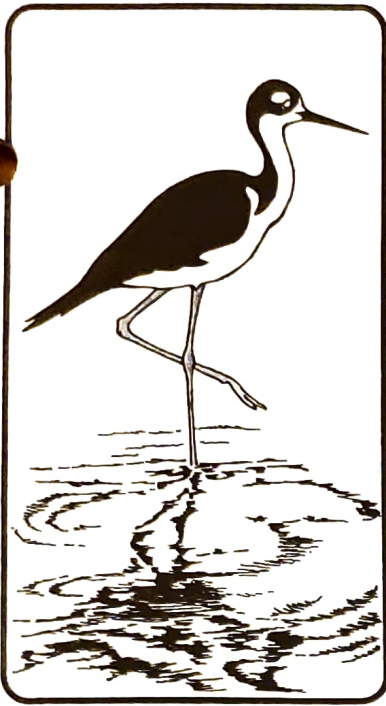


# The Stilt

Vol. 12 No1

Spring 1993



*Drawing by Vicki R. Jennings*

## In this issue

*Colonial Breeding Bird Study*

*Botulism Study*

*New Canoe*

*Field Illustration Class*

## Colonial Breeding Bird Study

by Valerie Layne

Since 1981 SFBBO has been monitoring the status of colonial breeding birds in the South Bay. Volunteers have logged numerous hours in the field, traveling miles of levees bordering the bay south of the San Mateo Bridge. During that time we have documented many changes in the populations of colonial nesting birds around the bay. In 1980 SFBBO volunteers discovered a colony of California Gulls breeding in Alviso (these gulls were thought to breed only as far west as Mono Lake). Since then the colony has increased one hundred-fold and spawned sub-colonies (some temporary) in Mountain View and Newark. Other notable events include the decline of the heronry on Bair Island due to fox predation, and the decline of both Least and Caspian Tern colonies due to predation and human disturbance.

### Miner's Canaries of the South Bay

Twelve species and over 5,000 pairs of colonial birds nest around the bay south of the San Mateo Bridge. Since these birds occupy a spot high in the food web, they are excellent indicators of environmental quality. Sudden changes in the population dynamics of colonial birds signal something amiss in the habitat. Long-term monitoring studies like ours are important in establishing a baseline against which to measure environmental changes.

### The Perils of Being a Colonial Waterbird

Historically, colonial breeding birds have had a rough time. In the 19th and early 20th centuries many (espe-

cially terns and egrets) were hunted for their plumes, eggs, and chicks. The Migratory Bird Treaty now protects them from hunting, but other problems remain. They are forced out of habitat by development, declining quality of available nest sites and increasing predation by introduced species.

The colonial nature of these birds can also have devastating consequences. Diseases are passed easily from bird to bird in close quarters. "Safety in numbers" may afford protection in some situations, but many predators look at a colony of Forster's Terns and see an hors d'oeuvre tray. When an island colony site becomes land-bridged because of falling water levels (caused by drought or human manipulation), an entire colony can be wiped-out by terrestrial predators.

### 1993 Study Expansion

#### Additional Species

Traditionally, our study included only those species considered "strictly" colonial i.e., Forster's and Caspian Terns, California Gulls, Great Blue, Little Blue and Black-



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*Continued on Page 2*

crowned Night Herons, Great and Snowy Egrets, and two species of concern that are "borderline" colonial: the Endangered Least Tern (now departed from the study area) and the Snowy Plover which was recently listed as Threatened by the US Fish and Wildlife Service.

This year the study will include the "loosely" colonial American Avocet and Black-necked Stilt. While not considered in the literature as true colonial nesters, they are often found nesting in colonies and may represent a large percentage of the birds breeding along the South Bay shoreline (one of the questions we will address this year).

#### Inland Expansion

We are also expanding our efforts to include inland heron and egret colonies throughout the South Bay counties (i.e., Alameda, San Francisco, San Mateo and Santa Clara). By collecting baseline information on these inland colonies we hope to identify critical inland habitat and document whether changes occur in the regional population as individual colonies decline or expand. In the event of an environmental mishap or disturbance in fragile bayshore habitat now occupied by heron and egret breeding colonies, inland habitat would be indispensable.

