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# RipariaNews

Spring 1996

Newsletter of the Coyote Creek Riparian Station

Volume 11, No. 2

## The Ecological Roles of Riparian Vegetation

by Steve Rottenborn

Perhaps the most prominent features of our arid California landscapes are the winding green ribbons of riparian vegetation along our streams and rivers. These spreading forest canopies of cottonwood, willow, oak and sycamore and dense understory of box elder and elderberry are the biotic manifestations of the water that is so critical to life in these parched lands. The combination of permanent water and rich, deep soils allows for extraordinary productivity of riparian vegetation. In turn, this vegetation plays a number of roles crucial to the maintenance of healthy, functioning ecosystems both in streams and on their banks.

One of the primary functions of riparian vegetation is providing energy for terrestrial and aquatic ecosystems. By capturing the sun's energy, these plants form the basis for the complex food webs found in these systems. Myriad insects, such as leafhoppers on land and fly larvae in streams, feed on riparian plants before becoming food themselves for warblers, flycatchers, frogs, dragonflies and a host of other animals. The high numbers of vertebrates typifying riparian animal communities depend in large part on this copious insect supply. Riparian vegetation also supplies some food directly to vertebrates. Elderberries feed American Robins and Black-headed Grosbeaks, willow seeds are eaten by goldfinches, acorns provided by live and valley oaks nourish Plain Titmice, White-breasted Nuthatches and squirrels, and nec-

tar-producing flowers provide sustenance for Anna's and Black-chinned Hummingbirds. Dead plant material also provides much of the energy for aquatic systems. Leaf litter and wood that fall into streams are set upon by a diverse array of specialized invertebrates that are able to glean energy from this plant material. As on land, these invertebrates then fall prey to fish and other aquatic organisms.

The complex structure of riparian vegetation is also very important in the maintenance of diverse animal communities. Riparian woodlands furnish roosting and nesting sites, as well as hunting perches, for a variety of animals. The stratification of this vegetation produces a large number of microhabitats that are available to animals.



Box elders are particularly attractive to insects, its leaves are often pitted with holes generated by hungry insects. The insects in turn attract and support a large bird population in our riparian forests.

From the decaying wood on the forest floor to the ground cover of grasses and forbs, upwards to the dense tangles of wild grape, blackberry and wild rose climbing low box elders and elderberries, and finally to the tops of the towering cottonwoods and sycamores, a vast array of animals find homes and food in this vegetation. Whereas a generous food supply is largely responsible for the high densities of individual species in riparian habitats, the presence of multiple layers of vegetation that can be exploited by different species is largely responsible for the high biodiversity found in riparian systems.

Riparian vegetation also provides habitat for aquatic animals. Roots and branches from riparian trees that overhang a stream are used for shelter by fish, as are piles of woody debris that have fallen from riparian plants. Such shelter is especially important to young fish, providing places to hide from predators, and during floods, when these structures act as refugia from raging floodwaters. The shade provided by riparian vegetation is extremely important to terrestrial and aquatic communities. Water temperature is substantially lower under a riparian canopy than when riparian vegetation is absent. Because water temperature influences the amount of dissolved oxygen in streams and the life cycles of aquatic insects, some species of fish, such as trout and salmon, are very sensitive to water temperature and require cool, shaded streams for survival.

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## Director's Desk

by Dave Johnston, Managing Director

Many scientists and educators have a recent history of specializing to the point that other specialists filled the gap between these two professions, ultimately creating a "telephone game" effect between the original science and the delivery of the information. In our need to fine tune our vocational skills, and therefore increase our competitiveness in the job market, many of us let go of either the scientific or the educational responsibilities of our professional charges. I believe that these two disciplines need to be better integrated. Scientists need to be better about sharing their knowledge. The public will not trust professionals who keep new information to themselves, even passively, and who don't feel any obligation to educate the public. The effect of not actively educating the public, creates a sense that a particular scientific inquiry is either esoteric or "evil" and shouldn't be shared with the public. Scientists owe it to themselves to share information and to disseminate knowledge. This will build trust and therefore more funding for relevant and much-needed research. The scientists that I hold in the highest esteem are those that push the limits of their own discipline and share their information with the public as well as their own inner circle of colleagues.

In the other camp, educators need to be involved in scientific inquiry if they teach science. In too many cases, science is watered down to the point where it loses meaning. My six-year-old asked me to read the section on reptiles from a life science text book used in the late 1980's by a high school in Santa Clara

County. The beginning of the section read "Some scientists believe that strange animals with dry, scaly skins roamed the earth 225 million to 65 million years ago." While this is not a false statement, the text practically disclaims that dinosaurs existed by beginning with "Some scientists believe...". In another situation, I found well-meaning teachers using charts on aquatic insects and arthropods as indicators of creek healthiness, but the charts were from Queensland, Australia. Although much of the information was transferable, some of the information was not correct for California. Those same teachers are hungry for good information and are now engaged in getting their own information first-hand.

Coyote Creek Riparian Station has a history of bringing science and education together. Dr. Richard Mewaldt, founding director of CCRS, contributed to our knowledge of avian migration, and he provided a vehicle for graduate students, undergraduate students, and the general public to learn more about birds through his banding programs. I believe CCRS needs to continue integrating scientific inquiry with educational programs as a responsible agency. CCRS can play an important role in public policy of riparian systems if it develops its scientific acumen while disseminating new knowledge through its various programs and events. Join the CCRS staff and volunteers in one or several of our programs as we embark upon new frontiers integrating inquiry, knowledge, and education.

## CCRS: The Next Generation

Thanks to Trimble Navigation Inc.'s recent generous donation, Community Creek Watch's Global Positioning Satellite (GPS) ability to collect geographically based biological data has risen to the top. Their generous donation totaled over \$13,000 in equipment, software, and training. The most recent release in Trimble's Mapping Line, the Pro-Excel with the TDC2 data logger, has sub-meter accuracy, the ability to track as many as eight satellites simultaneously, collect data in inaccessible areas with the off-st function, and speed up the data collection process. In addition, two CCRS staff received a free four-day workshop on using the software and equipment. Thank you Trimble Navigation on behalf of our local creeks! ✨



Trimble's Pro-Excel help Dianne Kodama and Charles Preuss put CCRS on the map, at precisely 37° 26' 27" N and 122° 55' 27" W.

