

# The Stilt

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The Newsletter of the San Francisco Bay Bird Observatory



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## Caspian Terns in Southern San Francisco Bay

by Jennifer Parkin and Tom Ryan

When visiting the salt ponds and estuaries along the south bay from May to mid-September, many terns can be seen plunge diving into the water in search of food. The majority of these are Forster's Terns which nest in large numbers in the south bay. Often, among these smaller terns, there will be a larger tern with a blood-red bill and a deeper, raucous "squawk". This large tern is a Caspian Tern. The population of Caspian Terns in the south bay has been declining in recent years. Nevertheless, they are still an unmistakable, unique member of the local bird community.

The Caspian Tern (*Sterna caspia*), is the largest of the terns. It is a cosmopolitan species that breeds at large lakes or along coasts, typically near estuaries, on all continents except Antarctica and South America. It was named Caspian Tern after a specimen was taken near the Caspian

Sea. This tern does not readily show the distinctive forked tail of other tern species such as the Forster's Tern (*Sterna forsteri*). Like other terns, however, they do forage by "plunge diving", hovering high over the water before diving straight down to catch their fish prey.

This migratory species can be observed along the coast of California from mid-April through about mid-September. Adults migrate north from wintering areas along the west coast of Mexico and begin courtship rituals either enroute, or once they have settled at a colony site. Courtship rituals include ballet-like, high altitude aerial displays where potential mates swoop and mirror each other's movements. On the ground, males strut around with their heads held high, often carrying a large fish that they offer to the female they are courting. Nests are simple. Usually a pair will dig out a small plain scrape in the ground with very



A Caspian Tern colony in the salt ponds (Rick Palmer).



San Francisco Bay Bird Observatory

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little nesting material. Some nests have reportedly been made with twigs, leaves, and rocks.

Caspian Tern pairs remain together for the breeding season. Both males and females participate in the incubation of eggs (incubation lasts about 24-27 days) and share the many duties of raising the chicks. Hatching begins in early June, but there typically are a few late nesters in a colony, possibly birds who are less experienced or who are re-nesting after failure of their first attempt. Their chicks may not hatch until July. The 35 days it takes for the young to fly are both strenuous and chaotic for the parents. Generally, the parents have one or two young to feed, although broods of three and four chicks are not unheard of. Once the chicks have fledged they stay with their parents for several months learning how to forage for themselves. Chicks follow their parents to regularly used feeding areas where adults are feeding, thus "teaching" the young how to locate and grab prey. Usually, adults will continue to feed the chicks during this "teaching" period.

By mid September, most Caspian Terns have migrated south to warmer climates. Banding recoveries have placed Pacific coast Caspian Terns as far south as northern Central America during the winter months. Two chicks banded by SFBBO biologists in the early 1980's were later recovered from the State of Sonora in Mexico during winter and spring months. Birds from other regions along the Pacific Coast may intermingle at the wintering areas before returning north to breed. The young will not breed until they have reached their fourth summer.

Caspian Terns mainly feed on various fish species including Jack smelt (*Atherinopsis californiensis*), Shiner surfperch (*Cymatogaster aggregata*), and Pacific Staghorn sculpin (*Leptocottus armatus*). Also, they have been known to grab bottom dwelling fish such as mudsuckers and gobies, as well as invertebrates such as crayfish and crabs. Because they are fairly general in their feeding habits, they have done well even during El Nino event years when food was in short supply for other tern species.

In 1922, Caspian Terns were first documented nesting on levees along salt evaporation ponds in South San Francisco Bay near the Dumbarton Bridge. This small colony of about seven nests increased dramatically over the next two



*A Caspian Tern with chicks (Tom Roundtree).*

decades, with a total of 378 occupied nests during 1943. This colony numbered approximately 299 pairs in 1966; however, because of levee maintenance between 1968-69, the colony relocated to a smaller dike near the San Mateo Bridge. Over the years, several new colonies formed and disappeared in other regions of the bay. A colony established itself in 1968 near the town of Drawbridge, in Alameda County, which contained over 100 nests. Another colony established itself in 1971, on a salt pond dike on the north side of Bair Island with 304 nests. In recent years, both of these colonies have been deserted.

