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Fall 1995

Newsletter of the Coyote Creek Riparian Station

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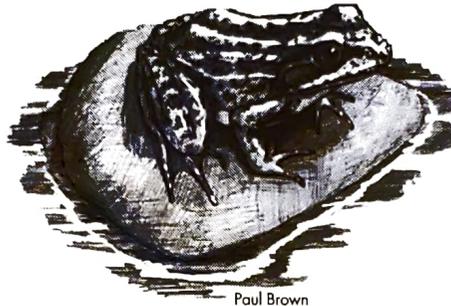
Conserving the California Red-legged Frog

by Mike Westphal

They are the keepers of the color red. Their moist skins are the palette from which Nature chose the hues for the redwing black-bird's epaulettes, the downy woodpecker's crest, the sharpshinned hawk's eyes, the kingfisher's breast. The California red-legged frog in all its wet glory displays too many shades of red to describe: brick, scarlet, crimson, flame, blood red. Their colors have been likened to a summer sunset's, a comparison that is perhaps too apt in 1995, for like a sunset, the frogs may soon fade away.

Since 1993 Coyote Creek Riparian Station has been conducting groundbreaking research on the California red-legged frog, *Rana aurora draytonii*, in the creeks and rivers of Central California. As these amphibians have revealed their secrets to the staff and volunteers of CCRS, a picture has emerged of a consummate exploiter—and indicator—of living riparian habitat.

The life history of the California red-legged frogs is a textbook study of a healthy creek. As subadults, they hide in shallow rocky riffles or in orphaned stretches of intermittent creeks, out of reach of hungry fish. Grown to their full five inches from snout to rump, they seek deep pools and oxbows with overhanging banks for shelter from raccoons and other large predators. Here they hide by day in the root balls of mature riparian trees, popping out at night to lurk in willow thickets where they wait to gobble unsuspecting visitors to the creek,



Paul Brown

Red-legged frogs, *Rana aurora*, are rapidly declining due to the introduction of the voracious bullfrog and loss of habitat.

which includes everything from roving beetles to thirsty deer mice. In the fall the frogs leave the creek and hunker down in dense blackberry thickets and small mammal burrows as much as 80 feet or more from the creek until the winter storms send them hopping overland after sunset on some still poorly understood mission. In the course of these wanderings they can travel a mile or more from their home waters. Where are they going? One possibility is that they are seeking deepwater ponds and lagoons in which to mate and lay their eggs; or perhaps they are roaming in search of prey. In either case they become, if only for a few nights, exploiters of a much larger area in the watershed in which they live, adding uplands to their roster of habitat needs. As tadpoles they require deep water for three months or longer to develop into subadults. When they grow their legs and lose their tails they, like their parents, take to the land to find a creek-side home of their own.

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Amphibian Accomplishments

by Mike Westphal and Rich Seymour

Since its inception in 1992, the amphibian research unit at CCRS has conducted important research into the biology and conservation of California's native amphibians. We strive to maintain a high ethical standard in our scientific work and an unflagging commitment to conservation of native amphibians and their habitats. Our policy is to always err on the side of caution when research activities may impact a sensitive species and to stand up for the truth when scientific data is applied to conservation issues. Here is a summary of some of the projects on which we have been working.

In 1992 CCRS biologists documented the presence of California tiger salamanders at Lake Lagunita on the Stanford campus after an apparent 20 year "absence." Recognizing the importance of this sensitive species, presently a candidate for the Federal endangered species list, Stanford University asked CCRS to investigate—without having to trap or to clip salamanders—terrestrial movements of juvenile and adult salamanders. For the first time, quantitative data was gathered on direction of travel to and from the breeding pond, timing of migration, and the differences in behavior between juvenile and adult salamanders. CCRS has worked closely with Stanford's Center for Conservation Biology, collecting data on impacts from automobiles, storm drains and off-highway vehicles. Most importantly, hundreds of adult and juvenile

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Director's Note

by Michael Rigney, Executive Director

Of Change, Sandpiles and Riparian Stations

by Michael Rigney

"Life is always motion and change. Fueled by the fruits of sun and soil, water and air, we are constantly growing and creating, destroying and dying, nurturing and organizing. And as we change, the world changes with us... Change begets change, then feeds on its own momentum until finally the entire globe seems to be accelerating toward some kind of profound transformation." Al Gore - Earth in Balance.

Vice-President Gore elegantly encapsulates the process of both natural and human change in his insightful and all too predictive book. It is this sense and process of change which can be both sobering and exciting. In previous issues I have alluded to the growing number of groups throughout the Bay Area following CCRS's lead in documenting riparian habitat losses and gains within their own watersheds and the role CCRS has played in fostering the evolution of watershed thinking. Despite the rhetoric surrounding the national debate on environmental issues, it is clear that a significant number of Bay Area citizens are growing increasingly concerned about habitat destruction, particularly along their neighborhood creeks and streams. We seem to have reached a critical mass, with so many groups wanting direction and assistance that CCRS can no longer handle the demand. A new level of organization appears to be needed to continue this growth process.

