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MONO LAKE

NEWSLETTER

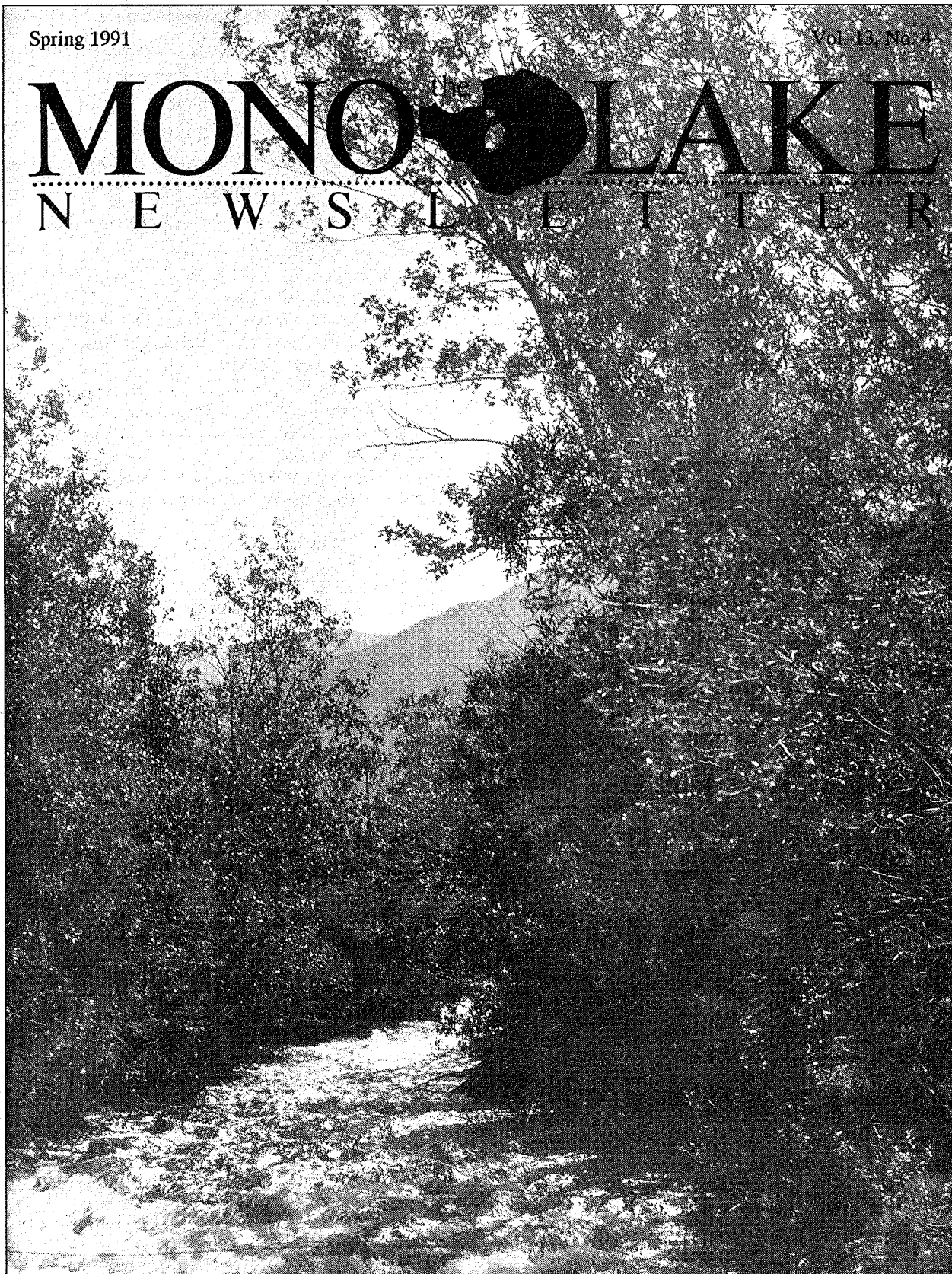


Photo by Joseph Dixon, 1916

The way it used to be . . .

LEE VINING CREEK, 75 YEARS AGO!

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Note: As of press time, Judge Finney of El Dorado Superior Court had not yet ruled in the pending preliminary injunction case. We hope to bring you an update by the next Newsletter.

IN THIS ISSUE

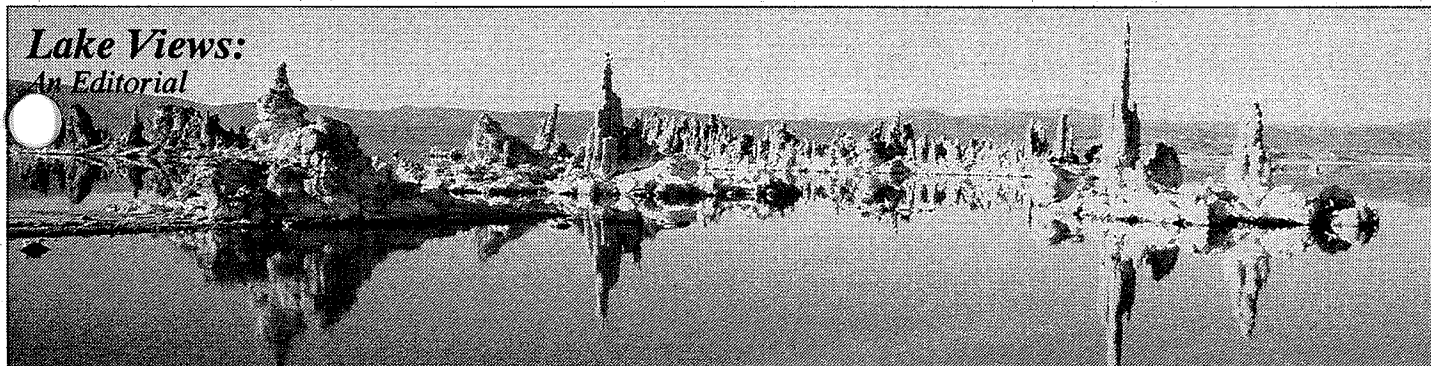
Lake Views: An Editorial	3
A Trip to Negit Island	4
Lake Level and Creek Update	5
Scare-Tactics Hide Issue of Owens River Gorge.	6
This Issue's Cover: Lee Vining Creek, Then and Now	7
Direct Talk About Direct Mail	8
Birdathon To Be Held April 20	10
Spring Shorebird Count April 27	10
Spring Breeding Count June 15	10
Visitor Center Update	11
de Laet's Legacy: 1991 Wine Cellar Drawing	11
Cities Impose Mandatory Conservation.	12
1990 Science Updates:	
Lake Bottom Ecology	13
Aquatic Ecology	14
North Shore Dunes	14
Young Volcanics of Mono Craters	15
Interaction of Fresh and Saline Groundwater	16
Air Quality Research	16
Reproductive Success in Gulls	17
Migratory Birds	17
Mountain Beaver	18
Aircraft Radar Sensing of Moraines	18
DWP Research Activities	19
Speakers Bureau Formed	20
MLC Staffer on State Task Force	20
Book Review: <i>Save LA</i>	20
Board Member Voted "Citizen of Year"	21
Accolades	21
In Memory	21
MLC Jobs and News	21
1991 Mono Lake Foundation Workshops	22

The Mono Lake Committee is a non-profit citizen's group dedicated to saving Mono Lake from 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, tax-exempt organization dedicated to studying and protecting the Mono Lake watershed. The Mono Lake Committee is a lobbying organization and greatly needs your direct contribution. However, if you wish to make a tax deductible contribution to the effort to save Mr Lake, please write your check to the "Mono Lake Foundation."

Lake Views: An Editorial



Two Years Later, Still "A Higher Responsibility"

It was almost two years ago that the "Isenberg bill" was under consideration in the California State Legislature. The bill created a \$60 million fund to help Los Angeles secure new sources of reliable water, replacing Mono Lake diversions and protecting the lake.

On July 26, 1989, a *Los Angeles Times* editorial rocked the Department of Water and Power. Titled "A Higher Responsibility", it strongly urged LA's political leaders to support the state legislation and resolve the long-drawn-out Mono Lake controversy. That political support was given, and the Isenberg bill passed unanimously.

Now the \$60 million fund is now available to Los Angeles. A number of water projects already on the boards qualify for the money; the West Basin District, for example, has proclaimed that its

project alone could make up to 70,000 acre feet per year of new water "available to the City of Los Angeles to replace their lost supply from Mono Lake."

Despite this, DWP has told the Mono Lake Committee it is "unlikely" that they will apply for the \$60 million. Why? Because the bureaucratic DWP still refuses to maintain Mono Lake at the water level needed to protect the fragile ecosystem.

DWP has a higher responsibility, both to our Los Angeles community and to the resources of Mono Lake and the eastern Sierra. The time has come to be solving problems, not perpetuating them. The Mono Lake Committee agrees with the position taken by the *LA Times* -- the Isenberg bill is the place to start the solution. Here is an abridged version of that 1989 editorial:

A HIGHER RESPONSIBILITY

Los Angeles must stop treating the Owens Valley and Mono Lake Basin as remote colonies that are good for just one thing: exporting their water. The city Department of Water and Power has an opportunity this week to recognize its responsibility to the environment of Inyo and Mono Counties and not just the city's right to divert the water, which is under serious legal dispute....

The city cannot, and need not, attempt to atone for 75 years of exploitation of the Owens Valley and half a century of depleting Mono Lake. But it can, and should, agree to real compromises to protect the environment of the eastern Sierra and to make at least a minimum effort to improve it.

...(T)he department has improved relations with the eastern Sierra on a limited scale. The limit has been the formal legal position of Water and Power, which is to cling to every drop of water and every dollar of profit from the region (the water division netted \$34 million last year).

But the city must do more than squeeze water and cash from the eastern Sierra... At Mono Lake, the city insists -- considerable scientific evidence to the contrary -- that no one knows how far the lake must fall before permanent damage is done. There is damage enough already, and the lake level must be stabilized. With the city's Mono Lake water rights already in jeopardy, the department is not likely to get a better deal than that offered by the Isenberg bill.

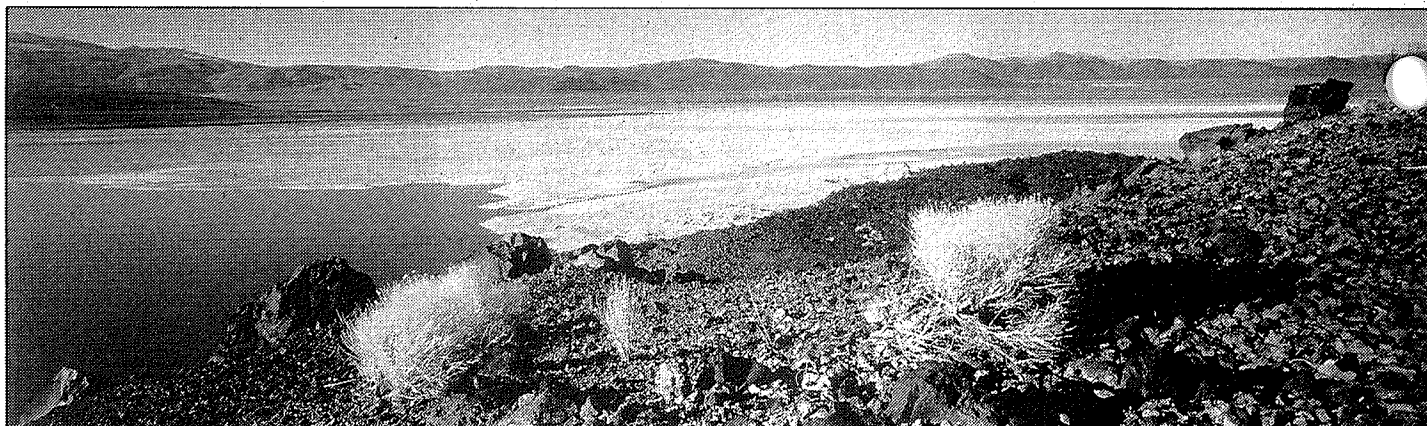
... The department's entire institutional history and singular purpose is to get the water. It will yield to environmental constraints only when forced to do so by the law and not just because it is the right thing to do. By then, of course, the damage may be irreversible.

The department will not give proper consideration to the moral and ethical issues involved unless forced to by a higher authority: the Board of Water and Power Commissioners, the City Council, or the mayor. After all, the city is not Exxon or General Motors. It has a higher responsibility than just delivering a product at a profit.

Unless the board, council or mayor forces the department to change course, it will divert all the water it can until one of two things happens: The courts make it stop or it is too late to prevent further environmental harm. Or both.

As they did two years ago, LA's political leaders can change DWP's position on using the \$60 million fund to resolve the Mono Lake problem. We urge you to write to: LA's Mayor Tom Bradley and the members of the City Council at City Hall, 200 N. Spring Street, Los Angeles, CA 90012; and the DWP Board of Commissioners, at P.O. Box 111, Los Angeles, CA 90051. Please. Do it soon. Time is running out for Los Angeles and Mono Lake.

A Trip to Negit Island



Landbridge, seen from Negit Island, Winter, 1991

Photo By Warren Marr

We parked the car at Black Point and began the hike out to the island. Walking across the dark gravel dunes, I kept thinking of the coyotes. In a naive way, I kept expecting to see one, running across the loose dirt chasing after a jack rabbit. Today, I didn't see any tracks; like sand, the ground didn't hold a footprint very long.

A quarter of an hour later, we reached the rows of tufa-covered rocks. In the 1940's, before diversions, the lake used to cover these rocks. Now a mile from the water, they separate the dark mainland from the beginning of the white lakebed. The exposed lake bottom stretched far in all directions, making it difficult to judge distances. We weaved a crooked path among the scattered white rocks, scaring up two flocks of small birds in the process.

I stepped out onto the alkali and my boots sank into the dry white powder. In places the crust looked like popcorn, little dry, lumpy crystals of white, dazzling in the sun. The consistency changed as we got closer to the island. The alkali became damp, and small clumps stuck to my boots. Occasionally we broke through the thin crust to discover a thick, slippery, shoe-grabbing mud underneath.

Before 1975, when the lake level was 6380 above sea level, predators did not threaten the nesting gulls on Negit Island. Back then, the place where we stood was safely under water. But on the day of our visit the lake was well below the 6375 level. The landbridge was completely exposed and easy to cross. If coyotes cross the landbridge this spring, they may drive nesting gulls off Negit.

We approached the first fence stretched across the landbridge near Negit's north shore. Thin rows of shining steel wire were no more than three feet high. I lifted a mud-heavy boot over the top wire.

This fence, once electrified, was put up as an emergency deterrent to coyotes in March of 1990. The U. S. Forest Service hoped that the fence, along with the three-eighths-mile channel of shallow water separating the island and the mainland, would keep predators from disturbing the nesting gulls. It didn't work. By the end of the nesting season, coyotes had invaded Negit.