Our inland study will follow a regional monitoring program pioneered in the North Bay counties by John Kelly of the Cypress Grove Preserve. Since 1990 Kelly and associates have use a small army to scour inland areas to locate and characterize heron and egret colonies. Kelly's North Bay study area is bounded on the south by Alcatraz Island and

continues north to northern Napa County and from the coast east to Solano and Contra Costa Counties (Kelly 1992). We look forward to future collaboration with John and associates at the Cypress Grove Preserve.

The ephemeral nature of heron colony sites is already well-documented, and can be problematic when species disappear from a traditional colony site. Dusi and Dusi

(1987) found colony site desertion and recolonization elsewhere

(usually within 1 km of the original site) to be common. Causes of desertion ranged from human disturbance, drought, predation, and in upland colonies, modification of the vegetation due to toxic effects of fecal droppings.



Our own heron colony on Bair Island is a prime example of colony desertion and recolonization.

During and prior to the 1980's Great Blue Herons, Black-crowned Night Herons, Great Egrets and Snowy Egrets nested in a stand of coyote brush. In the late 1980's coyote brush on the island's upland section began dying (either because of old-age, toxic effects of fecal material from the birds, or salt water intrusion into the subsoil). The birds then moved to

human-made platforms placed at the colony site by SFBBO volunteers. Neither the coyote brush nor the platforms afforded much protection from predators, and with the invasion of the Red Fox in 1991 the site was abandoned after fox destroyed eggs and nests. All of the Great Blue Herons moved to PG&E transmission towers on Redwood Creek and Steinberger Slough, 9% of the Black-crowned Night Herons and 26% of the Snowy Egrets moved to a nearby grove of eucalyptus trees. The Great Egrets left the site entirely, and their whereabouts remain unknown.

Observer Name:

Address:

Phone #:

Would you like to volunteer to monitor a colony?

LOCATION				
County	Nearest Town	Nearest Road	Cross Street	
Distance to Cross Street (to nearest 0.10 mile)		Property Owner		
COLONY INFORMATION				
Species	# Adult Birds	# Nests	# Chicks	Nest Stage**

\*\*From nest building to fledging young.

## Questions Most Often Asked About Volunteering at SFBBO

With a regional monitoring program, not only can we find out where these birds go and monitor their success in new locations, but we can also continue to provide information for public agencies and help them make intelligent land-use planning decisions.

### How You Can Help

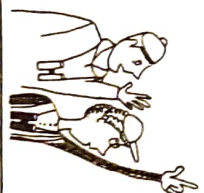
During 1993 we begin a preliminary study to identify as many inland colony sites as possible, and we could use your help. Many of you have favorite birding or hiking spots around the South Bay. If you observe any nesting activity by Great Blue Herons, Black-crowned Night Herons, Little Blue Herons, Great Egrets, or Snowy Egrets, we would greatly appreciate your help. Please complete the form on page 2 and send it to: Valerie Layne, SFBBO, PO Box 247, Alviso CA 95002.

SFBBO can only continue this vital research into the health of Bay Area wildlife with the help of volunteers. Volunteer field observers are still needed to help section leaders count nests, eggs, chicks, and parents in colonies along the bay shoreline. Many of our study areas are not open to the public, so volunteering with SFBBO is a unique opportunity to visit some beautiful places around the bay. If you would like to help study these fascinating birds, call Valerie Layne at the office (408) 946-6548 Mon, Wed, or Fri 1-6 pm.

### References

- Dusi, J. and R. Dusi. 1987. A thirty four year summary of the status of heron colony sites in the coastal plain of Alabama, USA. Colonial Waterbirds 10(1):27-37.
- Kelly, J. 1992. A preliminary summary of the 1992 heron and egret breeding season in the northern San Francisco Bay Area, California. ACR Project ReReport 90-3-3.

