



The SEQUOIA

BULLETIN OF SEQUOIA AUDUBON SOCIETY

A CHAPTER OF NATIONAL AUDUBON SOCIETY SAN MATEO COUNTY, CALIFORNIA

Volume 25, No. 4

December, 1975

MEETINGS:

DECEMBER 4, THURSDAY, 7:30 PM BOARD MEETING at the home of Howard Rathlesberger, 1795 Hunt Drive in Burlingame. Hunt Drive turns off to the south from Trousdale about a block east of the Trousdale-Skyline Boulevard intersection. Board members and committee chairmen should attend. Other members are welcome.

DECEMBER 11, THURSDAY, 6:30 P. HOLIDAY POTLUCK DINNER at the new San Mateo Garden Center. Phone Eila Fox (343-1406) and tell what dish you plan to bring. Please bring your own table place settings. Guests are always welcome.

Our new meeting place, the San Mateo Garden Center,
is in San Mateo--a part of Beresford Park. It is
located on Parkside Way--between 26th and 27th Ave-
nues--just west off Alameda de las Pulgas. Come
and enjoy our new home!

DECEMBER 11, THURSDAY, 8:00 PM REGULAR MONTHLY MEETING at San Mateo Garden Center following the Potluck. Our December program features a talk, "Common Mushrooms of the Bay Area," by Dr. Harry Thiers, Department of Biology at San Francisco State University. Dr. Thiers, formerly chairman of the Department of Biology at SFSU, studied for his doctorate at the University of Michigan under Dr. Alexander Smith. He has done fungi studies in the Southeast, Midwest and Pacific Regions and is co-author with Dr. Smith on two fungi texts. More recently, Dr. Thiers has published, "California Mushrooms, A Field Guide."

The Plant of the Month for December will be Wild Currant (*Ribes* species). The beautiful pink blossoms of Chaparral Currant just can't wait until spring; so they put on a show for us in December. Then they continue to bloom for several months.

Charles Newman and Frank Allen will present their usual fine slides and taped Birdcall of the Month.

FIELD TRIPS:

DECEMBER 13, SATURDAY

PESCADERO MARSH

We will meet at 8:30 AM at the Park entrance. Park on the ocean side of the highway. Bring a lunch and make a day of it.

Leader: Andy Kratter - Phone 343-2391

DECEMBER 27, SATURDAY CRYSTAL SPRINGS

Christmas Count

PRESIDENT: Byron Davies
606 Cambridge Street
San Francisco, CA 94134
Phone: 334-2851

EDITORS: Ed and Amy McElhany
1009 Laguna Avenue
Burlingame, CA 94010
Phone: 343-3219

JANUARY 3, SATURDAY, ANO NUEVO CHRISTMAS COUNT

CHRISTMAS BIRD COUNTS

It's that time of year again and the Christmas counts are upon us. Every year the counts are becoming more and more productive. This is attributed to observers becoming more familiar with their designated census areas. Participants last year were very careful in reporting any unusual birds, and their species tallies were quite accurate. They all did a fine job. I hope this year that they all will want to count their areas again. The Crystal Springs count will be on December 27, and the Ano Nuevo count will be on January 3. Everyone wishing to be on the counts are urged to contact me by December 20. My phone number is 349-8470.

This year we want an accurate appraisal of the birds at bird feeders and in backyards. There must be dozens of Sequoia members who have stocked feeders, and many members who know common birds in their neighborhoods. To participate in the count all you have to do is write down all the birds you observe and phone them in to my number. You do not have to be an expert to do this simple task, and it would help us out tremendously. I hope to be hearing from many of you soon. The phone number again is 349-8470

FIELD TRIP REPORTS:

ANO NUEVO, November 8, 1975, Leroy and Fran Nelson, Leaders

A group of 32 people enjoyed the trek to Ano Nuevo Point commencing at 8:30 AM. The day was sunny and bright but too windy for good birding. Fairly high seas made it difficult to observe sea birds and the Harlequin Ducks were not seen. On the mile and a half walk out to the Point we observed sea and shore birds. The grassy fields and the wooded area around the parking lot yielded a number of land birds including a Red-breasted Sapsucker and a flock of Pygmy Nuthatches.

