

RipariaNews

Newsletter of the Coyote Creek Riparian Station

P.O. BOX 1027

ALVISO, CA 95002

(408) 262-9204

VOLUME 7

FEBRUARY, 1992

NUMBER 1

BUTTERFLY CENSUS AT CCRS

By Chris Otahal

We have all heard of Christmas Bird Counts but have any of you heard of the Fourth of July Butterfly Counts?

Recently, I spoke with John Steiner, Chief of Interpretation and Education at the San Francisco Bay National Wildlife Refuge, about this project. Each summer, the Xerces Society (a national organization concerned with the study and preservation of insects) conducts a survey of Butterflies occurring in the U.S. This survey is modeled after the Christmas Bird Counts (CBC). Last summer the society conducted over 300 surveys throughout the United States. As in the CBC, each of the survey's covers a circular area around a central location (the radius of the circle being 15 miles). During the survey, the study site is broken up into smaller portions which are then surveyed by a large

group of dedicated volunteers. These parties of volunteers venture out into the wilds to count the number of butterfly species and individuals occurring in their survey area.

The primary goal of this project is to conduct such surveys on an annual basis to monitor population trends in butterflies. According to John, butterflies are "extremely particular where they live and are a good indicator of the natural environment." It is hoped that the butterflies can be used as an indicator of the health of the environment—like the proverbial canary in the mine.

For the last three summers Coyote Creek Riparian Station has been included in these surveys. John Steiner, the author of a master's thesis entitled "Bay Area Butterflies: The Distribution and Natural History of San Francisco Region Rhopalocera" (an impressive work), has spearheaded these

efforts. According to John, riparian areas such a CCRS are the most productive of any other habitat studied so far in the bay area. The numbers have been quite impressive over the years of the survey here. In 1989: 247 individuals of 21 species, 1990: 219 individuals of 17 species, 1991: 287 individuals of 23 species were counted. The reason for these high numbers results from the complexity of the habitat -- a dense canopy covering a well established shrubby layer with an underlying herb layer. Another plus for this area is the fact that there is a constant water source so that the trees stay green all summer (there is no summer dormancy). John is of the opinion that as our revegetation sites mature, there should be an increase both in the number of individuals and the number of species using the site. It will be interesting to watch the trend over the next few years. Many thanks go to John and his dedicated group of volunteers for providing us with this valuable information.

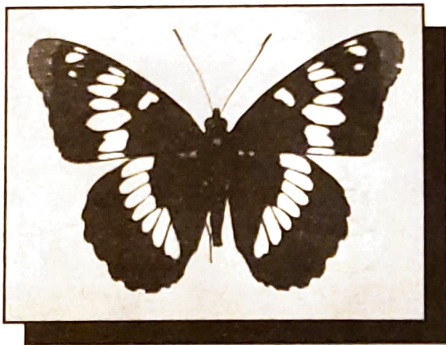


Dorsal side

The Satyr Angewing (*Polygonia satyrus*) is a widely distributed butterfly known for its cryptic underwing coloration. The larvae feed on several species of nettle found along the length of Coyote Creek. This species was found in abundance during the Xerces Society count at CCRS.



Ventral side



Dorsal side

The Lorquin's Admiral (*Limenitis lorquini*) is a true riparian endemic species in the Western United States. The larvae feed on willows of several varieties. The colorful adults can often be seen sunning on exposed willow branches on sunny spring days.



Ventral side

OFF THE WALL

by Bill Bousman

FALL MIGRATION

Banding at the Station was continuous for the fall period of August through 22 November (the last date I use for this column) except for 10 and 13 August and 26 October. I have tabulated the 1991 new capture data and show the more common of the "passage" birds or true migrants in **Table 1**. Table entries include the number banded, the first date encountered, the 10th, 50th, and 90th percentile dates, and the last encounter date. I arbitrarily start the season at 1 July, however, most of the species in

the table do not have a significant breeding component so the start

date does not significantly affect the percentile calculations.

Table 1. New capture data for fall migration - 1991.

Species	No.	First	10th	50th	90th	Last
BCHU	26	1 Jul	8 Jul	29 Aug	16 Sep	20 Sep
RUHU	6	14 Aug	—	2 Sep	—	13 Sep
WWPE	11	11 Aug	—	4 Sep	—	18 Sep
WIFL	18	16 Aug	16 Aug	7 Sep	18 Sep	23 Sep
WEFL	198	31 Jul	14 Aug	2 Sep	20 Sep	12 Oct
SWTH	21	4 Sep	11 Sep	25 Sep	11 Oct	23 Oct
WAVI	5	15 Aug	—	10 Sep	—	28 Sep
OCWA	24	22 Jul	24 Jul	3 Oct	7 Nov	20 Nov
YWAR	57	17 Jul	5 Sep	17 Sep	29 Sep	6 Oct
WTWA	13	31 Jul	31 Jul	24 Sep	9 Oct	21 Oct
WETA	7	4 Sep	—	16 Sep	—	2 Oct

Something happened this fall which greatly affected our capture success. All of our most common migrants were banded in significantly fewer numbers than in past years. Comparing this fall's results with summary board data from 1987 to 1990 for our five most common migrants "Western" Flycatcher (WEFL) dropped 63% ($\bar{X} = 533 \pm 121$), Swainson's Thrush (SWTH) fell 80% ($\bar{X} = 107 \pm 32$), Orange-crowned Warbler (OCWA) dropped 31% ($\bar{X} = 35 \pm 11$), Yellow Warbler (YWAR) fell 63% ($\bar{X} = 156 \pm 90$), and Wilson's Warbler showed a decline of 68% ($\bar{X} = 41 \pm 10$).

Cont'd. on Page 3

Did we band fewer birds because there were fewer birds or were the birds just somewhere else? Do birds concentrate along Coyote Creek every year or only when conditions are poor elsewhere? If the number of these migrants really did decline, was it because of nesting failures or are there other causes? Is the reduction we've seen widespread or local?

