

RipariaNews

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Newsletter of the Coyote Creek Riparian Station

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THE BLUEBIRD TRAIL AT IBM

By Alex Aiken and Irene Beardsley

Introduction

The Bluebird Trail project at IBM's Almaden Research Center completed its third season this summer. The Bluebird Trail is a joint project between IBM and CCRS; CCRS provides banding materials and expertise, and IBM provides volunteers to monitor nest boxes during the breeding season. IBM Almaden is located in the Santa Teresa Hills in South San Jose on 691 acres of former ranchland. The research center itself occupies only a small portion of the site; the rest is set aside as open space and contains within its borders examples of the major habitats found in the South Bay: oak woodland, chaparral, grassland, and even a small riparian area.

This year the Bluebird Trail consisted of 78 nest boxes in four separate areas. The Ridge Trail has 20 boxes placed along a ridge top in typical oak woodland. Lone Tree Hill and the Serpentine Meadow together comprise a second trail of 12 boxes set in an open meadow/grassland habitat. Both of these trails were established in 1989, although 5 of the boxes in the Serpentine Meadow were added this year. The Eucalyptus Grove consists of 22 boxes placed in a ravine filled with eucalyptus trees and adjacent to a

chaparral-covered hillside. The Creek Trail consists of 24 boxes placed along Santa Teresa Creek and along a grassland/chaparral boundary at the base of a hill. These last two trails were new this year.

Highlights of the Season

To the surprise of everyone involved with the Bluebird Trail, the results this year were significantly different from last year (see **Riparia-News**, Vol. 5, No. 3 for last year's report). Western Bluebirds (WEBL), Plain Titmice (PLTI), and Ash-Throated Flycatchers (ATFL) were

present as expected. However, by every measure Bluebird activity was down along the old trails. Violet-Green Swallows, which have nested in each of the previous two years, were absent. Two new species, House Wrens (HOWR) and Chestnut-Backed Chickadees (CBCH), were recorded this year. There was a single Bewick's Wren nest (BEWR) again this year.

The highlight of the year was the discovery of a Plain Titmouse nest with a clutch of 10 eggs! This is probably a record for this species; after some investigation, we found previous records of nests with 9 eggs, but none with 10. This nest



Alex Aiken tenderly holds a 5 day old Western Bluebird chick prior to banding. Photo by Carole

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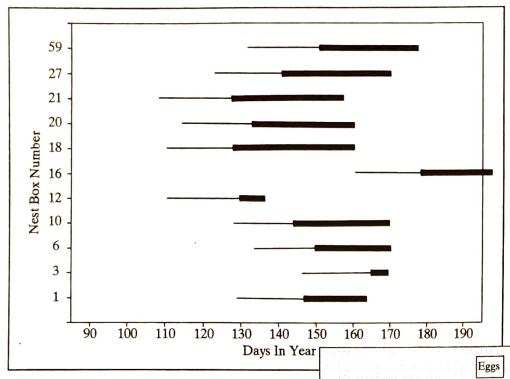


Figure 1. Nesting chronology for Western Bluebirds in 1991 - IBM Almaden Research Center, San Jose, California.

produced 9 nestlings, all of which fledged successfully.

The Bluebird Trail volunteers keep tabs on birds besides the holenesters at IBM Almaden. Notable this year was the first record of Black-Shouldered Kites breeding on the property. While the nest was not located, the adults were seen several times with three fledglings.

IBM Almaden received some recognition this year for the Bluebird Trail. The Wildlife Habitat Enhancement Council, a non-profit venture between conservation groups and corporations, designated IBM Almaden as a "Corporate Wildlife Habitat" for the efforts to provide nesting sites for the Western Bluebird.

A Late Start

The heavy March rains apparently delayed the start of breeding activity this year, and this may be the reason for the decline in Bluebird nests. In 1990, the first Bluebird nests were found (fully formed)

on March 22. The mean hatching date for the first 7 nests of bluebirds in 1990 was day 114 and the median was day 115; most of the eggs hatched within a few days of each other around the third week of April. In 1991, it did not stop raining until the beginning of April, and the first Bluebird nest was not found until April 22. The mean hatching date for the first 7 Bluebird nests in 1991 was day 138 and the median was day 133; hatching of this first group of eggs was spread out from the second week of May through the first week of June. Figure 1 shows the nesting chronology for all Western Bluebird nests for 1991. The dates in Figure 1 are approximate, because nest boxes were inspected only once per week.