The Island was literally covered with resting sea mammals, one indistinguishable from another. Several curious Harbor Seals surfaced along the way to people-watch. A Chiton was found that added interest to our trip. The large expanse of sand dunes with their rippled patterns was beautiful. By the time the last of us trudged back over them the footprints of those in the lead were almost erased; the wind was returning the dunes to its own favorite design.

After a belated lunch a number of the group proceeded to Pescadero until 4:30 PM. The usually productive off-shore rocks were practically devoid of birds due to the wind and high seas. A number of additional species was seen at the marsh and lagoon areas to bring the day's total to 75:

Red-throated Loon - Horned, Eared, Western and Pied-billed Grebes - Brown Pelican - Double-cr., Brandt's and Pelagic Cormorants - Great Blue Heron - Common and Snowy Egrets - Mallard - Lesser Scaup - Surf Scoter - Ruddy Duck - Red-breasted Merganser - White-tailed Kite - Red-tailed Hawk - Marsh Hawk - Sparrow Hawk - American Coot - Snowy Plover - Killdeer - Black-bellied Plover - Ruddy and Black Turnstone - Wandering Tattler - Willet - Greater Yellowlegs - Least Sandpiper - Dunlin - Marbled Godwit - Sanderling - American Avocet - Glaucous-winged, Western, Herring, Ring-billed, Bonaparte's and Heermann's Gulls - Pigeon Guillemot - Rock and Mourning Doves - Anna's Hummingbird - Belted Kingfisher - Red-shafted Flicker - Red-breasted Sapsucker - Hairy Woodpecker - Black Phoebe - Steller's Jay - Chestnut-backed Chickadee - Common Bushtit - Pygmy Nuthatch - Brown Creeper - Wrentit - Bewick's and Long-biller Marsh Wrens - California Thrasher - Ruby-crowned Kinglet - Water

Pipit - Starling - Audubon's Warbler - Yellowthroat - Western Meadowlark - Redwinged Blackbird - Brewer's Blackbird - House Finch - American Goldfinch - Brown Towhee - Savannah Sparrow - White-crowned, Golden-crowned, Fox and Song Sparrows.

PALO ALTO YACHT HARBOR - November 15, 1975 - Jean Jones, Leader

The tide was high, and birds were abundant in the water and in the marshes as our trip began. We had close viewing of ten species of ducks, the most unusual one being the European Widgeon. Little Bonaparte led the list of five species of gulls studied at close range. Beautiful weather, 53 species and our usual congenial bunch made it a pleasant day of birding:

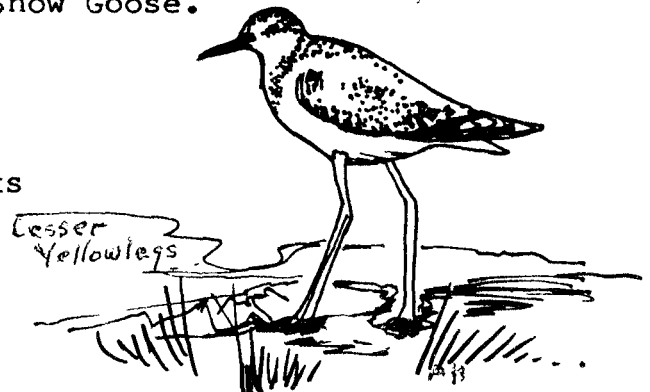
Western and Pied billed Grebes - Double-cr. Cormorant - Great Blue Heron - Common Egret - Least Bittern - Mallard - Pintail - Green-winged and Cinnamon Teal - European and American Widgeons - Shoveler - Canvasback - Lesser Scaup - Ruddy Duck - White-tailed Kite - Red-tailed Hawk - Marsh Hawk - Pigeon Hawk - Ring-necked Pheasant - Clapper Rail - American Coot - Killdeer - Willet - Least Sandpiper - Dunlin - Short-billed Dowitcher - Western Sandpiper - Marbled Godwit - American Avocet - Black-necked Stilt - Glaucous-winged, Herring, California, Ring-billed and Bonaparte's Gulls - Rock Dove - Say's Phoebe - Long-billed Marsh Wren - Robin - Water Pipit - Loggerhead Shrike - Starling - House Sparrow - Western Meadowlark - Redwinged Blackbird - Brewer's Blackbird - House Finch - Savannah Sparrow - White-crowned and Song Sparrows.