None of these questions can be answered easily but some insight may be obtained by detailed examination of our banding data. As an example, the ratio of HY (Hatching Year) to AHY (After Hatching Year) birds, when compared with prior years should give us some idea of whether there was a significant nesting failure. Examination of migrant weights should give us some indication of how well birds "prepared" for migration compared to weights of birds we have captured in the past. In addition, recaptures may provide us with some insight into how much weight birds gain in one year compared to previous years and how long they remained at the Station. (Editor's Note: Biologist Chris Otahal and Research Director Dr. Scott Terrill are currently preparing a manuscript on Swainson's Thrush weight changes in relation to length of stay during migration.) Finally, we can compare our numbers with other western banding stations and obtain a better understanding of region-wide population dynamics.

Of the migrants shown in **Table 1**, Black-chinned Hummingbird (BCHU), Rufous Hummingbird (RUHU), Western Wood-Pewee (WEWP), and Western Tanager (WETA) were banded in fairly typical numbers. Willow Flycatcher (WIFL) was down 40% ($\bar{X} = 30 \pm 4$) and Warbling Vireo

(WAVI) numbers were off 77% ($\bar{X} = 22 \pm 11$).

Among our less common and rare migrants, we banded a single Least Flycatcher on 18 September, our first since 1988. On 7 September we banded a Gray Flycatcher. No Ash-throated Flycatchers were banded this year where normally we net one to four. House Wrens came through in small numbers as is usual. A **Connecticut Warbler** was banded on 25 September for the second record for the Station as well as Santa Clara County. A lone Lazuli Bunting was banded on 22 September, rounding out our fall migration highlights.

Summer Departures and Winter Arrivals

Departure and arrival data are shown for a number of species in **Table 2** below. Allen's Hummingbird, one of our summer-resident species, was down in numbers and the last banding date was ten days early compared to past years. Black-headed Grosbeak, on the other hand, departed at about its normal time. We also banded a few summer-resident species which we don't encounter every year. On 5 September we banded two Hooded Orioles and on 24 September a Chipping Sparrow.

Winter Wrens spend the winter in riparian areas near the Valley floor. We only banded two this fall. We did not band any Golden-crowned Kinglets which suggests that they will be scarce throughout the winter along the central coast of California. Ruby-crowned Kinglets appeared very late at the Station, 21 days after their average arriv-

al date of previous years. Their numbers through 22 November, at least, were down quite substantially.

Our first Hermit Thrush capture was about seven days late, but Varied Thrush were banded in normal numbers and on typical dates. Both subspecies of the Yellow-rumped Warbler set late arrival records and were late by seven days (Myrtle) and 12 days (Audubon's) compared to previous years. The numbers of Audubon's Warbler were also lower (as of November) than recent levels. Two Savannah Sparrow were banded on 18 July, but the next bird was not captured until 11 September which is a more typical arrival date for birds that winter near the Station. Our other wintering sparrows showed no particular pattern. Fox Sparrows were late by 11 days, while Lincoln's Sparrows were 9 days early. The other sparrows arrived very close to the median dates of past years.

Table 2. Departure and arrival dates from new capture data - 1991.

Species	Last	First
Allen's Hummingbird	26 Aug	-
Winter Wren	--	19 Oct
Ruby-crowned Kinglet	--	18 Oct
Hermit Thrush	--	22 Sep
Varied Thrush	--	28 Oct
Yell.-rumped (Myrtle) Warbler	--	5 Oct
Yell.-rumped (Audubon's) Warbler	--	2 Oct
Black-headed Grosbeak	19 Sep	--
Savannah Sparrow	--	18 Jul
Fox Sparrow	--	17 Sep
Lincoln's Sparrow	--	28 Aug
Golden-crowned Sparrow	--	18 Sep
White-cr. (Puget Sound) Sparrow	--	19 Sep
White-cr. (Gambel's) Sparrow	--	19 Sep

CCRS BIRD BANDING SUMMARY - 1991

by Michael Rigney

For the second year in a row, the number of birds banded at the Coyote Creek Riparian Station (6,686) declined from the record high number achieved in 1989. But overall, the number of birds captured at CCRS has not varied greatly since 1987 when we began our year-round banding program. We also experienced a slight drop in the number of species (91) from the previous two years. (See **Figure 1** for a comparison of yearly capture totals). Our recapture total (5,340) was up significantly from last year due in large part to Max Lincoln's trapping program which is focusing on winter territory size and site faithfulness in Golden-crowned and White-crowned Sparrows.

We added two new species (which are in bold type in **Table 1** of this article) to CCRS' life list this year (which now stands at 154). We started off 1991 with the capture of three **American Water Pipits**. Although not a particularly uncommon bird, we have never managed to catch any during our nearly 10 years of work in the area. Then, in April, a lone male **Yellow-headed Blackbird** found its way into a trap.

This beautiful bird was seen for a period of several weeks after it was trapped but remained solitary. Despite not

being our first capture of its kind, the **Connecticut Warbler** which

we netted in September was certainly the highlight "vagrant" of the year. And then there was the late influx of three **Northern Saw-whet Owls** in November and December which was reminiscent of a similar event in 1987 - with none in the ensuing years.

We have made tremendous progress this year in data analysis. Through the diligent efforts of Rita Colwell, Chris Otahal, Kristin Shields and a team of volunteers we have all new banding data on computer going back to 1986 and recapture data back to 1989. This gives us the ability to begin to analyze trends in species abundance, migration timing and many other important biological topics. This database constitutes nearly 70,000 individual bird records with each record a source of vital statistics. We are only beginning to tap this "goldmine" of information.

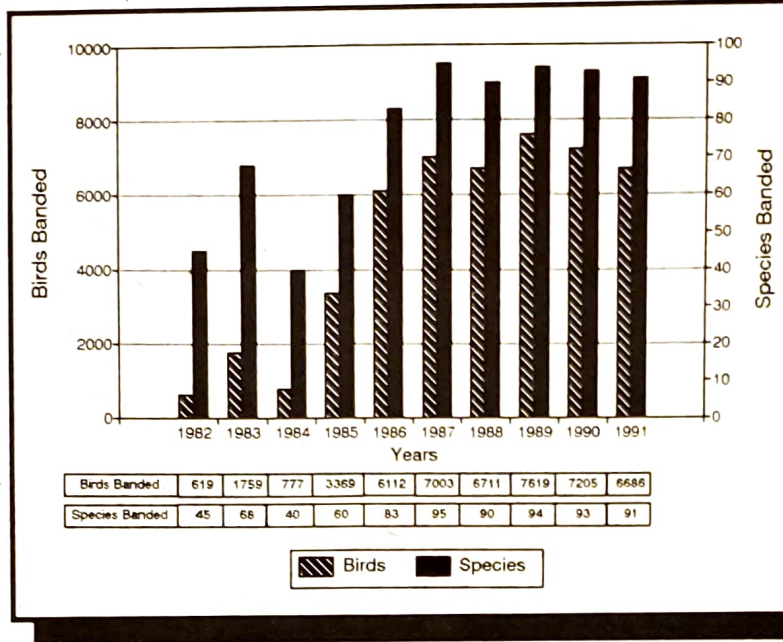


Figure 1. Banding summary for CCRS (Aviso field station only) from 1982 to 1991.