# The Post-Atlas Data Base

by Michael M. Rogers

## The Timing of Breeding

Over the course of our atlas we gained considerable expertise at confirming breeding. Typically, the more experienced an atlaser became, the more productive further atlasing trips were. Finding proof of breeding is different from the kind of "bird-watching" that most of us are used to and to be good at it requires learning some new things. One needs to be able to separate migrants from territorial birds in likely breeding habitat, recognize bird behavior or vocalizations that are associated with breeding, and know at what time of year your chances of finding breeding evidence are good for a particular species. This article focuses on this last issue, the timing of breeding.

After spending a lot of time following pairs of **California Quail** around in May without finding any evidence of breeding one might conclude that this bird is hard to confirm (and indeed only four nests were found during the atlas). However, later trips in July were found to often yield several recently fledged broods of "precocious young" quail. Since these young birds are fairly noisy and often explode from cover when approached, confirming breeding by California Quail at this time of year is relatively easy. This experience leads the atlaser to not waste time on this species in following years until later in the summer; May can be better spent following around the many **woodpeckers** that are carrying food to their nest cavities at this time of year. Knowledge of the timing of the breeding cycle for our breeding bird species leads to more efficient atlasing and was indeed part of the key to our successful coverage of many new atlas blocks in the final years of the atlas.

The next group to atlas the breeding

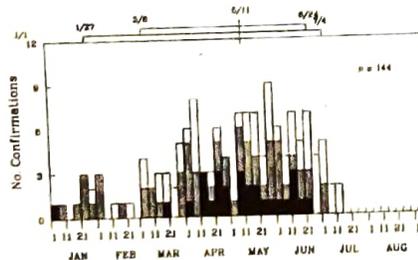


Figure 1. Anna's Hummingbird

birds of Santa Clara County will be far better off than we were because we now have a vast resource of information about the timing of breeding for each species in the county - namely, the data we have compiled during our atlas. Because atlasers entered the dates of their trips onto the field cards we are able to extract the dates of the breeding confirmations reported. When the information from these field cards was entered into the atlas database this date information and the type of breeding evidence was included. Thus we can now go back and determine, based on the data we gathered, when each species is at a given stage in its breeding cycle. Bill Bousman has written a program to extract such information from the database and I have included three examples of his work in figures 1, 2, and 3. The three species shown were chosen to include an early breeder, **Anna's Hummingbird** (Figure 1), a late breeder, **Ash-throated Flycatcher** (Figure 2), and a species that breeds throughout the summer, **Black Phoebe** (Figure 3).

On the horizontal axis of these figures is a time line covering the breeding season. The vertical axis reflects the number of breeding confirmations. Each bar of the histogram thus reflects the number of breeding confirmations in the database over the 5-day interval covered by the bar width (the significance of the dotted histogram is discussed later). The histogram bars are further broken down by different shading patterns to reflect the type of breeding confirmation involved. The earliest stage of the nesting cycle, namely carrying nest material and building nests, is denoted by solid black. Records of "occupied" nests (either eggs, young, or unknown contents) are indicated by diagonal lines. Recently fledged young and adults feeding young away from the nest are shown by unshaded white portions of the histogram bar. Note that some breeding confirmations, such as carrying food for young, cannot be ascribed to a particular stage (the food may be for young in the nest, fledged young, or in some cases an incubating mate or even courtship) and are not included in the histograms. As expected, the black and shaded portions of the histograms occur earlier in the year (to the left on the timeline) than the white portions. For many species the white por-

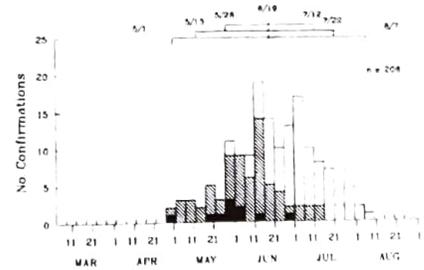


Figure 2. Ash-throated Flycatcher

tions of the histograms are predominant because finding young birds is often easier than locating actual nests (California Quail discussed above being a good example of this).

Above the histograms at the top of each figure are bars summarizing the periods of breeding activity for the species. The bottom line marks the entire period of observed confirmations, from the first date listed on the left to the last date noted on the right. The bar above this line and the dates on either side of it indicate the 5th and 95th percentile dates of all breeding confirmations and the bar above that the 12.5th and 87.5th percentile dates (the time period containing three out of four of all confirmations). The median date of all breeding activity is marked by a vertical solid line over the middle of the data. Also shown is the total number of confirmations, indicated by "n =" in the top right corner of each figure (note that not all these confirmations correspond to codes that can be plotted on the histograms, as noted above).

This information is extremely useful in helping to determine when each species breeds, but there are some biases in the data that need to be recognized. First, many observers reported only the first confirmation for each species. Thus the data may tend to be somewhat shifted to the left compared to the actual breeding pattern. For example, if the first nest with eggs was reported but the others later in the season for the same species were not, some black portions of the histograms may be "missing". However, many atlasers did report later confirmations on casual observation forms and special attention was paid to documenting particularly late breeding, so the plots are presumably not too misrepresentative.

Another bias results from the way in

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## The Post Atlas Data Base

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which the data were acquired. The observer effort throughout the summer was not uniform. Most atlasers spent more time afield during the "peak" of the breeding season than early or late in the summer. Thus there is a tendency for the histograms to reflect not only the timing of a species breeding cycle, but also the timing of our atlasers efforts. This effect can be quantified somewhat because we know when atlasers spent their hours in the field (at least for field card hours - records reported on casual observation forms typically have no hours associated with them). Not surprisingly, the number of field hours builds gradually from early March through mid-June before falling off rather rapidly through July. As we found out that more species were still confirmable through July and moved our coverage to the Diablo Range during the final years of the atlas, observer coverage did tend to shift to later in the year and the plots of observer effort

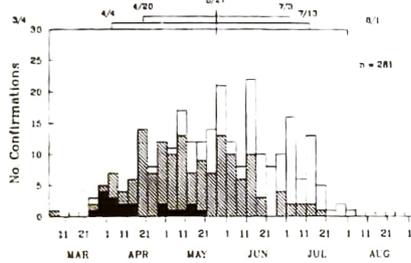


Figure 3. Black Phoebe

reflect this when broken down by year.