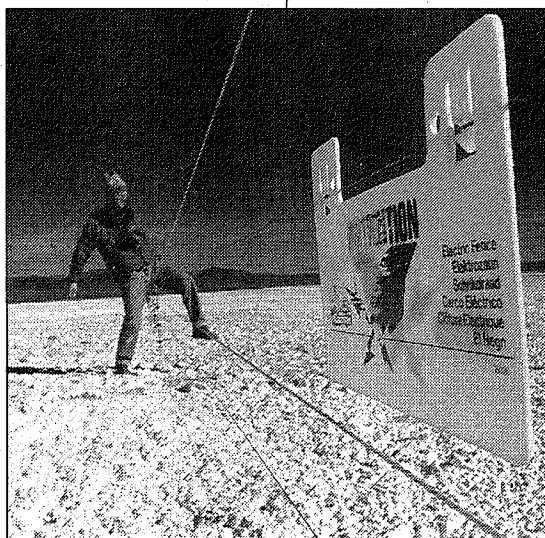
Now, a year later, the natural channel had shrunk to a yard wide. I took quick two steps and jumped across to the island. Even to a creature as heavy as I was in my muck-encrusted boots, the channel had been an inconvenience, hardly a deterrent.

Negit is not the soft black island it appears from the parking lot. Her jagged volcanic rocks pierce the landscape with a violent presence. They are a sign of the explosive history that created the island 1,700 years ago. While Negit does not look that hospitable to me, gulls find it an appealing place to nest.

We spent the next hour crossing the cracked boulders that surround Negit's north shore, desperately looking for an easier path to the steep peak. There wasn't any. Negit did not welcome human visitors. On the slope, my boots slipped backwards with every step in the pumice gravel. The thick brush offered no support as I tried to climb around it, making switchback turns and stumbling.

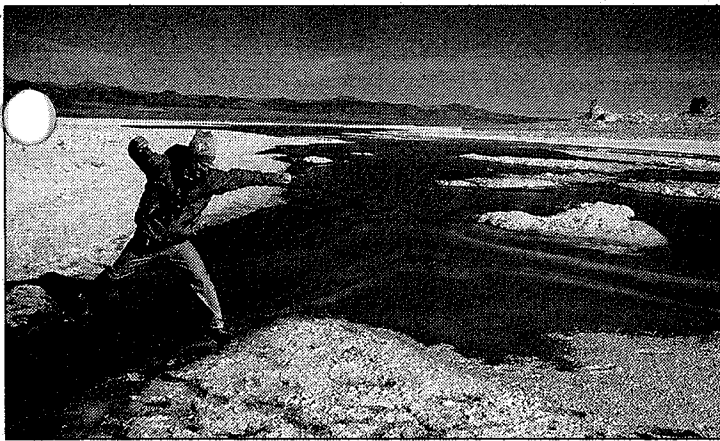
Once we reached the top, however, the view across the lake was startling. The reflection on the water of a clear late winter morning was for postcards and movies. Mirrored clouds were only disturbed by the wake of an occasional grebe. On the south side of the island, I could see the still winter waters of a dark green lagoon, thick with algae. In the spring, the shrimp will hatch to eat the algae, and the gulls will return to eat the shrimp. The cycle will begin again.

But what about the coyotes? Where do they fit into the cycle? The land-bridge is already exposed; after



The electric fence erected last year to keep coyotes from Negit Island.

Photo by Bob Schlichting



Bryan Flaig leaps the narrow channel separating Negit Island from the mainland in early February, 1991.

this dismally dry winter, the lake level will drop even further. And coyotes will go where there is a plentiful food source -- the same reason the California gulls and other birds come to Mono Lake.

I am troubled by the condition of the lake. It has posed difficult questions for us to consider. No species is more

important or less valuable than another. Mother Nature rarely plays favorites, setting up a delicate balance between species.

But at Mono Lake, that balance has been destroyed. For centuries, gulls have found a safe nesting place on Negit. Now, after five decades of water diversions, Negit is no longer an island. Man has unwittingly given the coyotes the advantage.

As I descended from Negit's peak, Mono Lake seemed to be waiting for summer, when thousands of birds will fill the water. Today the lake was still. But looking out across the glaringly white landbridge, I thought uneasily of the season to come.

The animals -- birds and coyotes -- will follow their instincts, doing what they must to survive.

Bryan Flaig

Bryan is a recent graduate of Loyola Marymount University in Los Angeles, with a Bachelor of Science Degree in Physics and French. He is currently an intern with the Mono Lake Committee. For more information on the intern program, see page 21.

Lake Level and Creek Update: Just Say Snow!

Lake Level: As California experiences the worst drought in this century, Mono Lake does not remain untouched. From January through February, the lake stabilized at 6374.8 feet when it should have been rising gradually. Last year at this time the lake stood about one foot higher. The storms of March quickly caused the lake to rise above the 6375 mark.

Mono Lake should rise another half-foot this spring, as court-ordered stream flows will require all or most of the available run-off. By the end of the year, the lake is predicted to drop back to approximately 6374 feet, three feet below the court-ordered minimum lake level.

Snow Pack:

Until March storms brought relief, this drought year was proving to be the worst in recorded history. The five-year period of below-normal rainfall surpasses the Dust Bowl drought of 1928 - 34. "miracle of March" has brought 50 per cent of a normal

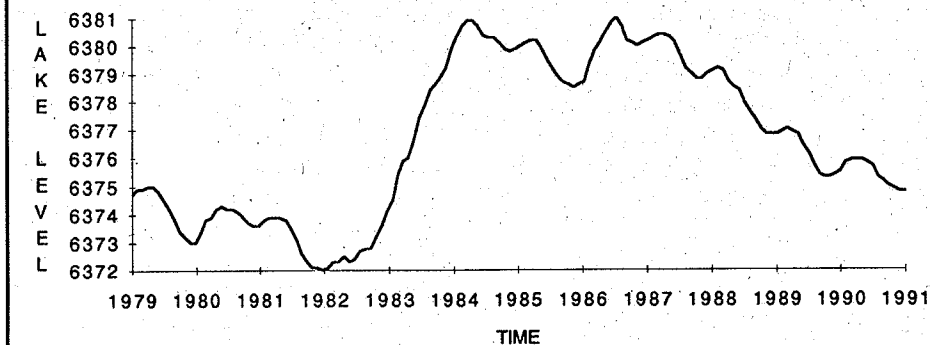
season's snow pack in just three weeks of storms. Even so, our local snow pack remains at 60 per cent of normal, as of late March.

Creek Flows: Walker, Parker, Lee Vining and Rush creeks all benefited from the storms of March. While they had all been running much lower than the court-mandated minimum flows throughout the winter, the storms boosted their levels up to the court requirements.

It was unfortunately a temporary condition and, with expectations of a low snow melt, flows less than the minimums set by the court to protect fisheries will probably be the rule for much of the year.

Is there hope for a healthy lake this summer to cover the landbridge and protect the gull rookeries? Probably not, barring a miracle like the one that occurred in 1967, when Rush Creek's watershed received over 30 inches of water in the months

MONO LAKE LEVELS FROM 1979 TO 1991



Graph by Peter Vorster

of March and April.

Here's hoping Mother Nature will bring back the Spring and Summer of '67!

Karyn Helfrich

Pipeline Collapse:

Scare-Tactics Hide Issue of Owens River Gorge

Over 1200 feet of DWP's pressurized pipeline collapsed above the Owens River Gorge the night of March 5. The event dredged up painful memories of 40-year-old losses in the Eastern Sierra, brought hope to the hearts of fishermen, and caused a flurry of scare-tactic press releases from DWP.

Three days later, in drought-conscious Los Angeles, the *Times* ran a headline that shrieked, "Trout May Pose Threat to City Water Source." Staff writer Kevin Roderick dramatically explained, "The lifeline carrying Eastern Sierra water to the city of Los Angeles was broken this week ... and an ironic side effect of the accident could threaten the city's best water source". [Emphasis added.]

In a March 9th article, the *San Jose Mercury News* defined that "ironic side effect" -- "Officials face a double problem: trying to keep some water flowing into the Los Angeles aqueduct and south to the city, and blocking water from filling the usually dry Owens River Gorge."

For decades, the Gorge was one of the West's most popular and prolific trout fishing

streams. It was described as a river where fish fed and grew big all winter in a large protected area -- sort of nature's own hatchery. Then, on August 24, 1953, DWP dried up the Gorge.

DWP's action was against the law. California Fish and Game codes, section 5937 states that "the owner of any dam shall allow sufficient water at all times to pass through a fishway ... or through the dam, to keep in good condition any fish that may be planted or exist below the dam."

For 38 years DWP has successfully ignored the statute. But now, because of a burst pipeline, it may once again have to allow water to run down the old river bed. Fish may once more establish themselves in the Owens River Gorge. And once that happens, DWP fears it will be forced to allow water down the stream permanently.

That's why local fishermen are hopeful. "Fish will get in there -- you know they will," said Thaddeus Taylor, a much-quoted local fisherman and member of the Inyo County Water Commission.

"The potential is there for a trophy-trout fishery,"

"The only danger to LA's water supply is that a few fish may get to swim in it."

—Barrett McInerney, attorney for Mammoth Flyrodders

conceded Darrel Wong, biologist for the Fish and Game Department.

But DWP is going to extraordinary lengths to insure that fish don't find their way into a rewatered Owens Gorge.

Chris Plakos, a DWP spokesman, explained that, "Forty years ago changes were made (to the gorge) that were legal. The department doesn't want to create problems that will be difficult to solve later." In other words, while DWP got away with drying up the Gorge once, it doesn't think it can successfully disregard the law again, if the courts have a chance to review the case.

So, to avoid creating "problems" in the Gorge, what water

DWP couldn't store was being sent down another dry wash and into Rock Creek instead. The *Inyo Review-Herald* reported on March 14 that Fish and Game officials were never notified of the intended action and, according to writer Pierre LaBossiere, "one biologist said the DWP is violating Fish and Game codes and threatening fish

spawning grounds and larvae" because of silt being washed into the Pleasant Valley Reservoir.

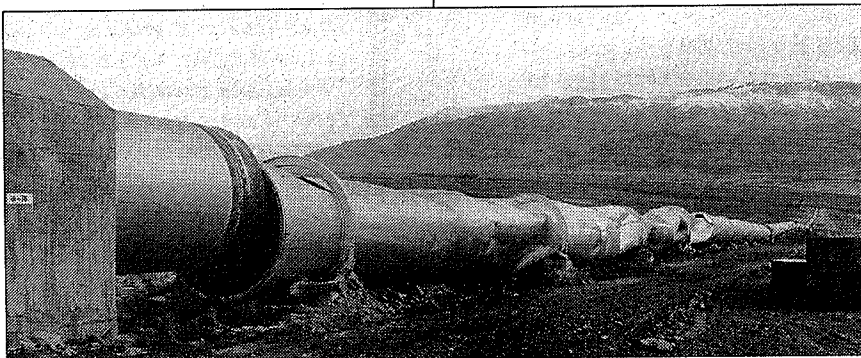
"DWP also dug an illegal ditch across the plateau to gain access to the creek," reported Barrett McInerney, a lawyer for the Mammoth Flyrodders fishing organization.

"Once again DWP is going to great lengths to avoid its responsibility to obey state law," said Martha Davis, Mono Lake Committee Executive Director. "What no one realizes is that, if DWP is forced to release water into the Owens River, LA still won't lose any water."

McInerney agreed. "Even if the Owens River Gorge becomes a flowing stream again," he said, "Los Angeles won't give up any water. The only danger to LA's water supply is that a few fish may get to swim in it."

The reason LA won't be deprived of water is simple. Like the broken pipeline, the dry, seven-mile stretch of the Owens Gorge lies between two DWP reservoirs -- Crowley Lake and Pleasant Valley. Water flows from the lower one -- Pleasant Valley Reservoir -- into the DWP system, and on to LA.

With the pipeline broken, the normal amount of water is not flowing into Pleasant Valley Reservoir; as a result, its level is dropping as water is sent on to LA. But what DWP's emotional press releases do not explain is that water is *not* being lost from the system. Water normally flowing through the



A pressure surge ripped a 20-foot gash and collapsed over 1200 feet of this pressurized pipeline leading from Crowley Lake to a power turbine. Water between Crowley and Pleasant Valley reservoirs normally flows through this pipe, avoiding the Owens River Gorge. The seven-mile-long section of the Gorge, now dry, was once a world-class fishing stream boasting 26-pound brown trout.

Photo by Chris Lombardo

"All that's really on the line here is DWP's ego."

— Barrett McNerny, attorney for Mammoth Flyrodders

line is instead being stored in Crowley Lake; Crowley's level is rising.

DWP needs to move water between the two reservoirs. After its illegal attempt to use Rock Creek, DWP's solution was to make a temporary flume out of the crumpled pipeline. Of course, it could simply substitute the river bed for the pipe and transport much more water. DWP stubbornly refuses to do so. Instead, the Department issues ominous press releases suggesting LA's water supply will be permanently cut.

"Whether it goes through the pipeline or through the Gorge, the same water still winds up in LA's aqueduct," said Davis. "DWP is only *loaning* it to the stream. They get it back."

While losing water in a drought is an emotional story, all DWP really stands to lose is a little electrical power.

The broken pipeline was designed to channel water under pressure into one of three hydroelectric plants operating in the Gorge. Because of the damage, one plant will be shut down. The result, according to hydrologist Peter Vorster, is the loss of 20 per cent of the Gorge's generating capacity. The other generators would be able to pick up the slack, however, minimizing the loss.

Lawyer McNerny agreed. "As it is, those generators only run approximately three or four hours a day in the winter, and nine hours a day in summer."

Even if the fish *were* to reestablish themselves and DWP was forced to permanently release water down the Owens River Gorge, there would still be plenty of water to send down the pipeline when it is rebuilt. "DWP could simply run the generator a little longer with less output and get the same amount of power," explained McNerny. "All that's really on the line here is DWP's ego."

Article by Bob Schlichting

Lee Vining Creek, Then and Now

Compare the picture from our front cover with the photo below. Both pictures were taken in approximately the same location on Lee Vining Creek.

The cover photograph was taken by Joseph Dixon in the summer of 1916, years before water diversions from the Mono Basin began. It was an exhibit in the long preliminary injunction case heard last year in El Dorado Superior Court.

Eldon Vestal, a fish and game employee who studied Mono Lake and its streams both before and after diversions testified about the photograph. He explained how it showed "a fine, rapid trout stream, flanked by dense riparian cover The stream shows abundant white water, short pools, extensive gravels, rubble, and some boulders." The picture was taken about mid-day, judging from the shadows.

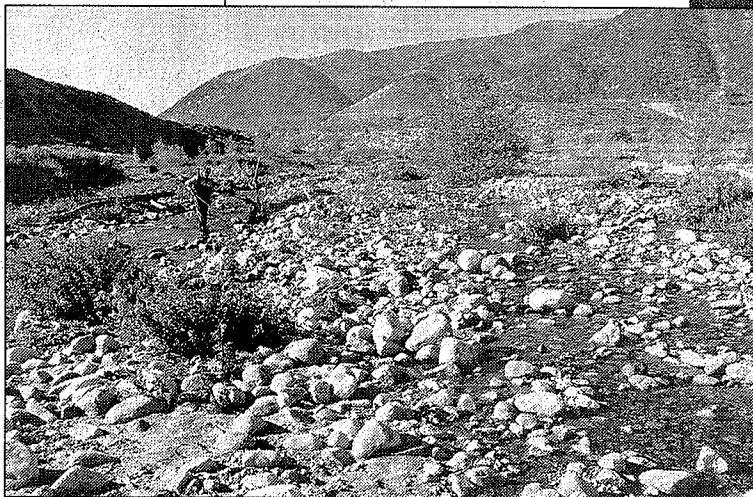
Ilene Mandelbaum, our Associate Director in Lee Vining, took the present-day photograph at about the same location. Keep in mind that what was once the mouth of Lee Vining Creek is now, thanks to a drastically-lowered lake level, a half mile inland.

