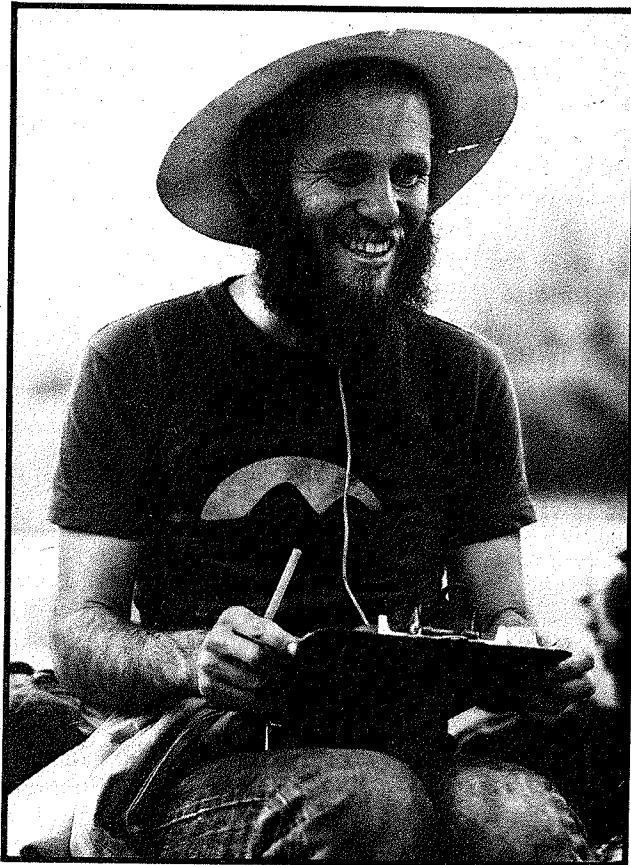


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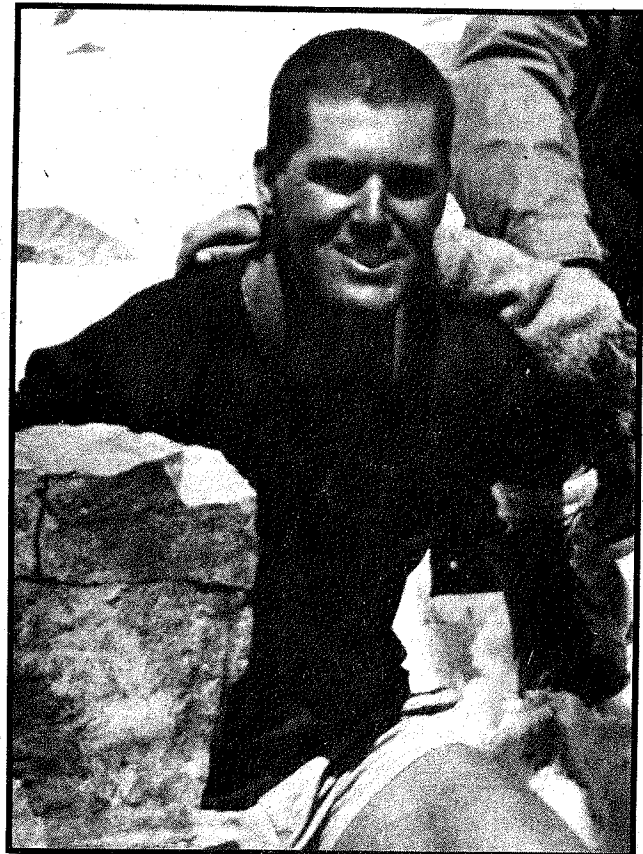
# MONO the LAKE

NEWSLETTER



**DAVID GAINES**

1947 – 1988



**DON OBERLIN**

1959 – 1988

## *In Memory*

David Gaines, Mono Lake Committee founder and chairman, and Don Oberlin, Assistant Information Coordinator, died Monday, January 11, when the car they were riding in was struck by a pickup truck amid windblown snow on U.S. 395 near Mammoth Lakes.

Memorial services for Dave and Don will be held at Mono Lake on Saturday, January 23 at 1:00 pm.

The Gaines and Oberlin families have indicated that contributions in memory of Dave or Don can be made to the Mono Lake Committee or the Mono Lake Foundation (tax-deductible). Sally Gaines has requested that these funds go toward the purchase of the Lee Vining Visitor Center.

This issue of the newsletter was nearly finished when we heard of the accident. Dave had worked very hard to complete it quickly so the good news about our joint sponsorship with DWP of the replacement water supply study (page 4) would reach all of us as soon as possible.

On the morning of the accident it was announced on local news that the Forest Service would definitely be identifying a lake level for Mono Lake that would best meet

the goals of managing the scenic area. (see page 5) Dave had been working and hoping for this tangible support of the lake by the Forest Service for a long time.

A special memorial issue of the newsletter is being planned. We would like to invite any of you who have photographs of Dave or Don that you'd like to share, to send them to us for possible inclusion in the newsletter. Black and white prints are best, but color prints with good contrast are also appropriate. Please label the photos with your name and address and when and where they were taken. We will return them to you if you request. Also, if any of you have correspondence from Dave or Don that might be of inspiration to others, we'd appreciate copies. We need these materials in the Lee Vining office by February 24.

We at the Committee are beyond words to express our grief at the loss of our dear relations and friends. Yet, we are also filled with gratitude that we had the opportunity to share our lives and loves with Dave and Don here in the sacred circle of the Mono Basin.



"The only memorial for David Gaines is saving Mono Lake."

...Enid Larson

THE MONO LAKE COMMITTEE is a non-profit citizen's group dedicated to saving Mono Lake from the excessive diversion of water from its tributary streams. We seek a compromise that will meet the real water needs of Los Angeles and leave our children a living, healthy and beautiful lake.

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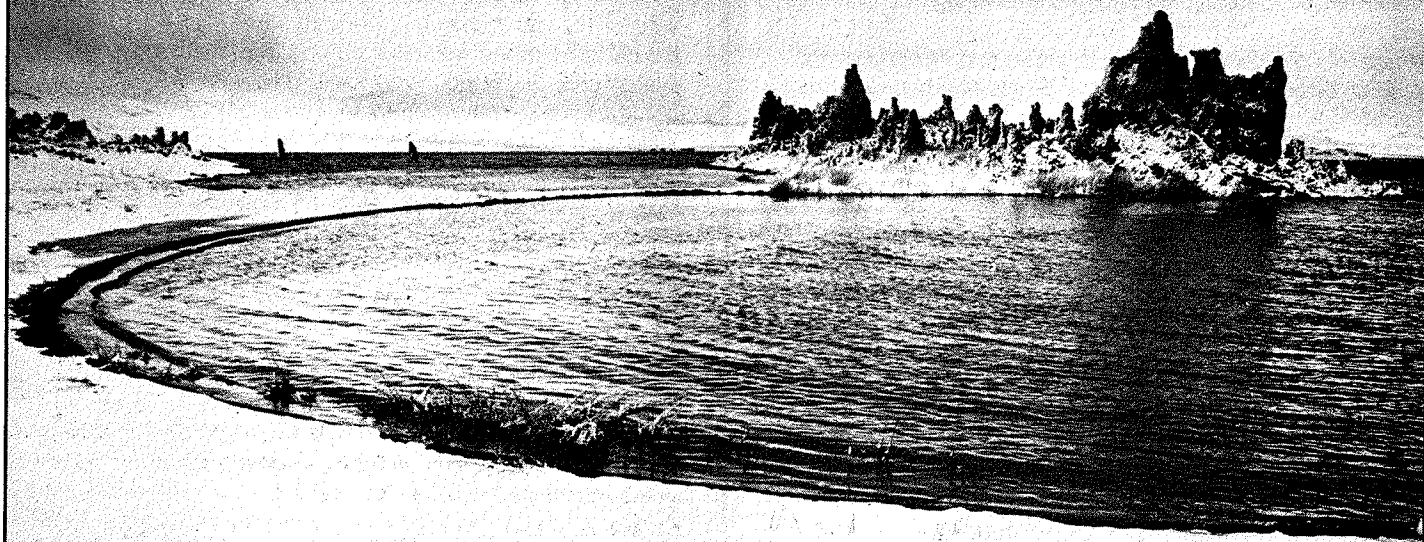
This newsletter is partially funded by a grant from the *Mono Lake Foundation*, a non-profit organization dedicated to studying and protecting the Mono Lake watershed and adjacent areas (P.O. Box 153, Lee Vining, CA. 93541). We invite your membership and support.

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# Mono Lake Watch



*"The health of natural systems is directly connected to our own physical/psychic health as individuals and as a species. For that reason, natural systems deserve, if not utter veneration, at least our clearest attention and deepest respect. No matter how great our laws, technologies, or armies, we can't make the sun rise every morning nor the rain dance on the goldenback ferns."*

*...Jim Dodge*

In November, while visiting Los Angeles, I heard a radio weatherman announce the "threat" of rain. After one of the driest years in history, he viewed the prospect of precipitation, not as a blessing, but as an annoyance.

If a drought stretched on for year after year, we would learn to love and honor the rain. For our lives, like those of every living thing, are bound to water just as they are to soil, sun and air.

Complaints about rain betray estrangement from nature, the place we live and even each other. From attitudes toward weather to residential landscaping, this estrangement pervades our culture.

As I bicycled to the Mono Lake Committee's Los Angeles office, for example, I was struck by the lack of native plants—not an oak, sycamore, toyon or manzanita, nothing that belonged to Southern California's bioregion. Every tree, shrub and blade of grass had been imported from climes where precipitation is plentiful throughout the year.

Moreover, even after six rainless months, I saw riverlets of water coursing down the streets into the gutters. I saw sprinklers watering sidewalks and gardeners hosing away leaves. Not just occasionally, but on virtually every block.

I don't mean to single out my home town; other cities surpass Los Angeles' profligate water use. Nor do I think that native landscaping will solve urban ills. As I bicycled past misaligned sprinklers, however, I sensed a connection between saving Mono Lake and the maturation of Los Angeles into a rooted, bioregional community.

During the 1950s, I grew up with Los Angeles. Despite the urban environment, I could still discover meadowlarks and kestrels in vacant lots, and garter snakes and toads

along the remnants of Ballona Creek. Since that time, the vestiges of flatland open space have vanished under urban sprawl. Ballona Creek has been routed into a conduit and covered by a street. Freeways, traffic, smog and congestion have proliferated.

An urban refugee, I now dwell in a small town at the other end of the aqueduct. Though I fled Los Angeles as a teenager, I care about its future. Through saving Mono Lake, I believe the city can contribute to its own salvation.

But, I hear people say, Los Angeles is the enemy—a greedy metropolis bent on drying up Mono Lake to build more shopping centers.

Such generalities are fallacious, for they deny the real possibility of change. Los Angeles is not a disembodied juggernaut, but a diverse community of millions of people. Among those people, increasing numbers are realizing that unbridled growth and the destruction of distant watersheds are prescriptions for disaster. Slow-growth and local environmental groups, like the "Not Yet New York Coalition" and "Heal the Bay," are beginning to be heard at City Hall.

Likewise, more and more Angelenos are embracing Mono Lake. Even the mayor and many city councilmembers are groping for solutions. While this may have more to do with legal and political pressure than bioregional consciousness, it is a hopeful sign.

This is hopeful, not just for Mono Lake, but for Los Angeles as well. Our state's largest, most powerful city may yet choose to respect the beauty and ecological well-being of a distant watershed. Angelenos may take pride in a natural treasure they had the foresight to preserve rather than ignominiously destroy. Los Angeles may lead the

country toward an urban future in harmony and balance with the rest of the planet.

What might such a future be like? To paraphrase the Planet Drum Foundation, "imagine a Los Angeles where all buildings are refitted to use renewable energy. Where vacant lots overflow with squash plants and sweet peas instead of trash and broken bottles. Where neighborhood remanufacturing facilities employing local people find new uses for recycled materials that were formerly hauled away as garbage. Where native plant and animal habitats are linked up to form wild corridors through the city."

Imagine a citizenry that value clean air more than new automobiles; know and respect where food, water and energy came from; husband and recycle water, energy and other resources, not because they are forced to, but because they understand the connection between conservation and the health of the environment.

Such a city would be closer to the mythic Southern California of half a century ago—quieter, cleaner, friendlier, with the fragrance of orange blossoms in the air. It would be closer to nearly everyone's vision of utopia.

Of course I'm dreaming. It will not be easy to overcome the possessiveness, fear and despair that are despoiling our

cities as well as the planet. But dreams and visions are counterpoint to laws and lawsuits. Without them, nothing will ever change.

Soon after returning to Mono, I forsook my office to wander the snow-covered hills above Lee Vining. Across the dark, brooding waters of Mono Lake, the last rays of sun colored the White Mountains. The world, I remembered, is not the claustrophobic, hermetic place our cities have tried to make of it. It is vast, intense, numinous.

