



RipariaNews

Newsletter of the Coyote Creek Riparian Station

P.O. BOX 1027

ALVISO, CA 95002

(408) 262-9204

VOLUME 8

December, 1993

NUMBER 4

ALLEN'S HUMMINGBIRDS AT CCRS

by Rita Colwell

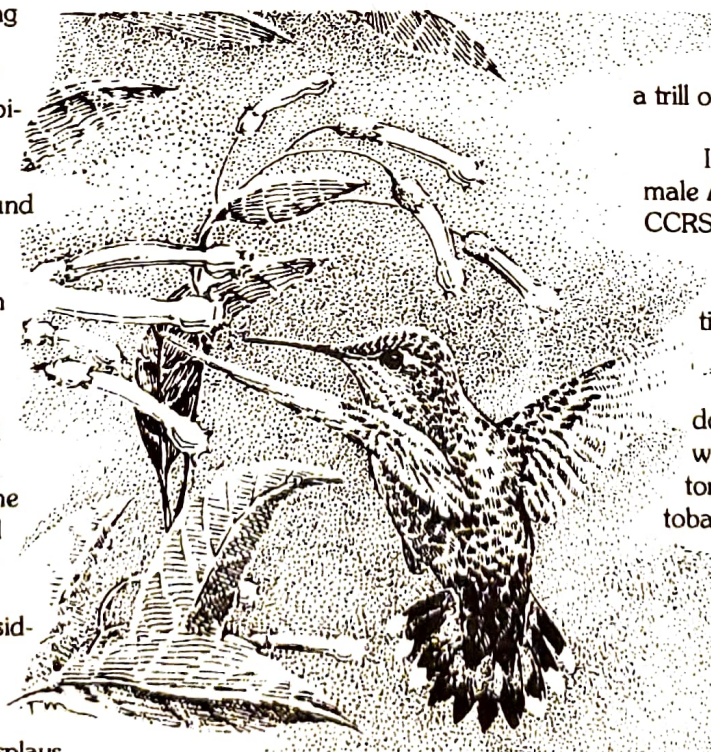
The incredibly beautiful hummingbirds of the western hemisphere are examples of the bird world's amazing diversity. These tiny birds are found from Alaska to Terra del Fuego, in the mountainous habitats of the Andes and in the arid deserts of Arizona. The largest number of species is found at the equatorial belt of South America, with ever decreasing numbers of species to the north and south. There are more than 300 species of hummingbirds in the New World. Only 16 of them breed in the United States. One of these unique sparkling gems breeds along the length of coastal California and barely into Oregon. This hummingbird may have an uninspired name, but it can be considered as dazzling as any - the Allen's Hummingbird.

Courtship behavior and displays of the male Allen's Hummingbird during the breeding season are complex and fascinating to observe.

Once a male has set up a territory, he will aggressively defend it against any intruder. He will use sharp vocalizations, swift chases, and fantastic aerial dis-

plays to keep other hummingbirds out of his territory. In these incredible display flights, the male will swoop down from a height of about 25 meters, then arc back and forth like a pendulum. At the bottom of each arc he spreads his tail and produces a trill or buzz.

I frequently observed one male Allen's this past spring at CCRS performing this acrobatic display over his flowering tree tobacco territory. Several times a day throughout the breeding season he would persistently broadcast his dominance. His favorite perch, when not proclaiming his territory, was the tallest dead tree tobacco stalk in his area. He resembled a tiny colorful pennant atop a flagpole, but he would quickly change into a launched attack missile at the slightest movement around his territory.



Female Allen's Hummingbird feeding in tree tobacco.
Original art work by Tim Manolis.

The female Allen's usually con-
(Continued on page 2)

(Continued from page 1)

constructs her nest in dense vegetation that has thick overhead shade. She builds it in an area outside the territory of the male. She takes approximately 8 to 11 days to build it and when it is almost complete, she will select her mate and allow him to chase her to the awaiting nest. She will eventually lay two tiny eggs, each less than half an inch in length and about half a gram in weight. Because the female attaches lichens with spider webs to the outside, the nest usually has a distinctive greenish color. The female incubates the eggs approximately 20 days and the young fledge in 22 to 25 days.

Two nests of Allen's Hummingbirds have been found at CCRS. In 1991 one was discovered in the only redwood tree on our site. The nest was located 3 meters above the ground concealed by dense overhanging branches. This year another nest was discovered in a box elder within the tangled vegetation at net lane 9420. Again, it was about 3 meters above ground.

The Allen's Hummingbird has an oval-shaped migration route (Figure 1). The spring migration, more westerly than in the fall, takes the birds along coastal California as far north as southwestern Oregon. Their fall migration, which can begin as early as June, occurs along a route further east and directs them into west and central Mexico for the winter months. Males leave the breeding grounds first with the females about a month behind and the immatures approximately a half month after that. Table 1 shows first and last capture dates for both adult birds (AHY) and young birds (HY) for five years at CCRS. The young birds stay, in some years, even into September.

Figure 2 illustrates five year capture rates at CCRS. This graph shows the number of Allen's Hummingbirds caught per 100 net hours. (A "net hour" is one 12-meter mist net that is opened for one hour.) This method of evaluating the number of birds captured during the year is a standardization of effort to allow for the different amount of time nets are open. It is a statistically more accurate way to reflect population fluctuations than sheer numbers. At the end of the season, the total number of birds caught is divided by the total number of net hours open during the year. One can see that at CCRS the

Table 1. First and last capture dates for Allen's Hummingbirds at CCRS.