Presently, there are at least four existing colonies breeding in various locations along the bay: on Brooks Island in the north bay, in an abandoned salt pond near the Napa River, at the Alameda Naval Air Station, and a new colony of 87 breeding pairs near Alviso. Currently, the population and reproductive success of the Alviso colony is being monitored by the San Francisco Bay Bird Observatory. This year approximately 40 chicks were fledged from this colony.

Caspian Tern populations have fluctuated over the last century as a result of human activities, including some bird hunting by the feather trade (occurring prior to 1900), egg collecting by poachers, and habitat destruction. Caspian Terns tend to nest on levees or islands, with little vegetation, along salt evaporation ponds and in estuaries. Changes in tidal flow, maintenance of levees, and other human activities have limited the Caspian Tern colonies in the bay. Recently, populations

have been on the decline in the southern portion of the bay, possibly due to unsuitable nesting habitat, red fox (*Vulpes vulpes*) predation, and emigration to larger colonies at Brooks Island and Alameda Naval Air Station farther north in San Francisco Bay and at the mouth of the Columbia River in Washington.

This species of tern may not be threatened or endangered, but the strength and health of its overall population is tenuous. They frequently have difficulty locating appropriate nesting areas, and continue to face threats from predation and pesticide poisoning because of their tendency to nest near estuaries where agricultural run-off may occur. This large tern with its bright red bill and raucous cry is a joy to observe and hear any time you are visiting the Don Edwards San Francisco Bay National Wildlife Refuge



# Adventures in the Pelagic Zone off San Blas

by Tom Ryan

Our adventure into the pelagic zone off of San Blas began as a trip to the tourist office to see if we could purchase a copy of Novick & Wu's "Bird Finding in San Blas". They weren't for sale, but allowed us to "borrow" their's just long enough to find the local young man who ran the copy machine. To digress for one moment in the interest of keeping the Dept. of Commerce at bay, I have purchased a copy of this wonderful booklet, but left it at home as did my compadre Dan. When we returned to the office, Armando Santiago was there to greet us. Armando was a fellow birder who spoke excellent English and offered to take us birding. We arranged to meet him outside our hotel and go out to Elephant Rock to view the Boobies and Frigatebirds which roost there.

As we had arranged we met him at first light. Our craft was a 23 foot skiff with a trustworthy (we assumed) 50hp outboard motor. After a brief stop at the naval checkpoint for our daily drug inspection we were off to Elephant Rock. The inshore waters off San Blas provided us with looks at a few Laughing Gulls, Elegant Tern, Royal Tern and Caspian Tern. From about 4 miles out Elephant Rock appears much as my first impression of the Farallon Islands, a big barren rock sticking out the water. As we approached closer, a the rock had a fuzzy quality to it. When binoculars were raised a cloud of birds were observed surrounding the island.

## Frigatebird Tag

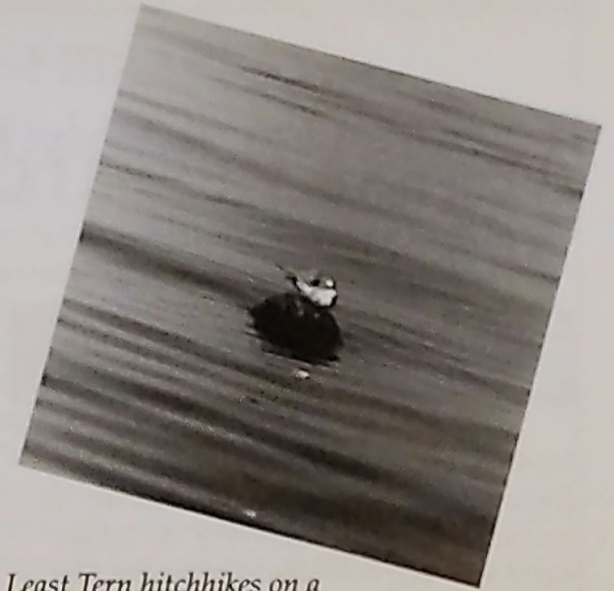
Lazily hovering above the rock were Magnificent Frigatebirds. On the rock were several hundred Brown and Blue footed Boobies, with a handful of Red-billed Tropicbirds (all in the same family Sulidae). As we oohed and aahed at the spectacle a far more interesting game was taking place around us. It was a rather perverse game of tag. The Boobies and Tropicbirds would approach the rock from various positions of the compass at top speed. The Magnificent Frigatebirds would lazily track the approaching Sulids, moving out from the rock. They would then dive at the hapless Sulid. This is where the game of tag gets perverse. The Frigatebird with a notable