1. Do I have to join in order to volunteer?  
Ans: You don't have to become a member before going out in the field for the first time. Regular volunteers are strongly encouraged to join SFBBO in order to be covered by liability insurance.
2. How much time do I have to commit to a project?  
Ans: As much as you like. We have several projects of varying duration. Generally, field surveys take about 4 hours every two weeks.
3. If I sign-up for a study, do I have to go out on every survey?  
Ans: No. However we do need enough advance notice to find a replacement.
4. Do I have to wear "special" clothes?  
Ans: Please don't wear "special" clothing. Wear clothes that you don't care much about.
5. I don't like to get dirty. Is there something else I could do to help?  
Ans: We have several fascinating projects in the office. Call for more information.
6. I know little to nothing about birds. Can I still volunteer?  
Ans: Yes, periodically SFBBO sponsors classes on bird identification, and there are many experienced birders who are happy to help novices.
7. I am an expert birder. How can I become a project Section Leader?  
Ans: Call us. Now.
8. Will I get wet?  
Ans: Most likely.
9. What else is there besides birds?  
Ans: SFBBO staff and volunteers are multidisciplinary. As a volunteer, you can't help but learn about the ecology of the bay.
10. Do I have to buy field glasses? Field guides?  
Ans: If this is a hardship, we'll share.
11. What good will it do if I volunteer?  
Ans: You will be contributing to the scientific knowledge of the bay. We can only protect what we know. Strong numbers are needed to change harmful policies of waste discharge or development.
12. I don't know where you are. How do I get there?  
Ans: Call us and we'll provide a map.
13. Do I need a car?  
Ans: Car-pooling can be arranged.
14. Can I bring a friend?  
Ans: Yes
15. You didn't answer my question.  
Ans: Call (408) 946-6548.



Terry Hart

# Botulism

## One of the Foremost Diseases Affecting Migratory Waterfowl

by Dianne Kopce

White Pelicans circled overhead as we loaded survey equipment into our small boat. Pushing away from shore, I was again moved by the beauty of this quiet slough. Thick stands of California Bulrush border the channel, blocking out freeways and housing developments while framing the sturdy hills lining the east side of the bay. The northwest wind had picked up around noon, clearing away the yellow smog which had settled over the South Bay during the night. As we turned west into a small side channel the wind rippled the water surface, reflecting the afternoon sun and almost obscuring the duck laboring through the water up ahead. I angled the boat toward her but kept a steady speed, not wanting to prolong her efforts to escape and drain her remaining strength.

During our approach the female Gadwall's efforts became more frantic. Unable to fly, her wings beat the water's surface in a circular motion, propelling her down the middle of the slough channel. We strained for a clear look, searching for telltale symptoms of disease. Can she paddle with her feet, or has paralysis spread to her legs? Are her wing feathers molting, temporarily grounding her? Her movements seemed too linear for a mother feigning distress in attempts to lure a predator away from her young, and it was a little late in the season for chicks.

As we neared, my partner readied the net to dip the Gadwall out of the water. Dive, I thought, show your health by swimming down to safety. And as we drew alongside she did plunge her head underwater, but her wings were not strong enough to pull her body beneath the surface and she flopped helplessly as we scooped her in the net. Quiet in our arms, we tubed her with 7cc of Pedialyte before lowering her into the padded carrier for the ride back ashore.

Given her symptoms, it was likely the Gadwall had contracted avian botulism, one of the foremost diseases affecting migratory waterfowl, along with gulls and shorebirds. First described in the late

1800's, the causative agent was identified in the 1930's. Yet efforts to address the disease remain limited to controlling the extent of an outbreak.

The disease is traced to a toxin produced by the bacterium Clostridium botulinum. Ingestion of the toxin leads to paralysis in voluntary muscles, those controlling use of the wings and legs are first affected. Soon muscles in the bird's inner eyelid and neck cease to function; the bird can no longer hold its head above the water and it drowns. The disease is highly contagious. Maggots feeding on diseased carcasses concentrate the toxin and transmit the disease when eaten by other birds. Severe outbreaks in the western U.S. have killed 50,000 birds in a season.

Primarily found in shallow ponds or wetlands, birds in the southern reaches of San Francisco Bay have been stricken early 1980's, staff and volunteers with the San Francisco Bay Bird Observatory (SFBBO) have worked to monitor and control the outbreak of avian botulism in Guadalupe and Mallard (Artesian) Sloughs and the eastern reaches of Coyote Creek. This portion of the extreme South Bay is an area of poor water circulation which receives over 135 million gallons a day of tertiary treated effluent from South Bay sewage treatment plants. The Bay sewage treatment plants. The brackish marsh created by the wastewater discharge replaced the native pickleweed marsh community, required habitat for many species, including the Endangered California Clapper Rail. Yet the dense tule stands provides habitat for hundreds of breeding and migratory waterfowl and contains the largest heron and egret rookery, with over 600 breeding pairs, in the South Bay.