Western Bluebird

Other species also had a late start this year. **Figure 2** shows the nesting chronology of all non-Bluebird nests for 1991. The mean hatching date for Plain Titmouse clutches was day 117 in 1991 and (approximately) day 109 in 1990. (The number for 1990 is only a con-

servative estimate; the actual mean may have been earlier.) The mean hatching date for Ash-Throated Flycatchers was day 164 in 1991 and (approximately) day 140 in 1990.

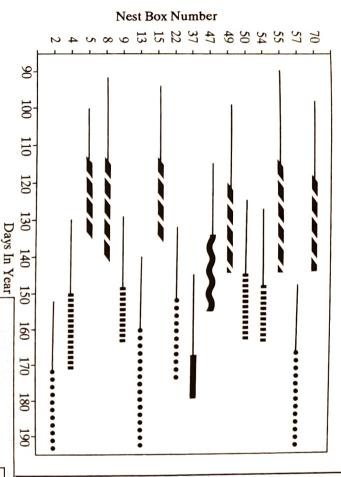
The late season seems to have had little effect on the breeding success of the Ash-Throated Flycatcher and Plain Titmouse. In order to compare with last year's results, the following discussion concerns only the old trails, those that existed in both 1990 and 1991 (the Ridge Trail and Lone Tree Hill/Serpentine Meadow). Along these trails this year, the Ash-Throated Flycatchers fledged 12 young in 3 nests (last year the Flycatchers fledged 14 young in 3 nests) and the Titmice fledged 22 young in 3 nests (last year the numbers were 13 young in 2 nests). Western Bluebirds, alone

Chicks

among the species using the nest boxes at IBM Almaden, sometimes raise a second brood.

As **Figure 1** shows, this year, with the possible exception of one nest in Box 16, there was no "second wave" of nests among the Bluebirds. Presumably, it was just too late in the summer to start a second brood once the first had fledged. Last year, there were two distinct waves of nests, with 7 broods raised in April and May, and another 6 in June and July. This year the Western Bluebirds fledged 36 young in 10 nests on the old trails, compared with 45 young in 13 nests last year.

It is worth noting that our judgement of this year as a "late season" is not completely justified, since we have only two years of complete records. (In 1989 nest boxes were not installed until after the breeding season was underway.) It is possible that last year (an exceptional drought year) was an "early season" and that this year is closer to the norm. However, observations at CCRS support the idea that events were delayed this year in the Bay Area as a whole.



nest.

fore next spring.

these boxes closer to the creek be-

crossed the intervening grassland to from the riparian area, and few birds

We hope to move some of

were another of this year's surprises.

The four nests of House Wrens

been present for two previous years (2 of the 4 nests were on old trails). force this year, when boxes have puzzling that they should show up in Bluebird boxes, but it is somewhat House Wrens commonly occupy

We learned that House Wren nest-

eral nestlings,

precocious; sev-

lings are very

not even two

allel to and 10-20 meters distant boxes along the Creek Trail are parunder-utilized. Unfortunately, the boxes; the Creek Trail was especially in the Serpentine Meadow (the 5 new boxes in the Serpentine

areas, there were only 9 nests in 46

Meadow went unused).

In the new

Figure 2. Nesting chronology of other species using nest boxes at IBM Almaden.

Chestnut-backed Chickadee Ash-throated Flycatcher Plain Titmouse Bewick's Wren House Wren Eggs 111111111 Chicks

and escaped. during banding cided to fledge weeks old, de-

The Chickadee

tion.