advantage in both speed and maneuverability would chase the Sulid, grab its tailfeathers and give it a sound thrashing. The wise Sulid would then regurgitate its stomach contents which the Frigatebird would often catch before they hit the water (I apologize to those reading this during your lunch break). The not-so-wise Sulid would try to get away. This often resulted in several other Frigatebirds being attracted to the situation. They would harass the bird until they had driven it into the water or it vomited up its stomach contents for them to feast on. As there were several hundred Boobies on the rock, not every bird was subject to playing tag with the Frigatebirds, and successfully reached the rock, but a few did have to pay this "impuesto" to the Frigatebirds.

## Terns, Turtles and Mutualism

After watching this and burning a couple rolls of film, we decided to go out to look for Black-vented Shearwaters, Brown Noddies, Sooty Terns and a white tern that Armando could not identify. Armando was an excellent observer, spotting the fast-moving boobies and terns far before we did. He was also very interested to learn from us what he could. We had a wonderful discussion of the differences between parasitism, commensalism and mutualism as we rode out to sea.

We encountered several Green Sea Turtles resting at the surface of the water. Armando told us that the terns often roost on the turtle's back and give it a warning when something approaches from the surface. We decided that this was an example of mutualism with the terns getting a place to roost on the open ocean and the turtle getting a warning when the terns flew off. At about 20 miles off the coast Armando was terribly disappointed we had not seen any of the species we set out for, especially his terns that sit on the turtle's back. However we had to turn back. We had already switched over to our second (and last) tank of fuel and the wind comes up in the afternoon. 20 miles out to sea in a 23 foot skiff was not where I, Dan or Armando wanted to be when this happened. So we headed back towards land. At about 15-18 miles out



*Least Tern hitchhikes on a sea turtle (Tom Ryan).*

we spotted the terns on the back of a sea turtle. As we approached, after a horribly botched ID by yours truly, we realized that these were Least Terns, a normally coastal species. It was quite a surprise to see them this far off shore. As we continued, Armando told us stories about seeing Whale Sharks as we stopped briefly to look at Euphosids (planktonic arthropods), comb-jellies and fish fry on the rip line about 15 miles off the coast. We asked them where they are found he told us right on the very rip line we were at, so we asked him if we could look for one. He agreed and we were off again.

## Whale Sharks

Not 15 minutes later, we saw what looked like someone swinging a dining room table back and forth in the water. It was the head of a gigantic Whale Shark. Armando positioned the boat right in the path of this huge shark. As it came towards us we could see the long horizontal opening of its mouth bringing in water full of plankton. As it approached the boat it turned just before contacting us, Dan almost touched its 3 foot dorsal fin. Its size was overwhelming. At first we saw its head and dorsal fin, thinking that this was the tail fin we estimated its size at 12-15 feet. Then the real tail fin appeared another 12-15 feet farther behind. It was bigger than the boat! We estimate it at 25-30 feet long. It was a beautiful animal, with spotting all along its dorsal surface. Twice it passed right by our boat. Within a few more minutes we passed a second, smaller one, this one about 15-20 feet and even more beautiful.

Sadly we were running low on gas and had to return to San Blas, but we great pictures, incredible memories and a new found friendship with Armando. ■

# August Research Report

by Tom Ryan

## COLONIAL BIRD MONITORING

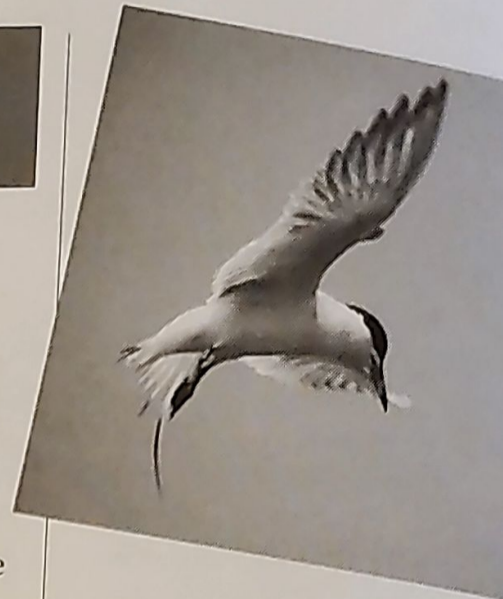
We have completed our 1997 surveys. Once again, this year our volunteers did an excellent job of surveying the heron, egret and tern colonies in southern San Francisco Bay. Another heron nest was located at Los Gatos Creek Park in San Jose. This year, we monitored Forster's Terns at 15 colonies which contained nearly 900 nests. We also observed two pairs of Least Terns nesting at Hayward. A pair of Black Skimmers tried to nest at Hayward and abandoned their first nest. They are currently making a second nesting attempt. In exciting news, the female of this pair is a bird banded with an SFBBO color band!

