

The Stilt

Vol. 12 No.3

Winter 1993

Shorebird Surveys - Past and Future

by Janet Tashjian Hanson
Director of Research

Nearly 40 volunteers participated in SFBBO's High-tide Shorebird Roost Study that ran from October 92 to May 93. And many of you have called, eager to be out continuing the count and displaying an enthusiasm that volunteer coordinators only dream of. SFBBO has already, with permission of the granting agency, the San Francisco Estuary Project, put parts of the collected data to good use in reference to some local projects. Point Reyes Bird Observatory has completed their 3 year survey of shorebirds of the Bay and is now surveying other areas for their Pacific Flyway Project. This leaves a gap in the collection of shorebird data on the Bay which we would certainly like to fill.

To assess the right method of approach for a "new" shorebird survey, the Research Committee plus some members of the Scientific Advisory Board met in October to discuss possibilities. The 1992-93 study was designed to specifically identify high-tide roosts, and much work remains to be done in analysis and reporting of the large set of data amassed during the study. If SFBBO is to field another survey, what questions would we be attempting to answer? Would we want a comprehensive census of all shorebirds that use the Bay on a year-round basis or do we want to assess peak numbers during spring and fall migrations? These two questions call for very different survey intervals. Perhaps we should investigate local shorebird movements between high and low tides, to determine habitat utilization and relative values? What type of census would best benefit the conservation of the Bay's shorebirds and their habitats?

Obviously there are no easy answers to these questions and, for the amount of investment of both staff and volunteer time, it is of great importance to carefully design a field study with very specific research goals. Indeed, mountains of data have been gathered in field biology that never will be reported because there was no clearly defined original hypothesis to be tested. And it is fairly difficult to work backwards once the data has been collected - after all, field work generally was the "fun" part!

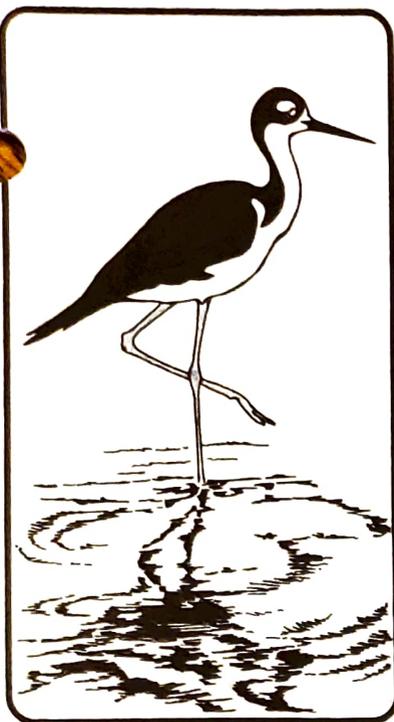
SFBBO clearly is the authority on shorebirds in the South Bay. Another survey will be designed and fielded; our

current goal is Spring 94. Meanwhile, a workshop on censusing shorebirds will be held by Dr. Howard Cogswell, on the weekend of 22-23 January 94, depending on the new tide table. Dr. Cogswell has graciously offered to share his expertise with both experienced and novice SFBBO volunteers, wisely choosing dates after the first of the year so as not to coincide with Christmas counts. This dovetails nicely with SFBBO's "quality assurance" program regarding the accuracy of volunteer-gathered data.

We certainly share the level of enthusiasm some of you have displayed toward continuing to monitor shorebirds here in the South Bay. All (3) of us in the office would rather be out there too, instead of here with the phones and computers! We appreciate your patience as we work out the next best step and your comments are always welcome. Please plan to participate in the workshop and stay tuned for news of the next shorebird survey, or as we affectionately call it, Shorebird Version 2.0.

P.S. For specific information on the 22-23 January workshops, please call the Observatory at (408) 946-6548 after 1 January 94.