When I was 12 or 13, I had a similar experience in Los Angeles. A cold, Alaskan storm swept away the stale, smoggy air. The sky turned a deep, cobalt blue. The snowy San Gabriel Mountains cradled houses and skyscrapers in a purifying embrace.

Thanks to that vision, I can still dream of cities freed from freeways, smog, noise, congestion, crime, greed and fear. It may be a long time coming, but we can plant the seeds.

Meanwhile, when the next big storm rolls in from the Pacific, let's bid it welcome by dancing in the rain.

...Dave Gaines

## MLC, DWP Sponsor Replacement Water Study

For ten years, the Mono Lake Committee has battled the Los Angeles Department of Water and Power in the courts, the legislature and countless public forums. Now we are joining with DWP to search for reasonable solutions that protect the lake while meeting L.A.'s real water needs.

On Dec. 3, the Mono Lake Committee and DWP announced joint sponsorship of a study to identify and assess alternative water and energy sources which Los Angeles could tap in lieu of diverting Mono's tributary streams.

The Environmental Defense Fund, a nationwide environmental organization involved in many water-related issues, is conducting the study. EDF will independently analyze a wide range of alternatives for replacing Mono Basin water, including water marketing, the availability of surplus state or federal water and storage options. They will also recommend potential sources of financing as well as ways as to overcome institutional obstacles. The study will be completed by July.

"Clearly there are a lot of options," comments MLC Executive Director Martha Davis. "We have always believed the controversy could be solved. Now, with the help and expertise of EDF, we are seriously searching for a reasonable, environmentally sound solution that does not transfer the problem to some other watershed."

DWP's General Manager Duane Georgeson sounds more cautious and restrained. "They [EDF] have a variety of ideas," he says, but "it is still ahead as to how we will deal with the information."

### Letters Needed!

Congressmembers, particularly from the Los Angeles area, need to hear from you.

"When I was in Washington D.C.," reports Martha Davis, "many of the staff in Congressional offices expressed surprise at the large number of Mono Lake Committee members in their districts. The staff were not aware that saving Mono Lake was so important to their constituents."

You can help with a few strokes of your pen. Please write your Congressional representatives. Ask them to do everything they can to protect Mono Lake. If you live in Los Angeles, please write your city councilmembers as well.

Senators Pete Wilson and Alan Cranston, New Senate Office Building, Washington, D.C. 20510

Your Representative, House Office Building, Washington, D.C. 20515

Your Los Angeles City Councilmember, City Hall, Los Angeles, CA 90012

EDF has been actively involved with California water issues for many years. They have championed agricultural water conservation in the Imperial Valley as a means of stretching urban supplies, and are working on solutions to the selenium problem in the Kesterson Wildlife Refuge."

DWP has provided EDF with \$25,000 in initial funding. Additional support for the \$80,000 study will be raised jointly by the Mono Lake Committee, DWP and EDF.

The EDF study is the latest fruit of ongoing, informal talks between MLC, DWP and the City of Los Angeles,

which began in 1984. After the Forest Service and Mono County joined the discussions last summer, the participants labelled themselves the "Mono Lake Group." Leroy Graymer of the UCLA Public Policy Program is helping the talks progress through his expertise as a neutral facilitator.

...Dave Gaines

## DWP Fights Lake Level Recommendations in D.C.

"Playing dirty politics," said Mammoth Town Councilman Greg Newbry of the Los Angeles Department of Water and Power's November junket to Washington D.C. DWP officials pressured high level Forest Service officials to override local and regional foresters, and not identify a "preferred" lake level in the draft Mono Basin National Forest Scenic Area Management Plan. Fortunately, Mono did not go undefended. On Nov. 19, Newbry, Mono County Supervisor Glenn Thompson, Mono Lake Committee Executive Director Martha Davis and MLC Board Member Ed Groswiler journeyed to Washington D.C. Together with representatives from the National Audubon Society and the Sierra Club, they met with Forest Service Deputy Chief Lemar Beasley, California Senators Pete Wilson and Alan Cranston, Congressman Lehman and other Potomac movers and shakers. Later in the week, Mono County Supervisor

Andrea Lawrence briefed Forest Service Chief Dale Robertson.

Most of the legislators and Forest Service officials expressed support for solving the problem and including lake level recommendations in the management plan. Only DWP lobbied against it. Davis cautioned, however, against undue optimism—"while our trip was quite successful, we must continue to remind Congress of the broad public support for saving Mono Lake."

"Glenn Thompson, Andrea Lawrence and Greg Newbry were magnificent," Davis added. "The Mono Lake Committee is extremely fortunate to have such eloquent, committed Mono County and Mammoth Lakes officials championing the lake. Their presence made a tremendous difference."

The Forest Service decided last year to address lake levels in its management plan for the Mono Basin National Forest Scenic Area. In a letter to Los Angeles Mayor Tom

Bradley, the Mono Lake Committee and other interested parties, Inyo Forest Supervisor Dennis Martin affirmed that the Forest Service has "the option, and probably responsibility, to identify a lake level that would best meet the overall management objectives of the Scenic Area."

Nevertheless, DWP continued to oppose any mention of lake levels in the management plan. At the eleventh hour, with the draft plan due out this February, it made a last-ditch effort to bypass regional forestry officials by taking its case to D.C.

The Forest Service has been struggling with the lake level issue since it began developing a management plan in 1986. The legislation establishing the Scenic Area requires the agency "to protect geologic, ecologic and cultural resources," but "in a manner consistent with the protection of the water rights of the state of California or any political subdivision thereof, including the city of Los Angeles."

DWP claims this language stifles any Forest Service discussion of lake levels. Most others, however, including the bill's author Congressman Richard Lehman, strongly disagree. In a letter to Robertson, Lehman argues that "surely we must protect the very process by which the federal government should make decisions...to eliminate even a discussion of lake levels before the draft EIS stage would allow public policy goals to be predetermined by a single interested party."

Indeed, it would be absurd for the Forest Service to ignore the findings of a National Academy of Sciences' study mandated by the Scenic Area legislation itself. The agency must recognize that a shrinking lake is going to devastate Mono's ecological and aesthetic values, and identify the minimum lake levels required to protect the area's resources.

...Dave Gaines





# Lee Vining Creek Wins Preliminary Injunction



Judge Pettit (far right) looking over Lee Vining Creek.

The Mono Lake Committee has proven, once again, that we can beat the Los Angeles Department of Water and Power in what seemed an unevenly matched courtroom fray.

On Oct. 8, in a crowded, stuffy Mono County courtroom, Superior Court Judge Blaine Pettitt considered the fate of Lee Vining Creek. Against Patrick Flynn, our lone but well-prepared attorney, DWP pitted three veterans, including the Assistant City Attorney and one of the highest paid water lawyers in the state.

While we didn't get the flow we sought, we kept the stream—Mono Lake's second largest tributary—alive. Judge Pettitt handed down a preliminary injunction ordering DWP to allow four to five cubic feet per second of water to flow down Lee Vining Creek into Mono Lake. The order remains in effect until the case goes to trial.

Had it not been a dry year, we would have probably won a more generous injunction. As reported in our fall newsletter, we originally asked the court to increase the flow in Lee Vining Creek to 20 cubic feet per second, an amount we firmly believe is justified. Because of dry conditions, we moderated our request to 10 cfs, but received only half that amount.

Nevertheless, the injunction is an important victory. Preliminary injunctions are granted when a judge believes plaintiffs are likely to prevail at trial. In this case, Judge Pettitt was convinced that we have strong legal arguments for permanently protecting Lee Vining Creek.

The Lee Vining Creek case is based on fish and game codes and the public trust doctrine. The codes require dam owners to keep "in good condition" downstream fisheries.

The public trust requires protection of the creek environment, including riparian vegetation, wildlife habitat and recreational values, "as far as feasible."

In granting the preliminary injunction, Judge Pettitt was swayed by the public trust arguments. In a memorandum accompanying the injunction order, he argued that the Fish and Game codes do not provide an absolute priority for fish, but must be balanced with a state constitutional mandate to put water to a "reasonable use" (Article X, Section 2). He concluded that "plaintiff has a reasonable probability of ultimately prevailing," not because of fish and game codes, but because of the public trust doctrine.

As in the similar Rush Creek case, the court will probably defer trial to allow the California Department of Fish and Game time to study the stream. Fish and Game has offered to "fully fund and conduct an independent instream needs assessment" on lower Lee Vining Creek. In a September 29 letter to the Mono Lake Committee, DFG Director Peter Bontadelli said the department is "concerned about the stream's dependent resources." Bontadelli noted that Fish and Game biologists have found a "healthy trout population," and that "trout are able to exist in the area previously reported [by DWP] to be uninhabitable." Both the Mono Lake Committee and DWP support such a study.

This winter, we are closely monitoring Lee Vining Creek. Though still flowing all the way to Mono Lake, the stream has become clogged with ice. If the flow proves insufficient for fish survival, we will return to court to ask for more.

...Dave Gaines and Ilene Mandelbaum



CARL DENNIS BUELL

## Appeals Court Sympathetic to Water License Challenge

Our suit challenging the Los Angeles Department of Water and Power's Mono Basin water licenses is looking stronger than ever. At an Oct. 20 hearing before the Third District Court of Appeals, a three-judge panel spent most of its time grilling DWP's attorneys.

"Its very encouraging," said Mono Lake Committee Executive Director Martha Davis. "The justices were well-informed and asked hard questions."

"The question," MLC attorney Bruce Dodge told the court, "is the duty to enforce what the legislature mandated."

"I'm glad I'm on my side," quipped California Trout attorney Barrett McInerney.

The suit, filed by California Trout, National Audubon and the Mono Lake Committee in October 1985, contends that DWP's state-granted licenses to divert Mono Lake's tributary streams are illegal. The licenses violate Fish and Game codes requiring dam owners, especially in Mono and Inyo counties, to keep "in good condition" downstream fisheries.

The case suffered a setback in August, 1986, when a Sacramento Superior Court judge ruled that the Fish and



Game codes did not apply to DWP's Mono Basin diversions. We are optimistic, however, that the Appellate Court will modify or overturn the lower court's decision. We should know within the next few months.

We are asking the court to order the State Water Resources Control Board to void DWP's 1973 water licenses, and to condition new licenses on the restoration of the downstream trout fisheries that existed prior to diversions. "To request less than full restoration of Mono Basin fisheries," comments MLC Executive Director Martha Davis, "would reward DWP for every day they have broken the law since 1941."

## 1987 in Review

**JAN.-APRIL.** Little snow falls in the Sierra Nevada, and Mono Basin runoff drops to approximately half of average. The Los Angeles Department of Water and Power diverts all the water it legally can. To the south, in Owens Valley, it increases groundwater pumping to record levels. Water consumption in Los Angeles hits all-time high.

**MARCH.** A University of California survey indicates that most Californians—especially Angelenos—want to save Mono Lake, and are willing to pay much more than it would cost to fund water conservation or purchase replacement water.

**APRIL.** DWP chooses the opening day of fishing season to blame the Mono County Board of Supervisors for holding up the expansion of Crowley Lake Reservoir. The board as well as Mammoth Lakes Town Council have conditioned support for an enlarged dam on "minimum desirable elevations for Mono Lake." With a larger reservoir, DWP could divert more water from Mono's streams.

**MAY.** Negit Island's nesting gulls increase from approximately 1,200 last year to over 3,000. Another 25,000 gulls—half of Mono's total population—crowd onto Twain Islet to the northeast. The gulls fledge about 27,000 chicks, less than 1986, but still a banner year. Phalaropes, grebes return in high numbers.

**AUG. 4.** The National Academy of Science's study panel finds that continued, uncurtailed diversions of

water from Mono Lake's tributary streams will likely result in "drastic population reductions" of aquatic organisms and "acute...adverse affects" on birds. Another state-funded study is scheduled for release in February.

**OCT. 8.** Mono Lake Committee wins preliminary injunction for Lee Vining Creek. Though its water is reduced, the stream continues to flow pending trial.

**OCT. 20.** Lawsuit challenging DWP's Mono Basin water licenses receives sympathetic hearing before Third District Court of Appeals. The panel of three judges spends most of its time grilling DWP.

**OCTOBER.** The U.S. Fish and Wildlife Service declares the Mono Lake brine shrimp a candidate for listing as an endangered species.

**NOVEMBER.** DWP officials journey to Washington D.C. to pressure the Forest Service to overrule local and regional foresters, and delete lake level recommendations from the draft Mono Basin National Forest Scenic Area Management Plan. Mono County Supervisors Glenn Thompson and Andrea Lawrence, Mammoth Town Councilmember Greg Newbry and MLC Executive Director Martha Davis head east to defend the Forest Service's obligation to address lake levels. The draft plan is scheduled for release in February.

**DEC. 31.** Mono Lake lies at a surface elevation of 6378.5 feet, 18 inches below its level one year ago.

## More Legal Updates

The public trust case, cornerstone of legal efforts to save Mono Lake, continues to languish in the Ninth Circuit Court of Appeals. It has now been two and one-half years since the court took the case under commission. Have they forgotten us?

