

Spring 1993

Volume 15, Number 4

# MONO LAKE

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## NEWSLETTER



**End of the Drought!**

**Also: 1993 Science Updates**

# 1993 Mono Lake Foundation

**E**ducation has always been a priority of the Mono Lake Foundation, a non-profit, tax-deductible corporation. Each summer since 1985, the Foundation has sponsored an exciting array of weekend workshops that explore the Mono Basin and the Eastern Sierra. Respected professionals take small classes into the field to study the geology, biology, and history of this unique region. Classes are limited to 15 people, so it's important to register as soon as possible.

## **Birds of the Mono Basin**

**Dave Shuford, June 5-6**  
**\$75/person \$60/MLC member**

Dave Shuford of the Point Reyes Bird Observatory is a master birder and patient instructor. Beginners, as well as experts, will enjoy this intimate introduction to Mono's bird life. We will learn to identify approximately 70 species by plumage and song, and to understand their roles in our environment.

## **Mono-Bodie Historical Tour**

**Arlene Reveal, June 12-13**  
**\$75/person \$60 MLC member**

We will journey with a local historian and storyteller back to the days of the Paiutes, prospectors, and pioneers, bringing Mono's rough-and-tumble past vividly to life. The class will visit mining camps, stamp mills, pioneer homesteads, ranches, and graveyards.

## **Kuzedika Basketry**

**Elma Blaver and Gretchen Hess, June 19-20**

**\$75/person \$60/MLC member**

Elma Blaver, a direct descendant of several of the Mono Basin's well-known basketmakers, will share her basket collection and memories. Gretchen Hess will demonstrate traditional basketry techniques and help participants start their own basket and beadwork projects. This is a wonderful opportunity to learn about the living heritage of native families in the Mono Basin.

## **Lake and Stream Ecology**

**Dave Herbst, June 26-27**  
**\$75/person \$60 MLC member**

In the desert environs of the Mono Basin, Mono Lake and other aquatic habitats are true oases. The lake is a long-brewing soup that has nourished wildlife for millennia. Nearby streams, springs, and ponds also support prolific communities of organisms. We will examine the lives of these insects, fish, and plants.

## **Volcanoes of the East Side**

**Jim Parker, July 10-11**  
**\$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 NOT be cancelled in the event of an eruption!

## **Wildflowers of the Mono Basin**

**Mark Bagley, July 10-11**  
**\$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, biological consultant, and field trip leader for the local chapter of the California Native Plant Society, will introduce you to the wildflowers and their habitats. From Mono Lake to tree line, we will see at least a dozen different plant communities and learn to identify many species of flowers, trees and shrubs. The class will hike several miles at elevations up to 10,000 feet.

## **Mono-Bodie Photography**

**Clinton Smith, July 23-25**  
**\$150/person \$135/MLC member**

The group will spend the first day exploring the ghost town of Bodie, going inside buildings closed to the public and remaining at the park until after sunset. The final two days will be spent experiencing and photographing tufa groves, aspen-lined canyons, volcanoes, and other unique features of the Mono Basin. Clinton's classes are not photo tours but are geared to stimulate thinking and sensitivity. This class is loosely structured and open to all levels of expertise.

## **Geology of the Mono Basin**

**Jim Parker, July 24-25**  
**\$75/person \$60 MLC member**

Few areas offer the 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 an introduction for the novice rockhound and a wealth of detail for those knowledgeable in geology.

# Workshops

Sponsored by the Mono Lake Foundation and the Mono Lake Committee.

## Fall Bird Migration of the Eastern Sierra

Dave Shuford, August 7-8  
\$75/person \$60 MLC member

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

## Mono Basin Family Nature Exploration

Michael Ross, Lisa Rhudy, and kids  
August 14-15  
\$90/family of 4, additional kids \$30 each, additional adults \$50, 10% discount for an MLC family

Michael Ross, author of the Mono Lake coloring book and other children's natural history books, will lead a family-oriented trek. We will befriend birds, bugs, and flowers; wade through a marsh; swim in Mono Lake; visit tufa towers; hike a waterfall; visit a beaver pond, and perhaps get a glimpse of a Bighorn Sheep. Join us for a fun-filled weekend complete with a group campfire program in Lee Vining canyon.

## Mono Basin Fall Photography

Jim Stimson, October 8-10  
\$110/person \$90 MLC member

We will explore several locations along the lake, as well as photograph the autumn colors in nearby canyons. Discussions will cover composition and methods of exposure under the diverse variety of lighting conditions encountered in the Eastern Sierra. Other topics include the Zone System, visualization, filtering, and developing a personal vision. The workshop is for all levels of enthusiastic color or black-and-white photographers.

# 1993 Mono Lake Foundation Workshops

To register, fill out this form and mail it to:

The Mono Lake Foundation  
c/o P. O. Box 29  
Lee Vining, CA 93541.

(If you like, you can use the membership envelope found in the middle of this newsletter.)

For more information, please contact:  
Sally Gaines at (619) 647-6496 between  
7:30 AM and 7:30 PM.

We accept Visa, Mastercard, or personal checks made payable to the Mono Lake Foundation. If you cancel three weeks before the class starting date, we will refund your money (less a \$10 processing fee). No refunds will be made after that date, but tuition can be applied to another 1993 workshop.

If a class receives less than six participants, we may cancel it two weeks in advance. If this happens, you will receive a full refund.

- ☐ MLC member  
(Please include the mailing label from this newsletter, so we can locate you on our current list.)
- ☐ Not a member
- ☐ Not sure
- ☐ Birds of the Mono Basin, June 5-6
- ☐ Mono-Bodie Historical Tour, June 12-13
- ☐ Kudedika Basketry, June 19-20
- ☐ Lake and Stream Ecology, June 26-27
- ☐ Volcanoes of the East Side, July 10-11
- ☐ Wildflowers of the Mono Basin, July 10-11
- ☐ Mono-Bodie Photography, July 23-25
- ☐ Geology of the Mono Basin, July 24-25
- ☐ Fall Bird Migration of the Eastern Sierra, August 7-8
- ☐ Mono Basin Family Nature Exploration, August 14-15
- ☐ Mono Basin Fall Photography, October 8-10

Name \_\_\_\_\_ Daytime Telephone (important!) \_\_\_\_\_

Address \_\_\_\_\_

City, State Zip \_\_\_\_\_

Payment Method: ☐ Check (Payable to Mono Lake Foundation) ☐ Visa ☐ Mastercard

Cost of Class(es) Selected \_\_\_\_\_ X \_\_\_\_\_ Number of Participants \_\_\_\_\_ = \_\_\_\_\_ Total Amount

Card Number \_\_\_\_\_

Expiration Date \_\_\_\_\_

Signature \_\_\_\_\_

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## This Issue's Cover

Consider it a news photo! Our cover celebrates the timely good tidings of spring -- California six-year drought seems to be broken! This picture of Mono's snow-covered shore was taken by Helen Constantine, one of our Committee interns, in February.

The effects of this winter's snowfall on Mono Lake are discussed on the next page. But snow in the Eastern Sierra reminds us once again that this is how nature is supposed to work, allowing a lake like Mono to exist at the edge of a high desert like the Great Basin. R. T. Cullen, a Mono Lake Committee member from Concord, said it succinctly in this poem recently sent to us:

"An Hydrologic Haiku.  
From snow cold mountains  
water flows to Mono Lake  
and evaporates."



## IN THIS ISSUE

1993 Mono Lake Foundation Workshops .....	2
This Issue's Cover .....	4
Lake Level Watch: Mono Lake Is Finally On the Rise! .....	5
Winter Wanderings in the Mono Basin .....	6
Legal Update: DWP Attacks Stream Restoration Decision .....	7
Committee's Executive Director Testifies Before Congress .....	8
Development Director Position Available in LA .....	8
The Public Trust: Age-Old Concept Offers Protection for Mono Lake ....	9
The Public Trust Finally Gets a Hearing .....	10
The Public Trust: Much More Than Mono At Stake .....	10
Three New Nature Books Stand Out .....	12
New Slide Show Available on Video .....	13
Guide Teaches About Mono Lake .....	13
1993 Mono Science Updates	
<i>California Gulls: the 1992 Breeding Season</i> .....	14
<i>Migratory Birds 1992</i> .....	15
<i>Near-Shore Groundwater and Salt-Flat Processes</i> .....	16
<i>Further Studies of Salinity and Lake Ecology</i> .....	17
<i>Development of Sand Dune Ecosystems</i> .....	18
<i>DWP Report: the Mono Lake Ecosystem 1979-1992</i> .....	19
Remodel Well Under Way! .....	20
... But Our Remodel Project Still Needs Your Help! .....	21
Spring Garden Concert Benefits Mono Lake .....	22
Honoring Others With Mono Lake Committee Donations .....	23
Scandinavia Trip Benefits Mono Lake .....	23

*The Mono Lake Committee is a non-profit citizens' group dedicated to saving Mono Lake from excessive diversion of water from its tributary streams. We seek a solution 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 exempt organization dedicated to studying and protecting the Mono Lake watershed. The Mono 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 Mono Lake, please write your check to the "Mono Lake Foundation."



# Mono Lake Is Finally On the Rise!

by Bob Schlichting, Publications Editor  
and John Cain, Science Associate

**I**n early December, officials fearfully predicted California was heading into its seventh year of drought. By late February, after heavy storms had created havoc in many parts of the state, Governor Pete Wilson declared the drought was officially over.

The storms brought good news to Mono Lake. For the first time in years, heavy snow accumulated along the lakeshore. More importantly, in the Sierra Nevada high above the Mono Basin, the snowpack was reportedly 152 percent of average for April 1, the traditional beginning of the spring runoff season.

*Based on those estimates of snow in the mountains, scientists predict that Mono Lake should rise two to three feet this year.*

Before this winter's big storms, Mono Lake had fallen to 6373.4 feet above sea level. By mid March, it rose to 6374.5 feet.

Back in 1991, a California court had prohibited diversions from Mono's streams if the lake's level fell below 6377 feet. Based on current estimates, Mono Lake should approach, but not reach, that minimum level this year. That means that, for the fourth year in a row, DWP probably won't be able to take water from the Mono Basin.

## The Sierra — A Vast Reservoir

**M**ost of California's precipitation falls between the months of November and April. As a result, from May to October, most residents of the state rely on reservoirs of one sort or another to supply their water.

For many people living in both Northern and Southern California, snowpack in the Sierra Nevada is their most important reservoir. Snow that collects during the winter months stays

frozen into early summer, until warm temperatures gradually melt it into cascading streams and raging rivers. The city of San Francisco captures the runoff behind the Hetch Hetchy dam on the western side of the Sierra; Los Angeles

water evaporate from Mono's surface annually. Clearly, without a healthy infusion of water from mountain streams, the lake would die.

## Estimates of Mono's Level

**S**ince the early part of this century, surveyors have journeyed into the Sierra Nevada each spring to measure the water content of the accumulated snow. Based on these figures, they can then predict for agricultural producers, urban water suppliers, power companies and natural resource managers how much run-off will be available.

