COYOTE CREEK RIPARIAN STATION

RiparianNews

Newsletter of the Coyote Creek Riparian Station

P.O. BOX 2019 ALVISO, CA 95002 (408)262-9204

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MAMMAL CENSUS AT CCRS

by
Blair Wolf, CCRS Biologist

INTRODUCTION

In December, 1988, Coyote Creek Riparian Station completed its first quarterly mammal survey as required by our wildlife monitoring contract with the Santa Clara Valley Water District (see **RiparianNews** January, 1987). The second quarterly census was completed in mid-February. The overall goal of the wildlife monitoring plan is to provide data on changes in wildlife use of the four acre revegetation as the plot develops. It will also allow us to make comparisons between wildlife use of the revegetation area with the existing adjacent riparian strip and the future overflow channel which borders the revegetation area. Here I report the results of these first two mammal trapping sessions.

STUDY AREA AND PLOT DESCRIPTIONS

The crescent-shaped four acre revegetation plot contains nearly 4,000 riparian trees and shrubs planted in early 1987. During the November-December trapping session this area was dominated by knee-high weedy vegetation.

One of the more unusual mammals encountered at CCRS was actually caught in a mist net. This hoary bat was examined, photgraphed and released. Photo by David Johnson.

Aggressive weed control measures in late December and early January eliminated most of the weedy cover which was prevalent in the fall. Thus, the vegetative composition during the November-December trapping period in the revegetation plot was very different from the conditions which existed in February and March.

The existing riparian strip located immediately east of the revegetation plot was dominated by large Fremont cottonwoods, red and yellow willows and a few mature Mexican elderberry and California black walnut trees. The understory varied in both composition and density, from dense wild blackberry patches and thickets of giant reed, to nearly bare ground. The width of the riparian strip varied from five to thirty meters. Vegetative cover within the riparian strip was nearly the same during both trapping periods.

The future overflow channel, located directly to the west of the revegetation plot was composed primarily of dead annual or perennial weeds. Very little new growth was present in November. This contrasted markedly with conditions during the February-March trapping period when new growth of wild mustard, radish and poison hemlock was predominant in 50-60% of the area. Most of the old weeds were no longer standing but still provided good cover near the ground.

MATERIALS AND METHODS

In each of three habitat areas, 100 "Sherman live traps" baited with walnut meats, peanut butter and oatmeal were set for five consecutive nights. Each trap also contained cotton or polyester batting to provide insulation for captured animals.

For the first five nights traps were set in the overflow channel, followed by five nights each in the revegetation plot and riparian strip. Traps were placed ten meters apart in grids modified to fit the shapes of each plot. In most cases traps were checked early

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Editor's Note: Beginning with volume 3 of RiparianNews page numbers will be sequential throughout the volume.

Table 1. Mammals captured and/or recaptured on the Coyote Creek,Pilot Revegetation plot, adjacent riparian strip and future overflow channel during the November-December, 1987 and February-March, 1988 trapping periods.

	RIPARIAN STRIP		REVEGETATION PLOT		OVERFLOW CHANNEL	
	NOV-DEC	FEB-MAR	NOV-DEC	FEB-MAR	NOV-DEC	FEB-MAR
Trap Nights	500	500	500	500	500	500
Individuals	16	4	54	9	39	65
Recaptures	19	1	41	5	36	65
Total Captures	35	5	95	14	75	130
HOUSE MOUSE (Mus musculus)						
Individuals	3	0	30	4	28	43
Recaptures	0	0	25	3	28	49
WESTERN HARVEST MOUSE (Reithrodontomys megalotus)						
Individuals	9	3	18	2	11	12
Recaptures	11	1	15	2	8	6
CALIFORNIA VOLE (Microtus californicus)						
Individuals	0	1	5	3	0	10
Recaptures	0	0	0	0	0	10
DEER MOUSE (Peromyscus maniculatus)						
Individuals	2	0	1	0	0	0
Recaptures	8	0	1	0	0	0
NORWAY RAT (Rattus norvegicus)						
Individuals	2	0	0	0	0	0
Recaptures	0	0	0	0	0	0