Alpine County Superior Court Judge Hillary Cook has ordered the Los Angeles Department of Water and Power and the State of California to reimburse the National Audubon Society \$233,500 for monies spent prosecuting the Mono Lake public trust case between 1979 and 1983. In 1983, the California Supreme Court not only overturned Judge Cook's 1981 rejection of the public trust, but also ruled that DWP must reimburse Audubon for court costs and legal fees. DWP, however, convinced the judge that the state should bear half the expense.

Meanwhile, Rush Creek continues to flow at 19 cubic feet per second pending the completion of instream studies. As with Lee Vining Creek, public trust arguments convinced Superior Court Judge David Otis to hand down a preliminary injunction keeping the stream alive. Unlike the Lee Vining Creek case, however, Judge Otis deferred trial while the California Department of Fish and Game assessed the flows needed to sustain a healthy fishery. These studies, which DFG contracted to the prestigious firm of Beak Associates, will be completed by June of this year.

...Dave Gaines

If you're confused by this morass of litigation, ask our Lee Vining office for a free copy of our *Field Guide to the Mono Lake Lawsuits*. It explains our four suits in concise, non-technical language.

## Lake Level Falls 1.5 Feet in Past Year

By the end of 1987, Mono Lake had fallen to 6378.5 feet, one and one-half feet below its level at the end of 1986.

Given dry conditions and high diversion rates, this drop is not surprising. Between April and September, runoff was 45 percent of average. Between October of 1986 and September of 1987, the Los Angeles Department of Water and Power diverted approximately 65,000 acre-feet from Mono's tributary streams.

Were it not for court orders, DWP would have diverted more. During this October-to-September period, the courts forced DWP to release 22,000 acre-feet down Rush and Lee Vining creeks into Mono Lake. These releases prevented the lake from falling another six inches.

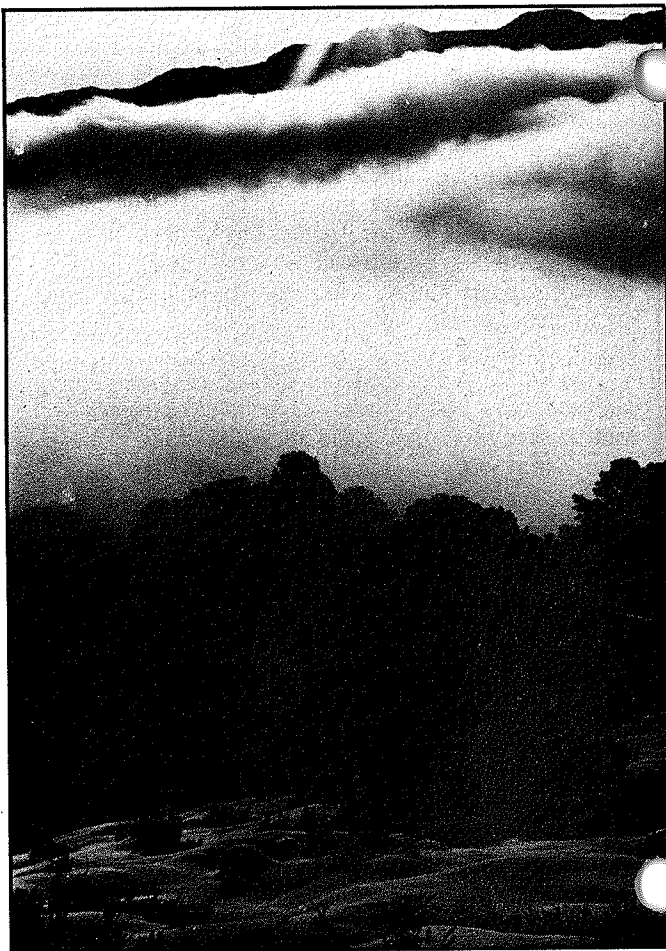
...Jim Parker

## LA Councilmembers Consider Mono Lake Protection

At an October water rate hearing, Los Angeles City Councilmembers Robert Farrell and Hal Bernson asked the Department of Water and Power to consider purchasing water from the Metropolitan Water District in order to protect Mono Lake.

The councilmembers' request derives largely from concerns that Los Angeles will lose priority access to MWD water. Over the years, Los Angeles taxpayers have paid over \$350 million to maintain priority rights to over 600,000 acre-feet per year of MWD water, which comes from the Colorado River and State Water Project. With increasing demand for MWD supplies, Los Angeles could forfeit access to this water if it does not begin to use more of it. Heretofore, DWP has used as little MWD water as possible, preferring to squeeze all it can from its less expensive Owens Valley and Mono Basin sources.

Farrell and Bernson both said that resolution of the Mono Lake issue could benefit Los Angeles. This is an unexpected, encouraging shift in their positions. The council did not take action on the proposal.



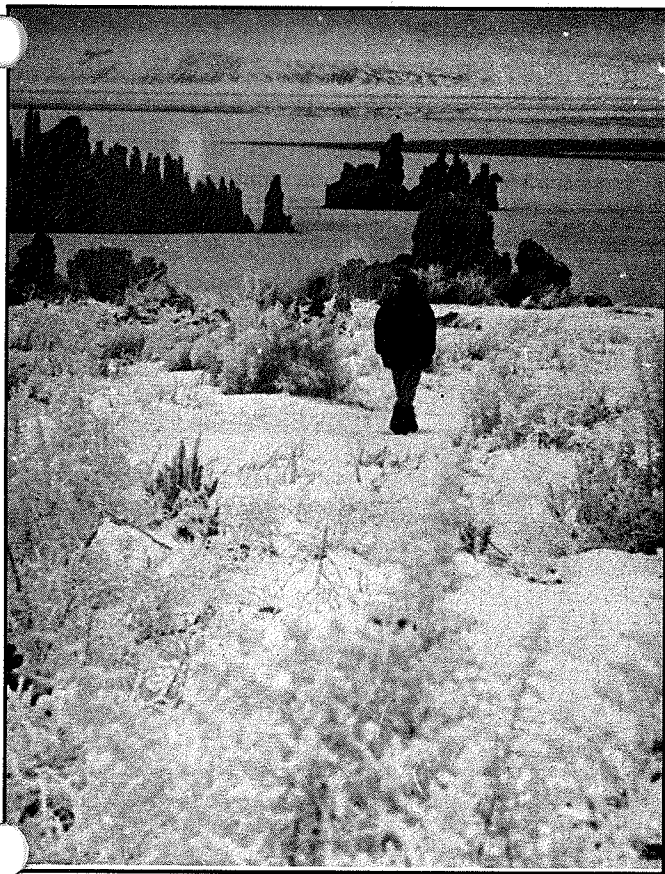
Mono Craters rise above mid-winter's pogonip fog.



WHAT YOU CAN DO: Please send letters to Councilmembers Farrell and Bernson commending them for their support for saving Mono Lake, and urging them to stay actively involved in finding a solution (Los Angeles City Council, City Hall, Los Angeles, CA 90012).

## Thompson to Stay on Mono County Board

Contrary to our fall newsletter, Glenn Thompson will continue to serve on the Mono County Board of Supervisors. This is good news for Mono Lake, for Glenn is not only a staunch ally, but a politically savvy one as well. In November, for example, he journeyed to Washington D.C. on the lake's behalf, and could not have been more forceful and eloquent (see p.5).



## NAS Study Sparks Media Support for Solutions

In response to the National Academy of Science's Mono Lake study, most major California newspapers have pointed out the need to "get serious" about finding solutions. The NAS study concluded that present diversions will doom Mono's life-productive ecosystem.

An Aug. 7 *Los Angeles Times* editorial called the study "one small piece of an exceedingly complex puzzle...the problem for the city is to find alternative water supplies to compensate for Mono Basin water, which also makes money for the city by generating electric power." The Times concluded that "the scientific, legal and political odds are against the city's ever again diverting its full 100,000 acre-feet—at least not year after year for any significant period."

In an Aug. 6 editorial, the *Los Angeles Herald Examiner* opined that "L.A. officials cannot afford to ignore the report's sobering conclusions." The Examiner urged "more reliance on conservation and prudent groundwater management," but then criticized environmentalists for hindering water development. "If they are serious about stopping Mono Lake's degradation," it said, "they must stop resisting completion of the State Water Project that would increase high quality Northern California exports."

On Aug. 24, a *Sacramento Bee* editorial focused on "getting serious" about finding a solution, though the paper was "not at all clear who is in a position to negotiate a comprehensive settlement." The Bee called on the California Department of Water Resources to "take a much more active role in negotiating a settlement." It rejected, however, Los Angeles Mayor Tom Bradley's vague proposal to curtail diversions if the state would pay for replacement water and energy. "There is no precedent or necessity for that kind of payoff," the paper declaimed. "The city can make up for any reductions at Mono by taking more from the State Water Project."

On Nov. 1, the Review section of the Sunday *San Francisco Chronicle* published an extensive review of the NAS study by Harry Demarest, an environmental scientist with the U.S. Environmental Protection Agency. Demarest concludes that "the study leaves no doubt that hard decisions about the management of the lake must be made now." He praises the study "as a sober counterpoint to...emotion-laden arguments that unfairly deprive the public of the environmental facts necessary for rational water management decisions." He finds, however, "one troubling feature...much of the data comes from the Los Angeles Department of Water and Power and its contractors," whose "vested interests...are powerful and most likely sufficient to prejudice scientific objectivity."

...Dave Gaines

## Research Updates

### *CORI Report Due in February*

The release last August of the National Academy of Science's *Mono Basin Ecosystem Study* did not end scientific discussion over the effects of declining lake levels on Mono's ultra-productive ecosystem. But it has altered the tenor of debate. The question no longer is, "will the Los Angeles Department of Water and Power's current diversions destroy Mono Lake's ecosystem?," but "when?"

With the exception of a few DWP die-hards, Mono Lake researchers concur with the broad conclusions reached by the NAS panel—un curtailed diversions will result in "drastic population reductions" of brine shrimp and flies, and "acute...adverse effects" on birds. Still in dispute are the particular consequences of lowering the lake to specific levels. In our last newsletter, for example, I contended that the NAS study discounts or ignores evidence that brine shrimp and gulls are adversely affected at lake levels as high as 6378 feet.

In general, the NAS panel skirted contentious issues, such as the importance of Negit and the Negit islets to nesting gulls, the significance of the precipitous 1980-82 decline in first generation brine shrimp and the effect of declining lake levels on shoreline springs and marshes.

Another report, to be released in February, may address some of these lingering questions. Funded by the California legislature in 1984, the Community and Organization Research Institute, a non-profit organization associated with U.C. Santa Barbara, charged a "blue ribbon panel" of eminent scientists with "providing a report on...the effect of lake level on aquatic ecology and avifauna."

Meanwhile, researchers continue to probe the mysteries of Mono's complex environment. The following reports summarize their work and progress. For more information, you may contact individuals directly.

...Dave Gaines

Mono Lake Dust Storms and Playa Chemistry  
Thomas Cahill, Thomas Gill and Bruce Kusko  
*Air Quality Group, Crocker Nuclear Laboratory, University of California, Davis, CA 95616*

We have continued our research into the nature and causes of blowing dust generated by the Mono Lake playa, and have further developed the Mono-Owens Davis Dust Model, a computer model which predicts atmospheric meteorological conditions.

During the past year, we have applied the model to a series of hypothetical Mono Lake levels between 6300 and 6400 feet, and under conditions of moderate and extensive dust. Dust levels will rise steadily as the lake falls, and should increase most dramatically as Mono Lake's elevation drops below 6370 feet and a large area of dry lakebed is exposed. At 6330 feet, the projected stabilization level at current diversion rates, dust storms generating particulate levels greater than 1,000 micrograms per cubic meter might be exceeded on at least 11 percent of all days; this is the federal

particulate emergency standard. The dust storms diminish downwind primarily due to the admixture of clean air into the dust cloud, not by settling of the particulates.

We have continued to study the chemistry of the playa materials and the dust-storm particles. Both are composed of a mixture of salts (mostly sodium chloride and sulfate) and silicate minerals (mostly quartz, feldspars and micas). We have discovered that during many dust events, even the air at sites in the Mono Basin located away from the dust storms is polluted by particles which could only have come from the lakebed. When no blowing dust is present, the air in the Mono Basin is among the cleanest in California.

Wind-blown Dust and Plant Growth on the Exposed Mono Lake Shore

David P. Groeneveld

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Wind-blown dust from the exposed shores of Mono Lake is an environmental concern. Plant cover is an effective soil stabilizer, and may be useful in decreasing the dust. To determine its potential, the Great Basin Unified Air Pollution Control District and the City of Los Angeles Department of Water and Power began a series of ongoing studies in 1985. The City funds the studies as mandated by State Senate Bill 270, which requires mitigation of air pollution due to the diversion of water from the Eastern Sierra.