Mr. Gore follows the above paragraph with a synopsis of two investigators' life-long study of how sandpiles are built. This would seem a far fetched analogy to describe complex organization or behavioral change but on closer examination, it fits well. Their studies showed that as grain falls upon grain the pile naturally grows by a series of small or large avalanches—all triggered by a single grain of sand. Small changes reconfigure the sandpile and ultimately render it susceptible to larger changes. Importantly, this predictable response cannot occur until the pile reaches a critical state of potential change with grains of sand in direct or indirect physical contact—a network

of real and potential energy for change just waiting for the single grain of sand to bring about actual change in the form of an avalanche.

The sandpile theory is an irresistible metaphor for the state of watershed activities in the Bay Area. With new groups coming on-line nearly every week, the "pile" of watershed groups making real changes in their areas, an avalanche of interest has spawning a new level of organization. Recently, members of several core groups met to found the Bay Area Regional Watershed Network which will be housed, at least temporarily, at the San Francisco Estuary Institute (SFEI). With its goal of providing stable funding for these emerging groups as well as providing for efficient technical information exchange, this new network should provide a foundation for increased watershed protection and restoration.

The challenge of making this network live up to its potential is a challenge I have taken on at a personal level - prompting still other changes. As of October 20, 1995, I will step down as Executive Director of CCRS to help foster this new Network. I have accepted a position with SFEI as Watershed Program Coordinator and will work closely with Network groups to spread the riparian station concept throughout the Bay Area. The Board of Directors has accepted my recommendation that David Johnston, our current Research Director, assume my duties on an interim basis. My new position, however, will allow me to continue to maintain working ties with CCRS on a regular basis and I plan to devote at least one day a week to volunteer activities here.

It is with no small degree of regret, tempered by utmost confidence in current staff and volunteers, that I "leave" CCRS. The years of change and growth have brought us together as an extended family. The challenges which lie ahead, both broadly within the field of national environmentalism and narrowly within the Bay Area, are daunting. But judging from the mounting grains of sand, CCRS, the Bay Area Network and watershed health in general, will fare well.

Meet Mike Westphal and Richard Seymour

Have Stebbins' Guide - Will Travel

Many CCRS members may not be aware that CCRS has had a herpetology research unit since 1992. Herpetology is the study of reptiles and amphibians, though our work has focused mostly on amphibians (frogs and salamanders) thus far. The 'herp crew' spend much of their time in the field, and they often work at night, so some early rising banders may not have noticed them. We occupy an office in the white trailer which once housed CCRS' main office before the new trailer arrived.

The staff of the herpetology unit consists of two station employees, Mike Westphal

and Rich Seymour, and the assistance of many dedicated volunteers. Mike and Rich have always been interested in critters and in spreading the word about them; hence, Mike's degree from U.C. Berkeley in Linguistics and Rich's degree from U.C. Santa Cruz in Environmental Studies. Both have experience as naturalists with the State Park system. Mike is presently Head Interpreter at Butano State Park and Rich worked at Big Basin State Park for four years. In spring, they both conduct environmental education programs for the Web of Life School. Their swear by Robert Stebbins' *A Field Guide to Western Reptiles and Amphibians*.



Rich Seymour (left) and Mike Westphal practice their frog mating calls. This particular tune, "Froggy Comes A-Courting," attracts suburban-genotype *Rana catesbeiana* throughout a three block area.

The Post-Atlas Database

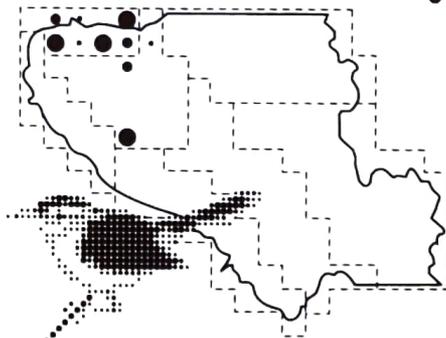
by Michael M. Rogers

Now that the field work for our atlas is complete, what should you do with all those interesting breeding confirmations that you have noted this summer? For those of us that have been bitten by the "atlasing" bug it's hard to resist getting out the USGS maps to look up the number of the block the confirmation was in (and perhaps the exact coordinate of the location) and sending them in. But is this information of interest to anyone any more? The answer is yes!