Small Mammal Captures and Recaptures
November, 1987 to March, 1988

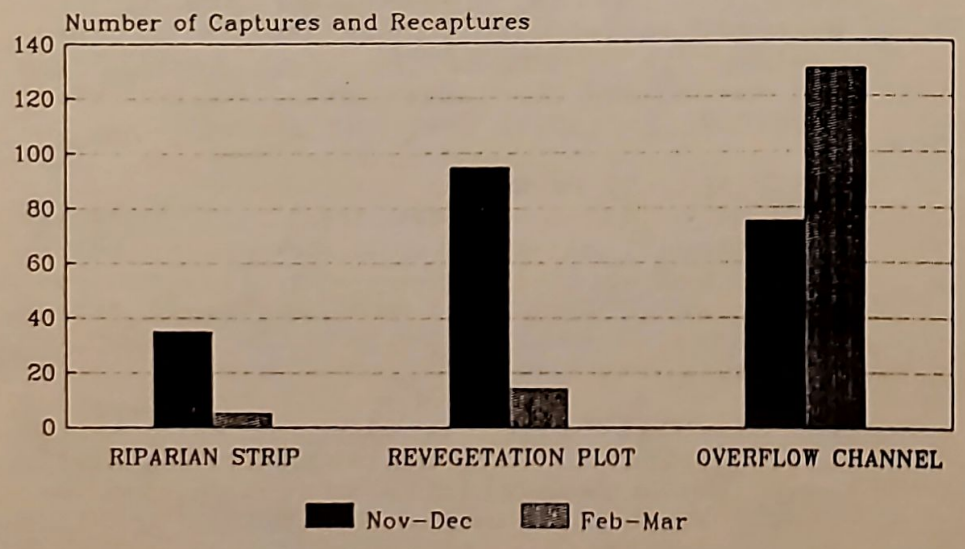
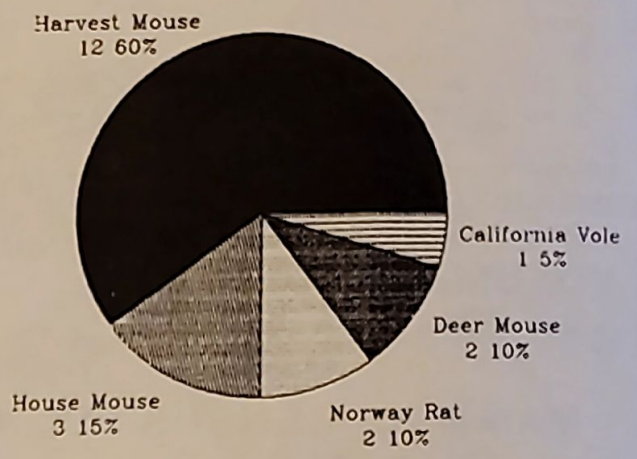
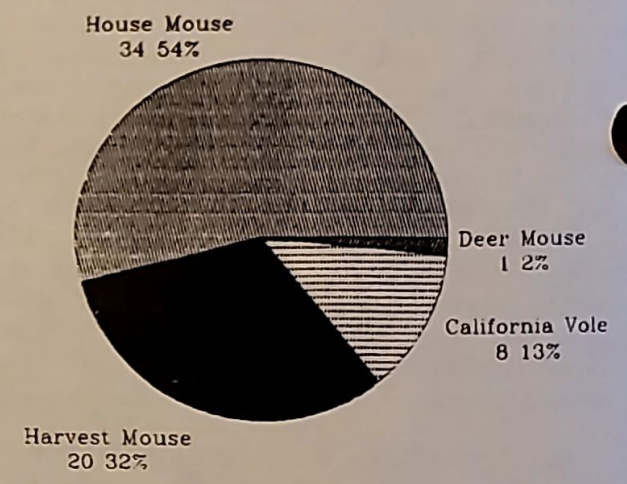


FIGURE 1

Riparian Strip



Revegetation Plot



Overflow Channel

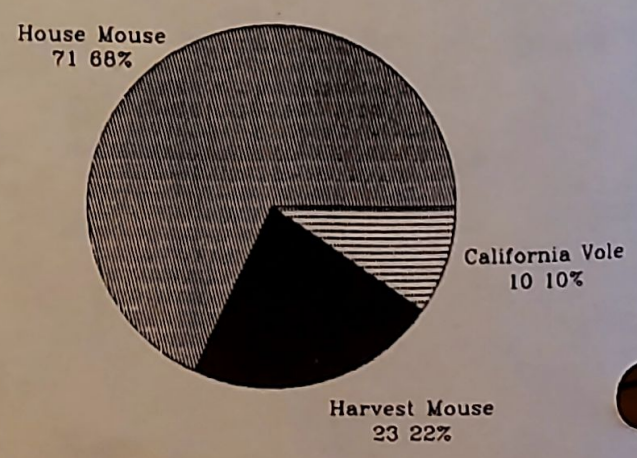


FIGURE 2

each morning. Trapped animals were removed and processed and unoccupied traps were closed. Later in the afternoon each trap was reset and rebaited as necessary. The following information was recorded for each animal: species, age (if possible), sex and reproductive condition, weight, and trap location within the grid. The animal was then marked with a metal ear tag and released in the same location.

RESULTS

Mammal capture data are summarized in Table 1 and Figures 1 and 2. In all areas except the overflow channel, more mammals were captured in the November-December trapping period. The greatest species diversity was found in the riparian strip where five species were encountered during both trapping periods.