We have found that only two species, saltgrass and alkali bulrush, are capable of growing in the inhospitable conditions of the exposed lakebed; in some locations, even they probably cannot live. Conditions on the lakebed alternate between winter water saturation and summer drought. Salinity and toxic substances, such as boron and arsenic, may be present at toxic levels. Salt crusts are another barrier to plant growth.

In simplified terms, the present study seeks to determine where saltgrass and alkali bulrush can grow vigorously enough to suppress wind erosion.

Fresh water is the single most important factor controlling plant growth on the lakebed. Springs and seeps determine the rate at which plants colonize, and the vigor of the resulting cover. In addition, strong flows of relatively fresh groundwater flush salts from the soil.

Three locations are of particular concern because of blowing dust and poor plant establishment: (1) around Paoha Island and the Negit Island landbridge, (2) the east shore between Simons Spring and Warm Spring, and (3) the northeastern shore.

We have undertaken an extensive series of trials in the latter two zones to determine plant survivorship and explore the feasibility of augmenting natural colonization with artificial planting. In 1985, test plantings of native shrubs on study sites failed completely. In 1986 and 1987, seeding and transplanting of saltgrass and alkali bulrush were successful on the eastern shore, and resulted in colonization of the adjacent beach. At this location, shallow watertables and flushing flows of low salinity have helped vegetation establish.

On the northeastern shore, however, where the seepage quite saline, transplantings have been less successful, and seeds have failed to germinate. It appears that most of this

zone probably will not support plant cover due to chemical and physical factors. Fortunately, salt crusting appears to reduce the potential for wind erosion.

Future studies will include (1) monitoring of the study sites, (2) analysis of historic aerial photographs to determine the rate of plant establishment, (3) analysis of the factors which predispose the lakebed sediments to wind erosion, (4) an assessment of the potential location, timing and magnitude of dust entrainment, and (5) formulation of potential mitigation strategies.

Groundwater Circulation in the Mono Lake Basin  
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Many hydrologic studies have focused on the movement of water into and out of the Mono Basin. Little is known, however, of water circulation within the basin. Currently, one of the least understood aspects of Mono Lake's water balance is the groundwater system and its relationship to lake levels. The objective of our research is to understand the distribution and movement of groundwater around the lake, and to build a predictive model relating groundwater circulation to the lake and its surrounding springs.

This year, our first season of field work, we focused on measuring groundwater levels and the permeability of shallow sediments, and collecting water samples from springs and wells. The data will help determine patterns of groundwater movement. The chemical composition of the spring and ground water will be used to study the sources

and pathways of water and, ultimately, to describe the relationship between springs, the lake and the groundwater system.

Preliminary field observations reveal that groundwater gradients, rates of groundwater inflow and springflow chemistry vary greatly around the lake. Gradients are highest and total dissolved solids lowest on the west side of the lake where groundwater inflow from the Sierra Nevada is greatest. In contrast, gradients are very low on the north and northeast sides where little groundwater inflow to the lake occurs.

Results of the field work will help delineate groundwater-surface water interactions that influence wetlands around the lake. From these studies we will develop as a predictive model to simulate the effects of changing lake levels and recharge rates on groundwater flow and the location of springs and wetlands. This modeling will also provide improved estimates of groundwater storage and transport for use in basin-wide water balance forecasting.

This two-year project, with Dr. John Dracup of the Civil Engineering Department at UCLA, has received funding from the California Water Resources Center.

#### Aquatic Ecology

Gayle L. Dana and Robert Jellison

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How are nutrients recycled in Mono Lake? What controls primary productivity (growth of algae) and the seasonality and population levels of brine shrimp? How will changes in one trophic level propagate through the ecosystem (i.e., from nutrients to algae to shrimp)? These are some of the important questions we are addressing to understand the ecosystem dynamics of Mono Lake and to predict probable ecosystem responses to changing lake levels. We hope to answer these questions via three avenues: monitoring, experiments and modeling.

Our monitoring program involves sampling the lake for plankton populations (algae and brine shrimp), and the important physical and chemical parameters which influence the plankton (e.g., nutrients, temperature and oxygen). We also sample for cyst (overwintering eggs) deposition by brine shrimp and particulate carbon and nitrogen, which are important components in the cycling within the lake.

Monitoring provides essential information on the seasonality and population levels of the plankton, but it doesn't necessarily tell us why the patterns we observe in the lake occur. Experimental research allows us to tease apart the controlling factors. Previous experimental work includes determining factors influencing hatching in the brine shrimp, and studying the effects of salinity on the algae and shrimp populations. Current experimental work is focused on the factors influencing primary production.

A logical evolution of our research project is to access the responses of the whole ecosystem to environmental change. Due to close coupling of the lake's physical and biological components, it is difficult to make predictions based on the interactions of single components. Changes occurring at one trophic level are propagated throughout the system.



To assess ecosystem responses, we have developed a preliminary model of Mono Lake's aquatic ecology that integrates existing data from monitoring and experimental work. We have made much progress in simulating observed lake dynamics. We hope to use this model, not only to address the questions posed above, but also to interpret the observed changes in the lake and to improve on the design of our monitoring program.

Our research was supported by grants to Dr. John M. Melack, University of California at Santa Barbara, from the Los Angeles Department of Water and Power and from the Community and Organization Research Institute.

#### Benthic Ecology of Mono Lake

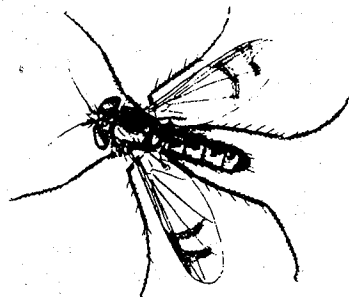
David Herbst

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As Mono Lake's level declines and salt concentrations increase, the organisms that live on the lake bottom will face less available habitat and more salts. These problems appear to be the major factors that will limit the productivity of the lakebottom, or *benthic*, ecosystem if diversion of the lake's streams continue.

The NAS report concludes that the availability of preferred habitat for alkali (brine) flies will be the first significant ecological impact to Mono Lake. Approximately 60 percent of the hard substrates on the lake bottom, mostly tufa, will become exposed if the lake drops to 6370 feet, eight and one-half feet below its current level. Quantitative sampling conducted over the past several years has revealed higher densities of larvae and pupae on tufa than on sand. Aggregation on tufa suggests that exposure of this substrate would eliminate critical habitat for the insect that provides a major source of food to birds that visit Mono Lake. I plan further sampling to ascertain the depth and substrate-specific distribution of all alkali fly life stages.

My experimental studies of the physiology of alkali fly larvae have revealed a unique, undescribed adaptation for living in the alkaline, carbonate waters of Mono Lake. The Malpighian tubules of larvae, which serve as the insect equivalent of the vertebrate kidney, are modified into enlarged glands that form and store calcium carbonate (lime). These glands vary in size in response to the salinity and alkalinity of the water in which the larvae live. These structures appear to play a key regulatory role in the physiologi-



A Long-legged Fly of the Family *Dolichopodidae*. The species illustrated belongs to a different genus than that which shares Mono Lake's shallows with alkali flies. The adult preys on other soft-bodied insects. Drawing by Charles L. Hogue from *California Insects*, University of California Press.

cal adaptation of alkali fly larvae to the unusual water chemistry of alkaline lakes.

Larvae and adult alkali flies feed on Mono Lake's benthic algae. These algae typically grow as mats composed mainly of diatoms and blue-green algae. When I experimentally inoculated this algal mat into cultures at different salinity levels, I found the long-term growth was optimum between 50 and 150 grams per liter. Over this range, however, algal growth rates, organic content and chlorophyll content declined with increasing salinity. These results suggest that increased salinity in Mono Lake could limit the productivity of the benthic algae presently found in Mono Lake, and consequently restrict the food source for alkali flies.

Only fly larvae have been found to inhabit the shallow lakebottom regions of Mono Lake. While alkali flies are the most abundant, some other species can be quite common in certain locations. One of these is the long-legged fly *Hydrophorus plumbeus* of the family *Dolichopodidae*. The larvae of these flies live in muddy or sandy shallows. When mature, they crawl ashore, build sand cases around themselves, pupate and eventually emerge as adults. I exposed these larvae to varied concentrations of Mono Lake water, and found they were extremely tolerant of high salinity. As in the case of alkali fly larvae, they are able to maintain their blood salts at a constant level.

My research on long-legged flies is in press in the *Journal of Insect Physiology*. Other research papers on the physiology of alkali flies, and growth of benthic algae are in preparation.

These studies were conducted in collaboration with Dr. Timothy J. Bradley, Department of Developmental and Cell Biology, University of California at Irvine. They were supported in part by a National Science Foundation grant.

#### Population Biology of Bee Flies

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We have seven seasons of data on the bee fly *Lordotus pulcherrimus*, whose latin name means "the most beautiful." In early August adults begin to emerge from the sand on the rolling dunes northeast of Mono Lake. Adult activity is timed to coincide with the rabbitbrush flowers, on which both sexes feed.

Last year we discovered that the dense "fur" of females fades gradually from exposure to sunlight, allowing us to estimate their age. Females live two to three weeks, during which time they feed and develop their eggs. In contrast, life expectancy of adult males is about a week.

Males may live a shorter time because of the stress of combat. They gather at traditional spots to fight and wait for females. There are about 11 such areas in our 28-hectare study plot. Males arrive each morning at 10 am and jockey for position in an aerial swarm 30 or 40 feet in the air. At about 11 am, females arrive to mate, although days can go by without any showing up. The 11 swarm areas occur in precisely the same spots every year, even though adults only live one season. Even more curiously, each swarm is always about the same size relative to other

swarms. Males "cruise" the swarms, often visiting more than one in a morning.

Males batter each other with spines on the leading edge of their wings, knocking off fur and tearing wings. Why don't they just wander the dunes looking for females instead of bothering with fighting? The reason is probably the low density of females--we estimate at most five per hectare. That's a lot of territory for a fly a half inch long to cover. Apparently, when females are scarce, males have a better chance of mating if they gather in conspicuous groups, compete with each other for mates and wait for females to find them.

The Mono Lake dunes and their fauna provide an opportunity to test these and other ideas about the evolution of mating systems and about how resources, such as rabbitbrush, affect population structure.

#### Population Size and Reproductive Success of Gulls in 1987

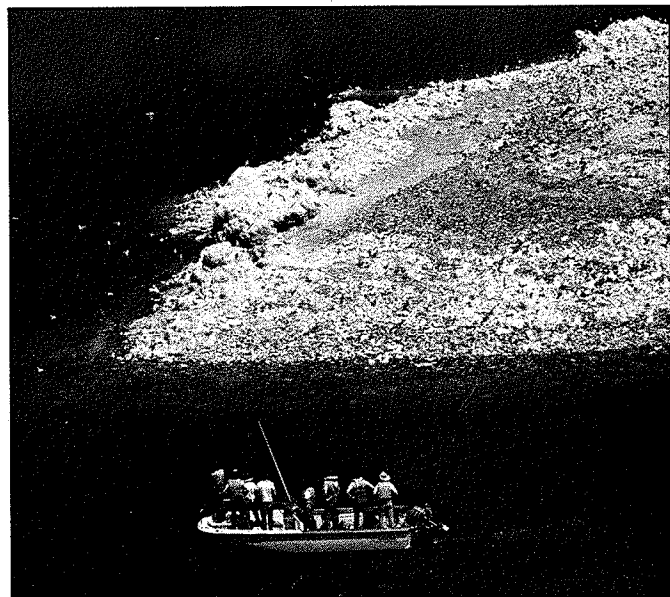
Emilie Strauss

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In 1987, the Point Reyes Bird Observatory completed its fifth year studying California Gull reproductive success at Mono Lake. While the number of breeding adults remained relatively stable at approximately 48,000, the estimated num-

ber of fledging chicks (27,000) declined slightly from last year (33,000). Nevertheless, this was another banner year.

Currently, approximately 50 percent of Mono's gulls nest on Twain Islet, and another 10 percent on Java Islet, Pancake Islet and Negit Island. If the lake level continues to



Interagency gull census, Mono Lake, 1985.

## DWP Research Activities

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During 1987, the Los Angeles Department of Water and Power continued to fund a multi-faceted research program to help answer the important public policy questions surrounding Mono Basin water resources management. The following is a brief description of our program. Much of the factual basis of the National Academy of Science's *Mono Basin Ecosystem Study* was provided by our research program. We take pride in being able to participate in these studies.

### Basin-wide Geohydrology

We are continuing to study the groundwater and freshwater spring flow to Mono Lake. Water level measurements were made at a half dozen shallow-profile wells on the lakeshore. Analysis of the data will be a team effort by independent researchers: Dr. Shirley Dreiss of U.C. Santa Cruz, Dr. John Dracup of U.C. Los Angeles and DWP staff hydrologists (see separate report by Dreiss).

We updated the DWP Mono Lake hydrologic model to include data through 1985 and the area-capacity information provided by last year's bathymetric survey. We presented the results in a March, 1987 report, *Mono Basin Geology and Hydrology*.