. While

been an aberranest may have

considered unnest boxes, known to use Chickadees are

it is

Other Results

fledged from the nests, of which 124 were banded. No boxes were used more than once. **Figure 3** gives the eggs were laid; eventually 130 birds 27 nests this year. Overall, 78 nest boxes hosted A total of 155

ing at IBM Almaden this year. overall statistics for each species nestusual, the Ridge

among the 5 and Serpentine lar area, with 16 the most popuwas used year, and the used again this out exactly as Meadow played Lone Tree Hill boxes. nests in 20 Trail was by far same single box Tree Hill were boxes on Lone last year: both The

> usual. There were no Violet-Green sitting alone in a completely empty one occasion a swallow was found nearby. Swallow nests this year, although on with another swallow circling As in previous years, some

the nesting cycle. This year 141 out of 155, or 91\%, of the eggs hatched, down from 99\% last year. young perished during each stage of Among nestlings, two broods of 4 and 5 Bluebirds died of uknown haps something happened to one or out of 5 eggs failed to hatch. tion of one Bluebird nest in which 4 tile egg in a clutch, with the excep-In each case there was a single interboth parents. Last year, a number causes shortly after hatching; per-

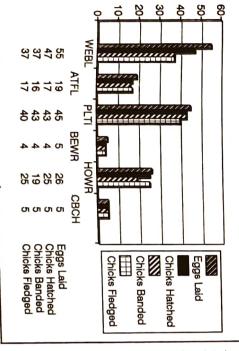


Figure 3. Nest productivity data for all species nesting in boxes at Almaden Research Center.

original boxes

RipariaNews Page 3 Volume 6 of nestlings were lost to predation, presumably by raccoons. Raccoon guards were installed on all nest boxes last fall, and there were no problems with predation this year.

For next year, we hope to move some of the boxes to more desirable areas. We also plan to make some effort to capture the adult birds next year; a number of birds found sitting on nests this season had bands (presumably our own) but none were recaptured.

Acknowledgements

Bluebird Team Members: Dieter Thiel, Chair, Alex Aiken, Irene Beardsley, Bev Clarke, Sharon Conner, Gabriel Cuka, Linda Fleming, Gary Fletscher, Pat Herman, David Hildebrand, Ann Klosterman, Alan Kluska, Tad Kuga, Lois Nakamura, Adel Nazzal, Tony Rall, Dave Sifford, Scott Stetler, Carole Tinnin, J. G. VanStee, Charles Wade, Daphne Wollman, Stephen Zilles

CCRS BANDERS ON SANTA CRUZ ISLAND

By Maryann Danielson

In early October, three CCRS members traveled to Santa Cruz Island on a Navy supply boat to assist Nature Conservancy personnel in their ongoing efforts to protect and restore the natural environment of this unique island. Santa Cruz Island is the largest and most diverse of the four channel islands which lie off the coast near Santa Barbara. Ninety percent of the island is owned and managed by The Nature Conservancy and landing on the island is by permit only. It was the knowledge that many island endemics (both plant and animal) would be seen plus the chance that southward traveling migrants might stop over that spurred us to make the trip. Mike Rigney had helped the

resident manager Rob Klinger (a CCRS member) conduct point counts of birds last spring but for Rita Colwell and I, it was a new area and an oppotunity to band and study some new and interesting birds.

The island is about 24 miles long, with a long central valley bounded by mountains along its east-west axis. The rugged terrain, traversed by unimproved roads heightens the wilderness feeling of the island but limits easy access to remote areas. After setting up nets in three different areas in four days, we can really appreciate the permanent status of nets at CCRS. Based upon Mike's census work and knowing that birds are attracted to riparian areas, we set up nets in two stream beds, one near headquarters in the central valley and the other in a canyon drainage on the south side of the island. The island endemic Scrub Jav worked through the trees

larger than our mainland Scrub Jay, is brighter blue and has a much larger bill - a most handsome bird! Another common resident of the oak woodland and riparian habitats is the Bewick's Wren, also an endemic subspecies. On the south-facing drainage we banded the island race of Western Flycatcher, and Song Sparrow and saw a young Rufouscrowned Sparrow, also an endemic. Among the other birds we captured were Lincoln's and Chipping Sparrows and one Warbling Vireo.