DISCUSSION

Although the greatest species diversity was encountered in the riparian strip fewer individuals were captured in this area than any of the other areas. The high species diversity is probably due to diverse vegetation characteristics of the riparian strip. The general lack of suitable ground cover and forage under the dense canopy problably accounted for the small number of individuals.

The adjacent revegetation plot differed from the overflow channel in the fall season primarily because of the irrigation program in the revegetation plot. The water stimulated the growth of weeds and grasses which provided an abundant food source for voles. Such weedy growth was not found in the overflow channel during the fall. Winter rains brought new growth to the overflow channel and probably accounted for the subsequent reappearance of the California vole in this area. This new vegetation growth may also have triggered the start of the vole's reproductive cycle which is initiated by the chemical 6-methoxybenzo-xazolinone (Vaughan 1986). This chemical is thought to synchronize the breeding season with increased food abundance.

There was not the same increase in vole abundance in the overflow channel during the spring (see Table 1). The aggressive weed control program which occurred in December and January rendered the plot generally unsuitable for small mammals. The weedy ground cover, which was nearly a meter high during the fall trapping period was less than 20 cm high during the spring trapping.

The house mouse and California vole populations began breeding in the overflow channel in late winter. Young animals of both species were captured during the spring trapping. Harvest mouse populations remained largely unchanged between trapping sessions. This species is not reproductively active until late March (Hamilton and Whitaker 1979).

Small mammal populations appear to be very dynamic in several habitats within overall riparian habitat encompassed by the Coyote Creek Riparian Station. These fluctuations in both species and numbers are probably due to both natural and man-altered processes. It will be interesting to note future changes in these populations over the long-term as the revegetation project develops and as we acquire more consistent data.

ACKNOWLEDGMENTS

I thank CCRS volunteers Mike Crawford, Stephanie Jones, Joe Lafevre, David Moyles and Allen Royer who assisted with the trapping; Dr. Howard Shellhammer, San Jose State University who loaned some of the Sherman traps; Chris Cutler and Rob Klinger who provided valuable information on trapping technique and Dr. L. Richard Mewaldt who assisted in the preparation of this manuscript.

LITERATURE CITED

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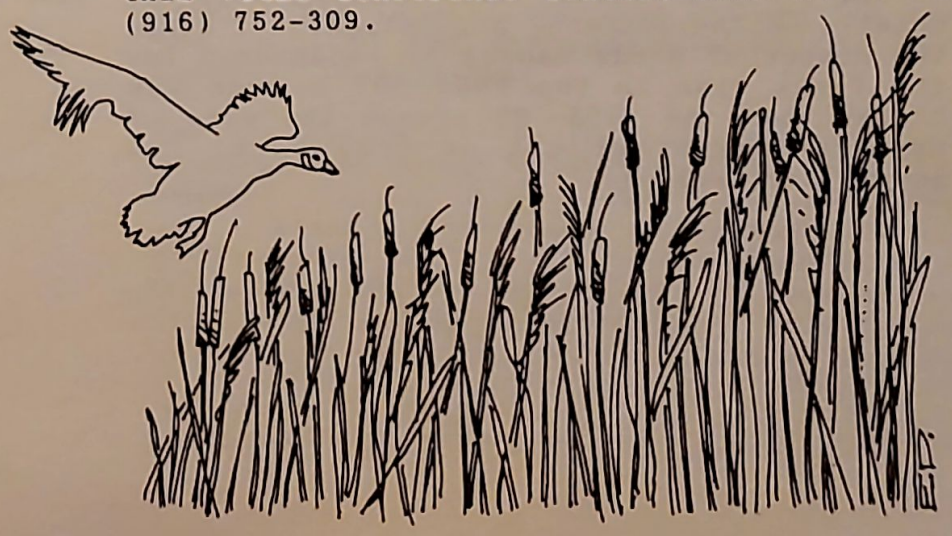
RIPARIAN SYSTEMS CONFERENCE

The fight to save riparian ecosystems in California requires that all of us be armed with the most current information on preservation, restoration and legislation. On September 22-24, 1988, the University Extension at UC Davis will be hosting the second California Riparian Systems Conference. This event will focus on issues surrounding the destruction of streamside lands, and on progress made in learning to manage these resources since the first conference in 1981. Also discussed will be new concerns for restoration of riparian habitats along disturbed river and creek banks throughout the state.

Bringing together both professionals and lay environmentalists, one key objective of the conference is to help both groups understand the roles that nature and humans can play in protecting this important part of our environment.

The conference schedule combines professionally oriented daytime programs Thursday and Friday, with seminars to bring professionals, activists and the general public closer together on riparian issues during the evenings and on Saturday. CCRS members and staff will be presenting at least one paper at this important conference. For more information on this vital conference contact Dana Abell at (916) 752-309.