Those who lingered late were rewarded by seeing Blue-winged Teal - Greater Yellowlegs - Yellowthroat and a Snow Goose.

CONSERVATION NEWS:

The status of San Bruno Mountain and the Filoli Estate remains unchanged from last month's report. The County Parks and Recreation Commission's main activity in the past month has been the formulation, in conjunction with the Planning Commission, of a study to update the "Parks and Recreation Sub-Element of the Conservation and Open Space Element" of the County General Plan. This will involve reappraisal of existing park selection and development policies. The Planning Department will be the leading agency working in conjunction with the parks and Recreation Department. Public participation is also provided through an 18-member (or more) Citizens' Advisory Committee representing various interested groups as well as the public at large.

This study plan was accepted by both Commissions at a joint meeting on November 12 and then went to the Supervisors for their approval. If the plan is accepted unchanged by the Supervisors they will also appoint the Citizens' Advisory Committee. The Peninsula Regional Group of the Sierra Club (San Mateo County) believes that the proposed plan leaves something to be desired and has suggested that the methods used in developing the very successful East Bay Regional Park be followed. This included a citizens' committee of 92 members which was a full-fledged partner in the enterprise (unlike the committee proposed here) and brought in a nationally famous consulting firm to work with the local county staffs.



One new park proposal has appeared and is probably already known to those members who are constituents of Congressman Ryan. He has intro-

duced HR10447 to authorize a study of the possible addition of 220,000 acres to the Golden Gate National Recreation Area (150,000 acres in San Mateo County, the balance in Santa Clara and Santa Cruz Counties). A bill legislating this addition without any previous study was to have been proposed by Congressman Burton. As there is already much controversy about any extension of the Recreation Area into San Mateo County, thorough study first seems the wisest thing. This study should be welcomed by both those who oppose the addition as well as by those who favor it, since it does not commit the Government to any action and it will give a chance for all views to be heard. If any addition is finally accepted, details of its size and location will also be worked out to the advantage of all concerned before legislation to create the addition is started.

The Audubon Society Leader of November 7 calls again for support by Audubon members of the Army Corps of Engineers proposed wetlands protection program (similar to its present coastal zone protection) which is being attacked by agricultural and developmental interests. The deadline for comment, which could be sent to President Ford, has been extended to December 5, 1975.

-- Ruth Smith, Conservation Chairman

SIGHTINGS:

As is often the case during the fall, the lower water level of Crystal Springs Reservoir provided excellent habitat for many migrant waterfowl. During the first week of November, 90 Canada Geese, 200 Green-winged Teal, 350 Ruddy Ducks, 13 Gadwalls, and hundreds of American Wigeon and Pintails were present at the south end of the reservoir. There were 2 female Black Scoters at Princeton Harbor on November 13.

A Golden Eagle was observed being attacked by a gull at Crystal Springs Reservoir, Oct. 30. An Osprey was migrating south over Crystal Springs also. Two Ravens were at Crystal Springs Reservoir Nov. 11. A Nashville Warbler was in the willows at Princeton Harbor, Oct. 19. A Hermit Warbler was in the oaks along San Mateo Creek, Oct. 29. Single Palm Warblers were near Princeton Harbor, Oct. 22, Oct. 31 and Nov. 8 and one was at Ano Nuevo Point, Nov. 1. An immature male Rose-breasted Grosbeak discovered at a Millbrae feeder, Oct. 30, provided one of the very few San Mateo County records. A White-throated Sparrow was at Princeton Harbor, Oct. 22, and one was in Belmont, Oct. 27. Two Lapland Longspurs were with Horned Larks in barren land at Redwood Shores, November 2. On Oct. 30, 22 Common Snipes were at Crystal Springs.

-- Barry Sauppe and Peter Metropulos

While Mr. and Mrs. Harry Hagey of Atherton were birding in Palo Alto last month, they were surprised by a large flock (possibly 400) of White Pelicans flying up in front of them and heading south toward San Jose. This is one of the most rewarding experiences of birding in this area. The glistening white birds, their black wing tips making a pattern of sharp contrast, are a beautiful sight as they fly out in formation.