Cattle, sheep and pigs were brought to the island by early settlers. The Nature Conservancy staff have removed nearly all the cattle from the island and are working intensively to remove the now feral sheep and pigs. Because of years of intensive grazing, tall fields of fennel have out-competed the now protected native plants. However, it is in these fennel fields that birds abound. In only one morning's banding we captured five species of sparrows plus the island races of Orange-crowned Warbler and Loggerhead Shrike. The shrike was noticably smaller but just as pugnaceous.

The Conservancy staff would like to eliminate this invasive plant; but a management question has arisen as to how important these stands might be to local bird populations. CCRS plans to work with Conservancy staff to explore this question.

Banding on Santa Cruz Island is not easy because of the steepness of the terrain but that also is a part of the Island's beauty. This year's banding crew is eager to go back. Look for a future report on upcoming expeditions.



O RECIENT HE DIENVARANTE

- THE 1991 SUMMER SEASON

by Bill Bousman

The Station was in operation through June and July except for 17 June, 21 June, 20 July, and 30 July. Compared to previous summers there were few surprises in the birds that were banded. Mostly we encountered species that breed along the creek or nearby such as Blackchinned Hummingbird, Allen's Hummingbird, Common Yellowthroat, Black-headed Grosbeak, Song Sparrow, and Northern Oriole. It can be difficult to ascertain the breeding status from banding summaries, but the data being obtained by Grant Hout and his census crew will make clear which species are commonly breeding in this riparian area and

which are birds dispersing from other habitats.

The most exciting news this summer came from the census team, specifically Mike Mammoser, who found two Black-chinned Hummingbird nests along the creek. He found the first nest on 5 May in a cottonwood on the east side of the creek. The nest was 30 feet up in the tree directly over the creek in classic Black-chinned fashion. The female appeared to be incubating at the time. Mike did not follow the progress of this nest, but a later inspection suggests that the young fledged uneventfully. He found the second nest on 12 May in the Pilot Revegetation Plot. It was about six feet above the ground in a 30-foot tall western sycamore. The nest was easier to observe and Mike made a

number of visits, the last being 25 May when he watched the female feed the two nestlings. These are the first Black-chinned Humming-bird nest found in the county since Mr. Unglish was birding the Gilroy area in 1907. Let's hear it for riparian revegetation!

A few species were banded well away from their known breeding areas. Two Swaison's Thrushes banded on 24 June were a good distance from the Santa Cruz Mountains where we expect them, but they may breed more closely in a few locations on the west side of the Diablo Range. Two Lazuli Buntings banded on 12 June were at a low elevation for this species. The Least expected bird was, of course, the recaptured Hammond's Flycatcher that was mentioned in the spring column

BANDING BIOLOGIST HIRED

By Michael Rigney

Many of you by now have met Kristin Shields, our newest employee. Kristin takes over the job of coordinating volunteers for the banding program. She also is working to ensure that the proper ageing and sexing criteria are being used. Although Kristin has only been with us a short time, she has already computerized our band inventory, organized and hosted a party for banders, and is nearly finished with a bander's handbook.

Kristin has a B.S. degree from the University of California at Irvine and an M.S. in Avian Sciences from U.C. Davis. Before moving to the Bay Area she worked as a biologist for an environmental consulting firm in San Diego where she was involved in censusing coastal sage scrub areas for California Gnatcatchers. Prior to that she worked with

Dr. Barbara Kus of U.C. San Diego assisting her with mist netting and color banding of Gnatcatchers at Otay Ranch near San Diego. Kristin also had the privilege of being a Condor Observer at the San Diego Wild Animal Park where she videotaped courtship behavior of captive condors for the Condor Recovery Team. During the summer of 1988, Kristin completed a research internship at Manomet Bird Observatory in Massachusetts where she investigated the duration of courtship feeding after the onset of egg laying in Common Terns. She also participated in Manomet's land bird banding program.

Kristin has been an invaluable asset to our banding program. Anyone who has worked with her could not help but sense her enthusiasm and desire to make our banding efforts more enjoyable and productive.



