

THE MONO LAKE NEWSLETTER

Autumn 1983

Vol. 6, No. 2



Larry Ford

DWP Appeals Public Trust Ruling

Research Updates

Mono Lake Catalogue

THE MONO LAKE NEWSLETTER



ON THE COVER: Bikeathoners and bucket walkers give Mono Lake a drink. Above, Rebecca Shearin's T-shirt design for the highly successful Mono Lake 10K Run (see p. 12).

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ACTION ALERT

Mono Lake legislation is stalled in the U.S. Senate. Please urge California Senator Pete Wilson to take action! Letters, telegrams and phone calls are urgently needed! Address: U.S. Senate, Washington, D.C. 20510; (202) 224-3121. For more information, see p. 5.

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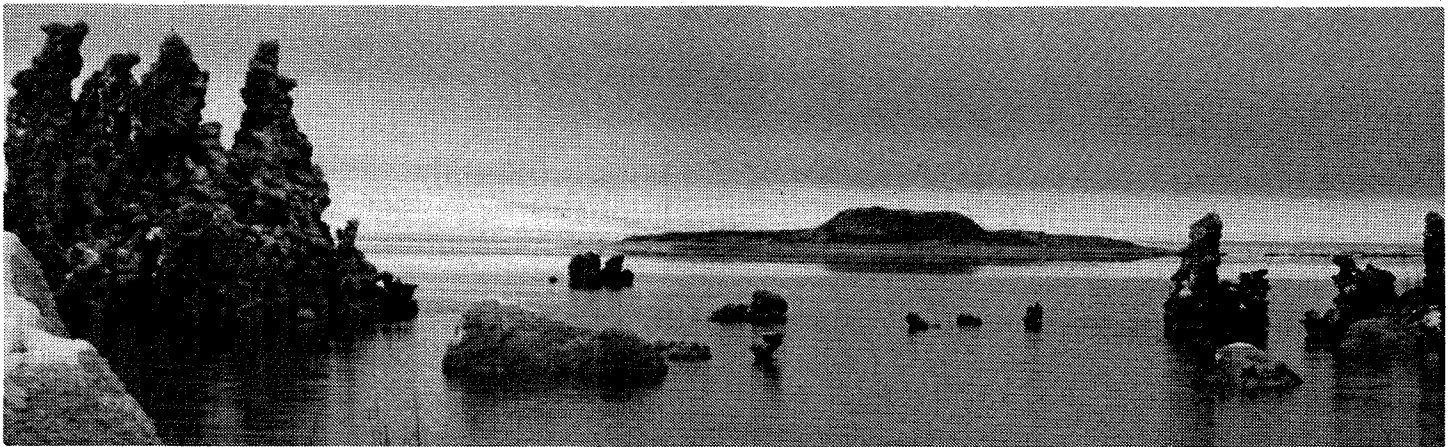
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Mono Lakewatch

Save Negit Island!



Larry Ford

It's been like traveling back in time. In January 1982, Mono Lake stopped falling. A year later it had risen to its 1980 level. By June it was lapping at 1978 shorelines. Now, at 6,378.32 feet, it is as high as it was in June 1976.

In 1976, the "Mono Lake Committee" was gestating in the minds of several young biologists. At the outset, we despaired of saving a place few people had heard of and fewer still had ever seen. It seemed futile to fight a powerful utility. But the lake seemed to plead with us to be its voice, to speak on its behalf.

For most of the next seven years, we watched Mono's waters recede. In 1978, Negit ceased to be an island. In 1979 coyotes routed its nesting gulls. In 1982, the same fate befell the Twain and Java rookeries. Each year more of the lake was swallowed by an ever-growing bathtub ring of white, barren alkali. It was hard to watch. Gray Brechin said it well: "I have thought of Mono as an old friend for so many years that it now looks like a prone patient being led to death on an operating table."

Hyperbole? Perhaps not. In 1982, at its lowest ebb and highest salinity, Mono remained intensely alive and supported vast flocks of birds. But trends were alarming: estimated numbers of fledgling gull chicks had fallen from 27,000 to less than 4,000, spring brine shrimp populations had dwindled by 85 to 95 percent, brine flies had become increasingly scarce.