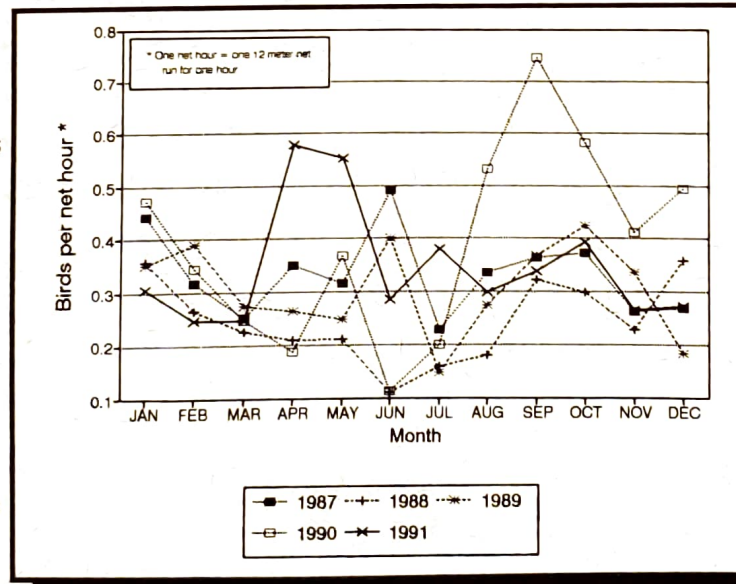


Figure 2. Monthly capture efficiency of mist nets from 1987 through 1991.

Figure 2 summarizes our monthly capture rate (or efficiency) for the past five years. Spring migration in 1991 was certainly notable for the record high birds-per-net-hour capture rate.

cont'd on Page 7

Table 1. COYOTE CREEK RIPARIAN STATION BIRD BANDING SUMMARY FOR 1991

Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Green-backed Heron										1			1
Cooper's Hawk	1							1					2
Sharp-shinned Hawk									1			1	2
American Kestrel										1			1
Semipalmated Plover								3					3
Killdeer							1						1
American Avocet					7	1							8
Mourning Dove	1	2	9	11	11	10		13	12	4			73
Ringed Turtle-Dove						1		1					2
Northern Saw-whet Owl											2	1	3
Black-chinned Hummingbird				5	5	3	3	10	13				39
Anna's Hummingbird	7	4	6	8	22	11	15	15	15	7	9	4	123
Calliope Hummingbird					2								2
Rufous Hummingbird		1	2	14		1		2	4				24
Allen's Hummingbird			3	5	8	13	5	1					35
Belted Kingfisher								3					3
Downy Woodpecker					1	4	3						8
Red-breasted Sapsucker										1			1
Red-shafted Flicker	1	1								4	9	2	17
Flicker Intergrade												1	1
Yellow-shafted Flicker										1			1
Western Wood-Pewee					3			2	1				6
Olive-sided Flycatcher				1	3								4
Gray Flycatcher					1								1
Willow Flycatcher					2			3	22				27
Hammond's Flycatcher				5	3								8
Least Flycatcher									1				1
Western Flycatcher			2	27	49	3	1	74	104	4	1		265
Ash-throated Flycatcher				2	8	1							11
Black Phoebe				1	3	7	12	8	9	1	1		42
Violet-green Swallow			5										5
Tree Swallow						5							5
North. Rough-winged Swallow							1						1
Cliff Swallow				1	8	80	3						92
Barn Swallow					2	4	8	13	1				28
Scrub Jay			1		1				1				3
Chestnut-backed Chickadee	1	1			1	7	1	3		3	3	1	21
Common Bushtit	20	5	3		16	4	13	7	3	2	8	2	83
Bewick's Wren						7	5	2		1			15
House Wren				3				1	3				7
Winter Wren										2	2		4
Marsh Wren				11	23	19	58	22	13	3	1		150
Ruby-crowned Kinglet	14	2	1	6	2					6	18	3	52
Swainson's Thrush				3	276	20							325
Hermit Thrush	16	4	9	21	31				3	96	34		214
American Robin	2		2	1	1				1	1	1		9
Varied Thrush										3	11	5	19
Northern Mockingbird					1	4	9	13	25	6	2	1	61
American Water Pipit	3												6
Loggerhead Shrike				1	4		1						6
European Starling	4				3	2	9	1	1				20
Solitary Vireo				1	2								3