Such snow surveys can also help to project the level of Mono Lake. Using these and other records, Peter Vorster, a consulting hydrologist for the Mono Lake Committee, has developed a computer model that can forecast the impact of DWP diversions on the lake's elevation.

In 1941, Mono Lake stood at 6417 feet. Using his computer model, Vorster estimates that today, if the water diverted to Los Angeles had instead gone into Mono Lake, its elevation would be 6423 feet above sea level. Even after six years of drought, Mono's level would be higher than it was when diversions began over 50 years ago.


Thanks to the efforts of the Mono Lake Committee and its allies, DWP has been prevented from diverting Mono's streams since 1989. But Vorster's figures indicate that, if DWP had continued to take water without opposition, Mono Lake would stand today at about 6366 feet -- a little less than eight feet lower than its elevation in early 1993. If that were the case, today another eight square miles of alkali lakebed would be exposed to the sun and wind. 



Photo by Bob Schlichting

Snow at South Tufa, 1993

gathers water along the eastern side and transports it hundreds of miles through its aqueduct along the Owens Valley.

Mono Lake, too, depends on Sierran snow melt for its existence. The Mono Basin lies in a rain shadow, caused when the towering mountains to the west squeeze most of the moisture from storms sweeping in from the Pacific. As a result, the floor of the basin only receives an average of 10 inches of precipitation a year. Meanwhile, roughly 45 inches of



# Winter Wanderings in the Mono Basin

by Helen Constantine and Rick Shull  
Mono Lake Committee Interns



Photo by David Masuo

Rick Shull and Helen Constantine explore the snowy shores of Mono Lake.

**F**or the first time in years, heavy snow finally settled into the Mono Basin.

The big storms of January and February covered Mono's shores and the surrounding mountains in a deep canopy of glittering white. Then several days of poconip fog alternating with warm sunshine turned the surface of the snow icy and slick, perfect for exploring the broad, gentle terrain around the lake on cross-country skis.

Just above the glassy surface of Mono Lake, steam from the fumaroles on Paoha Island condenses in the frigid air. As we glide softly among the stately and surreal tufa towers on a crisp, early morning, we discover that, even in this cold, silent landscape, life abounds.

A few Eared Grebes have decided that the cold, partially ice-bound waters of Mono Lake are a good place to spend the winter. In search of alkali flies, they dive beneath the briny surface. The hungry birds find the few available flies easy prey, for freezing temperatures have slowed the movements of the tiny insects.

Taking advantage of the perfect ski conditions, we approach a boggy wetland which would be inaccessible to us without its snowy blanket. Now a frozen, snow covered field, it is broken only by last summer's dry, brittle goldenrod, cattail stalks, and meandering, spring-fed streams.

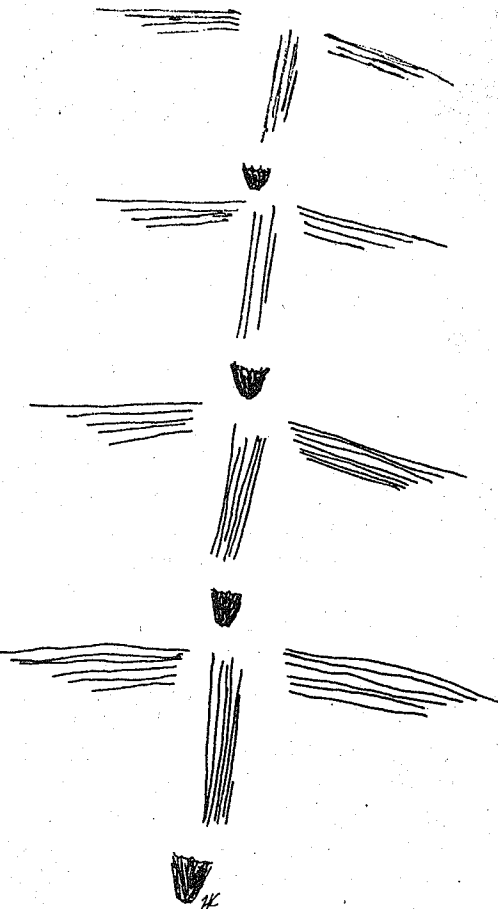
The marsh makes an ideal habitat for waterfowl. As we draw near to one of the little streams, we flush a common snipe. We watch, amazed, as this long-billed shore bird zigzags away into the willows. Although we interrupted its probing for insects in the mud, the snipe's silent feeding would continue when we depart. We proceed quietly, as we are only visiting in some else's home.

Ducks and Canada Geese also enjoy these flowing freshwater springs and streams. The open water is a haven of rest and food in this frozen, wintery world.

As the sun drifts past its highest point, we wander near a spring and discover some unusual markings in the fresh snow of the previous night. What could it be? Who had been here earlier this morning?

As we see the track fade away from the water and disappear, we notice goose droppings scattered along the water's edge. The mysterious track is an imprint of the wings, body and feet of a Canada Goose sweeping across the snow as it took flight from the shore. After about five wing beats, the goose had gained enough lift to become airborne, and its tracks disappeared with a gentle scrape, less abruptly than it began.

Waterbirds aren't the only winter residents of the Mono Basin. From a small hill we contemplate the panoramic view spreading for miles across the basin.



Mysterious tracks in new snow


we look toward Lee Vining Creek, we see a Red-Tailed Hawk soaring above his territory in search of an unsuspecting small rodent or bird to become his dinner.

After a brief rest, we decide to ski along the creek as an interesting route home to Lee Vining. The Pinyon and Jeffrey Pine forest along the creek is alive with the chattering clamor of Steller's Jays, Clark's Nutcrackers, black-masked Mountain Chickadees, and Dark-eyed Juncos. Bald Eagles have also been seen in the basin this winter.

On the slopes behind town, we see another year-round resident, good old coyote. This time of year, with his thick, bushy tail and full winter coat, he is most beautiful. As the sun settles behind the Sierra, his cackling call drifts across the basin. What prank will the wily coyote pull tonight? Maybe he'll swindle those masked bandits, the raccoons, out of their evening meal.

After nightfall, it seems so cold and dark that one may not think of going out again for a ski. But there's too much to

miss. Bundled in down jackets and wooly caps, we wander on the edge of town, marveling at the silhouette of trees against the snow covered mountains.

With a backdrop of black and white, the reflection of moon beams casts a blue glow, giving the terrain a strange, almost two-dimensional appearance. As we glide on slick skis, the moonlight opens a separate world, punctuated only by the eerie call of the Great Horned Owl. It reminds us we're not the only two out here in the silent frost. 



### Legal Update:

## DWP Attacks Stream Restoration Decision

by Ilene Mandelbaum, Associate Director, Lee Vining

The Los Angeles Department of Water and Power has launched a major legal offensive against court-ordered stream restoration on Mono Lake's major tributaries, Rush and Lee Vining creeks.

Under the battle cry "let nature take its course," DWP has challenged 1993 proposals for stream channel repairs in Rush Creek, tree planting along Lee Vining Creek, and monitoring of the results of previous years' work in the two streams.

DWP is using this opportunity to renew its years-long opposition to a 1990 California Appellate Court decision known as *Cal Trout II*. Based on state Fish and Game codes, the opinion required restoration of historic Mono Basin fisheries.

DWP's motion, presented in March, states that "nothing in *Cal Trout II* mandates going beyond restoration of the stream flows if that itself would restore the creeks and their fisheries." Instead, DWP asserts that "natural processes" will restore what decades of dewatering have destroyed. That position has been rejected

repeatedly by the Eldorado Superior Court Terrence Finney, who is into his third year of overseeing court-ordered restoration work.

Work on Mono's long-dry streams began in 1990. The court ordered restoration to be paid for by DWP and overseen by five parties, called the Restoration Technical Committee, or RTC: DWP, the California Department of Fish and Game, the National Audubon Society, the Mono Lake Committee, and California Trout. The five parties hired a Restoration Consultant, Trihey and Associates, to plan and implement work required to "restore the conditions that benefited fisheries" prior to DWP water diversions. Trihey, in turn, put together a multi-disciplinary "planning team" of scientists as sub-consultants. This year, DWP balked at paying them for work already done.


Trihey issued a "stop work order" in February to his planning team when DWP refused to pay the costs for 1992 field and planning work amounting to over \$720,000. Challenging these expenses, DWP forced the parties and the consultant to agree to an audit before payment of at least two-thirds of the outstanding bills.

In the first four months of 1993, Mono Lake Committee staff and attorneys have been required to attend over 30 days of court hearings and negotiation sessions on matters disputed by DWP. Even debate on restoration

monitoring launched in mid-1992 has consumed weeks of the court's time and cost hundreds of thousands of dollars without resolution.

Bruce Dodge, an attorney representing the Mono Lake Committee and the National Audubon Society, summed up our position when he commented that, "even at this late date, DWP not only refuses to accept the goals of the restoration program but has the gall to chide others for attempting to live up to *Cal Trout II*."

The extent of the deadlock between DWP and the other parties has caused the court to invite motions on how the RTC process can be reformed to make decision making easier and to avoid the current, seemingly endless courtroom debate.

However, there is one continuing ray of hope -- the restoration work somehow goes forward. In February the court allowed the planning team to conduct surveys of newly-created fish habitat. Judge Finney also affirmed that there will be restoration work in Rush Creek in 1993. In March, the court also authorized the first phase of a revegetation project on Lee Vining Creek, and, this April, the stream banks were being graced with hundreds of newly-planted willow and cottonwood sprigs, surely a good sign of spring. 

# Committee's Executive Director Testifies Before Congress On Behalf of Water Recycling Plan

by Bob Schlichting, Publications Editor

**M**artha Davis, Executive Director of the Mono Lake Committee, recently spoke before both a Senate and a House Subcommittee in Washington, D.C. Her testimony was in support of funding for the proposed West Basin water reclamation plant in El Segundo, near Los Angeles.

In the latest of several lobbying trips to the nation's capital, Davis testified before both the Subcommittees on Energy and Water Development Appropriations, part of the Committee on Appropriations for the Senate and House. At issue are federal funds recently made available by H.R. 429, the Western Water Bill, signed into law last October.

One feature of the omnibus bill permits the use of federal money to help construct water recycling plants in Southern California. These projects could produce 120,000 acre-feet of reclaimed water -- water the legislation says "is expected to offset water diversions from the environmentally sensitive Mono Lake Basin in California."

But, while money was authorized by H. R. 429, it has not yet been appropriated.

The West Basin Municipal Water District in the South Bay area is the only entity seeking federal funds at this time,

although the Los Angeles Department of Water and Power could also do so.

The proposed project in El Segundo will produce as much as 100,000 acre-feet of recycled water a year. While it is a separate water district from DWP, West Basin has publicly stated that the "Metropolitan [water district] will then be able to make this conserved yield available to the city of Los Angeles to replace their lost supply from Mono Lake."