	1989	1990	1991	1992	1993
First capture date - AHY	2/26	2/17	3/8	2/3	2/14
First capture date - HY	4/26	5/1	5/1	4/10	4/18
Last capture date - AHY	8/17	7/30	7/1	6/29	6/27
Last capture date - HY	9/11	9/1	8/26	8/22	7/31

of Birds per 100 Net Hours

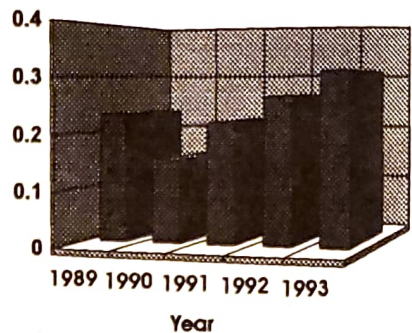


Figure 2. Capture rate of Allen's Hummingbirds at CCRS for the last five years.

number of Allen's Hummingbirds per 100 net hours has remained stable during the five years of sampling. Over a longer period this evaluation becomes increasingly more valuable in deciding how well a species is doing. It, of course, is important that the habitat is maintained and mist net monitoring is continued consistently.

Coyote Creek Riparian Station's site is a small green wildlife refuge amid the large urban sprawl of the Bay Area. Our data have shown that the habitat here is invaluable to both resident and migrant birds. By capturing an individual bird more than once, we are able to compare the weights at each encounter. In many cases,

(Continued on page 3)



Figure 1. Range map of the Allen's Hummingbird. From Stokes and Stokes 1989.

(Continued from page 2)

healthy weights are maintained throughout the seasons by our resident species. Our recapture data show that a large percentage of migrating species either maintain or increase weight, i.e., fat supplies, while onsite.

Some Allen's Hummingbirds breed here while others just migrate through the area. The migrant Allen's find CCRS a stopover site allowing for refueling and rest to continue to breeding areas to the north. Other Allens' find it an optimal area to breed and raise young. It is an area that supplies essential necessities to help complete their life cycle.

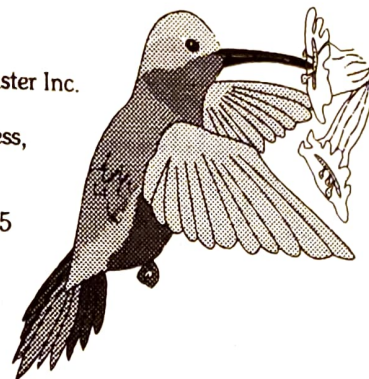
References:

Ehrlich, P.R., D.S. Dobkin, and D. Wheye. 1988. *The Birder's Handbook*. Simon & Schuster Inc.

Johnsgard, P.A. 1983. *The Hummingbirds of North America*. Smithsonian Institution Press, Washington, D.C.

Phillips, A.R. 1975. *The migration of Allen's and other hummingbirds*. *Condor* 77:196-205

Tyrell, E.Q., and R.A. Tyrell. 1985. *Hummingbirds, Their Life and Behavior*. Crown Publishers, Inc.



HUMAN IMPACTS ON RIPARIAN SYSTEMS STUDIED AT COYOTE CREEK

by Stephen C. Rottenborn

The riparian communities along the streams and rivers in California today are, in most places, merely narrow corridors and isolated remnants where there once existed vast floodplain forests. Indeed, over 95% of California's riparian communities have been destroyed in the last 150 years (Smith 1977). Despite this de-

Editor's Note: Steve Rottenborn is a graduate student at Stanford University working under Dr. Paul Ehrlich at the Center for Conservation Biology. A native of Virginia, Steve received his undergraduate degree in Biology from the College of William and Mary. Since he and his wife Heather moved here last September, Steve has somehow found time to find an incredible number of rare birds along the banks of Coyote Creek. His thesis topic is both timely and sorely needed to settle unresolved yet important questions about adjacent land use impacts on bird populations.

struction, however, riparian communities remain among the most productive and diverse in the state (Sands and Howe 1977). In California, where many organisms are closely linked to streams and riparian vegetation, preservation of biodiversity depends largely on the preservation of riparian ecosystems.

In order for riparian conservation efforts to be effective, a good understanding of the pressures impacting riparian systems is requisite. The most important cause of riparian habitat degradation is the outright clearing and fragmentation of riparian forests for agriculture or development, or as flood control measures are imple-

mented. Destruction of riparian habitat obviously eliminates many organisms outright. Habitat fragmentation also reduces the number of species that can survive in the remaining forest patches by limiting the size of populations, increasing detrimental edge effects (such as predation and nest parasitism), and preventing migration of individuals among populations by isolating patches from one another.

In California, where many organisms are closely linked to streams and riparian vegetation, preservation of biodiversity depends largely on the preservation of riparian ecosystems.

Habitat fragmentation does not have to occur on a large scale (i.e. clearing of forests) to be detrimental to riparian organisms. Removal of foraging or breeding microhabitats required by some species, such as dead snags for woodpeckers, small pools for dragonflies, or leaf litter for some small mammals, may result in

(Continued on page 4)

the elimination of these organisms without a significant visual impact on the forest as a whole. Such "microhabitat fragmentation" may result from grazing by livestock, selective logging, dumping of trash in riparian zones, or simply trampling of understory vegetation by people fishing along a river's banks.

The land-use practices in the uplands adjacent to riparian zones may also affect riparian organisms. Agricultural land adjacent to riparian zones may provide food for birds that use the riparian habitat for cover or nesting (Stevens et al. 1977), and riparian communities in rural areas may harbor more bird species (including more neotropical migrants) than those in urban areas (Smith and Schaefer 1992). However, some species of riparian birds may decline after agricultural encroachment on riparian areas (Conine et al. 1978). When uplands are cleared for agriculture or covered with buildings, riparian populations become isolated from other populations and may eventually become extinct. Other factors resulting from human land-use practices that may adversely affect riparian organisms include chemical runoff, dumping, trampling of vegetation, increased predator abundance, establishment of exotic species, and direct take of riparian organisms. These factors may be particularly detrimental when homes and offices are built in close proximity to a stream and its riparian habitat, without a wide buffer zone to protect riparian organisms.