Table 1 (Cont'd.). COYOTE CREEK RIPARIAN STATION BIRD BANDING SUMMARY FOR 1991

Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Warbling Vireo				2	15			1	4				22
Orange-crowned Warbler	2		5	104	44	1	3	1	5	9	11	5	190
Nashville Warbler				4	1								5
Yellow Warbler					34	4	2	2	49	7			98
Myrtle Warbler	7	6	5	21	1					8		1	58
Audubon's Warbler	2	5	20	109	3					49	36	15	239
Hermit Warbler				1							4		5
Townsend's Warbler				1						1			2
MacGillivray's Warbler				3	4	1							8
Connecticut Warbler									1				1
Common Yellowthroat			2	50	22	17	22	24	31	12	1		181
Wilson's Warbler			2	64	181	1	1		8	4			261
Yellow-breasted Chat									1				1
Western Tanager					7				6	1			14
Black-headed Grosbeak					8	3	4	1	4				20
Lazuli Bunting				3	2				1				6
Spotted Towhee						1				2			3
Brown Towhee				2		1	4	7	8	2	5	1	30
Savannah Sparrow	16	10	10	14	2		2		9	63	14	10	150
Fox Sparrow	2	2	1	3					14	34	10	14	80
Song Sparrow		1		19	35	68	114	77	74	28	6	6	428
Lincoln's Sparrow	8	7	12	16	1			1	27	82	40	22	216
Chipping Sparrow									1				1
White-throated Sparrow	1									1	1	3	6
Golden-crowned Sparrow	12	9	5	16					9	75	92	93	311
Puget Sound White-cr. Sp.	12	10	6	13					24	212	84	65	426
Gambel's White-cr. Sp.	29	26	12	23	1				15	79	96	95	376
Oregon Junco				5					1	4	3	4	17
Yellow-headed Blackbird				1									1
Red-winged Blackbird	3	19	37	51	24	9	3			1			147
Tricolored Blackbird			2		2								4
Western Meadowlark	8	6	8									8	30
Brewer's Blackbird		2											2
Brown-headed Cowbird			1	23	12	6	7	8	2				59
Hooded Oriole					2				2				4
Bullock's Oriole					5	8	6	1					20
House Finch	92	102	102	13	30	64	166	172	147	86	28	71	1073
Pine Siskin									2				2
Lesser Goldfinch						12	4	3	6	2	1	1	29
American Goldfinch		1	3	6	6	17	91	88	75	12	10	5	314
House Sparrow			1		2		2						5
New bandings	263	226	277	691	944	422	579	583	770	934	553	439	6686
Cumulative new bandings	263	489	766	1457	2401	2823	3402	3985	4755	5689	6242	6681	6686
Cumulative species banded	32	35	44	60	70	72	74	76	83	89	90	91	91
Recaptures	403	378	433	433	380	215	227	139	279	361	402	669	
Cumulative recaptures	403	781	1214	1981	2361	2576	2803	2942	3221	3582	3984	4653	4653
Days of operation	26	23	24	31	31	30	28	28	30	31	30	28	340

1991 Banding Summary cont'd.

Unusually high numbers of Orange-crowned Warblers (148), Audubon's Warblers (112), Wilson's Warblers (245) and Swainson's Thrushes (279) were captured during migration in April and May accounting for the high capture rate in those months. Fall migration appeared to be "normal" for the past five years but substantially below the spectacular fall migration in 1990. We hope to say more about trends in bird numbers and migration timing now that we have the necessary data in our computer system.

Speaking of computers - we owe a debt of thanks to the IBM Corporation and to the Bleitz Wildlife Foundation for grants enabling us to fund data entry and (in the case of IBM) the computer we used to input the data. Also, new member Tom Smullen, a computer network engineer, has been working diligently to make our programs run efficiently and help us move to a network system. Alex Aiken has developed several error-checking programs which have helped us spot and correct some problems in the database.

As in previous years, CCRS members conducted banding programs at several different location in California. These include Lundy Lake and Long Barn in the Sierra Nevada, Santa Cruz Island, Natural Bridges State Park, IBM Almaden Research Center, Coyote Hills Regional Park, Joe Demecq Wilderness Area, and San Francisco Bay National Wildlife Refuge. Birds banded as a result of these efforts are listed in **Table 2**.

Our corps group of dedicated volunteers continues to grow. The banding program benefited from the

Table 2. Number of birds banded at locations other than CCRS during 1991.

Species	Number
Sharp-shinned Hawk	1
Cooper's Hawk	2
Red-tailed Hawk	1
American Kestrel	5
Mourning Dove	2
Common Barn-Owl	1
Great Horned Owl	2
Western Screech-Owl	1
Burrowing Owl	6
Rufous Hummingbird	4
Allen's Hummingbird	1
Red-breasted Sapsucker	3
Ash-throated Flycatcher	14
Western Wood-Pewee	2
Dusky Flycatcher	1
Hammond's Flycatcher	2
Willow Flycatcher	1
Western (Pacific-slope) Flycatcher	1
Scrub Jay	3
Plain Titmouse	41
Chestnut-backed Chickadee	5
Common Bushtit	1
Brown Creeper	3
House Wren	22
Bewick's Wren	8
Western Bluebird	39
American Robin	3
Loggerhead Shrike	1
Warbling Vireo	2
Orange-crowned Warbler	6
Nashville Warbler	9
Myrtle Warbler	7
Audubon's Warbler	44
Hermit Warbler	2
Yellow Warbler	3
MacGillivray's Warbler	3
Wilson's Wazbler	1
Common Yellowthroat	13
Black-headed Grosbeak	1
Green-tailed Towhee	1
Song Sparrow	14
Chipping Sparrow	2
Oregon Junco	8
Gambel's White-crowned Sparrow	3
Puget Sound White-crowned Sparrow	6
Golden-crowned Sparrow	14
Fox Sparrow	3
Lincoln's Sparrow	3
Bullock's Oriole	2
Pine Siskin	1
American Goldfinch	1
Cassin's Finch	1
House Finch	4
TOTAL	330

several training sessions taught by Maryann Danielson. Our list of programs and research topics continues to expand and as they expand our need for active participants also grows. Many new people came to CCRS by way of a membership campaign to the Santa Clara Valley Audubon Society. These new members are already applying their time and talents to banding, censusing, data entry and habitat restoration. We would like to acknowledge the help of the following people on our long-term banding project:

- | | |
|-------------------------|------------------|
| Alex Aiken | Lance Lollini |
| Clay Anderson | Kay Loughman |
| Walter Avery | John Mackenzie |
| Irene Beardsley | Brian Malone |
| Rob Blair | Mike Mammoser |
| Emily Buffon | A Morales |
| Barbara Carlson | Gary Mele |
| Rita Colwell | James Miguelgory |
| Mike/Lynn/Chris Cropper | Lynn Neibour |
| Maryann Danielson | John O'Neill |
| Cindy Danis | Chris Otahal |
| Penny Delevoryas | Orton Palmer |
| Peter Folan | Mike Parker |
| Marilyn Fowler | Janet Pasternak |
| Marian Fricano | Barbara Peck |
| Thomas Goodier | Chris Persinger |
| Helen Green | Tom Pogson |
| Helen Heck | Harold Reeve |
| Gloria Heller | Dave Riensche |
| Grant Hoyt | Elsie Richey |
| Karen Hoyt | Michael Rigney |
| David Johnson | Allen Royer |
| Bruce Katano | Marilyn Scott |
| Marcia/Jeff Keimer | Rich Seymour |
| Al Kluska | Kristin Shields |
| Rosalie Lefkowitz | Lloyda Thompson |
| John/Mary Lehner | Lynne Trulio |
| Max Lincoln | Mike Westphal |

Thanks to all of our members for your continuing support.