Testifying along with Rich Atwater, General Manager of the West Basin Municipal Water District, Davis explained how the South Bay project in Los Angeles offered protection to both distant Mono Lake and the nearby Santa Monica Bay, polluted by waste water which now flows into the ocean.

"The project would also create both long and short term employment in the economically-depressed Southland," Davis told the subcommittees. "In the process, it would resolve one, and possibly two conflicts with the Endangered Species Act, and help clear up Clean Air violations at Mono Lake. Happily, with this project, the creation of jobs and protection of the environment are linked."

At the same time, re-using water supplies that are already in the

Southland means that Los Angeles is less dependent on imported water. "The project offers a reliable, local supply of water, with long term financial savings," she said.

In conclusion, Davis told the two subcommittees, "One of the most significant aspects of the West Basin project is that it signals the start of a new water policy for California and the West. It is a policy that places a priority on the efficient use of existing water supplies. It places a priority on developing local, not imported sources. It places a priority on investments and jobs, and on solving environmental problems, not creating them. That's why the Mono Lake Committee urges the Congress to fully fund the West Basin request."

The budget released by the Clinton Administration in mid-April did not include money for the West Basin plant; the only way for the project to be funded this year is for Congress to add it to their version of the budget. Such a move would probably not happen before fall.

**Editor's note:** For a more complete discussion of the Western Water Bill, see the Winter 1993 issue of the Mono Lake Newsletter. 

## Mono Lake Committee Job Opening:


# Development Director Position Available in LA

**T**he Committee's Los Angeles office is looking for a new full-time Development Director.

Duties involve planning and implementing the fundraising program for our environmental organization. This includes direct mail and capital campaigns as well as special events.

The job also includes developing and managing our large gift program, as well as supervising the Committee's special consultants. Experience in direct mail, marketing, development, grant writing, and advertising or public relations is essential. Important also are strong administrative and problem-solving

skills. A college degree is required; environmental or non-profit experience would be helpful, and computer skills are desirable.

**To obtain more information, please contact Betsy Reifsnider at (818) 972-2025.** 



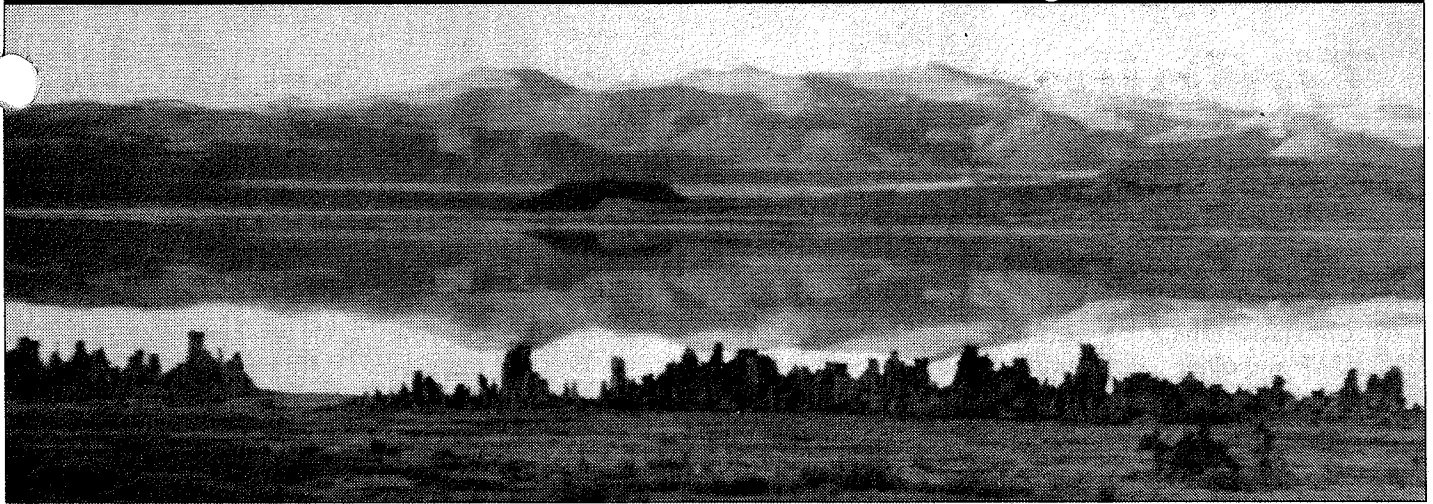


Photo by Bob Schlichting

### The Public Trust:

# Age-Old Concept Offers Protection for Mono Lake

by Palmer Brown Madden, Attorney

**“By the law of nature these things are common to mankind -- the air, running water, the sea and consequently the shores of the sea.” -- Early Roman law (Code of Justinian 2.1.1.)**

**T**his ancient Roman principle, now several millennia old, is the foundation for one of the landmark decisions in California law. In 1983, the California Supreme Court decreed that wildlife and scenic areas like Mono Lake are owned by the public at large and have the right to protection under the *Public Trust Doctrine*.

The Justinian Code ruled that some things, like the seashore, are too important to be privately owned. English common law adopted this Roman precept as the basis for a series of principles that established “*that the King, as sovereign, held all of the kingdoms, navigable waterways and the lands lying beneath them as trustee of a public trust for the benefit of the people.*”

The principle survived in Spanish law, the code under which early California was ruled. In the United States, traditional public trust law had been used to stop efforts to deny access to navigable waters by filling them in or creating obstructions.

Then, in 1978, a small group of students and activists became interested in the rapidly-declining Mono Lake. As scientists, they worried about the demise of this unusual ecosystem. As human beings, they decried the degradation of a beautiful scenic area.

These early “Mono Maniacs,” as they called themselves, formed the Mono Lake Committee. With the pro bono help of the law firm of Morrison and Forrester,

they examined a variety of legal doctrines, looking for a way to limit the Department of Water and Power diversions from the Mono Basin.

They finally selected the Public Trust Doctrine. The National Audubon Society and the Mono Lake Committee filed suit, arguing that, if under the Public Trust Doctrine it would be illegal to fill Mono Lake, it must also be illegal to drain it. Either activity would destroy the environmental values protected by the public trust. In 1983, the California Supreme Court agreed -- unanimously -- with their position.

This precedent-setting decree affirmed that the state has a continuing duty to evaluate the impact of water allocations on resources held in public trust. It established that, wherever feasible, the state has the duty to protect the scenic beauty and ecological values of its natural resources.

The struggle that began with a handful of concerned students to save Mono Lake has given environmentalists a powerful legal tool. As the court declared, the doctrine of public trust is “*an affirmation of the duty to protect the people’s common heritage in streams, lakes, marshlands and tidelands.*”

**Ten years ago, a court decision offered hope for Mono Lake. Now we’re about to discover what the Public Trust Doctrine really means. The next three pages explain how you can help to save Mono Lake!**

# Timeline: The Water Board Process

March 1993

May 1993

August 1993

September 1993

September 1994

Mono Lake Committee Staff, DWP and other parties provide comments on preliminary sections of Mono Basin EIR

Mono Basin Draft EIR is released to the public for their comments

Deadline expires for submittal of public comments to Water Board

Water Board holds 20 to 30 days of public hearings in Sacramento

Court says final Water Board decision must be ready

*May through August is when the Mono Lake Committee needs your help! Will you offer your comments?*

## The Public Trust Finally Gets a Hearing

by Bob Schlichting, Publications Editor

A decade ago, the defenders of Mono Lake changed the course of Western Water Law. They convinced California's Supreme Court that rivers, lakes, and other natural resources are owned by us all -- held in trust for the public at large.

Until the high court issued its landmark decision, the state of California had operated under a code that declared "the use of water for domestic purposes is the highest use of water." Such a priority had led the State Water Resources Control Board to reluctantly grant the city of Los Angeles the right to divert four of the five streams feeding Mono Lake. "It is indeed unfortunate the city's proposed development will result in decreasing the aesthetic advantages of Mono Basin," wrote the Board in 1940, "but there is apparently nothing that this office can do to prevent it."

That line of reasoning was overturned by the state's Supreme Court. "The human and environmental uses of Mono Lake -- uses protected by the public trust doctrine -- deserve to

be taken into account. Such uses should not be destroyed because the state mistakenly thought itself powerless to protect them," it declared.

The 1983 decision meant that the needs of cities, farms, and factories would no longer routinely take precedent over wildlife, scenic beauty, and recreation. "[T]he state is not confined by past allocation decisions which may be incorrect in light of current knowledge or inconsistent with current needs," said the high court. It announced that its objective was "to clear away the legal barriers which have so far prevented either the Water Board or the courts from taking a new and objective look at the water resources of the Mono Basin."

Now, ten years later, that new look at the Mono Basin's water is finally underway. Over the next eighteen months, the State Water Board will examine Mono Lake in unprecedented detail. In a series of administrative hearings as complex as any court case yet undertaken, the health of Mono Lake and its streams will be pitted against DWP's desire for this same water.

The basis for the hearings will be detailed Environmental Impact Report (EIR) that the board has been preparing since 1989. Such EIRs are required under the 1970 California Environmental Quality Act, or CEQA, which requires the full disclosure of the environmental consequences from any proposed project. Under CEQA, alternative plans must be studied, and steps taken to mitigate any undesirable results of the new plan.

At the end of this complicated administrative process, the Water Board will amend and reissue DWP's diversion licenses for the Mono Basin. The Board will set minimum stream flows to protect slowly recovering fisheries on Mono's long-diverted creeks. They will decide upon the minimum level required for the health of Mono Lake.

As the state's Supreme Court ordered back in 1983, "the human and environmental uses of Mono Lake" will finally be considered. At long last, Mono Lake may win the protection denied to it by the Water Board over 50 years ago.

The Public Trust:

# Much More Than Mono At Stake

by Bob Schlichting, Publications Editor

**P**icture a stream, once tightly confined within its banks, that begins to spread out across a broad flood plain. The Mono Lake case before the State Water Board is like that. Its outcome will be felt far and wide beyond the boundaries of the Mono Basin.

The water board's decision will amend DWP's water licenses in the Mono Basin to include required stream flows and a minimum level for Mono Lake. At the same time, it will establish important precedents in the use of the public trust doctrine to protect California's wildlife, scenic values and recreational resources.

Indeed, the public trust argument is already being used to protect such sensitive areas as the San Francisco Bay, the Delta estuary, and the Mokelumne and San Joaquin rivers. States like Oregon, Washington, Idaho and Montana have used the concept of the public trust to protect their own threatened environments.

The Mono hearings will address critical legal issues such as defining the burden of proof and the feasibility of protecting an endangered ecosystem. All of this makes the upcoming Water Board process extremely important to environmentalists everywhere.

In its 1983 public trust decision, the

California Supreme Court instructed the Water Board that it has "a constant duty to review water allocations based on present day public uses." That is why, after the draft Environmental Impact Report is released in May, the Board has set aside a 90-day period for public comment.

