

Hastings Natural History Reservation



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A Biological Research Station of the
Museum of Vertebrate Zoology
University of California, Berkeley

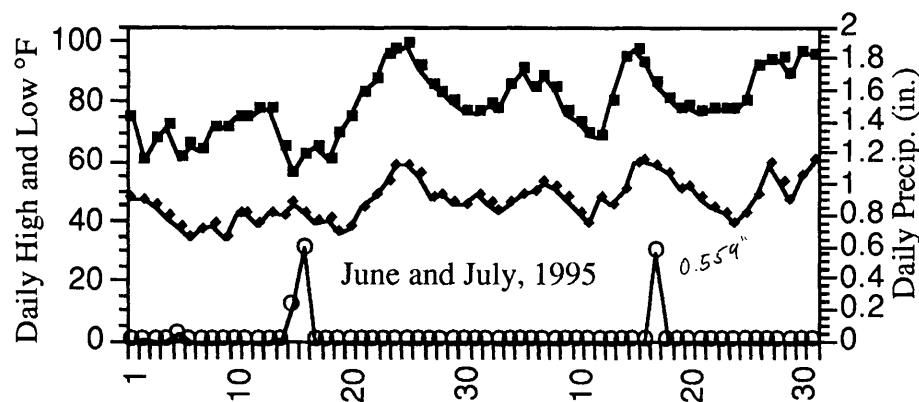
and a part of the University of California's
Natural Reserve System



Reserve Steward- Mark Johnson

Weather Report

June and July, 1995



June and July brought our annual total rainfall (July '94-June 95) to 35.06", well above the long-term average of 21.76". A rare thunderstorm in July left a little over a half inch. Mean daily high temperatures in July (81°F) was below average (87.1°), while the mean minimum (48°) was cooler than average. June maxima were cooler (75°) than average (79.8°) while nights (44°) were above the long-term mean (41.3°). In

July, yellow star thistle (*Centaurea solstitialis*) was found at record densities along the Carmel Valley Road at Carmel Ranch Company, and later at the Ardilla Grade, Rana Creek Ranch and Fox Creek and on Hastings (Big Creek, near well). Carmel Ranch Company mounted a major campaign to spray this weed before the county road mowing crews arrived. This mowing operation is no doubt a major vector for this virulent weed. It will no doubt become common up and down the Carmel Valley Road and then spread into adjacent fields. In many places in California, this weed has made annual grasslands impassable to cattle, horses and people because it has such vicious spines. With no natural enemies and prolific seeds able to survive in the soil up to 8 years, it has become a major and persistent pest. We are looking into obtaining up to 5 species of bio-control insects and hope to work with our neighbors in testing these insects in the slight hope of keeping this invader in scattered, small patches.

Big Creek continues to flow (early August) across the concrete fords while Finch Creek has maintained a good flow (5cfs) throughout the reserve. Much of the riparian area scoured by the March floods has a scattered covering of grasses and many of the shrubs have resprouted. Although many bare rocky or sandy areas are exposed, recovery is well under way.

Research and Education

Resident field assistants worked through July 15 when all but Peter Freedman left for new jobs. Jim Kellam and Peter (Robertson House) helped Walt with woodpecker and salamander field work. Janis' crew (Lori Scinto, Dan Ruthrauff, and Jon Akre-Robertson House) continued to watch western bluebirds.

Dr. Joe Haydock (Red House) is getting good DNA fingerprints of acorn woodpeckers living in groups which include several males. Research papers are underway on this lab work. Ginger Bolen (Fanny's Cabin) will continue her work here on Yellow-billed Magpies. David Richardson and Karl Evans (Leicester U.) ended their field work on Orioles at the end of June and returned to England. Pete Trenham (UCD) spent a few days working on Laguna Conejo and other salamander data. David Villareal (UCB) visited Hastings on 10 day trips to collect bees.

Walt will be the editor of the Condor, a journal of western ornithology. We cleaned out a space in the Linsdale library for a desk and shelf space for an assistant editor who will be hired in August.