During the warm summer and fall months, conditions in the South Bay can favor growth of the culprit bacteria. Many factors combine to foster germination of the dormant spores, which can tolerate heat and drought, remaining viable in the soil for many years. Warm shallow waters increase decomposition of organic detritus, raising nutrient levels in

the water while lowering the oxygen content. Stagnant pools may accelerate this process, pools potentially created by the uneven rise and fall of the tides here in the Bay Area. High bird density increases the chance of an outbreak.

High nutrient and protein levels are significant factors. The dense stands of bulrush bordering the slough channels generate volumes of plant material for decomposition, adding to the nutrient levels found in the sewage effluent. Winters with high rainfall and runoff increase the probability of an outbreak later in the year. High protein levels increase the toxicity of the bacteria; bacteria growing in animal carcasses generate the most toxic byproducts. Preliminary evidence also indicates that the presence of certain bacteriophages, viruses which infect bacteria, increase the bacteria's toxicity.

Yet the exact combination of factors triggering an outbreak has not been defined. The dormant spores are ubiquitous in both the sediment and the biota, yet entire years can pass with no evidence of the disease, followed by a severe outbreak killing hundreds of birds in a limited area.

SFBBO has monitored the occurrence of avian botulism for both the California Department of Fish and Game and the sewage treatment plants for the Cities of San Jose, Sunnyvale and Santa Clara. Weekly surveys of potential disease areas permit early response to botulism outbreaks. Diseased birds are captured and brought to Palo Alto's Wildlife Rescue for rehabilitation. All carcasses, bird fish or mammal, are collected and disposed of to prevent spread of the disease by maggots.

During the summer of 1992 the incidence of death or disease within our study area remained relatively low, except for a brief but significant disease outbreak in mid August. During a 10 day period we collected 46 dead or diseased birds within the Mallard (Artesian) Slough survey area. The outbreak was unique in several

*Continued on page 7*

# From the President's Desk

by *Ginny Bechtine*

We're already well into 1993 and there is much to report. We have been collecting data for 10 years and we have an enormous amount of important information just waiting to be organized and published. This is the year we do it.

Along with our ongoing research projects and our new projects, this year is being dedicated to the pad and pencil or should I say the monitor and keyboard. If you don't believe that entering data into the computer and then analyzing the data is an enormous job, just ask our biologist who's been tied to a computer working on the Knapp data.

But before I get too involved in research let me update you on the status of the Board of Directors and staff. Lou Young who has done so much for the organization and who continues to do a great deal resigned as Treasurer. Lou will continue on the board and continue with his other SFBBO commitments. With the need for a new Treasurer and no one on the board currently feeling up to the job, we had a problem. However, Carole Hutchinson proposed a solution. Since we had a prospective Treasurer in sight and he would bring an enormous amount of financial expertise to the organization, Carole felt it was in the best interest of SFBBO for her to resign. We are grateful to both Lou and Carole for all they have done and are doing to support SFBBO.

Now it is my pleasure to introduce you to our new board member and Treasurer.

We welcome Richard Carlson, President of Spectrum Economics. I first met Dick at the Palo Alto Baylands on a Shorebird Study orientation field trip. The second time I met Dick he was one of the speakers at my Leadership Mountain View class. So having these two previous experiences I was delighted to learn that he was interested in becoming more involved in our organization. Dick has his BA in Economics from Harvard, his MA in Economics from the University of Maryland and is a PhD candidate in Economics at Stanford. His jobs have included Budget Analyst, OMB, Executive Office of the President, Assistant Director, Illinois Bureau of the Budget, Office of the Governor, Senior Regional Economist, SRI International, and Vice-President of CED Research, Inc. How did we get so lucky?

Now staff changes. Valerie Layne who was our part time biologist is now full time. We also hired a part time office clerk, Flora Leeper, for 2 months just to help us get ahead of the paper work. Flora has since moved on to a full-time

position and we wish her the best of luck. We still have plans for a permanent part time office assistant in order to free our Executive Director from paper work, bills, mailings, xerox excursions, etc. We contracted with a professional fundraiser, Kathryn Knight. We hired a part time field assistant, Sue Macias. Sue works one day a week transecting plots of land with Jan Dierks for the Shorebird Study. Sue is a fantastic illustrator and will be leading a class for us on field drawings.