We wish to acknowledge and thank the following volunteers who participated in the 1992-1993 High-Tide Shorebird Roost Study:



Drawing by Vicki R. Jennings

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Election Results

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 Edith Black, Dumbarton
 Susie Brain
 Mary Brezner, Coyote
 Jon Caploe, Turk Island
 Richard and Pat Carlson, Ravenswood & Dumbarton
 Howard Cogswell, Dumbarton E.
 Charles and Joan Coston, Redwood Shores
 Derek and Kathleen Currall, Faber
 Robin Dawson, Dumbarton West
 Jan Dierks, Charleston and Moffett
 Mark Drever, Triangle
 Tom Esperson, Lee Samis and Alviso
 Lyman Fancher, Moffett
 Susie Formenti, Alviso
 Margaret Galvin, Belmont
 Christina Garcia, New Chicago
 Darrell Gray, Alviso
 Noreen Hansen, Ravenswood
 Janet T. Hanson, Little Coyote
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 Lance Hull, Coyote Hills
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 Debra Viess, Dumbarton
 David Webber, Dumbarton
 Tricia Wilson, Moffett
 Ann Witman, Hayward
 Peg Wooden, Baumberg, Ravenswood and Faber
 Robert Yee, Belmont
 Lou and Jean Young, Drawbridge
 Lynda and Toby Zens, Hayward

The Scientific Advisory Board Whats That?

SFBBO has a standard Board of Directors, some of whom serve on the Board's Research Committee that stands in review of the Observatory's current research. But apart from that, there exists the Scientific Advisory Board, consisting of professional biologists and birders who can advise the Observatory on local events, research projects and methods, recent changes in environmental regulations, ad infinitum.

We welcome two new members to the Scientific Advisory Board:

Elaine Harding-Smith, Wildlife Biologist, Fish and Wildlife Service, San Francisco Bay National Wildlife Refuge
 Peter J. Metropulos, Subregional Editor, American Birds

Membership Renewal

by Susie Formenti

With the new staff now in place the Bird Observatory for the first time has both an Administrative Director and a Research Director. These two Director level positions will allow SFBBO to make great strides to improve the efficiency of its operations. One area of improvement will take place this coming year. Beginning in 1994 the Bird Observatory will switch to an annual membership renewal schedule. By mailing out membership renewals once a year the staff will have more time to devote to important research projects. This is a complicated and difficult change, but we are certain that it will benefit the Bird Observatory as time goes on.

To make this transition easier, the membership committee has come up with a plan that they hope will work for everyone. In January you will receive your yearly SFBBO renewal notice. If you joined the Bird Observatory after September 1, 1993 your membership will carry over until December of 1994. You will not receive a renewal notice at this time.

If you joined between January 1 and September 1, 1993 the Bird Observatory will prorate your membership for those remaining months and send you a refund check upon your request. For example: If you joined SFBBO on July 1, 1993 at the Family membership rate of \$20 your prorated refund would be \$10 for January 1, 1994 through July 1, 1994. We would be more than happy to refund this amount to you or if you choose to donate your refund to the Bird Observatory it would be very much appreciated. Not only would it support the many research projects, but it would make this transition to an annual membership less work for the staff. If you would like a refund, all you have to do is call the Observatory office, tell them you want your membership prorated for 1994 and they will send you a refund check.

The Bird Observatory is grateful for your continued support of its activities and research projects and we appreciate your patience during this change over. If you have any questions or comments I'd like to hear from you. Please give me a call at 408-779-8694.

Tide-Cycle Behavior of Shorebirds On South San Francisco Bay

by Howard L. Cogswell

Since the 1950s and early 1960s, when I taught at Mills College in Oakland and went shorebirding around San Leandro Bay and the Alameda south shore — Oakland Airport area, the general impression I gained about the daily behavioral cycle of tideflat-feeding shorebirds was as follows: when these birds are in the Bay Area, their main (and for some species their only) forage sites are in the intertidal zone of mudflats or sandy beaches, except for the turnstones and the Wandering Tattler which prefer the few patches of intertidal rocks. Small numbers of the other shorebird species also visit the rocks at times, but the largest numbers of Western Sandpipers, Dunlins, Short-billed and Long-billed Dowitchers, Willets, Long-billed Curlews, Marbled Godwits, American Avocets, and Semipalmated and Black-bellied plovers are always to be found during the ebb to low-tide phases of the tide-cycle on the open mudflats.