Alterations to a stream's flow regime also have significant impacts on riparian ecology. Channelization and damming reduce flood frequency, preventing the establishment of certain riparian plants. Streambank stabilization, including riprapping, eliminates most riparian vegetation altogether and reduces breeding habitat for bank-nesting

birds. Finally, diversion of water for consumption by humans and livestock and for irrigation reduces the amount of water available to riparian organisms for survival. Indeed, alteration of natural flow regimes are detrimental to nearly all riparian organisms (Faber et al. 1989).

Despite the research already conducted concerning human impacts on riparian systems, many important questions re-

When uplands are cleared for agriculture or covered with buildings, riparian populations become isolated from other populations and may eventually become extinct.

main unanswered. Over the next few years, I hope to answer these questions via my dissertation research. And what does all this have to do with CCRS? Coyote Creek is an excellent location for a study attempting to answer these questions. Although Coyote Creek has suffered severe habitat loss and stream alteration, it maintains some of the best riparian habitat left in the San Francisco Bay area (U.S. Army Corps of Engineers, 1986).

Most riparian studies have focussed, unfortunately, on single groups of organisms. However, if a holistic approach to riparian conservation is to be achieved, then several taxa with very different life cycles and habitat requirements should be studied. Knowledge of the impacts of human activities on several different groups is necessary to model the response of whole ecosystems to alteration, and ultimately to preserve entire watersheds. To this end, the study taxa (ST) that I will use to answer the questions proposed in this study will be birds, odonates (dragonflies and

damselflies), and butterflies.

While some studies have looked at the effects of riparian fragmentation on birds, very little is known about its impacts on non-avian riparian organisms. Are they affected by such fragmentation, and do these effects parallel those for birds? Comparison of the distribution of the ST between large, relatively undisturbed riparian stands and small, highly disturbed stands (controlled for dominant vegetation type) should elucidate the responses of these organisms to fragmentation. In addition, the diversity and density of the ST will be monitored in several riparian stands before and after implementation of flood control procedures that will fragment the stands. Multivariate comparisons of physical/vegetational parameters and the distributions of the ST will identify specific microhabitat characters required by each species.

Although land-use practices may be of great consequence to riparian ecosystems, the impacts of different types of land use on riparian ecology have received little research attention. Furthermore, the interacting effects of land use and habitat fragmentation have never been studied, although there is evidence that organisms may vary their responses to habitat degradation depending on the type and quality of the adjacent habitat (Stevens et al. 1977). Flowing through the Santa Clara Valley to the bay, Coyote Creek passes through rural/agricultural, suburban/residential, and urban/industrial lands. By comparing the diversity and density of the ST in riparian stands of different quality and adjacent to the three different land-use types along Coyote Creek, I will investigate the effects of various land-use activities on riparian ecosystems. Points within each of the three upland types will also be censused so

(Continued on page 5)

(Continued from page 4)

that the diversity and density of the ST can be compared between riparian and upland plots, allowing for the identification of riparian-dependent species.

Some research has focussed on the widths of riparian corridors and buffer zones necessary to preserve stream quality, with highly variable results (Budd et al. 1987). However, if buffer zones between riparian communities and human developments are too narrow, the adverse effects of human activities will probably be very great. In order to determine the minimum buffers necessary to preserve biodiversity, my investigations will also compare the ST in stands at different distances from "developed" areas.

Because the pressures facing the organisms in riparian systems, and in some cases the organisms themselves, vary from season to season, data will be collected during all seasons in which a study taxon is active. For the insect groups, sampling will occur from early spring through fall, while bird censuses will be conducted year-round. For all ST, density and diversity among the different treatments will be compared among seasons.

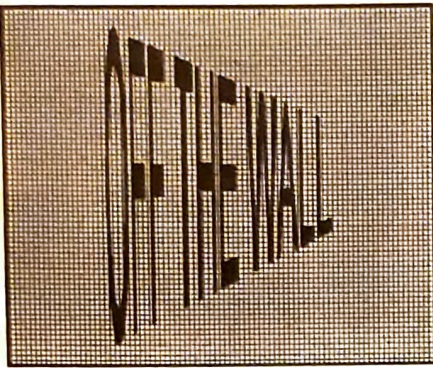
The ultimate goal of this research will not only be to shed some light on the ecological principles of biogeography and community structure, but also to provide the foundation for a watershed or ecosystem-based approach to riparian ecosystem evaluation, monitoring, and conservation. Indices of riparian ecosystem quality do exist, but do not adequately incorporate human pressures and upland use; my results would refine such indices, allowing for quick, accurate assessments of stream quality and predictions of riparian biodiversity. Elucidating the microhabitat requirements of rare or declining species or riparian-dependent organisms will in-

crease the effectiveness of conservation efforts and help predict where these organisms might be found. Hopefully, this research may help the managers and planners of local governments to develop zoning regulations that do not compromise the integrity of riparian systems, preserving the tremendous biodiversity of riparian communities.

