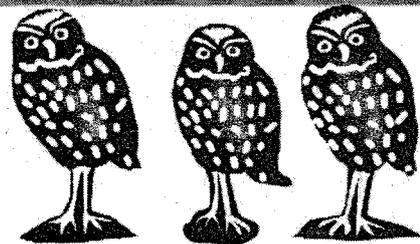


Central New Mexico Audubon Society

Burrowing Owl

June - July - August 2003 Issue

Volume 32 No. 3



Welcome to Central New Mexico Audubon Society! Come join us. All our meetings and field trips are open to the public.
Our missions: "To appreciate, experience, and conserve birds, other wildlife and their habitats. To encourage and support environmental education in New Mexico."

Involve Me and I'll Understand

By Helen Haskell

When I woke, the sun was just coming up over the mountain and had not yet reached my tent. I lay snuggled in my sleeping bag, looking at the walls of the tent. My eyes locked upon strange circular tiny shadow-like things. Closer inspection revealed ice 'blobs'. Surprised, as I wasn't high in the mountains in winter, but in the Sonoran desert near Tucson in April. As deserts do, it had gotten particularly chilly that night, after a beautiful and soaking evening rainstorm. Jumping up and out of the tent, I realized that very soon the sun would crest the Catalinas to the east and the desert would once again become a hot place. Outside of the tent, life bloomed everywhere. Much-needed moisture had sprung forth spring flowers and grasses aplenty, some of which germinate only on occasion, based on the weather. You could hardly see the sand for vegetation. Birds, reptiles, insects and mammals were making the most of the precious harvest the desert had provided.

A year later, I lie again in my tent. I sense the sun will soon top the mountain. I unzip the sleeping bag and step out into a dusty open area. The same exact area I had camped in the year before. No flowers were to be seen and no grass. The mesquite trees were producing only a small portion of leaves. Here the desert was telling us another story, one of little moisture, of how its residents adapt. I was there to look for the evidence of this story, learn about it and relish it, just as I had done the year before.

I was attending the Tucson Audubon Society's Institute of Desert Ecology (IDE), held each year in April at Catalina State Park, just north of the city, in the foothills of the Catalina Mountains. This four-day residential (camping) institute has the sixty or so participants examining and questioning all aspects of the Sonoran desert - the geology, plant and animal interactions, the birds, insects, cacti, mammals, and reptiles that exist in this incredible place. There is a huge amount of learning going on. Teachers, engineers, retirees, writers, students and others from all walks of life explore the immediate area, taught by a faculty of fantastic professors and consultants in the fields of mammalogy, geology, botany, ornithology, herpetology and entomology.

I feel very strongly about the strength of the educational opportunity the IDE provides. As a Chinese proverb says "tell me and I'll forget; show me and I may remember; involve me and I'll understand." This institute, along with other camps that are offered by Audubon groups around the country, are very important opportunities. When I returned from IDE for the second time, I realized that I wanted more people to get the chance to attend. As a teacher of environmental education, I feel that the outdoors is the best classroom, made even more so by quality educators such as those at the IDE. With strong support from the board members of CNMAS and donations from our members and friends, this year CNMAS is able to send a teacher from the central New Mexico area to the institute. Chris Hilleary is a teacher in the science department at Sandia High School in Albuquerque and has begun teaching an AP Environmental Science course. Our hope is that Chris will be able to bring back skills and knowledge from the IDE and inspire his students in the wonder of the desert life and outdoor

learning. He quotes in his application letter "AP Environmental Science offers a teacher an opportunity to foster original ideas when it comes to developing lab experiences that are based on real field study. I would use this opportunity to discuss how to properly discuss a biodiversity study in a desert ecosystem with experts in the field. Based on the description of the workshop, I am sure I will develop many ideas for labs that can be done by the students."

But what of the students themselves? As many of you may know, we have a wonderful core of youth birders, and CNMAS feels strongly that we should encourage them in any way we can to continue their interests in birds and natural history. This year we are also able to offer a place in the Coastal Maine Bird Studies program, advised by Kenn Kaufmann, to Ryan Beaulieu. Ryan is one of our avid youth birders. Already his resume has a long list of birding and environmental achievements, including helping the Rio Grande Bird Research program at the Rio Grande Nature Center, helping at Festival of the Cranes, and being president of the St. Pius High School Environmental Club. This summer Ryan will be working alongside Maine Audubon biologists as they monitor Piping Plovers. He will learn about the Puffin Project, and attend various workshops and discussions as part of the camp. Ryan says, "I like studying nature and I want this camp to give me a better understanding of this subject. I wish to learn as much as possible about birds and ways to better improve my projects here at home."