### Air Quality Monitoring and Lakeshore Revegetation

We continued to cooperate with the Great Basin Unified Air Pollution Control District in the collection and analysis of meteorological and air quality data at two Mono Lake locations.

Our work included studies on the re-establishment of native vegetation on barren dust-source areas (see separate report by David Groeneveld).

### Brine Shrimp Ecology and Phytoplankton Dynamics

We continued to work with Dr. John Melack, U.C. Santa Barbara, on brine shrimp dynamics and algal productivity (see separate report by Gayle Dana and Robert Jellison).

### Avian Biology

Dr. Joseph Jehl was on leave from the Sea World Research Institute, but his assistants, Brent Stewart and Pamela Yochem, continued the bird studies he began in 1980. Their investigations focused on the biology of four dominant waterbirds: Eared Grebes, Wilson's Phalaropes, Red-necked Phalaropes and California Gulls. They addressed the origin and destination of these migratory birds through an ambitious program which included the banding of hundreds of individuals. They also participated with the Point Reyes Bird Observatory in a cooperative census of the California Gull colony. Gull productivity on the Paoha islets continued to be high, with 1987 numbers exceeded only by the bumper crop of 1986.

### Freshwater Fisheries

DWP support continued for fishery and streamflow studies. With the Department of Fish and Game, we jointly funded a study with BEAK Consultants. Its goals include the development of a hydrologic model for lower Rush Creek at various streamflows. The field data is being analyzed and a final report will be presented to Fish and Game sometime this year.



fall, all of these islands could become peninsulas in the next few years. If this happens, coyotes will almost certainly force gulls to nest elsewhere. These dislocations could cause a decline in reproductive success.

Breeding gulls on Negit Island increased dramatically from 636 pairs in 1986 to 1,502 pairs in 1987. Negit formerly harbored most of Mono's nesting gulls, but was abandoned in 1979 when the receding lake turned it into a peninsula. It was recolonized in 1985 after rising water flooded the landbridge.

This year variety was added to our nest counts by the discovery of breeding Black-crowned Night Herons and Caspian Terns on Twain Islet. This is the first time night herons are known to have nested at the lake.

Tick infestations were low, weather was reasonably mild, food supply seemed abundant and coyotes did not invade any nesting colonies. All these factors probably contributed to high chick counts in July and low chick mortality thereafter.

#### Isotopic Analysis of Gull Feathers

Christopher Swarth and Marilyn L. Fogel

Alice Ferguson Foundation, Accokeek, MD and *Carnegie Institution of Washington, Washington, D.C.*, respectively.

While the diet of Mono Lake's California Gull chicks consists largely of brine shrimp and brine flies, the percentage of flies versus shrimp is uncertain. In the past, researchers have attempted to determine chick diet by examining regurgitations. This method may not accurately characterize the diet, however, if prey that is fed to chicks varies seasonally or with the time of day.

We have been examining chick diet by measuring the ratio of the naturally-occurring, stable isotopes of carbon ( $^{13}\text{C}/^{12}\text{C}$ ) and nitrogen ( $^{15}\text{N}/^{14}\text{N}$ ) in the protein of muscle, bone and feathers. Diet can be inferred by comparing the isotopic compositions of gull tissue with those measured in shrimp and flies. With the help of David Shuford and Emilie Strauss of the Point Reyes Bird Observatory, we are

### *An Archaeological Study of Mono Basin Paiute Acculturation*

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The 1987 field season marked the second and final year of archaeological investigations at CA-Mno-2122, an extensive Northern Paiute Fall/Winter encampment located on lands administered by the Bureau of Land Management east of Mono Lake. Research was carried out under a cooperative agreement between the Bureau of Land Management and the U.C. Regents.

This Paiute encampment was occupied primarily during late prehistoric (ca. A.D. 1300-1850) and historic (ca. A.D. 1852-1920) times by a segment of the Mono Basin or *Kuzedika* Paiute. The east side of Mono Lake was a popular area for semi-permanent Fall/Winter camps. This was due primarily to relatively mild winter conditions, extensive pinyon groves in the nearby Cowtrack Mountains (pinyon nuts were a winter staple) and, as my study has determined, the presence of pronghorn antelope herds which could be exploited in communal hunts.

Major objectives of the study were to assess the archaeological resources at the encampment, and to document the ways in which the *Kuzedika* economy was transformed from a self-sufficient, aboriginally-based system to one heavily reliant upon Euroamerican material goods and employment. When the site was first formally recorded in 1985, its archaeological integrity was excellent, as none of the activity areas had been disturbed by amateur collecting. This presented an unusual opportunity to study processes of acculturation by documenting changes in material culture over time.

During the past two field seasons, a total of 31 activity areas were recorded at the site. Thirteen yielded artifact assemblages which were exclusively aboriginal in origin. Various types of time-sensitive artifacts allowed us to assign a Late Prehistoric (ca. A.D. 1300-1850) period of occupation/usage to the majority of these prehistoric activity areas.

We also found three prehistoric pronghorn antelope drive traps. These large features were constructed of juniper posts, and consist of two drive fences and a corral. The fences are arranged in a "V" formation, and funnel inwards toward the corral. These V-wing traps are large, as the drive fences cover a distance of as much as one mile on each side before meeting at the corral mouth. The corrals vary in size from 60 to 400 yards in diameter. The three pronghorn traps at the encampment were probably constructed and utilized at different times, and attempts are now being made to determine their age through tree ring analyses and radiocarbon dating of charcoal recovered from butchering areas.

A major goal of this past summer's research was to locate and excavate processing areas associated with the drive traps. We hoped to secure faunal remains which could be identified at the species level. These efforts were successful, as we identified and excavated four bone beds. These yielded large quantities of smashed and burnt ungulate bone as well as numerous flaked stone tools and waste flakes. Analysis of this faunal collection should prove that pronghorn were being driven into these traps.

Though aboriginal pronghorn exploitation in western North America is fairly well documented, the archaeological remains of the drive traps, as well as the behavioral patterning, seasonality, and regularity of these communal hunts, have long been ignored. For a comprehensive overview, the interested reader should consult



*Kuzedika baskets, north-west shore of Mono Lake, late 1800's.*

my 1986 paper, "Aboriginal Exploitation of Pronghorn in the Mono Basin" (*Journal of Ethnobiology* 6(2):239-255).

The remaining 18 activity areas yielded artifacts that were mostly of European manufacture, indicating an historic period of occupation. We also recorded an historic V-wing trap that local Kuzedika consultants explained was used to capture feral horses. It appears the Kuzedika were using an aspect of their traditional hunting economy to take advantage of the historic occurrence of horses in the Mono Basin.

Based upon data from this site, it will be possible to produce an accurate picture of Kuzedika acculturation. Several aspects of the prehistoric Paiute lifeway continued to be practiced into historic times, including processing nuts and seeds with grindstone implements (mano and metate), production of flaked stone tools, use of pumice abrading stones and construction of traditional winter houses (wickiups).

In historic times, the Kuzedika also began to utilize various types of Euroamerican mass-produced material goods and foods. Remnants of clothing indicate that the Kuzedika adopted shirts, coats, overalls, trousers, dresses and boots soon after Euroamerican settlement of the Mono Basin. Spent shotshells and rifle cartridges attest to their use of firearms. Other metal implements such as knives, nails, kerosene cans, slip top cans, files and bailing wire, were also used. Lard, coffee, and cracker cans, as well as baking powder, vegetable/fruit, and beef tins all represented radical departures from the aboriginal food base.

All of the above artifacts point to a span of intensified historic occupation at the Mono encampment between approximately 1870-1910. The inhabitants had access to a wide variety of the goods and foods that were available at places such as the Mono Mills store and Bodie. Both Kuzedika men and women earned wages by

performing menial tasks for local houses, ranches, mines, farms and the Bodie railway.

Owing to lack of space, this research update is necessarily superficial. A complete report should be available in approximately one year, and will hopefully be published by the Bureau of Land Management. A more detailed study, addressing other aspects of Kuzedika acculturation, is the subject of the author's forthcoming Ph.D. dissertation.

## Mono Shrimp Considered for Endangered Status

Spurred by a request by the Center for Conservation Biology at Stanford University, the Sacramento office of the U.S. Fish and Wildlife Service has declared Mono Lake's brine shrimp, *Artemia monica*, a candidate for listing as an endangered species.

The Mono brine shrimp is a distinct species entirely restricted to Mono Lake. It is so attuned to Mono's chemistry that it cannot survive in most other brine shrimp habitats. Conversely, species from Great Salt Lake, San Francisco Bay and other localities perish in Mono's alkaline waters. The endangered species listing will not interfere with the current brine shrimp fishery at Mono Lake.

## Recent Publications

The following list updates the comprehensive review published in the Mono Lake Newsletter 6:2 and the additions listed in volumes 7:3, 8:3 and 9:4. The National Academy of Science's *The Mono Basin Ecosystem*, which appeared last August, also contains an extensive, useful bibliography.

Conte, F. P., R. S. Jellison and G. L. Starrett. 1987. Nearshore and pelagic abundances of *Artemia monica* in Mono Lake, California. *Hydrobiologia*, in press.

Dana, G. L., C. F. Foley, G. L. Starrett, W. M. Perry and J. M. Melack. 1987. *In situ* hatching of *Artemia monica* cysts in hypersaline Mono Lake, California. *Hydrobiologia*, in press.

Drinkwater, Laurie Ellen. 1986. *Embryonic diapause in two species of brine shrimp: Artemia monica and Artemia franciscana*. Ph.D. dissertation, University of California, Davis. The third chapter examines the effects of salinity on cyst activation, hatching, water content and carbohydrate metabolism of Mono Lake brine shrimp cysts. Drinkwater concludes that conventional metabolism will not occur in these cysts at a limiting salinity between 140-150 g/l, and that at lower salinities hatching will be impaired.

Jellison, R. and J. M. Melack. 1987. Photosynthetic activity of phytoplankton and its relation to environmental factors in hypersaline Mono Lake, California. *Hydrobiologia*, in press.

Jehl, Joseph R. Jr. 1986. The Caspian Tern at Mono Lake. *Western Birds* 17:133-135. Traces the history of Mono Lake's

Caspian Tern colony. Attributes poor nesting success to predation by gulls.

Jehl, Joseph R. Jr. 1987. Geographic variation and evolution in the California Gull. *The Auk* 104: 421-428. *The California Gull is separable into a small, dark-mantled race (L. c. californicus) that breeds primarily in the Great Basin of the United States, and a larger, paler race (L. c. albertaensis) from the Great Plains of the north-central U.S. and south-central Canada.*

Jehl, Joseph R. Jr. and Charles Chase III. 1987. Foraging patterns and prey selection by avian predators: a comparative study in two colonies of California Gulls. *Studies in Avian Biology* 10: 91-101. *Discusses effects of avian predators, especially Great Horned Owls, in gull colonies at Mono Lake and Antero Reservoir, Colorado.*

Jehl, Joseph R. Jr. and Pamela K. Yochem. 1987. A technique for capturing Eared Grebes. *J. Field Ornithol.* 58: 231-233. *In 1985-1986, the authors banded 469 Eared Grebes at Mono Lake by following their underwater movements with a small boat and catching them with a dip net as they surfaced to breathe. This technique allowed monitoring of molt, weight gain and other aspects of the grebes' biology in the post-breeding season.*

National Academy of Sciences. 1987. *The Mono Basin Ecosystem: Effects of Changing Lake Level*. National Academy Press, Washington D.C. 272 pp.

## ***Feds Retain Lakeshore Land***

On Oct. 7, the U.S. Supreme Court let stand an appellate court ruling giving the federal government, and not the state of California, title to most of the "relicted" lands exposed by the shrinkage of Mono Lake.

The Supreme Court's decision gives the federal government undisputed title to relicted lands where it is already the upland land owner. The state retains ownership of relicted lands below private and City of Los Angeles properties. In effect, this transfers jurisdiction for 70 percent of the lakeshore, including the South Tufa Grove and Navy Beach, from the Mono Lake Tufa State Reserve to the Mono Basin National Forest Scenic Area.

The decision also strengthens the case for federal "reserved" water rights that could force the Los Angeles Department of Water and Power to release more water into Mono Lake. Since 1979, the Sierra Club and the Natural Resources Defense Council have been urging the federal government to enforce such rights to protect the lake environment.

## ***Visitor Center Funding Uncertain***

Despite heroic efforts by Congressman Richard Lehman and other sympathetic legislators, the Senate failed to approve a \$4.1 million dollar appropriation for a visitor center for the Mono Basin National Forest Scenic Area.

The House of Representatives has earmarked \$4.3 million for the new visitor center, which is on the California delegation's priority list. Lehman will be spearheading efforts to secure funding through the House-Senate conference proceedings.

## ***Major Resort Development Planned For Mono Basin***

For over a century, the Conway Ranch was a sleepy, undeveloped cattle ranch north of Mono Lake. Except for a few ramshackle shacks and scattered nineteenth century artifacts, the property remained natural, though overgrazed, open space. But that era may be drawing to a close.