THE 1985–'86 ZONOTRICHIA SEASON

BY

Max W. Lincoln, M.D.

In the January issue of *RiparianNews*, I reported on the 1986-'87 Zonotrichia season (Lincoln 1988). I present here similar data from the 1985-'86 'crowned sparrow season using the same three taxa, Gambel's White-crowned Sparrow (Zonotrichia leucophrys gambelli) [GWSP], Puget Sound White-crowned Sparrow (Zonotrichia l. pugetensis) [PWSP] and Golden-crowned Sparrow (Zonotrichia atricapilla) [GCSP]. As in the previous report, data from the concerning the return of birds banded in earlier years will be included to give a complete picture of the 'crowned sparrow population processed at CCRS during the 1985-'86 season. Where possible, a comparison between the 1985-'86 and the 1986-'87 data will be made.

During the 1985-'86 season 1,054 individual 'crowned sparrows were processed (banded or recaptured) at CCRS (see Figures 1 and 2 for a summary of capture statistics for the 1985-'86 season).

Percentages and Capture Rates of 'Crowned Sparrows 1985–1987

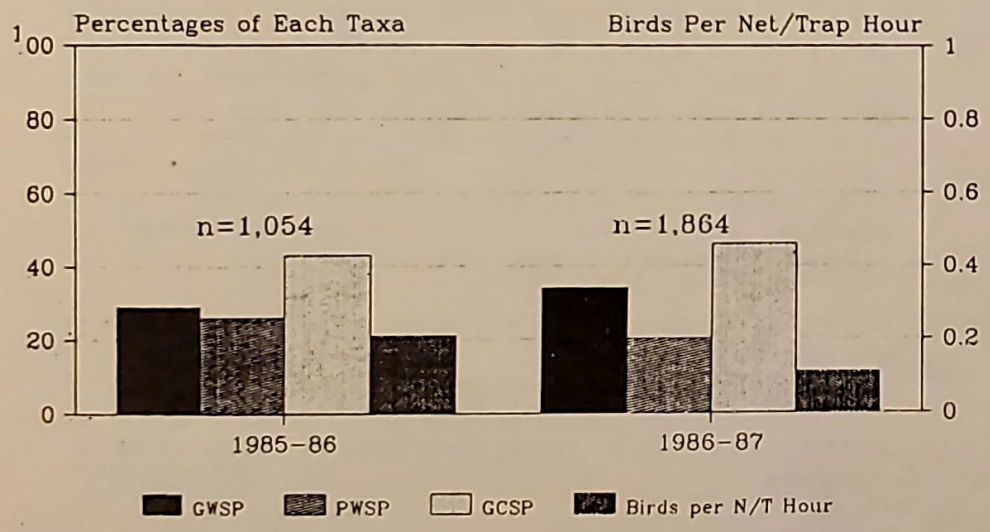


FIGURE 1

The proportion of the 1985-'86 'crowned sparrow wintering population represented by each of the three taxa was similar to that found in the 1986-'87 season (see Lincoln 1988 for details on the 1986-'87 population). Although the number of birds banded or recaptured for the first time in the 1986-'87 season was higher than the 1985-'86 season the rate of capture (birds per net or trap hour) was lower (see Table 1).

Table 1. Population and capture rate differences for 'crowned sparrows, 1985-'86 season.

	1985-'86	1986-'87
GWSP		
number	309	645
% of population	29	34
no. per net/trap hr	.06	.04
PWSP		
number	272	369
% of population	26	20
no. per net/trap hr.	.05	.02
GWSP		
number	473	850
% of population	45	46
no. per net/trap hr.	.09	.05