The total reported observer field hours for each 5-day bin used for the histograms is also shown in each figure by a dotted line. This curve is thus the same in all three figures except for differences resulting from the dates used to bin the data (note, however, that the vertical level of the curve is scaled by an arbitrary factor - only the shape of the curve is of interest here). If the breeding activity of a species was roughly constant throughout the season we would expect the histograms to have a shape similar to that of the dotted line. More hours in the field should result in more confirmations of breeding. Of course this assumes that the coverage indicated by the dotted line was equally likely to result in confirmations of the species under consideration. If much of the July coverage was in the Diablo Range, for example, we

would expect the confirmations of our urban breeders to fall off faster than the dotted line late in the season. (Note this effect could be quantified by conditioning the field hours on the "region" of the county where the field work was done.)

Assuming that the coverage indicated by the dotted line was fairly uniform throughout the county and across various habitats we can conclude that the Black Phoebe was a roughly uniformly active breeder throughout the summer. The histogram follows the dotted line quite well for the entire period shown. The histograms for Anna's Hummingbird and Ash-throated Flycatcher, however, are quite different from the dotted line, indicating that the breeding activity for these species was not spread uniformly throughout the season. There are no confirmations for Ash-throated Flycatcher prior to May 1 despite extensive coverage prior to this. This species is clearly a late breeder, perhaps timing its breeding for an abundance of large insects available late in the summer. Anna's Hummingbird, on the other hand, is an early breeder with very few confirmations after the first few days of July and some breeding activity detected as early as January (and even late December - not shown). Note that the dotted curve goes to zero this early in the year as these early confirmations were generally reported on casual observation forms rather than on field cards.

Our published atlas will include plots similar to those shown in the figures for most species breeding in the county. This information on the timing of breeding will be useful to both professional biologists and amateur ornithologists and will allow a better understanding of the resource requirements of our local breeding birds. It will also define in far greater detail than previously known the expected breeding period for each species locally. After you buy your copy of the atlas you will be an expert on assessing whether some particular nesting evidence is unusually early or late! 

If you would like to join the Editorial Committee and assist in the completion of the Santa Clara County Breeding Bird Atlas, please contact Bill Bousman at 415-322-5282.

## Ecological Roles of Riparian Vegetation

 Continued from page 1

The importance of riparian vegetation to the maintenance of water quality can not be overstated. Runoff from river basins carries huge amounts of sediment into streams. Riparian plants help to capture some of this sediment, preventing the accumulation of fine particles on stream bottoms. Because trout and salmon generally spawn only on gravelly streambeds, the retention of sediments on streambanks, rather than their release into streambeds, is crucial to the reproduction of these species. Runoff from agricultural and urban lands often contains nutrients and toxins that can be extremely damaging to aquatic ecosystems. Riparian vegetation is able to hold and absorb many of these substances before they enter the stream, thereby acting as a giant filter for the stream ecosystem.

We should also recognize the importance of riparian vegetation in our own lives. By maintaining high water quality and providing energy for stream ecosystems, riparian vegetation promotes the fisheries on which many people depend for commercial and recreational purposes. Riparian vegetation helps to stabilize streambanks, reduce erosion, and slow floodwaters, reducing the loss of property in streamside areas. Finally, healthy riparian systems are important for aesthetic and educational purposes; how enjoyable is it to look at, and how much can be learned from, a piped stream or concrete-lined channel?

Clearly, riparian forests provide a number of important services both to natural ecosystems and to humans. It is therefore critical that decisions regarding flood control, stream management, land-use, and development be made with riparian ecosystems in mind to ensure the continued integrity of these systems. 

*In order to educate Santa Clara Valley residents about the plant and animal communities of riparian ecosystems and the continuing threats to these important systems, CCRS is sponsoring a series of talks focusing on riparian ecology. The first talk, by Stanford University researcher and CCRS Board member Steve Rottenborn, will be held in the Community Room of the Cupertino Public Library (10400 Torre Ave.) on May 2nd at 7:00 p.m. Suggested donation is five dollars.*

# Banding Summary for 1995

by Chris Otahal, Avian Research Director

The Avian Research Program at Coyote Creek Riparian Station (CCRS) has completed its thirteenth year of banding on the study site on lower Coyote Creek. The numbers of captures and recaptures (Fig. 1, Table 1) have remained high and were fairly consistent with last year's totals. Annual totals found in Figure 1 illustrate the development of the Avian Program over the years. First, we can see the small numbers of birds captured during the early 80's when Dick Mewaldt was banding from the back of his truck.

From these modest beginnings, the numbers of birds processed continued to increase as new nets and traps were established along the creek and a greater number of days were spent in the field. These capture numbers peaked in our banner year of 1992 when we had 8415 new captures and 5481 recaptures. These larger numbers were due to a combination of a larger array of nets in use and that intensive trapping efforts were being carried out for the winter White-crowned Sparrow study. Then, starting in 1993 and continuing through this year, a drop in captures and recaptures is evident, mostly due to the discontinuation of the use of traps after the completion of the sparrow study.

The above discussion illustrates the importance of recording the effort being exerted during trapping / netting efforts.

With the growing number of years of data collection, we can start to look at long-term trends in population numbers of birds using this site (for example see the 1994 Bird Banding Summary in RipariaNews 10:1 pp. 9-11). However, this can only be done if we have constant effort (number of net or trap hours) each year or if the number of captures are corrected by the number of net hours expended each year (recording the captures as captures per net hour).

In addition to local population changes, our banding efforts help to illuminate aspects of bird movements over large areas. For example, we have recently received a report of one of our Golden-crowned Sparrows which turned up in a net in King Salmon, Alaska (a trip of over 2,000 miles as the Golden-crowned flies!!!!). This bird was originally captured at CCRS 30 April 1988 and was recaptured on 10 September 1995—over 7 years later.