In 1981, the ranch was purchased by the Conway Ranch Partnership, who plan to convert it into a "ranch style" resort community. Triad Engineering is preparing an Environmental Impact Report for the ambitious project, which may include a lodge, restaurant, shopping center, conference facilities, cottages, condominiums with pools, spas and tennis courts, single family homes, a 30-acre lake, 18-hole golf course, fly-fishing school and equestrian center. Proponents project a total of 690 units with a peak population of 1,655 people.

The 1000-acre Conway Ranch borders U.S. 395 north of Hwy. 167 three miles north of Mono Lake. From the Mono Lake Vista Point, millions of highway travellers look down on the ranch and the spectacular landscape beyond.

As a result of a "major marketing survey," proponents have decided to emphasize a high quality fishing resort. They have proposed fairly strict building codes with clustering of structures, continuity of architecture, construction with natural materials and screening with native vegetation.

The Mono Lake Committee will be taking a thorough look at the EIR for the Conway Ranch project, especially its impact on Wilson Creek, one of the few basin streams that has not been diverted to Los Angeles. The EIR will be completed this spring.

*...Ilene Mandelbaum, Christine Champe and Dave Gaines*

## ***California—The Threatened Paradise***

**Guest opinion by Winthrop Palmer Boswell**

In California, many otherwise sane and intelligent people take water completely for granted. They make no connection between blue skies and the amount of water in the state's reservoirs, rivers, lakes and aquifers. Nor are most people aware that California is a semi-arid state subject to periodic droughts.

Studies of tree rings reveal that California has experienced fifty-year droughts in the past. We have been blessed with relatively wet conditions in California for quite some time, but there is no reason to assume these conditions will continue.

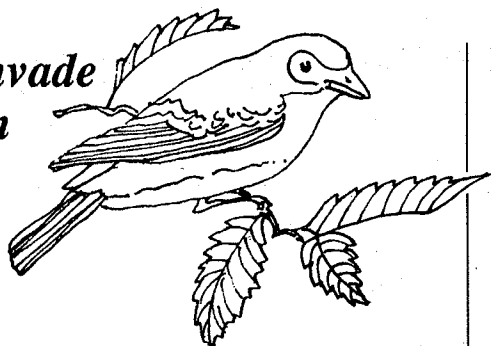
What would happen if we enter a fifty-year drought? Could we even endure five dry years? Would California go the way of Ethiopia and North Africa? Or can our leaders rise to the challenge, and convince the public that everyone must conserve water, and pay more for it as well, on a permanent basis?

It is unrealistic to suggest that California could buy water from its farmers or from water-rich states such as Oregon and Washington. Nobody really has water to spare. Just as the Bay Area does not wish to see its water diverted to Los Angeles, Oregon and Washington have no desire to see the Columbia and other rivers diverted to California.

California is going to have to face the need to change many of our wasteful habits and ways of thinking. It will not do to bow to real estate interests or developers who fear the loss of property values. Those who believe that unlimited expansion is possible must be presented with facts which are irrefutable.

The state of California is gaining population and losing water resources every day. It remains to be seen whether we are intelligent and mature enough to arrest the downward trend toward catastrophe.

## Vagrants Invade Mono Basin



During this past summer and fall, vagrants invaded the Mono Basin in exceptional numbers—bird vagrants, that is. In ornithological parlance, “vagrants” are birds that have strayed far outside their usual range. While two or three wander into the basin each year, last summer and fall brought extraordinary numbers.

In mid-August, a Kentucky Warbler, a Golden-winged Warbler and a Yellow-throated Vireo appeared near Mono’s western shore—all additions to the watershed’s growing avifauna. By November, we had also encountered Brown Thrasher, Black-and-White Warblers, Blackpoll Warbler, Magnolia Warbler, Black-throated Blue Warbler, Black-throated Green Warbler and Northern Waterthrush. All of these birds are misplaced easterners thousands of miles away from their usual haunts.

But the most unusual feathered wanderer was not a songbird, but a subtropical cousin of the falcons that feeds largely on carrion. On Sept. 13, Rich Stallcup spotted a Crested Caracara sporting with ravens south of Mono Lake. While common in Mexico, Caracaras are rare visitors to extreme southern Arizona. This may be first wild bird to be found in California, though some suspect it escaped from captivity.

While vagrant birds are exciting, they may also be indicative of the increasing rate at which humans are changing or destroying global habitats. In their recent book, *Distributional Checklist of North American Birds*, Dave DeSante and Peter Pyle suggest that we may be “changing the fabric of life on earth into one of increasingly shorter-lived habitats, a fabric that would tend to favor opportunistic species characterized by, among other things, high dispersal rates... A corollary of this hypothesis is that the number of vagrant birds, those extreme examples of dispersal, would also be increasing.”

While sightings of vagrant birds are clearly on the rise throughout the world, DeSante and Pyle caution that “it is not yet clear that this increase in vagrants represents more than the result of the increased effort on the part of birders to find them. Only the controlled, detailed, long-term monitoring of certain select locations...can provide the data to answer this question.”

Dave Gaines, MLC’s founder and chairperson, has collected data on Mono’s vagrant as well as respectable birds into a 368-page tome, *Birds of Yosemite and the East Slope*. Exhaustively researched and referenced, this new book details the distribution, status, abundance and habitat of every species known to occur in the Yosemite and Mono Lake regions of California’s Sierra Nevada. You can order a copy, autographed by our bird-brained leader, from the Mono Lake Committee in Lee Vining for \$16.50 (see p. 23).

## Cyclist Circumnavigates Mono Lake

Folks have circled Mono Lake on foot, on horseback and in 4-wheel drives. But Sunday, December 6, 1987 marked the first known circumnavigation by bicycle.

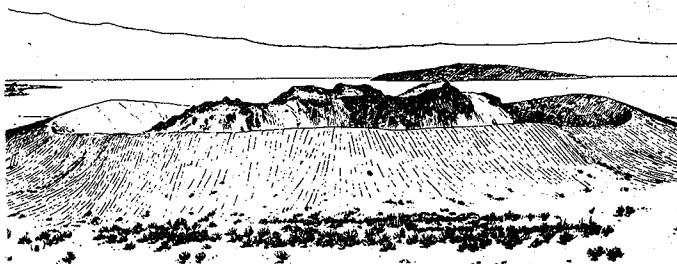
Setting out at sunrise on a wintry, windy day, Ron Barager pedaled his mountain bike south on U.S.395 from Lee Vining. About one mile south of town, he turned off the paved highway onto the gravel road that leads toward Rush Creek and South Tufa. The culvert had washed out in 1986, so Ron and bicycle had to ford the creek on foot.

Beyond South Tufa, Ron followed four-wheel drive trails through the sage and rabbitbrush to Simons Spring. Sections of this stretch were soft and sandy, but firmer than in summer due to wetting and freezing.

Beyond Simon’s Springs, hard-packed alkaline soil and a gale-force tail wind made the pedaling easier. Between Warm Springs and Ore Cart Junction at the Pole Line Road (Hwy. 167), the jeep trail wound its way amongst gnarled juniper and sand dunes interspersed with small alkali flats.

Though most of the remainder of the ride was on paved roads, the tailwind transformed itself into a nagging crosswind and then a fierce headwind laced with snow and sleet. Nevertheless, even with a stop for warmth and refreshment at a friend’s abode, Ron completed the 60-mile adventure in under five hours.

Ron recommends the jeep trails that follow Mono Lake’s southern and eastern shores to other mountain bikers. He particularly enjoyed the quiet and desolation as well as the perspective of the Eastern Sierran escarpment framing the broad expanse of the lake.



## Audubon Activist Newsletter

The *Audubon Activist* is a bi-monthly newsletter that “puts you in touch with the environmental front lines.” Published by the National Audubon Society, this concise, readable, no-frills publication will keep you up-to-date on what’s happening and how you can help. I consider it essential. And, at \$6 a year, it’s a bargain as well. To subscribe, send your bucks to: Audubon Activist, 950 Third Ave., New York, N.Y. 10022; make checks payable to National Audubon Society.

# MLC NEWS AND ACTIVITIES

## *MLC Job Openings*

### **LEE VINING: Visitor Center Manager**

The Visitor Center Manager's primary responsibility is our visitor center and mail-order sales programs, which last year grossed approximately \$140,000 for defending the lake. The VC Manager is responsible for the merchandise budget, ordering, stocking and inventorying merchandise and informational materials, overseeing sales, maintaining fiscal records, depositing funds and performing other book-keeping tasks.

We also expect the VC Manager to develop and promote our sales programs. This entails monitoring the effectiveness of the existing program, adding and developing new items, improving merchandise displays, assisting in the production of the catalog and promoting visitation to the center.

The VC Manager also supervises interns while they are staffing the counter, restocking the shelves or assisting in other merchandise-related activities. In addition, the VC Manager maintains the public portions of the Visitor Center, and is responsible for inventorying and ordering office supplies.

Ideally we are looking for someone with business experience and supervisory skills who loves Mono Lake and would like to reside in a small town in the eastern Sierra Nevada.

The Visitor Center Manager position is full-time. Salary starts at \$1,100-\$1,300 per month (includes medical coverage and two-week annual paid vacation). Deadline for applications is Feb. 27.

If you are interested, please send a resume with references to our Lee Vining Office. For more information, call (619) 647-6386.

### **LOS ANGELES: Southern California Representative**

The Southern California Representative assists the executive director in planning and implementing Southern California public education and outreach programs. Primary responsibilities include public presentations, monitoring City of Los Angeles activities, networking with other Southern California organizations, developing a volunteer network, conducting research on special projects and the maintenance of newspaper and information files.

We are looking for someone with excellent communication skills, both written and verbal. In addition, this position requires experience in public speaking, research and grassroots organizing. Computer experience is highly desirable.

The Southern California Representative position is full-time. Salary starts at \$12,000-\$15,000 depending on experience (includes medical coverage and liberal vacation benefits). Deadline for applications is Feb. 27; position begins March 15.

## *Survey Profiles MLC Members*

Last June we sent questionnaires to a stratified random sample of Mono Lake Committee members. Thanks to your cooperation, we believe we learned a little more about you and how you view our efforts.

Out of 600 questionnaires, 343 were returned in time to include in the survey. Based on these results, it appears that the average MLC member is about 55 years old, has graduated college and undertaken postgraduate study, earns about \$50,000 a year, has belonged for several years and has visited Mono Lake many times. Most of you learned of our efforts through mailings or while visiting the lake. You joined to save the ecosystem, halt the destruction and preserve the lake for future generations. You rate us highest for our efforts in court, and would have us spend your donations on litigation followed by legislative lobbying and public education.

As we are dependent on our members for financial support, we also asked about fund raising. Most of you favor written and special appeals. Most also contribute to many other non-profit groups or charities.

...Kathleen Reddick Yager

## *Bhutan: Another Adventure For Mono Lake*

The Mono Lake Committee is offering its members and friends another adventure, this time in October of 1988, to the Land of the Thunder Dragon—Bhutan! The 21-day trip will be part-tour by minibus and part-hiking on trails between villages at moderate elevations through forests and alpine meadows. It will be a wonderful natural and cultural experience among the friendly people and exotic flora, bird and animal life along the way. We will visit markets, possibly take in a festival, and have the opportunity to buy native handicrafts such as embroidered fabrics, baskets, carved masks, and jewelry.

Bhutan is a small, sparsely populated (1.3 million) country in the Himalayas east of Nepal. The ways of the people are governed by the teachings of Buddha, and everyday life centers around the centuries-old religious customs, temples and monasteries. The people wear traditional dress. The deep valleys are rich agricultural areas and the highlands provide grazing lands for yak herds. Travel in Bhutan must be done with a group and sanctioned by the Bhutanese government. The MLC group will be accompanied by a Bhutanese bi-lingual guide and Christy Tews, who is well acquainted with the people, culture and land. This trip was set up by popular request as a result of Christy's excellent slide lecture presentations for the Sierra Club. Accommodations in the towns will be in small



Western-style hotels with Bhutanese decor, or in comfortable guest houses grouped around a main lodge with dining room, showers and a commons room. Overnight on the trail will be in tents. All services and all equipment except sleeping bags and daypacks will be provided. Food is continental style with a Himalayan flavor.

The cost is \$3200 for all lodging, meals, transportation and services in Bhutan and hotels in Bangkok and Calcutta enroute. Round-trip group airfare from Oakland is additional and will be about \$1300. Optional extensions of the trip into India and Thailand will be available. (\$300 is tax-deductible.)

**ADVENTURERS TAKE NOTE:** This trip has been added since the announcement of the Antarctica journey for January 1989. For full information on either trip, send a self-addressed, stamped business-size envelope to M. Bennett, 2719 Marin Ave., Berkeley, CA. 94708. Please state which brochure you wish.

...M.Bennett

## Bikeathon Thank-yous

The 1987 Los Angeles to Mono Lake Bike-a-thon was the most successful ever. Seventy-six riders raised over \$32,000 in pledges. We are deeply grateful to the intrepid cyclists as well as the people, organizations and businesses that supported their ride.