As mentioned in the cover article, the Caspian Terns returned to nest in the south bay after only a few scattered individuals nesting here in 1996. They have relocated to a small island in a salt pond near Alviso Slough. There were 87 nests on the island and we estimate that approximately 40 chicks fledged from this colony. There are several similar islands on the pond they are currently on and we hope that they return next year in even stronger numbers at other islands. They have relocated here from a site near Mowry Slough where they last nested in 1995 on a levee attached to the mainland which was subject to predation by feral cats and red fox.

The California Gulls had a total of 5059 nests at five sites. We confirmed a new breeding site at Charleston Slough on an island on the far side of pond A1. This island is particularly interesting, as nesting Forster's Terns, Black-necked Stilts and American Avocets are also found here. We now have recovered a total of 5 USFWS aluminum bands from dead birds banded between 1985 and 1987. Even more exciting, we have observed several red and black color bands on birds on a pond near Crittenden Marsh. Red color bands were used on chicks in 1982, and black was used in 1983! We have 14 and 15 year-old gulls breeding in our area! We will be preparing a brief report on this for North American Bird Bander later this year.

## REPRODUCTIVE SUCCESS AND NEST SITE SELECTION OF FORSTER'S TERNS

This year we measured reproductive success at four Forster's Tern colonies. This involved two visits to each colony. During the first visit, we marked the nests, counted the eggs, and determined the age of the eggs by floating them in water (harmless to the eggs). This gave us information about how many eggs there were at each nest and the exact date they were laid. We used the age of the eggs to determine the optimal time to return to the colony to determine hatching success. Our second visit was done when the chicks were less than a week old. We returned to each staked nest to count eggs and chicks, this enabling us to determine the hatching success and using a mathematical calculation estimate reproductive success. We were able to get these measurements at 180 nests. Additionally, we banded 135 Forster's Tern chicks. We are proud to say that we were on all islands for less than 30 minutes (we were allowed 1 hour), no chicks were predated during any of our surveys and none of the colonies we monitored failed. We have returned to these colonies as part of our Colonial Waterbird Monitoring to count fledglings and banded young. We



Forster's

will compare these actual observations with the mathematical estimation of reproductive success to judge the accuracy at these colonies.

Once these four colonies are completely deserted by the Forster's Terns, Rick Dakin will return to the colonies to study nest site selection. She is measuring characteristics of the habitat in which nests are placed. These include the type of vegetation the terns place their nests near, and the types of island size and topography they prefer. When we combine these two studies we will determine the conditions where the terns prefer



Tom Ryan bands a Forster's Tern chick (Sue Macias)

place their nests and what the reproductive success is under the different conditions. This will be of great assistance to future creation of nesting habitat for Forster's Terns.



Newly hatched Forster's Tern. Note the cryptic coloration (Sue Macias)



Jennifer Parkin, Refuge Biologist Joelle Buffa and Tom Ryan (left to right) band and record data on a Forster's Tern colony. In the background, intern Kim Briones monitors the rest of the colony by kayak (Sue Macias)

## DIURNAL ATTENDANCE PATTERNS

We have completed all our surveys for 1997, including the last Forster's Tern survey which was done on June 21, the longest day of the year. We received a tremendous amount of information about when the parents are at the nest over the course of the day. We also received information about their habits during the day and several interesting interactions with American Avocets and Black-necked Stilts which breed on the same islands as the terns. This study will be continued next year. We will do a preliminary analysis of these data during the winter. We would like to thank all of the observers who volun-

teered for this first year of this study which involved long observation periods often under difficult conditions.