Some of the other traditional uses of banding data have included interesting summaries in Bill Bousman's "Off the Wall" column in the RipariaNews; providing information to the Santa Clara Valley Water District enabling them to better manage their restoration efforts; and providing data to other researchers.

We are also continuing to expand the use of our data through scientific papers and presentations. We made several presentations to ornithological organizations and completed two research papers this

year. These efforts have not gone unnoticed. We have received correspondence from researchers as far away as Mexico, Spain, Hungary, Germany, and Israel regarding these papers. We are currently working on collaborative efforts with Andreas Kaiser from the Max Plank Institute in Germany to study the stopover behavior of Neotropical migrants using this site.

From very modest beginnings, the Avian Research Program has grown to be a leader in Ornithological research. We have developed a strong base on which we continue to build. I look forward to the coming year and the many exciting opportunities which await us.

Banding Summary Table on Pages 6 and 7 

## Coyote Creek Riparian Station would like to thank the following volunteers for their involvement in the 1995 bird banding program:

|                    |                    |
|--------------------|--------------------|
| Mike Azevedo       | Irene Beardsley    |
| Joyce Bartlett     | Lisa Brown         |
| Rita Colwell       | Chris Cropper      |
| Lynn Cropper       | Mike Cropper       |
| Les Chibana        | Aidan Casey        |
| Katherine Casey    | Maryann Danielson  |
| Penny Delevoryas   | Bob Elliott        |
| Gerry Ellis        | Mary Farrington    |
| Arleen Feng        | Chris Fischer      |
| Tom Goodier        | Larry Gonzales     |
| Helen Green        | Christina Garcia   |
| Connie Garrett     | Karen Hoyt         |
| Kent Hankins       | Carrie Helton      |
| Monique Imberski   | Dorothy Johnson    |
| Alvaro Jaramillo   | Bruce Katano       |
| Nina Kogut         | Jenny Kranz        |
| Kay Loughman       | Rosalie Lefkowitz  |
| Danielle Lefer     | Clyde Morris       |
| Marcelino Madrigal | Debra Matuszak     |
| Lynn Neibaur       | Chris Otahal       |
| Troy Obrero        | Charles Preuss     |
| Tonya Pangrazio    | Susan Sandstrom    |
| Martin Sidor       | Vicki Silvas-Young |
| Hilde Spautz       | Jeff Sickelsteel   |
| Zona Walcott       |                    |