Were water diversions strangling the Mono Lake ecosystem? Researchers have yet to ascertain a definite causal relationship between the shrinking lake and trends in gull, shrimp and fly populations; other variables, such as weather, may be involved. But now that the lake is on the rise, answers may be forthcoming.

This year's biological research, which is the focus of this newsletter, suggests that rising waters may be rejuvenating Mono Lake's ecosystem. About three times as many gull chicks fledged this year as last, though still less than half the 1976-78 numbers. Spring brine shrimp numbers were

50% higher than in 1981 and 1982, though still well below 1979 densities. Brine flies seemed more numerous as well.

Next year should be especially illuminating. While Mono Lake has returned to its 1976 elevation, it has yet to return to 1976 salinity conditions. This is because the inflowing fresh water has not thoroughly mixed with the lake's brine. There are two reasons: 1) less dense fresh water tends to float on the surface, and 2) the lake has been stratified into warm surface and cold bottom layers which do not mix. As a result, the cold bottom waters have remained at approximately winter salinities, i.e., about 90 g/l, or 9% by weight. In contrast, the surface waters have been freshened, possibly reaching salinities as low as 60-70 g/l, or 6-7% by weight (data not yet available). Rarely if ever has the lake displayed so strong a salinity gradient between its surface and deep waters. All this will change in autumn when the surface water chills and sinks, causing the lake to mix from top to bottom. Salinity of surface water will increase, while that of deep water, where most of the brine shrimp cysts (eggs) overwinter, will decrease.

How will this affect the 1983 shrimp population? Researchers suspect that the post-1979 decline in spring shrimp is attributable to the failure of overwintering cysts to hatch normally. This winter, unlike last, the cysts will be exposed to pre-1980 conditions. Will the spring population rebound to its former abundance? Or are fluctuations in shrimp unrelated to the size and chemistry of the lake?

While a boon to biologists, Mono's rising waters are posing unexpected, indeed ironical problems for next year's nesting gulls. Although Negit is an island again, coyotes have been stranded on its shores. Coyotes inhabit Paoha Island as well. It is virtually certain that gulls will not attempt to nest on either large island so long as predators remain there.

To complicate matters, the rising lake is eroding away the sedimentary islets west of Paoha Island, where nearly one-third of the gulls nested this year. By the 1984 season,

up to two-thirds of the landmass of these islets may be gone. If gulls are unable to recolonize Negit, they will have to cram themselves onto what's left of the Paoha islets or shift to the already densely packed Negit islets. Overcrowding in gull colonies frequently results in increased egg and chick predation. This could have a devastating effect on next year's nesting success.

While this scenario is speculative, it does argue for keeping Negit an island and ridding it of predators. Negit has traditionally been the gulls' preferred nesting locality. In contrast to the bare, sunbaked islets, its dense greasewood shrubs provide shelter and shade for chicks. This could mean higher survival rates, especially in hot years.

Getting rid of coyotes will be easier than keeping Negit insular. MLC has asked the Bureau of Land Management to livetrapp the animals from Negit and Paoha, and relocate them elsewhere. We have also joined Audubon, Friends of the Earth and our fellow plaintiffs in petitioning the federal court for an injunction to maintain Mono Lake at the 6,378-foot elevation needed to safeguard Negit's rookeries. But jurisdictional questions have bogged down

the case, and our request for an injunction continues to languish.