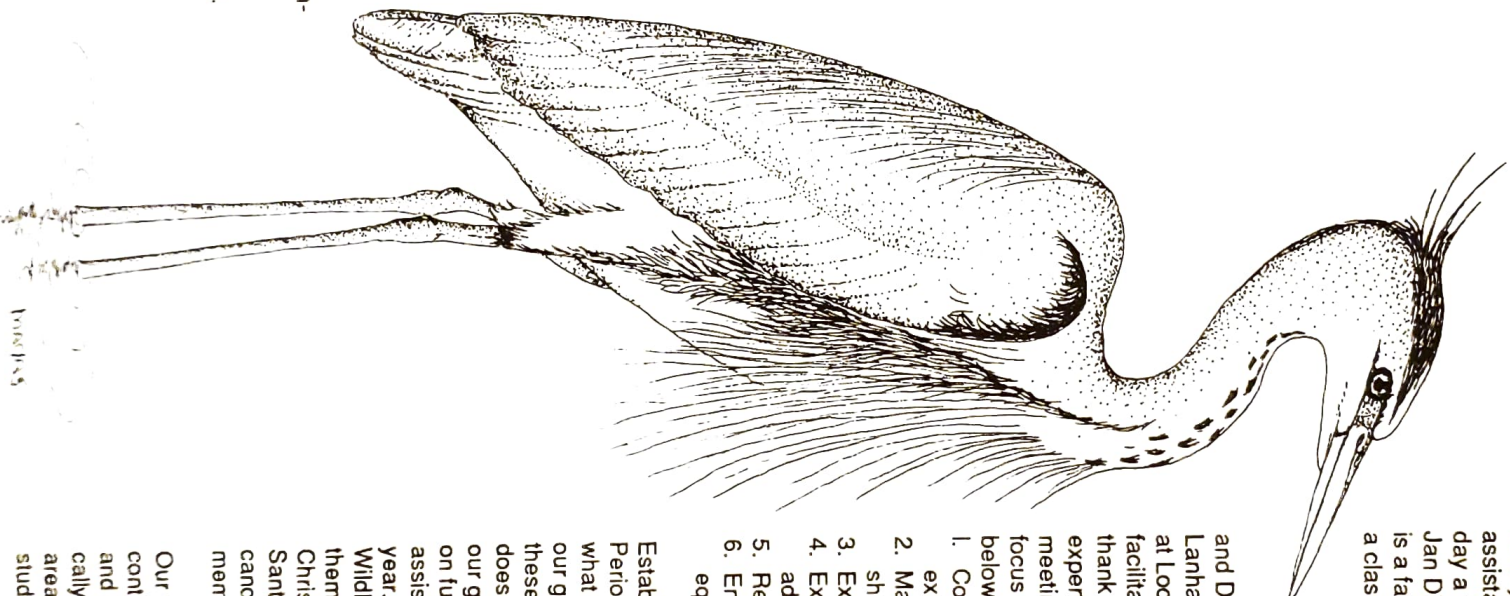
Last fall, as per our by-laws, we held a Goals Meeting. The meetings were held on Nov 7

and Dec 8 and were lead by Lucy Lanham. Lucy had been trained at Lockheed and did an excellent job of facilitating our meetings. We would like to thank Lucy for donating her time and expertise to SFBBO. As a result of these meetings we have a clear priority list to focus on. Our top six goals are listed below.

1. Continuing, completing and publishing existing studies
2. Maintaining and expanding membership
3. Expanding and prioritizing research
4. Expanding the number of science advisors
5. Revitalizing the Research Committee
6. Ensuring adequate facilities and equipment

Establishing goals is only the beginning. Periodic evaluation is needed. So, just what have we done in an effort to achieve our goals? Money is not mentioned in these top six goals. Goal number one doesn't say win the lotto. But to achieve our goals we do need to continually work on fundraising. Hiring a fundraiser to assist us was our first step in the new year. Our second move was to accept Wildlife Rescue's offer of working with them on an annual rattle fundraiser. Our Christmas fundraiser was a big success. Santa brought the Observatory a new canoe, thanks to the generosity of our members.

Our top goal as listed in the big six is to continue existing studies, complete them and publish them. Looking back historically we have always succeeded in the area of continuing and completing studies. So, I have confidence we will



## President's Desk *Cont.*

again succeed. However, publishing data has always taken a back seat to collecting data. This year we plan to change that. We are working on the Knapp property waterbird study and we will have an article published, that is my commitment as President of the Board of Directors. But we can't stop at one article when we have the ability to produce numerous quality articles. For instance, we have 10 years of Colonial Bird data to publish in addition to our detailed records of the establishment and growth of the California Gull colony.