The well-defined channel framed by cottonwoods and willows has become a broad, undefined wash, devoid of vegetation. What was once a complex streambed with large and medium cobble and an abundance of spawning gravels for trout has become a rocky desert wash.

The 50-year drought imposed by DWP diversions has killed off the natural vegetation. At several times when water was too abundant to successfully divert, the Department of Water and Power released huge, sudden flash floods that scoured the streambeds and tore away what little vegetation remained. The two photos show the dramatic change.

Then last year El Dorado Court Judge Terrence Finney ordered DWP to discharge more than 60,000 acre feet of water

a year down four of Mono's streams. His decision was based upon State



Fish and Game codes that require enough water be released to sustain existing fish populations.

DWP was also ordered to

restore the streambed and banks to their original conditions. At first the Department balked, arguing in court that little factual information existed about conditions before 1941. Fortunately people like Eldon Vestal have come forward to prove them wrong.

As we reported in the last Newsletter, restoration work was completed this fall on Walker and Parker Creeks. Still to be done, however, is work on Lee Vining and Rush Creeks.

We are looking for additional information about the way it was in the Mono Basin before diversions drastically changed the ecology. We seek photographs, hard data, memories, accounts -- anything that will help to reconstruct what has been lost. How numerous and big were the fish? How thick were the trees, how plentiful were the birds?

Such information will be valuable as well in preparing reports for the State Water Resources Control Board. Please contact Ilene Mandelbaum or Sally Miller in Lee Vining (at Box 29, Lee Vining, CA 93541) or call at (619) 647-6595.



Direct Talk About Direct Mail

Many members send us notes with their renewals and contributions — notes praising the Committee's work. However, we occasionally receive questions such as . . .

"I received two letters asking me to join the Mono Lake Committee. But I'm already a member. What gives?"

"You're asking for money? Again?"

"You sent quadruplicates of the free drawing letter. What a waste!"

"I renewed my membership weeks ago. Why are you sending me this?"

"Why can't you spell my name right?"

Considering our mail and membership department corresponds with over 22,000 supporters, it is inevitable that a few mistakes happen. Then too, some people today are concerned about the number of mailings they receive from non-profit and activist groups. No matter how important the cause, there are people who find any direct mail program controversial.

We know this, and so the Committee has worked hard to tailor our mailing policies to your concerns. As a result, our direct mail program has been a resounding success. Many of our members first joined as a result of receiving a letter describing Mono Lake's plight. Roughly *two-thirds* of our entire operating budget is funded through your generous contributions to our fundraising appeals.

The bottom line is that the Committee would not be as strong and effective as it is without the loyal support we receive through our mailbox.

But despite our best efforts, errors do occur. Therefore, we would like to explain the system, and tell you how you can help us to solve any problems.

Meet the mail and membership department . . . Elaine Light, upper right. From her particle-board desk in Lee Vining, she keeps track of our 20,000 members, coordinating the information with our

mailing list company in Oakland.

When you first join the Mono Lake Committee, your name is sent to Oakland, along with other information that you will find coded on your mailing label. (See the example on page 9.) Your check is marked "M" for new member.

When you renew your membership, we send another form to Oakland, updating you for another year. Your check is coded with the letter "R". Unfortunately, some time may go by before the renewal is entered into the computer, so you might inadvertently receive a reminder even though you've already renewed. (Renewing promptly usually prevents this problem.)



Elaine Light, our new Mail and Membership Coordinator

Computer delays also mean it takes us as long as six weeks to change your address, especially if we have to rely on the post office to tell us you've moved. The process is a lot quicker and simpler if you send us your mailing label with corrections on before you move.

What happens if you don't chose to renew? We keep you on the list as an elapsed member. You no longer get the newsletter, but you may receive special MLC fund-raising appeals from time to time.

We send several mailings a year to garner new members. As you probably know, lists for environmental groups are frequently exchanged or rented. We sometimes trade, for one-time use, an equal number of our names for another organization's. Although we use computers to eliminate duplicate listings, they still occur occasionally — especially if the listings are different.

For example, you may already be a Mono Lake member, hypothetically listed under the name Ms. Sarah Seagull. If, however, *Greenpeace* gives us your name as Ms.

Seagull, or, say, *Save the Bay* lists your office instead of your home address, you may get multiple mailings. You need to tell the *other* groups to which you belong not to trade your name.

We have always believed that our members should receive only the mail they want. So, for many years, we have prominently offered all Mono Lake contributors the option of not having their names traded to other groups. This means our mailing program costs more, but we think your privacy is worth it.

Is your name being traded now? Check your mailing label.

"For many years, we have prominently offered all Mono Lake contributors the option of not having their names traded to other groups. This means our mailing program costs more, but we think your privacy is worth it."

Here's how to read your mailing label:

Any label from the Mono Lake Committee list always has in numbers and codes:

A. The date your subscription expires. (The code "25" means November, '91.)

B. How much money you contributed.

C. Are you a letter-writer? Do you volunteer time? ("3" indicates yes to both questions.)

D. How you joined. The code 10 means "Do not trade my name!" The rule is -- once a 10, always a 10! If this code is already on your label, it means we will *not* trade your name.

"001" is the Mono Lake Committee's account code with the mailing house.

This is *your* membership number.

	A	B	C	D
001-09690876	1	2	3	10
SARAH SEAGULL				
1207 W MAGNOLIA				
LOS ANGELES CA				
				90042

We work hard to be sensitive and sensible in our mailing policies. With the help of our direct mailing consultant, we use recycled paper. The window in our envelope is made from recyclable glassine, not plastic. We try mightily to prevent duplicate mailings; in fact, we just spent several weeks manually going through our lists, eliminating duplicate names. And, unlike many groups, we limit the number of appeals we send. We write our own letters, and we never ask for an emergency contribution unless it really is an emergency.

The Mono Lake Committee appreciates your support. We are always looking for ways to improve our direct mail program. To the right is a handy trouble-shooting form. Send it to Elaine if you have a problem. She welcomes your ideas.

What's the difference between ...

The Mono Lake Committee? The Mono Lake Foundation?

The *Committee* is an activist organization involved in lobbying, public education, research, and litigation. Because we lobby, however, the IRS says contributions are *not* tax-deductible.

The *Foundation* is a separate organization supporting education and research about Mono Lake. Projects like this newsletter and our litigation are supported by the Foundation. Contributions to the Mono Lake Foundation *are* tax-deductible.

Membership Problems? Let Your Label Work for You!

Attach Label(s) Here!

... and check the appropriate boxes below.

Change of Address:

New: _____

Phone # () _____

☐ **Renewals** -- If you're receiving a renewal notice after paying yearly dues, your dues payment and the next renewal notice may have crossed in the mail. If you continue to receive notices, please contact us and we'll find out why.

☐ **Duplicate Mailings** -- If you're receiving two copies of the Mono Lake Newsletter or other Mono Lake Committee mailings, please attach both labels with different membership ID numbers (the long number in the example to the left).

☐ **Missed Issues** -- If you haven't received issues of the Mono Lake Newsletter, attach a brief note to indicate which ones. The newsletter is published quarterly. Please note: The Postal Service will not forward magazines or third-class mail unless informed to do so on a Change of Address card.

☐ **List Preference** -- We occasionally make our membership list available to other environmentally-conscious organizations. Please check here if you would prefer not to receive such mailings. (If you're already a 10, don't worry -- you're on the "don't trade" list.)

☐ **Other Questions or Problems** -- Attach your label and include a brief note.

Fundraising Appeals -- We would love to cut back to one fundraising appeal per year if we thought we could generate the same amount as through three appeals.

We would like your feedback. How do you prefer to donate beyond renewing your newsletter subscription? One big check if we promised not to bug you again? What time of the year would be best for you? Or do you like to donate to special events like the Bike-a-thon or the Free Drawing?

Mail to:

Elaine Light
Mail and Membership Coordinator
Mono Lake Committee
P.O. Box 29
Lee Vining, CA 93541

MONO LAKE BIRDING NEWS

Birdathon to be held April 20

The Loonaticks and the Cheap Trills have returned! These and other dedicated birding teams will take part in the Golden Gate and Marin Audubon Societies' birdathon to benefit Mono Lake on April 20.

At least 80 per cent of the 1991 birdathon proceeds will go to the Mono Lake Committee and National Audubon Society to help offset litigation expenses.

"In a birdathon, teams gather pledges for each species identified. Then, on the day of the event, the birders try to identify as many species as possible in a 24-hour period," explained Steve Margolin of Golden Gate Audubon Society.

You can help by either pledging money for one or more teams or by forming your own team, gathering pledges, and searching for birds on April 20.

Use the pledge form below and return it to the address at the bottom. You will be sent a list of birds sighted by your team and a notice of the amount you pledged.

Checks made out to the "Marin Audubon Society" are tax-deductible. For more information, call Steve Margolin, Golden Gate Audubon Society, at (415) 434-4262 ext. 6005.

Spring Shorebird Count April 27

Volunteers are needed on the weekend of April 27 to help count the thousands of Pacific Flyway shorebirds migrating through Mono Lake.

The yearly Spring count, done in coordination with the Point Reyes Bird Observatory, brings together birdwatchers from across western North America. It offers volunteers the

chance to explore remote parts of Mono Lake, as well as to observe thousands of shorebirds.

"Imagine seeing a near-continuous band of shorebirds lining the current 45 miles of shoreline!" said Emilie Strauss, project organizer.

Newly arriving bird species should include American Avocets, Western Sandpipers, and Red-necked Phalaropes.

Participants need to have a working knowledge of the common shorebirds, and should bring food, water, and a clipboard. A spotting scope and 4-wheel-drive vehicles would also be useful. Plan on a full day of hiking, and dress warmly.

For information, call Emilie Strauss at (415) 654-1072.

Spring Breeding Count June 15

The annual Spring Breeding Bird count will be held Saturday, June 15. Volunteers are still needed.

"The annual event is like the Christmas Count, only it takes place when the Mono Basin birds are in their finest plumage," said Melanie Findling, coordinator of the project. "Not only do we count individual birds, but we make observations on their breeding and nesting behavior. Then we top off the day with a potluck at the County Park and compare notes."

The count areas include the west shore of Mono Lake, its streams, the sagebrush scrub community, pinyon pine forests, and high alpine ecosystems.

"Participants should be familiar with breeding birds of the eastern Sierra and prepared for a full day of exploring the Mono Basin," added Findling.

For additional information, contact Melanie Findling at (619) 647-6595.

BAY BIRDATHON 1991 PLEDGE FORM

- | | | |
|--|--|---|
| <input type="checkbox"/> Allen's Hummers, Marin | <input type="checkbox"/> Las Pajarothoners, Alameda | <input type="checkbox"/> Old Coots, East Bay |
| <input type="checkbox"/> Bodega Bay Bushtwits, Marin | <input type="checkbox"/> Lieurance's Goldfinches, | <input type="checkbox"/> So-What Owls, Bay Area |
| <input type="checkbox"/> Casual Vagrants, East Bay | <input type="checkbox"/> San Francisco | <input type="checkbox"/> Tomales Bay Troupers, Mari |
| <input type="checkbox"/> Cheap Trills, San Francisco | <input type="checkbox"/> Loonaticks, San Francisco | <input type="checkbox"/> Urban Tryants, San Francisco |
| <input type="checkbox"/> Dave DeSante, Bay Area | <input type="checkbox"/> Mendolarks, Mendocino | <input type="checkbox"/> Wandering Tattlers, San Francisco |
| <input type="checkbox"/> Environmentalists, San Francisco | <input type="checkbox"/> Mills College Team, Oakland | <input type="checkbox"/> Waterfoul (an all-EPA team), Marin |
| <input type="checkbox"/> Great Basin Bushbeaters, Mono Basin | <input type="checkbox"/> Mines Roadrunners, Marin | <input type="checkbox"/> Wing Dingers, East Bay |
| <input type="checkbox"/> Huffing Puffins, East Bay | <input type="checkbox"/> Murphy's Mob, San Francisco | |
| <input type="checkbox"/> Karen Allen & Friends, Yosemite | <input type="checkbox"/> Not-So-Oldsquaws, East Bay | |

- ☐ I will sponsor one (or more) of the above teams at the rate of \$ _____ per species.
- ☐ I will support the team with the highest species total at \$ _____ per species.
- ☐ I will support the team with the lowest species total at \$ _____ per species.
- ☐ I will lead my own team and gather pledges totalling at least \$1.00 per species.
- ☐ I will pledge a total contribution of \$ _____.

Name _____

Address _____

All contributions are tax-deductible. Please return this form to: **Lizabeth Gluck, Marin Audubon Society,**
PO Box 599, Mill Valley, CA 94942-0599

Update:

From Dance Hall to Visitor Center:

Rejuvenating Our Home

In the last newsletter we outlined plans for a much-needed remodel of our aging visitor center and offices in Lee Vining. Your response was immediately heartening. As of mid-March, 34 members wrote or called offering their financial support.

Although it is still too early for the actual construction to begin, many volunteers responded to the "barn-raising" aspect of the project; over 25 of them offered their time and muscle to help with the rebuilding.

Still others offered their products and services. For example, Joe Fuhrman of Bieber Lighting Corporation in Inglewood sent a small catalog and announced by fax that he wanted "to help with the lighting, especially outdoors."

However, some members were confused by our plans. One man from Mammoth asked, "How can you ask for help in remodeling? You're building a \$4 million-dollar Visitor Center on the point overlooking the lake!"

The building to which he referred is expected to open at the end of 1991; however, it is the U.S. Forest Service's headquarters for the Mono Basin National Scenic Area. A federal government building, it has no connection with either the Mono Lake Committee or our Visitor Center.

Meanwhile, plans are moving forward to assemble an advisory board for our reconstruction project. Several Committee members with a knowledge of construction or architecture have been selected from around the state.

Currently the center is undergoing some minor repairs. It is not part of the proposed renovation, but rather an emergency electrical update and the conversion of a storeroom into much-needed office space. The work is designed to be compatible, however, with the rebuilding we would like to begin next spring.

Here again is our survey form, part of our on-going

feasibility study. We welcome your ideas on the Visitor Center project. Immediate gifts of money will be used to finance working drawings.

Let us know what you think. Your comments and support guarantee that the Mono Lake Committee remains a strong educational and political force, fighting to protect Mono Lake for years to come.

YES, I WANT TO HELP RAISE THE ROOF AND REMODEL THE MONO LAKE COMMITTEE VISITOR CENTER. PLEASE CONTACT ME, I CAN PLEDGE...

☐ **Building materials:**

Lumber, nails, insulation, pipes, etc.

☐ **My skills:**

I am a plumber, electrician, contractor, etc.

☐ **My time:**

☐ I can help once construction begins.

☐ I have some ideas for fundraising.

☐ I can help with _____

☐ **I would like to contribute:**

My check is enclosed for _____

☐ **I'd like to know more about your plans.**

Name _____

Address _____

City _____

State _____

Zip _____

Daytime Phone (____) _____

Any Assistance you can give will be greatly appreciated.

1991 Wine Cellar Drawing Continues de Laet's Legacy

In 1979 Grace de Laet, her husband Rick, and several friends toured Mono Lake with David Gaines, the Mono Lake Committee's founder. Shocked by the lake's plight, she returned to San Francisco, eager to do what she could to protect it.