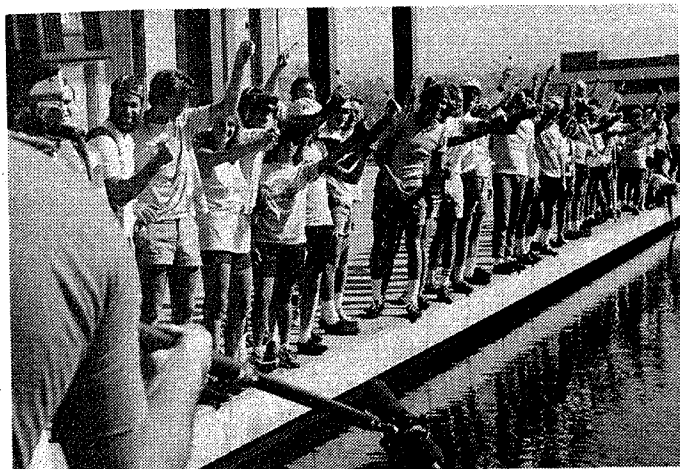
Meanwhile the Los Angeles Department of Water and Power plans diversions-as-usual as soon as they have somewhere to put the water. Barring heavy autumn rains, DWP will begin diverting Mono Lake's tributary streams in mid-October, taking 6,000 to 7,000 acre-feet per month through at least April, and possibly more after that.

While we rejoice in Mono's rise, let us not forget DWP's continuing intransigence. Regardless of the availability of alternative water supplies, the department refuses to let a single drop of divertable water reach the lake. Mother Nature has granted a reprieve, but her generosity will not last forever. Somehow, through the courts, legislature and public opinion, we must convince Angelenos to share enough water to save Mono Lake.

And that means keeping Negit an island—not just for gulls, but for our sake as well. For its loss maims the Mono Lake landscape and diminishes its power to transfigure our lives. It must not happen again. 6,378 or fight!

DWP Rate Hike: Not a Cent For Conservation

At an Aug. 8 hearing in Los Angeles, MLC Southern California Coordinator Stephen Osgood criticized the Department of Water and Power for failing to allocate any of its \$9.2 million rate hike to conservation or reclamation. Osgood told the City Council Committee on Energy and Natural Resources that "I see zero funds for increasing water conservation efforts or actively developing sources of water other than Mono Basin . . . Effectively marketed reclaimed water and increased water efficiency can work together to free Los Angeles from an embarrassing reliance on water which is sorely needed to preserve a prized and fascinating lake."



Bikeathoners at press conference at DWP headquarters in downtown Los Angeles, holding the vials of water they would tote to Mono Lake.

Mono in the Media

Mono Lake continues to attract national and even international attention. A Japanese magazine illustrated a Mono Lake feature with 11 color photographs, including a shot of our chairman front of the information center. British visitors repeatedly praised a Mono Lake documentary they had seen on BBC television. Recently two German journalists plagued us for information on what the other was doing; neither wanted to be scooped!

Those of you who haven't read Bil Gilbert's May 30 *Sports Illustrated* article may wish to obtain a copy from our Lee Vining office (\$2 postpaid; Calif. residents add 10 cents sales tax). It's the finest general interest piece we've seen to date. There is competition, however, from Mark Palmer's eloquent essay in the July-September *Pacific Discovery*. Mono even reached Florida, where a scene from Disney World's three-dimensional film *Magic Journeys* shows children flying over the lake.

Nor has there been any lag in television and newspaper coverage. For example, four L.A. television stations and the Associated Press covered our save-the-lake bikeathon, and NBC National News did a report on nesting gulls. One newspaper reported that the bikeathon was sponsored by DWP; we didn't say that, did we?

Especially heartening was a sympathetic feature in the Sept. 21 *L.A. Herald Examiner*. "Next spring," J.R. Ball told Examiner readers, "when the California gulls leave our coastline and travel hundreds of miles inland to try to raise their young on the islands of Mono Lake, think about where you are getting the water you use to sprinkle your plants, wash your car or just let run into the gutters . . ."

Memorial Contributions

We are deeply honored to be the recipient of the following memorial contributions, which will help Mono Lake live on:

In memory of Earl Findley, from Alice Findley.

In memory of G. Shumway Suffel, from his wife Betty.

DWP Appeals Public Trust Decision to U.S. Supreme Court

In a surprising, last-ditch maneuver, the Los Angeles Department of Water and Power has asked the U.S. Supreme Court to overturn the California Supreme Court's "public trust" decision.

Last February, the California high court ruled that the public trust obligates the state to protect places like Mono Lake "as far as feasible," even if this means reconsidering past water allocations. The court's eloquent opinion, which applies to all of California's navigable waters, was applauded by California newspapers as well as authorities on water law. The *Sacramento Bee*, for instance, opined that the decision "has improved the [water rights decision making] process immeasurably by insuring that when a decision turns out to be hopelessly wrong, it can be changed."