Goal number two concerns membership. Maintaining and expanding the membership is probably on everyone's goal list. To remain a healthy organization we must have a healthy membership. Members are a very important part of the organization. I would like to personally thank all of you for supporting us over the years. To expand we have begun a membership drive, each board member is committed to bringing in at least 20 new members this year. If you know of someone who might be interested in supporting the Bird Observatory, tell them about us.

Goal number three is to expand and prioritize our research. I am pleased to report that we have already done some expansion; the shorebird study was enlarged past its original parameters, new territories are being added to the Colonial Bird Study, and Dianne Kopeck will continue her valuable seal research under SFBBO. We consider birds to be our main research interest but we clearly see

the value in studying more than just avifauna. Previously our non-bird studies included an invertebrate study and a salamander study. As to prioritizing current field studies, the Shorebird Study is clearly our number 1 priority closely followed by the Colonial Bird Study.

Goals number four and five concern research appropriateness and quality. Jan Dierks and Paul Jones are heading the Research Committee and with them at the helm we will be seeing good things coming out of this committee. As to expanding our advisory board we are always looking for interested and qualified people to work with us. We are deeply indebted to Dr. Cogswell who has been a advisor for many years. Currently we are working closely with Dr. William Bros of San Jose State University. Bill is a biostatistician and is advising us on that aspect of the Shorebird Study. Let me thank all our science advisors who over the years have done so much to insure the quality of our work.

Our sixth goal was to ensure adequate facilities and equipment. Well, let me mention that canoe again. We needed the right vessel for the right job. We are also purchasing some computer software and another computer to help with our data analysis. Please come and visit us in Alviso, we are very proud of our set-up in the old cannery building.

Considering that it is only April we are well on the way to achieving our 1993 goal. With your continued help we will succeed.

### *Travel For the Birder and Outdoor Enthusiast*

A new service is being offered by a travel agency run by birders and naturalists for birders and naturalists. Wild Goose Travel has access to the two largest data bases of "adventure travel" with tours ranging from antique shows to zoo's, and activities ranging from birding to sky-diving. In addition they are assembling their own specialized database of birding tours and birding tour companies, local guides and contacts, and self-guided itineraries created by experts. They not only can get you there, but can help plan your itinerary in detail... at no additional charge.

"We work harder at doing it at the lowest possible cost", says Cliff Richer owner and bird enthusiast. "We don't accept the computer's first lowest fare. We've found it usually takes three tries to be sure".

And you can strike a blow for the environment, too. Wild Goose Travel will donate 5% of their gross income from your trip for travel fares, hotel bills, car rentals and tour fees to the environmental organization of your choice. Which we hope will be SFBBO. For more information call 1-800-432-2391.

## Field Illustration Class

Imagine yourself out in the field early one morning, completely outside yourself with the beauty of water, land and wildlife. Ever find yourself wanting to record the scene? Simple, yet graphic sketches - with a realistic scale, recognizable habitat characteristics, key wildlife identification points, rays of sunlight pushing through the cordgrass and silhouetting the tentative movements of a Clapper Rail....

Here's your chance! This summer SFBBO will be offering a class in field illustration, a course for the complete novice who always wanted to sketch the wildlife and habitat encountered in the field. The course will be taught by Sue Macias, a long-time Refuge volunteer naturalist and chief illustrator of a text on seashore life. Sue sketched the herons and terns illustrating this newsletter - a talented artist with a gentle teaching method you're sure to enjoy.

The course, outlined below, will begin on Wednesday, 7 July, from 7-9 pm, and meet weekly for four weeks here at the Observatory, concluding with an optional field excursion. The fee is \$50 for SFBBO members and \$65 for non-members (which includes a one-year membership to the Observatory). For those interested, we will purchase the basic course materials (pencils, drawing pad, eraser, etc.) and distribute them at the first class, charging the direct cost (\$6-\$8). Class size is limited to 12, so call the Observatory now at 946-6548 to register.