The CNMAS board thanks all of you who have made contributions to CNMAS. Our ultimate goal is to send one teacher and one student each year if we can. I hope you will be able to join us in supporting this venture. It is impossible to measure how much good will be done and how much knowledge will be passed on from these people to others over the years, but we can rest assured that it will happen. Our deserts, coasts, mountains and plains will be better understood and appreciated and better protected as a result.



photo by Turtle-Bear Guillermo

Ryan Beaulieu, CNMAS Birding Academy, March 2003.

Birdathon 2003 Reports Team "Youth Without a Driver's License"

by Andrew Rominger

Good weather and good birds made our day on Saturday, April 26. After Percha State Park, a tire repair, Elephant Butte Lake, Bosque del Apache, and Water Canyon we were exhausted, hoarse from laughing and very content with a long day of extreme birding. Our total count was 128 species of birds, 2 reptiles and 3 mammals (counting the Homo sapiens in the car) -- and all this on the portentous birthday of John James Audubon, April 26, 1785.

Despite this good omen, some birds just weren't cooperating. Northern Pintails were especially elusive and some birds never showed up at all (Violet-green Swallow... how could we have missed that one?! and where were the Northern Flickers?!) But there were more high points than low points. In truth every bird we saw was a "good bird" as each species is indicative of the biodiversity and sustainable habitats of New Mexico and a reminder of how every species and its habitat warrants our appreciation and preservation. Sightings included Vermilion Flycatchers with two young in the nest, approximately 200 American White Pelicans and four Snowy Plovers congregated off Monticello Point, Eurasian Collared Dove, Townsend's Warbler, Bonaparte's Gull, Harris' Sparrow, Hutton's Vireo and a first arrival Red-faced Warbler seen singing at sunset from the budding oaks in the Magdalena Mountains.

All three of our Birdathoners worked, walked, ran and drove long and hard to make it happen. Ryan Beaulieu and I would like to give special thanks to Helen Haskell for driving over 300 miles up and down the Rio Grande Valley, for tolerating two teenage boys for that long, and for making the trip twice the fun through her exuberant spirit. And we'd like to thank Central New Mexico Audubon for giving us the opportunity to contribute to the conservation of the places and birds we love.

See other Birdathon reports on page 4

CNMAS Field Trips

Friday-Saturday, June 6-7, 2003: Water Canyon Bird Count. Andrew Rominger will lead this annual Bird Count. For those interested in owling, please meet Andrew at the Water Canyon campground on Friday at 6:30 PM. Otherwise meet at the campground on Saturday at 6:30 AM. The campground is located about 20 miles west of Socorro via US 60. Campsites are available but there is no potable water. Please contact Andrew at 243-7355 for details.

Saturday-Sunday, June 28-29, 2003: Maxwell NWR. This is an excellent time of the year to seek out the Eastern Kingbird, Grasshopper Sparrow, Dickcissel and breeding Eared Grebes. Other possibilities are Vesper, Savannah and Lark Sparrows, Loggerhead Shrike, Blue Grosbeak, Great-horned and Burrowing Owls and Bullock's Oriole. We will overnight in Springer or Raton. Meet at 7:30 AM behind the Village Inn in the Far North Shopping Center (NE corner of San Mateo and Academy). Call Sei at 266-2480 for details.

Sunday, August 3, 2003: Jemez Falls and Bandelier NP. This will be a day trip. The target birds will include Three-toed Woodpecker, White-throated and Black Swifts, Cordilleran and Gray Flycatchers. Sites to be visited will depend on the recent bird sightings. Bring food, water, and snacks. Meet behind the Village Inn in the Far North Shopping at 6:30 AM. Call Sei at 266-2480.

Sunday, August 10, 2003: Bear Mountains. The target birds for this daylong trip northwest of Magdalena, NM, will be the early migrant flocks of Grace's, Virginia's and Black-throated Gray Warblers as well other species. Meet at 7:30 AM in Socorro, at the Taco Bell parking lot on California Street, the town's main street. Call Christopher Rustay (255-7786) or Glen Finley (872-0775) for details.

Saturday-Sunday, August 23-24, 2003: Fort Sumner and Bitter Lake NWR/Roswell. Fort Sumner is an excellent place to find Redheaded Woodpeckers and Eastern Blue Jays; and, the peak season for some of the southbound migrating shorebirds is late August at Bitter Lake. The Roswell area is also a likely spot to find Upland Sandpipers. We overnight in Roswell. Meet at 7 AM in the Four Hills Shopping Center (Central SE, west of Tramway and across the street from the Travelodge Motel). Call Sei at 266-2480 for details.