PESCADERO MARSH FUND:

Mrs. Andrea Bottini forwarded a check for \$7.65 to Cliff Daniels, our special Pescadero Marsh Fund Treasurer, with the following note:

This money was obtained by recycling aluminum (51 lb.).
Debbie picked up a large percentage of it on our Sequoia outings (some of it at Pescadero Marsh).
More to follow--the supply is endless.

POINT REYES BIRD OBSERVATORY CHRISTMAS COUNT:

PRBO has invited Sequoia members and friends to participate in their 1975 Christmas Count which will be held on Saturday, December 20. Bob Yutzy is Compiler (phone 968-8804) and Ted Chandik is Assistant Compiler (phone 493-5330).

Last year PRBO tallied 181 species in their Christmas Count which put them in 6th place. Our Crystal Springs Count ranked 12th with 169 species.

SAVE SAN FRANCISCO BAY ASSOCIATION:

On Saturday, December 6, SSFBA will hold a Conference and Workshop at University of California Boalt School of Law in Berkeley. Participants include Jack Schoop, Chief Planner for the Coastal Commission, Col. H. A. Flertzheim, Jr., District Engineer for U.S. Corps of Engineers, Charles Roberts, BCDC Executive Director, Robert Black ABAG Regional Planner and U.C. Professor Karl Steinbrugge.

Registration and lunch, \$3.75

Phone 848-2078 for more information or send check payable to Save S.F. Bay Association to Box 925, Berkeley, CA 94701.

AUDUBON CANYON RANCH NEWS:

Audubon Canyon Ranch is a wildlife sanctuary and education center located on Bolinas Lagoon about three miles north of Stinson Beach on State Highway 1. It is open to the public during March through June. For special visits phone 383-1644. The Ranch is sponsored by Golden Gate, Marin and Sequoia Audubon Societies.

Once a year in the fall, Audubon Canyon Ranch sends a letter to the members of the Audubon Societies which sponsor it asking for their support. The ranch depends almost entirely upon the response to this solicitation for the funds necessary to pay its expenses during the year: maintenance and repair of its buildings and trails, salaries, insurance, supplies. Most important, the acquisition of wildlife habitat and wetlands and the continuation of its education programs are also dependent upon the results of this mailing.

Please read the letter carefully and seriously. Please, each of you give, and pledge, as generously as you can to the ranch this year. ACR deserves your support and truly needs it.

Contributions to the memory of Dudley Hubbard have been received from: Edris Cole, Clerin and Alis Zumwalt, Helen Pratt, Laurel and Eric Reynolds, Stan Picher, Jean and John Starkweather, Ed and Amy McElhany, Charles Newman, John Prime, Maryann Danielson.

On January 1, 1976, John Kipping will move into Volunteer Canyon and become the ACR Naturalist-Biologist. John will be capably assisted by his wife, Kathy. Both of the Kippings come with impressive credentials and many enthusiastic letters of endorsement. John presented his program on "Uses of Plants by California Indians," at our September, 1974 meeting.

The Elizabeth Terwilliger Butterfly Grove at Muir Beach is active now. (Both Monarchs galore and Mrs. T. herself may be glimpsed on a good day.) Pacific Way runs between Highway 1 and Muir Beach State Park. The Monterey pines on the bank above the road to the right harbor the wintering butterflies. The ranch also owns the land to the left of Pacific Way through which runs Redwood Creek, a salmon and trout stream.

The Ranch has a fine collection of small hand tools, presented by Mrs. Fallgatter, and a new shop building in Volunteer Canyon. Needed now are some power tools such as a table saw, band saw, drill press. Contact Skip Schwartz at the Ranch if you can help. Phone 383-1644.

FUNGUS FAIR: (MUSHROOMS)

The Mycological Society of San Francisco will hold their annual FUNGUS FAIRS at:

California Academy of Sciences - Sunday, November 30 - All Day
Oakland Museum - Sunday, December 7 - 10:00 AM to 6:00 PM

CHRISTMAS GIFT IDEA:

Are you in a quandry about a Christmas gift for your son, daughter, aunt, uncle, nephew, boss, secretary, others? An Audubon membership may be just the answer. You will be advancing the conservation cause and at the same time providing the beautiful AUDUBON magazine to some fortunate recipient. Get out your checkbook and scissors and go to work on the adjacent application.