We have preliminary species maps for 171 species and the county contains 168 atlas blocks. This multiplies out to an astounding 28,728 potential dots on our atlas maps. Despite improving our coverage in the 1993 "extension year" of field work, it is obvious that when dealing with numbers this large that we will have missed a few things. Additionally, even if a species was found to be present in a block, we did not, of course, always manage to confirm that it was breeding. Thus there is still plenty of opportunity to come across breeding evidence that "upgrades" the status of a particular species in a given block. If you do, we would like to hear about it! This information will prove to be very useful for the authors of our atlas's species accounts; if they are unsure about the status of a bird in a particular area of the county based on the atlas data, perhaps data gathered since can provide some insight to assist in their evaluation. Also, these data will provide a useful extension of our atlas database when it comes time for future atlas efforts to evaluate when, where, and if changes in breeding distributions have occurred. Because of this we are systematically trying to keep track of "significant" breeding season observations from the post-atlas years (1994 onward).

There are many possible ways in which a record can be significant compared to the entries in our database. The most obvious way is when it upgrades the status of the bird in the block under consideration, i.e., when it adds a new dot to or changes the size of an existing dot on our atlas maps. In some cases this may simply consist of finally confirming that annoying American Robin in the San Antonio Valley that you never managed to successfully do during the atlas. In other cases significant range expansions may be indicated by the discovery of a species in

Santa Clara County



Breeding Bird Atlas

blocks where it was undetected during the atlas. The post-atlas database already contains several examples of both types of additions.

Most dramatically, we have an example of a species that never was found breeding in the county prior to or during the atlas. Single pairs of **Black Skimmers** have nested on islands in salt ponds north of Moffett Field in 1994 and north of Shoreline Park in 1995. The documentation of this will be of great interest to people charting this bird's spread in the future and the post-atlas database contains the information on the timing and location of these breeding attempts.

A significant amount of new breeding evidence has been gathered over the past two summers from censuses of our urban creeks made by Steve Rottenborn. In addition to many new breeding confirmations for species that were known or suspected to be present on the valley floor, there are many surprises in his data, including breeding **Common Mergansers**, **Western Screech-**

As of August 23, 1995 the Atlas Review Committee had met 18 times and was nearing the completion of the database review, having completed a first pass through all the species in the database. By the time you read this the review process will be largely complete and we will be moving on to the next phase of writing up our atlas — writing the species accounts, a job that will be supervised by the currently forming "Editorial Committee." If you are interested in authoring a species account or in helping out in other ways please contact Bill Bousman at 415-322-5282.

Owls, and a **Yellow-breasted Chat** family in San Jose! For three other species our atlas records give a clearly inadequate picture of breeding distribution. Specifically searching for **Red-shouldered Hawk** nests has resulted in confirmed breeding in 17 blocks in which no breeding was noted during the atlas. **Black-chinned Hummingbirds** were found breeding in 7 new blocks and probable breeding evidence was found in 2 more, completely redefining the range of this species in the county. Lastly, our atlas records indicate an absence of **California Thrashers** in riparian habitat in urban areas of the valley floor. In reality they are indeed present, though rare, with birds found in 8 new blocks (and breeding confirmed in 6 of them). It is likely that none of these examples demonstrates actual range expansion since the completion of our atlas field work two years ago. Much more likely is simply that our atlas coverage was nowhere near as thorough as the recent census work Steve has done. Thus it is critical that this information about the shortcomings of our atlas data be conveyed in the species accounts to ensure that comparisons with future atlas efforts will have an accurate baseline distribution with which to compare.

Our atlas has also documented the timing of the breeding cycle for our breeding birds. This information will be included in our published atlas but, like the maps, it is often somewhat incomplete, especially for species that are difficult to confirm. If you have a breeding record that seems unusually early or late it should be included in the post-atlas database. Examples of such records include a **Killdeer** nest with eggs near Felt Lake at Stanford on Feb 20, 1995, over a month earlier than the first such record in our database, and a **Dark-eyed Junco** nest with eggs at Stanford on Aug 2, 1995, six weeks later than the latest egg date recorded during our atlas (although numerous database records of recently fledged young into early August indicate that such late nesting may not be that unusual). **Mourning Doves** nest-building at Stanford on Jan 25, 1995 preceded atlas records of such activity by over a month. All these records are of great interest even though they do not represent new breeding confirmations for their respective blocks.

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California Red-legged Frog

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Oxbow, riffle, intermittent reach, root ball, willow thicket, blackberry thicket, deep-water pond, uplands—it reads like a “Who’s Who” of riparian habitat components. Unfortunately, the diverse needs of the frog can be their undoing, for human impacts that degrade, destroy or prohibit access to any one of these resources can doom the frog.