Censuses done in winter on measured plots of such habitat on the Hayward shore (intermittent years 1965-1981) yielded averages of about 17 shorebirds (all species combined) per acre of medium-quality tidal mudflat if only the counts taken in mid-ebb thru low-tide phases of the tide cycle are used. This is interestingly very close to the 18 shorebirds per acre of tideflat, some of which is quite sandy, that we calculated as present in the Alameda — San Leandro Bay area from simultaneous counts at several high-tide roosts in 1959.

These HIGH-TIDE ROOST sites are critical habitat features for birds which depend on a main foraging habitat that is unavailable to them over half of the time each day-night period. As we learned during our efforts to capture some of them for banding, the flocks which use particular sites will also shift to alternate sites when disturbance at their preferred site is too great. Some also seem to shift in response to the increased protection from predators that is provided by winter rain-pools in the diked baylands — at least such was the case in the Oliver Brothers salt pond area in Hayward as detailed for the Marbled Godwit by John

Luther (1968). On the high-tide roosts, wherever they may be, most of the birds of all the tideflat-feeding species in the Alameda to Hayward area are sleeping much of the time when undisturbed; but at any one moment a few would be preening and others simply standing and alert. Any such individuals may act, of course, as "lookouts" for the approach of people or predatory animals. The chief habitat feature that deters the approach of such disturbers to the resting shorebirds is water or soft mud. Yet the water cannot be so deep that the birds cannot stand in it through the high-tide period. At many roosts, the birds do just that, while at others they seem to prefer islands (or long peninsulas) within the flooded area.

From the San Mateo Bridge approach in Hayward all around the south end of the bay and north to Redwood City most of the shorebird high-tide roosts are on islands or remote dikes (i.e., not often travelled by humans) in the salt-pond system. Along the mostly developed bay shores further north, however, roost-sites that provide adequate protection are much scarcer and the birds may have to fly miles from them to reach adequate feeding grounds. This "FOOD-FLIGHT" takes place mostly from 2 to 3 hours after high-tide time in the vicinity, the smaller sandpipers peaking first and the larger species later. In addition to making this trek on every ebb tide during daylight hours, most of the roosting birds (often all of them) also fly out to the tide-flats and forage there at night — at least when there is any tide ebbing to beyond the uppermost parts of the mudflat. During the bulk of the 2-week lunar (and tidal) cycle there are two such tides every 25 hours or so. Hence, the "work-schedule" of tideflat-feeding shorebirds here becomes a sequence of: 1) roost for 5-7 hours, 2) fly to & feed on the mudflats for 4-6 hours, 3) return to the roost and preen, sleep, or watch for danger, and 4) repeat the process the next ebb-low-flood tide period.

We know relatively little about just where the birds from each major roost go to feed, although Luther (1968) mapped

them for a discrete population of Marbled Godwits and Paul Kelly (Kelly and Cogswell 1979) did so for a subset of wing-tagged Willets and Godwits at Palo Alto. And now, Sarah Warnock (1993) has been successful in radio-marking 110 Western Sandpipers and mapping out their daily (tide-cycle) activities in the salt pond - tideflat areas from Coyote Hills southward, including the first direct evidence that many of them criss-cross the bay between roosts and feeding sites! More amazing yet was the detection of 14 of her 50 spring-marked radio-bearing birds in the Copper River Delta of southern Alaska by other biologists working there.

Finally, in the Newark Slough — Dumbarton Point area this past year all of the above summary still applies to the majority of the shorebirds, but I also found that, when populations of brine shrimp and/or water boatmen in the salt ponds were booming, flocks of hundreds of Western Sandpipers fed on them by swimming or when there was a good breeze by hovering in it just above the water and dropping down for repeated jabs into the water. This took place all during the high-tide periods for a couple of months, and had to be entered on the shorebird datasheet as a "remark" since the birds were feeding far out over open water but not wading in it. A few Dunlins also fed in the same way at times. Dowitchers in the National Wildlife Refuge Headquarters Flat area persisted in roosting when the water in the muted tidal-lagoon was so high they almost had to cling to the patches of pickleweed. Western and Least Sandpipers were absent at such times but fed there during lower high tides. Smaller numbers of sandpipers fed also around the margins and on the numerous small islands in salt ponds, as others have long noted. But I have yet to see a Marbled Godwit feed in the salt evaporators, even when the influxes of sandpipers were already moving westward toward Dumbarton Strait in the early ebb tide period and settling on the same islands as the godwits.

