me a continual fresh perspective on what is my daily life. Taking a walk of 1000 steps gives me an experiential fresh perspective. I never knew there were so many Pacific Tree Frogs on the cattails before this walk. Manjusvara sums up, "The ordinary and the extraordinary: only a short prefix distinguishes them, but the time it takes to see the difference changes our world."



A group of German students touring the Marsh was so impressed with docent Leslie Anderson that it left \$40 in the FOAM donation box.

Proclamation Presented by the City of Arcata in Recognition of
WETLANDS MONTH, MAY 2009

WHEREAS, wetlands are wonderlands ---- and one of our last wildernesses; and
WHEREAS, citizens and visitors to the City of Arcata hunt, fish, crab, hike, walk
and boat in wetlands ---- and even more bird watch and photograph wildlife there; and
WHEREAS, many humans, birds and mammals eat fish that need to live in wetlands
at some time during their life cycle; and

WHEREAS, constructed wetlands clean the City of Arcata's wastewater and provide
habitat for wildlife and public recreation. Wetlands comprise 34% of the Arcata City
limits; and

WHEREAS, American Wetlands Month celebrates the vital role our nation's
wetlands play in our ecological and economic system; and

WHEREAS, the observance of American Wetlands Month can do more than any
single event to raise public consciousness about wetland values, and broaden our nation's
understanding and appreciation of our natural resources.

NOW, THEREFORE, BE IT PROCLAIMED by the City Council of the City of
Arcata that the month of May as Wetlands Month. The Council encourages Arcata
citizens to visit one of our City wetlands to appreciate this rich diverse ecosystem.

Dated: May 6, 2009; Signed by Mark E Wheatly, Mayor

Marsh Jeopardy Questions

The last issue of UPWIND contained answers for a game played by Arcata Marsh docents in January 1995. As promised, here are the questions that match the answers.

Section I. Cultural History

1. What is Mt Trashmore?
2. What are the pilings that stretch across Arcata Bay?
3. What are acorns?
4. What is the Aquaculture Project?
5. What were the communities connected with the HBWA regional sewer system?
6. Who/What is the Committee for Sewer Referendum?

Section II. Marsh Mechanics

1. What is gravity?
2. What is the sludge tank?
3. Who are the Greeks?
4. What is methane?
5. What is chlorination and de-chlorination?
6. What are cattails and bulrush?

Section III. Flora & Fauna

1. What is the Pacific tree frog?
2. What is the marsh wren?
3. What is the river otter?
4. What is pickleweed?
5. What is a willow?

6. What are three families of emergent plants in the Marsh?

Section IV. Marsh-ography

1. What is Gearheart Marsh?
 2. What is the Arcata boat ramp?
 3. At what location is completely treated water discharged?
 4. What is Butcher's Slough pond?
 5. What is No Name pond?
 6. What is the Arcata bird nesting site path?
- How did YOU do?

Visitor Log

The AMIC had 1304 walk-in visitors during February, 1411 in March, and 1762 in April.

Recognition & Thanks, February-May 2009

- **New Life Member:** Stuart Moskowitz
- **Best Friends:** Elliott Dabill; IBM (matching grant for Steve & Carol Pearson's donation, Portland, OR); Ron & Melanie Johnson
- **Sponsors:** Frances Madrone & Patric Nagle
- **Friends:** Ken Burton; Kathryn Corbett; Esther Gilchrist; Ruth Gravanis (San Francisco); Lilyan Haigh; Alan Laurent; Ellen Mahoney & Luther Cobb; Carol Mone; Frank & Christel Shaughnessy; Lance Torgerson; Lucille Vinyard; Janet & Art Zich
- **Other:** Parting gift before leaving for Peace Corps from Robert Lockett & Adrienne Wolf-Lockett (Portland, OR); a pair of binoculars from Lucille Vinyard

JULY ARTIST LANCE TORGERSON

Bird Poems & Coastal Views

The featured artist will be FOAM board member Lance Torgerson. Lance has been a local resident and Marsh volunteer for some time. His most-recent artwork being displayed will include black-and-white photographs, bird poems, and watercolors. As a collection, all of the work is intended to lend itself to each other. For instance, the poems may not inspire a coastal view, so check out the black-and-white photos. Or, the watercolor didn't rhyme, so read the poem. In a way, it is to build up community and share the artwork with those who have an interest. ENJOY!

HAWK PREY

A hawk can see,
From so far away,
That a mouse in the grass,
Must be careful to stay,
Out of sight of the eagle eye stare,
Or it may be captured!
Ripped from the ground,
And taken into the air,
Being consumed with no chance of
getting away,
Explains why a hawk is known
As a bird of prey!

Calendar of Upcoming Events

[Docent tours leave the Interpretive Center each Saturday at 2 pm; wastewater tour last Saturday of each month]

May/June --- Winners of Student Bird Art Competition (see article, page 3)

June 11 --- FOAM Board Meeting, 6:30-8 pm

July --- Poetry, photographs, and watercolors by Lance Torgerson

July 9 --- FOAM Board Meeting, 6:30-8 pm

August --- Art by Benjamin Green and She'ifa Punla-Green (father-daughter)