From that time until she reluctantly resigned last November, Grace served on the Committee's Board of Directors, shaping policy and organizing fundraising events.

It was in 1986 that the de Laets and their friends Alex and Fern Rynecki hit upon the idea of a fine wine cellar drawing. The premise was simple: offer only 500 tickets at \$50 apiece, giving participants the chance to take home an exquisite wine cellar while contributing to Mono Lake's protection.

Grace and Rick convinced friends Gerald Asher, Wine Editor of *Gourmet Magazine*, and wine collector Herbert Cerwin to get involved with the project. A reception was held that first year at San Francisco's French Club to draw the winning tickets.

This May 10th, the sixth annual Fine Wine Cellar Drawing takes place in San Francisco. Gerald Asher has once again given his expert advice on the four exceptional wine cellars being given away.

Take part in what has become a Mono Lake Committee tradition. For details and ticket information, contact Liz Fishman at (818) 972-2025.

Drought Update:

Cities Impose Mandatory Conservation

As the drought enters its fifth consecutive year, Californians are beginning to share the plight which Mono Lake has faced for years. The only difference is that Mono Lake finds itself the victim, not of a natural drought, but of a man-made one, which began fifty years ago.

At press time, California's drought was shaping up to become one for the history books in terms of severity. However, some meteorologists were predicting heavy spring rains, forecasting what they have called a "March Miracle".

Nevertheless, water agencies throughout the state were moving to pare down their customers' water use. Cities like San Francisco began requiring a 90 per cent reduction in outdoor use with a 33 per cent reduction indoors. Water customers in Marin County learned to cope with a limit of 50 gallons per person, per day. And in the tiny hamlet of Orange Cove in Fresno County, each resident was reportedly put on a water diet of 10 gallons per day.

According to the Association of California Water Agencies (ACWA), in March, 29 per cent of the state's water districts had mandatory rationing programs with penalties for non-compliance. Another 31 per cent had mandatory programs which impose no specific allotments or penalties. The remainder, 60 per cent, have only voluntary and educational programs in place.

Should heavy spring rains arrive, some observers worry that Californians will no longer sense a water emergency. LA Times columnist Robert Jones recently noted, "Politically, the rains may turn out to be something other than a blessing. The reason is both simple and human: we tend to fix things only when we are forced. The rains may have given us just enough maneuvering room to avoid any genuine fixing."

The Metropolitan Water District is not banking on the "March Miracle". Southern California's giant water wholesaler began slashing water deliveries and hiking prices to its member agencies. As we went to press, MWD commissioners had voted to reduce deliveries by 50 per cent and raise prices 24 per cent. According to their plan, retail water agencies which fail to reduce demand now face triple water charges. San Diego, for instance, was slapped with a

46 per cent surcharge for using too much water.

In Los Angeles, the City Council voted to impose a mandatory 15 per cent cutback beginning May 1st. Recently, however, the DWP commission voted to ask City Council for authority to increase mandatory rationing up to 50 per cent, if needed. "We're preparing for next year," said Mike Gage, DWP Commission President, anticipating a possible sixth year of drought.

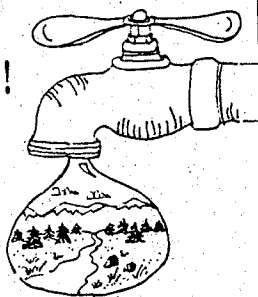
Reacting to the bleak water picture, individual L.A. City Council members proposed additional steps. Councilman Hal Bernson suggested temporarily suspending issuance of building permits for swimming pools and spas. Councilman Zev Yaroslavsky introduced plans to amend Los Angeles' Emergency Water Conservation Plan. The Yaroslavsky motion states, "While we are asking existing residents to conserve, we should also demand that growth in new water use be cut back. *Every drop* of the increase in consumption over the last decade, *and more* is attributable to new use. It's only fair that while we are rationing water for existing residents, we also ration the water that is available to new water users."

Councilwoman Ruth Galanter, herself a Mono Lake Committee member, introduced a motion allowing the prohibition of new water hook-ups during "any period of an officially declared water emergency." Galanter also drafted an "offset" plan. Developers would be required to undertake and finance water retrofit programs for existing buildings and irrigated landscapes to offset the amount of water their new construction would create. These motions are all awaiting Council action.

The LA City Council also began confirming Mayor Tom Bradley's choices for Water Conservation Appeals Boards. DWP customers who wish to appeal their assigned water allocation can appeal first to the DWP and then to the City's appeals board, a court of last resort. Betsy Reifsnider, Mono Lake Committee's Associate Director, was chosen to serve on the first appeals board that was established -- the three-member Water Conservation Commercial and Industrial Appeals Board. She serves as the representative of the public at large.

THERE'S A BEAUTIFUL PLACE AT THE OTHER END OF YOUR TAP!

Always remember...water travels long distances to get to your tap. The less you use, the more there is for streams...fish...wildlife...and beautiful places like Mono Lake!



May is Water Awareness Month

To celebrate the annual statewide Water Awareness Month, the MLC has issued its own poster with helpful tips and tools to make water conservation easier. Thanks go to the Vanguard Foundation for funding the project; to Lauren Jacobsen for the design and illustrations, and Michael Ross for additional illustrations.

If you would like more posters, we'll be happy to send them to you FREE. Just give us a call at either office, (818) 972-2025, or (619) 647-6595.

THE MONO LAKE COMMITTEE'S TERRIFIC TOOLS TO SAVE WATER!

We've tested many different water conservation products, and these win our highest ratings! You can order them all with the Mono Lake Committee's handy mail - order form below.

Mono Lake Saver Kit Save even more money and buy our Saver Kit. Includes the shower head, either the swivel or on - off kitchen aerator, a bathroom aerator, a set of toilet dams, and a bumper sticker. \$ 25.00 Please specify your preference for the swivel or on - off kitchen aerator.

Toilet Dams Two high - quality brass dams will save 2 gallons per flush - up to 20,000 gallons per year for a family of 4! Easy to install. \$ 6.95

Hose On - Off Valve With on - off controls at your fingertips, you won't waste water while watering plants or washing the car. \$ 2.50

On - Off Kitchen Aerator Chrome - plated, brass aerator is easy to install and preserves your hot - cold water mix with the on - off valve. \$ 6.95

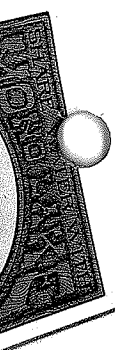
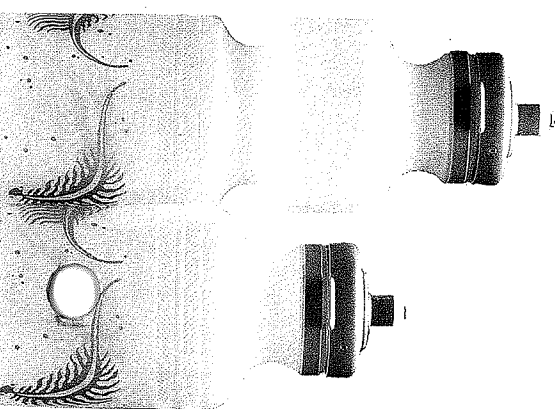
Swivel Kitchen Aerator Swivel head for spray or stream, uses 2 - 3 times less water than normal aerators. Dual inside - outside threads will fit most faucets. \$ 6.95

Save water for Mono Lake

The Mono Lake Committee P.O. Box 29, Lee Vining, CA 93541

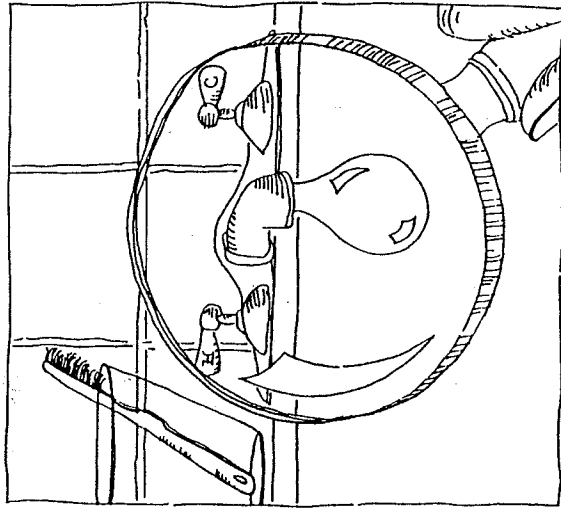
Bathroom Tap Aerator Cuts consumption by up to 50%. Dual thread design makes this aerator easy to install on all standard faucets. \$ 1.95

Shower Head The finest quality chrome-plated

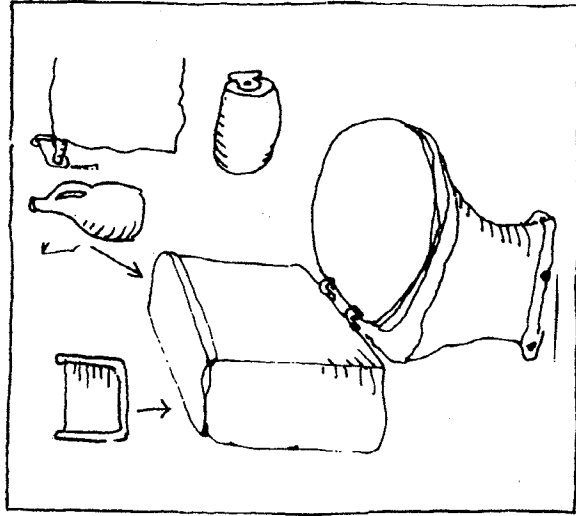


THE MONO LAKE COMMITTEE'S TERRIFIC TIPS TO SAVE WATER!

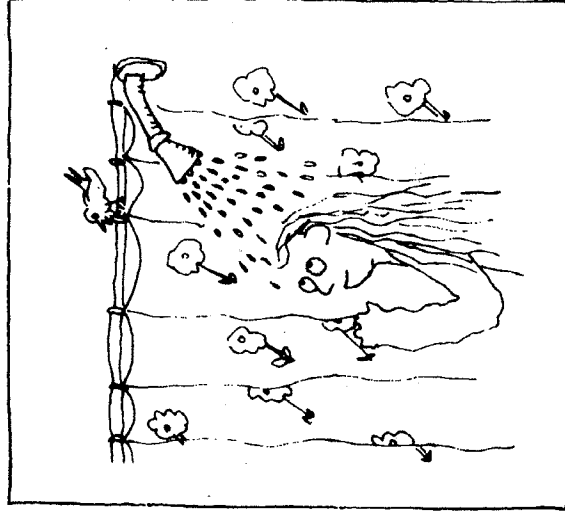
IT'S EASY! IT'S FUN! WELL, IT'S EASY...



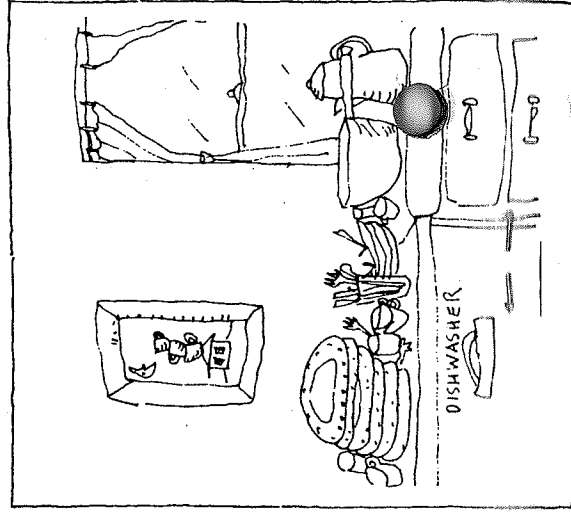
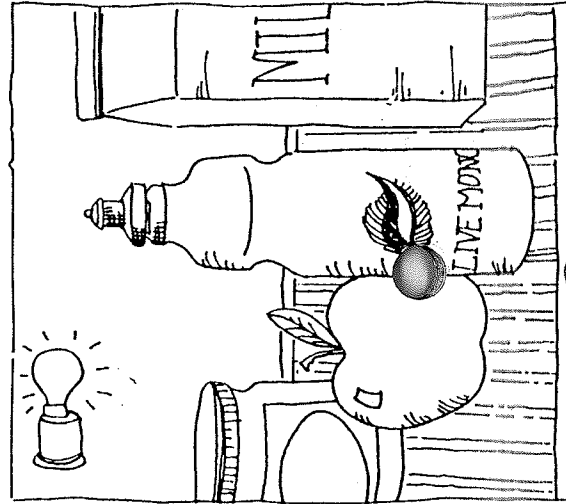
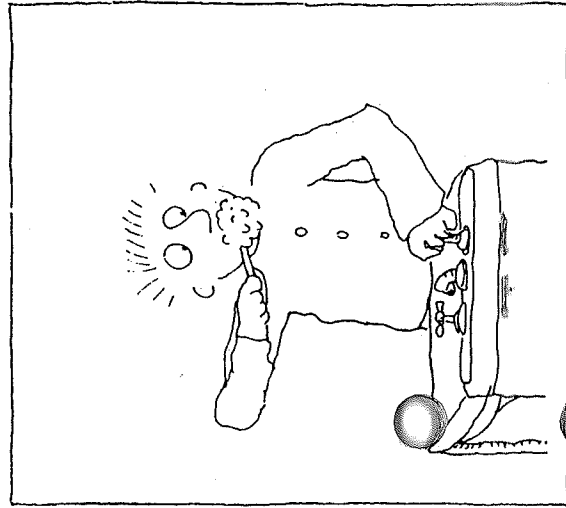
Look for leaks! In the sink ... toilet ... outside faucets! A dripping faucet wastes 20 gallons a day!



Adapt your toilet tank. Use water - saving devices to cut the water used on each flush. Don't flush 'til you must.



Go low - Flow! Install a water -- saving showerhead. Showers -- if they're short -- use less water than a bathtub!

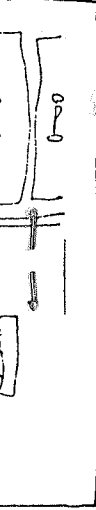




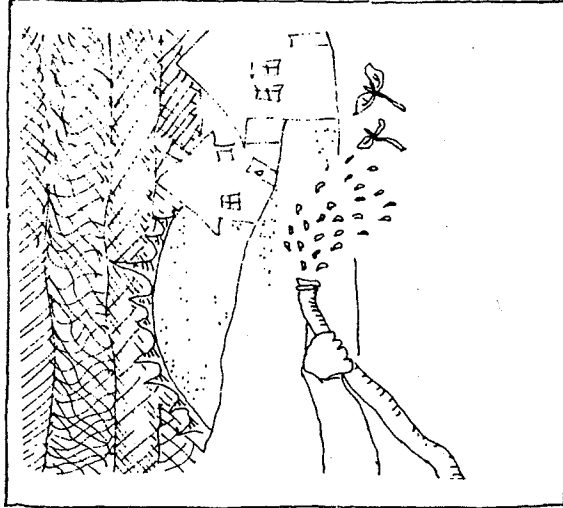
Turn on the tap while shaving or brushing your teeth.