Literature Cited

- Budd, W.W., P.L. Cohen, P.R. Saunders, and F.R. Steiner. 1987. *Stream corridor management in the Pacific Northwest*. Environmental Management 11:587-597.
- Conine, K.H., B.W. Anderson, R.D. Ohmart, and J.F. Drake. 1978. *Responses of riparian species to agricultural conversions*. Pp. 248-262 in R.R. Johnson and J.F. McCormick (tech. co-ords.), *Strategies for protection and management of floodplain wetlands and other riparian ecosystems*. USDA Forest Service General Technical Report WO-1.
- Faber, P.M., E. Keller, A. Sands, and B.M. Massey. 1989. *The ecology of riparian habitats of the southern California coastal region: a community profile*. National Wetlands Research Center Biological Report 85 (7.27).
- Sands, A. and G. Howe. 1977. *An overview of riparian forests in California: Their ecology and conservation*. Pp. 98-115 in R.R. Johnson and D.A. Jones (eds.), *Importance, preservation, and management of riparian habitat: a symposium*. USDA Forest Service General Technical Report RM-43.
- Smith, F. 1977. *A short review of the status of riparian forests in California*. Pp. 1-2 in A. Sands (ed.), *Riparian forests in California: their ecology and conservation*. Institute of Ecology Pub. 15.
- Smith, R.J. and J.M. Schaefer. 1992. *Avian characteristics of an urban riparian strip corridor*. *Wilson Bulletin* 104:732-738.
- Stevens, L.E., B.R. Brown, J.M. Simpson, and R.R. Johnson. 1977. *The Importance of riparian habitat to migrating birds*. Pp. 154-164 in R.R. Johnson and D.A. Jones (eds.), *Importance, preservation, and management of riparian habitat: a symposium*. USDA Forest Service General Technical Report RM-43.
- U.S. Army Corps of Engineers. 1986. *Interim feasibility report and environmental impact statement: recommended plans for flood control, Coyote and Berryessa Creeks*.





by Bill Bousman

The 1993 Spring Summer Season

The Station was in operation on 23 days in June (77%) and 18 days in July (58%). This is a decrease in operating days from recent years but is probably appropriate for the summer season in which we experience few migrants and band mostly local residents. The information that follows has been obtained from the Summary Board.

Hummingbirds are one of our mainstays along the creek during the summer and we caught or appeared to catch pretty much typical numbers of all four species. The Black-chinned, Anna's, and Allen's Hummingbirds all nest along the creek, but Rufous Hummingbird normally appears only as a late or early migrant. The two Rufous banded this summer appear about typical but as we obtain more data it raises the question of why we found so many in the summer of 1989. That was the first summer we used the 30mm nets and, perhaps, the eighteen we captured that summer didn't seem so unusual - it certainly seems so today.

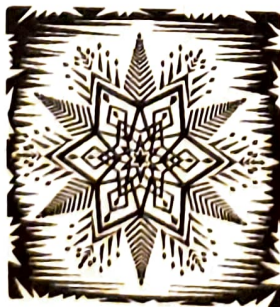
Finding the nest of a Black-chinned Hummingbird is always noteworthy and this year a female raised two young near net 9330. I received a report of the nest with two eggs in it on 24 July from Mike Mammoser and, on 30 July, Kristin Shields noted that the nest contained an egg and a nestling. It appears that both

of the young from this nest successfully fledged. The late date is suggestive of a second brood for this species that normally appears in early April.

Summer is often a time of late spring migrants, such as the last Swainson Thrush we banded on 11 June, as well as the early fall migrants, such as the Western Wood-Pewee we captured on 29 July. Other species don't fit this sort of categorization. We banded three Warbling Vireos, a common species at higher elevations, but one that does not appear to nest along the creek. However, the capture dates of 8 and 15 July with two on the latter date are suggestive of locally dispersing individuals.

Another species that is fairly common at higher elevations, Lazuli Bunting, is banded in some years in late September and early October, but is always a scarce migrant. This summer, however, we banded birds on 22 and 25 July and, again, this suggests local dispersion rather than migration.

Northern Orioles undoubtedly breed along the creek, but in the early years of the station typical capture numbers for the summer ranged from one to seven birds. Last summer, however, we captured 67 orioles and this summer we banded 34. It's hard not to believe that this increased number is not a reflection of the revegetation areas.



NEWS FROM THE SANTA CLARA COUNTY BREEDING BIRD ATLAS

by Michael M. Rogers

The Database Review Process

Progress is being made on entering results from this year's field work into the computer database that maintains all our atlas records. This process is over two-thirds complete, and we hope to have it done by the end of the year. Then what? Eventually the database information must be distributed, along with other material, to the people who have volunteered to write species accounts. Before this happens, however, we must make every effort to ensure that this information is accurate. The database contains about 25,000 entries and there are many possible places for errors to creep in. In an effort to remove as many of these errors as possible, a "Review Committee" has been formed to evaluate all the database entries.

Many different things can result in errors in the database. The first step in an atlaser's submitting observations for inclusion in the database consists of filling out a field card. In some cases, entries have been made on the wrong line of a field card. When this results in an unusual species being reported from an area we do not expect it, getting back in touch with the atlaser will correct the situation; otherwise, we may never know about the error. Errors may also result from incorrect data entry. The data entry programs have numerous consistency checks built in, but occasionally they miss something, and they cannot tell if the field card has been misread.

(Continued on page 7)

(Continued from page 6)

Again, we can only hope that the Review Committee will catch the errors that would have a significant impact on the presumed breeding distribution of a species by contacting the atlaser about surprising records.

Far more frequent than the procedural errors described above, are entries that get entered into the database correctly, but do not accurately reflect the true status of a species in a block. Perhaps the biggest difficulty in this regard is distinguishing between birds that are truly breeders and those that are merely migrants or wintering birds, and therefore do not warrant any database entry. In many cases, this determination is very difficult. However, we now have an additional tool to help us in the decision: seven years of hard work atlasing every part of the county. We now know a lot more about the status of virtually every species that breeds in the county and this knowledge can be used to reevaluate our earlier decisions. For instance, Yellow-rumped Warblers were known to be uncommon breeding birds in the Santa Cruz Mountains prior to the atlas; however, it was unclear whether they were regular breeders in the higher elevations of the Diablo Range, where migrants are common through early May. In the early 1980's, breeding was confirmed on Mt Hamilton, so there was perhaps reason to expect breeding birds. Unsure of the breeding status of April or May birds, several atlasers submitted "POssible" breeding entries of such birds on their field cards. Despite the many years of atlasing, we never obtained any breeding evidence for this species in the Diablo Range and it is now clear that they were probably all migrants and that the "POssible" entries should be removed. Many atlasers have used the "Observed" code in cases where they were unsure about whether a particular observation pertained to a breeding bird or a migrant. This is an in-

correct use of the "Observed" code (which is properly used for long-distance foraging breeding birds) and these records must be either upgraded to "POssible" breeding birds or deleted as probable migrants.