## AVIAN BOTULISM MONITORING

Jesse Suckow-Crowell and Robin Dakin have been conducting surveys of Mallard and Guadalupe Slough for signs of avian botulism. This disease has the potential to kill large numbers of birds if an outbreak should occur. They survey the channels and remove sick and dead birds in order to prevent the spread of the disease to other birds. So far, they have collected several dead birds and brought sick and birds injured by a variety of causes to Kappy Sprenger and Wildlife Rescue for rehabilitation. However, no definite signs of avian botulism have yet to be detected.

## UPCOMING PRESENTATIONS AND PUBLICATIONS

"The Little Blue Heron in Central and Northern California" has been reviewed and many helpful suggestions have been incorporated into it. It is currently undergoing a final round of reviews by the authors and will be sent to the editor of *Western Birds* shortly.

Janet and I will be attending the American Ornithologists' Union meeting in Minneapolis, Minnesota from August 13-17. On Friday night, we will present a display on the *Colonization of southern San Francisco Bay by California Gulls*. This display will present information from our files about the numbers of nests and mean clutch size at the 5 colonies since 1980. It will be the first time that these data will be presented about this unique population of breeding California Gulls. The display will be housed in our office after the meeting and will be at the annual meeting in September. We hope to begin work on publishing this information in early 1998.

A report on the "Status and Distribution of Herons and Egrets in southern San Francisco Bay", is currently being put together for the Santa Clara Valley Water District. Seventeen years of data were compiled and entered into our computers by Jesse Suckow-Crowell and Robin Dakin this spring. These data are currently being analyzed and mapped. The report will be completed by October 1. Soon thereafter it will be submitted to a scientific journal.

## SFBBO 97-98 Field Trip Schedule

Our field trips are designed to be enjoyed by both experienced birders and amateur naturalists with an interest in learning about birds. We accomplish this by planning our trips to birding hotspots with tremendous natural beauty, and by separating the group by interest level. Participants are responsible for their own meals, transportation and accommodations. We will provide detailed maps, suggested accommodations and assistance with travel plans. Each day we will have a pre-arranged meeting place and time. Group size is limited to 10 participants in each group for a maximum of 20. Further information on all 3 trips is forthcoming - please give us a call.

**California's North Coast: October 17-19** Leaders: Tom Ryan and Gjon Hazard. Donation: \$35 member/\$50 non-member

**Tule Lake: November 7-9** Leaders: Tom Ryan and Gjon Hazard. Donation: \$35 member/\$50 non-member

**Carrizo Plain: February 15-17, 1998** Leaders: Tom Ryan and Gjon Hazard. Donation: \$35 member/\$50 non-member

## Interested in Volunteering?

Volunteers are still needed to participate in this year's research efforts. If you have time and wish to participate in any of these studies, please call the office at (408) 946-6548. Opportunities include:

### Avian Botulism Surveys

These weekly boat trips into Mallard Slough start this June and run through November. Avian botulism is a waterfowl disease associated with warm weather and brackish water. Please call to request a schedule. Project Leader: Robin Dakin

### Forster's Tern Nesting Island Research

After fledging, help is needed to take measurements on tern nesting islands. The data will be analyzed for correlations between habitat characteristics and tern reproductive success. Some experience canoeing is helpful but not necessary. The ability to lift 20 pounds or more is essential, as is a willingness to get really dirty. Variable schedule. Project Leader: Robin Dakin (To fulfill requirements for post-graduate work)

## News from our Board of Directors

### Supported by the Environmental Support Center

The SFBBO Board of Directors met in June for a board development retreat under the leadership of board consultant Debbie Wu of Fund Development Solutions. Working with Debbie, the board completed the restructuring of several key processes, including committee descriptions and assignments. We also now have completely new board job descriptions and other materials related to the nomination process.

The Chairman of the Nominations Committee, Anne Moser, has secured a slate of candidates for the upcoming Board Election, which occurs at the Annual Meeting, scheduled for the evening of Saturday, September 27. With great regret, we anticipate the resignation of Susan Stout from the Board, due to travel and other extenuating circumstances. Therefore one of the candidates listed on this page will complete her term of office which ends in 1998.

## Proposed Bylaws Change

Any proposed changes in our Bylaws must be disseminated to the membership no later than 21 days prior to the Annual Meeting.