Banding Biologist Kristin Shields in front of the Mewaldt Memorial Oak

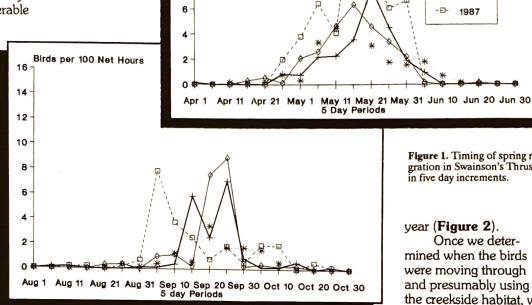
MORE ON SWAINSON'S THRUSH MIGRATION

By Chris Otahal

As development has progressed in the San Francisco Bay Area, there has been considerable

fragmentation of native wildlife habitats. One habitat in particular -riparian habitat -- has been hard hit. As one looks at these losses one wonders "What is the importance of the habitats we are loosing" and even more importantly, "What is the value of the remaining fragments." One way we at CCRS are addressing these questions is by looking at the capture/recapture data of Swainsion's Thrushes occurring within our thin riparian strip.

Swainson's Thrushes are common Neotropical migrants which use the narrow strip of dense vegetation along Covote Creek as an important migratory pathway. Despite the fact that the riparian habitat at CCRS is highly fragmented, both by surrounding urban development and the flood control work started on the site in 1989. Swainson's Thrushes still use the area extensively. Spring migrants use the area from roughly April 21 through May 31 peaking around April 16-21 each year (Figure 1). Fall migrants move through the area from roughly August 16 through October 15 peaking near August 25 each



14 12

10

8

Birds per 100 Net Hours

Figure 2. Timing of fall migration.

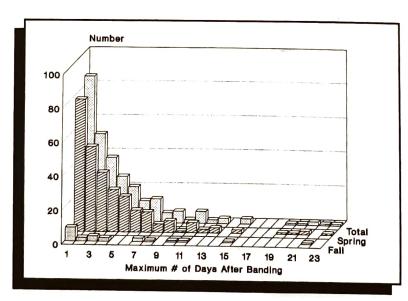
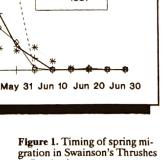


Figure 3. Swainson's Thrush length of stay during spring and fall migratory seasons. Data reflect birds captured between 1987 and 1990.



1990

1989

1988

1987

year (Figure 2).

in five day increments.

Once we determined when the birds were moving through and presumably using the creekside habitat, we analyzed individual capture/recapture records to determine how long individuals stayed in the area. By counting the number of days between the initial capture of the bird and the last time it was recaptured, we were able to determine the minimum length of stay for that individual. It is interesting to note that most of the individuals stayed in the area a short time (1-7 days) but a few individuals staved for long periods of time (up to 23 days)(Figure 3). It is also of interest that very few individuals were recaptured during fall migration as compared to spring. This indicates that more spring migrants tended to stay longer in the vicinity of the Station (possibly



using the area to feed and build up fat reserves), whereas, few fall migrants tended to remain for any appreciable length of time. This is of interest in that this is opposite the "normal" pattern seen in other migrants. We would expect, for instance, Yellow and Orange-crowned Warblers to spend less time in one place during the spring migration than in fall.

Next we looked at whether birds were actually using the site as a "fueling" stop (building up migratory fat reserves) or if they were simply resting on the site. To determine this we compared the birds weight upon initial capture with the weight of the bird at the time of its last recapture. We then plotted these data to see if any trends were apparent (see Figure 4). In this case only the spring individuals (1978-1990) were used since the number of fall birds were

so low. It is interesting to note that the median weight change was a gain of 1.5 grams. The birds which did lose weight usually lost a small amount (less than 2 grams) whereas most of the individuals gaining weight put on substantial amounts (up to 9 grams). This indicates that most of the individuals are using the area as an important fueling site rather than simply using it as a resting area.

As these data indicate, the fragmented riparian system at CCRS is an important stop-over and refueling site for Swainson's Thrushes. These remaining fragments of habitats may be critical to the survival of this species (and probably to other species as well). It is imperative that such sites, acting as important refueling sites between breeding and wintering grounds during migration be studied and preserved.