In addition to the problem of separating migrants and breeding birds in Spring, breeding birds must also be separated from post-breeding dispersants in late summer. Lewis' Woodpeckers have been observed in several locations where they do not breed in late July and August. Records of such birds should not be in the database. In many cases, however, the separation of dispersants and breeders is more difficult. A Nashville Warbler in the Diablo Range in late July is clearly not a breeder, since none breed locally. But what about the Wilson's and Yellow Warblers with it?

The best clues for determining whether a bird is a possible breeding bird or not are the habitat it is found in and the date on which it is seen. An observation date is entered on the field card, but notes about habitat are not. Many migrants are more widespread during migration than during the breeding season. Black-throated Gray Warblers can appear almost anywhere where there are trees in the Diablo Range during migration, but breeding birds are much more localized on moist, heavily wooded north-facing slopes in a limited number of blocks. Similarly, Black-throated Gray Warblers are much easier to find during the peak of the migration from late April through most of May, but records from late June are much harder to come by. Even though a date (or trip number) is entered on the atlas field

card, this may not always be enough information to judge the validity of a record. If the field card entry is made for the date on which a species was first encountered (typically during its migration period), the Review Committee will have no way of knowing whether the species was found later in the season (when only breeding birds are still present) or not. Here again, it will be necessary to contact the observer for additional details.

Some breeding codes are inappropriate for certain species. Scrub Jays often carry acorns or other food throughout the year and this is usually unrelated to breeding activity. For this reason, the "Carrying Food" code is generally deemed inappropriate for Scrub Jays. Despite this, there are several database entries where confirmation of Scrub Jays is based on the "CF" code. In reality, this code can be appropriate in some instances. A Scrub Jay that cautiously eyes an atlaser with a mouthful of caterpillars and insects for an extended period is probably waiting for an opportunity to feed its young in a nearby nest. Here again, only contacting the atlaser will let us know whether "CF" was appropriate. Male Marsh Wrens are known to build "dummy" nests and this behavior does not necessarily confirm breeding. Thus, a Marsh Wren "Nest Building" only gets a PProbable "Building" code, not a COnfirmed "Nest Building" code. We have adopted this convention with all the wrens, although it is not clear whether all of them actually exhibit this behavior. The database contains several records of House Wrens "Carrying Nest material". Should these all be downgraded to "Building"? Not necessarily. In some cases atlasers have carefully ascertained that the female of a pair was involved in the nest building (by the presence of a singing mate nearby) and in such cases this is an acceptable breeding confirmation.

(Continued on page 8)

(Continued from page 7)

Food" over long distances and observation of this behavior alone does not constitute breeding evidence for the block; the "Observed" code is appropriate.

As is clear from the above examples, there are many instances in which additional information about certain breeding bird records will be necessary to make an assessment of their accuracy. The information an atlaser collects on habitat, behavior, and the duration of a bird's presence can all be vital in establishing the true breeding status of a species in a block. So what can you the atlaser expect in the coming months? Many such questions. So dust off your old field notes, refresh your memory, and get ready to assist the Review Committee in the next phase of our atlas project!

THE BIRDS OF SANTA CLARA

by Bill Bousman, © November, 1993

Rare Where?

A good checklist will show the frequency of occurrence of a species within the checklist area, that is, is it common or uncommon or rare. This rarely causes confusion for a checklist that covers a local park or a wildlife refuge, but for checklists that cover a broader geographical area there is some ambiguity as to whether a species is rare everywhere or just in one or two particular habitats. Most checklists apply the frequency of occurrence description only within a species appropriate habitat and this makes a lot of sense. You wouldn't look for a Common Moorhen in a grassland or oak savannah, nor would you look for a Yellow-billed Magpie in a salt-water marsh. However, things become more confusing when a species is more likely to be found in one area than another and we may be unsure of the habitat differences that cause this.

The Lark Sparrow is a common species in the Diablo Range and it is always found in good numbers on the San Jose Christmas Bird Count (CBC). But it is a rare breeder in the Santa Cruz Mountains and even more difficult to find in the winter. In recent

years, it has been almost entirely absent from the Palo Alto CBC and when I had the temerity to boldface it recently on that CBC the California editor noted that I did not provide a description for a boldfaced bird. For a CBC compiler that was clearly a gotcha, but the thought had never occurred to me that anyone on the Palo Alto CBC would have difficulty identifying this species! Yet someone unfamiliar with Santa Clara County, who had spent a day birding in grassland habitats on the eastern slopes of the Santa

edge of just what is the appropriate habitat for any of our local birds and we need to work towards a better understanding of their habitat requirements if we are to prevent a loss of that habitat sometime in the future.