A little looking around the Santa Clara Valley shows that human impacts to these habitats are legion. Enter the Stream Inventory volunteers to document these impacts and find remnant populations of red-legged frogs to conserve and protect. Stream Inventory volunteers found red-legged frogs in San Francisquito Creek in a riffle just below a dry stretch of creek near Stanford’s Jasper Ridge preserve. The volunteers’ exhaustive survey of the entire creek indicates that these frogs were the last of what is known to have once been a thriving population. Impatient to get to work during a training on Permanente Creek, two volunteers went upstream from their group and found a red-legged frog in a stretch of creek where they had not previously been documented. These are the positive results of fieldwork, the most important job for the volunteers has been also the toughest—and the saddest: documenting the absence of frogs and habitat in our creeks. As this writing, healthy frog populations are known only in Matadero Creek and Permanente Creek, remnant populations are known in Metcalf Creek, Los Trancos Creek, and San Francisquito Creek. All these localities were the result of CCRS surveys.

Santa Clara County Breeding Bird Atlas

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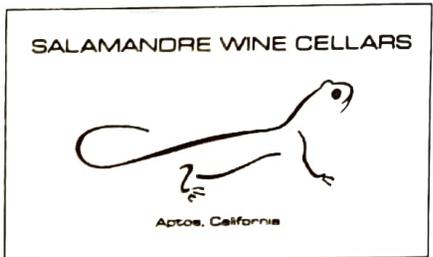
The elevation at which breeding was confirmed can also be of interest. For some species elevational constraints seem to limit breeding distribution. Thus any records outside the elevation range in our database may add to our understanding of a species’ breeding biology. Despite a single “carrying nest material” record at 3000 feet and fledglings as high as 1260 feet, the highest nest location for **Allen’s Hummingbird** in our database is a mere 840 feet! Thus a nest with eggs at 1960 feet along Charcoal Road near Skyline Boulevard on Apr 3, 1994 is of interest, pro-

viding solid evidence that breeding does indeed occur at higher elevations in the county. Actual nest locations and egg dates of all but the most common and widespread species are also of interest, even when they do not upgrade the status of a species within a block or extend the time period over which breeding is known to occur. Of particular interest are species whose breeding biology is poorly understood or perhaps changing. **Cooper’s Hawks** seem to be expanding their range throughout the urban areas of our county despite the fact that such urban breeding has not been noted in previously published central California atlases. Continued monitoring of our urban Cooper’s Hawk population (we have several records

Research is only half of CCRS’s mission, however. California red-legged frogs have gone extinct over much of their range in California and are barely surviving where they still remain. Stream channelization has stripped creeks of mature trees and the complex habitats frogs need. Reservoirs have flooded riparian habitat. The introduction of non-native fish and bullfrogs sustained by the conversion of intermittent creeks to permanent creeks for water delivery has exposed red-legged frogs to abnormally high predation. Roads create deadly barriers to wandering frogs. Effluent, contaminants and siltation degrade the aquatic habitat tadpoles depend on. The frog has become rare enough to prompt the United States Fish and Wildlife Service (USFWS) to propose the frog for the Federal Endangered Species list, and gets special attention from the California Department of Fish and Game (CDFG), which has made taking of the frog illegal.

timony before the Cupertino Planning Commission. A survey CCRS conducted of road-killed frogs on Highway One between Santa Cruz and Half Moon Bay will have major implications for the development of a giant recreational vehicle park proposed for Wilder Ranch State Park, which CCRS data suggests is a major stronghold for the frog. A significant population of red-legged frogs discovered by Bay Area Action workers and confirmed by CCRS staff in the proposed corridor for the Devil’s Slide bypass is likely to impact that project.

CCRS biologists keep in close contact with State and Federal resource agencies on issues concerning the red-legged frog, and have advised agencies on numerous occasions. Stream Inventory volunteers continue to survey for the frog and ongoing trainings conducted by CCRS, provide information to the public and prepare future scientists for survey work. Coyote Creek Riparian Station staff and volunteers will continue to study and speak out on behalf of California red-legged frogs until that day their habitat is restored and protected enough for the frogs to preserve on their own and guard the colors of sunset for many sunrises to come. 🌿



Mike and Rich would like to thank Dr. Wells Shoemaker, proprietor of Salamandre Wine Cellars, for his contribution towards the Amphibian Conservation Research Program.

of new urban nest locations found over the last two years) is thus essential to documenting whether such an expansion and habitat adaptation is occurring.

So if you come across breeding evidence that seems unusual in some way, or if you simply want to tell someone about what you have found, please send or phone in the species name, date, location, type of breeding evidence, and your name to me. My address is 765 San Carlos Ave., Mountain View, CA 94043, phone 415-962-8907. For those of you with computer access, e-mail them to me at mrogers@nas.nasa.gov. All records received will be added to the post-atlas database. 🌿

The 1995 Spring Season

by Bill Bousman

The data defining the spring season are from the Summary Board from January through Jun 9 which was the last day I checked the board. However, as will be seen below, most of our spring passage birds are banded in the months of March, April, and May. This year we banded on 20 days in March, every day in April except 13, 20, and 27 Apr, and all of May. In Table 1 below I tabulate the passage dates of our regular spring migrants using data from the Summary Board for new captures. The temporal data, that is the passage dates for these species, is not strongly affected by the number of net-hours we put in, but the absolute numbers will be affected by these net-hours and it must be remembered that these are unnormalized data.