#### Course Outline:

1. Basic Drawing Techniques - overview of materials, basic sketching, shading with pencils, perspective, etc.
2. The Essential Bird - how to draw a bird, proportional drawing without rulers, detail - how much is needed, quick and dirty sketches before the subject takes wing.
3. Habitat Sketches - diagrammatic and schematic habitat sketches, what techniques work in different habitats.
4. Maps and Site Sketches - quick site and location maps and diagrams, how not to get lost in the sloughs of outer Bair Island.
5. Drawing in the Field - the realities of field drawing, how to draw birds in a windstorm, scopes, binocs and other field tools.

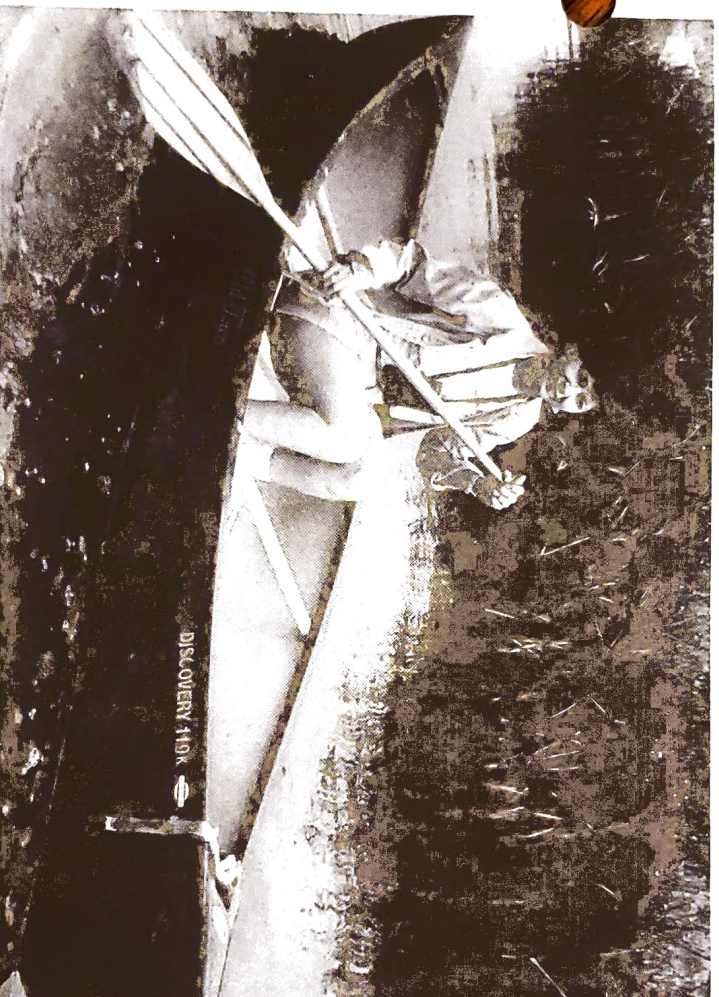
## SFBBO Gets a New Canoe

One of the most satisfying aspects of our work here at the Observatory is the support of our membership, from charging out in the field at all hours to financial help when equipment needs exceed our budget. That was certainly the case this past winter when our call for donations, to purchase a light-weight canoe, was sent to the membership. We not only received enough money for the canoe of our dreams, one family even donated an inflatable kayak which has proven quite valuable in certain field settings.

The canoe, a one (wo)man Old Town Discovery, was purchased through REI's Community Outreach Program, which offered a substantial discount off the retail price. Many thanks to REI's Steve Shunk for his enthusiastic assistance in the purchase.

The canoe has seen steady use since its purchase in early February, providing solid transport across salt ponds, sloughs, and when necessary, mudflats - we're lucky she washes up so easily.

Our heartfelt thanks to those who contributed to this important purchase: Barbara Borthwick, Charles Collins, Dempster & Sylvia Drowley, Jean & Patricia Dubois, Donald Dvorak, Susie & Dave Fommenti, Darrell Gray, Paul Jones, Philip & Florence LaRiviere, Martha Murphy, Frances & LeRoy Nelson, Bess & Carl Nericcio, Mark & April Sapsford, Marilyn & Philip Scowcroft, Robin Smith.



*Ginny Becchine testing the waters in the new SFBBO canoe (Photo by Penny L. Nyland)*

## SFBBO & Wildlife Rescue Raffle Tickets

Coming this Summer!  
Look for them in your mail.