### Current:

Article 2, Section 1, 1st sentence (as amended 8/29/89):

The Board of Directors shall consist of nine (9) Directors elected from among the membership of SFBBO for staggered three-year terms.

### Proposed change:

The Board of Directors shall consist of a minimum of eleven (11) Directors elected from among the membership of SFBBO for staggered three-year terms.

## 1997 Slate of Board Members

### Adrian del Nevo, Ph.D.

As a former Senior Research Biologist with the Royal Society for the Protection of Birds, Adrian has twenty years of experience in avian ecology and conservation biology. His research on birds, particularly endangered species, has been conducted in different habitats all over the Old World. He is now a Senior Project Scientist for Entrix, Inc. and a member of our Scientific Advisory Board.

### Jan Hintermeister

Jan is a long-time Observatory member and supporter. He has contributed many hours of his free time to volunteer field observation work for SFBBO in addition to Golden Gate Raptor Observatory and Coyote Creek Riparian Station. He is a systems engineer at TRW/SIG in Sunnyvale and has an M.S. in Operations Research from Stanford University.

### Dennise Julia Orr

Before moving to the south bay area, Dennise worked for 9 years for KQED in San Francisco, in the areas of public relations and administration. Now pursuing an M.S. in Environmental Studies at San Jose State, she has volunteered her time and expertise to the Bird Observatory, as well as Golden Gate Raptor Observatory, Golden Gate National Recreation Area and the San Francisco Bay National Wildlife Refuge.

### Robin Smith

As a returning member to our Board, Robin has years of experience with birding, boardsmanship (Sequoia Audubon Society) and education. She is active in field research here at the Observatory and has helped compile the Christmas Bird Count in San Mateo County for the last 4-5 years. She and fellow Board Member Anne Moser recently returned from a tour to Baffin Island in the high Arctic.

## Calendar of Events

### September 10-27, California Fall Challenge

See Page 8 of this issue.

### September 27, Annual Meeting

This annual event will be held here at the Bayside Cannery Building. Beginning at 5 PM, the program includes a potluck dinner (we provide the barbecued chicken and beverages). Adrian del Nevo, Ph.D. is our guest speaker - see a short bio of Adrian elsewhere in this issue. His topic: "One good tern deserves another: the conservation of terns".

### October 11 - 18, National Wildlife Refuge Week

Join the 25th Anniversary celebration of the Don Edwards San Francisco Bay National Wildlife Refuge at refuge headquarters in Newark. For more information about their wildlife art auction, native plant sale and other activities, call 510/792-0222.

### October 14, HawkWatch: the Fall Migration

Allen Fish, Director of GGRO, will help us understand raptor identification, behavior, migration ecology and conservation, then lead us on a trip to Hawk Hill on the Marin Headlands during the height of fall migration. Class meeting: Tuesday, October 14 and 21; 7:30 - 9:30 PM. Fee: Member \$40/Nonmember \$55  
Field trip: Saturday, October 25; 10 am - 2 PM (bring a lunch)

## Our thanks to these supporters of the Observatory.....

### Memberships

We welcome the following new and returning members of the SFBBO (May, June, July):

Richard Baird, Rasa Bernota, Karlene Campo, Robert Christiansen, Don and Margaret Emery, Arthur Feinstein, Ernie Goitein, Phil and Pat Gordon, Jean Halford, Shannon Halgren, Elaine Harding-Smith, Richard Horrigan, Lee Hung, Deborah Jamison, Barbara Johnson, Dorothy Johnson, Eric Johnson, Paul Jones, Rich Kuehn, Sally LeBoeuf, Lester and Mary Manson, Diane Masuda, Karen McCready, David McIntyre, Grace Mitchell, Phil and Vy Nisonger, Jennifer and Bill Parkin, Laurel and Lou Paresi, Don Peer, Lynne Reardon, Donald Reinberg, Laurel Rezeau, Mildred Rose,

Allen Royer and Family, Stephen Shunk, Jane Starbird, Jean Sutherland, Lisa Tilamant and George and Marilyn Trabert

### Wish List

Drawings of local birds and wildlife  
Bookcases  
Office volunteers to organize reference materials  
Laptop computer, capable of running Excel 5.0  
Surfboards, small kayaks  
Bench seat cover for our pickup truck

### Our special thanks to:

The Printing Spot, Gilroy  
Marketing Response Systems Inc., Santa Clara  
Anomalous Business Systems  
Vicki Jennings

### Calling All Keys

Are you carrying around extra keys to Observatory facilities or past projects? Please lighten your load and help us reduce duplication costs by returning keys not currently in use. Please mail to SFBBO, P.O. Box 247, Alviso, CA 95002.