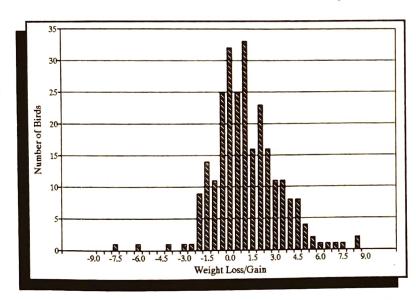


Figure 4. Swainson's Thrush length of stay during spring and fall migratory seasons. Data reflect birds captured between 1987 and 1990.

GRANTS TO CCRS

By Michael Rigney

We would like to acknowledge the contributions of funds or equipment from the following companies and foundations:

- •Chevron Corporation General Support
- •IBM Corporation Donation of 2 PS/2 computers
- •Bleitz Wildlife Foundation -Support for Yellowthroat Project and continuing general support

We are currently applying to other foundations and charitable organizations for support of our revegetation projects, completion of our five year Santa Clara County Breeding Bird Atlas, support for our Banding Biologist position and additional funding for Salt Marsh Yellowthroat studies.

In these hard economic times it is difficult to raise money to support ongoing environmental projects. We would appreciate input from members who would like to approach the companies they work for or who have "inside connections" with charitable foundations. To get the ball rolling on securing additional program support, we are establishing a fund raising committee to tackle this immensely important task. If you have any experience in fund raising and would like to help us out we would definitely like to hear from you. We would be grateful for any advice you might be able to impart.



Thrush

NOTES FROM THE BANDING TRAILER

By Kristin Shields

As the newest staff member of CCRS. I would like to thank everyone who has helped me become familiar with this fascinating place. The banding volunteers are doing a wonderful job, and to thank them we held a Bander's Party on November 17. We all ate lots of food and got to know each other. Many banding issues such as computer procedures, cleaning the banding lab, taking measurements and ways to enhance the banding training class so that more people stay interested in banding. We agreed that a workshop for active banders at the beginning of the spring and fall migrations would be a benefit to us all. I will send out a mailing when we decide when to hold the spring workshop.

One of my responsibilities is to coordinate the banders and increase communication among the banders. If you have any questions pertaining to banding please call me at the station. I am normally working Monday, Tuesday, Thursday and Friday mornings. Here are some other projects I am working on: I have organized CCRS's band inventory and will be responsible for issuing new band series to the kits. I will also be setting up a schedule of regular maintenance and repair of nets and net lanes. In addition, I am working on a Bander's Handbook that will be specific for CCRS. A rough, rough draft was given to bander's at the banding party. This handbook is intended to provide all the nitty gritty details of the banding operation that many of you experienced banders have learned by trial and error. I welcome suggestions from anyone for topics that should be included in such a handbook.

RARE BIRD FRENZY AT CCRS

By Grant Hoyt

The importance of habitat restoration and management projects at CCRS was dramatically accentuated this past fall as bird censusers made a number of startling discoveries at the Waterbird Management Area (WMA) adjacent to Lower Coyote Creek. This sixteen acre shallow pond was created less than three years ago by the Santa Clara Valley Water District (SCVWD) as mitigation for lost salt pond habitat resulting from the Coyote Creek Flood Control Project. CCRS manages this area to maintain high quality shorebird and waterfowl habitat under an agreement with the Water District. Four species of birds never recorded in Santa Clara County were found here in September (in addition to significant numbers of a wide variety of regularly occurring shorebirds and waterfowl) demonstrating how valuable a properly managed restoration project can be to both migratory and resident species.