A great mass of data pertaining to

American White Pelicans on the Bay

by Janet Tashjian Hanson

On a clear warm morning a few years back, a group of SFBBO volunteers were out on the levees, witnessing the annual southbound tidal wave of birds through the bay known so understatedly as "fall migration". The deeper ponds to one side were covered with spinning Red-necked and occasional Wilson's Phalaropes, feasting on brine shrimp and flies. The other side was much shallower and filled with a huge variety of shorebirds and long-legged waders, as far as could be seen to either side and stretching away to the far levee. Out amongst the multitude of feeding birds, we spied a single Little Blue Heron. Feigning indifference to the crowd below, a Peregrine Falcon roosted high in a PG&E tower. With Moffet Airfield as a backdrop, we wondered how life in the Bay Area, could just go on as usual, seemingly oblivious of this very old, very spectacular cycle of nature?

Out against the far levee, roosting American White Pelicans appeared in the heat-shimmer like a mirage flock of sheep. Earlier that morning, they had been soaring overhead, the wind whistling through their strong black flight feathers. These birds were using the Bay, particularly the salt ponds of the south bay, as their post-breeding season summer resort. Later, when fall temperatures begin to drop, they would head further south down the coast, to warmer waters like the Salton Sea, as far south as Guatemala and Nicaragua and all along the Gulf Coast, especially Florida (Terres, 1991).

Although the American White Pelican (*Pelecanus erythrorhynchos*) appears to be simply a white version of its congener, the Brown Pelican (*P. occidentalis*), the White Pelican is substantially larger, with a maximum 9.5' wingspan compared to the Brown's 7.5' spread. Brown Pelicans live only in the salt water habitats of the coast, while the White Pelicans can tolerate fresh, brackish or salt water. Although both species forage cooperatively, their fishing methods differ: Brown Pelicans make spectacular aerial dives, while White Pelicans surface feed, probing the water with their bills and then "striking" when finally encountering lunch.