'Crowned Sparrows Banded or First Recaptured 1985–1986 Season

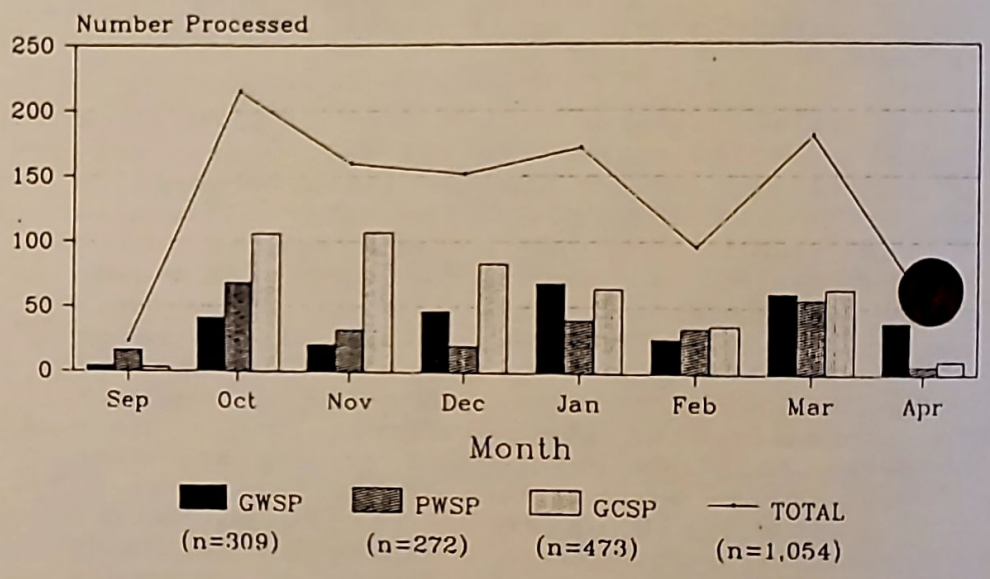


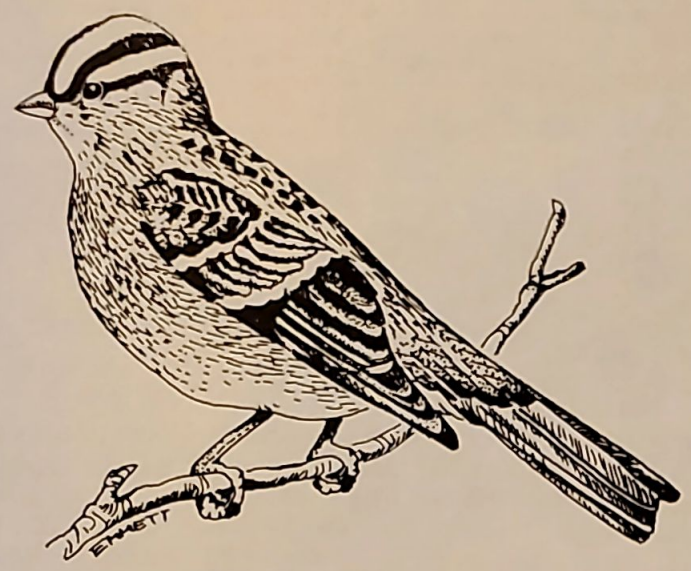
FIGURE 2

One possible explanation for this difference in capture rates may be the three-fold increase in net/trap hours (5,062 in 1985-'86 and 17,479 in 1986-'87) resulted in the capture of nearly the entire 'crowned sparrow population within our study area.

The first and last encounter dates for all three species are comparable for both seasons (Table 2.)

Table 2. First and last encounter dates of crowned sparrows in the 1985-86 and 1986-87 winter seasons at CCRS.

Period	Gambel's Wh-cr Sparrow	Puget Sound Wh-cr Sparrow	Golden-crowned Sparrow
First cap			
1985	Sep 25	Sep 18	Sep 25
1986	Sep 22	Sep 10	Sep 20
Last cap.			
1986	May 7	Apr 23	May 11
1987	May 3	Apr 28	May 6



WHITE-CROWNED SPARROW
BY EMMETT DINGEL

Criteria used for aging the 'crowned sparrows processed during the two seasons were the same. These criteria include:

1. All White-crowned Sparrows with brown crowns were considered HY/SY birds.

2. All White-crowned Sparrows with black and white crowns were considered AHY/ASY birds until 1 March. After 1 March, birds in this category were processed as "age unknown" since some SY birds may have completed their first prealternate (prenuptial) molt.

3. All Golden-crowned Sparrows with incomplete skull ossification were considered HY/SY birds.

4. Golden-crowned Sparrows with complete skull ossification and blackish crown stripes extending above the lores were considered to be AHY/ASY birds until 1 March. After 1 March, they were considered "age unknown" for the same reasons as described above.

5. Golden-crowned Sparrows with black crown stripes extending beyond the eyes (Cogswell Class 4 & 5) were considered AHY/ASY birds (Cogswell 1958).

Table 3. Ages of crowned sparrows at CCRS in the 1985-86 and 1986-87 winter seasons. Percentages of known-age sparrows are in parentheses.

Period	Gamb Wh-cr Sp			Pug Sound Wh-cr Sp			Golden-cr Sp		
	HY/SY	AHY/ASY	Unkn	HY/SY	AHY/ASY	Unkn	HY/SY	ASY/ASY	Unkn
1985-86	84 (35)	153 (65)	72	127 (56)	99 (44)	46	109 (38)	175 (62)	189
1986-87	438 (80)	108 (20)	99	228 (71)	94 (29)	47	480 (70)	202 (30)	168

As shown in Table 3, there was a noticeable difference in the relative age of the three 'crowned sparrows at CCRS between the two seasons. The reasons for the larger percentage of HY/SY birds captured during the 1986-'87 season as compared to the 1985-'86 season are not clear. As we continue to collect population data on the 'crowned sparrows at CCRS perhaps an explanation or decided trend will become apparent.