Mark Johnson and I installed the Trimble Community Base Station (GPS) and Eric Rainbolt (NRS-Systemwide) spent 3 days with me working through the software. We installed lightning protection. We now have the base station available for anyone who needs base station data for post-processing differential correction; you will have to call us to turn on the system and computer to record the hourly base files. We

have already been contacted by the UCSC Earth Sciences group who want to use the base station to track movements of the ground after earthquakes. I experimented with remote GPS data acquisition (USFS-Tucson) and later differential correction (here) based on field work I conducted on southern Arizona grasslands.

As I write this, our GIS files are being imprinted on CD's by Hammon-Jenson and Wallen. We have now received ArcView (2.1) for Macintosh and have decided to work with Rana Creek Ranch using ArcView rather than GeoNavigator. That is, the Hastings GIS will be based on ArcView 2, but we will also be able to offer GeoNavigator for those researchers who are interested. Our color orthophoto quads and the elevation layer should arrive any day.

Shorty Boucher and Mark Reynolds (Sedgwick) were here for 3 days while Eric Rainbolt was here and we all learned about GIS. During that time, Butch Washington (CDF-Monterey Regional Forester) visited Hastings to discuss a vegetation management plan. We learned that CDF is using ArcView as well and Butch is interested in assembling a GIS for the entire Sierra de Salinas. Butch offered us the use of his large plotter for doing output from ArcView; a kind offer we quickly accepted.

Work on native perennial grasses is continuing. Dick Lundy at Rana Creek met with owner Mike Markkula and plans are underway to shift the bottomlands into a sub-surface irrigation program. This will be the most water-efficient. Paul Kephart and Dick Lundy are planning the seed mix for the additional planting (only 17 ac. of the approx. 200 are in natives now). Meanwhile, the Sudan grass and native grass plots have been through several grazing cycles.

Visiting researchers included Sanj Muttulingam and his assistants (Chris Funk, Caroline Dingle) who are working with the gopher populations here. Dr. Sarah Sloane (Franklin and Marshall College) and her family spent a week in the Ranch House while she checked out the possibility of studying bushtits here. Dr. David Gubernick and Dr. Barb Smutz (U. Mich.) spent a week with his resident post-doc (Dr. Taye Teferi and his wife, Wanda Hirschfield-Stucco House). David made plans and arrangements to move from Madison to Hastings to continue his work on behavior and ecology of the California Deer Mouse. Field assistants for the mouse project (Siri Ibarguen and Charley Land) moved from Hastings in June after their field season ended.

People, Places and Habitations

FEMA teams continued to prepare paperwork and do site visits for the March flood damage. An environmental review was done on the Hallisey House crossing of Finch Creek. They inspected the loss of traps on Taye's study site on Robertson Creek. At the Hallisey House, a local contractor finished removing silt, grading and spreading gravel. A privacy fence was installed there. Scudder Roofing installed new gutters on the School House and a year-end grant from NRS allowed us to start a contract to install a new roof (replace wooden shingles) on the Work Shop.

We continue to be in touch with Ted Horton at Pebble Beach about the potential of a donation of a used lawn mower which would be a great help in our annual firebreaks. We are working with CDF to do fuel reduction around the School House and Red House (giant chamise grinder) and plan a burn of School Hill. The burn would be done in winter and we are in the process of planning to preserve dead snags (woodpecker granaries) or other important resources.

Mark Johnson, Walt and I cleaned out the open bay of the Lower Barn. Later, Mark was hired by David Gubernick to enclose that open bay by framing it with 2x4's and installing heavy screen. This will be a room for captive mice for the duration of the mouse study and will later be a very useful mouse and rat-proof open storage area.

Dr. Brian Hjelle (UNM School of Medicine) checked a June sample of about 30 mice from Hastings for hanta virus. No hanta virus was detected; but in a 1975 sample of Hastings voles, (as well as other California voles), Dr. Hjelle found a new "species" of hanta virus. Apparently there are 4 kinds of hanta virus, and this hanta virus in voles is not contagious to humans. We will continue to try to keep the mice out of our buildings, but it is a constant challenge.