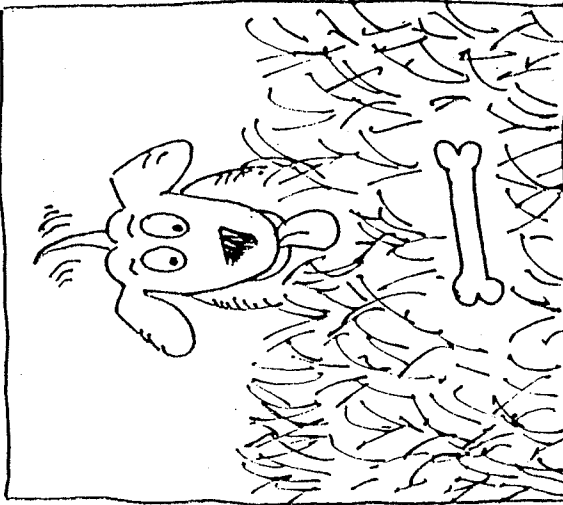
Keep drinking water in the refrigerator! Don't run the faucet, waiting for the water to cool.



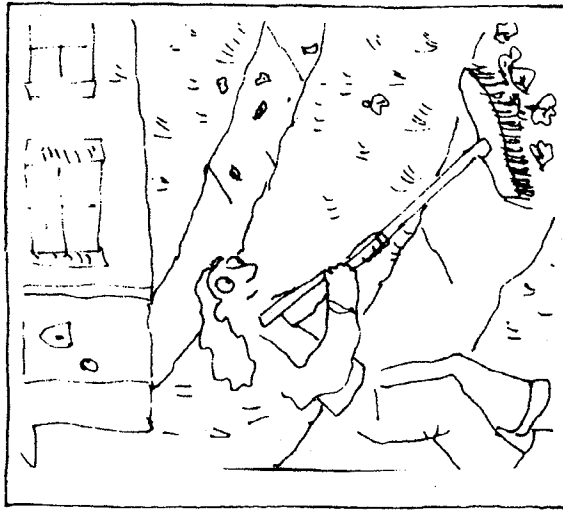
Use the washer - either dishes or clothes in full loads. It's more cleaning, with the same amount of water.



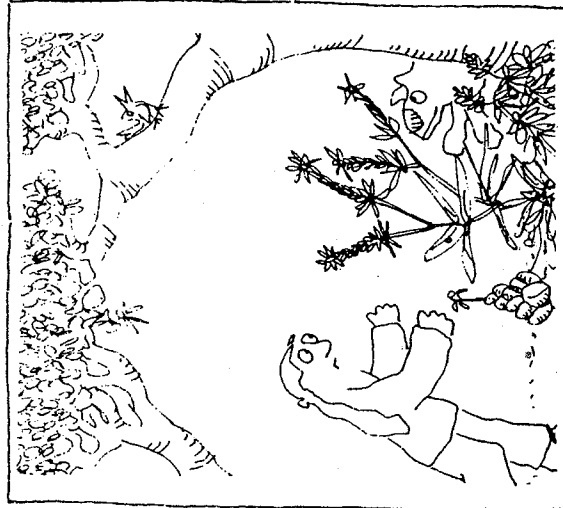
Water early or late, not when it's hot - and only when plants need it! Don't sprinkle the street!



Water less often, but deeper. It makes most plants harder. Long grass loses less water - don't cut it so close!



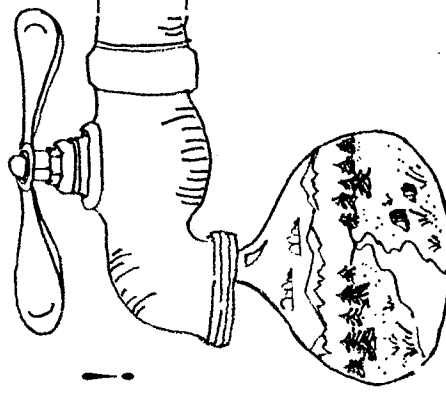
Use a broom, not a hose. Don't wash down your sidewalks and gutters!



Use drought-resistant native plants. They're used to our climate, and need much less water.

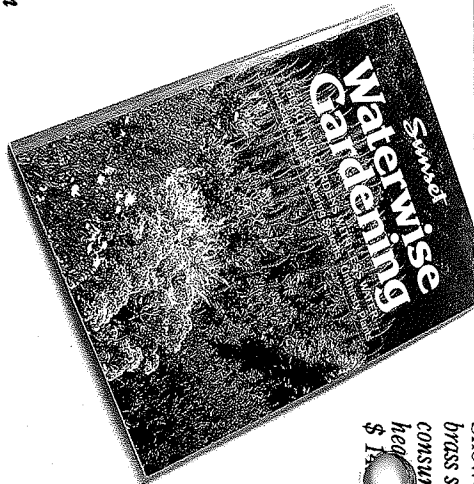
THERE'S A BEAUTIFUL PLACE AT THE OTHER END OF YOUR TAP!

Always remember...water travels long distances to get to your tap. The less you use, the more there is for streams...fish...wildlife...and beautiful places like Mono Lake!

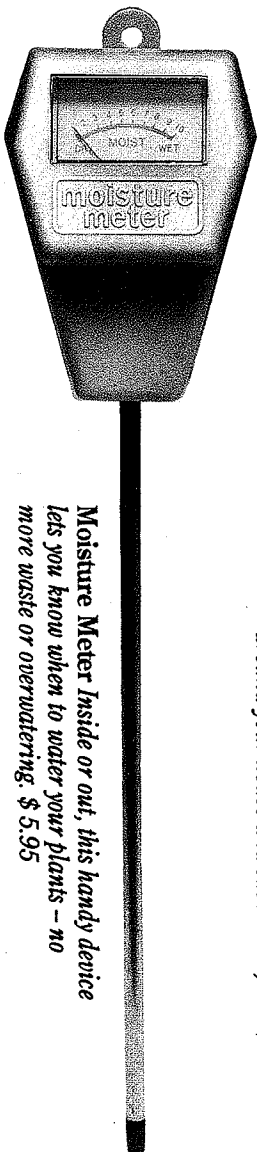




"Mono Lake Color - And - Learn" Coloring Book Kids of all ages can learn about the plight of Mono Lake and some useful water conservation tips, too. \$ 1.95

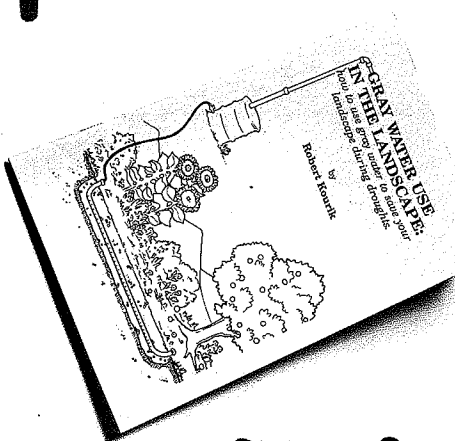


Sunset's Waterwise Gardening Book Sunset teaches you how to enjoy a beautiful landscape around your house and save water, too. \$ 7.95



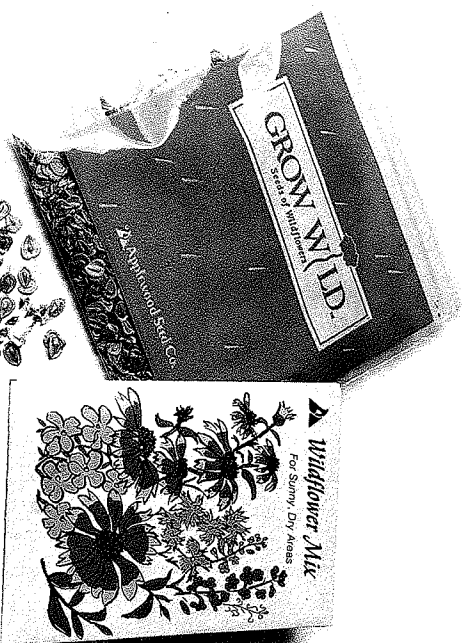
Moisture Meter Inside or out, this handy device lets you know when to water your plants - no more waste or overwatering. \$ 5.95

brass shower head (with turn off valve). Cuts consumption by 50% and reduces annual water heating bills by \$ 100 - \$ 200. Easy to install \$ 14.95



Gray Water Use In The Landscape by Robert Kourik. This book will teach you how to recycle water to use in your landscape. \$ 6.00 (The use of gray water is illegal in many areas of California due to potential health hazards.)

Mono Lake Water Bottles Have drinking water handy with these high - quality specialized bike bottles. Available in large (28 oz.) \$ 4.95 or small (21 oz.) \$ 3.95



Drought - Tolerant Wildflower Seed Mixes Available in small packets or by the ounce to cover 250 square feet. We grew them with great success outside our Visitor Center Small packet - \$1.00. One - ounce packet - \$ 4.95

Name _____
Address _____

State _____ Zip _____

Daytime Phone _____

☐ Check (Made out to Mono Lake Committee)

☐ Visa ☐ MasterCard

Card# _____

Expiration date _____

Signature _____

Shipping rates

Up to \$10.00, \$2.50

\$10.01 - \$25.00, \$3.00

\$25.01 - \$50.00, \$4.00

Over \$50.00, \$5.00

Mail your order to:

The Mono Lake Committee
P.O. Box 29

Lee Vining, CA 93541

For phone orders, call:

(619) 647-6595

Subtotal _____

CA residents add

applicable sales tax _____

Shipping (see chart) _____

Total Amount Enclosed _____

Proclaim that you're saving water for Mono Lake by showing your support on your car!

FREE! "I Save Water For Mono Lake" Bumper stickers! Write how many you want here!

☐

Mono Basin Research Updates

Every year the Newsletter presents research updates of on-going experiments and field observations throughout the Mono Basin. This year's reports give you a feel for the uniqueness of this beautiful, endangered ecosystem. For more information, you may contact research individuals directly.

Lake Bottom Ecology: Habitat Model for Alkali Fly Abundance

David B. Herbst

Sierra Nevada Aquatic Research Laboratory

University of California

Star Route 1, Box 198

Mammoth Lakes, CA 93546

Both the federal and state governments have sponsored scientific reviews of the impact of water diversions on the Mono Lake ecosystem (NAS 1987 and CORI 1988 reports, respectively). Both research summaries concluded that one of the most immediate impacts of dropping lake levels was exposure of the near-shore tufa habitat of the alkali fly.

In 1989, SCUBA research was undertaken to describe the distribution of alkali fly larvae and pupae in relation to depth and substrate type. Densities were found to be greatest in shallow water (0.5 to 1.0 meter deep) on rocky substrates (tufa). Densities decline with increased depth, with essentially none living below about 10 meters. Numbers are significantly lower on soft or shifting substrates such as mud or sand.

The applied significance of these findings is that, combined with information on how much hard versus soft substrate occurs at different lake depths, densities can be multiplied by areas to produce a lake-wide estimate of fly population size. When done for different lake elevations, a predictive model of changing population size was developed based mainly on changes in the availability of tufa habitat.

The model predicts fly population size would be maximized at an elevation of 6380 feet. Refinement of this model and separate research on other means of impact prediction are being pursued for the State Water Board EIR.

Not only was the SCUBA research valuable in constructing a model to be used for lake management, but diving was an adventure that yielded unforeseen discoveries.

"Just getting into the water is like soaking in a bath of baking soda, table salt, and Drano."

-- David Herbst

Diving in Mono Lake is challenging and provides passage into a world that few humans have explored. Because of the buoyancy of the dense salt water,

cumbersome weights are required to become submerged. I need about 20 pounds on my weight belt to descend in sea water, but require 45 pounds to stay down in Mono Lake.

Just getting into the water is like soaking yourself in a bath of baking soda, table salt, and Drano. First-time divers usually get blistered lips from chemical burns to the sensitive skin inside the mouth exposed by the regulator mouthpiece. Protection with gobs of Vaseline and Chapstick helps, but it doesn't work for very long. Seasoned divers are usually scarred for life by abrasions.

Similar to near-shore marine environments, most bottom dwelling life in Mono Lake is concentrated around rocky areas.

Rocks provide places to attach, as well as protection and food sources.

The most scenic and dramatic diving is found amongst tufa towers. Columns of tufa that on land could not support their weight can be found underwater at the tufa groves around the lake. Often covered with veils of bluish-green algae and sparkling crystals of the mineral gaylussite, lit by rays of sunlight filtering down through the water, they offer a sight few humans experience.

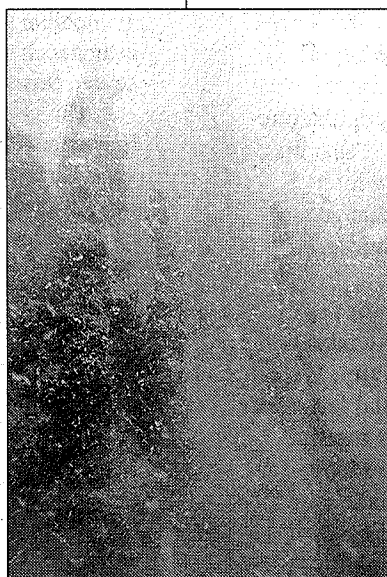
From the diver's point of view, the submerged spires of fragile coral-reef-like tufa are very different from the onshore tufa towers at Mono Lake. Underwater the rock is alive with the growth of algae, insects, swimming shrimp, and even the formation of new tufa itself.

Discovery of gaylussite opens new questions about the changing chemical composition of Mono Lake and the origins of tufa formation. Another inspiring revelation is that now, anywhere they can attach, fields of crystalline gems are found on the lake

bottom.

Science is really the art of discovery, and wherever there are unexplored frontiers is where the most exciting new worlds of life will be found. Such a world is beneath the waters of Mono Lake.

This research was supported by a grant from the California Policy Seminar (UC Berkeley) and aided by the Mono Lake Foundation. A full report on this research is available from the University of California. Collaborators in this and other research include T.J. Bradley of UC Irvine; J. Bischoff, L. Miller, C. Culbertson and R. Oremland of the USGS in Menlo Park; J. P. Kocielek of the California Academy of Sciences; and S. Stine of Lamont-Doherty Geological Observatory.

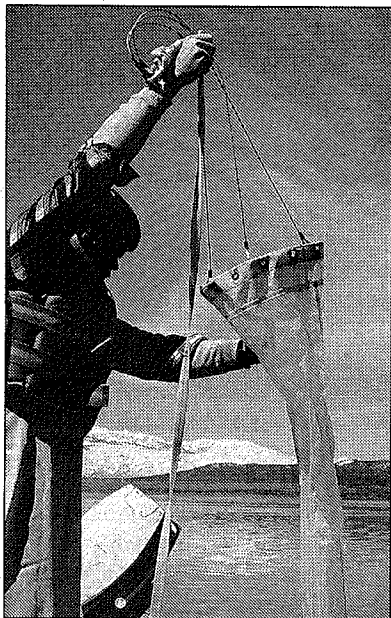


Underwater tufa towers seen through the Brine shrimp of Mono Lake

Photo by Larry Ford

Aquatic Ecology

Gayle Dana, Robert Jellison, John Melack, and Jose Romero
Marine Science Institute
University of California
Santa Barbara, CA 93106



Collecting brine shrimp specimens in a
Zooplankton Net on Mono Lake
Photo by Gayle L. Dana

The Mono Lake ecosystem is composed of interacting populations under the influence of physical and chemical conditions.

In the open water (or pelagic region of the lake), phytoplankton and the zooplankton, *Artemia*, are the principal primary producer and consumer. We have been studying the ecology of these plankton populations since 1979, spanning a period in which extreme changes in lake conditions have occurred.

