

Hastings Natural History Reservation



38601 E. Carmel Valley Road
Carmel Valley, CA 93924
Office: (408) 659-2664
Fax: (408) 659-3649

Reserve Home Page: <http://www.ucop.edu:80/DANR/reserves/hastings.html>

Resident Manager- Mark R. Stromberg
stromber@violet.berkeley.edu

Reserve Steward- Mark Johnson

Assistant Editor, The Condor - Christina Slager

Research Zoologist-Walter Koenig
wicker@uclink.berkeley.edu

Research Associate- Janis Dickinson
sialia@uclink2.berkeley.edu

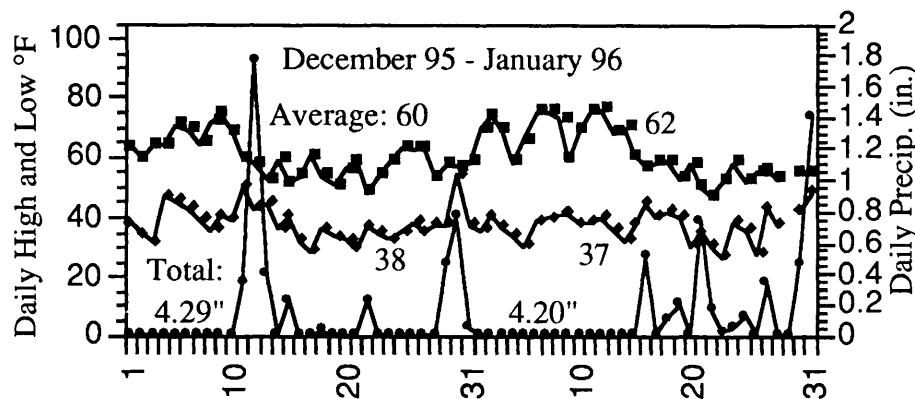
A Biological Research Station of the
Museum of Vertebrate Zoology
University of California, Berkeley

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



Weather Report

December, 1995 - January, 1996



Rainfall totals in December and January (see figure) were above normal for each month (3.66" and 3.78" respectively). Our total precipitation to date for this rain season is now 9.15" which is below our average seasonal total of 11.01". We had only a thin layer of snow one January morning on the higher reaches of Red Hill and the Arnold Road. By late January, the hills in Carmel Valley were turning green. A carpet of green Erodium leaves covers the hills above the offices. Big Creek

just barely flowed on the 31st, but Blomquist pond and other vernal pools filled that day for the first time this season.

Research and Education

Three long-term studies are underway at Hastings. Dr. David Gubernick and Dr. Taye Teferi are completing a two-year study of the California deer mouse. These mice live as monogamous couples, mated for life, and the male helps rear the offspring. Research efforts this year have focused on testing the value of a male parent helping raise the young. Dr. Walt Koenig and Dr. Joey Haydock continue a 20-year field study of the evolution of social behavior in the Acorn woodpecker. Dr. Koenig and his colleagues have gathered blood samples from many related woodpeckers. Working in the Hastings molecular genetics lab here, Joey is making DNA fingerprints to clarify relationships suggested by field observations of these same birds as they share nests, help raise young, and gather stores of acorns. Dr. Janis Dickinson and her assistants are studying the social and breeding behavior of Western Bluebirds. Using similar field work, samples of DNA from birds are compared in the lab to determine patterns of relationships. Unlike monogamous deer mice, these birds often have complex patterns of paternity. Growing up in the same nest does not necessarily mean these young have the same father.

One of Walter's former students, Dr. Mark Reynolds recently published a monograph on the Yellow-billed Magpie. (Reynolds, M. D. 1995. Yellow-billed Magpie (Pica nuttalli). In. The Birds of North America, No. 180 (A. Poole and F. Gill, eds.). The Academy of Natural Sciences, Philadelphia, and The American Ornithologists Union, Washington D.C.). A similar monograph was just published by Walter and his colleagues (Koenig, W. D., P. B. Stacey, M. T. Stanback, and R. L. Mumme. 1995. Acorn Woodpecker (Melanerpes formicivorus). In The Birds of North America, No. 194, as above). Studies of the Yellow-billed Magpie have gone on for many years here at Hastings. Currently, Ginger Bolen (UC-Berkeley) is using similar DNA analyses in the laboratory to complement field studies of social and breeding behavior in the Yellow-billed Magpies. Ginger is in the third year of her work with magpies here.