Our five most common migrants this spring, in rank order, were **Swainson's Thrush (SWTH)**, **Wilson's Warbler (WIWA)**, **Orange-crowned Warbler (OCWA)**, **Western (Pacific-slope) Flycatcher (WEFL)**, and **Warbling Vireo (WAVI)**. Each of these species appeared in greater numbers this spring compared to the mean value of birds banded in the previous

nine years. An example of this increase in terms of cumulative new captures for SWTH is shown in Figure 1. Except for OCWA, whose median passage date was five days late, all of the top ranked species showed a typical passage date. What was different, however, was that speed of the passage, that is the difference between the 10th and 90th percentile dates which represents the passage of 80% of the population. SWTH came through in 18 days as opposed to the normal 23, WIWA in 21 days as opposed to 32, WEFL in 45 days as opposed to 56 days, and WAVI in 19 days instead of 29. Only OCWA had a more protracted migration, taking 43 days instead of the normal 33. Perhaps this is an indication that the wet winter brought a good supply of



insects to fuel these migrants as they moved up the coast.

Rufous Hummingbirds (RUHU) were down considerably from their usual numbers and didn't make the big five this year. **Yellow Warbler (YWAR)** were also down this spring. The RUHU cumulative new capture data are shown in Figure 2 on page 7. Often when we see significant changes in a population, as shown here, we believe it is due to external causes such as an increase or decline in a population or a shift in the migration pattern. However, the Santa Clara Valley Water District undertook some major tree tobacco control measures last winter and some of the ones they missed didn't do well following with winter floods. Without this food resource, our marvelously opportunistic nectar sippers probably went elsewhere. The other hummingbirds, however, appeared in about normal numbers.

Arrival dates for our summer resident species and departure dates for the wintering species are shown in Table 2 on page 7.

Myrtle (Yellow-rumped) Warblers (MYWA) were banded in excellent numbers this spring after a lackluster winter and looked more like a passage migrant than a wintering bird. **Audubon's (Yellow-rumped) Warblers (AUWA)** also picked up in the spring and the May 15 departure was quite late for this species. Although the last **Fox Sparrow (FOSP)** new capture was Apr 9, a bird was recaptured on May 8, which is late. Similarly, a recaptured **Golden-crowned Sparrow (GCSP)** on May 8 extends that species' departure. The Puget Sound race of **White-crowned Sparrows (PSWS)** were banded in typical numbers, but gambelli (GWCS) showed the lowest numbers we've seen in ten springs. However, the last bird banded, on May 18, was two to three weeks late.

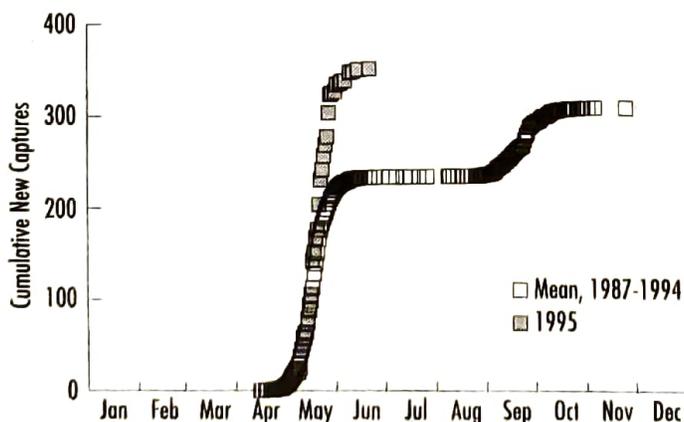
Western Wood-Pewee is a scarce migrant along the valley floor and a single bird on May 28 was the only one we had this spring. **Willow Flycatcher**, although not uncommon in the fall, is a rare spring migrant and one was banded on May 31.

Hammond's Flycatchers had another good spring with singles on May 9 and 17 and an amazing total of four on May 10. Individual **Nashville Warblers** banded on May 3, 4, 9, 12, and 13 were one of the best spring

Table 1. Spring 1995—New Capture Data

Species	No.	First	10th %	50th %	90th %	Last
Rufous Hummingbird	15	16 Mar	31 Mar	22 Apr	10 May	14 May
Western (Pacific-slope) Flycatcher	58	30 Mar	11 Apr	10 May	26 May	9 Jun
Ash-throated Flycatcher	6	12 May	-	29 May	-	7 Jun
Swainson's Thrush	347	23 Apr	10 May	20 May	28 May	9 Jun
Warbling Vireo	17	24 Apr	9 May	17 May	28 May	31 May
Orange-crowned Warbler	115	8 Mar	1 Apr	29 Apr	14 May	7 Jun
Yellow Warbler	15	14 May	14 May	22 May	31 May	7 Jun
MacGillivray's Warbler	5	23 Apr	-	15 May	-	19 May
Wilson's Warbler	234	12 Apr	29 Apr	10 May	20 May	29 May

Figure 1. 1995 passage time of Swainson's Thrush vs. mean passage time, 1987 to 1994.