Saturday, September 6, 2003: Albuquerque area. This will be a half-day trip to an Albuquerque site not yet determined. Please meet at 7 AM at the UNM Physics Department Parking lot (NE corner of Lomas and Yale Blvd.). Call Sei at 266-2480 for details.

SATURDAY Sept. 13 Council mtg
Saturday-Sunday, September 27-28, 2003: Fort Sumner Area. Meet at 6 A.M. in the Four Hills Shopping Center at Central and Tramway across from the Travelodge Motel. The first stop will be at Sumner Lake and the campground. Bring lunch for a picnic at Bosque Redondo Park. Two trips will be made to the Melrose migrant trap, 22 miles east of Fort Sumner; once in the afternoon and again the next morning. The group will head back to Albuquerque around 10:30 A.M. Call Rebecca Gracey at 242-3821 for information about car-pooling and motel reservations.

Saturday, October 4, 2003: Albuquerque area. This trip to an undetermined site within 50 miles of the city will last until 2 or 3 PM. Please meet at 7 AM at the UNM Physics Department Parking lot (NE corner of Lomas and Yale Blvd.). Call Art Arenholz at 298-1724 for details.

November 2003: A Sunday trip to the Las Vegas NWR refuge. Details later.

December 6, 2003: Bosque del Apache. Details later.

Thursday Morning Birding Group

Weekly birding outings every Thursday. Meeting time and location, as well as duration vary. Call Margaret Wallen at 341-0928 for details of outings. Send an e-mail to Les Hawkins at leshawkn@aol.com to get on the TBER's e-list of scheduled trip announcements.

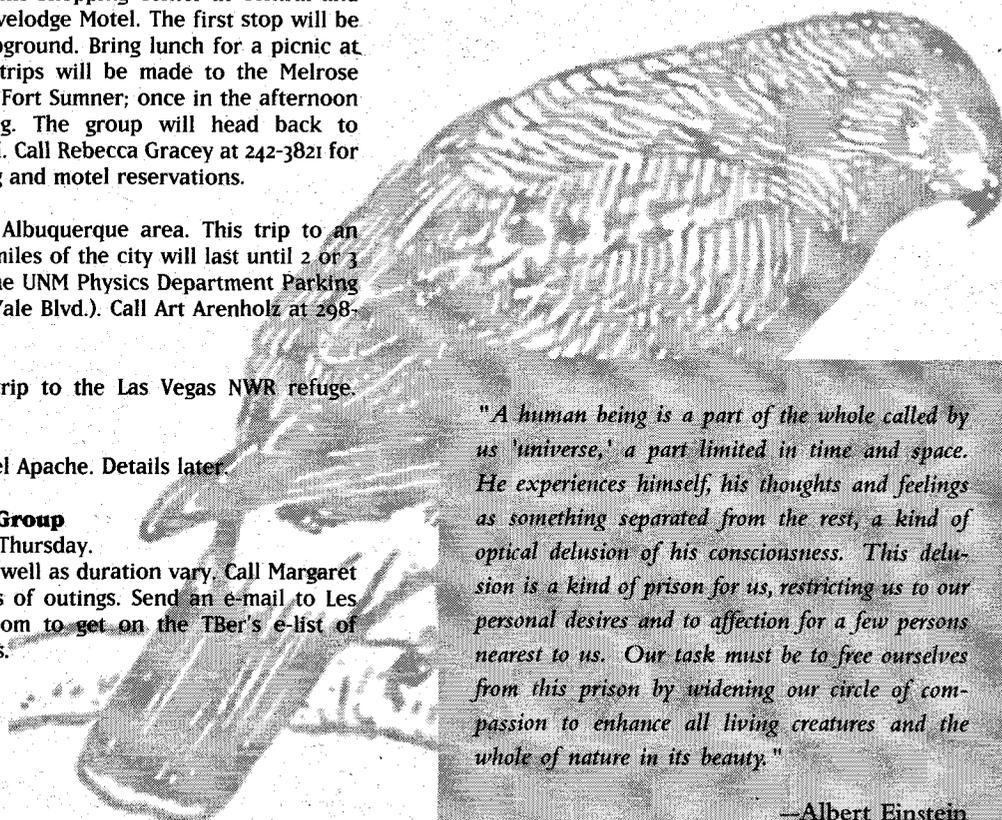
CNMAS Field Trip Reports

By Sei Tokuda

Sunday, March 9 : Las Vegas NWR. Twenty birders saw over 40 species of birds on this beautiful day. The most exciting sight of the day was seeing a large group of Ross' and Cackling Canada Geese in the same pond with some swimming side by side. Other treats included Eared Grebe, Common Goldeneye, Bald Eagle, Ferruginous Hawk and Black-billed Magpie.