Figure 1. Banding Summary 1982-1995

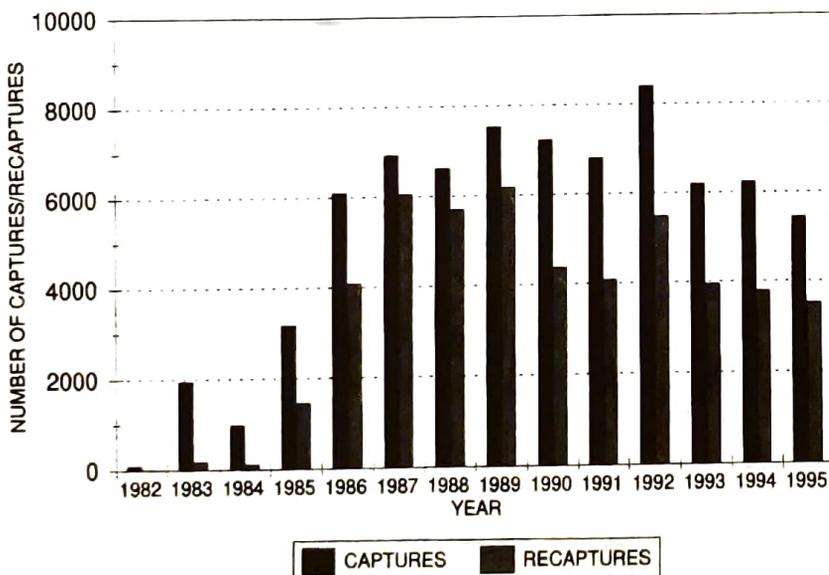


Table 1: Coyote Riparian Station Bird Banding Summary for 1995

| Species                     | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | Total |
|-----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|
| Sharp-shinned Hawk          | 1   |     |     |     |     |     |     |     |     |     |     | 1   | 2     |
| Red-tailed Hawk             | 1   |     |     |     |     |     |     |     |     |     |     |     | 1     |
| American Kestrel            |     |     |     |     |     |     |     |     |     |     | 1   |     | 1     |
| Killdeer                    |     |     |     | 2   |     |     |     |     |     |     |     |     | 2     |
| Mourning Dove               |     |     | 1   | 2   | 11  |     |     |     | 2   | 2   |     |     | 18    |
| Black-chinned Hummingbird   |     |     |     | 3   | 6   | 1   | 2   | 2   |     | 1   |     |     | 15    |
| Anna's Hummingbird          | 5   | 2   | 3   | 7   | 27  | 5   | 5   | 20  | 11  | 7   | 1   | 3   | 96    |
| Rufous Hummingbird          |     |     | 2   | 10  | 2   |     |     |     |     |     |     |     | 14    |
| Allen's Hummingbird         |     | 1   | 4   | 4   | 12  | 7   | 3   |     |     |     |     |     | 31    |
| Red-breasted Sapsucker      |     |     |     |     |     |     |     |     |     |     | 1   |     | 1     |
| Nuttall's Woodpecker        |     |     |     |     |     | 2   | 1   |     |     |     |     |     | 3     |
| Downy Woodpecker            |     |     | 1   |     | 5   | 7   | 2   | 1   | 1   |     |     |     | 17    |
| Red-shafted Flicker         | 1   | 2   |     |     |     |     |     |     |     | 2   |     |     | 5     |
| Western Wood-Pewee          |     |     |     |     | 1   |     |     |     | 2   |     |     |     | 3     |
| Willow Flycatcher           |     |     |     | 1   |     | 1   |     | 15  | 12  |     |     |     | 29    |
| Least Flycatcher            |     |     |     |     |     |     |     |     | 1   |     |     |     | 1     |
| Hammond's Flycatcher        |     |     |     |     | 6   |     |     |     |     |     |     |     | 6     |
| Dusky Flycatcher            |     |     |     |     |     |     |     | 1   | 1   |     |     |     | 2     |
| Gray Flycatcher             |     |     |     |     |     |     |     | 1   |     |     |     |     | 1     |
| Western Flycatcher          |     |     | 2   | 19  | 35  | 15  | 12  | 198 | 195 | 33  |     |     | 509   |
| Black Phoebe                |     | 1   | 1   | 1   | 18  | 16  | 25  | 5   | 7   | 4   |     |     | 78    |
| Ash-throated Flycatcher     |     |     |     |     | 5   | 5   |     | 1   |     | 1   |     |     | 12    |
| Eastern Kingbird            |     |     |     |     |     |     |     |     | 1   |     |     |     | 1     |
| Tree Swallow                |     |     |     |     |     | 1   |     |     |     |     |     |     | 1     |
| Violet-green Swallow        |     |     |     | 2   |     |     |     |     |     |     |     |     | 2     |
| Rough-winged Swallow        |     |     |     |     |     | 1   | 2   |     |     |     |     |     | 3     |
| Cliff Swallow               |     |     |     |     |     | 1   | 6   |     |     |     |     |     | 7     |
| Barn Swallow                |     |     |     | 1   | 5   | 6   | 7   | 1   |     |     |     |     | 20    |
| Scrub Jay                   |     |     | 1   |     | 1   | 2   |     |     | 1   |     |     |     | 5     |
| Chestnut-backed Chickadee   |     | 1   | 1   |     | 7   | 9   | 5   |     | 1   | 2   |     |     | 26    |
| Common Bushit               | 2   | 4   | 6   | 6   | 19  | 20  | 16  | 5   | 4   | 4   |     | 2   | 88    |
| Bewick's Wren               |     |     | 1   |     |     |     | 1   |     | 1   | 2   |     |     | 5     |
| House Wren                  |     |     |     |     |     |     | 4   | 1   | 5   | 1   |     |     | 11    |
| Winter Wren                 |     |     |     |     |     |     |     | 1   | 6   | 5   |     |     | 12    |
| Marsh Wren                  |     |     |     |     |     |     |     |     |     | 1   |     |     | 1     |
| Golden-crowned Kinglet      |     |     |     |     |     |     |     |     |     | 5   |     |     | 5     |
| Ruby-crowned Kinglet        | 7   | 4   | 9   | 6   | 1   |     |     |     | 1   | 20  | 8   | 3   | 59    |
| Swainson's Thrush           |     |     |     | 5   | 322 | 18  |     | 2   | 33  | 4   |     |     | 384   |
| Hermit Thrush               | 25  | 13  | 13  | 22  | 5   |     |     | 1   | 16  | 138 | 21  | 11  | 265   |
| American Robin              | 5   | 38  | 11  | 6   | 5   | 1   | 3   | 2   |     |     |     |     | 71    |
| Varied Thrush               |     | 1   |     |     |     |     |     |     |     |     | 1   |     | 2     |
| Northern Mockingbird        |     |     |     | 2   | 2   | 3   | 9   | 13  | 9   | 1   | 3   |     | 42    |
| Loggerhead Shirke           |     | 1   |     |     |     |     |     | 1   | 1   |     |     | 2   | 5     |
| European Starling           |     |     |     |     | 10  | 2   |     |     | 1   |     |     |     | 13    |
| Hutton's Vireo              |     |     |     |     |     |     |     |     | 1   |     |     |     | 1     |
| Warbling Vireo              |     |     |     | 1   | 15  |     | 1   | 2   | 4   | 1   |     |     | 24    |
| Orange-crowned Warbler      |     |     | 8   | 40  | 36  | 1   |     |     | 11  | 25  | 8   | 4   | 133   |
| Nashville Warbler           |     |     |     |     | 5   |     |     |     |     |     |     |     | 5     |
| Yellow Warbler              |     |     |     |     |     | 5   | 2   | 23  | 80  | 8   |     |     | 118   |
| Myrtle Warbler              | 8   | 12  | 27  | 3   | 15  |     |     |     |     | 28  | 2   | 5   | 100   |
| Audubon's Warbler           | 1   | 4   |     | 23  | 1   |     |     |     | 3   | 130 | 6   | 6   | 174   |
| Black-throated Gray Warbler |     |     |     | 1   | 1   |     |     |     |     |     |     |     | 2     |
| Townsend's Warbler          |     |     |     |     | 1   |     |     |     |     |     |     |     | 1     |
| Hermit Warbler              |     |     |     |     | 2   |     |     |     |     |     |     |     | 2     |
| Black and White Warbler     |     |     |     |     |     |     |     |     |     | 1   |     |     | 1     |
| Ovenbird                    |     |     |     |     |     | 1   |     |     |     |     |     |     | 1     |
| MacGillivray's Warbler      |     |     |     | 2   | 3   |     | 18  | 8   | 4   |     |     |     | 35    |
| Common Yellowthroat         |     |     | 12  | 27  | 2   | 29  |     | 23  | 26  | 7   |     |     | 126   |
| Wilson's Warbler            |     |     | 1   | 27  | 210 | 2   | 1   | 9   | 19  | 6   |     |     | 275   |
| Yellow-breasted Chat        |     |     |     |     | 2   |     |     |     | 1   |     |     |     | 3     |