COMMITTEE FOR GREEN FOOTHILLS:

Join the Committee for Green Foothills before Christmas and you'll get a free packet of wildflower seeds to grow in your own garden.

That's the word from their office about a new membership campaign. Also--every person who gives a gift membership will receive a packet of wildflower seeds and so will the gift recipient along with his or her gift announcement.

MEMBERSHIP APPLICATION

Check the Membership You Desire. All members receive bimonthly issues of AUDUBON magazine. The choice of membership is offered only to provide you with the opportunity of contributing to our work to the degree you may wish.

Reg. Individual ☐ \$15.00 per year Supporting ☐ \$ 50.00 per year
Family ☐ \$18.00 per year Contributing ☐ \$100.00 per year
Sustaining ☐ \$30.00 per year Donor ☐ \$250.00 per year
Patron ☐ \$ 500.00 per year
Life ☐ \$1000.00

Name _____

Please Print

Address _____

City _____ State _____ Zip # _____

Please make checks payable to:

National Audubon Society, 950 Third Avenue, N. Y., N. Y. 10022

IMPORTANT: Please indicate whether this is a new membership or a renewal payment by checking the proper box. — ☐ NEW ☐ RENEWAL ☐

GIFT MEMBERSHIP APPLICATION

IF YOU WISH TO SEND A GIFT MEMBERSHIP,
PLEASE COMPLETE BOTH SECTIONS BELOW.

My Name is _____

Please Print

Address _____

City _____ State _____ Zip # _____

Send Gift to:

Name _____

Address _____

City _____ State _____ Zip # _____

Sign Gift Card as follows: _____

Type of Membership desired

Reg. Individual ☐ \$15.00 per year Supporting ☐ \$ 50.00 per year
Family ☐ \$18.00 per year Contributing ☐ \$100.00 per year
Sustaining ☐ \$30.00 per year Donor ☐ \$250.00 per year
Patron ☐ \$ 500.00 per year
Life ☐ \$1000.00

Basic family membership is \$10 per year; phone the office at 328-5313 if you want further information. Join by phone or mail--they are located at the Peninsula Conservation Center at 1176 Emerson, Palo Alto 94301.

Starting immediately, Green Foothills will become the only local conservation group to have permanent representatives attending meetings of the County Supervisors and County Planning Commissions in both Santa Clara and San Mateo Counties. The observer/reporter for San Mateo County is Jean Rusmore, a resident of Ladera for some 20 years. Jean has had long experience with the Environmental Volunteers, San Mateo County Bikeways, transit planning and other projects. She will act as a two-way communicator, bringing the conservationists' points of view to County meetings and alerting CGF to what she sees and hears at these meetings.

NOVEMBER MEETING PROGRAM:

Did you know that when you eat shark meat you will never encounter a fish bone? Sharks don't have bones; their skeletons are cartilage. If you were among the hundred or more Sequoia members and guests who attended our meeting at the Steinhart Aquarium on November 13 you learned this interesting bit of shark lore.

We were greeted by John E. McCosker, Superintendent of the Steinhart Aquarium and divided into three groups. Dr. McCosker conducted one group and Lynn and Robert Dunne each took charge of a group. The Dunes are Aquarium Volunteers. We are indebted to them for devoting an evening to us and for their interesting and informed commentary on the various species of fish which we observed. Without a tape recorder there was no way that we could remember all of the unusual facts that were recounted during our two hour tour. There was a display of shark jaws set up on a table. It was dominated by the jaws of a Great White shark which sometimes approaches 40 feet in length. The jaws we saw are reported to have appeared in the movie, "Jaws." The teeth are flat, triangular, numerous and extremely sharp.

In a darkened tank we saw the Flashlight Fish swimming about with their flashlights turned on. This is a very peculiar sight as one cannot see the fish, only their green flashlights. These fish were described in the September/October 1975 issue of PACIFIC DISCOVERY, magazine of the California Academy of Sciences.

We were escorted through the basement area where the vast piping, pumping, filtration and temperature control installations are located. The various tanks must be carefully regulated as to temperature and water flow so as to insure an optimum environment for the fish. We also toured the area above the tanks and were able to look down onto the surface of each. Because of the optical characteristics of the water and glass, it is not possible to see this area from the spectator area or vice-versa.