Saturday, March 22 : Socorro, NM and Bosque del Apache. Although only eight birders were on this outing, they had great views of over 60 species of birds. We saw a large flock of early migrating Greater Yellowlegs, as well as Lesser Yellowlegs and White Pelicans. Other interesting sightings included Black-crowned Night-Heron, Ruby-crowned Kinglet, Cedar Waxwing, Phainopepla, Audubon and Myrtle Warblers and side-by-side comparison of Double-crested and Neotropic Cormorants.

Saturday, April 5 : Bosque del Apache. Twenty-one birders made this trip on a day that started with great sightings of raptors - Kestrels, a Golden Eagle and Red-tailed Hawks, including a Harlan's Hawk. Long-bill Curlew, Greater and Lesser Yellowlegs, Eurasian-collared Dove, Harris' Sparrows and Blue-winged Teals soon followed that. The occupants of one vehicle tallied 84 species sighted including Vermilion Flycatchers and White Pelicans.



"A human being is a part of the whole called by us 'universe,' a part limited in time and space. He experiences himself, his thoughts and feelings as something separated from the rest, a kind of optical delusion of his consciousness. This delusion is a kind of prison for us, restricting us to our personal desires and to affection for a few persons nearest to us. Our task must be to free ourselves from this prison by widening our circle of compassion to enhance all living creatures and the whole of nature in its beauty."

—Albert Einstein

Central New Mexico Audubon Society

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Students, Teachers, And CNMAS -All Winners In Science Fair

Central New Mexico Audubon Society was formed 32 years ago in August, and for 20 of those years, since 1983, we have been participating in judging and awarding prizes in the NWNM Regional Science & Engineering Fair.

Thanks to our judges this year, Sylvia Chattin, Amy Neel, and Hal and Amy Wagnon, that tradition continues. We send our appreciation and encouragement to EVERY teacher and student who shares their eagerness and enthusiasm, from whom our judges could (alas) choose only four winners. A one-year membership in National Audubon Society, with a subscription to both Audubon magazine and the Burrowing Owl/Audubon-New Mexico State Newsletter, goes to the teachers. The students themselves receive a \$50 savings bond, plus membership as above. The winners, and their winning abstracts, are:

SENIOR DIVISION

Vincent Metzger - Cibola High School
Teacher: Patricia Duda

POLYMER POSSIBILITIES - PHASE III

Biodegradable Cellulose for Wind Erosion Control

The results of previous experimentation indicated that the aqueous application of corn cellulose forms a polymer film (or "crust") that controlled wind erosion, reconstituted when rained upon, and did not interfere with plant germination during controlled tests where naturally occurring conditions were simulated.

The purpose of this project was to determine whether or not the polymer film formed by the aqueous application of biodegradable plant material to soil is an effective, practical, and economical method of controlling wind erosion.

This was determined by:

Discovering whether or not the cellulose mixture must be heated prior to soil application.

Applying a polymer film to both organic and inorganic soil and comparing how effectively wind erosion was controlled.

Comparing how effectively the polymer film controls wind erosion on a slope with gravity erosion.

Testing whether or not vegetation can be established in an area prone to wind erosion through a hydroseeding technique utilizing cellulose, seeds, and water.

Applying a polymer film to eighty-one square feet of soil and observing the durability and strength of the polymer film in the environment over time.

Analyzing the soil used in both the controlled tests and the "real-world" experiments in order to determine the vulnerability of the soil to wind erosion.

The results of this project indicate that the aqueous application of biodegradable cellulose to the surface of soil may provide an effective, practical, economical, and environmentally friendly solution to the extremely harmful effects of wind erosion.

Jesse Castillo - Bernalillo High School
Teacher: Katherine Stoudt

POLYSTYRENE: DEAD OR ALIVE?

The Effects of Photo-Catalytic Degradation of Polystyrene and Styrene Monomers

Problem: How are styrene monomers and the compounds of photo-catalytic degradation of polystyrene affecting the behavior and toxicity of *Lumbricus terrestris* L. and *Tubifex tubifex*?

Hypothesis: Styrene monomers and degrading polystyrene at certain concentrations can cause neurotoxic symptoms with a behavioural response. Some sensitive species such as *Lumbricus terrestris* L. may no longer be able to survive in its environment. LC50 toxicity tests using *Tubifex tubifex* may indicate a high degree of sensitivity.