Cormorants and Frigatebirds

We have three species of cormorant that are found at least occasionally in Santa Clara County as well as a single record of a Magnificent Frigatebird. I graph the distribution of this species group in **Figure 1** over the period of a year. The thick line means a species is common, a medium line indicates - fairly common, while a thin line shows a species

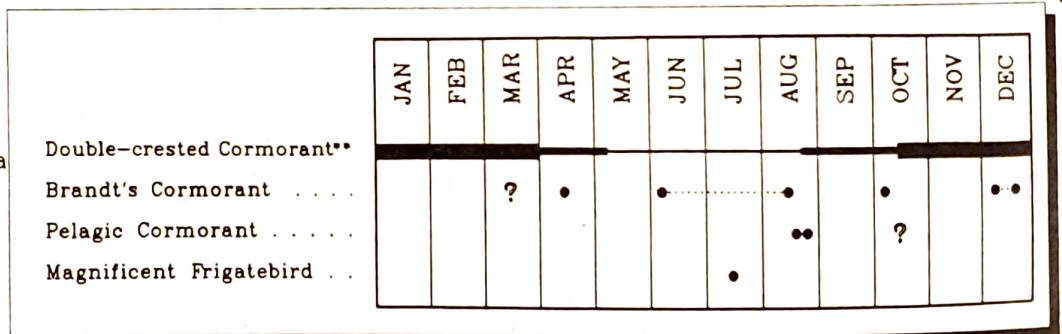


Figure 1. Graphic representation of yearly abundance of the three species of cormorants and the single species of frigatebird.

Cruz Mountains, might be upset with our checklist that shows Lark Sparrow as a common bird when he had never seen a one. There is probably no way to resolve this ambiguity of checklists except by constructing more checklists on a ever finer geographical scale. It is useful, however, to recognize that this limitation of checklists has a lot to do with our lack of knowl-

is uncommon. The filled circle symbol represents single records for vagrant or accidental species while the question mark is a way of indicating that there are county records for which adequate information is lacking.

Double-crested Cormorant has
(Continued on page 9)

(Continued from page 8)

long been a common wintering species in the South Bay. Numbers decrease significantly in the summer and, until a year ago, it was believed that all of our summering birds were nonbreeders. On 2 August, 1992 Peter Metropulos found two active nests on the transmission towers on Long Point, near the mouth of Stevens Creek and this was the first breeding record for Santa Clara County. This nesting colony has expanded with five nests noted this summer (Peter Metropulos, Mike Mammoser). This first nesting record was not completely unexpected as this species has been successfully nesting on the bay bridges in the last decade and has been expanding southward. An idea of the distribution of this species over a year can be obtained from unpublished census data from the Charleston Slough Project. This ongoing project has been censusing Charleston Slough at approximately two week intervals since the winter of 1980 for the Santa Clara Valley Audubon Society. Census data through 1989 are shown in **Figure 2** and clearly show the reduction in numbers through the summer months.

We count between 200 and 400 Double-crests on a typical Palo Alto Christmas Bird Count, while on the Summer Bird Count we may sometimes find fewer than ten birds. Last summer was unusual in that we tallied 164 birds for the summer count may be a reflection of the expanding population. Larger numbers are occasionally found in the South Bay in winter. Van Remsen noted 1500 in flight over Palo Alto on 16 January, 1971 (Am. Birds 25:620). Sizeable numbers have been found this fall in the salt ponds near Alviso. I counted 820 roosting on the dike of Salt Pond A11 31 October of this year and a more careful count would have been quite a bit larger. In the county notebooks I also have a record of 750 birds at Coyote Res. on 29 February 88 by Dave Jensen (fide David Suddjian) and this shows that we can also have sizeable numbers of birds inland as

well.

Brandt's Cormorant is accidental this far down the bay. Sibley (1952) reported this species as [r]are at the south end of the bay without citing any records for Santa Clara County. The 1975 Santa Clara County Checklist shows this species as uncommon to rare for the fall, winter, and

have been unable to find any county records for this species that provide a basis for Sibley's comment or the distribution on the checklist. It appears that a bird occurred some time during the spring of 1977 in the Palo Alto Baylands (fide Ted Chandik), but I'm not aware of details regarding this record. Brandt's has been found locally during the 1980's. Paul Noble found a Brandt's Cormorant foraging with a large flock of Double-crested Cormorants on Shoreline Lake 9 December, 1988 and the bird remained through at least 21 December (Am. Birds 43:361). A bird was observed being released at the Palo Alto estuary on 6 February, 1990 by humane society personnel (Rich Schermerhorn) but the source of this bird is unknown so I don't presently include it with the other county records. Al Eisner found an ill bird at the Sunnyvale Water Pollution Control Plant 7 October, 1990 (Am. Birds 45:146). In 1992 Mike Rogers and Jim Corliss found an adult Brandt's on the Moffett fresh water channel on the Palo Alto Summer Bird Count (6 and 7 June, 1992) and photographed this bird. On three occasions between 2 and 15 August, 1992 Peter Metropulos noted a sickly bird at

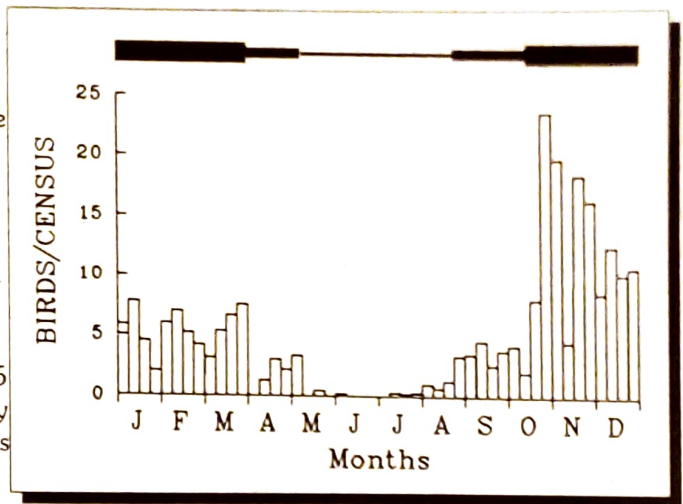


Figure 2. Variation in abundance of Double-crested Cormorants at the Palo Alto Flood Basin.

the same location (Am. Birds 47:144) and this is undoubtedly the same bird. The fourth of our recent records of this species is of a single bird found by Steve Rottenborn on Salt Pond A4 on 14 April, 1993. Two of our four recent birds were noticeably ill and this appears to be typical of a number of ocean species that stray too far down the bay.