New graduate students are working at Hastings as well. Peter Trenham, from UC-Davis, is now maintaining our daily observations of all amphibians entering and leaving Blomquist Pond. Peter was able to enlarge this work by building a new drift fence around a regionally unique and large vernal pool, Laguna Conejo on adjacent Oak Ridge Ranch. Sampling these pools, as well as many smaller ephemeral pools, Peter is the first to explore how far our large California Tiger Salamander and more common newts move during a winter and perhaps between winters. Usha L. McFarling of UC-Berkeley (Psychology) visited over the Christmas break to set up her study of the Bushy-tailed woodrat. Again, many previous studies have been done on wood rats here and these offer Usha a great deal of useful background information. Scott Stephenson (UC-Berkeley, Forestry) spent a few days working with Stromberg to set up a study of the effects of fire on the survivorship of blue oaks, canopy mistletoe, and seedling vs. stump regrowth in chamise (Adenostoma). Scott will return on occasion to sample School Hill where a prescribed fire will be conducted as a part of CDF's Vegetation Management Plan. Jason Hamilton, a graduate student at UC-Santa Barbara, and working with Mark Stromberg, visited once again to re-sample individually marked and mapped clumps of a

native bunch grass, *Nassella pulchra*. First marked in the 1960's, these plants are surprisingly long-lived and are able to expand even where chamise invades and grows between and over them.

Some restoration ecology is underway at Hastings. Mark Stromberg continues to monitor vegetation plots set up in the early 1960's by previous plant ecologists at Hastings. Parts of these old field plots are being tilled or sprayed to remove the persistent annual non-native grasses (seed bank) in preparation for planting native perennial grasses. Mark is working with cooperating, adjacent landowners and managers as they restore much of the old agricultural fields along Tularcitos Creek to native, perennial grass pastures. Over 400 ac. are slated for planting over the next 4 years on Rana Creek Ranch and Carmel Ranch Company. We are very pleased that Paul Kephart has moved to Rana Creek Ranch from Elkhorn Ranch. Paul is setting up a new native plant nursery and grass seed business. Robert Reynold (CRC) planted their first 25 ac. of native grasses in January. Mike Markkula (RCR) has provided ongoing support for not only native grass research, but our Geographic Information System. We are currently installing software and incorporating new digital maps and photographs made possible by Markkula.

Several researchers only visit Hastings for brief periods in order to monitor projects. These are listed below. Classes use Hastings during the winter months when demand for housing by researcher is lower. In January, we hosted the California Lichen Society, a group of about 15 professional botanists and graduate students from many institutions in California.

Each week, several students from Carmel High School drive out and spend an afternoon with any of the researchers here. We benefit from their enthusiasm and abilities in many ways and appreciate their help. They learn a great deal by seeing field biology in action.

Dr. Walter Koenig is the editor of *The Condor*, the journal of the Cooper Ornithological Society. Christina Slager works in the Condor editorial office, located here at Hastings. Over 300 manuscripts are submitted each year, and about 1,000 pages are published.

People, Places and Habitations

Mark Johnson is busy with the demands of the 24 buildings here. Mark focused on the School House with new window screens and more mouse-resisting work. In January, Mark worked with the CDF crews as they removed old fencing, and cleared overgrown vegetation near the buildings. About 2 acres of brush around the School House, Aviary, Red House and Stucco House were cleared and burned. More planning was done with CDF for the School Hill burn, including a research plan.

Kevin Williams, roving Davis campus steward, found several useful items in federal surplus for both the reserve operations and for the DNA lab. As several new field assistants arrived and Peter left, the Robertson House was cleaned.

Fanny Arnold, along with her son Henry and our mutual friend, Betty Monning, all visited January 8th. We had a warm picnic lunch at the tables under plaque oak and quick tour of the headquarters area. Always wonderful to visit again with Fanny, who made all this possible.

Resident Staff, Families

Janis Dickinson
Walt Koenig
Dale, Phoebe
Andren Marquette

Mark, Barb Stromberg
Brian, Andrew

Resident Visiting Researchers

David Gubernick (UC-Davis)
Taye Teferi, Wanda Hirshfeld (UCD)
Joey Haydock (UCB, MVZ)

Resident Graduate Students

Ginger Bolen (UCB, MVZ)
Peter Trenham (UCD)

Resident Field Assistants

Karen Ritchie (Deer mice)
Seri Ibarguen (Magpies)
Lisa Gleboff (Woodpeckers)
Matt Daugherty (Deer mice)
Jon Akre (DNA lab)
Charley Land (Deer mice)
Ellen Cheng (Woodpeckers)
Peter Freedman (Woodpeckers)

Off-Site Staff

Mark Johnson
Christina Slager

Visiting Graduate Students

Jason Hamilton (UCSB)
Sanjayan Muttulingam (UCSC)
Usha L. McFarling (UCB)
Clay Newberry (UCB-Jepson)

Visiting Researchers (Dec.-Jan.)

Janet Doell (Cal. Lichen Soc.)
Bob Ricklefs (Univ. Pennsylvania)
Paul Arnaud (Cal Academy)
Tony Keppelman (neighbor, photographer)
Paul Neal (Haifa, Israel)

Carmel High Students

Quincy Struve
Jane Atkins

Visiting Undergraduates/Assistants

David Villareal (UCB)
Beatrice Mosquira (UCB-Entomology)
Suzanne Merkel (UCB-Entomology)

Lee Krasnow
Jessamyn Meyerhoff
Jeff Stranz
Austin Camp
Alex Ford
Meghan Gendelman