The birds we saw roosting that day had

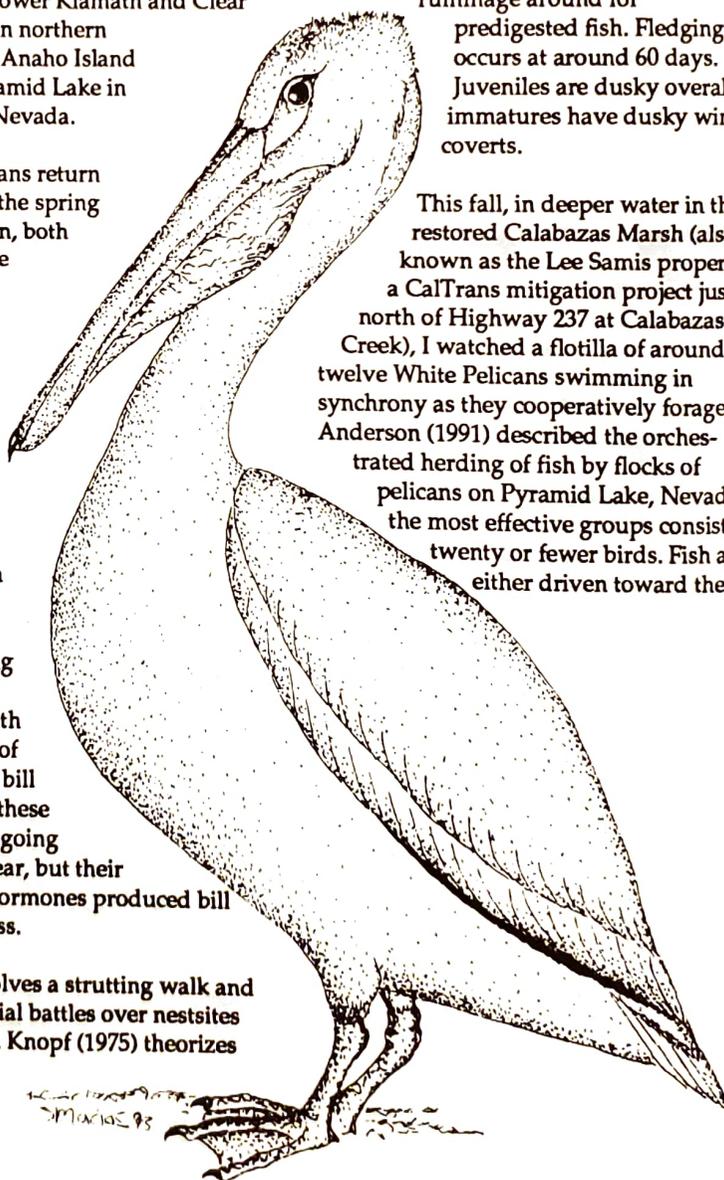
nested earlier that year, probably beginning in April but possibly through June, inland on islands in fresh and brackish lakes and bays. Nearly 60% of all American White Pelicans, estimated in 1985 to be around 110,000 birds (Sidle, et al. 1985), breed on the extensive lakes of Manitoba and Saskatchewan. The remaining 40% nest in the western United States, with the heaviest concentrations in Nevada, Utah and the Dakotas. Fortunately, most large colonies are within the National Wildlife Refuge system, since nesting White Pelicans are easily disturbed. By far, the biggest colony is at the Chase Lake N.W.R. in North Dakota, with more than 6100 nests in 1980. Three colonies within a day's drive of the Bay Area include Lower Klamath and Clear Lake N.W.R.s in northern California and Anaho Island N.W.R., at Pyramid Lake in northwestern Nevada.

As White Pelicans return north to begin the spring breeding season, both sexes grow pale yellow crown plumes (the alternate or nuptial plumage) and a vertical horny plate on the upper bill, called the bill horn. Bousman (1993) noted that some of the first arriving White Pelicans seen in the South Bay at the end of March sported bill horns. Clearly these birds were not going to breed this year, but their reproductive hormones produced bill horns regardless.

Courtship involves a strutting walk and intense territorial battles over nestsites (Schaller 1964). Knopf (1975) theorizes that the bill horn serves as a "target"

structure during such disputes, to prevent injuries to the gular pouch by bill-jabbing adversaries. Usually two eggs are laid in nests that range from scrapes to high mounds of debris and mud. Both parents incubate for about 4 weeks, covering the eggs with their feet. Halfway through incubation, the crest plumes begin to be replaced with short, dark grey feathers (called the "presupplemental molt") and the bill horns are lost. Nearly all adults have grey heads and no bill horns by the end of incubation. The greying heads may help nestlings identify their parents and successfully beg from the right ones as they return from foraging runs (Knopf 1975). Young birds use the parents' throat pouches as feed bags as they rummage around for predigested fish. Fledging occurs at around 60 days. Juveniles are dusky overall; immatures have dusky wing coverts.

This fall, in deeper water in the restored Calabazas Marsh (also known as the Lee Samis property, a CalTrans mitigation project just north of Highway 237 at Calabazas Creek), I watched a flotilla of around twelve White Pelicans swimming in synchrony as they cooperatively foraged. Anderson (1991) described the orchestrated herding of fish by flocks of pelicans on Pyramid Lake, Nevada: the most effective groups consist of twenty or fewer birds. Fish are either driven toward the



shoreline or surrounded by two flanks of pelicans pushing them toward each other. Double-crested Cormorants sometimes join in the feast; in other instances, White Pelicans "pirate" prey items from cormorants and gulls (O'Malley and Evans, 1983). In Pyramid Lake, the two main prey species are carp and chub, but here in south San Francisco Bay, the pelicans dine mainly on topmelt. Fortunately for the Pelicans, in all cases they eat commercially unimportant ("trash") fish.