Continued on page 7

Volunteer Opportunities

Volunteer Newsletter Editor Needed

If you like to write about birds, creeks and other natural wonders, put your skills to work editing and writing articles for the RipariaNews. The job entails coordinating the writers and staff, editing, and writing one article every other edition and takes about 15 hours per issue. You will need a car to meet with the layout artist about two times an issue and possession of an IBM compatible computer makes life easier. Please call Karen at (408) 262-9204 for more information.

Bird Banding Opportunities

Fall migration is on the way. Join us as we follow the Yellowthroats, thrushes, and flycatchers on their journey south. The bird banding program requires a commitment of two to four mornings a month for a minimum of one year. Good eyesight and nimble fingers are vital. Call Chris Fischer at (408) 262-9204 for more information on this exciting program.

Join the Stream Inventory

There are still many opportunities to come aboard and join the Stream Inventory on the Creeks in Santa Clara County! New teams are needed for Saratoga and Coyote Creeks. We are testing water quality parameters, looking at fisheries habitat, scouting for pollution while surveying for habitat types, surveying vegetation types, listening and looking for birds, and digging for reptiles and amphibians. Sign up for a creek near you by calling Chris Fischer at (408) 262-9204.

Data Entry

Come into the office on week days, weekends, week nights, when ever! Learn Paradox! We need your nimble fingers to put the bird banding data into the computer before our data pile gets hauled away as a fire hazard by the Alviso Fire Brigade! A short commitment is all we ask. Call Chris Otahal to volunteer at (408) 262-9204.

Fall Pruning Time

What could be more fun than working in your yard on cool, autumn afternoons? Don't have a yard, come into ours as we prune the net lanes and walking trails. We supply the shears, loppers, gloves, and other equipment. Every second and fourth Saturday, 12:30 to 4:00 pm. Call Chris Fischer at (408) 262-9204.

Atlas Volunteers

The preparation of the Santa Clara County Breeding Bird Atlas is continuing. Two areas where we would be delighted to have some volunteer effort are (1) putting together the weather data, primarily rainfall, that characterize the rainfall characteristics in both time and spaces; and (2) extracting records from Audubon Field Notes and American Birds that pertain to birds in Santa Clara County. If you are interested in either of these tasks, give Bill Bousman a call at (415) 322-5282.

Donations Needed!

Donations of office supplies and equipment are much appreciated. We could use the following items: three ring or spiral binders, colored 8.5 X 11 paper, note pads, computers, color computer monitors, or other office supplies. Call Cyndi at the office.

Our drive to collect old binoculars, cameras and field guides for the Universidad de Guadalajara research station in central Mexico continues. Please call Chris Fischer at the office if you have any you would like to donate.

Thank You!

Thanks go out to all of the generous contributors to the Corridor Width Study appeal. Through your efforts, over \$3,000 have been generated to support the Avian Research Program's goal to establish the effects of corridor width on Neotropical migratory birds. For additional information on this project, contact Chris Otahal at (408) 262-9204.

Volunteer Thank You's

Green is beautiful... Paul Robertson has been working with Board Member, Elinor Spellman for several years planting, watering, and maintaining native plants near the Station along Coyote Creek. Paul is also the person responsible for building the cold frames that lie next to the greenhouse and he and Elinor have been hard at work repairing the damage the greenhouse experienced after this year's heavy winter storms.

Neither rain, nor snow, nor dark of night... Even though the heavy and very late rains kept us from going into the creeks when planned this winter, the Community Creek Watch volunteers came shining through and finished their surveys on schedule. The following creek teams have completed their inventories.