During this 90-day period, it is essential that as many people as possible express their opinions on the importance of Mono Lake. At stake will be the Mono Basin's scenic, wildlife and recreational values.

Once the time for public comment is over, the Water Board will begin extensive, formal water rights hearings in Sacramento. These are expected to take 20 to 30 days during September and October. The hearings are open to the public.


The final EIR, with decisions on lake levels and stream flows, is expected by September, 1994. Every step of the way, the Mono Lake Committee will need your help to put the public's voice into the public trust. Because, quite frankly, while we have not yet seen the draft of the Environmental Impact Report, we have concerns about some of the assumptions on which the final judgment will be based.

A major concern is the point in time the Water Board is using to examine change in the Mono Basin. We maintain

that the Board should compare the ecosystem as it existed before diversions with the ecosystem as it is in 1993. Instead, the Board has selected 1989 as its base line.

"By 1989, Mono Lake had already dropped over 40 vertical feet," points out Martha Davis, the Mono Lake Committee's Executive Director. "Mono Lake was half as large and twice as salty as it was before diversions. Mono's streams had been substantially dried up for decades, denuded of vegetation and devastated by erosion. Major losses of wildlife and wetlands had already occurred. How can 1989 constitute a reasonable, objective baseline for evaluating the ecological impacts of DWP's diversions?"

This and other concerns make it essential that those to whom Mono Lake is important have a voice in these hearings. If you are willing to write letters on Mono's behalf, please let us know. Fill out the coupon below. Return it in the membership envelope included with this newsletter. In return, we'll send you updates and action alerts that will keep you apprised of the latest developments.

More is at stake this year than Mono Lake. We are about to discover how far the public trust doctrine can go to protect those special places owned by us all. 

## Help put the public's voice in the Public Trust!

The Water Board must take into account the recreational, scenic and wildlife resources of the Mono Basin before making their decisions on stream flows and the level of Mono Lake. If you are willing to write your comments, please let us know.

**Yes! I'll write on behalf on Mono Lake! Send me updates and action alerts to keep me informed!**

Name

Membership # (from the mailing label)

Address

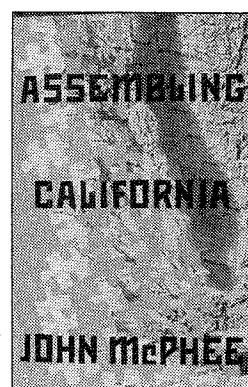
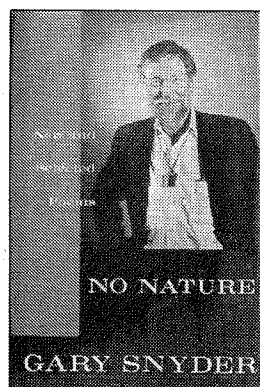
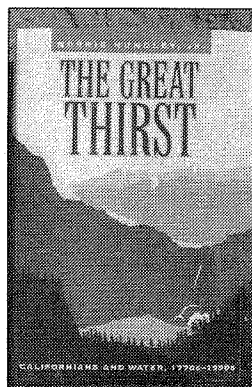
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You may have already agreed to write letters on behalf of Mono Lake. If you're not sure, please give us your name again. Mail this coupon in the membership envelope included in the newsletter, or send it to P. O. Box 29, Lee Vining, CA 93541.



## Three New Nature Books Stand Out

By Geoff McQuilkin  
Programs Coordinator

Since the Mono Lake Committee Information Center and Bookstore closed for remodeling in September, a stack of newly published books has accumulated in our temporary office in Bodie Mike's Bar. Now, as I choose new titles for the store in advance of our grand reopening, three new books stand out from the lot.

Using three different approaches, each of the new books explores how humans interact with nature. In *The Great Thirst*, Norris Hundley, Jr. details the history of Californians and water, from the days before human habitation, through the times of monolithic water projects like the Los Angeles Aqueduct, to the present. John McPhee, in *Assembling California*, explores the geologic history of our state and, at the same time, explains how California's geology has shaped its fleeting years of human habitation. And last, but hardly least, Gary Snyder offers poetical insight into the dilemma of living with nature in his new collection titled *No Nature*.

*The Great Thirst* is an easily understandable and thorough water chronicle, written by a scholar with a background in Western history. William Kahrl, author of the book *Water and Power*, writes that *The Great Thirst* is "the best reference on California water history that there is .... Hundley's appreciation of the law and success in explaining the bases of these legal

principles sets this book far ahead of any other." Mono Lake Committee supporters will happily discover their own story told in the "Mono Lake and the Public Trust Doctrine" section.


*Assembling California* is the final volume of the cross-country geological adventure that comprises John McPhee's four-volume series "Annals of the Former World." (While this latest book is, at present, available only in hardback, the other three titles in the series can be purchased from the Committee in paperback; call us for information.) In *Assembling California*, McPhee travels the Interstate corridor between Reno and San Francisco with, among others, Eldridge Moores, a distinguished leader in the theory of plate tectonics and a professor at U. C. Davis. Within this structure, McPhee unravels the complexities of the state's geologic past and explores the curious twists that geology can add to human history -- the California Gold Rush, in particular. Anyone with an interest in geology or just an appreciation of McPhee's style will painlessly learn much from his latest book.

Finally, *No Nature* is an excellent anthology of Gary Snyder's poetry. Fifteen new poems are complemented by selections from eight of the author's previous works, resulting in 380 pages of verse that illuminate Snyder, nature, and ourselves. This poet has a wonderful

ability to pack potent ideas and meaning into relatively few words; my favorite of the new poems, entitled "On Climbing the Sierra Matterhorn Again after Thirty-One Years," is short but evocative:

*Range after range of mountains,  
Year after year after year.  
I am still in love.*

All three of these new titles are worthy reads that may not be stocked by your neighborhood chain bookstore. Fortunately, you can purchase them from the Committee; remember that all profits from our store and mail order sales go into the Committee's work to save Mono Lake.

Just to throw a bribe into the picture, the Committee will cover the shipping costs if you order any two, or all three, of the new books. You can use the handy coupon on page 20 to order, but feel free to call us at (619) 647-6595 if you wish to pay by credit card. 

*The Great Thirst*, by Norris Hundley, Jr., 1992, University of California Press, 551 pages, photos. Hardback, \$25.00

*No Nature*, by Gary Snyder, 1992, Pantheon Books, 390 pages. Hardback, \$25.00

*Assembling California*, by John McPhee, 1993, Farrar, Straus and Giroux, pages, with illustrations. Hardback, \$21.00.

## New Slide Show Available on Video

**"The Mono Lake Story"**, the official Committee slide show that runs at our Information Center in Lee Vining, is now available as a video.

The new 25-minute presentation has been extensively rewritten and updated. It offers over 140 images that explain the Mono Lake ecosystem and the problems caused by fifty years of water diversions to Los Angeles.

*"The slide show details the Mono Lake Committee's fight to protect this rare and beautiful place,"* said Information Center Sales Manager Rick Knepp, one of the many photographers who furnished images for the new production.

The program features narration by the late David Gaines, founder of the Mono Lake Committee, and by Knepp, who has an extensive background in broadcasting. In addition, many new maps, charts and photos were especially created for the program by Cris Pescosolido, at

Chartmasters in San Francisco. First Light Video in Los Angeles took over 30 hours to painstakingly transfer the project to video.

*"We've selected an amazing array of photographs that illustrate the many moods of Mono Lake,"* said Bob Schlichting, writer on the project. *"With first-rate production values, the new video is a breathtaking and informative look at this beautiful place."*

**"The Mono Lake Story"**, the official slide show of the Mono Lake Committee, **\$9.95**. To order, contact the Committee in Lee Vining or use page 20's order form.

## Guide Teaches About Mono Lake

**T**eachers and parents can easily explain about Mono Lake and why it's worth saving -- with the help of the new booklet, **Mono Lake: A Guide For Teachers**.

The six-lesson booklet is full of activities that are both fun and educational, from explanations of how to make Mono Lake tufa, to word search puzzles and maps

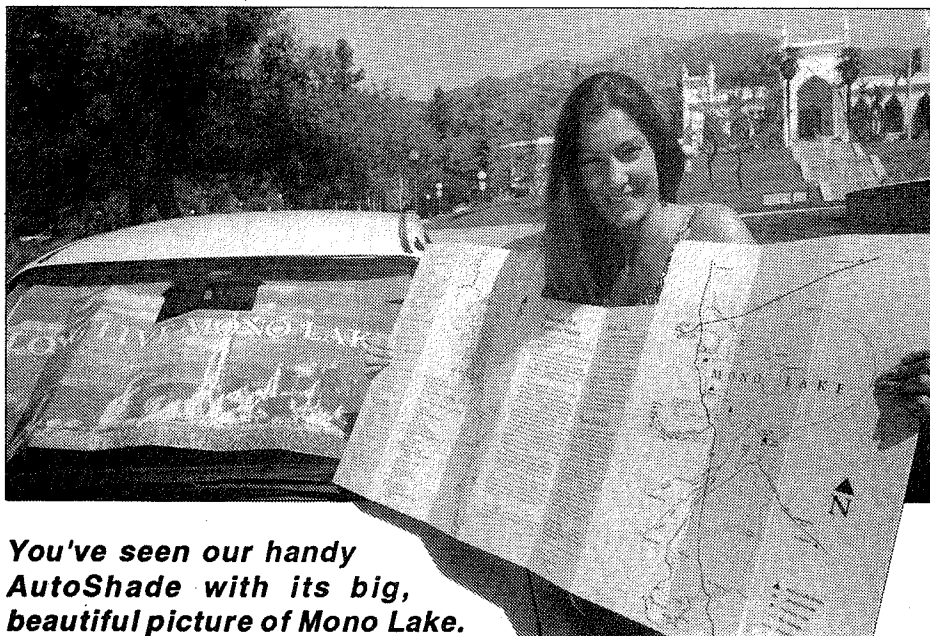
to color. The text describes the geology and history of the Mono Basin, discusses the fight to save the endangered ecosystem, and explores the benefits of wise water use.

Designed for grades three through seven, the material is easily adaptable to all age levels. The text, written for adults, relays the importance of water conservation and the preservation of unique natural treasures.

The 30-page guide costs **\$6.00**, which covers postage and handling. Order by phone from the Mono Lake Committee at **(619) 647-6595**, or use the order form on page 20.

### **SPECIAL OFFER!**

Purchase the **"Mono Lake Story"** video **and** the **Teacher's Guide** now and get a special **Display Packet** of Mono Lake color photos and selected text. Perfect for designing bulletin boards, the Display Packet usually sells for **\$1.00!** **Until June 30, get all three for only \$14.00!**



**You've seen our handy AutoShade with its big, beautiful picture of Mono Lake.**

**But staff member Tina Sanders shows off the other side of the colorful cardboard design! It features maps of Mono Lake and Eastern Sierra, from Lone Pine past Bridgeport! Complete with important telephone numbers for lodging, camping and sightseeing. A great idea for summer!**

## The Perfect Summer Cooler!

**Normally \$7.50 each**

**From now until June 30:**

**2 for \$10.00!**

**Use the mail order form on page 20!**





# 1993 Mono Science Updates

**F**or 15 years, the Mono Lake Newsletter has published updates on scientific work being done in the Mono Basin. The very first edition of the newsletter, distributed in the spring of 1978, contained a scientific study by David Winkler on *The California Gull at Mono Lake*, and a summary entitled *Ongoing Research at Mono Lake*.