White Pelicans have suffered a long slow drop in their numbers and were placed on the National Audubon Society's Blue List in 1979. The White Pelican suffered somewhat from the same DDT-caused eggshell thinning that nearly drove the Brown Pelican to extinction (Laycock 1969). However, the decline has also been due to some human persecution, and most importantly, the loss of nesting habitat as lakes have been drained or are unprotected from human disturbance, especially true here in California.

The White Pelican has a complex and variable pattern of migration, breeding inland, summering in the north and wintering in the subtropics, a rather enviable itinerary to some of us. Habitat utilization and protection are international projects, but we can continue to monitor White Pelicans here in the South Bay, one of their prime summering stops.

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Service

The Marin County Breeding Bird Atlas *A Distributional and Natural History of Coastal California Birds*

by W. David Shuford

reviewed by Peter J. Metropulos

Point Reyes Bird Observatory biologist/field ornithologist Dave Shuford spent the past fifteen years writing, then publishing, this impressive effort, an interpretation of Marin County's Breeding Bird Atlas, the first such project in western North America. Far from being just a technically-oriented compilation of data and tables this is an exhaustively-researched, attractively-presented and passionately-written work. Its 479 pages include 30 line drawings by gifted nature illustrators Keith Hansen and Ane Rovetta, 15 black and white photographs by Ian Tait, an abundance of maps and charts, and an informative 30-page bibliography. An extensive introduction contains a wealth of background information explaining how vegetation communities, climate and ocean cycles influence our breeding birds. It also discusses history of local land use, bird atlas methodology and conservation applications of the data collected. At the heart of the book are 163 full-length species accounts accompanied by distributional maps, atlas data and information on seasonal status. These engrossing accounts outline each species' habitat needs, nesting sites, food requirements and foraging strategies, as well as their historical trends not only in Marin County but throughout California as a whole. Birders, biologists, naturalists, or anyone with a desire to learn more about the distribution, abundance, habitat needs and natural history of coastal California's diverse birdlife should add this valuable reference to their library.

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Bolinas, CA 94924

Picnic & Annual Membership Meeting

On a balmy September evening, fifty members of SFBBO gathered on the new patio (invited by the owners, Bob and Lonnie Gross) next to the Bird Observatory to share a picnic supper. I don't know where to start with the thank yous, there are so many of you to thank! Thank you to Bob and Lonnie for sharing their wonderful patio, thank you to Peg Woodin and Becky Brown for purchasing the hamburgers, hot dogs and condiments, thank you to chefs Richard Carlson and Ralph Lee for their excellent hamburgers, thank you to Valerie Layne for purchasing and planting the flowers, and a great big thank you to all of you who came bearing wonderful culinary dishes. As an additional treat, wildlife artist, Edward Rooks and his wife Janice Edgerly-Rooks, brought a display of his work, which brightened our wall for a few hours. Finally, Janet Hanson and I, Pat Carlson, were pleased to meet so many of the people we have spoken with over the phone about SFBBO activities.

Following the BBQ we had a short Annual Membership meeting. Outgoing Director, Dianne Kopec, was presented with a gift certificate for two months diaper service, which I am sure she will appreciate in the near future. We will really miss Dianne, but wish her well and we anticipate that she will stay in touch and many of us will bird with her again.

Elections

The following people were elected to the SFBBO Board of Directors at the Annual Membership meeting, September 25, 1993:

Richard Carlson, after filling an appointed position for a three year term.

Virginia Becchine, incumbent, for a three year term

Dr. William Bros, professor of Biology with a specialty in Biostatistics at San Jose State, for a three year term.

At the October 12th Board of Directors meeting the following officers were elected by the Board:

Virginia Becchine	-	President
Lou Young	-	Vice President
Richard Carlson	-	Treasurer
Howard Cogswell	-	Secretary

Gifts & Donations

Thanks to Sandra M. Gardner for the gift in Peg Woodin's name.

Thanks to the Strong Foundation for the \$2,500 grant to analyze, publish and distribute the results of the High Tide Shorebird Roosting Study.