Estimated sex ratios for populations captured during both seasons were determined using the computer program described by Mewaldt and King (Mewaldt and King 1986).

As in the previous article on 'crowned sparrow populations, for greater accuracy, separate estimates were made for the two primary age classes (AHY/ASY & HY/SY) due to the significant differences in wing lengths between the two groups.

Table 4. Estimated sex ratio and wing-lengths by age and sex in Crowned sparrows in the 1985-86 winter season.

	HY/SY		AHY/ASY	
	Males	Females	Males	Females
Gambel's White-crowned Sparrow				
Number	49	32	77	67
(%)	(60)	(40)	(53)	(47)
Wing-length				
Mean (mm)	76.0	72.1	77.1	72.8
± SD	1.8	1.9	1.6	1.7
Low	72	68	73	69
High	80	76	81	77
Puget Sound White-crowned Sparrow				
Number	72	53	52	46
(%)	(58)	(42)	(53)	(47)
Wing-length				
Mean (mm)	69.2	66.6	70.6	68.1
± SD	1.7	1.7	1.6	1.8
Low	65	64	67	65
High	72	71	74	72
Golden-crowned Sparrow				
Number	47	62	91	83
(%)	(43)	(57)	(52)	(48)
Wing-length				
Mean (mm)	78.1	74.3	79.5	75.2
± SD	1.9	1.8	1.8	1.9
Low	74	70	75	71
High	82	79	84	80

In both the Gambel's and Puget Sound White-crowned Sparrows the percentages of males were greater in both the HY/SY and AHY/ASY populations. This is consistent with the findings of the 1986-'87 season and also with other studies (Mewaldt and King 1986). However, the percentage of males in the HY/SY populations was greater than in the AHY/ASY group. This is a reversal of the results from the 1986-'87 and no clear reason for this reversal is apparent.

The sex ratios in the Golden-crowned Sparrow population were comparable in the two seasons. Again, in the 1985-'86 season there was a higher percentage of females in the HY/SY group and roughly equal numbers of males and females in the AHY/ASY population. It remains to be determined if this is our normal sex ratio pattern for these species. In general, the sex ratios of both the HY/SY and AHY/ASY populations for all three species deviated less than 7% between seasons. More

Table 5. Estimated 'crowned sparrow sex ratios by age and winter season, 1985-87.

Taxon and season	Male/female sex ratio	
	HY/SY	AHY/ASY
Gambel's White-crowned Sparrow		
1985-86	60/40	53/47
1986-87	53/47	56/44
Puget Sound White-crowned Sparrow		
1985-86	58/42	53/47
1986-87	50/50	60/40
Golden-crowned Sparrow		
1985-86	43/57	52/58
1986-87	43/57	50/50

data from future seasons will be necessary before the significance of this degree of variation can be fully understood.

During the 1985-'86 season, 232 'crowned sparrows which had been banded in previous seasons were captured and processed. When comparing the 1985-'86 to the 1986-'87 seasons one must keep in mind that more than three times the number of net/trap hours were accumulated in the 1986-'87 season than in the previous season. Table 6 below summarizes the return rates of 'crowned sparrows for the 1985-'86 and 1986-'87 banding periods.

Table 6. Crowned sparrows returning in winter seasons 1985-87 from original bandings back to 1981-82.

Season and taxon	Banded	Ret 85-86		Ret 86-87	
		#	%	#	%
1981-82					
GWSP	87	5	6	3	3
PWSP	36	1	3	1	3
GCSP	56	0	0	0	0
1982-83					
GWSP	174	0	0	0	0
PWSP	46	1	2	2	4
GCSP	94	11	12	4	4
1983-84					
GWSP	206	10	5	1	0.5
PWSP	56	9	16	7	12
GCSP	127	18	14	8	6
1984-85					
GWSP	323	63	20	37	11
PWSP	73	24	33	13	11
GCSP	246	90	37	57	23
1985-86					
GWSP	237	--	--	25	13
PWSP	282	--	--	37	11
GCSP	350	--	--	78	22

Table 7 is a survivorship schedule, produced in collaboration with Dr. Richard Mewaldt, based on data thus far analyzed.

Table 7. Partial life table for wintering crowned Sparrows. It is based on data, thus far available, in the CCRS data bank.*

Season	Banded	Number returning in years after banding				
		1	2	3	4	5
1981-82	179	-	-	-	6	4
1982-83	314	-	-	12	6	-
1983-84	389	-	37	17	-	
1984-85	642	177	107	-		
1985-86	869	140	-			
1986-87	1590	-				

* Includes Zonotrichia leucophrys gambelii, Z. l. pugetensis, and Z. atricapilla.