### Board of Directors

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Susan Stout - *Vice President*  
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*Spring 97 Intern*

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Janis Buchanan  
Sue Macias  
Emilie Strauss  
Peg Woodin

### Newsletter Editor

Susie Formenti

### Science Advisory Board

William E. Bros, Ph.D. - *San Jose State University*  
Charles Collins, Ph.D. - *California State University, Long Beach*  
Adrian del Nevo, Ph.D. - *Entrix, Walnut Creek*  
Leora Feeney - *Biological Field Services*  
Elaine Harding-Smith - *University of California, Santa Cruz*  
Paul Jones - *Environmental Protection Agency*  
John Kelly - *Audubon Canyon Ranch, Cypress Grove Preserve*  
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W. David Shuford - *Point Reyes Bird Observatory*  
Nils Warnock, Ph.D. - *University of Nevada, Reno*



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. Call the Observatory office for dates and times.

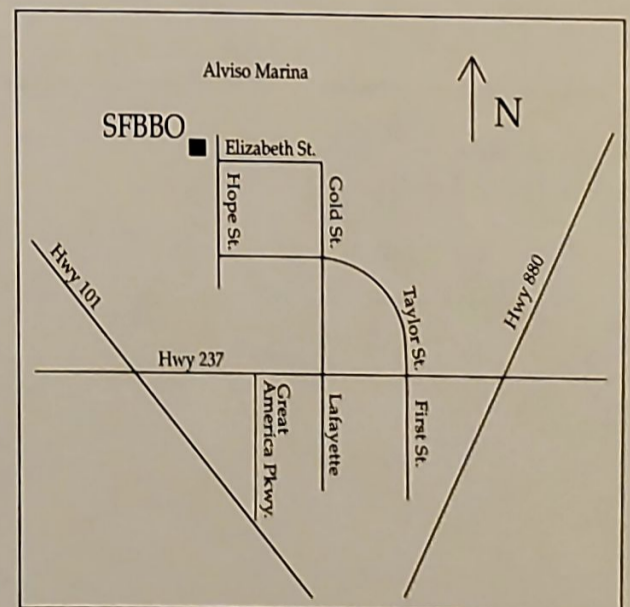
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### SFBBO

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The San Francisco Bay Bird Observatory is a non-profit (501-C-3) corporation. All memberships and contributions are tax deductible to the extent allowed by law. Annual memberships are as follows:

Patron: \$2,000	Associate: \$50
Life: \$400	Family: \$35
Sustaining: \$200	Individual: \$25
Contributing: \$100	Student/Senior: \$15



Get ready for the.....

# California Fall Challenge

12-27 September 1997

This unique, state-wide birding event puts a new twist on the traditional Bird-a-Thon and essentially levels the playing field across the 58 counties. The grand prize will be awarded to the team that identifies the largest overall percentage of their county list. Other prizes will be awarded for highest overall species count, highest number of vagrants seen, best bird seen and best fundraising effort.

The **Challenge** is an opportunity for California Audubon chapters and other bird-related non-profits to raise money while engaging in a little friendly rivalry between counties. Each team has the option of designating half of their sponsorship proceeds to the bird-related non-profit of their choice. We anticipate that the **Challenge** will provide a fun fundraising event for the fall months and may even produce some new county records. All results will be posted in the winter issue of *The Still*. We heartily welcome your participation. Give us a call at (408) 946-6548 or email us at [SFBBO@aol.com](mailto:SFBBO@aol.com) for information and registration materials.

The event will take place at the height of California's spectacular fall migration and will become our organization's major fundraising event. We encourage you to begin forming your teams, planning your routes and rounding up sponsors.

## *Picture this.....*

*The abundant natural diversity of California's 58 counties.....*

*The spectacular fall migration of more than 400 species down the Pacific Flyway.....*

*A competition for birders covering the entire Golden State.....*

*And.... a fun way to support your Audubon chapter or other favorite non-profit.....*



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