CORRIGENDA

Grant Hoyt nicely summarized the fall's excitement in his article "Rare Bird Frenzy at CCRS" in the last issue of *RipariaNews*. A few corrections to his summary of Santa Clara County records are made here. The Rufus seen in the Waterbird Management Area and nearby were the third through seventh records for the county. The first county record was last year, in September also. The juvenile Sharp-tailed Sandpiper was either the fifth or sixth county record. This species was first recorded in the county in 1982. The Red-throated Pipit (I have a written description for only a single bird) is a first record for the county.

-- Bill Bousman

PRESIDENT'S MESSAGE

JANUARY BOARD OF DIRECTORS MEETING

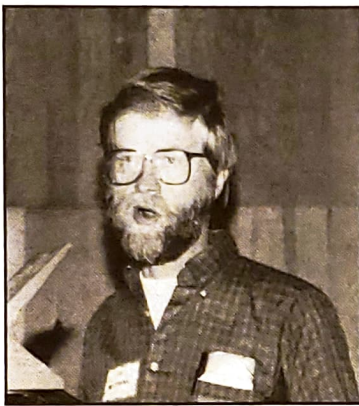
by Bill Bousman

The Board of Directors met on January 25, 1992 and I am reporting some of the discussions we had, not because of the rarity of this event, but because all of us on the Board felt that we have reached a watershed of sorts and this passage should be noted.

The success of the Coyote Creek Riparian Station is a result, in part, of the vision of those who created the Station, of the staff who have maintained the Station's progress, and of the many volunteers who have felt that this was organization where they could make an important contribution. Today we are financially viable, we have an active program that wonderfully melds the talents of amateurs and professionals and we are optimistic that we will make significant scientific contributions well into the foreseeable future. In a situation like this, the Board, not unlike the "rooster in the hen yard" could be forgiven for extended crowing. On the contrary, however, most of our thoughts were directed to what we can do in the future to assure our success.

We focused most of our attention on two initiatives. The first of these is to reorganize our yearly schedule a bit. We will move our

Annual Meeting from September to June and, as a counterbalance, we will make the Goals Meeting we held last November an annual event. This will give us, as an organization, two times in the year when active members can speak up. We are optimistic that the annual Goals Meeting will give us an opportunity to hear from volunteers about their concerns and allow us to fit suggestions into our strategic plan for the year.



CCRS President Bill Bousman addresses attendees at the Annual Meeting.

Photo by John Delevoryas

Our second initiative is to establish a committee structure that will support the Board and staff. It is our long-range hope that this structure will allow us to put in place the kind of planning that is needed to allow us to grow as an organization. We would like to see a half dozen committees, fully staffed with enthusiastic visionaries, in place immediately. Recognizing the reality of how little free time any of us are likely to have, we are content to start with a few committees and build from there. Initially we have organized a Budget and Finance Committee under Treasurer, Elinor Spellman's direction and a Nominating Committee chaired by Grant Hoyt. We welcome contributions of ideas or time by any member to these committees or toward the formation of new committees that can address the long-range planning needs of the Station. If you have any interest in such participation please contact me (415) 322-5282 evenings or any other Board Member.

CCRS AND SCVAS WORKING TOGETHER AT McCLELLAN RANCH PARK

Last November, the Santa Clara Valley Audubon Society moved into its new headquarters at the recently opened Cupertino Environmental Center. The Center is located in the historic McClellan Ranch Park which is nestled in the foothills of the Santa Cruz Mountains. Bordered by the lush riparian corridor of Stevens Creek, the park property contains a variety of habitats ranging from grasslands to chaparral, the remnants of an orchard and a community garden.

The Environmental Center was developed by the City of Cupertino to house a diversity of environmental groups. The Society houses its extensive library and maintains an expanding nature store specializing (not surprisingly) in bird-related items.

CCRS and SCVAS have always maintained a close working relationship because of our organizations' similar goals and perspectives. We now are assisting the staff and Board members in developing a riparian enhancement program and are participating in various educational and interpretive programs. On February 29, CCRS staff and volunteers conducted banding demonstrations at SCVAS' First Annual Education Day which was attended by over 300 people. We plan regular banding demonstrations at McClellan Ranch in the future. We are currently installing bird nest boxes in conjunction with a local Boy Scout troop. If you would like to help us out in this joint venture give Kristin Shields a call at the CCRS office.

SEXUAL DIFFERENCES IN WILSON'S WARBLER MIGRATION

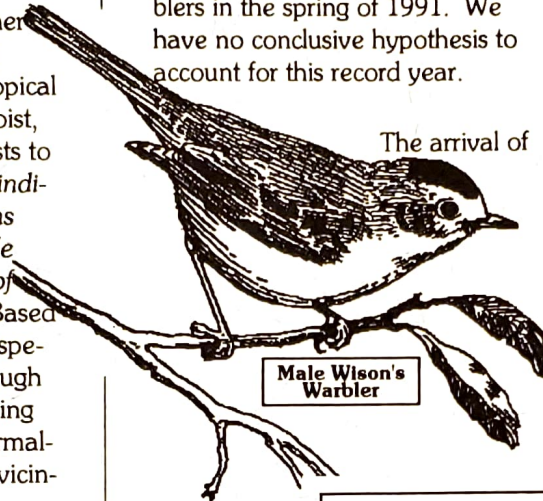
by Chris Otahal and Michael Rigney

The Wilson's Warbler is a fairly common and widespread North American wood warbler. A rather typical "neotropical migrant", it spends the winter months in tropical rain forests then migrates to moist, dense northern deciduous forests to breed. (Ed. note: this year one individual found the CCRS environs mild enough to over-winter. We recaptured this bird a number of times in the dead of winter.) Based upon our banding records this species apparently just passes through our area in migration (both spring and summer) and does not normally breed within the immediate vicinity of the Station.