Records of Pelagic Cormorant in Santa Clara County show parallels with the records for Brandt's. Sibley (1952) noted that a record from the bay side of San Mateo County showed that Pelagic Cormorants come into the bay at least on some occasions. The 1975 Santa Clara County Checklist shows this species as uncommon to rare, just as in the case of Brandt's, but again I am unaware of any historical records of this species in the county. Ted Chandik notes that there was a bird in the vicinity of the exit gates of the Palo Alto Flood Control Basin in the mid-1970's but had no further details. The only recent record of this species for the county is of an immature that Jean DuBois found roosting on Vasona Res. 19 to 25 August, 1990 (Am. Birds 45:146).

The last of the Pelicaniiformes to have been found in the county is Magnificent Frigatebird. A significant incursion of this species was noted in

(Continued on page 10)

(Continued from page 9)

the summer of 1979. Magnificent Frigatebirds staged an invasion comparable to the summers of 1972 and 1977. Six were sighted along the coast from Berkeley to Crescent City July 11-29 (m.ob.). Most notable was an immature soaring with Turkey Vultures over the Sacramento R. at Hamilton City, Butte and Glenn Counties, July 27 (SAL). This represents the first inland record for the Region (Am. Birds 33:893). It appears that the records noted above also extend to Santa Clara County as Sue Kaiser noted in her column, *The Epicurean Birder*, in the September 1979 **Avocet** that "There were reports on July 15 - one from pilot John Mallinson, who saw an imm. [Magnificent Frigatebird] over Alviso (from his plane!) and one of a bird over Los Gatos." I have no detail of either record beyond what is noted above.

References

- David DeSante and Arthur Wang, Middle Pacific Coast Region, *American Birds*, Vol. 25, No. 3, June 1971.
- Stephen A. Laymon and W. David Shuford, Middle Pacific Coast Region, *American Birds*, Vol. 33, No. 6, November 1979.
- Charles G. Sibley, *Birds of South San Francisco Bay*, mimeo notes, March 23, 1952.
- David G. Yee, Stephen F. Bailey, and Bruce E. Deuel, Middle Pacific Coast Region, *American Birds*, Vol. 45, No. 1 Spring, 1991.
- David G. Yee, Stephen F. Bailey, and Bruce E. Deuel, Middle Pacific Coast Region, *American Birds*, Vol. 47, No. 1, Spring 1993.
- David G. Yee, Richard A. Erickson, Alan D. Barron, and Stephen F. Bailey, Middle Pacific Coast Region, *American Birds*, Vol. 43, No. 2, Summer 1989.

IBM TO THE RESCUE - AGAIN

Once again CCRS has been the beneficiary of an equipment donation from International Business Machine. Spearheaded by Life Member Irene Beardsley (and recently retired IBM employee), the IBM Fund for Community Service donated a top-of-the-line laser printer to CCRS worth over \$2,000. The Lexmark 4039 is a 600 d.p.i. (dots per inch) workhorse with a 10 page per minute print engine. The printer came with a duplexing attachment which allows us to print on both sides of the paper to save on our precious resources. It is also certified as an "Energy Star" device which uses significantly less power than traditional printers.

This new edition will allow us to produce reports and "camera ready" materials faster and cheaper. The toner cartridges can be recycled and refilled with toner many times.

This is the second IBM donation from this program we have received. In 1990, Alex Aiken arranged for the donation of two IBM PS/2 computers which have received many hours of number crunching and report writing.

We thank Merle W. Gorman, Manager of Government, Community and Academic Relations for their continuing support of our programs.



PROJECT TANAGER NEEDS YOUR

The Cornell Lab of Ornithology is looking for birders nationwide to assess the breeding status of four tanager species in forests of different sizes. Tanagers are neotropical migratory birds whose populations may be declining due to fragmentation of their forested habitats. Project Tanager draws upon the expertise of local birders to locate tanagers, monitor their reproductive behavior, and search for nests. This effort is part of the Lab's volunteer-based National Science Experiments, sponsored by the National Science Foundation and the National Fish and Wildlife Foundation.

In 1993, a successful pilot study was conducted in which more than 70 teams of volunteers studied tanagers at nearly 1,000 sites in 32 states and 2 Canadian provinces. Their data suggest that Scarlet Tanagers in the East may disappear from small woodlots (under 3 acres), whereas Summer and Western Tanagers may be less sensitive to small habitat areas. The validity of these findings will now be tested with the full-scale launching of Project Tanager, beginning in spring 1994. By incorporating the comments and suggestions of our pilot tanager-watchers, we have revised and streamlined Project Tanager's methodology. All participants will receive a kit with full instructions, data forms, and cassette tapes for learning tanager vocalizations.

There is no charge to participate in Project Tanager. For more info. write:

Mindy Westgate/Tanager Proj.
Cornell Lab of Ornithology
159 Sapsucker Woods Rd.
Ithaca, NY 14850

MEMORIAL FUNDS

Contributions have been received in memory of two strong CCRS supporters - **Bob Hess** and **David Johnson**. The funds in Bob Hess' name will be used to purchase a new electronic balance for our "mobile" banding kits. We are frequently taking our "show on the road" and each time we must borrow a balance from the banding laboratory. The purchase of a battery operated metric balance will enable us to weigh birds in the field with the same accuracy as in the lab.

The contributions received in David Johnson's memory will be used to purchase new mist nets for our hummingbird nets. David was one of the people who regularly checked our nets to make sure that the holes were not too large. We're sure he would approve of our dedicating money to this cause.