The frenzy of rare bird sightings began on 7 September when Peter Metropulos was conducting a census at the WMA and along the riparian corridor. On that day he spotted a Buff-breasted Sandpiper in a muddy field adjacent to the WMA and the first of an eventual four Ruffs at the waterbird pond. Both species were county records according to CCRS President (and official keeper of Santa Clara Valley Audubon's bird records) Bill Bousman. In addition, the Ruffs, which included one adult male, one adult female (Reeve), one juvenile male (pictured below) and a smaller juvenile of undetermined sex, represented an unprecedented concentration in western North America outside Alaska. Two days later a Solitary Sandpiper was seen at the WMA by Bill Bousman and an Osprey near the banding station by Tom Goodier; between 11-18 September up to five Lesser Golden Plovers were also observed at the WMA and in the adjacent non-tidal



An immature Ruff (center of photo), one of four seen at the Waterbird Management Area this fall, is pictured with Pectoral Sandpiperswhich appeared in record numbers. Photo by Maryann Danielson



naishes.

cluded sightings of Peregrine Falcon found a Sharp-tailed Sandpiper for another county first. Several days when a wave of Pectoral Sandpipers lowlegs, Baird's Sandpiper, and Black Tern at or near the WMA. off an amazing month which also inand later by Scott Terrill for the Pipits was seen by Chris Benesch ishing 96 on 22 September and by the 27th had reached a mind-bogthe Pectoral Sandpipers), Lesser Yelfourth county record. This capped gling 201! On that day Marc Fenner uncommon species grew to an astonber (Rita Colwell), the flock of this pond. Starting with a seemingly high number of 27 on 16 Septemdescended upon the waterbird (seen by many observers harassing later the first of two Red-throated Things really started to heat up

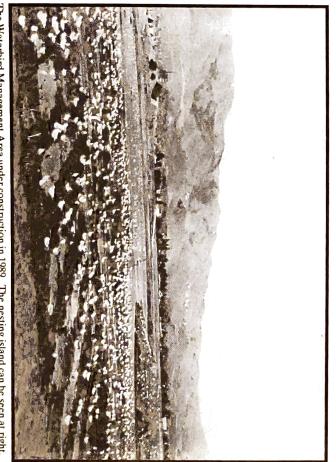
Since word of the unusual sightings was inevitably "leaked" to regional rare bird aficionados, who naturally became desirous of visiting CCRS for list augmentation purposes, CCRS management faced a potentially awkward situation -- hordes of rare bird chasers could seriously disrupt day-to-day operations at the station. It was decided to permit individuals or small groups of birders to visit the WMA under CCRS staff supervision. As they ticked off the birds in checklists, the guests also received a tour of the research site and information on CCRS and the Water District's re-

While the appearance of so many unusual species provided the birding community with its share of thrills, it should be noted that significant numbers of more common species, both resident and migratory, were also censused during September (as they are every month throughout the year by CCRS volunteers and staff). Resident "waders" such as American Avocets and Blacknecked Stilts forage year-round at

tering. manipulated to provide optimum ing fall and spring as water levels are different seasons, e.g., Bufflehead, egrets utilize this popular spot species of ducks, gulls, herons and center of the pond.. Migrant shoretime of year. conditions for the avian sub-groups Scaup and other ducks during winthat different species move in during cords over the last three years show throughout the year. Census re-Black-bellied Plovers join resident through spring with many overwinample foraging at the site from fall birds like Willet, Greater nest on the man-made island in the the WMA and, in the Avocet's case most likely to be present at a given ter, waders, "peeps" and plovers dur Killdeer at the pond, and numerous Least and Western Sandpiper, find ong-billed Dowitcher, Dunlin, Migrating Semipalmated and r Yellowlegs,

This strategic management of water levels, vegetation, food supply and overall habitat demonstrates the kind of positive effect on wildlife populations that well-conceived, long-term management policies can bring about. Bird census data collected at the WMA and the riparian corridor have made a significant contribution to our understanding of

citement in the birdwatching community and helped elevate CCRS's terns and breeding behavior of birds tions, distributions, migratory patto a better understanding of populathese efforts, while continuing to add term censusing will play a role in that consistent, well organized, longagement and restoration. It is hoped larly as they pertain to habitat manbiomonitoring programs, particucensus is as an adjunct to ongoing visibility, the real value of the bird rare bird sightings created much exvised to conform with formats methodology is currently being reter accomplish this goal, census haven for birds. While the flurry of Area has become a year-round tion, the Water Bird Management District, and inter-agency cooperation by the Santa Clara Valley Water thanks to sound planning and execu a brainchild of CCRS's late founder, cussed in a future issue of Ripariagroups; these changes will be diswidely used by other bird research techniques to sustain them. (To betthese ecosystems and developing ter of six years. from a concept to a reality in a mat-Dr. L. Richard Mewaldt, has evolved The waterbird pond, in part In that brief time,



aplomb

search and restoration goals. Many of the visitors made contributions and some even became members, while staff handled the occasional disruptions with professional