| Species                     | JAN | FEB | MAR | APR  | MAY  | JUN  | JUL  | AUG  | SEP  | OCT  | NOV  | DEC  | Total |
|-----------------------------|-----|-----|-----|------|------|------|------|------|------|------|------|------|-------|
| Western Tanager             |     |     |     |      |      |      |      | 6    | 1    |      |      |      | 7     |
| Black-headed Grosbeak       |     |     |     | 2    | 5    | 2    | 4    | 5    | 3    |      |      |      | 21    |
| Blue Grosbeak               |     |     |     |      |      |      |      |      |      | 1    |      |      | 1     |
| Lazuli Bunting              |     |     |     |      | 3    |      |      |      |      |      |      |      | 3     |
| Spotted Towhee              |     |     |     |      |      |      |      |      |      | 5    |      |      | 5     |
| Brown Towhee                | 1   | 1   |     |      | 2    | 1    | 11   | 7    | 2    |      |      |      | 25    |
| Chipping Sparrow            |     |     |     | 1    |      |      |      |      |      |      |      |      | 1     |
| Savannah Sparrow            |     |     |     |      |      |      |      | 1    | 5    | 3    | 3    | 1    | 13    |
| Fox Sparrow                 | 9   | 6   | 7   | 3    |      |      |      |      | 31   | 61   | 9    | 7    | 133   |
| Song Sparrow                | 1   | 1   | 1   | 10   | 36   | 95   | 54   | 32   | 12   | 6    | 4    |      | 252   |
| Lincoln's Sparrow           | 11  | 6   | 5   | 15   | 1    |      |      |      | 45   | 72   | 57   | 17   | 229   |
| Swamp Sparrow               |     |     |     |      |      |      |      |      |      | 1    |      |      | 1     |
| White-throated Sparrow      |     |     |     |      |      |      |      |      |      | 2    | 1    |      | 3     |
| Golden-crowned Sparrow      | 11  | 14  | 19  | 33   |      |      |      |      | 9    | 115  | 53   | 46   | 300   |
| Puget Sound Wh.-cr. Sparrow | 7   | 14  | 20  | 23   |      |      |      |      | 49   | 123  | 133  | 48   | 417   |
| Gambel's Wh.-cr. Sparrow    | 7   | 12  | 10  | 11   | 1    |      |      |      | 10   | 95   | 70   | 56   | 272   |
| Oregon Junco                | 1   |     |     | 1    | 1    |      | 1    | 4    |      | 10   |      | 1    | 19    |
| Red-winged Blackbird        |     |     |     |      | 3    | 5    |      | 1    |      |      |      |      | 9     |
| Brewer's Blackbird          |     |     |     |      |      | 1    |      |      |      |      |      |      | 1     |
| Brown-headed Cowbird        |     |     |     | 6    | 6    | 4    | 3    |      |      |      |      |      | 19    |
| Hooded Oriole               |     |     |     | 1    |      |      | 3    |      |      |      |      |      | 4     |
| Bullock's Oriole            |     |     |     | 5    | 14   | 47   | 18   | 1    |      |      |      |      | 85    |
| House Finch                 | 17  | 8   |     | 6    | 17   | 86   | 122  | 146  | 65   | 16   | 38   | 18   | 539   |
| Lesser Goldfinch            |     |     |     | 1    |      | 2    | 9    | 1    | 2    | 4    | 3    | 2    | 24    |
| American Goldfinch          |     |     | 7   | 37   | 25   | 5    | 6    | 18   | 21   | 4    | 3    |      | 126   |
| House Sparrow               |     |     |     |      | 1    | 1    | 3    |      |      |      |      |      | 5     |
| New Bandings                | 120 | 147 | 173 | 377  | 914  | 410  | 359  | 558  | 716  | 958  | 425  | 233  |       |
| Cumulative                  | 120 | 267 | 440 | 817  | 1731 | 2141 | 2500 | 3058 | 3774 | 4732 | 5157 | 5390 | 5390  |
| Species Banded              | 18  | 22  | 25  | 39   | 47   | 36   | 31   | 34   | 44   | 42   | 20   | 18   |       |
| Cumulative                  | 18  | 24  | 34  | 48   | 58   | 67   | 69   | 74   | 77   | 85   | 86   | 86   | 86    |
| Recaptures                  | 210 | 352 | 347 | 442  | 335  | 256  | 360  | 189  | 201  | 277  | 416  | 298  |       |
| Cumulative                  | 210 | 562 | 909 | 1351 | 1686 | 1942 | 2302 | 2491 | 2692 | 2969 | 3385 | 3683 | 3683  |
| Days of Operation           | 11  | 15  | 19  | 27   | 31   | 19   | 22   | 31   | 30   | 31   | 13   | 11   | 260   |

## Volunteer Thank You's

*Continued from page 9*

Arleen Feng has volunteered at CCRS since June 1992, when she joined the Avian Research program as a member of the "Wednesday Banders." Over the past three years she has deepened her commitment to CCRS through additional work on the Community Creek Watch project as a Stream Inventory volunteer. The hundreds of hours she has put into these two projects alone have distinguished her as an invaluable member of the CCRS team, but as we have recently discovered, Arleen had just begun! Since last fall, Arleen has taken the new aquatic macro-invertebrate sampling project under her wing. This pilot project on Saratoga Creek represents a big step forward in technical requirements for the Community Creek Watch project, and Arleen has unstintingly provided her energy and expertise to help us rise to the challenge. Without such dedicated and talented volunteers, CCRS staff would truly be "up a creek." Thank you, Arleen! 🐦



Arleen intently untangles a Pacific-slope Flycatcher from a mist net.

# The 1995 Fall Season

by Bill Bousman

For the fall season, August through November, we banded every day during the months of August through October and then changed to our winter schedule in November and banded on 13 of 30 days. Using the Summary Board data for new captures I have tabulated the passage dates of our more common fall migrants in Table 1 below. I include July dates in computing percentiles and this sometimes skews the dates slightly because some post-breeding dispersants are lumped with the migrants, but the median passage dates provide a good measure of when birds are migrating through and the 10th and 90th percentile dates indicate the span of their passage.

The top five migrants this fall were Pacific-slope Flycatcher (PSFL), Yellow Warbler (YWAR), Orange-crowned Warbler (OCWA), Swainson's Thrush (SWTH), and Wilson's Warbler (WIWA). Most of the top five came through in typical numbers with the exception of Swainson's Thrush which showed fewer than half its usual fall total. In contrast, Swainson's showed its best spring migration ever in 1995 with a record number of birds moving north.

If there was any pattern to the fall migration it was of birds coming through a bit earlier than normal - the median date for Wilson's Warbler was 12 days earlier than the median date for the previous nine years. However, as always, these birds do not move in lock step and the Orange-crowned Warbler's median date was 12 days later.

If there was a surprise to the fall migration it was the complete absence of Rufous Hummingbirds; the first time this



has happened since we started regular banding in 1986. In part, this may be a consequence of the substantial reduction in tree tobacco along the creek.

The departure dates for our resident birds and the arrival dates of our wintering species are shown in Table 2.