As a bonus feature of the tour, we walked through the bird display area en route to the aquarium. Here there are mounted displays of countless birds arranged in an interesting and instructive manner.

A unique and informative meeting. Our thanks to John Prime for the arrangements and our appreciation to Dr. John McCosker and to Lynn and Robert Dunne for their instruction and patience in answering our many questions.

ROOSEVELT SCHOOL:

For over five years Sequoia Audubon has used the fine facilities of Roosevelt School in Burlingame for its monthly meetings and potluck dinners. Jean Jones, who teaches at Roosevelt, has been our contact

with school authorities and has accepted the responsibility for our use of the school. We owe Jean a tremendous debt of gratitude for her work in this connection.

Roosevelt School, however, is located in the northern fringe of our membership area. In fairness to the majority of our members some of us have long felt that a more central meeting place should be found. Eila Fox has worked toward a relationship between the San Mateo Garden Center and Sequoia Audubon which should provide excellent meeting facilities at a point convenient to the entire membership. Thanks to Eila for her good work. Come to the Holiday Potluck Dinner and Meeting and inspect our new "home."

HERITAGE GROVE:

On October 25, 1975 various San Mateo County officials and representatives of volunteer groups participated in the dedication of the Heritage Grove, 37 acres of old growth redwoods on Alpine Road just east of its intersection with the Pescadero/La Honda Road. This ceremony culminated an intensive two-year drive by a dedicated group of volunteers to preserve these fine trees. Their work was fraught with logging deadlines and various frustrations but finally \$64,000 was raised and accepted by San Mateo County toward the total purchase price of \$190,000. The County bought the property and it is now a County Park. Sequoia Audubon contributed \$1000 and provided some other non-financial assistance.

The dedication brochure contains two quotations which are worthy of note:

Through all the eventful centuries since
Christ's time, and long before that, God
has cared for these trees, saved them from
drought, disease, avalanches, and a thou-
sand storms; but He cannot save them from
the sawmill; this is left to the American
people ---

-- John Muir

To be like these, straight, true and fine
To make our world, like theirs, a shrine;
Sink down, oh, traveller, on your knees,
God stands before you in these trees.

-- Joseph Strauss

SAN MATEO TIMES BIRD ARTICLE:

Al Bergeron, Sequoia board member and former president, appears to have converted a San Mateo Times reporter, Vera Graham, to the art of bird watching. On page 25 of the Friday Times (November 14) there appears an interesting and informative article about birding in San Mateo County complete with a guide to Al's favorite observation areas. Sequoia Audubon also gets a good word.

WATERFOWL POPULATIONS IN CALIFORNIA:

Waterfowl populations are estimated bi-weekly starting in October. The average December statewide populations run about 5,500,000 ducks and 650,000 geese. Two million more waterfowl may move through California to winter in Mexico. The count by species is estimated at pintail 3,000,000; wigeon 600,000; mallard 600,000; shovelers 500,000; green-winged teal 200,000; ruddy duck 75,000; canvasback 45,000; scaup 35,000;

gadwall 20,000. Protected swans may average 40,000. White geese 450,000; white fronted geese 80,000; cackling geese 60,000; Canada geese 55,000. In previous years some 10,000 to 15,000 black brant have wintered on the coast but in the past five years less than 1000 are estimated.

--OUTDOOR CALIFORNIA - Magazine of California
Department of Fish & Game.

THE LEAD SHOT CONTROVERSY: --OUTDOOR CALIFORNIA september/October 1975

The position of the Department of Fish and Game on the lead/steel shot controversy was presented in OUTDOOR CALIFORNIA for November/December 1973 by E.G. "Red" Hunt, chief of the DFG's Wildlife Management Branch. The controversy is over the degree of the lead poisoning problem as it affects waterfowl and the remedial action that should be taken to resolve the problem.

An earlier proposal by the U.S. Fish and Wildlife Service was to substitute steel shot for lead shot nationwide on a specified time shedule.

A later proposal by that agency, as presented in an Environmental Impact Statement, was for an overall ban of lead shot on the Eastern and Mississippi flyways and a ban on a local area or "hot spot" basis in the Central and Pacific flyways.