One of our ongoing goals has been to monitor the changes in the physical and chemical state of the lake, and to observe the response of the plankton community. We utilize this data, in conjunction with experimental laboratory studies, to run statistical analyses and computer models. These allow us to better understand seasonal and inter-annual variations both within and between the lake's plankton communities. Such analyses are being used as tools for assessing various management scenarios for Mono Lake.

Our goals this year are to continue monitoring and analyzing the plankton populations. Over the past few years we have developed cohort models of the *Artemia* to derive life-history parameters not directly obtainable from field data. (These include hatching, development, and mortality.) These parameters are being used in conjunction with field data to estimate annual secondary production, a measure which will further assist us in evaluating inter-annual fluctuations of the *Artemia* population.

Secondary production, along with our past estimate of annual primary production of the algae, may be useful as indicators of the health of the ecosystem. They integrate many important life-history components of the plankton.

Several management alternatives to be evaluated in the Mono Basin Environmental Impact Report will permit greater inflows of stream water than have occurred in most years since 1941. To examine the potential influence of these alternatives on Mono Lake's productivity, we are implementing a model of vertical mixing as a function of freshwater inflows. This information will be used to calculate the vertical mixing of ammonium (a limiting nutrient to the algae) and then to estimate changes in lake-wide primary production with various stream flows.

This is the first year since the onset of meromixis (persistent chemical stratification) in 1982 that Mono Lake has experienced "normal", pre-meromictic conditions. Although meromixis was terminated in November, 1988 when the lake mixed completely, abnormal chemical conditions persisted into the Spring of 1989. From late November, 1988 to February, 1989, the entire water column was anoxic, causing a delay in brine shrimp hatching. Ammonium and *chlorophyll a* levels were very high during the spring, with ammonium remaining high for most of the year. Conditions in Mono Lake during 1990 were much more similar to the pre-meromictic dynamics observed from 1979 to 1982.

This research is supported by a grant to Dr. J. M. Melack from the Los Angeles Department of Water and Power.

Recent publication: Dana, G.L., R. Jellison, and J.M. Melack. 1990. "*Artemia monica* cyst production and recruitment in Mono Lake, CA, USA." *Hydrobiologia* 197:233-243.

Ecosystem Study of the North Shore Dunes

Catherine A. Toft and Deborah Elliott-Fisk
Center for Population Biology
and Department of Geography
University of California
Davis, CA 95616

A number of fragile ecosystems, limited geographically and temporally, rim the current Mono Lake shoreline.

The goal of our collaborative research is to increase understanding of the ecosystems of the northern shore and its sand dunes. Here we are assessing the integrated structure and function of plant and selected animal communities. We study their adaptation to the soils, landforms, and volcanic deposits, and their susceptibility to environmental change.

The focus of our on-going case study is one species of bee fly (*Lordotus pulcherrimus*; Diptera, Bombyliidae). Our approach combines seasonal and annual censusing of bee flies and their food plant, along with habitat analysis and paleoecological studies.

Toft's work, presented in previous newsletters, has explored why males of this species gather in groups, known as *leks*, to compete for mates. Mysteriously, the lek sites occur in exactly the same place each year, even though all males die at the end of each season. How do newly-emerged males find these traditional locations without males from previous seasons to show them?

Toft and Elliott-Fisk began their collaboration to

North Shore Dunes *continued*

understand the patterns of vegetation on the north shore dunes, part to determine what markers males use to identify the lek sites.

Elliott-Fisk has studied the volcanic deposits which come from the Inyo-Mono Craters. Deposits of volcanic ash (acidic tephra) in thicknesses of up to one meter in these generally alkaline environments can drastically alter the chemical and physical properties of the soil. Such volcanic deposits also affect the soil's microclimate, often triggering different water balances and other geomorphic processes.

Last summer, we began research to identify physical landscape variables that might influence the dynamics of the

sand dune, plant, and insect components of the ecosystem. Our initial data suggest that plant communities correlate with slope and position in the dune system. General plant-soil-landform patterns are caused by both lake fluctuation and volcanic activity. The different periods of dune formation along the northern shore of Mono Lake are likely a function of not only lake-level change, but the distribution of volcanic ash.

Our forthcoming results on ecosystem function and fragility will be made available to area managers to aid their attempts to protect the natural resources of the Mono Basin for future generations.

Young Volcanics Of The Mono Craters

Kerry E. Sieh

Department of Geology

California Institute of Technology

Pasadena, CA 91125

For the past eight summers I have been working on the history of the eruptions of the Mono Craters. This chain of volcanoes consists of approximately eight cubic kilometers of rhyolitic lava. The lava was emitted from about 30 separate vents or craters along the length of the chain from just east of June Lake Junction to Panum Crater.

My earlier work demonstrated that the most recent eruption of the Mono Craters, which occurred in about 1350 A.D. and which we call the North Mono eruption, involved the nearly simultaneous eruption of ash and lava from Panum Crater, Cratered Dome, (just south of Highway 120), Upper Dome, (a bit farther south), and Northern Coulee, (the large two-lobe flow just south of Highway 120).

These eruptions were triggered by the upward migration of a slab or dike of magma that was about six kilometers long. This dike extended from beneath Northern Coulee northward to Panum Crater. This work is described in more detail in *Sieh and Bursik, 1986*.

For the past few years, I have been studying the South Mono eruption, which involved explosive eruptions from sources south of Crater Mountain. During this eruption, several vents along a four or five kilometer line on the crest of the range exploded. These include the large amphitheater-like crater just south of the road that crosses the craters north of Devil's Punchbowl. Ash and lava poured out of the crest of the range where south Coulee now resides, and gray ash, which mantles most of the area south of Crater Mountain and north of Southern Coulee, erupted just north of

Southern Coulee.

Both the North Mono eruption of 1350 A.D. and the South Mono eruption of about 600 A.D. involved about half a cubic kilometer of lava flows and about half a cubic kilometer of highly explosive ash, spread far and wide around the Mono Basin.

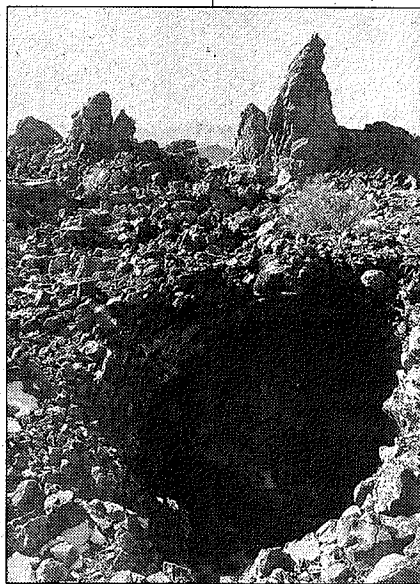
I have also been working on an eruption that occurred a few hundred years before the South Mono eruption, which appears to have involved several different craters erupting almost simultaneously, both in the northern and southern portions of the Mono Craters. Thus it appears that the past three major eruptions have involved eruptions from several sources and have been produced by the intrusion of dikes along the chain.

The average period between these events appears to be about 300 years, although the last eruption was about 650 years ago.

As far as the history of Mono Lake itself is concerned, the dating and characterization of the various ashes deposited over the past few thousand years have been instrumental in understanding the timing of various lake levels.

One of my students, Marcus Bursik, recently completed his Ph.D. on the relationship between the volcanic eruptions and faulting along the Sierra Nevada range front, on the west side of the Mono Basin. He concluded that the faulting began to shut down about the same time that the volcanic activity commenced. Thus he concluded the extension of the crust by dike intrusion beneath the Mono Craters has taken over as the means by which this portion of the Basin Ranges stretches. The earthquake faults are far less active now at the latitude of the Mono Craters than they are to the north and south.

His paper was published as *Bursik and Sieh, 1989*.



Lava formations, Panum Crater

Photo by Bob Schlichting

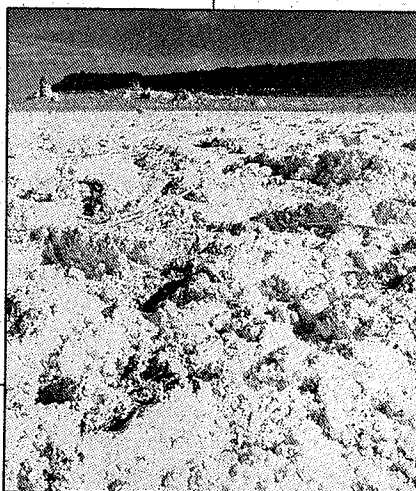
The Interaction of Fresh and Saline Groundwater Beneath Mono Lake

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The groundwater beneath closed-basin saline lakes such as Mono Lake is itself often quite saline. Fresh groundwater flowing as recharge from surrounding highlands comes into contact with the saline water below the lake. An interface forms between these two water types, similar to the case where seawater invades shoreline aquifers. The denser saline water flows below the fresh water, and some mixing occurs where the flows meet.

The objective of our work is to study hows this saline-fresh groundwater system may behave at Mono Lake. Our main tool is a groundwater flow model. The inter-layered sands and silts which fill the Mono Basin create a complex series of confined aquifers which are difficult to study without detailed water well information. A model allows the testing of general hypotheses about the groundwater flow system. The influence of various properties of the system such as amount of recharge or permeability of the rocks can also be investigated.

Of particular interest is the presence of saline groundwater underlying the lake's northern and eastern shorelines. Evaporation of these waters has led to precipitation of a salt crust which creates a substantial air pollution source under high wind conditions. Aside from the salt crust, the interchange of ground and lake water has an important influence on the chemistry of each water body



Salt crust, brought to the surface by saline groundwater, near Negit Island.

Air Quality Research Update

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The playa which is growing around Mono Lake's shoreline contains, in many areas, a crusty surface layer of efflorescent salts. The crust is formed by the capillary rise of saline groundwater near the lakeshore.

In a study presented last year to a Geological Society of America conference, we conclusively showed that the playa itself is the source of dust storm aerosols. We used X-ray diffraction analysis to determine the mineral composition of playa materials, surface sediments in the Mono Basin, and dust storm aerosols.

Sediments in the Mono Basin are composed of silicate minerals such as quartz, feldspar, mica, and clays. The playa itself is composed of silicates, calcite, and salts such as sodium

over the long-term history of the lake.

This year we continued the synthesis of geological and geophysical information pertaining to the volcanic and sedimentary deposits that fill the Mono Basin. This information provides the basis for defining the limits and properties of the basin groundwater system. Two representative model cross sections have been examined: one through the Lee Vining area represents the high recharge region on the Sierran side of the lake. The other runs along the flat, arid northeastern floor of the basin and reflects the low groundwater inflow characteristic of this region.

Our preliminary results show that fresh water inflow along the Sierra may drive saline water well back below the lake. This agrees with reports of fresh water discharging from tufa in the western part of the lake. Model results indicate that, on the eastern side of Mono Lake, it is likely that recirculating salt water exits from the exposed lakebed anywhere from 500 to 1000 meters beyond the lake's edge. This is due to the blocking of inflowing fresh water recharge by denser saline ground water below the lake, lower recharge, and mixing between these two water bodies as they come in contact. The hypothesized recirculation may contribute to the saline crust present in this area.

Future work with this model will address questions relating to how lowering the lake's level over the last fifty years has affected the distribution of saline groundwater under the lakeshore. The effect of the groundwater on the evolution of the lake's salinity, and the role of Pleistocene lake level changes will also be studied.

This work has been supported by grant from the U.S. Geological Survey and from the Great Basin Unified Air Pollution Control District, using pass-through funds from the Los Angeles Department of Water and Power.

chloride, sodium sulfate, sodium sulfate-carbonate, and sodium-calcium sulfate.

Careful analysis of dust storm aerosols captured on Mylar strips from air samplers allowed us to identify their constituent

minerals. The dust contains silicates, especially mica, but salts from the playa were also found in the samples. Early-season events were dominated by thenardite (sodium sulfate), reflecting erosion of powdery efflorescences from the playa.

The study also surprisingly showed that, even on days when only faint dust was visible downwind of Mono Lake, playa materials had dispersed into the air in other areas around the basin, out of the paths of the main dust plumes.

A month of intensive aerosol sampling at Simis Ranch and Lee Vining in spring, 1990, confirmed that under non-dust conditions, which is the vast majority of the time, the air quality in the Mono Basin is among the cleanest in California. However, as the present drought continues, as Mono Lake drops and the playa expands, we expect that dust storms this year could reach the extreme levels that were observed in 1979 - 1981.

Population size and Reproductive Success of Gulls in 1990

Dierks
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California Gulls nest at lakes and reservoirs in the Western United States and Canada. The colony at Mono Lake is second in size only to the one at Great Salt Lake, Utah.

Several things are notable about the 1990 nesting season at Mono Lake. Over 60,000 gulls nested at Mono Lake in 1990, substantially more than in any other year since Point Reyes Bird Observatory's studies began in 1983. In previous years, 44,000 to 50,000 gulls nested at the lake.

From 1989 to 1990, the number of nesting gulls increased greatly on most of the Negit Islets that typically support 100 or more gulls. Negit Island and Pancake Islet, the two islands visited by coyotes in 1989, were the exceptions.

Negit Island and Twain, Pancake and Java islets were connected to the mainland when the lake level reached its lowest point in the early 1980's. These islands were not used for nesting while they were accessible to coyotes, but were recolonized when the lake level subsequently rose. Due to the current drought, the lake level has fallen again to the point that the landbridging of nesting islands is eminent.

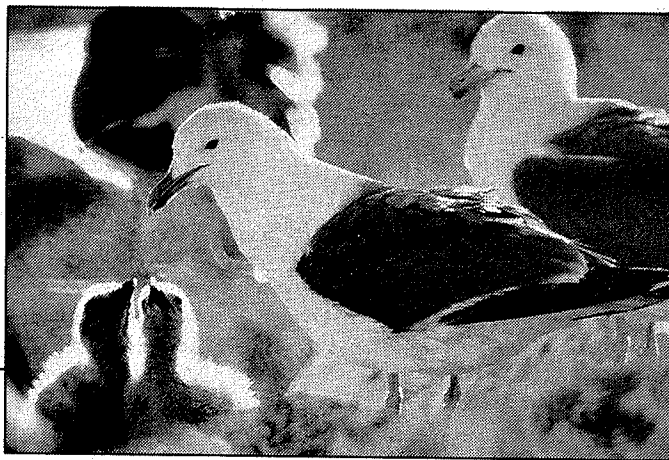
In 1990, coyotes waded to Pancake Islet and Negit Island for the second consecutive year. An electric fence, erected by the Forest Service in Spring, 1990, did not keep coyotes off

Negit Island. By early July the gulls had totally abandoned Pancake. On Negit Island, gulls successfully raised chicks, although fewer chicks were produced per pair than on most of the other Negit Islets.

Future nesting on Pancake Islet and Negit Island is threatened unless the lake level rises. If the level falls, nesting on Twain Islet, which currently supports 50 per cent of the lake's nesting gulls, will be threatened as well.

About 44,000 chicks reached flying age in 1990, 30 per cent more than the previous high in 1986. This large number was due in part to the large number of nesting adults, and in part to a high success rate per nesting pair (1.5 chicks produced per pair, lake-wide). The number of chicks produced per year has been highly variable.

Our work was made possible by the help of a large number of volunteers. Data from Paoha Island and the Paoha Islets were contributed by Joseph R. Jehl.