"Black-chinned Hummingbird (BCHU) and Allen's Hummingbird (ALHU) both showed the earliest departure dates since 1986 and, as with Rufous Hummingbird, were banded in the lowest numbers we've seen in 10 years. The single Varied Thrush (VATH) was a record low for this species. Normally we see 10 or so birds by the end of November. The first arrival of Myrtle Warbler (MYWA) was the latest we've had at the station and the date of arrival of the Puget Sound White-crowned Sparrow (PSSP) was the earliest we've had. The numbers of Savannah Sparrows (SASP) are probably down because of changes in vegetation in the overflow channel that makes it less suitable for them. Year-to-year variability in numbers is influenced by many factors and the Summary Board data cannot isolate these factors.

Fall is always the most exciting time for rarities and vagrants and this year had its full share. We banded a Gray Flycatcher on 24 Aug and a juvenile Eastern Kingbird on 6 Sep. The latter bird was a first for the station and only the third in the county. It remained nearby at least through 10 Sep (Mike Rogers). A Black-and-White Warbler was netted on 21 Oct and re-captured on 8 Nov and remained through the winter. This is only the second one found at the station. A Yellow-breasted Chat was banded on 11 Sep for one of our few fall captures of this rare migrant. An immature Blue Grosbeak was captured on 15 Oct and this is only the fourth record of this species at the station. Finally, a Hutton's Vireo banded on 19 Sep was a rare occurrence this far down Coyote Creek although this is a fairly common species in our live oak forests. ★

Table 2. Arrival and Departure Dates for Fall 1994

| Species | Arrival | Departure | Comments          |
|---------|---------|-----------|-------------------|
| BCHU26  |         | 26 Aug    |                   |
| ALHU    |         | 12 Jul    | early departure   |
| WIWR    | 16 Aug  |           |                   |
| GCKI    | 4 Oct   |           |                   |
| RCKI    | 26 Sep  |           | low numbers       |
| HETH    | 13 Sep  |           | low numbers       |
| YATH    | 29 Nov  |           | low numbers (one) |
| MYWA    | 6 Oct   |           | late arrival      |
| AUWA    | 22 Sep  |           |                   |
| BHGR    |         | 17 Aug    |                   |
| SASP    | 9 Aug   |           | low numbers       |
| FOSP    | 9 Sep   | LJSP      | 6 Sep             |
| GCSP    | 19 Sep  |           |                   |
| WTSP    | 24 Oct  |           | three             |
| PSSP    | 6 Sep   |           | early arrival     |
| GASP    | 20 Sep  |           |                   |
| DEJU    | 9 Jul   |           |                   |
| BUOR    |         | 19 Jul    |                   |

Table 1. Fall 1995 Migration - New Capture Data

| Species | No. | First  | 10th % | 50th % | 90th % | Last   |
|---------|-----|--------|--------|--------|--------|--------|
| WWPE    | 2   | 4 Sep  | -      | -      | -      | 10 Sep |
| WIFL    | 28  | 20 Aug | 23 Aug | 30 Aug | 12 Sep | 21 Sep |
| PSFL    | 435 | 1 Jul  | 19 Aug | 2 Sep  | 25 Sep | 20 Oct |
| ATFL    | 2   | 13 Aug | -      | -      | -      | 22 Oct |
| HOWR    | 10  | 6 Jul  | -      | 7 Aug  | -      | 7 Oct  |
| SWTH    | 38  | 23 Aug | 9 Sep  | 24 Sep | 29 Sep | 26 Oct |
| WAVI    | 10  | 19 Jul | -      | 6 Sep  | -      | 8 Oct  |
| OCWA    | 42  | 9 Sep  | 20 Sep | 8 Oct  | 11 Nov | 1 Dec  |
| YWAR    | 114 | 1 Jul  | 22 Aug | 10 Sep | 27 Sep | 25 Oct |
| WIWA    | 31  | 2 Jul  | 15 Aug | 2 Sep  | 24 Sep | 29 Sep |
| WETA    | 7   | 26 Aug | -      | 31 Aug | -      | 26 Sep |

# Volunteering Has Its Rewards



## Volunteer Opportunities

### Native Planting

Join Elinor Spellman and her restoration team in planting and maintaining native riparian trees out here at the station. Give Elinor a call at (408) 279-1884.

### Join the Steam Inventory

New stream inventory teams are needed for Saratoga and Coyote Creeks. Work on water quality testing, fisheries habitat, vegetation, birds, or the herpetology teams. Call Chris Fischer at (408) 262-9204.

### Become a Coyote Creek StreamKeeper

StreamKeeper is financed this year to do outreach within the Coyote Creek Watershed. If you know a homeowner, business owner, or school teacher who would like StreamKeeper to come out and present our slide show and talk on creek pollution, give Karen or Steve a call at the office.

### Data Entry



The Stream Inventory Program could still use your help putting their data into the Paradox Data Base. Give Charles a call at (408) 262-9204 if you would like to volunteer days, evenings or even weekends.

## Volunteer Thank you's

**Victor Bravo** hates it when we grovel and thank him profusely so he has taken to mysteriously showing up at the Station and getting things done on the sly. We know it was you, Victor, who mowed the net lanes. You can't hide that van of yours. Thank you, thank you, thank you, grovel, grovel, grovel.

## Donation Thank you's

**Grant and Karen Hoyt** have again renewed a two year subscription of the Western Field Ornithologists' Journal, *Western Birds*, for the station. The Avian Research Program is chirping its thanks.



Special thanks to **Freddie and John Howell** who contributed 1% of the first quarter of gross sales from their new retail shop, **The Wild Bird Store**, in Los Gatos. Opening day for the Wild Bird Center was a very special event, for both the Howells and CCRS. Shoppers packed the store and snacked from huge trays of beautifully arranged sushi. Chris Fischer and Dave Johnston

were there to represent CCRS and Dave brought along live big brown bats for his talk on bat use of riparian habitats.

**Hector Pesqueda** of the San Jose-Santa Clara Water Pollution Control Plant donated a Panasonic printer. Thanks so much!

Thanks again to **Pat Schielie** and the Palo Alto Law Firm, **Wilson, Sonsini, Goodrich & Rosati** for donating more office supplies. In March we received three-ring binders, legal pads and other office supplies. All of this helps to reduce our paper costs!