For the first few years of its existence, this publication frequently outlined the results of ongoing research at Mono. There was a good reason for this: the Committee was begun by students and scientists who, in 1976, received a National Science Foundation grant to study Mono Lake. Their work marked the first time that the entire ecosystem of the Mono Basin had been examined.

Since then, further research has been done to document this deceptively simple, but very productive, ecosystem. Many studies have recently been undertaken for the Environmental Impact Report that is being prepared on the Mono Basin by the State Water Resources Control Board, as described on pages 10 and 11. We will be bringing you those findings later in the year. Meanwhile, here are updates of on-going experiments and field observations that add to our understanding of the beautiful, unique place that is Mono Lake.

## California Gulls at Mono Lake: The 1992 Breeding Season

Dave Shuford  
Point Reyes Bird Observatory  
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lakeshore also left only about a 40-to-50-meter-wide water barrier between the Negit landbridge and Java Islet, and an additional barrier of about 70 meters between Java and Twain Islets. More

later in this article about the real and anticipated effects of insufficient water barriers on the gull population.

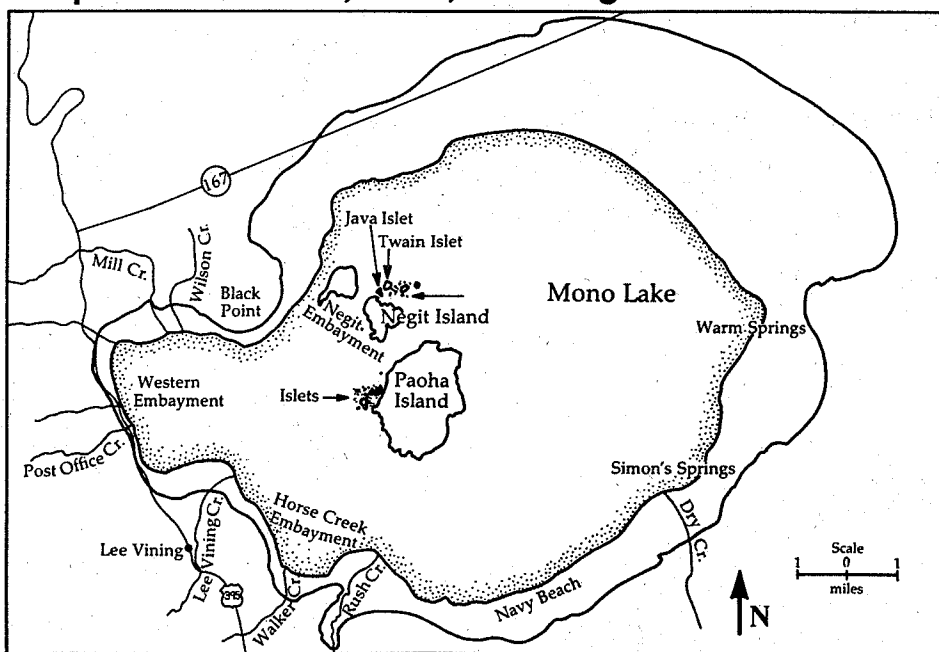
As in past years, our studies focused on the Negit Islets, which now support the large majority of the lake's nesting gulls. Combining this information with data from the Paoha Islets, kindly provided by Dr. Joseph R. Jehl, Jr., all

us to annually estimate adult population size and chick production for the entire lake.

In contrast to the late breeding season in 1991, the gulls were back on schedule in 1992 with the first newly-hatched chicks seen on 21 May, and the first flying young in the first week of July.

The warm spring also appeared to produce an early brine shrimp hatch, though overall, 1992 was not an exceptional year for brine shrimp abundance (Gayle D. pers. comm.). Nevertheless, brine

### Map of Mono Lake, 1987, Showing Location of Islets



The Negit Islets around Java and Twain now support the large majority of Mono Lake's nesting gulls. Dropping lake levels have connected Negit Island to the mainland since this map was created in 1987. In 1992, only a 40-to-50 meter water barrier existed between the Negit landbridge and Java Islet. The outer lakeshore line shows the size of Mono Lake prior to diversions in 1941.

Map from "The Future of Mono Lake", the CORI Report, published 1988.

Crustaceans appeared to be an important food for salt gulls early in the season, and, as in most years, was the dominant food fed to gull chicks.

Nest counts in late May 1992 indicated that about 65,000 gulls bred at Mono Lake. This was up slightly from the previous high of about 61,500 in 1990, but comparable to that year when taking into account the margin of error in our census efforts.

Chick mortality counts in early July and early August, respectively, indicated that the 65,000 nests produced about 44,000 young -- one of the higher counts of young in recent years.

Late season mortality varied greatly among the Negit Islets and was highest on Java, lowest on Steamboat. Our observations indicated that Java was free of mammalian predators in May and July, but in early August, our field crew found canid tracks and several chicks with signs indicating they had been preyed upon by coyotes. Thus, coyote predation probably contributed the most to the high late-season mortality on that islet. The cause of low mortality on Steamboat is unclear.

While the high reproductive success of the gulls in 1992 is encouraging, the future is clouded by the possibility of continued drought and further declines in Mono's elevation. If lake level in the 1993 breeding season falls below that of




Photo by Michael Dressler

1992<sup>1</sup>, there is a high probability that coyotes will reach Twain Islet, which in recent years has supported about 50 percent of the entire Mono Lake breeding population. Such an event would have a

<sup>1</sup> *Editor's Note: This paper was published and this summary prepared before this winter's storms began and the drought was declared over. Because of available moisture, Mono Lake should rise several feet this year.*

major impact on the Mono Lake gull population.

We would like to thank very much all of the many individuals who have helped to make our research possible. In 1992, our study was funded by the membership of the Point Reyes Bird Observatory and by the Los Angeles Department of Water and Power, via a contract to provide information for the Environmental Impact Reports on the effects of water diversions on the Mono Basin ecosystem. 

## Migratory Birds 1992

Joseph R. Jehl, Jr.  
Hubbs Sea World Research Institute  
1700 South Shores Road  
San Diego, California 92109


This was the twelfth year in which Hubbs Sea World Research Institute conducted broad-scale studies on the migratory birds using Mono Lake and other saline lakes in the Great Basin. Our goals have been to understand the relative importance of the lakes as breeding and staging areas and, more recently, to determine how the drought that persisted through 1992

might be affecting various populations.

At Mono Lake, the California Gulls had an excellent year. The number of birds nesting on the Paoha Islets more than doubled, and productivity was the second-highest ever recorded. The number of migrating Wilson's Phalaropes continued to decline, which we suspect is due to the loss of breeding habitat in the prairies; it cannot be linked to any changes at Mono Lake. At the same time, the number of Red-necked Phalaropes, an arctic-breeding species, were the highest ever recorded, even though this species had poor

breeding success in much of its range, owing to the coldest and latest spring in many years.

We paid special attention to Eared Grebes at Mono Lake because of two significant dieoffs the previous winter. In spring 1992, an estimated 150,000 succumbed to unknown causes at the Salton Sea, and in December 1991 another 10,000 crashed when flying through a snowstorm in southern Utah. These events could not have been inferred from fall numbers at Mono Lake, which were greater than ever.

Twelve grebes banded at Mono Lake were recovered at the Salton Sea and in Mexico in the spring of 1992, which is helping to confirm our knowledge of migration routes and timing. 

# Near-Shore Groundwater and Salt-Flat Processes at Mono Lake, California



Klaus Neumann and Tracy Connell collect water samples from wells at Ten Mile Road in December, 1991. The surface is flooded by runoff from the previous day's snowstorm. Photo by David Rogers

David B. Rogers, Klaus Neumann, Tracy L. Connell, Melinda C. Aldrich, and Shirley J. Dreiss  
Earth Sciences Department  
University of California  
Santa Cruz, CA 95064

Over the past year, we launched an intensive investigation of the groundwater system along Mono Lake's northeastern shoreline. In this part of the lakeshore, large areas of barren, salt-encrusted former lake bottom contribute to dust storms during windy periods in the summer.

While vegetation might help to reduce the dust problem, the high salinity of groundwater here prevents plants from establishing themselves. In contrast, groundwater along the western lakeshore is fairly fresh, a result of higher groundwater recharge near the Sierra.

The object of our study is to understand how the northeastern shoreline's saline groundwater moves in response to changes in Mono Lake's level. We hope to forecast the shoreline's future potential for plant growth and dust production.

In November, 1991 we installed a transect of 15

shallow groundwater wells on the lake's northern shoreline. The level and chemistry of the groundwater have been monitored periodically during the last year.

Evaporation has the strongest effect on the shoreline water table, keeping it several feet below the surface of the ground in the summer. Capillary evaporation from the water table concentrates salts near the surface of the soil, forming an efflorescent salt crust. But in winter the water table lies near the surface, and surface runoff

from snow melt carries the soil's highly concentrated salts lakeward.

We found that the concentration of dissolved solids in the groundwater does not change during the year. Surprisingly, the groundwater concentration is not affected by seasonal evaporation.

In May, 1992, we cooperated with Dr. Grace McCarley Holder of the Great Basin Unified Air Pollution Control District to survey the shallow stratigraphy and composition of groundwater along the remote northeastern shoreline. Using an All Terrain Vehicle (ATV) to provide access, we dug holes and collected water samples for chemical analysis. In this area, a few vegetated spring mounds discharge small quantities of fresh water, which has probably reached the surface by flowing along faults. Away from the spring mounds, the shallow groundwater is even more highly concentrated than the present lake water! This suggests that the high evaporation rate has affected the water composition, and that little inflow of fresh

water occurs. Near zones of higher recharge, such as Warm Springs and Cottonwood Creek, the groundwater is not quite as concentrated.

We also analyzed spring and stream waters from all over the Mono Basin. The object of this part of the investigation is to understand how the chemistry of shoreline groundwater evolves, and to get a better idea of the direction of flow of groundwater in the basin. Different strontium isotope ratios in the lake, the creeks, and the springs allow us to determine the origin of the waters. The origin of water issuing from warm springs around the lake is of special interest. Other springs are apparently influenced



Klaus Neumann measures the pH of a water sample from a shallow pit on the shore south of Warm Springs in May, 1992. The grassy area behind Klaus is a spring mound, from which a small amount of fresh water flows. Photo by David Rogers

chemically by water from both the Sierra Nevada and other mountain ranges around the lake.