There have been no published changes in this position since the EIS was issued in July 1974.

The Department of Fish and Game is in agreement with the proposed "hot spot" concept but suggests that other management concepts be considered as well in the solution of lead poisoning problems. Of principal concern to the DFG was that a statewide switch to steel shot would result in a far greater loss of waterfowl than the loss attributed to lead poisoning.

Another part of the controversy here in California pertains to how serious a problem exists from lead poisoning. DFG studies show that the losses are small and have not increased over the years.

Fish and Wildlife Service studies suggest an increase of lead contamination in waterfowl. Their assessments were based primarily on analysis of lead levels in wing bones, and the DFG's evaluation was based on the incidence of lead shot in gizzards.

The two agencies are currently conducting a joint study in an attempt to resolve some of the differences found in past work.

There is no question that ingested lead shot can cause the death of waterfowl, particularly when the birds are on a straight grain diet. The questions are: (1) How many ducks die from the affects of lead shot? and (2) Should a lead shot substitute be required for use in water-fowl hunting?

Lead poisoning in waterfowl has been recognized since the middle 1870's. Early records are not accurate because of incomplete or misdiagnoses. Sources of error would be: (1) confusion of lead poisoning losses with disease-caused mortalities such as botulism or fowl cholera, or (2) assuming the presence of lead shot in the digestive tract of a dead bird to be the cause of death. It could and frequently does happen that birds dead of other diseases contain shot.

The controversy was spurred by claims that the lead poisoning losses could amount to 2-3 million birds annually in the United States (Bellrose 1959). If such catastrophie losses occurred, photographs of great piles of dead ducks might be expected in all of the newspapers along with demands from duck hunters, bird watchers and other people interested in wildlife to stop the losses now! But, the fact is that not many people along the Pacific Flyway have ever seen ducks that died

of lead poisoning.

No one can say exactly what the annual national loss is, but in California, which winters about 15 to 25 percent of the national duck population, we do not have any significant die-offs from lead shot ingestion. Our lead shot-caused losses are estimated to be less than 1000 birds annually.

Such a loss level certainly doesn't add up to the figure often quoted by steel shot advocates of 2-3 million dead ducks nationwide each year. Nor is it as large as the projected loss from increased crippling if steel shot were used. In California this has been estimated at 50,000 birds annually.

A research program with the cooperation of the U.S. Fish and Wildlife Service has been undertaken in 1975 to update our knowledge of lead poisoning. It is also important to make sure that we are not overlooking significant lead poisoning problems.

Currently, research is being directed toward assessing the impact of lead on the birds. Essentially, three aspects are being examined: (1) the amount of lead the birds are actually absorbing into their skeletal system as a result of the digestive process; (2) the number of ducks that are ingesting shot and how much shot is present, and (3) a search for actual lead-caused mortality.

The amount of lead that enters the skeletal system of ducks is determined by removing the wing bones and chemically analyzing them for lead. Lead is stored in the bones in somewhat the same way that calcium is incorporated.

Lead pellets in the gizzards are counted two different ways in birds: (1) a fluoroscope is used on live birds; and (2) in birds that are dead the gizzard is removed and shot are detected visually. The fluoroscope is essentially an x-ray unit that produces an image on a screen rather than on x-ray film as in medical practice. The lead pellets show up as dark spots.

Actual mortality of waterfowl from botulism, fowl cholera, lead poisoning, etc., in the marshes is determined by a search of the areas by our field personnel. If dead birds are found, samples are sent to our Sacramento laboratory for examination to determine cause of death.

We believe that this is a reasonable check of the areas because of the backup of sportsmen and the bird-watching public. Those people who visit waterfowl marshes for recreation are very cooperative and frequently report when they see the effect of a disease outbreak.

The results of these studies are not yet complete, but it is apparent that the California duck population is not greatly affected by lead poisoning.

The low rate of lead shot poisoning of California waterfowl is evidenced by fluoroscopic findings. It is generally believed that birds with only two or more ingested lead shot might be affected by that lead. Our data show that only 0.5 percent of the mallards and pintails contain enough shot to be of potential significance. Whether these birds develop lead poisoning depends upon many factors such as number of pellets, time of shot retention, quality of nutrition, etc.