**Hewlett Packard** donated seven book-cases and four cases of binders, both of which are rapidly filling up with data, data and more data. Thank you **Betty Johnson** and Hewlett Packard.

## Donations Needed!

The Company you work for may have a corporate giving program where they donate used office equipment. Ask your company if they would like to donate a **copier, computers, digitizers, printers, or even old binders and office supplies** to CCRS. In particular we are looking for a 386 or 486 (or better) **IBM-compatible computer** and a **PC printer** that can withstand large printing jobs, can do duplex printing, and has a high dpi. We also need a **copy machine** that can copy on both sides as well as sort. And of course, a color copier would be even more lovely.

It might be easier on the eyes of the Invertebrate Stream Inventory team if they could get their hands on a **good dissecting scope**. Do you have one lying around the house that you don't need any more or do you know someone who would like to donate one?

Help us increase our inventory of garden tools. We could use a **power mower, shovels, trowels, clippers, pruning shears, pruning saws, and loppers** to help maintain our revegetation plots. Bring your donated items to the station or call Elinor Spellman at (408) 279-1884 if you would like her to pick them up.

Since Karen has been bringing the StreamKeeper program into schools lately, she is finding that she is now hauling tremendous amounts of stuff around. She could use **large canvas bags**, the kind Safeway sells to reduce the use of plastic or paper. If you have extras around the house,

Karen would love to have them, please give her a call at the office at (408) 262-9204 or mail them to her.

Artists needed to donate **line drawings of creek themes**. We could use sketches of fish, insects, amphibians, reptiles, creek scenes, riparian birds, and people enjoying the creek. Call Karen at (408) 262-9204 if you would like to donate any artwork or could work with CCRS staff on specific projects.

## Transitions

**Jerry Richey**, dedicated CCRS volunteer, passed away this last March. Jerry, married to Board Member Elsie Richey, made sure that Elsie got to CCRS safely for every Board Meeting and to the station weekly. While Elsie worked on improving and organizing CCRS's library collection, Jerry would work on mowing and weeding around the office and the net lanes. Jerry and Elsie shared a love of birds and often traveled together on bird watching trips. We miss Jerry and wish him peace.

**Les Chibana's** Bird Watching classes have become so popular, he is now too busy to continue doing the layout for the RipariaNews. Les, of Aplin, Uno & Chibana, has been our Design and Layout Editor since 1994 when he redesigned our newsletter layout including adding some wonderful and unique graphics. Les and his unshakable sense of humor and patience has enabled us to turn out quality newsletters. We can't thank him enough for always being there for us for last minute changes, for finding great graphics, and for creating a more professional-looking publication, all for free! Thanks so much!

**Maryann Danielson** recently retired from the Board of Directors after serving since CCRS first started, nearly ten years ago. Maryann has contributed thousands of hours of volunteer work and is still actively banding birds on a regular basis. Thank you, Maryann for all your hard work on Board.

**Meg Caldwell**, from Saratoga, recently joined our Board of Directors in January. Meg is active in several environmental groups and currently is Director of the Environmental Law Program at Stanford Law School. Welcome Meg!

Continued on page 7 

# Calendar of Events

## Quarterly Thursdays Talks

Our quarterly Thursday talks are held at the Cupertino Library Community Room at 10400 Torre Avenue in Cupertino. A \$5.00 donation is requested.

### Spring Talk: The Importance of Riparian Habitat in Santa Clara County May 2 7 to 9 pm

As the warblers and thrushes return and frog song fills the evening air, we are reminded yet again of the incredible changes spring brings to our landscape. What role do riparian areas play in the grand scheme of things? Steven Rottenborn will give us a glimpse of these beautiful, vital places as he discusses his work on Coyote Creek.

### Summer Talk: An Evening in the World of Bats August 8 7 to 9 pm (date rescheduled)

Mosquitoes driving you crazy? Many bats eat half their weight a night in insects! Join Dave Johnston with a slide show featuring our local bug zappers in their native habitats. Discover the amazing relationships - even electronic warfare between bats and their prey.

## Saturday, May 11 Sharing a Passion for Birds International Migratory Bird Day, 1996

Spring is in the air, and International Migratory Bird Day is on the calendar! Come join us for our second annual celebration of the return of the migrants to our little corner of the world. This year CCRS is joining forces with Santa Clara Valley Audubon Society and the San Francisco Bay Wildlife Refuge to present a day sharing our passion for birds. The day will start early at CCRS, with a restoration work party led by Elinor Spellman at 8 am. Bird banding demonstrations, creek walks, and a waterbird pond tour will fill our morning, along with a native plant sale, nature shop, bake sale, children's activities, exhibits and lots more. As events wrap up out at the Station (around 2 pm), San Francisco Bay Wildlife Refuge activities at the Alviso Environmental Ed. Center will be in full swing. Music, art, and educational presentations will be happening from late morning through the afternoon. A shuttle service will be provided to ferry folk between these joint events. Don't miss this unique annual event!

**Saturday May 11 - Walk or Run to raise funds for CCRS in the 3rd Annual Human Race, The Human Race** is a state-wide community fundraising event which benefits nonprofit organizations. This year CCRS is a participating organization. Registration/breakfast starts at 7:00 am - race ends at 11:00 am at Cadence Design Systems in San Jose. Call for your pledge kit today or you can sponsor my walk (Cyndi Brinkhurst, CCRS' Human Race Coordinator at 408-262-9204). All donations are tax deductible. Checks are to be made payable to the Human Race and sent to CCRS.

## Sunday, May 19 - Saratoga Watershed Festival at Wildwood Park near Saratoga Village.

Join in the celebration and fun of the Saratoga Creek Watershed Festival to learn more about this diverse watershed. Live music all day, historical and technical talks, slide shows and activities for children. Call Cyndi at the office to make reservations for the trout sandwich specialty or to purchase our "In Celebration of Saratoga Creek" t-shirts.

### Board of Directors

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### CCRS Membership

|                   |                |
|-------------------|----------------|
| Member            | \$25 annually  |
| Senior or Student | \$5 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 [ccrs@best.com](mailto:ccrs@best.com).