Stevens Creek Fisheries

Murray Blackmore	Ellen Macneale
Aiden Casey	Neil Macneale
Philip Chiu	Janelle Johnson
Clifford Tom	Jeff Sicklesteel
Shari Chrisco	Jesse Wilson
Marty Gothberg	Jenny Yun
Kate Macneale	

Stevens Creek Reptile and Amphibians

Bill Bilobran	Thomas Moutoux
Sheila Covarrubias	Lynn Peters
Nate Higley	Patricia Peterson
Howard Higley	Jim Pollock
Diane Kodama	Kathy Schwegler
Peter Moravcsik	

Las Gatos Reptile and Amphibians

Debra Blanke	Diane Kodama
Andrea Boyd-Ball	Patricia Peterson

Los Alamitos Creek Reptile and Amphibians

Rita Diggs	Debra Matuszak
Howard Friedman	Theresa Nance
Diane Kodama	David Weresin

Guadalupe Creek Reptile and Amphibians

Bill Bilobran	Patricia Peterson
Sheila Covarrubias	Paulo Philippidis
Eric Olson	

Los Gatos Fisheries

Shari Chrisco	Steve Morris
Frank Cucuzza	Troy Obrero
Ken Davies	Jeff Sicklesteel
Rita Diggs	Steve Wayne
Janelle Johnson	

Thank you so much every body! 🦋

Amphibian Accomplishments

Continued from page 1

salamanders were rescued from roads where they may have otherwise met an untimely death. All of these activities were made possible through the contributions of hundreds of volunteer hours (most of it at night in VERY wet weather by concerned citizens). One high-profile result of our work was the cancellation of the traditional Big Game bonfire, which ironically was to take place in the lake bottom just when migrating juvenile salamanders were taking up residence there.

In 1994 CCRS biologists went afield to document declines in California tiger salamanders in the San Joaquin Valley under contract to the US Fish and Wildlife Service. Agriculture and urban development in the Central Valley was destroying the remaining vernal pool habitat in the heart of the salamander's range. CCRS documented land use and presence of salamanders as well as spade

foot toads and other sensitive species on over 2 million acres of land. In 1995 the service contracted with us for further tiger salamander surveys ranging from Sonoma to Kern Counties.

CCRS assisted San Francisco Bay National Wildlife Refuge in monitoring the migration of Santa Cruz long-toed salamanders in Santa Cruz County. The information gathered helped Refuge officials make management decisions at a salamander preserve.

In conjunction with Mark Allaback and David Laabs of BioSearch Wildlife Surveys, CCRS developed State Fish and Game survey protocols for California tiger salamanders, incorporating many of the insights gleaned from the volunteer project at Stanford University. These protocols will help ensure that biological consultants perform their studies accurately and with a minimum of harm to the salamanders.

CCRS biologists drove Highway One every night for several weeks to show the

impact of highway traffic on California red legged frogs and to document their ability to travel overland—important information when considering the impacts of development of upland habitat. Over one hundred killed frogs were found. By collecting the killed frogs CCRS counterbalanced this event by preserving the bodies for genetic analyses, therefore making it unnecessary to collect live frogs for future studies and potentially providing a large body of valuable data on gene flow between drainages.

CCRS biologists have testified at town council and planning commission meetings when development projects have threatened sensitive amphibian species. Because CCRS is a scientific institution dedicated to developing high standard survey protocols for riparian wildlife, testimony is always confined to objective presentations of a factual nature, usually comments on the quality of surveys performed or new information from surveys by CCRS biologists. ✨

Off The Wall

Continued from page 5

showings we've had. Also scarce along the valley floor are **Black-throated Gray Warblers**. We had single birds on Apr 11 and May 10 for a good showing. A **Townsend's Warbler** on May 19 is towards the tail end of this species' migration which is more easily observed on the ridges of the Santa Cruz Mountains or the Diablo Range. Two **Hermit Warblers** on

May 10 were unusual for the station. **Yellow-breasted Chats** were banded on May 23 and 24 which is always exciting for the creek-side, but more surprising was that at least one of these birds remained into the summer, but that's a story for the next column. In recent years we've been finding more **Lazuli Buntings** along the creek and we banded a single bird on May 6 and two on May 14. Quite surprising for this elevation was the **Chipping Sparrow** netted on Apr 26. ✨

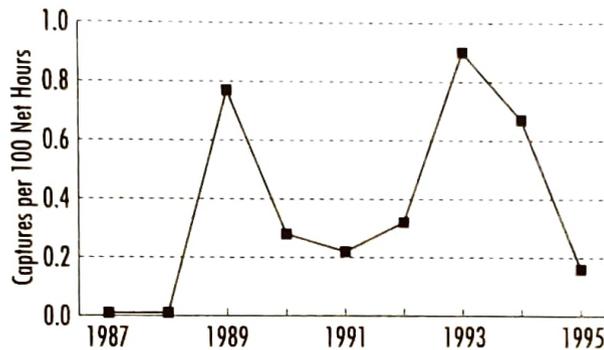


Figure 2. Average captures per 100 net hours, 1987 to 1995, for Rufous Hummingbirds.

