

Hastings Natural History Reservation

A Biological Field Station
Museum of Vertebrate Zoology
University of California, Berkeley
38601 E. Carmel Valley Road, Carmel Valley, CA 93924

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Weather Report

Drought continues. Total precipitation for January was 0.21". Average January rainfall at Hastings is 4.1". Usually by this time of year, rains total 11.3". This year, the total to date is only 3.13". January had 7 days with sufficient dew to cause the tipping bucket to record at least .01" and one storm event on the 3rd bringing .11". Daily air temperature reached the monthly maximum of 73°F on the 18th and we had a cold spell at the end of the month. On the morning of the 28th, we recorded the lowest temperature of the month, 23°F. Our wells continue to pump water, but no water is flowing in Finch Creek and the Arnold Spring box is dry. Given the hard freeze last month and the dry year to date, much of the vegetation is looking brown. Observers at the Monterey National Climatological Station report that is this the least amount of rain recieved by Jan 31 for any year on record there. Dr. Griffin reports that on a selected sample of live oaks, about 30% of the leaves are dead due to the weather in the last couple of months. Although the drought continues, the hills have a fragile green tinge. Narcissus flowers are in bloom in the gardens, but no significant native flowers are evident yet.

Research

Several research projects were ongoing. Dr. Walt Koenig and Dr. Janis Dickinson continued to work at MVZ's DNA lab in Berkeley. Dr. Koenig was awarded a grant from NSF to continue his work for another year on the evolution of social behavior in acorn woodpeckers. Three of Dr. Koenig's students continued work at Hastings; Mark Stanback and Philip Hooge conducted field experiments on the effects of hormonal implants on the activity of acorn woodpeckers. Elizabeth Ross prepared for her oral exams and made periodic visits to Hastings. Amy Knight, the only field assistant now resident at Hastings, continued working with Mark and Philip, particularly assisting in the capture and subsequent radio telemetry of the woodpeckers with hormonal implants. Jean Knops, Ariz. State Univ., Botany, conducted field work on the lichen research project through January 12. Dr. James Griffin finished a manuscript on the natural history of the upper Carmel Valley, focused on Hastings. Dr. Griffin continued to work with Pam Muick who spent a day monitoring oak seedling survival in experimental plots. Dr. Mark Stromberg completed a proposal for the National Science Foundation, requesting about \$88,000 to match the \$105,000 committed by the UC Berkeley campus for upgrading the septic and domestic water supply systems. This proposal is to be submitted by April 15. John Barthell, UC-Berkeley Entomology, submitted a summary of his work on the native bees. It is now very clear that earwigs (non-native) have had a major role in the loss of nearly 12 species of native bees once abundant on Hastings. John is planning another season of field work next summer. We received notice that Dr. Ewald will not be returning next summer to conduct hummingbird research; like other outstanding field researchers, his funding from the National Science Foundation was eliminated for budgetary reasons. Plans from other researchers indicate that we will have a busy summer, but at occupancy levels somewhat reduced from last year.

Carmel Ranch Company Research Program

Dr. Stromberg spent several days with Dave Amme, preparing an annual report for the Carmel Ranch Company and a detailed work plan for 1991. In addition, Dr. John Menke, UC Davis- Range Management, formally initiated collaboration with Dr. Stromberg, Dr. Griffin and Dave Amme on the grassland ecology study in Carmel Valley. We are very pleased to have Dr. Menke involved with our research as he brings a wealth of knowledge and experience to our project. Dr. Menke and Mark Stromberg are working together to install the Cornell Ecology Programs on the computers at Hastings as well as doing some initial analysis of Dr. Griffin's first 15 years of grassland vegetation data from Hastings using these programs.

Facilities

Mark Johnson spent nearly a week in January on the plumbing. After emergency repairs were completed, Mark made final replacements of broken plumbing. Mark then completed construction of a storage facility for tools in the Workshop. All usable supplies and tools have now been removed from the Homestead building. The former tool shop/tackroom there is now a small museum of collectables, tools and relicts. Mark also finished cleaning out the trash wood and kindling that had been stored in the central bays of the homestead building, thus considerably reducing the fire hazard. Mark also attended to a host of household repairs too numerous to mention.

One of the biggest tasks Mark Johnson completed in January was the oversight of the Gabilan crew from CDF. Many days, Mark would ferry the crew up each morning in our 4-wheel drive truck. When the crew was done, Mark arranged a

lunch for the crew to express our appreciation. This crew of 15 workers cleared the edges of the Arnold Road and all the trees, undergrowth and brush within 100 feet of the Arnold Cabin. They cleared the road edges, filled ruts, widened the narrow cuts along the steep chamise hillsides, rebuilt water bars and rebuilt culverts. This is a major improvement for Hastings. As the drought intensifies, we are pleased to have the historical structure of the Arnold Cabin provided with a firebreak. Research users of the road will no doubt appreciate the lack of obstructions and the graduate students here are invited to use the wood, amounting to several cords, neatly stacked along the road. Thanks to the Gabilan crew for a job well done!

Mark Johnson then completed the major job of patching all the walls in the stucco house and repainting the interior. An ad was placed in the local newspaper and we received gifts of a used refrigerator, a washing machine and drier and an assortment of used furniture. The exterior stucco was prepared for painting, scheduled for early next month. Mark also removed a significant pile of trash from the back yard and cut back most of the overgrown shrubbery along the house. This was placed in a burn pile next to the barn. Mark also coordinated with the Cachagua Volunteer Fire Company in planning demolition of the Lower Barn. The barn will be used for training firefighters on February 2.

Walt Koenig picked up a gasoline powered generator for backup electrical power to the ultra cold freezer in the laboratory. This will be installed in a small outdoor box adjacent to the lab.

Mark Johnson and Mark Stromberg drove to Berkeley on the 24th and picked up a 1976 Toyota Land Cruiser which had been donated by the Entomology Department. Hastings accepted this gift but had to have the engine rebuilt in Berkeley. This was a major investment for us, but we expect it should last as long as our 1965 Ford truck, which is still going strong. During evenings and on weekends, Mark Stromberg cleaned the interior, sewed up the seats, repaired the electrical system and running lights, sealed the roof, repaired the exhaust system, repainted the interior and replaced the door seals. Philip Hooge and Stromberg are working with Roger Allan, master welder at Oak Ridge Ranch, to come up with a solid way to mount a radio antenna to this vehicle for use this summer in radio telemetry studies of woodpeckers, scrub jays and bluebirds.

Jeff Froke, newly-hired Natural Resources Manager for Rancho San Carlos, was able to join Mark Stromberg, Jeff Kennedy (Natural Reserve System, UC Systemwide) and his associates for a tour of Hastings and dinner on the 19th. We look forward to a working relationship with Rancho San Carlos. Several biological research projects were discussed involving Hastings staff and students expanding research sites to include Rancho San Carlos.