**Riders:** Ann Bogazianos, Brenda Bowman, Pamela Braswell, Francesco Broffer, Ken Brummel-Smith, Kelly Burnette, Art Campbell, Phillip Chavez, Amy Cipra, Brent Coeur-Barron, Jeanne and Tony Cosby-Rossman, Dallas Cox, Shawn Curran, Brain Day, Michael Dressler, Mary Kate Dwine, John Emmons, Paul Falkstein, Drew Fitzmorris, David Ginsberg, John and Natalie Graham, Helen Green, Michael Green, John Grefan, Navid Hughdan, Craig Hansen, Mike Hart, Katie Jones, David Kanner, Siri Dharma Khalsa, Dennis King, Julie Klingman, Patricia Kline, Barbara Kniffen, Anita Krook, Mary Lackner, David Lans, Mark Lawton, Ryan Longacre, Geoffrey Lowrey, John Martin, Jill McIntire, William Mendoza, Dave Perry, Ian Riedel, Nancy Riggs, Barbara and Donald Rivenes, Jim Sayer, Anna Schaefer, John Schaefer, Janet Simms, Katie Simms, Frank Smith, Michael Smith, Diane Sobel, Marlee and Thomas Sondgeroth, Larry Spillane, Jim Stehn, George Tredick, Susan Urquhart, Phil and Scott Van Horn, Norma



Vedder, Beth Walsh, Joby White, Dave Wimpfheimer, Herbert Wright, Jessica Parkhurst, and Stanley Yurfest.

**Support drivers and general support:** Dan Burdick, Rev. & Mrs. Christopher Kelley, Bob Lage, Michael Dressler, Ken Walston, Brian Day, Kim Fisher, John Schaefer, Wes Kelley, Craig Hansen, Betty Hogarth, Jan Kinney, Jeff Brenner, Doug Burrows, Bob Poole, Ken Brummel-Smith.

**Generous and helpful organizations:** Strong Innovations (Strong Shifters, Jefferson City, Missouri), Wilderness Group, Inc. (Ventura), Yakima (Arcata), Bike-a-Matic Transmissions (Orem, Utah), St. Augustine's By-the-Sea Episcopal Church (Santa Monica), Inyokern Chamber of Commerce, The Bike Shop List (Ashland, Oregon), Pangea Silkscreen, Inc., Sparkletts/Dennis McIntyre (Los Angeles), Le Mond Enterprises, and Adventure 16 (Los Angeles).

**Business Sponsors:** Lee Vining and June Lake: Alpine Village Motel, Blue Skies Motel, Casey's Cafe, Nicely's Restaurant.

Mammoth Lakes: The Booky Joint, Centinela Mammoth Hospital, Cask and Cleaver Restaurant, Designs Unlimited, Gateway Ride Bramble, The Island Cafe, Joe's Mammoth Mart, The Mogul Restaurant, The Paper Doll, Pine Tree Sports, Rocky Mountain Chocolate Factory, Sew and Sew Forth, Swiss Cafe and Bakery, Video Station.

Bishop: Abcom Corporation, Bishop Veterinary Hospital, Coldwell Banker, Eastern Sierra Adjustment Service, Inyo-Mono Body Shop, Spellbinder Books, Taylor Shoes, Wheeler and Wilson Sports.

Los Angeles: Bowne of Los Angeles, J.B. Travel, Hossaman, Guthner, Knox and Elliott Accounting Department.

Milipitas: Argon Hydraulics Co., Delta Battery, Holland Lumber Co., JMSCO Automotive, Liberti Auto Electric, Milpitas Auto Body, Roadrunner Glass Co., Sumners Electric Co.

**Other Locations:** Marina Cyclery and Woodward/Hanemann (San Francisco), Broad Street Bikes (San Luis Obispo), Silk Plants Unlimited (Arroyo Grande), Warner M. Striplin Pharmacy (Modesto), La Canada Valley Sun, Inc. (La Canada), Redwood Trading Post and Chain Reaction (Redwood City), Hudson Valve Co. and Sundance Cattle Co. (Bakersfield), Ziff-Davis Publishing (New York, NY) and Ringling Bicycle (Sarasota, FL).

## 10k Run

A crowd of 144 runners sped to the finish line in the fifth annual "Long Live Mono Lake 10K Run" held Aug. 16 on Mono's north shore. Fastest times on the course were turned in by Jeff Townsend of Lake Tahoe at 33:42 (men's division) and Nancy Fiddler of the Tioga Pass Resort at 41:02 (women's division).

The Mono Lake Committee is extremely grateful to the many sponsors and helpers whose generous contributions made the run a success. Special thanks go out to the athletic massage team of Carrie Plessinger, Margaret Molloy and John Curtner and to Heidi Anderson, Charlie Simis, Suzanne Reese, Richard Potashin, Barbara Kelly, Astrid Archibald, Rosemary and Laurie for all of their help.

**10K Run Sponsors and Donors:** Gillespie Distributing, Bishop, CA; Lite Beer: Calistoga Water; Safeway, Pioneer Market, Brian's Bicycles, The Winery, Gateway Home Center, Giovanni's Pizzeria, The Store For Natural Foods, Rocky Mountain Chocolate Factory, Booky Joint, Swenson's and Anything Goes, all of Mammoth Lakes, and the Best Western Lakeview Lodge, Lee Vining.

## Memorial and Accolades

Big thanks go to Sue Rosoff and Janice Sheldon for their critical help in duplicating photos for the Lee Vining Creek court hearing. We're also grateful to Mildred Bennett and the Golden Gate Audubon Society for selling our merchandise.

The Lee Vining office would like to thank Frank Stewart for putting up the sheetrock and plaster in our research library. Gerry Anderson, a cabinet maker from Nevada City took time out from his busy schedule to build us a beautiful oak bookcase. Genny and Ward Smith donated a collection of valuable old books for resale at the Center. Thanks also go to Don Jackson and Sonoma Backboards of Santa Rosa for helping us to improve our telephone system.

We're especially grateful to both the Cabrillo Section of the Angeles Chapter of the Sierra Club and the San Bernardino Audubon Society for their generous donations to our cause.

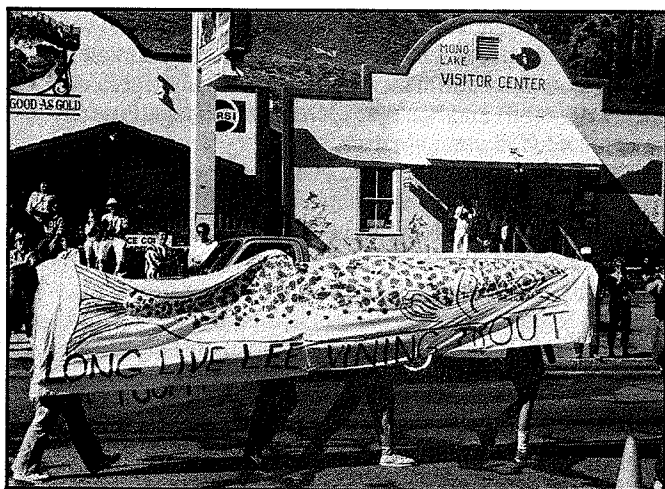
The Los Angeles Office wishes to thank Greg Esgate for always being there with a helping hand, Else Geiger for cheerfully pitching in with whatever needed to be done, and Judi Renken for invaluable computer assistance.

And special thanks to all of you who did their holiday shopping through our catalog. You helped to make our season merry!

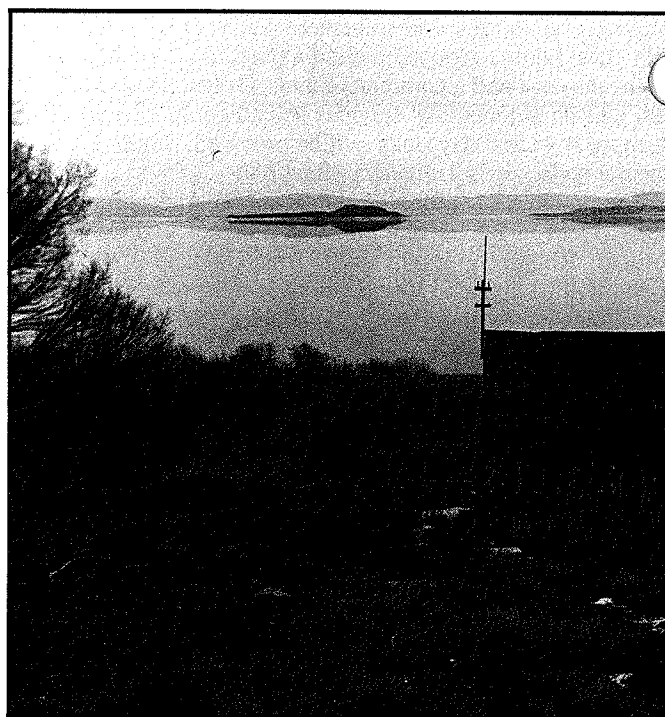
We are grateful to Mrs. Milo Harris for a contribution in memory of Karen Rule.

### *Special Thanks to Wilderness Press*

In our last newsletter, we thanked Wilderness Press for shipping us their books free of charge, but we neglected to mention that their generosity goes much further. They provide their books to us at cost, and distribute our *Mono Lake Guidebook* without charge. That's a lot of support, and we certainly appreciate it!



MLC supporters created a giant trout that swam down main street in Lee Vining during the annual Mark Twain Days Parade.



## Hellos and Good-byes

In Los Angeles, Shelly Backlar has joined our staff as Assistant Development Director. She brings expertise on fund raising, special event coordination, direct mail campaigns and public relations to our efforts to save Mono Lake.

Good-bye to Michael Gonzales, our Northern California Representative, who is now an intern in the California Senate.

## Mono Lake Internships

Interns work full time staffing our Lee Vining information center, answering mail, leading field trips and on other projects. We will be needing interns for spring (March-May) and especially during the summer season (June-August). For more information, please contact Jim Parker in Lee Vining.

## Wish List

Lee Vining Office: Two-drawer file cabinets, a laser printer for MLC newsletter production (must be compatible with AT&T PC6300 computer and supported by Ventura Publishing Software), and an IBM XT-compatible computer.

Los Angeles Office: Letter Quality computer printer (wide carriage would be best) compatible with AT&T PC6300 computer, an IBM XT-compatible computer, and a paper cutter.

# 1988 Mono Lake Workshops

*Sponsored by The Mono Lake Foundation and the Mono Lake Committee*

Our 1988 MONO LAKE WORKSHOPS offer exciting, enjoyable learning experiences taught by knowledgeable, enthusiastic instructors. Proceeds go toward saving Mono Lake.

This year we have expanded our program to include two workshops oriented toward families. Writer, teacher and naturalist Michael Ross, author of the *Mono Lake Coloring Book* and other environmental books for children, will lead a "Family Natural History Exploration of the Mono Basin" July 2-3; come enjoy the fireworks! Yosemite naturalist Bob Roney will guide a natural history-oriented "Family Backpack" July 30-August 1, which will also address taking care of yourself and your children in the wilderness.

In addition, Bob Roney will conduct a "Mono Lake Video Workshop" to help you improve your vacation videos. Bob, who is the video production specialist for Yosemite National Park, has produced several outstanding natural history films. The "Video Workshop" will convene on a weekend in June; more details in our next newsletter.

Mono Lake Committee Chairperson Dave Gaines returns to teach his popular workshops on birds, wildflowers, natural history and human history. On July 9-10, he joins entomologist David Herbst in offering a "Layperson's Introduction to Mono's Insect Life." This new workshop is oriented to people interested in the natural world, but with little knowledge of its diverse and fascinating insect inhabitants.

We are also repeating our highly acclaimed workshops on geology and Paiute basketry. Still in the planning stage is a fall workshop on nature writing.

The workshops take place on weekends, and most cost \$60. Space is limited, so register early. Upon request or receipt of registration, we will send a workshop outline, itinerary and information on what to bring and where to stay (camping or motels are options on most workshops).

To register or for more information, please contact:

Mono Lake Workshops, P.O. Box 29, Lee Vining, CA 93541; (619) 647-6386 (8am-8pm any day).

**Last minute note:** Obviously, David Gaines will not be able to teach his classes this year. If you are still interested in taking those classes, please let us know as we will be trying to find replacement instructors.

## MONO LAKE VIDEO WORKSHOP

June ??? (call for dates) Bob Roney \$60/person

Under the tutelage of master naturalist and filmmaker Bob Roney, we learn to improve vacation videos. Bob emphasizes producing quality natural history and outdoor videos. After filming around Mono Lake, we spend an evening viewing and critiquing each other's efforts. The workshop is oriented toward non-professionals.

## FAMILY NATURAL HISTORY EXPLORATION OF THE MONO BASIN

July 2-3 Michael Ross \$90/family or \$50/person

Naturalist and teacher Michael Ross has an exceptional ability to kindle and channel the curiosity of children and their parents about the natural world. On this workshop, we befriend birds, bugs and flowers, wade through a marsh, swim in Mono Lake, hike to a waterfall and, in general, use all our senses to explore and discover Mono's myriad wonders.