Generally, most birds contain some lead in their wing bones; those that also have shot in their gizzards have higher bone values than those that have no shot.

Of particular interest are the flightless mallard hybrids taken from Lake Merritt City Park in Oakland. These birds have had no access to shot, yet contain lead far in excess of wild mallards and pintails. The lead content in these hybrid crosses must then be from sources other than shot; for example, lead from fuel.

Perhaps a great deal of the lead in wild ducks is also from various sources of environmental pollution and not entirely from shot ingestion, as was once thought. There are no practical means to determine the source of lead once it has been deposited in the wing bones. In an attempt to minimize the confusion of environmental pollution lead and lead from shot, the analyses will be done on immature birds only, as lead analysis of adults is confused by the uptake of lead from other sources such as fuel.

---To be continued---

ENVIRONMENTAL STUDY CONFERENCE:

In the May 1975 SEQUOIA we reported the formation of the Environmental Study Conference in Washington, D.C. Membership consists of 100 or more members of the House of Representatives. Its purpose is to provide current, non-partisan, unbiased news of environmental matters and legislation. The Chairman is Richard L. Ottinger and Vice-chairman is Alan Steelman. The Staff Director is Jim Rathlesberger, son of Sequoia Audubon Director, Howard Rathlesberger. Howard showed us a copy of their weekly bulletin--29 pages long--covering every conceivable environmental matter with comprehensive background material and status of all related legislation. We are very impressed with Jim's work.

SEQUOIA AUDUBON SOCIETY OFFICERS, DIRECTORS AND COMMITTEE CHAIRMEN:

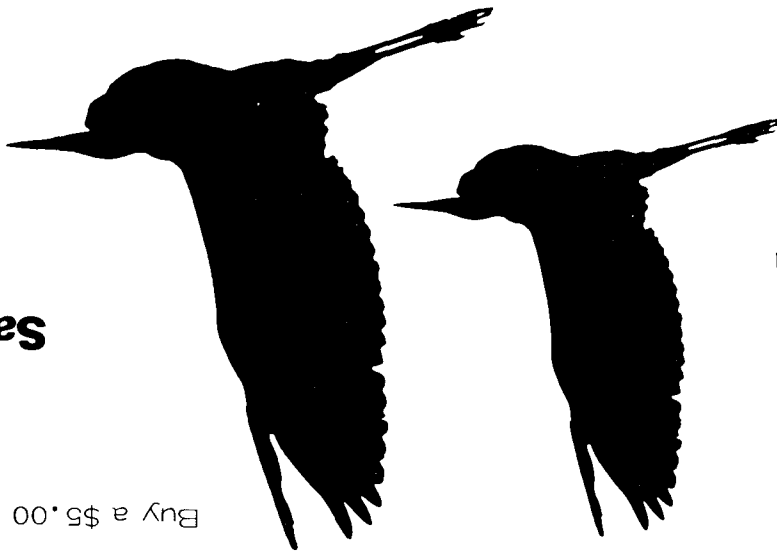
Bergeron, Al	349-2960	251 Killdeer Ct., Foster City	94404
Crotchett, Victor	343-5226	1104 Balboa Ave., Burlingame,	94010
Danielson, Maryann	342-6919	848 Edgehill Dr., Burlingame	94010
Davies, Byron & Sheila	334-2851	606 Cambridge St., San Francisco	94134
Fox, Norman	343-1406	51 W. Bellevue, San Mateo	94402
Friday, Robert	365-1194	80 Amber Ct., San Carlos	94070
Gurevitz, Liv	347-0912	1400 Southdown Rd., Hillsborough	94010
Huff, Nancy	524-9983	925 Grizzly Peak Blvd., Berkeley	94708
McElhany, Ed & Amy	343-3219	1009 Laguna Ave., Burlingame	94010
Newman, Charles	697-5601	25 Corte Alegre, Millbrae	94030
Prime, John	345-4968	848 W. Hillside Blvd., San Mateo	94403
Rathlesberger, Howard	697-6611	1795 Hunt Dr., Burlingame	94010
Sauppe, Barry	349-8470	820 E. 19th Ave. #18, San Mateo	94403
Smith, Ruth	322-5279	1231 Hoover St., Menlo Park	94025

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Address Correction Requested

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