Great Prizes

## Botulism

*Cont. from page 4*

ways. Over 30% of the birds collected were herons or egrets, including a relatively rare White-Faced Ibis, a species observed breeding along Mallard Slough earlier in the year. Also, the diseased birds did not exhibit the classic neurological symptoms of avian botulism.

Given the severity of the outbreak, we immediately sought help in identifying the disease type. Four fresh carcasses were sent to the U.S. Fish and Wildlife Service's Wildlife Health Center in Madison Wisconsin and two fresh carcasses were sent to the CDF&G Wildlife Health Laboratory in Rancho Cordova, California. Of the six birds sent for analysis, three tested positive for avian botulism. Given the absence of neurological symptoms, two of those birds were also tested for a specific strain of botulism Type C-2, a rare form not previously found in wild populations, but which exhibits symptoms of hemorrhaging observed in a number of the diseased birds. However, the two birds tested negative for this rare form of botulism, leaving us with several unanswered questions.

Surveys will begin in June and continue through November. Volunteers interested in assisting with the work are encouraged to contact the Observatory at (408) 946-6548. Experience with bird identification and handling is important and familiarity with small boats is favored, but not essential.

*Watch our website about 3-5 hours*

## *Thank You*

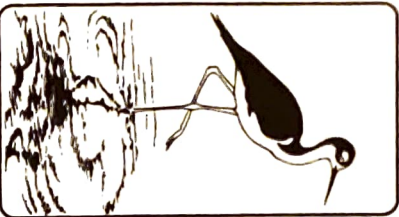
The editor would like to thank the artistic talents of Vicki R. Jennings for her design and drawing for the new Bird Observatory newsletter logo. Vicki has contributed many wonderful drawings in past newsletters and we hope to see more in future issues.

# San Francisco Bay Bird Observatory

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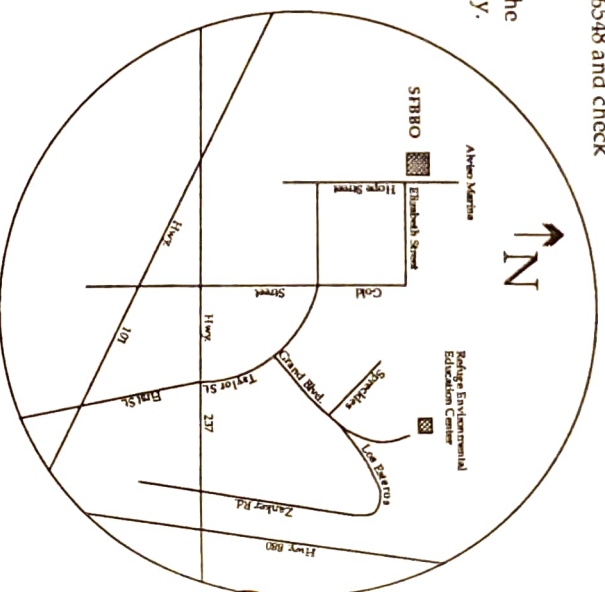
Jan Dierks  
Peg Woodin

The Bird Observatory is located at 1290 Hope St. in Alviso. The office is open weekdays and some weekends, but specific hours vary with our field schedule. Before stopping in, call (408) 946-6548 and check when we will be available.

The Board meetings are open to the membership and are held monthly. Call the Observatory office for dates and times.

The newsletter is a quarterly publication. Send contributions to the editor: Susie Formenti, 16675 Buckskin Ct., Morgan Hill, CA, 95037. Call 408-779-8694 for deadline dates

The San Francisco Bay Bird Observatory is a non-profit corporation under IRS statute 501(c) 3. All memberships and contributions are tax deductible.



We invite your membership in the San Francisco Bay Bird Observatory. To join, please complete and mail this form with payment to SFBBO, P.O. Box 247, Alviso, CA 95002. Make checks payable to SFBBO.

Membership categories: check one

- Student/Senior \$10     Associate \$50     Corporate \$500+  
 Regular \$15     Contributing \$100     Life Member \$400\*  
 Family \$20     Sustaining \$200     Patron \$2,000\*

\* Single payment becomes part of an endowment fund.

Donation: SFBBO greatly appreciates your tax-deductible donation.

Name \_\_\_\_\_ Date \_\_\_\_\_

Address \_\_\_\_\_ Phone \_\_\_\_\_

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