The Waterbird Management Area under construction in 1989. The nesting island can be seen at right. **Photo By L. Richard Mewaldt.**

COYOTE CREEK RIPARIAN STATION

Cyote Creek Riparian Station is a non-profit California membership corporation with United States and California tax exempt status. CCRS is dedicated to research on, and to the restoration and management of, riparian and wetland habitats including the wildlife and other animals that live there. CCRS is located on City of San Jose property near the town of Alviso.

Coyote Creek Riparian Station operates in cooperation with the Santa Clara Valley Water District, San Jose/Santa Clara Water Pollution Control Plant, U. S. Bird Banding Laboratory, Laurel, MD., San Francisco Bay National Wildlife Refuge, and the California Department of Fish and Game.

RipariaNews is published quarterly for the information of our CCRS membership, the personnel of the several cooperating federal, state, and local agencies, and for other organizations and individuals concerned with the flora and fauna of riparian and wetland habitats.

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| 2 | Senior or Student | Family | Supporting | Sustaining | Corporate | Life | α_ |

Life Membership payments and 10% of all other membership payments and general contributions go into the CCRS Endowment Fund now earning about \$175 per month. CCRS is a non-profit corporation with U. S. and California tax exempt status. Five dollars from the dues of each joint CCRS-SCCBB Atlas Member goes to the Atlas program. We acknowledge Memorial contributions in **RipariaNews**. We welcome bequests, including those of real property.

*Or in 4 or 5 installments

Coyote Creek Riparian Station T-shirts and sweatshirts!

These stunning (100% cotton) 4-color shirts come in three great colors: light blue, white and silver. Get yours today while supplies last.

| | . \$14.00 | \$18.00 | | \$24.00 |
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| | short sleeve | ong sleeve | Sweatshirts | wailable in S, M, L and XL sizes |

al \$1.50 per order.

Also available is the CCRS
patch featuring our colorful logo
(patch size 3"X3"). These may be
purchased for the mere price of
\$3.50 each.

NEW MEMBERS

We welcome the following new members who joined CCRS recent-

| . Member | Member Member Member Member Member Member | Member Member Active Member Member Member Member Member Member Member Member Member | Member Member Member Member Member Member Member Member | | . Member . Member . Member . Member . Member . Member . Member . Member . Member |
|---------------------------------------------|--------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| ly. Androes, Charlene R. Baker, R. C. | Bunzo, Marilyn S. Allen, John Butcher, Alyson F. Cesario, Viola Coe, David B. Danis, Cindy | Davidson, Čarolyn & Gordon Dumas, Jeffrey Ellis, Gerald R. Fenner, Marc Gilmartin, Cornelia Glover, Beverly Greyraven, Cin Hignite, Linda Harris, Carol A. | Haworth, H. W. Heck, Helen Heinermann, Juanita Hignite, Linda Larkin, Mike Lunan, Dr. Kenneth & Marcia Malone, Brian D. Mc Kinney, John Meyer, Amalie Mitchell, Samuel & Suzanne | Moser, Anne G. Murphy, Mary K. Murphy, Hazel A. Olson, Thomas c. Parker, Gwen Peck, Barbara Petersen, Eric Polensky, Donald & Flavia Smith, Ferenda & Smith, Ferenda & Jefonda Michael | Smullen, Thomas J. Stake, Mike Turay, Holly Verdi, Ann Walcott, Zona Willcox, Riley & Virginia Williams, Frank & Marilyn Wofchuck, Allan Woodward, Phil |



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