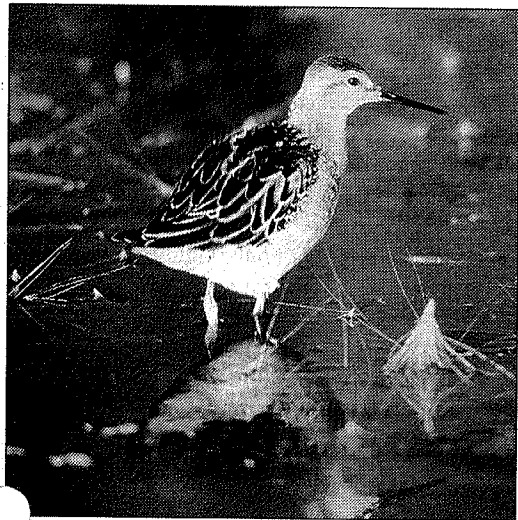


California Gulls Nesting at Mono Lake

Migratory Birds

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Hubbs Sea World Research Institute continued its studies, begun in 1980, on the biology of the major migratory bird species using Mono Lake. These include California Gulls (done



Wilson's Phalarope

in collaboration with Point Reyes Bird Observatory), Wilson's Phalaropes, and Eared Grebes; additional studies have begun on Ruddy Ducks.

California Gulls nesting on

the Paoha Islets, on the west side of the lake, had a phenomenal year. The number of breeding pairs increased from 2682 to 5145, and fledged over 10,000 chicks. This is 1.95 chicks per pair, by far the highest success noted during our studies.

Wilson's phalarope numbers were lower than normal, whereas Eared Grebe seemed more abundant than in the recent past. We are not yet able to interpret the data on annual fluctuations in populations sizes, as they are affected by many factors that are not related to Mono Lake, such as the availability of other potential staging areas. Comparative studies in progress at Stillwater, Nevada; Lake Abert, Oregon; and Great Salt Lake, Utah, will help us understand how bird populations at Mono Lake fit into the bigger picture of how migratory birds exploit salt lake ecosystems.

Banding studies of Eared Grebes remain a high priority. To date we have captured over 1700 birds to gather data on their body condition and migration routes. A few banding recoveries are beginning to accumulate. In 1990 we also banded several other species of waterfowl including Ruddy Ducks, Gadwalls, Pintails and Redheads.

Research in 1991 will continue these ongoing studies, and with Dr. Mike Morrison, U.C. Berkeley, we will expand our work to include small mammal populations on the islands.

Mountain Beaver Update

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My ongoing work with the mountain beaver is the result of an unusual sighting I made while working with the Mono Lake Research Group. Back in 1976 I observed one of the animals foraging among the tufa at the south tufa grove. This was apparently the first indication that the unique rodent could exist in such arid conditions.

Not a true beaver, the mountain beaver (*Aplodontia rufa californica*) spends much of its time underground and appears to have physiological limitations that confine it to moist, lush habitats such as wet thickets and stream banks. In size and appearance it resembles a tail-less muskrat. Like an over-sized gopher, it typically makes extensive burrow systems in soft, damp earth.

In the past, I searched the upper drainages of the Mono Basin for new mountain beaver populations. Information indicates that they were previously found along the western streams of the basin, but it appears that grazing and water diversion has greatly altered the riparian environment available to the animal. While good habitat still exists higher up in the Sierra, no active burrow systems have been located in the Mono Basin. Several carcasses have been collected along Highway 395, north of Lee Vining, however, and I was able to identify a mountain beaver road-kill found by a Forest Service employee near the Mono Inn this summer.

Mountain beaver probably enter the Mono Basin via several passes and drainages that Paul Todd and I identified this



Mountain Beaver, (*Aplodontia rufa californica*)

Photo by L. Ingles

summer. A University of Montana graduate student who has completed his masters thesis, Todd examined the mountain beaver populations in Yosemite and shed new light on the status and distribution of the species in the High Sierra.

The U.S. Fish and Wildlife Service and the state Department of Fish and Game is considering the Mono Basin mountain beaver for possible listing as an endangered species. I have produced several reports on the species for them. My masters thesis covers the ecology of the mountain beaver in California.

Aircraft Radar Remote Sensing of Sierra Nevada Moraines

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Since 1989, several members of the Cornell Andes Project have been studying the moraines near Mono Lake which were deposited by mountain glaciers that occupied the Sierra Nevada several times during the earth's Pleistocene Epoch (2 million to 10 thousand years ago).

The Sierra Nevada moraines that we are investigating form the long, narrow ridges around lakes June, Grant, and Walker. They are analogous to the less accessible moraines found in climatically and geographically similar parts of the Andes Mountains of South America. Moraines are of special interest to climate history researchers because glaciation was one of the primary responses to Pleistocene climate change.

Our primary objective is to differentiate the relative ages of the moraines using surface roughness measurements from

aircraft radar images. The work is being supported under the NASA-JPL SIR-C project. To date, no published research has used radar for relative dating of moraines or other glacial landforms.

The ability to use radar imagery to develop a relative chronology of mountain glaciation is based on the observation that younger moraines are generally rougher and more bouldery than older moraines. After initial deposition, boulders on the surface of the moraines crack and slowly disintegrate through time because of exposure to natural physical and chemical weathering processes.

Unfortunately, radar imagery not only highlights differences in surface roughness but also emphasizes local variations in surface slope, vegetation type and density. These parameters were investigated in the field during the last two summers to help understand and constrain their impact on the observed radar signal. For example, surface slope data ranging in resolution from 15 centimeters to 30 meters were compiled by David A. McMurry from topographic maps and field surveys in order to generate a digital elevation model which is used to

contin

Radar Sensing continued

geometrically correct the aircraft radar images and surface roughness resulting from local variations in the surface slope. In addition, the DEM has been digitally combined with other remotely-sensed data, including Landsat Thematic Mapper (TM) imagery to produce perspective views of the Sierra Nevada-Mono Lake region for use in other components of our research.

The fact that radar images highlight rough surfaces makes it possible to develop a remotely-based relative dating technique for establishing a relative chronology for moraines and other landforms on which surface age and roughness can be correlated.

The Sierra Nevada moraines located near Mono Lake are

ideal for developing and testing our radar relative-dating technique because of the general absence of obstructive vegetation cover, easy access, and the abundance of previous dating studies. For example, Fred Phillips and others from New Mexico Tech have recently determined that the moraines surrounding Walker Lake were formed during five distinctive periods of Pleistocene glaciation ranging in age from about 21 to about 200 thousand years ago.

Comparison of these ages with our aircraft radar and field data shows that surface roughness decreases with increasing age. Using the measurements on Mono Basin moraines for calibration, radar imagery may be used to establish relative age chronologies for landforms in remote parts of the world such as the Andes.

DWP Research Activities

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Los Angeles Department of Water and Power

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Los Angeles, CA 90051

Department of Water and Power's support of scientific research in the Mono Basin continued in 1990. Here are brief descriptions of the on-going projects.

BASIN-WIDE GEOHYDROLOGY

We are continuing to study the groundwater and freshwater spring flow to Mono Lake. In addition, we are using the Mono Lake hydrological model to evaluate requirements to maintain the lake level above specific elevations under different operating scenarios. This work is being done in cooperation with the Mono Lake Committee.

AIR QUALITY MONITORING AND LAKESHORE REVEGETATION

We continued to cooperate with the Great Basin Unified Air Pollution Control District by funding the collection and analysis of meteorological air quality data at four Mono Lake locations. We continue to fund studies on the re-establishment of native vegetation on barren dust-source areas.

BRINE SHRIMP ECOLOGY AND PHYTOPLANKTON DYNAMICS

Dr. John Melack of U.C. Santa Barbara directed research on algal productivity and brine shrimp dynamics. A detailed analysis of the 1983-1990 database is planned for 1991.

BRINE-FLY PHYSIOLOGY AND ECOLOGY

Dr. Timothy Bradley of U.C. Irvine completed his studies on brine fly ionic regulation and the effects on salinity on the growth and development of the brine fly.

Dr. David Herbst of the Sierra Nevada Aquatic Research Laboratory began a pilot study on the suitability of artificial substrates as a brine fly habitat mitigation and enhancement tool.

AVIAN BIOLOGY

Dr. Joseph Jehl of the Hubbs Sea World Research Institute continued long-term studies on the California Gull, Wilson's Phalarope, and Eared Grebe. New studies were begun on the Ruddy Duck.

FISHERIES

The consulting firm EA Engineering, Science and Technology, Inc., conducted another year of trout population surveys in Lee Vining Creek and Rush Creek and found that, although both creeks continue to support self-sustaining populations of brown trout, their populations fell after the court-ordered flow increases of last year but before short-term high-flow releases by Southern California Edison hydropower facilities.

Parker Creek and Walker Creek habitat-enhancement efforts included brush clearance, bank stabilization, and streambed modifications. Beginning in 1991, DWP will monitor the effects of these habitat improvements as well as the release of full-time flows on both creeks.

A jointly-funded study with the Department of Fish and Game supported the development of an instream fish habitat for lower Rush Creek by Beak Consultants. A draft report of this study is currently being reviewed.

1990 Mono Basin Research Updates

Our thanks to all those who furnished articles and photographs for this report.

Volunteers Needed For Speakers Bureau

Speakers with the desire to explain the beauty and fragility of Mono Lake are being sought for a volunteer bureau newly-formed in Los Angeles.

"We are looking for a dozen or so volunteers, with or without public speaking experience, to present the Committee's slide show," said Marque Rubinn, the volunteer coordinator of the new project.

The Mono Lake Committee receives, on the average, a dozen requests a month for the presentation of the informational slide program. The appeals come from school classes, service clubs like the Lion's and Rotary, and other environmental groups.

As important as such speaking engagements are in helping foster public opinion, the Committee doesn't have enough staff to fulfill all the invitations.

That's where Rubinn, a paralegal eager to get involved in the environmental movement, comes in.

"I could see the importance of taking the Mono Lake case to the public," said Rubinn. He agreed to help build a staff of volunteers willing to tell the Mono Lake story.

"Speakers have a well-produced slide show and a script," explained Rubinn. "We urge people to customize it to their style, and teach them what questions they will probably be asked. It is a wonderful opportunity to actively help preserve Mono Lake. We are working to raise people's consciousness about their water supplies in this critical time of drought."

After an initial training period of approximately 10 hours, (spread over a month), speakers should be able to donate six to

eight hours a month.

For more information or to volunteer as a speaker, contact Betsy Reifsnider at (818) 972-2025.

MLC Staffer on State Task Force

Betsy Reifsnider, Mono Lake Committee Associate Director, was appointed in December to a statewide advisory task force with the Department of Water Resources.

Reifsnider was chosen as the sole representative of environmental groups on the 12-member task force. The group met weekly for two months to draft a model water-efficient landscape ordinance.

The task force was the result of legislation sponsored by Assemblyman Steve Clute (D-Riverside). Under the terms of the law, local governments must either implement their own water-efficient landscape law or adopt the state's model.

"Landscapes in California are over-watered anywhere from 20 to 600 per cent," said Reifsnider. "Bringing efficiency to our plantings can help reduce the pressure on our threatened ecosystems, like Mono Lake and the San Francisco Bay/Delta."

While the task force members have completed the initial phase by devising a draft ordinance, the document must now be reviewed by the Department of Water Resources and submitted for a public hearing. After receiving public comments, the group will reconvene in the fall and recommend the final landscape regulations.

To receive a copy of the draft plan, call Marsha Prillwitz, California Department of Water Resources, (916) 445-4403.

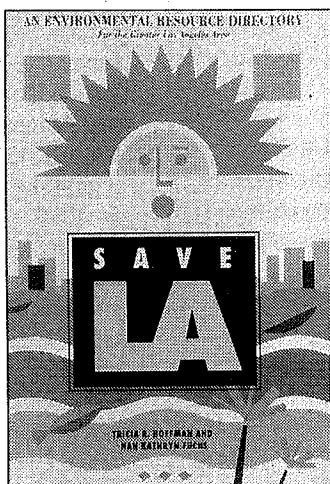
Book Review:

Handbook Names Names, Gives Addresses

In Los Angeles, environmental problems are often like the weather: everybody talks about them, but nobody does anything about them. Now, thanks to a new handbook, *Save LA*, it's easier than ever for Southlanders to take action.

Authors Tricia R. Hoffman and Nan K. Fuchs have focused the precept "Think Globally, Act Locally" onto the Los Angeles area. The result is a two-part resource directory that addresses the Southland's environmental problems and their solutions.

Part one identifies and discusses such ecological issues as water conservation, recycling, clean air and transportation. It explores how lifestyle habits much be changed, and suggests products and services available to help Angelenos create their own solutions.



This book is available in the Committee's Visitor Center for \$8.95. You can order it by mail by using the order form on th back of this issue's water conservation poster. To order by phone, call (619) 647-6595.

Part two gets down to specifics. A classified directory, it contains 90 categories of products and services, ranging from cleaning supplies to worm composting. Need to know where to recycle used motor oil? *Save LA* lists 41 locations. Want to ride share? The book explains how to tap into a computer network that will match you up with the nearest car and van pools.

The authors have done an impressive amount of detective work, creating a practical tool to improve the environmental quality of a specific area. In the back of the book is a form that readers can use to recommend future additions to the directory, which the authors intend to update yearly.

Perhaps *Save LA* will serve as a much-needed prototype for area-specific environmental guides. Many areas of the country besides Los Angeles can use it.

Reviewed by Gary Nelson

Save LA, by Tricia R. Hoffman and Nan K. Fuchs, published 1990 by Chronicle Books, San Francisco. \$8.95.

Foundation Board Member named "Citizen of Year"

Mary K. Hanson, Chief Financial Officer of the Mono Lake Foundation, was recently named "Citizen of the Year" in Mammoth Lakes.

In the first-ever poll sponsored by the *Mammoth Review-Herald*, six Mono County residents were chosen as the outstanding citizen in their respective communities. Of all the candidates selected, Hanson garnered the most votes, amassing 121 of the nearly 300 ballots cast.

Mary was one of the founding members of the Mono Lake Foundation. She has served as its Chief Financial Officer since its inception in 1987.

In addition to the Mono Lake Foundation, she is an active volunteer in such civic groups as the Mono County Friends of the Library, the Mono County Arts Council, the Southern Mono Historical Society, and the Mammoth Hospital Auxiliary. Originally from San Francisco, she has been an active Mono County resident since 1976.



Accolades

Each member and contributor is important to us, for it is our support that makes our work possible. Especially important are in-kind donations. For that reason, we want to give special acknowledgement of the following:

Ashton-Tate for donating *dBASE IV*, *Applause II* and *Multimate* software. Thanks to C. J. D'Angelo.

Canon, USA for our new *Canon Image Scanner*, software, invaluable advice, and more. Thanks to Jon Reardon.

Corel Systems Corporation for donating *CorelDRAW* software. Thanks to Fiona Rochester.

Our computer wizards have provided hours of free advice along with generous discounts. Thank you, Don Jackson of **Sonoma Backboards**, and John Joyce of **John Joyce and Associates**.

Thanks also to Ira Hanson and Dean Malley for hours of computer guidance.

Mono Lake canoe rides will be especially fun this summer, thanks to two new canoes donated by **REI** of Kent, Washington. Thanks **REI**, for your long-time support.

Once again the Conejo Valley Audubon Society from Thousand Oaks, California contributed the proceeds of their yearly fund-raising auction to the Mono Lake Committee. We appreciate their ongoing assistance.