*This work is supported by the Great Basin Unified Air Pollution Control District, using pass-through funds from the Los Angeles Department of Water and Power,*

*and grants from the Geological Society of America; the Association of Groundwater Scientists and Engineers (National Groundwater Association); and the Earth Sciences Department, University of California, Santa Cruz. Dr. Grace McCarley of the Air Pollution Control District provided field assistance and transportation.*

*Extensive use of the facilities of the Sierra Nevada Aquatic Research Laboratory, University of California, Mammoth Lakes, and help from Dan Dawson made this work possible. Larry Miller of the U.S. Geological Survey in Menlo Park, CA provided equipment for some of the chemical analyses.*



## Further Studies of Salinity and Lake Ecology

David Herbst  
Sierra Nevada Aquatic Research Laboratory  
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Star Route 1, Box 198  
Mammoth Lakes, CA 93546

The algae that form the base of the food chain in Mono Lake use solar energy and a variety of different elements to build cell tissue, to divide, and to proliferate. The element in shortest supply, limiting biological productivity, is nitrogen.

Though nitrogen is the most common element present in air (making up nearly 80 percent of the atmosphere), this gas must be combined with other elements to be converted to a soluble form, one that can be taken up and used by algae for growth.

One of the most important ways such "combined" nitrogen gets into many ecosystems is through the process known as nitrogen fixation. Certain bacteria and blue-green algae (which are actually photosynthetic bacteria) are capable of converting nitrogen gas ( $N_2$ ) into a reduced form of nitrogen — ammonium ( $NH_4^+$ ). Such well-known plants as legumes (like peas) possess this ability due to the presence of bacteria inside root nodules that provide a protected, oxygen-free environment within which fixation may occur.

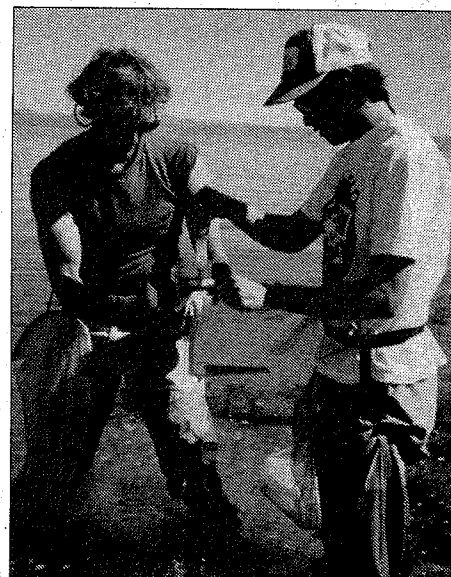
In Mono Lake, a filament-forming blue green algae, along with other bacteria, appear to be responsible for nitrogen fixation. Growing on sediments where there is little oxygen to interfere with the reaction, these organisms may be the primary source for introducing new nitrogen

"fertilizer" into the Mono Lake ecosystem. (Year to year, most nitrogen comes from ammonium released from decay of dead plants and animals on the lake bottom, but this process is incomplete. The long-term recharge of lost nitrogen probably comes from fixation.)

One of the questions I have been investigating this past year is whether the process of nitrogen fixation in Mono Lake sediments is affected by changing salinity. Using a technique that permits assaying of the activity of the nitrogen-reducing enzyme nitrogenase, I have found that increased salinity inhibits the rate of fixation both in natural and cultured sediments exposed to a range of salinities between 50 and 150 g/L (Mono Lake is currently 100 g/L or about 10 percent salt solution). These results indicate that salinity may limit the availability of nutrient nitrogen to the Mono Lake ecosystem and further constrain productivity at lower lake levels.

In order to ascertain the ecological changes that have occurred in Mono Lake since stream diversions began, it is useful to compare life cultivated in the laboratory under low salinity conditions (similar to those of the lake before stream diversions), with life similarly cultured at current and higher levels of salinity. In a pilot study this last year, I used natural sediments to seed small aquarium cultures, and studied the hatching, survival and growth of brine shrimp. (While this sort of information is available for the alkali fly, it has not been available over this full range of salinities on brine shrimp.)

Preliminary results showed highest survival or hatch at the lowest salinity,



Dave Herbst photo

Dave Herbst, left, and Mike Embury collect sediment samples for a population census of the alkali fly at Mono Lake.

50 g/L. Little or no hatching and survival occurred at 125 or 150 g/L salinity. A more thorough study over a full life cycle is planned for the future.

**Acknowledgments:** C. Culbertson and R. Oremland of the US Geological Survey, M. Embury of the Sierra Nevada Aquatic Research Laboratory. **Support:** Mono Lake Foundation, National Audubon Society, Mono Lake Committee, Mono Lake Coalition, University of California Water Resources Center.

**Recent Publications:** Herbst, D. B. Changing Lake Level And Salinity At Mono Lake: Habitat Conservation Problems For The Alkali Fly, in *The History of Water: Eastern Sierra Nevada, Owens Valley, White-Inyo Mountains*, edited by C. Hall, Jr., V. Doyle-Jones, and B. Widawski, pp. 198-210, University of California, White Mountain Research Station, Symp. Vol. 4, 1992.



# Development Of Sand Dune Ecosystems At Mono Lake

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**M**ono Lake is one of the remaining pluvial lakes in the Great Basin region. Since the retreat of the last glaciers, these lakes have been shrinking naturally and gradually over the last 13,000 years. Evaporation has exceeded the inflow of fresh water and, with no outlet, the lakes have become increasingly saline and alkaline with time.

Such environments develop ecosystems of plants and animals that can tolerate the extreme physiological conditions caused by alkali and salts. But with its particular history of glaciation and volcanism, Mono Lake and its environs are truly unique among the Great Basin lakes.

Mono Lake and its nearest companion, Owens Lake, underwent additional changes when the City of Los Angeles greatly accelerated their desiccation through diversions of water. Our study is aimed at understanding the natural process of colonization of living organisms on the dry lake playas at Mono Lake as the water retreats.

Our results are only preliminary in this first year of study with a grant from the U.S. Department of Agriculture. We have documented that colonization by

two species, greasewood (*Sarcobatus vermiculatus*) and salt grass (*Distichlis spicata*), occurs remarkably quickly on the chemically hostile playas. However, the City of Los Angeles has presented nature with a particular challenge through the vast expanses of playa that were exposed virtually instantaneously (at least on a geological time scale) since 1941.

The very size of the dry playas produces

and grow. Shaber's and Fort's results will provide key information in piecing together the natural sequence of events in plant succession on the playa.

We see many seedling greasewood in the dune complexes near the lake, where we are especially interested in how the adult plants become established. We know that the pH and salt content of these dunes are still fairly hostile. Under such conditions, how the plants obtain fresh water is not known -- and is an essential part of the plant's ability to establish, grow and reproduce. With Lisa Donovan (postdoctoral), we are studying the water relations of

*Sarcobatus vermiculatus*. We will test the hypothesis that this plant species is pivotal in the process of dune-ecosystem development.

Animals may play an important role as well. Insects and mammals burrow into the sand and accelerate physical changes in the soil that are favorable to the establishment of plants. Our preliminary censuses (done by Dr. John Harris of M College) show a gradient in rodent density and diversity from the bare playas to the established dunes. Further study will try to elucidate the physical changes in soil substrates due to their activity.

Through the use of advanced surveying technology such as aerial photography and GPS (Global Positioning Systems, which uses signals from satellites to pin point locations) we now have a highly detailed picture of the elevations and geomorphological changes along a 1500 meter gradient from the bare playas. We will use these for a number of studies, including a reconstruction of the time it takes shore ecosystems to develop, the plant-landform-soil relationships along this temporal-spatial gradient, and patterns of sand movement during the course of the study. Jennifer Brown (a Ph.D student) will focus on the movement of sand and how this affects the establishment and growth of the dune vegetation.

Our goal is to apply this understanding to restoring natural ecosystems on the vast playas left by the diversions of water to Los Angeles.

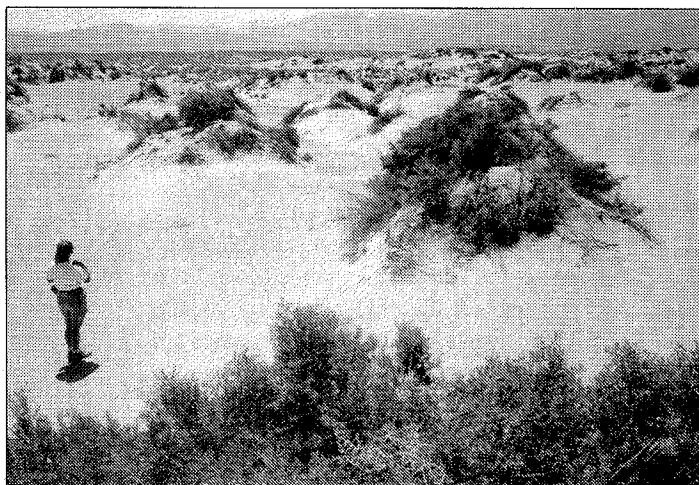


Photo by C. A. Toft

Deborah Elliott-Fisk stands on sand dunes dominated by greasewood (*Sarcobatus vermiculatus*) along the north shore of Mono Lake.

long distances from natural sources of seeds for colonization of the new substrate. A major aspect of our project is to document the movement of seeds along the transect from established dunes far to the north of the present lake shore to the exposed lakeside about 900 meters from the shore. Kevin Fort (a Masters student) is studying seed dispersal along this gradient for his thesis.

Once the seeds arrive, they must establish and grow under conditions that would thwart virtually all other species -- the chemicals, pH and salinity in the playa are orders of magnitude above that tolerated by common agricultural crop plants. Joy Shaber (also a Masters student) is studying the germination and survival of seedlings under differing physiological conditions. Her aim is to discover at which point the weathering of the bare playa enables seeds to germinate



# DWP Report: The Mono Lake Ecosystem 1979-1992

Los Angeles Department of Water and Power  
P. O. Box 111  
Los Angeles, CA 90051

## Mono Lake Ecosystem Unharmd By Drought

Mother Nature provided additional opportunity to observe the effects of prolonged drought on the Mono Lake ecosystem during 1992. The Mono Basin watershed experienced a sixth consecutive year of below-normal precipitation, and even with no water diversions, Mono Lake fell to its lowest elevation since the historical low stand of 1982. Some of the results of this "natural experiment" are summarized in the accompanying figures.

## Brine Shrimp Thrive in 1992

Brine shrimp continued to number in the trillions at Mono Lake in 1992. Spring and summer adult populations were similar to those of 1979, 1984, and 1986. There is no evidence that the low lake levels of the past few years have harmed the shrimp in any way and good reason to believe that they would continue to thrive at even lower lake levels.

## Gulls Have One of the Best Years on Record


1992 was a very good year for gulls at Mono Lake. Breeding adults produced a bumper crop of nests and the highest chick numbers on record. This happened even though the Negit landbridge was dry for the third consecutive year. Once again

the gulls showed that there is plenty of good nesting habitat for them at Mono Lake whether or not Negit Island is landbridged to the shore.