We would like to thank the following individuals for their memorial contributions:

In Memory of Bob Hess

Maryann Danielson
Sandra & Geoffrey Fricker
Jared Hess
Rosalie Lefkowitz
Irene Miura
Jean-Marie Spoelman
Virginia Willcox

In Memory of David Johnson

Peter Folan
Francis Mewaldt

STREAM INVENTORY UPDATE

by **Chris Fischer, Community Creek Watch Coordinator**

Over the past several months our EPA and Water District sponsored stream inventory crews have made tremendous progress. We have completed resource documentation on the upper reaches of our "pilot" stream - San Francisco Creek (SFC) and the vegetation and fisheries crews are now focussing on the north Palo Alto and East Palo Alto sections of the creek. Los Trancos Creek, a tributary of SFC currently has fisheries and water chemistry crews in place and vegetation crews will begin surveys in the spring. For all of her help in gaining access to Stanford lands we owe **Leonie Batkin** of Stanford Land Management a great deal of thanks.

Inventory efforts along Saratoga Creek are in the capable hands of coordinator, **Diane Reynolds**. Fisheries, vegetation, water chemistry, and bird crews are scheduled or already operating. Reptile and amphibian teams will begin surveys in January. Volunteers are still needed for all crews.

Alamitos Creek in south San Jose, has a seasoned vegetation team under the able leadership of **Debra Amshoff**, a water chemistry crew, and a new fisheries group beginning their efforts. A bird group led by **Gerry Ellis** and **Vicki Silvas-Young** is just getting under way.

We now have water chemistry monitors on Calero, Guadalupe, and Los Gatos Creeks and hope to have the full

complement of crews on these tributaries of the Guadalupe River by March. We are seeking resource coordinators for these creeks now.

Stevens Creek has established bird coordinators - **Jim and Sue Liskovec** and water chemistry - **Chris Bloxson**. We are in need of additional coordinators and field leaders for this important stream.

We have had some major accomplishments over the past few months including documenting a new population of California red-legged frogs in the upper reaches of San Francisco Creek. This frog has been proposed for listing as a federally endangered or threatened species. We have also conducted a number of quality assurance tests (which we passed with flying colors).

We still need many more volunteers for this vitally important project. We especially need skilled birders for all creeks. We also have a special need for rain gauge monitors. If you live within a block of any of the creeks we've mentioned here and would be willing to record rainfall on a regular basis during the winter (we have the rain gauges) please let us know so we can get them installed ASAP.

We cannot thank enough all the people who have made this project so successful but we would like to thank especially **Louisa Squires** of the Santa Clara Valley Water District for her tireless support and also to **Patricia Anderson** and **Andrew Boydston** of the California Department of Fish and Game for helping us with our fisheries methodologies and for helping with our quality assurance testing.

If you would like to volunteer or would like more information please call **Chris Fischer** (415) 364-8723.

NEW MEMBERS

We welcome the following new members:

Acceturo, Carolyn	Liskovec, Jim and Sue
Banfield, Barbara	Macneale, Kate
Bjurnan Family	Merrill, Julie
Borck, Carol	Moutoux, Thomas
Buckner, Sharon	Oiberding, Jeff
Cortwright, Sandra	Pastre, Gary
De La Rosa, Audra	Prince, Donella
Francone, Katherine	Rush Family
George, Donald	Stevens, Paul and Robin
Golnitz, Bryan	Whittam-Nelson, Mildred
Jeffers, Richard	
Kuhn, Maria	
Leavitt, Jeanne	



RECOVERIES OF BANDED BIRDS

Compiled by Rita Colwell

The Bird Banding Laboratory in Laurel Maryland has notified us of the following birds banded by CCRS volunteers.

ANNA'S HUMMINGBIRD 8000-26305 - was an after hatching year (adult) male when it was banded May 18, 1991 by Lynn Neibaur. It was recovered in northern San Jose, CA on February 16, 1993.

BLACK-CHINNED HUMMINGBIRD 8000-25819 - was a hatching year bird when it was banded on August 28, 1989 by Bridgit Ferguson. It was found dead in Redding, CA in 1992. It had lived through three breeding seasons and cycles of migration.

RED-TAILED HAWK 1807-04037 - a rehabilitated hawk banded by Karen Hoyt on March 21, 1993, was recovered in Walla Walla, Washington on July 1, 1993. This is a second Wildlife Rescue Red-tailed Hawk that has been found in the Pacific Northwest. The first was recovered in Oregon in 1991.

LOGGERHEAD SHRIKE 942-61632 - banded by Rosalie Lefkowitz on June 22, 1992 as a hatching year bird, it was found on February 16, 1993 in Mountain View, CA.

MEMBERSHIP IN CCRS

Member.....	\$20 annually
Senior or Student ...	15 annually
Family.....	25 annually
Supporting	35 annually
Sustaining.....	90 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 is a nonprofit California membership corporation with United States and California tax exempt status. CCRS is dedicated to research on, and the restoration and management of, riparian and wetland habitats.

Coyote Creek Riparian Station 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 for other organizations and individuals concerned with the flora and fauna of riparian and wetland habitats.

Board of Directors

William G. Bousman, President

Maryann Danielson, Vice-President

Elinor Spellman, Treasurer

Elsie Richey, Secretary

Craige Edgerton, Member

Dr. Michael Roger, Member

Grant Hoyt, Member

Dr. Lloyd Thompson, Member

Dr. Scott Terrill, Member

David Blau, Member

Kindel Blau, Member

Staff

Michael Rigney, Managing Director

Bruce Katano, Biologist

Christopher Otahal, Biologist

Kristin Shields, Banding Biologist

Rita Colwell, Data Coordinator

Maryann Danielson, Training Director (vol.)

Dr. Scott Terrill, Research Director (vol.)

Chris Fischer, Community Creek Watch Coord.

Karen Cotter, StreamKeeper Coordinator