It may be noted from the above table that, whereas 27.6% (177 of 642) of the birds banded in the 1984-'85 winter season returned to our nets and traps in 1985-'86, only 16.1% (140 of 869) banded in 1985-'86 returned in the 1986-'87 winter season. How this rather large reduction in numbers of returning adults may or may not relate to reported reproductive failures in 1986 (DeSante and Geupel 1987) remains to be determined.

A total of 232 'crowned sparrows were known to be alive in the 1985-'86 winter season. Of these 232 individuals, 134 are known to have returned in the 1988-'87 winter season for a known minimal survival rate of 57.8%.

This survivorship figure appears to be good based upon similar data collected elsewhere in the vicinity of San Jose (per. com. L. R. Mewaldt). Before any substantive conclusions may be drawn more data must be available from CCRS and a more careful comparison with Dr. Mewaldt's data must be made.

DISCUSSION

In many respects data from the two winter seasons (1985-'86 and 1986-'87) were comparable. The percentage of each taxon in the overall population were approximately the same (GWSP 29%/34%; PWSP 26%/20% and GCSP 45%/46%). The first and last encounter dates coincided closely for the two seasons (see Table 2). The estimated sex ratios in both the HY/SY and the AHY/ASY age groups were similar (7% difference).

However, there was a marked difference between the two seasons with regard to relative ages of the 'crowned sparrow populations. During the 1985-'86 season the total processed population that could be reliably aged (n=747) consisted of 43% (n=320) HY/SY birds and 57% (427) AHY/ASY birds. In contrast the 1986-'87 population (n=1,550) was made up of 74% n=1,146) HY/SY birds and only 26% (n=404) AHY/ASY birds.

Another difference was evident in the return rate from the previous year. In 1986-'87, 140 birds returned that had been banded in the previous season for a return rate of 16%. However, in the 1985-'86 season 177 birds were recaptured that had been banded in the previous season for a return rate of 28%.

This was in spite of less than 1/3 the number of net/trap hours of operation in the 1985-'86 winter season.

These differences between the two seasons could possibly be explained by losses in the HY/ASY population which took place after breeding or in the return migration to CCRS. Further monitoring of the 'crowned sparrow population at CCRS will be necessary before we can thoroughly understand the significance of these population fluctuations.

ACKNOWLEDGMENTS

I thank all the CCRS banders for their faithful data recording which made this analysis possible. Again, I am especially grateful to Dick Mewaldt for his continued support, suggestions, computer and editorial assistance and collaboration.

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OPPORTUNITY KNOCKING

If you are interested in learning more about our program or taking an active part in our activities, we urge you to let us know. In the Active Member mode, we welcome persons wishing to participate as volunteers in our ongoing and planned activities, such as:

- Bird capture and banding
- Creekside-trail bird censusing
- Breeding Bird Atlas (SC County)
- Riparian (plant) restoration
- Trail and net-lane maintenance
- Data entry at our Computer Center
- Data analysis
- Mammal study and censusing
- Herptile study and censusing
- Librarian
- Raptor banding and biology
- Custodial work and maintenance
- Manuscript preparation - popular
- Manuscript preparation - scientific
- Building and repair of live traps
- Endowment Fund raising
- Bird house repair and management
- Hummingbird banding and biology
- Botanical inventory
- Band inventory and management
- Brochure development

Should you wish to actively participate in one or more of these activities (to become an Active Member), get in touch with Dick Mewaldt, Blair Wolf, any member of the Board, or another of our Active Members.

CCRS FISCAL SUMMARY – 1987

This report summarizes CCRS fiscal matters for its first complete year as an independent organization. During 1987 we obtained our first contract (SCVWD) and hired our first employee (Biologist Blair Wolf).

BALANCE IN GEN FUND 1 JAN 1987 . . . $813.88

INCOME TO GENERAL FUND:

Memberships (incl Life) .	$4,675.00
Donations	6,911.00
Endowment earnings . . .	1,348.05
Bank interest	194.06
Contract income	6,211.49
Total . . .	$19,339.60

EXPENDITURES:

PG&E	$418.91
Pac Bell	359.00
Insurance	507.00
Payroll	6,250.39
Employer contributions . .	763.89
Nets and traps	1,504.20
Feed and bait	360.57
Equipment	2,764.90
Office supplies	362.04
RipariaNews	897.87
Misc Expenses	908.51
Transfer to Endowment . .	4,103.50
Total . . .	$19,200.78

BALANCE IN GEN FUND 31 DEC 1987 . . $952.70

GENERAL ENDOWMENT FUND [In Dean Witter U. S. Govt Secu. Trust]

Balance 1 Jan 87 (Purchase price) $13,448.17

Addition Jun	$1,395.00
Addition Oct	1,825.00
Addition Dec	883.50

Balance 31 Dec 87 (Purchase price) $17,551,67
[Year-end book value = $16,791.94]

L. Richard Mewaldt. Treasurer

PATCHES AVAILABLE

3/4 ACTUAL SIZE

Beautiful three-color embroidered patches are available for purchase. They are $3.50 each or 3 for $10.00. David Johnson designed the patches and donated the cost of their production.