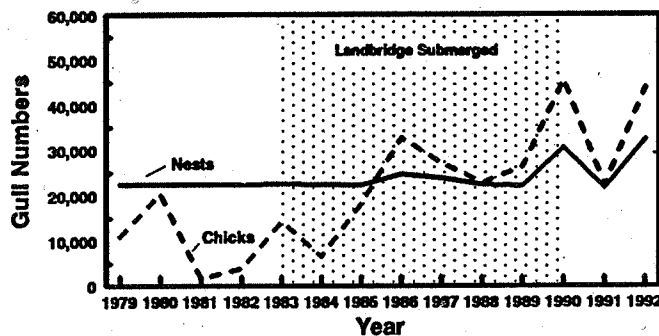
## Research to Continue in 1993

The Department of Water and Power will continue to support the research needed to achieve a reasonable and informed resolution of the Mono Lake controversy.

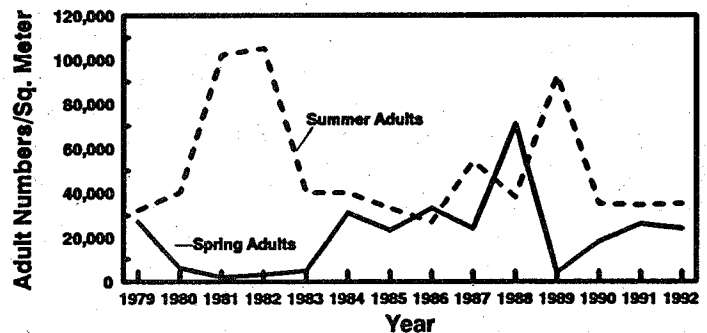
Much of the data presented in this update was collected by Dr. John Melack of the University of California Santa Barbara and Dr. Joseph Jehl of the Hubbs Sea World Research Institute.

**Editor's Note:** Court orders require DWP to maintain Mono Lake at a minimum elevation of 6377 feet to prevent irreparable harm to the lake's ecosystem. We have printed DWP's summary exactly as submitted. This is not to be construed as an endorsement of DWP's position. 

### DOES THE LANDBRIDGE REALLY MATTER TO THE GULLS?



### IS THE BRINE SHRIMP REALLY ENDANGERED?




Our thanks to all those researchers who sent us reports, charts and photographs for this year's Science Updates. If you have questions about their work, please contact them directly.

## Does Your Group Need A Speaker?

The Mono Lake Committee has put together a Speaker's Bureau of informed volunteers to present an updated Mono Lake slide show to community groups, associations, schools or neighborhood gatherings throughout Southern California.

"This is the way the Mono Lake Committee began," explained Betsy Reifsnider, Associate Director of the Burbank office. "Volunteers would show up with a slide projector at any meeting they could find, just to get the message across that Mono Lake was worth saving."

If you know a group interested in having the program, contact Betsy at (818) 972-2025. She will insure that a well-qualified speaker, with slide show and Mono Lake literature in hand, will arrive at your function, ready to inform and entertain. 

# Remodel Well Under Way!

by Rick Knepp  
Store Sales Manager

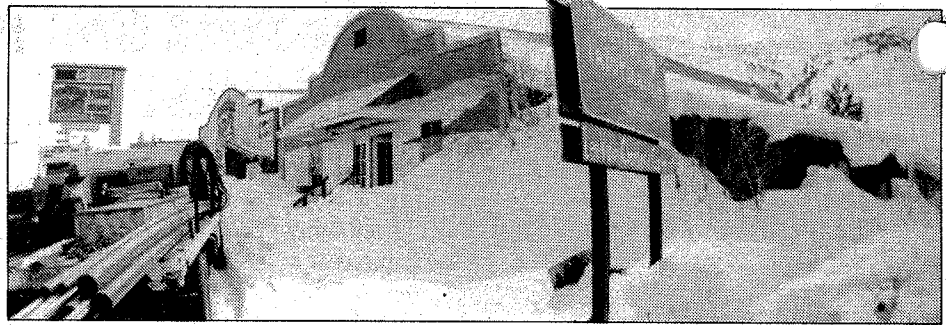


Photo by Gary Wexler

Despite heavy snows in the early part of the year, work continues to get our newly-remodeled Information Center and Bookstore open by early June.

Imagine peering over the snowdrifts and through a partially dismantled back wall into the empty expanse of Mono Lake Committee's Information Center. That was the scene in early March as construction proceeded on our long-awaited remodel.

By now, the sagging walls and ceilings damaged by decades of rain and weather have been torn out and replaced. Interior walls have been moved to give us more room. The much-needed public rest room has been roughed in, and insulation has been added. Soon we will have adequate heat in the building for the first time in 50 years!

With our center and offices closed down for construction, part of our staff has spent the past six months working out of the building next door -- Bodie Mike's Bar, closed for the season. Typing away at my desk under the beer signs, I find it comforting to hear the shrill scream of the radial arm saw and the incessant

thump of hammers emanating from next door. It means we may make our scheduled reopening date of early June.

We look forward to showing off our new space this summer. Look for news of a "grand reopening" in the Summer Newsletter!

*BUT* ... (isn't there always a "but" out there somewhere?) What are we doing to replace the income our temporarily closed Gift Shop and Bookstore normally provides? We receive about ten percent of our yearly budget from store sales ... funds that are a vital element in our efforts to preserve Mono Lake. How can we replace them?

The answer lies in these very pages ... mail order! You have no doubt noticed our yearly Winter catalog which appears in the fall newsletter. We also offer specials on items like the AutoShade, mentioned on page 13. We highlight new products, like the Mono Lake Committee's Official slide show,

available on high-quality video. And we feature books, usually environmental and ecological titles not easily found at your neighborhood chain bookstore. (Geoff McQuilkin, our book buyer and literary whiz, reviews three new titles on page 12.)

You'll find a convenient order form below that includes all the items featured in this issue. As always, we welcome phone orders at (619) 647-6595 Monday through Friday from 9:00 AM to 5:00 PM.

We still have the items explained in our 1993 Winter Gift catalog. If you'd like to have another copy, just give us call. We'll mail one to you immediately.

With our mail order, as with purchases in our Information Center and Bookstore, every penny of the net proceeds goes to our efforts to save and restore Mono Lake. Your order is more than a purchase; it's an investment in our planet's future.

Have a wonderful spring. We'll see you in our new home this summer!

*Here's that order form you've heard so much about! Order 2 AutoShades ... books ... videos! Go crazy!*

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_ County (for sales tax) \_\_\_\_\_

Daytime phone ☐ MasterCard ☐ Visa ☐ Check (to Mono Lake Committee)

#### SHIPPING RATES

Under \$10	\$3.50
\$10 - \$25	\$4.00
\$25 - \$50	\$5.00
Over \$50	\$6.00

Signature \_\_\_\_\_ Card Number \_\_\_\_\_ Expiration Date \_\_\_\_\_

*Use the handy membership envelope!*

Quantity	Item	Price	Total
	Just 1 Mono Lake AutoShade	\$7.50	
	2 AutoShades (A Deal!)	\$10.00	
	Book: <i>Great Thirst</i>	\$25.00	
	Book: <i>No Nature</i>	\$25.00	
	Book: <i>Assembling California</i>	\$21.00	
	Video: <i>Mono Lake Story</i>	\$9.95	
	<i>Mono Lake Teacher's Guide</i>	\$6.00	
	Guide, Video & Displays (see pg. 13)	\$14.00	
	Other:		

CA residents add applicable sales tax

Shipping (see left)

Phoneorders: Call (619) 647-6595.  
The Mono Lake Committee, P.O. Box 29,  
Lee Vining, CA 93541

Total: \_\_\_\_\_

# But Our Remodel Project Still Needs Your Help!

by Bob Schlichting, Publications Editor

**W**hen you rebuild a 59-year-old building, you expect surprises. We've had a few -- some interesting, some frustrating -- as work continues on the Mono Lake Committee's Information Center and Bookstore in Lee Vining.

The structure was originally built to be a dance hall for workers digging a tunnel under the Mono Craters as part of the Los Angeles aqueduct. Since then it has served as a barber shop, gift shop, and cafe. The Mono Lake Committee rented it in 1978 to serve as our headquarters. The surprises we've uncovered during this winter's remodeling remind us how, since 1934, this place has brought people together in the small town of Lee Vining.

In the walls we've discovered old tickets from dances long gone. The ceiling yielded a Los Angeles Times from Thursday, April 18, 1946. A large button recovered from under the boards announced an amateur rodeo held in Bishop on September 4, 1948. We've also found an ancient package of Wings cigarettes, and an old pouch of Bull Durham tobacco.

Two windows, long walled over, tell of

the time when no building stood next door. A newly-discovered set of double doors behind a wall reveal that, once a structure was built next to ours, the two buildings were connected.

Those were the interesting surprises. The frustrating discoveries were that part of the foundation was gone, and that some of our floor joists were just sitting in the dirt. We found that large sections of the floor were just too rotted away to save. One whole wall had major damage from years of ice accumulating between our Information Center and Bodie Mike's Bar next door.

Such unexpected complications mean that this initial phase of our remodel has been more extensive and more costly than we planned. Despite the heavy snows that slowed our progress, we hope to have enough accomplished to reopen our Information Center and Bookstore by mid-June, about the same time Tioga Pass opens to Yosemite and the summer crowds arrive. But to complete our project, we need your help.

Our Information Center has always been a critical tool in our fight to protect Mono Lake. Almost two hundred thousand

visitors each year learn about Mono's plight through our educational displays. Office space serves as the headquarters of our involved political and legal struggle. The revenue generated by our bookstore is critical to finance the Committee's efforts.

Our supporters realized the building's importance back in 1988 when they donated enough money to purchase it. But now we need your financial help to enable us to complete our much-needed remodel.

*The coupon below shows the goals of our fundraising drive. Won't you help us meet them with your financial support?*

*Any amount is welcomed. All of those who contribute to the rebuilding fund will be listed in the Information Center. Those donating \$500 or more will be part of a special commemorative display to be installed once the remodeling project is completed.*

Since our building was constructed as a dance hall in 1934, it has brought people together at Mono Lake. With your help, the Mono Lake Committee's Information Center and Bookstore will continue to bring people together to learn why Mono Lake is so important to us all.

**Join your fellow Mono Lake Committee members in supporting the new Information Center and Bookstore! Donate to these remodeling projects:**

PROJECT	GOALS	MY DONATION
Educational Displays	\$15,000	_____
Energy-saving Lighting	\$11,000	_____
Handicapped access ramp	\$1,000	_____
Demonstration water-conserving garden	\$5,000	_____
Visitor picnic and rest area	\$2,000	_____
Audio-visual equipment	\$5,000	_____
Slide Show Room and Gallery	\$6,000	_____
Painting and fixtures	\$3,000	_____
Cabinets	\$8,000	_____
Fuel efficient heating system	\$6,000	_____
General construction support	\$20,000	_____

**Yes!** *I'm contributing to the Mono Lake Committee Information Center!*

Name \_\_\_\_\_ Daytime Phone \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

*For the commemorative list of donors on display in the Center, please enter the contribution as:*

The Mono Lake Committee needs your contribution to support the remodel project, but donations to the Committee are not tax-deductible. If you wish to make a tax-deductible donation, please make your check payable to the Mono Lake Foundation. All funds so earmarked will be used toward the remodel, but if the funding goal for a project has been met, additional funds may be used to complete another project.