Male and female Wilson's Warblers are readily distinguishable and is thus a likely candidate for investigating whether there are differential migratory timing patterns between sexes.

To begin, we looked at the overall migratory pattern for the population which passes through our area. We examined data from five years of relatively constant-effort banding activity at CCRS (1987-1991). **Figure 1** shows the general pattern of spring and fall migration for those years. It can easily be seen from this graph that our capture rate for Wilson's Warblers was much higher in the spring than in the fall for all years. This is somewhat surprising since for most species, capture rates are much higher in the fall due to the large number of young birds migrating

with the adults. We speculate that the birds use a different migratory route in the fall which, for the most part, bypasses CCRS. Also apparent in **Figure 1** is the tremendously high capture rate of Wilson's Warblers in the spring of 1991. We have no conclusive hypothesis to account for this record year.



spring migrant Wilson's Warblers begins roughly around the first of April and continues through late May with a few trickling through until mid-June. Peak migration occurs most years in mid-May.

Fall migration begins around the first of August (these

birds may be wandering adults or juveniles) and continues through the beginning of October. No obvious migratory "waves" are apparent in the fall data, although slight bimodal peaks in late August and mid-September are somewhat visible.

After completing this initial analysis, we looked more carefully at details of the migratory pattern. One thing that interested us was the apparent segregation of males and females during migration. Was this consistent from year to year and was it evident in both spring and fall. We divided the capture data into sex classes and looked at the pattern for each sex individually. The spring data are represented in **Figure 2** and show that, in general

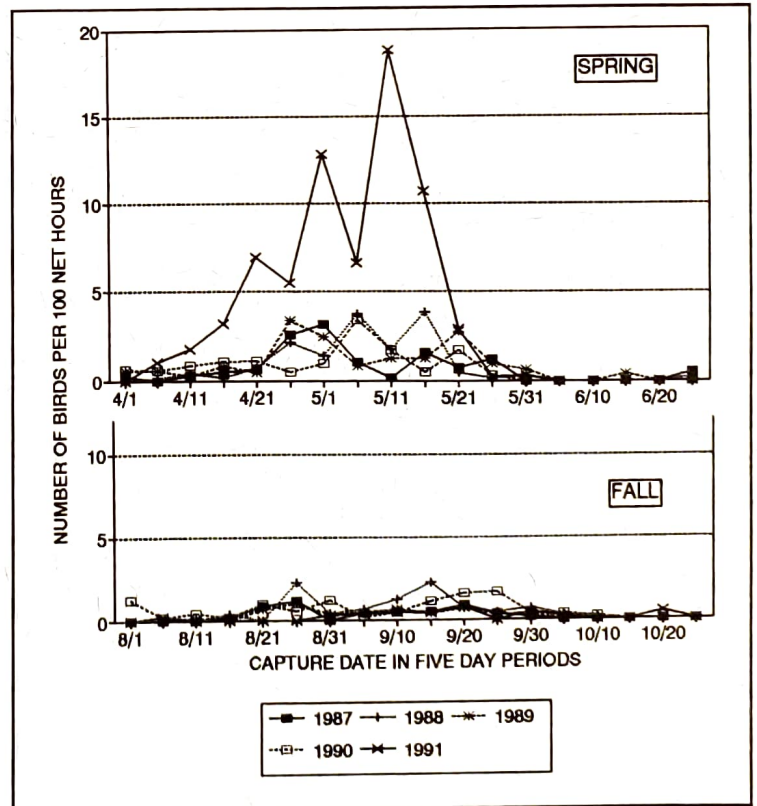


Figure 1. Capture rate of Wilson's Warblers for the last five years.