Table 2. Arrival and Departure Dates for Spring 1995

Species	Arrival	Departure
Black-chinned Hummingbird	14 Apr	
Allen's Hummingbird	22 Feb	
Ruby-crowned Kinglet		11 May
Hermit Thrush		12 May
Myrtle (Yell.-rumped) Warbler		18 Apr
Audubon's (Yell.-rumped) Warbler		15 May
Black-headed Grosbeak	30 Apr	
Fox Sparrow		9 Apr
Lincoln's Sparrow		3 May
Golden-crowned Sparrow		30 Apr
Puget Sound Wh.-crowned Sparrow		26 Apr
Gambel's Wh.-crowned Sparrow		18 May
Bullack's (Northern) Oriole	18 Apr	

Clean Creek Tips

Does your drive way look like the Exxon Valdez tried to dock there? Before the winter rains come and carry your oil and grease drips down to the creek, it might be time to clean that concrete. Don't hose it down the gutter though, use a dry method instead. Oil that reaches creeks can cover fishes' gills causing suffocation and coats feathers and fur resulting in hypothermia. Apply a dry absorbent such as kitty litter, corn meal, or sawdust to the spot, let it sit for several hours, then sweep into a plastic bag and place in the trash. Be careful when you handle used motor oil. It has been found to cause cancer in laboratory animals.

Speaking of car oil, ever wonder what becomes of the car oil that you diligently recycle. It is now available to the retailing consumer. WalMart stores carry re-refined motor oil called America's Choice; which meets the American Petroleum Institute standards. Complete the cycle, buy recycled products!

Source: *Take Me Shopping, A Consumer Guide to Safer Alternatives to Hazardous Household Products*. To obtain a copy for yourself, call the Santa Clara Valley Nonpoint Source Pollution Control Program at (408) 265-2607. ✨

Calendar of Events

Tuesday Talks

Tuesday Talks are intended to provide an informal forum for discussion with local experts on subjects of interest to the membership. Please let Chris Fischer know your ideas for future topics! Second Tuesday of each month, from 7 to 9 pm at McClellan Ranch Park in Cupertino. Free, open to public. Refreshments served!

November 14, 1995

New member Alvaro Jaramillo will present a slide show and discussion of the wildlife habitats of western South America. Learn about the amazing similarities between these areas and our own backyard!

December

Winter break.

January 9, 1996

Celebrate the annual return of the salmon and steelhead! Fisheries Biologist Ian Gilroy will present the natural history of anadromous fishes and give us an update on their status in Santa Clara County.

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Publications Available

Coyote Creek Riparian Station, in conjunction with the San Francisquito Watershed Coordinated Resource Management Plan, is distributing a planting guide on landscaping with native riparian plants. Information on which trees, shrubs, and herbs to use and how to plant them has been supplied by the California Native Plant Society and the Habitat Restoration Group. Creekside residents of San Francisquito Creek will be getting their copy free thanks to a generous contribution from the **If Not Now, When Foundation**. For your copy, please send \$5.00 to cover postage and handling, to Coyote Creek Riparian Station, P.O. Box 1027, Alviso, CA 95002, attention Elsie.



Reprints are available on CCRS's **Chris Otahal's** recent publications "Sexual differences in Wilson's Warbler migration" from

the *Journal of Field Ornithology* and "Sexual differences in spring migration of Orange-crowned Warblers" from the *North American Bird Bander*. To receive copies please send your name and mailing address, Attention Chris Otahal, to the Station with \$2.00 per article to cover postage and handling.



The **Ohlone Audubon Society** has recently published *Of Marsh and Mud*, a guide on the plants, birds, mammals, fish, and invertebrates found in our local salt marshes and mudflats. This 48 page guide is being sold for \$8.50 plus \$1.50 shipping. Send your request and make your check payable to Ohlone Audubon Society, 1608 Walden Court, Fremont, 94539.

New Members

J. Elizabeth Biller
Rosemary Campi
Clifford Tom
Sheila Covarrubias
Ray Fontaine
Debra Jacobs
Danielle Lefer
Steve Plant
Doug Sanders
Rebecca Schoenenberger
Bill and Kathy Pringer

CCRS Membership

Member	\$25 annually
Senior or Student	\$15 annually
Family	\$35 annually
Supporting	\$50 annually
Sustaining	\$100 annually
Corporate	\$500 annually
Life	\$600*
Patron	\$3,000*

* Life and Patron categories can be single payments or 4 quarterly installments.

Life membership payments and 10% of all other membership payments and general contributions go toward long-term support of CCRS activities. We acknowledge memorial contributions in *RipariaNews*. We welcome bequests including those of real property.

Coyote Creek Riparian Station (CCRS) is a nonprofit California membership corporation with United States and California tax exempt status. CCRS is dedicated to research on and the restoration 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, California Department of Fish and Game, and the San Francisco Bay National Wildlife Refuge.

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

You can reach us at: Coyote Creek Riparian Station, P.O. Box 1027, Alviso-Milpitas Road, Alviso, CA 95002; (408) 262-9204; email address staff.ccrs@internetmci.com.

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