**Mail this form and your check in the membership envelope, or send it to:**

**Shannon Nelson, Mono Lake Committee Remodel Project, P. O. Box 29, Lee Vining, CA 93541.**

# Spring Garden Concert Benefits Mono Lake

by Lori Formicola, Development Director



Photo by Bob Schlichting

Participants of the March 28 fundraising concert pose onstage at Descanso Gardens. From left: Martha Davis, Executive Director of the Mono Lake Committee; Master of Ceremonies Huell Howser, host of the public television series *California's Gold*; and Los Angeles Philharmonic musicians Diane Alancraig, Guido Lamell, Daniel Rothmuller, and Dale Hikawa Silverman. Ara Guzelimian, the Philharmonic's Artistic Administrator, introduced each of the musical pieces.

**A**mid acres of flowering camellias, tulips, and azaleas, the sounds of Bach, Beethoven and Mozart filled the air. On March 28, more than a hundred Mono Lake supporters journeyed to beautiful Descanso Gardens in La Canada to hear a benefit concert performed by members of the Los Angeles Philharmonic Orchestra.

*"The afternoon was a most fitting way to celebrate spring, the environment, and beautiful music,"* noted Barbara Blake Levine, Mono Lake Committee Board member and one of the Co-chairpersons of the event along with her husband Eddie, fellow Board member Ed Manning, and his wife Maria. *"This is the first time the Committee has put together a benefit like this one. We were delighted with the outcome,"* concluded Barbara.

While it had been raining earlier that weekend in the Los Angeles area, Sunday afternoon concert goers were treated to dry skies, with large fluffy clouds nestling against the mountains of La Canada - Flintridge, home of the 60-acre Descanso Gardens. Docents led them on special tours through an oak forest to the world's largest camellia garden.

But the centerpiece of the event was the intimate indoor concert performed by four members of the Philharmonic. Diane Alancraig performed on flute, Guido Lamell played violin, Daniel Rothmuller played cello, and Dale Hikawa Silverman performed on viola.

The program featured Bach's *Cello Suite Number 3 in C*, Mozart's *Flute Quartet in D*, and Beethoven's *String Trio in G*.

Ara Guzelimian, Artistic Administrator of the Los Angeles Philharmonic, introduced each of the musicians and related some of the history behind each of the pieces that were performed. Explaining that he helped organize the event, he told of his special love of Mono Lake and his belief *"that music helps to bring people together."*

Huell Howser, host of the PBS television series *California's Gold*, served as master of ceremonies. Calling Mono Lake *"one of our state's true treasures,"* Huell began the program with stories of his recent trip to the Mono Basin to tape a half-hour program. Then Martha Davis, Executive Director of the Mono Lake Committee, gave an update on her recent lobbying efforts in Washington, D.C.

The stage inside the reception hall was adorned with a twelve-foot-long panoramic picture of Mono Lake taken by acclaimed nature photographer Warren Marr. Additional examples of his Mono photographs decorated the hall where a light reception of fruit and cheeses took place following the concert.

The event concluded with a drawing for box seats at a fireworks concert this summer at the Hollywood Bowl. The tickets, donated by the L.A. Philharmonic, were won by Kay and Tom Stoever, of La Canada.

The audience was made up of Mono Lake Committee members, Philharmonic enthusiasts, and members of the Descanso Guild. Also attending were Tom Soto, Consul General Terry Baker of New Zealand, Richard and Erin Atwater, and Mort and Edie Gaines.

**S**pecial thanks to the Los Angeles Philharmonic Orchestra, Sparkletts, Color House, K-Lite Radio, Ryder Truck Rentals and the Descanso Guild for their help with this event.

# Honoring Others With Mono Lake Committee Donations

**F**rom the northern part of the San Francisco Bay, the Solano Group of the Sierra Club's Redwood Chapter made a contribution in honor of one of their long-time volunteers, Nancy McCoy.

Paul and Doris Bennett, of Camarillo, recently celebrated their 50th wedding anniversary. Their friends Albert and Lilli Miller, Committee members from Sherman Oaks, sent a special gift in honor of the occasion.

When Sacramento resident Roy W. Stephens celebrated his 80th birthday, a group of friends and relatives got together to make a donation honoring the event. We reported the celebrants in the last newsletter, but inadvertently omitted the names of Ethel and Eldon Vestal, long-time Mono Lake supporters. An additional donation in Mr. Stephens' honor came from San Francisco residents Richard and Virginia Davis.

Claremont residents Barbara and Kenneth Coates sent a gift in honor of their friends Bob and Louise Hill, of Mariposa.

## In Memory

It was five years ago in January that Mono Lake Committee founder David Gaines died in an automobile crash. Linda and Alan Bunnage, of Beverly Hills, sent a donation in David's memory.

Mrs. Lorraine Thompson taught physical education for many years at Madera Union High School in the Central Valley. An avid hiker and skier, she and her husband L. C. Thompson had a cabin at Yosemite and shared a strong love of the Eastern Sierra and Mono Lake. The Committee was one of the organizations she singled out for support in her will.

Carey Olsen, of Carmel, made a contribution in memory of her aunt, Mary Stewart Hoopes, who she describes as "an avid conservationist and eat outdoorswoman."

Escondido residents Philip Hoadley,

Jr. and Linda Forrest gave a gift in honor of their son, Jeffrey Hoadley. Jeffrey, who died in 1986, spent many happy summers camping in Tuolumne Meadows and enjoying Mono Lake.

Kathy J. Robbins of Salt Lake City, Utah, Robert Harrington and Susan Schley, from Tucson, Arizona, and Peter and Patsy Margiotta of Walnut Creek, California made donations to the Peter Fisher Memorial Fund. Peter, who owned *Brian's Bicycles* in Mammoth Lakes, died last July.

Dagmar Wolf, of Salinas, California, died last November. She and her husband Ron were strong supporters of Mono Lake. In Mrs. Wolf's memory, Valerie Kirley, of Baltimore, Maryland, made a contribution.

Proclaiming that "we have always felt Mono Lake is worth saving," Eloyse and David Florell, from Pebble Beach, made a memorial donation in memory of her mother, Leora Feige.


John Carson, of Meadow Vista, died recently. Placerville resident Karen Tracy send a donation in honor of John, his wife Christine, and their three children.

Dorothy Unger retired to Roseburg, Oregon from San Francisco. When she died recently, her son Larry Unger set up a memorial fund in her name. Virginia and Richard Davis made a recent contribution, as did John Falzon and Sandy Ghanayem. All are residents of San Francisco.

## Thank You's

Finally, members support the Mono Lake Committee in a number of thoughtful ways that we appreciate. For example, San Francisco resident Cris Pescosolido has donated many computer-generated graphic designs to our latest slide show and publications. Cole Hawkins, from Davis, has been a long-time and generous financial supporter; he

even stopped by the Lee Vining office recently with oranges from his orchard.


A much-needed gift came recently from Anaheim, where Bieber Lighting is located. Joe Fuhrman, a bird-watching friend of our late founder David Gaines, donated the outdoor lighting fixtures for our Information Center that is currently being remodeled. And Larry Breed designed, built and installed shelves for the new stockroom for the store. Thanks to all! 

## Scandinavia Trip Benefits Mono Lake

**A** 15-day nature adventure to Holland, Denmark and Norway scheduled for July 1 - 15, 1993 will help Mono Lake. All profits from the trip will be donated to the Mono Lake Committee.

"The itinerary offers bike riding, nature walks on wildlife reserves, and visits to marine mammal rehabilitation centers," said Tom Gwin, head of Cal Nature Tours, sponsors of the trip. "This unique vacation includes visits to the cultural attractions of Amsterdam, Copenhagen, Bergen and Oslo. Accommodations are in mountain resorts, country inns, and four-star hotels."

The price of the 15-day trip is \$3295 per person, based on double occupancy. It includes air fare from Los Angeles, all ground transportation, accommodations, meals, and side excursions.

For brochures, itinerary, and reservations, contact Tom Gwin, Cal Nature Tours, S.L.V. 7310, Victorville, CA 92392, or call (619) 241-2322. 



# Win one of five exquisite wine cellars worth over \$500 each!

Only 500 tickets will be sold.

Wine drawing tickets are \$50 each.

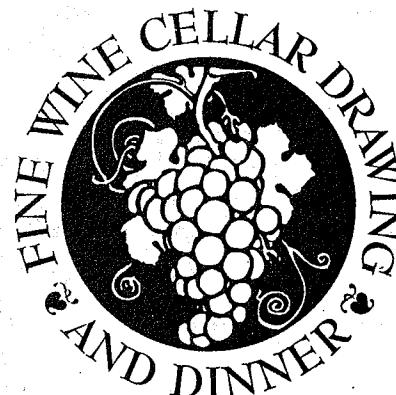
The drawing will be held Friday, May 21, 1993  
at a spectacular dinner at the  
**St. Francis Yacht Club, San Francisco.**

Dinner tickets are \$50 per person. Space is limited.

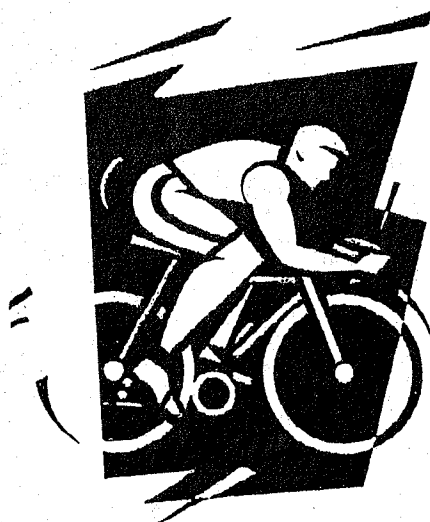
Reserve your tickets now!

*(You need not be present at the dinner to win a wine cellar.)*

The Mono Lake Committee  
8th Annual



For tickets and information,  
call Tina at (818) 972-2025!



## Be a part of the 14th annual Los Angeles to Mono Lake Bike-A-Than!

*It's an incredible adventure! Join us on an epic  
350-mile, six-day journey by bicycle to raise money  
to save Mono Lake!*

Reserve your place now! The number of riders is limited! The  
registration fee is \$250, and the deadline to sign up is **August 2nd!**

**August 30 - September 4, 1993**

For cyclist or volunteer information,  
contact Tina at (818) 972-2025!



**MONO LAKE**  
COMMITTEE  
P.O. Box 29,  
Lee Vining, CA 93541

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