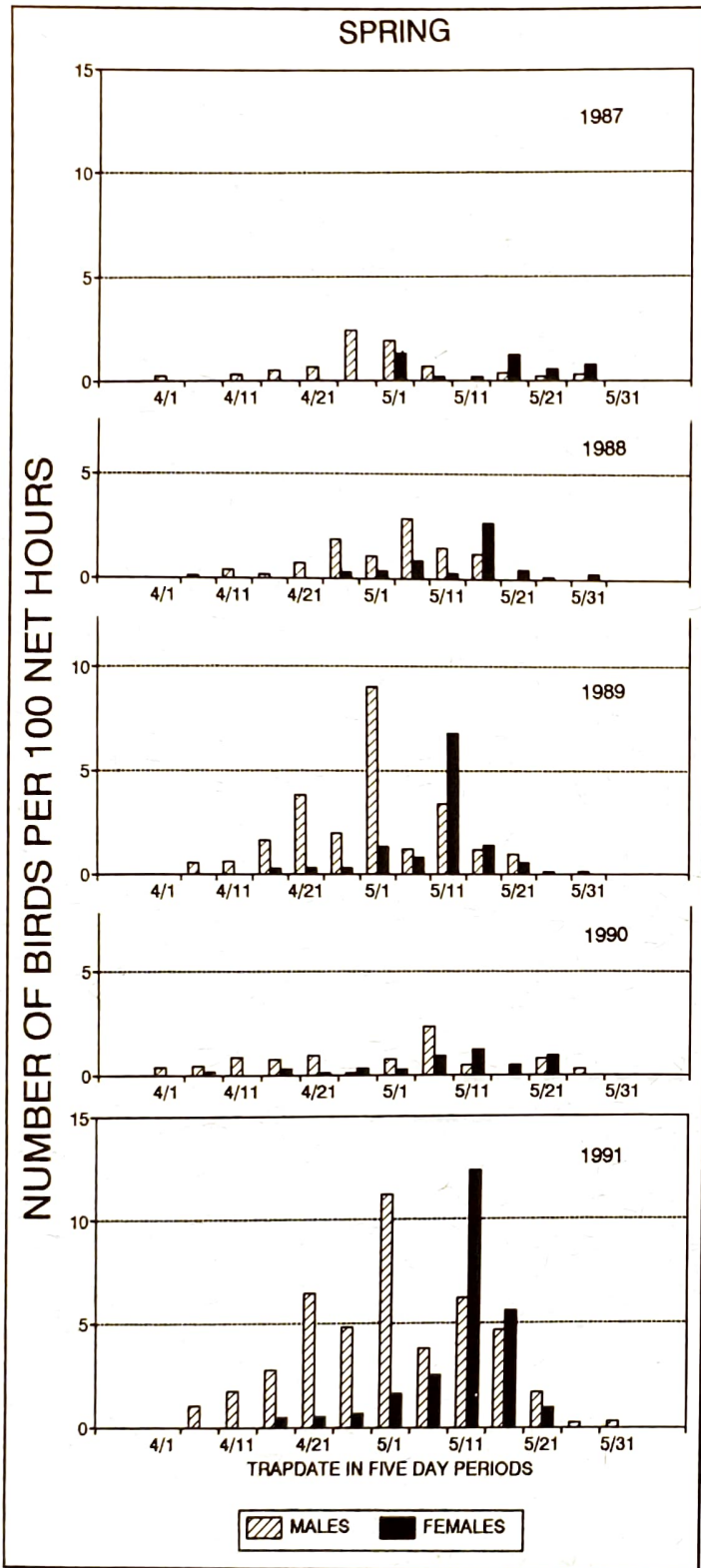


Figure 2. Capture rate of males and females during spring migration.

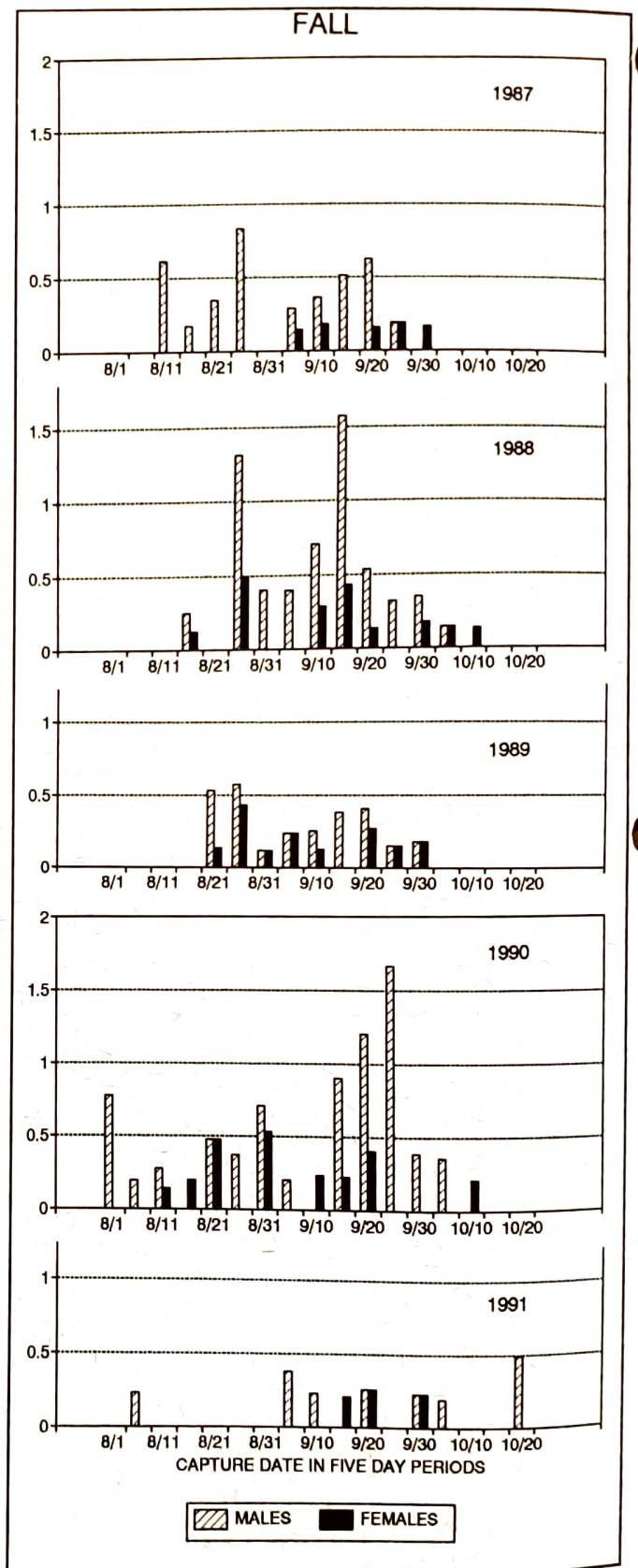


Figure 3. Male and female capture rates during fall migration. (note different scale for Y-axis).

males start moving through our area sooner and peak earlier than females. Also, males continue to move through after females have completed their migration. This pattern is not seen in capture data for the fall (**Figure 3**).

This spring pattern of males beginning migration earlier than females has been observed in Wilson's Warbler (as well as several other warbler species) in Ontario, Canada (C.M. Francis and F. Cooke. 1986. *Auk* 103:548-556). These authors felt that it was advantageous for males to arrive on the breeding grounds early, as soon as food resources and climatic conditions were adequate for survival, whereas, females arrived later when conditions were optimal for nesting. Other authors have speculated that males arriving early on the breeding grounds may have a better chance to acquire "higher quality" territories. It would, therefore, be selectively advantageous for early arrival even though environmental conditions may not be suitable for nesting. In other words, there seems to be a race among the males for prime breeding areas.

On the other hand, the benefits of early arrival are less significant for females and negative factors such as the risk of poor weather conditions and lack of insect prey items become important. Since females have less to gain by early arrival, it makes more sense (biologically) for the fe-

males to migrate later when conditions on the breeding grounds are more favorable.

Our data suggest that western populations of the Wilson's Warbler behave in a manner similar to eastern birds. In **Figure 2** it can be seen that males do indeed move through earlier than females. Again though, this pattern is not repeated in the fall. One possible explanation for this could be that there is no selective advantage for males to get to the wintering grounds before the females. More banding and observational work needs to be conducted in the tropics where these birds winter to understand more fully the life history of this intriguing bird.