NEW MEMBERS

We welcome 31 new members who joined us in the last three months:

Beauchamp, R. Mitchel	Member
Bennett, Dr. Bob L.	Member
Becker-Haven, Jane	Member
Brown, Bob	Member
Browning, Phyllis	Member
Caldwell, Jeffrey A.	Active Member
Dickson, Dorin F.	Member
Haven, Chris	Member
Craig, Diana L.	Active Member
Currall, Derek	Active Member
Elliott, Richard	Member
Ernst, Heidi	Active Member
Goraj, Francis and Jane	Life Members
Heller, Gloria	Active Member
Hoyt, Karen	Active Member
Kettmann, Gerard J.	Member
Klein, Abe	Active Member
Kushera, Sybil	Member
Le Fevre, Joseph F.	Active Member
Neibaur, Lynne	Active Member
Rondeau, Dr. Hawkeye	Active Member
Thompson, Dr. Lloyda	Member
Waldorf, Jerry	Active Member
Wallace, Beverly M.	Active Member
Wilcox, Mark D.	Active Member
Wolfe, Chris	Member
Yeilding, William R.	Member
Young, Jean S.	Member
Young, Lou S.	Member
Zubkoff, Jeanette L.	Active Member

Membership renewals are coming in very well. Some have upgraded their membership categories or have sent along an additional contribution. We are especially pleased that Jane and Francis Goraj, formerly of Palo Alto, but who now live in Glenunga, South Australia, have become Life Members. The Gorajs also made a substantial contribution of books to our CCRS Library.

Life Memberships in their full amount, 10% of all other memberships and membership renewals, and 10% of most other contributions (including some generous contributions by our Life Members) help assure the future of CCRS by being placed into our CCRS Endowment Fund.

ARE YOU A MEMBER?

Regular Member	$15 annually
Senior Member	10 annually
Student Member	10 annually
Sustaining	75 annually
Corporate	500 annually
Life Member	500 single payment or installment plan

Life Memberships, 10% of other Memberships (including renewals), and 10% of contributions (not otherwise specified) go into the CCRS Endowment Fund now earning about $145 per month. CCRS is a non-profit corporation with U. S. and California tax exempt status. We welcome Memorial contributions which will be acknowledged in *RiparianNews*. We will consider other special purpose contributions. We welcome bequests, including those of real property.

MEMBERSHIP AND CONTRIBUTIONS

At press time, our paid-up Membership was approximately 150. Our roll includes Life Members Evelyn Hart Case, Marilyn & Russell Fowler, Jane & Francis Goraj, Dorothy B. Hunt, David B. Johnson, Frances L. Mewaldt, L. Richard Mewaldt, Vi Nisonger, Alfred Schmitz, and Jack L. Wallace.

Those Members of CCRS who in the past year made monetary contributions in addition to their basic membership were Evelyn Hart Case, Howard L. Cogswell, Maryann Danielson, John Delevoryas, Phil Hand, H. Thomas Harvey, Dorothy B. Hunt, Winifred Hurlbert, Elgin Juri, Gerard J. Kettmann, Sandra S. Kinchen, James R. King, Rob Klinger, Peter La Tourette, Rosalie Lefkowitz, Clarice Lincoln, Max W. Lincoln, Frances L. and L. Richard Mewaldt, James G. Miguelgorry, Dolores W. Norton, Oliver & Anita Pearson, Joan Priest, C. John Ralph, Michael Rigney, Theresa Rigney, Allen Royer, Allan Sillett, Jayne Smith, Otis Swisher.

Donations were also received from Ohlone Audubon Society and Santa Clara Valley Audubon Society.

COYOTE CREEK RIPARIAN STATION

Coyote Creek Riparian Station is a non-profit California membership corporation with federal and state tax exempt status. CCRS is dedicated to the study, restoration and management of riparian and wetland habitats. CCRS is located on limited-access land of owned by the City of San Jose, Department of Water Pollution Control along the last two miles of Coyote Creek. The Coyote Creek Riparian Station operates in cooperation with the Santa Clara Valley Water District, San Jose/Santa Clara Water Pollution Control Plant, Harvey and Stanley Associates, San Jose State University, U. S. Bird Banding Laboratory, Laurel, MD., San Francisco Bay National Wildlife Refuge, and the California Department of Fish and Game.

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