In last summer's Bike-a-thon, Tom Lyons, a long-time Mono Lake supporter, was unable to ride. Instead, five of his

friends formed a team and rode in his name. Our special thanks go out to Holly Owen, Bob McAdam, Ann McCormick, Andy Switky, and Jeff Stevens. We applaud their support for Tom and for Mono Lake, and apologize for omitting their names in the last newsletter.

In Memory

The employees of the Santa Clara County Library Department in San Jose made a donation in memory of Ione and R. D'Arcy Bonnet. D'Arcy was a landscape architect for the Forest Service in the eastern Sierra. He and Ione were well-known for their kindness and love of beautiful places.

Staff Hellos and Goodbyes

Carolyn Callahan recently joined the Lee Vining staff as the new Administrative Assistant.

A member of the intern program from January until mid-March, Carolyn graduated in December, 1990, with a degree in Conservation and Resource studies from the University of California, Berkeley.

An accomplished writer, Carolyn learned about the Mono Lake Committee while attending a seminar on women and nature writing conducted by former newsletter editor Lauren Davis.

John Cain also joins our Lee Vining staff as the new Science Associate. John has a degree in Geography from U.C. Berkeley and has worked for several environmental organizations including the National Wildlife Federation and the Nature Conservancy. His experience in water policy research will prove invaluable in preparing for legal and Water Board processes.

And we sadly say goodbye to staff-member Karyn Helfrich. She first worked with us as a summer intern in 1989. After graduating from U.C. Davis with a degree in French and Political Science, again interned through the summer of 1990. Following a three-month sabbatical to tour Europe, she returned in December as our Lee Vining Policy Assistant.

Karyn will be returning to the Bay area to study for law school entrance exams.

MLC Job Opportunities:

Mono Lake Intern Program

Four summer intern positions are opening up this June. Interns work closely with other staff members, operating the Visitor's Center, helping with mail and membership, leading tours, providing lectures, and attending meetings and seminars. They also work on special projects utilizing their individual talents. For many it is an effective way to gain experience and begin a career in the field of environmental protection.

Internships last four months and include minimum wage, with low-cost housing available in Lee Vining. To apply, contact Shannon at (619) 647-6595.

Wish List

A two-projector dissolve unit for our Lee Vining slide shows would be a big help -- ours is definitely old and tired. We also need a cassette deck with auto-reverse.

1991 Mono Lake Foundation Workshops

Sponsored by the Mono Lake Foundation and the Mono Lake Committee

The Mono Lake Foundation is a non-profit corporation, administered by a volunteer board, dedicated to the preservation of the Mono Basin ecosystem through education and research.

Our 1991 workshops offer an exciting array of weekend field seminars. We have old favorites plus a new class for kids taught by Leslie Dawson. The fall photo workshop will be taught by Jim Stimson, a well-known photographer and instructor. Come capture those gorgeous autumnal colors. Dave Shuford adds a fall birding class.

All classes limited to 15 people.

To register or for more information, please contact Sally Gaines, Mono Lake Workshops, P.O. Box 153, Lee Vining, CA 93541; or call (619) 647-6496 between 7:30 AM and 7:30 PM.

Birds of the Mono Basin

Dave Shuford June 8 - 9 \$75/person, \$60/MLC member

Dave Shuford of Point Reyes Bird Observatory is a master birder and patient instructor. Beginners as well as experts will enjoy this intimate introduction to Mono's birdlife. We will learn to understand their roles in our environment.

Volcanoes of the East Side

Jim Parker June 8 - 9 \$75/person, \$60/MLC member

California's most varied and intriguing volcanic terrain is here in Mono County. Join a tour from the Bodie Hills to the Long Valley Caldera and learn about everything from rhyolites to basalts, glass flows to glowing avalanches. Beginners as well as experts will enjoy this intimate introduction to Vulcan's playground. The workshop will definitely *not* be cancelled in the event of an eruption!

Geology of the Mono Basin

Jim Parker June 15 - 16 \$75/person, \$60/MLC member

No area of comparable size in North America offers the exciting combination of geologic features found in the Mono Basin. With geologist Jim Parker we explore recently active volcanoes, earthquake scarps, tufa towers, hot springs, the solid remains of an underwater volcano, active glaciers and the paths of their Ice Age predecessors. This popular workshop provides a fascinating introduction for the novice rockhound and a wealth of detail for those knowledgeable in geology.

Wildflowers of the Mono Basin

Mark Bagley July 6 - 7 \$75/person, \$60/MLC member

From Mono's shores to alpine meadows, few places on earth rival the colorful magnificence of Mono's summer wildflower bloom. Mark Bagley, full-time botanist, private biological consultant and trip leader for the local chapter of the California Native Plant Society, will teach you to identify flowers; and introduce you to simple plant-family characteristics and the natural history of the Mono Basin. The workshop includes a boat taxi across Saddlebag Lake to the Twenty Lakes Basin's alpine meadows. We will be hiking several miles at 10,000 feet elevation and see several rare plants that grow nowhere else.

Mammals of the Mono Basin and Tioga Pass

John Harris July 13 - 14 \$75/person, \$60/MLC member

Learn the natural history and identification of mammals from the alpine zone to sagebrush desert. Observe, capture and photograph some of Mono's 80 species of chipmunk, Pikas and Pygmy Rabbits. Use of live traps, track identification, and demonstration of radio-telemetry will be included.

Native American Survival Skills for Kids

Leslie Dawson July 13 - 14 \$40/kid \$35/kid if parent is MLC member

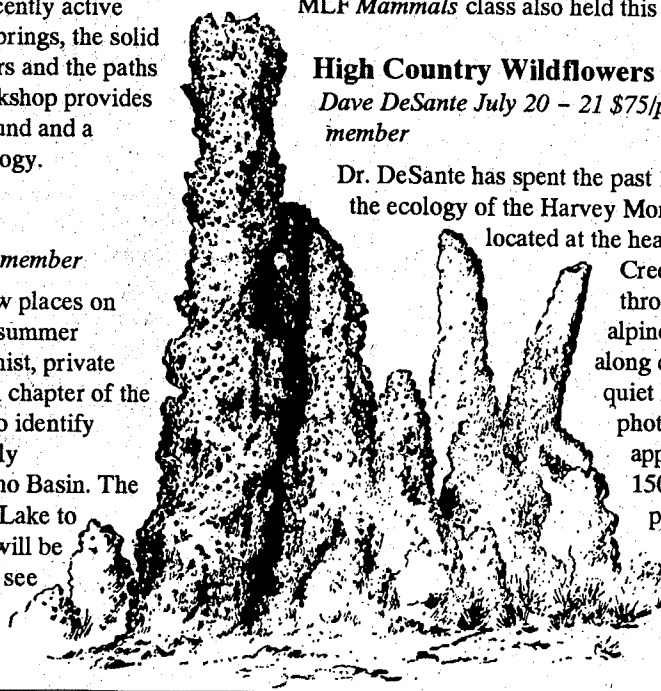
This class, open to kids fourth to eighth grade, will consist of exciting hands-on field activities that imitate prehistoric native American life. Leslie, a popular local teacher who has taught and practiced these skills with her classes, will present hunting skills, story-telling, rope-making and games. Dependent on time and materials, the kids may also build a shelter or a boat, make clothing, use native dyes and grind grain in a metate. The class day will be 9 - 5 on Saturday, 9 - 3 on Sunday. A few parents wishing to go along as helpers will not be charged. Other parents may wish to enroll in the MLF Mammals class also held this weekend.

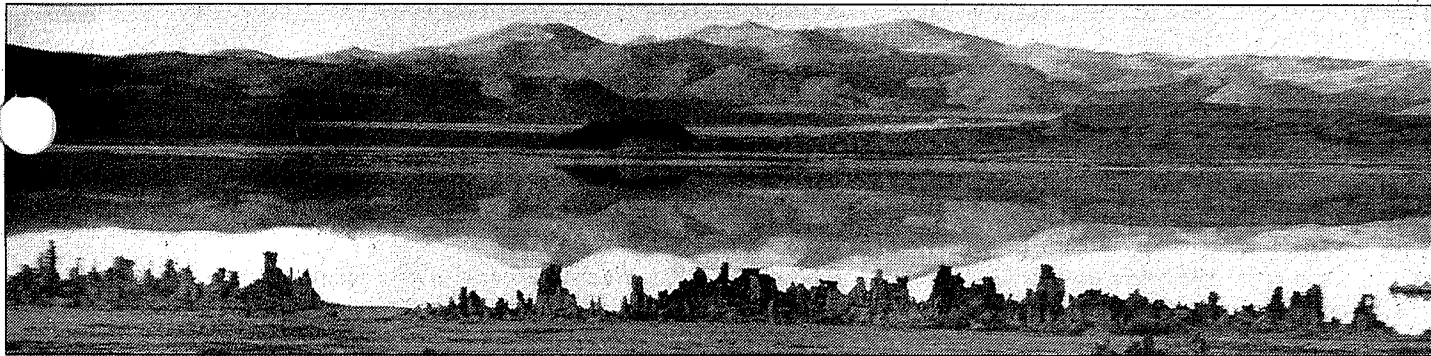
High Country Wildflowers

Dave DeSante July 20 - 21 \$75/person, \$60/MLC member

Dr. DeSante has spent the past 14 summers studying the ecology of the Harvey Monroe Hall Natural Area, located at the headwaters of Lee Vining

Creek. We will hike through sub-alpine forests, alpine meadows, fell fields, along cascading creeks and quiet lakes identifying, photographing and appreciating as many as 150 species of flowering plants. Participants will be hiking 5 miles at high elevations (10,000 feet).





South Tufa at Mono Lake

Photo by Bob Schlichting

Mono-Bodie Photography

Clinton Smith July 26 - 28 \$150/person \$135 MLC member

The group will spend the first day exploring the ghost town of Bodie. Participants will be able to spend time inside buildings closed to the public and will remain at the park until after sunset. The final two days will be spent experiencing and photographing some of the tufa groves, stream-lined canyons, volcanoes, and other unique features of the Mono Basin. The class will be loosely structured and will not be simply a tour of the photographic hot spots. This acclaimed photographer/philosopher intends to stimulate thinking and sensitivity. The class is open to all levels of expertise.

High Country Birds

e DeSante July 27 - 28 \$75/person, \$60/MLC member

Up-mountain drift brings large numbers of lower elevation species to the high country to associate with breeding species already there. After 14 summers of intensive avian research in the Harvey Monroe Hall Natural Area, Dave has extensive knowledge of the birds in this area, including such specialties as Pine Grosbeak, Water Pipit, Rosy Finch and the White-tailed Ptarmigan. We will be sauntering all day at high elevations (10,000 feet.)

Fall Bird Migration of the Eastern Sierra

Dave Shuford August 24 - 25 \$75/person, \$60/MLC member

The east slope of the Sierra Nevada is a major migration route for birds travelling from northern nesting areas to the warm southern habitats. This is the time of year to see the greatest diversity of landbirds, shorebirds and water birds in the Mono Basin and Crowley reservoir. Your instructor is well-acquainted with the birds and where to find them.

Mono-Bodie Historical Tour

Arlene Reveal August 24 - 25 \$75/person, \$60/MLC member

We will journey with a local historian and story-teller, back to the days of the Paiutes, prospectors and pioneers, bringing Mono's rough-and-tumble past vividly to life. We'll explore mining camps, stamp mills, homesteads and graveyards.

Mono Basin Fall Photography

Jim Stimson October 12 - 13 \$75/person, \$60/MLC member

We will explore various locations along the lake, as well as photograph the autumn colors in nearby canyons. We will have discussions covering composition and methods of exposure under the diverse variety of lighting conditions encountered in the Eastern Sierra. The workshop is for all levels of enthusiastic color or black-and-white photographers.

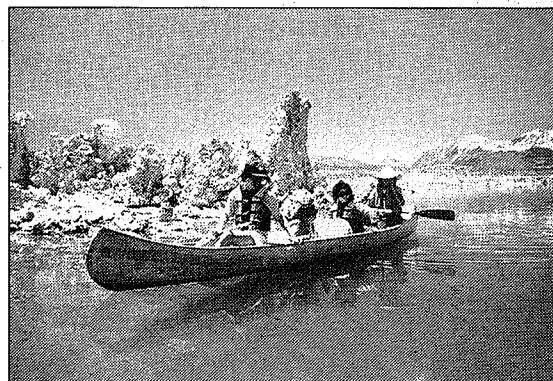
Natural History Canoe Tours

Gary Nelson and Crew

Every Saturday and Sunday, 8:00 AM, 9:30 AM, 11:00 AM, June 15 - September 29. Adults \$10 Kids \$5. Sorry, no kids under 4 years.

Join your expert guides for natural history from a unique perspective -- the lake itself. Starting near South Tufa you will canoe along Mono's shoreline through tufa spires and learn about this ancient, life-productive lake. Reservations are strongly recommended for these one-hour tours. [Call (619) 647-6595.] Special longer tours can be arranged. All participants must wear the provided life jackets and obey all safety rules.

Our thanks to REI for donating two new canoes.



**ANNOUNCING THE
12th ANNUAL
LOS ANGELES TO MONO LAKE BIKE-A-THON
August 26 through August 31**

Join up to 100 riders on a cycling adventure to benefit Mono Lake. Our goal is to raise \$100,000 . . . that's \$20,000 more than we raised in 1990. Not just a fundraiser, the Bike-A-Thon is one of the Committee's most visible ways to educate the public about Mono Lake's plight.

We begin at the downtown headquarters of the Los Angeles Department of Water and Power. There we fill vials with water from the Department's reflecting pools, strap them on our bicycles, and begin the six-day, 350 mile trek. The event concludes with a rehydration ceremony and celebration at the lake's shore.

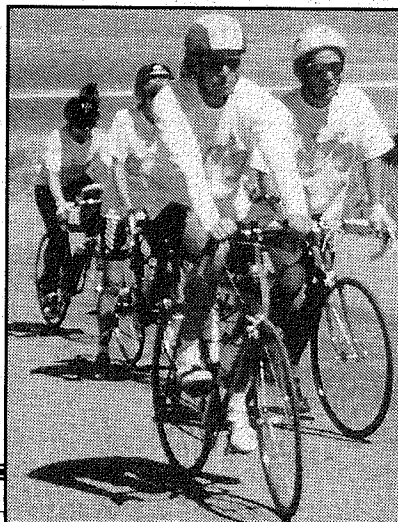
To participate, cyclists must raise and turn in a minimum of \$250 by August 2,

1991. We ask that you also raise additional funds to support the Committee's efforts. Upon registration, each rider receives a fundraising kit.

Volunteers staff rest stops located along the route, providing cyclists with fresh fruit, water, and a shady place to recuperate. If you want to participate in the event but don't want to cycle, driving a support vehicle is a way to join the team.

Whether you cycle or volunteer, you'll get a chance to experience the sights and smells of the desert -- something you can't do while speeding down the highway in a car.

For more information, call Liz at (818)972-2025.



Join Us!

Still not a Mono Lake Committee member? Join us, and increase our strength and effectiveness. We will keep you informed, through our quarterly newsletter and action alerts, of what's happening and how you can help. Regular membership is \$20 a year, or \$30 Sponsor, \$50 Supporting Member, \$100 Monophile, \$250 Defense Trust Member, \$500 Monomaniac, \$8 "I Can't Afford More." Checks should be payable to the Mono Lake Committee, and are not tax-deductible. If you would like your contribution to be tax-deductible, please make your check out to "the Mono Lake Foundation".



**THE
MONO LAKE
COMMITTEE**

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