## LAYPERSON'S INTRODUCTION TO MONO'S INSECT LIFE

July 9-10 David Herbst and David Gaines \$60/person

Most of us are vaguely aware of the insect life thriving around us, yet know relatively little about it. On this workshop, David Herbst and David Gaines open our eyes to the strange but marvelous lives of butterflies, beetles, brine flies and other invertebrates, and the roles they play in the Mono Basin environment. We visit sand dunes, lakeshores, hot springs and many other habitats as we seek a myriad of different species, and learn how they live and reproduce.

## BIRDS OF MONO LAKE AND THE EASTERN SIERRA

July 16-17 David Gaines \$60/person

Beginners as well as experts will enjoy this intimate introduction to Mono's birdlife. Led by master birder David Gaines, we learn to identify approximately 70 species by plumage and song, and to understand the roles they play in the Mono Basin environment. The workshop coincides with the height of Mono's spectacular phalarope migration.

## GEOLOGY OF THE MONO BASIN

July 16-17 Jim Parker \$60/person

No area of comparable size in North America offers the exciting combination of geologic features found in the Mono Basin. With geologist and teacher Jim Parker, we explore active volcanoes, living glaciers, earthquake scarps and tufa towers. This popular workshop provides a fascinating introduction for the novice rockhound as well as a wealth of detail for the seasoned geologist.

## NATURAL HISTORY OF MONO LAKE AND THE EASTERN SIERRA

July 23-24 David Gaines \$60/person

Expert naturalist David Gaines leads us from Mono Lake's shores to Sierran glaciers. Birds have fledged their young, and wildflowers are in peak bloom. We discuss geology, climate, plants, animals and ecological relationships, and come to appreciate the diverse, intricate fabric of this unspoiled natural landscape. The workshop includes

canoeing on Mono Lake and a boat trip across Saddlebag Lake. Participants must be able to hike several miles at 10,000 feet.

#### PAIUTE BASKETRY

July 23-24 Julia Parker \$80/person

In a flowery meadow near Mono Lake, Julia Parker, a native American basket-maker from Yosemite, starts a small group of novice basketmakers on an authentic Paiute basket. Julia provides materials (cured willow strips, redbud, bracken fern root), shares her basket collection, and passes on the basketry lore she has learned from tribal elders. The fee includes \$20 for materials.

#### WILDFLOWERS OF MONO LAKE AND THE EASTERN SIERRA

July 30-31 David Gaines \$60/person

Few places on earth rival the colorful magnificence of Mono's summer wildflower bloom. We range from Mono Lake to treeline, befriending over a hundred spectacular species. Naturalist David Gaines teaches, not only how to identify flowers, but also to understand their relationships with insects, hummingbirds, soil, climate, herbivores and other plants. This workshop includes a boat trip across Saddlebag Lake. Participants must be able to hike several miles at 10,000 feet.

#### FAMILY NATURAL HISTORY BACKPACK INTO 20-LAKES BASIN

July 30-31 Bob Roney \$90/family or \$50/person

This one-night backpack into the spectacular, easily accessible 20-Lakes Basin near Tioga Pass is oriented toward families with children of all ages. We only carry packs several miles over relatively level terrain, so there is plenty of time to explore and learn about natural history. Naturalist Bob Roney organizes a variety of family-oriented activities as well as discussions of basic first aid, self-rescue and how to take care of yourself and your family in the wilderness. This workshop includes a boat trip across Saddlebag Lake.

#### MAMMOTH-MONO HISTORICAL TOUR

August ? (call for dates) Jim Vanko, David Gaines  
and Lily Mathieu \$60/person

We journey with living history actor Jim Vanko, author Lily Mathieu and David Gaines back to the days of Paiutes, prospectors and pioneers, bringing Mono's rough-and-tumble past vividly to life. As we journey from Mammoth to Mono Lake and Bodie, we explore Indian cave-shelters, grinding sites and obsidian chipping grounds, mining camps, homesteads and graveyards. The workshop concludes with a tour of Bodie's Standard Stamp Mill, which is usually closed to the public.

## THE MONO LAKE COMMITTEE

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### MONO LAKE OFFICE

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David Gaines ..... Chairperson and Editor  
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Ilene Mandelbaum ..... Eastern Sierra Representative  
Don Oberlin ..... Assistant Information Coordinator  
Debby Parker ..... Visitor Center Manager  
Jim Parker ..... Malcontent  
Everett King ..... Intern

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(916) 448-1045 (message phone)

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STREET ADDRESS: Building C, Fort Mason Center, San Francisco, CA

(415) 776-7311 (message phone)

Kimery Wiltshire ..... Development Consultant

### CORPORATE COUNSEL

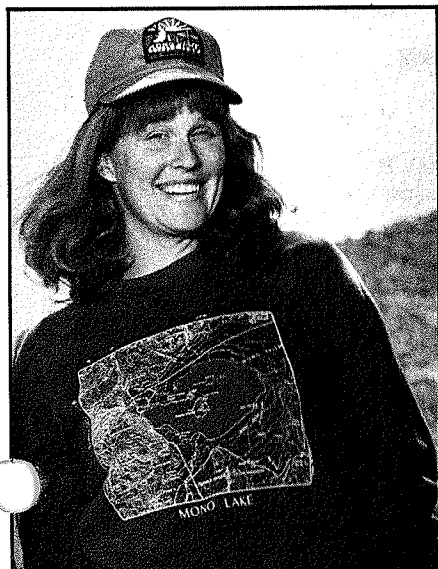
John Paul Hollinrake, Attorney-at-Law  
145 South Washington St., Suite F  
Sonoma, CA 95370; (209) 533-2356

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# Catalog Clearance Sale

Here's your opportunity to stock up on Mono Lake sweatshirts, caps and other knick-knacks at a whopping 10 percent discount! We overstocked these items last fall, and need to turn them into cash for saving the lake. You can even order by phone; we accept Mastercard and Visa (619-647-6595).



*Mono Lake Topo Sweatshirt and cap. The Topo design is also available on a T-shirt.*

**"IT'S WORTH SAVING" and "TOPO MAP" SWEATSHIRTS.** These high quality, 100% cotton sweatshirts are cozy in cold weather. The smaller sizes fit larger children. Sizes S,M,L,XL. "It's Worth Saving" design available in turquoise or silver (S,L,XL), and light blue and lilac (S,M,L,XL). "Topo map" design available in light blue or white (S), dark blue (L,XL), and charcoal or black (M,L,XL).

**"IT'S WORTH SAVING" SWEATSHIRT,** regular \$15.95, now \$14.35.

**"TOPO MAP" SWEATSHIRT,** regular \$16.95, now \$15.25.

**MONO LAKE TOPO T-SHIRTS.** 100% cotton. Cream, red, grey or dark blue. Regular \$9.95, now \$8.95.

**MONO LAKE SHOREBIRD T-SHIRTS.** Sizes S,M,L,XL. Light blue, val blue, red, pink, turquoise (100% ton), and lilac and purple (50-50 blend). Regular \$9.00, now \$8.10.



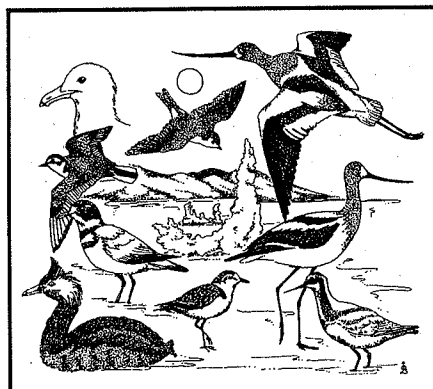
*Mono Lake Topo T-shirt (left) and Shorebird T-shirt (right). The shorebird design is also available as a toddler sweatshirt*

**TODDLER SHOREBIRD SWEAT-SUIT.** Matching sweatshirt and sweat pants. Sizes 12 or 24 months. Pink or blue. Regular \$18.95, now \$17.00.

**MONO LAKE CAPS.** Sizes adjustable, and fit everyone we know. Adorned with our 5-color Mono Lake patch.

**CORDUROY CAPS.** Purple, black, green, lilac and wine. Regular \$8.00, now \$7.20.

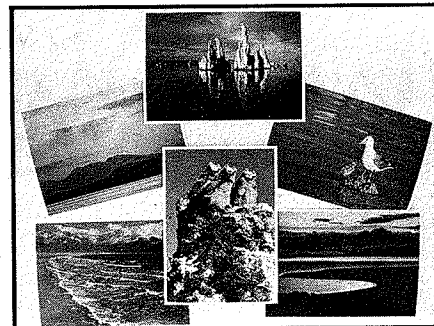
**CANVAS CAPS.** Spruce, khaki, dark blue, light blue, pine and red. Regular \$7.50, now \$6.75.



*Birds and Tufa Notecard, by Lauren Davis.*

**MONO LAKE NOTECARDS,** by Lauren Davis. Sets of six with envelopes. Choose either "Gull and Chick" or "Birds and Tufa." Regular \$3.75, now \$3.40 per set.

**MONO LAKE NOTECARDS,** by Thaddeus East. Set of 10, five different scenes, with envelopes. Regular \$6.95, now \$6.20.



*Mono Lake postcards*

**MONO LAKE POSTCARDS.** Set of nine spectacular photographs beautifully reproduced on 5x7-inch cards with save Mono Lake message on back. Regular \$4.50, winter special \$2.95.

**WATER SAVER SHOWER HEAD.** Finest quality fixture mixes air and water to cut water consumption by up to 75 percent. Easy to install. Regular \$13.00, now \$11.70.

**WATER CONSERVATION TOILET DAMS.** These brass toilet dams will save the average family of four 20,000 gallons of water a year. Package of two sets. Regular price \$7.00, now \$4.25.

**BAT HOUSE.** Red cedar house, 17"x10"x7", 8 lbs. Regular \$29.95, now \$26.95.



## Ordering information

We accept orders by mail and by phone. Mastercard and VISA are welcome on orders over \$15; please include your credit card number, bank number, expiration date and signature. Please include \$2.50 for postage and handling (California residents please add 6% sales tax).

Mono Lake Committee, P.O. Box 29, Lee Vining, CA 93541; 619 647-6595.



# MONO LAKE FINE WINE CELLAR DRAWING

SAVE MONO LAKE

AND WIN ONE OF TWO

\$1000 FINE WINE CELLARS

VINTAGE WINE...VINTAGE LAKE

*Let's treasure them!*

ONLY 500 TICKETS WILL BE SOLD!

YOUR DONATION OF \$50 PER TICKET IS TAX DEDUCTIBLE

DRAWING WILL BE HELD FRIDAY, APRIL 22, 1988

## WINE CELLAR NO. I

1961 Chateau Gazin  
1966 Chateau Grand-Puy-Lacoste  
1975 Chateau Montrose  
1982 Chateau Ducru-Beaucaillou  
1957 Louis Martini Cabernet Sauvignon (2)\*  
1957 Inglenook Pinot Noir\*  
1961 B.V. "George de la Tour" Cabernet Sauvignon\*  
1963 Buena Vista Cabernet Sauvignon\*  
1975 Hacienda Cabernet Sauvignon\*

\*\*\*PLUS\*\*\*

1953 Chateau La Tour  
1975 Bollinger R.D. Champagne

\*WINES DONATED BY MR. HERBERT CERWIN OF CERWIN & PECK CONSULTANTS, SAN FRANCISCO, FROM HIS PRIVATE COLLECTION..

For advance ticket purchase and further information please use:  
Mastercard, Visa, or personal check payable to: The Mono Lake Foundation (tickets will be forwarded).

Mail to: Mrs. Grace de Laet  
Board Member  
The Mono Lake Committee  
37 Calhoun Terrace  
San Francisco, CA. 94133

## WINE CELLAR NO. II

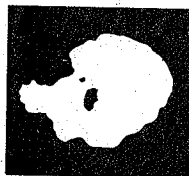
1961 Chateau La Lagune  
1966 Chateau Margaux  
1967 Chateau Mouton-Rothschild  
1970 Leoville-Lascases  
1982 Chateau Lynch-Bages  
1957 Louis Martini Cabernet Sauvignon\*  
1961 B.V. "George de la Tour" Cabernet Sauvignon\*  
1963 Buena Vista Cabernet Sauvignon\*  
1975 Hacienda Cabernet Sauvignon\*

\*\*\*PLUS\*\*\*

1964 Chateau St. George\*  
1982 Chateau d'Yquem  
1957 Sebastiani Casa de Sonoma Cabernet Sauvignon\*

WINES SELECTED ESPECIALLY FOR THE MONO LAKE FINE WINE CELLAR DRAWING BY MR. GERALD ASHER, WINE EDITOR, GOURMET MAGAZINE.

Your presence or contribution not required to win.



THE  
MONO LAKE  
COMMITTEE

Post Office Box 29  
Lee Vining, California 93541

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