The data presented here also show how important it is to conduct year-round systematic banding programs such as we have at CCRS. When the same patterns are apparent year after year, it is a strong indication that this is a regular and possibly predictable event rather than a random occurrence. If we had looked only at the data from 1987 (an apparently low year for the west coast population) we might have missed the spring pattern completely. Also, if we had not analyzed the fall data we would have not have noticed the absence of a pattern.

We look forward to yet another spring of Wilson's Warbler migration at CCRS.

WESTERN BANDING SUMMARY

Annual Report for 1990

by Elsie Richey

The July-September issue of the **North American Bird Bander** summarized the activities of banders throughout the western United States and Canada. This summary was prepared by CCRS staff and volunteers. Again this year it shows what an important contribution CCRS makes to the information being gathered on western species of birds. A total of 168,352 birds of 396 species were banded by individual investigators, government resource agencies, educational and research facilities and wildlife rehabilitation groups. CCRS ranked third in 1990 for number birds banded (7,205) and second in number of species banded with 94. **Table 1** shows those species for which CCRS led the west in number banded. Other tabulations of western banding data will appear in later issues.

Species	CCRS	Total	% of Total
American Avocet	11	11	100
Marsh Wren	149	172	87
Black Phoebe	127	173	73
American Pipit	2	3	67
Western Flycatcher	669	1,198	56
Wh.-cr. Sparrow (Puget Sound)	202	405	50
Northern Mockingbird	62	136	46
Common Yellowthroat	202	437	46
Hermit Thrush	429	928	45
Common Poorwill	3	7	42
Savannah Sparrow	227	554	41
Common Bush-tit	91	253	36
Swainson's Thrush	273	779	35
Ash-throated Flycatcher	26	97	27
Audubon's Warbler	298	1,168	26
Song Sparrow	303	1,147	26
Western Meadowlark	9	36	25
Lesser Goldfinch	42	185	23
American Goldfinch	248	1,170	21
Brown Towhee	31	179	17
Lincoln's Sparrow	138	934	15

NEW NATIVE PLANT NURSERY

by Erin O'Dougerty

A new nursery has come on the scene recently to fill the need for a quality supplier of California Native plants here in the South Bay. Native Revival has recently opened in Campbell and stocks a variety of plants valuable to wildlife. Selections include Western goldenrod (*Solidago occidentalis*) a choice butterfly plant found at Coyote Creek, California fuschia and Monkey flower (*Zauschneria californica* and *Mimulus aurantiacus*) favored by hummingbirds, Creek Dogwood and Blue Elderberry (*Cornus glabrata* and *Sambucus mexicana*) important food sources for many birds. In addition to plant sales,

Native Revival also offers native plant garden design and installation, gardening services and consulting on wildlife habitat restoration. Nursery visits are by appointment, so call in advance. For a plant list or more information, contact:

Native Revival Nursery
855 Emory Avenue
Campbell, CA. 95008
(408) 374-7349

NEW MEMBERS

We welcome the following new members who joined CCRS in the last few months:

Charlene R. Andeoes	Member
Susan J. Angerer	Member
Charles R. Bacon	Member
John Bailey	Member
Jean S. Barrett	Member
Joyce Bartlett	Member

Lorraine Bazan	Member
Peggy Bernucci	Member
Charlie and Linda Black	Member
Geraldine Bourlard	Member
Terri Brownfield	Member
Bruce Campbell	Member
Paul Chestnut	Member
Cary Cochrell	Member
Ceal Craig	Member
Constance Crawford	Member
Lois E. Culp	Active Member
Rigdon Currie	Member
William R. Danielson	Member
Daniel B. De Bra	Member
Vivian V. Dijk	Member
Dr. Dexter H. Hake	Member
Monica Donovan & James Kern	Member
Jan & Craig Edgerton	Member
Linda Elkind	Member
Tony Eppstein	Member
Hans J. Ernst	Member
Martha Fulton	Member
Cynthia Giovanni & Rick Schermerhorn	Member
Scott H. Harris	Member
V. Elaine Hatfield	Active Member
Nancy L. Hay	Member
Nancy Hertert	Member
Arline K. Kappahn	Member
E. Karlin	Member
Phyllis Kidd	Member
Helene F. Klein	Member
Knirck Family	Member
John & Debbie Koos	Member
Eleanor Lipton	Member
Chris Lonowski	Active Member
Jean A. Luckhardt	Member
William H. Lundgren	Member
Cynthia Mantell	Member
Marilynn Galloway	Member
Steve Matsuoka	Active Member
Marilee Mifflin	Member
Robert H. Moore	Member
Sandra S. Moore	Member
Marjorie Myers	Member
Janet Norris	Member
Marjorie A. Ottenberg	Member
A. Elizabeth Parashis	Member
Robert Richardson	Member
Diana Root	Member
Gisela H. Rosengren	Member
Katie Scholtz	Member
Carolyn Schuyler	Member
Christine Shank	Member
Vicki Silvas-Young	Active Member
Stephanie Singer	Active Member
Al Spears	Member
Richard A. Stewart	Member
Madeleine Stovel	Member
Beverley J. Strong	Member
Alan K. Thomas	Active Member
Ann G. Trachtenberg	Member
Grant & Kathleen Webb	Member
Karen Williams	Member

We would like to thank **Irene Beardsley** for becoming our newest Life Member. Irene is a regular volunteer at CCRS and is co-chair of the IBM Bluebird Project.

COYOTE CREEK RIPARTIAN STATION

Coyote 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 resotration and management of, riparian and wetland habitats.

CCRS operates in cooperation with the Santa Clara Valley Water District, San Jose/Santa Clara Water Pollution Control Plant, U.S. Fish and Wildlife Service, San Francisco Bay National Wildlife Refuge, and the California Department of Fish and Game.

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

Board Of Directors

William G. Bousman, President
Maryann Danielson, Vice Pres.
Elinor Spellman, Treasurer
Elsie Richey, Secretary
David B. Johnson, Member
Grant Hoyt, Member
Dr. Scott B. Terrill, Member
Dr. Lloyd Thompson, Member
Mike Rogers, Member

Staff

Michael Rigney, Managing Dir.
Bruce J. Katano, Biologist
Chris Otahal, Biologist
Rita Colwell, Data Coordinator
Kristin Shields, Banding Biologist
Helen Le, Office Manager
Dr. Scott Terrill, Research Dir. (Volunteer)