Fundraiser A Success

Our fund raiser with Wildlife rescue was a success. After splitting the donations and subtracting our expenses, SFBBO made approximately \$700. I hope some of you were raffle winners, if not, you know your donations are supporting many excellent programs. Ginny Becchine walked off with the framed Tom Rountree photograph for selling the greatest number of raffle tickets. Carole Hutchinson was a close runner-up in sales. A weighted drawing (your name was entered for each book of tickets sold) was held for SFBBO members who sold tickets. Carole Hutchinson's name was drawn as the winner of a framed sketch by one of our resident artists, Sue Macias, and two ornithology books donated by Dr. Howard Cogswell. Thank you to all of you who sold and/or purchased raffle tickets. Many more thanks are due to Terry Hart Lee, Sue Macias, and Dr. Cogswell for their donations. We hope to make this an annual event.

Tide-Cycle Behavior

from page 3

shorebird activity is now in the SFBBO computer files and is being checked against original data sheets before analysis. The results should help greatly to bring about a better understanding of the habitat factors of importance to these tide-cycle birds.

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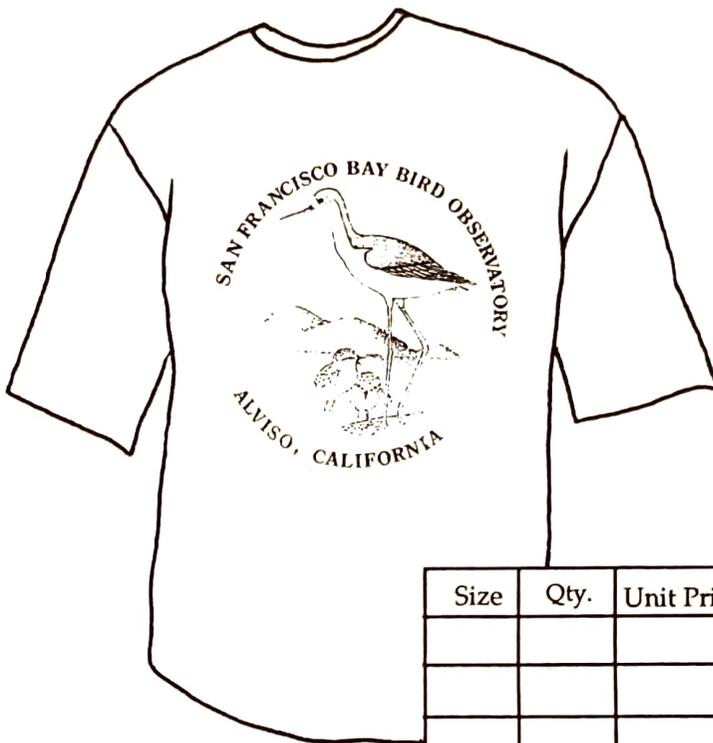
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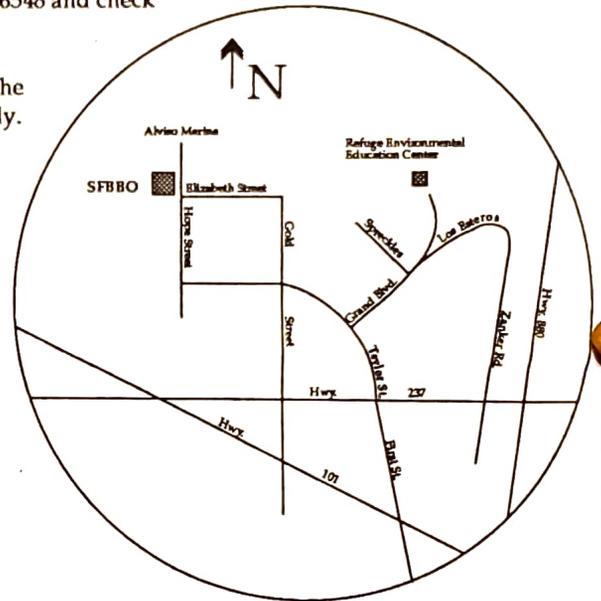
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The Bird Observatory is located at 1290 Hope St. in Alviso. The office is open weekdays and some weekends, but specific hours vary with our field schedule. Before stopping in, call (408) 946-6548 and check when we will be available.

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 Bucksin 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.



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