Procedure: The procedure for environmental toxicity will be done using the standard tubifex test method which will establish a general toxicity level LC50, and a behavioural test using the Daniel Funnel Procedure, which measures the effect of pesticides on the activity of burrowing earthworms and simulates field conditions. Testing various concentrations of degraded polystyrene should give an indication of the possible environmental impact of these waste products.

Research: Styrene is used in the manufacture of a wide variety of products, including construction materials, food containers, and appliances. Small quantities of styrene monomers can be found in food and ambient air nearly everywhere on the globe. Styrene present in degradation products is suspected of being an endocrine disrupter.

Conclusion: The LC50 of *Tubifex tubifex* is indicative of a substantial sensitivity to polystyrene. The behavioural responses of *Lumbricus terrestris* L. indicate that the lower concentrations had a much more significant effect on their behavior. The overall results create a disturbing picture of the effect of degraded polystyrene in the environment.

JUNIOR DIVISION

Kristina Dahm - Bernalillo Middle School
Teacher: JoAnn Buerle

THE IPS (BARK) BEETLE IN PLACITAS

My science project is about the bark beetle that attacks pinon/pine trees. The Placitas area has experienced many dead pinon/pine trees during the recent drought. The cause is a bark beetle called an Ips beetle or engraver beetle. The beetle digs into the bark, lays eggs, and eats the nutrient part of the wood just below the bark. The tree creates sap to try and fend off the beetle. This usually works, but if the tree is stressed, it may not have enough energy to fight off the beetle attack. Drought can cause this stress condition. The beetle moves from tree to tree and has two to five generations a year.

My hypothesis is that the tall trees will be most susceptible to the bark beetle, because they need more water.

First I found a dead pinon/pine tree and used a saw to cut away the branches and a screwdriver to peel off the bark. I then took samples of the beetle and larva and put them in the sample jar. Using a metric tape measure, I measured five 50-by-50-meter square plots, or a total of 1.25 hectares, around my house in Placitas. I marked each corner with fluorescent yellow spray paint and some kind of rock or pole marker. After all of the plots were marked, I counted all the pinon/pine trees and classified them as short (under 1 meter), medium (1-2 meters), or tall (over 2 meters). I also classified them if they were dead or alive. There were a total of 57 pinon/pine trees within the five 50-by-50-meter plots. Plots 1 and 2 did not contain any dead trees, but Plot 3 had about 50% dead pinon/pine trees. Plot 4 had about 50% dead trees as well. The last plot, #5, had only about 15% dead. In all plots combined there was 50% dead.

This was interesting to me. Of the 57 total trees, most were small (29). Tall trees were next most common (18), and there were 10 medium trees. Out of all of the trees, 14% of the small were dead, 20% of the medium trees were dead, and 44% of the tall trees were dead. This means that the tall trees are most affected by drought and could not fight off the beetles' attacks.

From this experiment I discovered that the trees closest to our house are not yet affected by the Ips beetles. I never knew that the pinon/pine trees died from a beetle. The ultimate cause of the dying trees is the drought, which weakens them. Tall trees need more water and smaller trees, and therefore my hypotheses were correct.

Johnny Sedillo - San Felipe (Albuquerque)
Teacher: Eileen Romano

IS HOMEMADE COMPOST BETTER TO GROW HEALTHIER PLANTS THAN PLANT FOOD FROM A STORE?

I. Purpose

I did this project because I'm interested in growing plants, especially a vegetable garden. I wanted to see if homemade compost grows healthier plants than plant food from a store.

II. Hypothesis

Homemade compost grows healthier plants than plant food from a store.

III. Procedure

A. Research: I went to Rowlands Nursery and picked up information on how to make compost. I talked to the plant specialist at Rowlands. I used the Internet, and went to the library to get information for my research project.

B. Experiment: After making the homemade compost, I made a tiny greenhouse and planted four tomato plants. Two of them were planted in the compost and the other two were planted in regular potting soil. The two in potting soil, I watered and fed with plant food from a store. My experiment disproved my hypothesis. One plant slowly died in the compost soil, even though I watered both of them. The other plant lived. The other two plants looked healthier with the plant food from a store. They grew bigger and had more leaves than the compost plant that lived.

IV. Results

I learned that my compost pile was probably too strong and needed to ferment longer in order to break down all the mixture into decaying organic matter.

V. Conclusion

It took a while to make the compost pile, and just using a store-bought plant food is easier and requires less time to grow tomato plants. In the future I would still want to experiment making compost and trying to grow other types of vegetables.



illustration by Rosemary Gilbert Bell