But DWP still stubbornly argues that its Mono Basin water rights are sacrosanct regardless of their impact on the Mono Lake environment. In its petition to the U.S. Supreme Court, DWP claims that the state court's decision, by holding that its use of

Mono Basin water is subject to modification under the public trust doctrine, deprives it of property without due process of law, a violation of the 14th Amendment to the U.S. Constitution.

Most legal scholars believe this argument will not convince the U.S. Supreme Court to review the public trust ruling. In a brief in opposition to DWP's position, the state of California argued that 1) the federal court lacks jurisdiction because the California court resolved issues of state rather than federal law, and 2) states are free to define the nature of "property" interests in navigable waters and underlying soils on a "fair and substantial basis," a criterium met by the public trust decision. The brief concludes that "the state has a legitimate interest in allocating, and if necessary, reallocating, its sparse water resources among important public needs, particularly where the needs served by past allocations are no longer consistent with the public interest."

By the end of October the U.S. Supreme Court will decide whether to review the public trust decision.

State or Federal Court?

Should the Audubon Society-Mono Lake Committee-Friends of the Earth lawsuit be tried in state or federal court? That is the essence of arguments heard by Federal Superior Court Judge Lawrence Karlton in Sacramento Aug. 25.

At that hearing, DWP joined the state of California in arguing that Audubon's federal nuisance claim should be dismissed and the case returned to state court.* We contended that the case belongs in federal court where it could proceed to an expeditious trial; even without the nuisance claim, the case was properly moved to federal court and should remain there.

At the end of the day-long hearing, Judge Karlton requested additional briefing on an unexpected issue—did Congress, in regulating water pollution, omit problems of increasing salinity and leave them to federal courts? A decision is expected by the end of October.

Should Karlton dismiss the federal common law of nuisance claim, he may decide the case does belong in state court. If that happens, he will probably send us back to Judge Hillary Cook in Alpine County.

In sum, Mono Lake has a long, expensive legal fight ahead. But thanks to the California Supreme Court's public trust ruling, there is now light at the end of the tunnel.

* The "federal nuisance claim" is based on the interstate impacts of DWP's water diversions, which include reducing and threatening production of brine shrimp that are sold in interstate commerce, reducing the desirability of the Mono Basin as an attraction for tourists who travel interstate, creating air pollution that crosses state lines and threatening the habitat of migratory birds.

Feds Win Title to Lakeshore Lands

A federal judge has ruled that the federal government, not the state of California, is the owner of most of the relicted lands exposed by the shrinkage of Mono Lake. These lands encompass most of Mono's northeastern, eastern and southern shores, including the Negit Island land bridge and the South Tufa Grove.

The ruling is a setback for the state of California, which has been managing these lands as part of the Mono Lake Tufa State

Reserve. The state will appeal the decision, which court watchers believe will be a close call. During the appeal process, which may take several years, state park and federal personnel will probably continue to jointly manage the disputed lands.

The state retains ownership of the relicted lands exposed below property owned by the city of Los Angeles and private landowners. This includes such key areas as Simon Springs, Warm Springs, Lee Vining Tufa Grove and most of the western and northwestern shores.



Mono Legislation Languishing In Senate

The U.S. Senate has yet to act on the "Mono Scenic Area" bill passed by the House July 18 or the "national monument" bill introduced by California Senator Alan Cranston on May 19.

Cranston's bill, S.B. 1331, is identical to the Mono Lake National Monument legislation originally introduced by Congressman Richard Lehman (D-Sanger). Lehman's bill, H.R. 1341, generated high-level opposition from Los Angeles, California Governor George Deukmejian and the Reagan administration on the grounds it weakened L.A.'s legal position in the Mono Lake litigation. The compromise "scenic area" bill is not opposed by Los Angeles. It is supported by the Mono Lake Committee as the best we can get from this Congress.

The key to further progress is California Senator Pete Wilson, who opposed the original "monument" bill, but has yet to commit himself on the "scenic area" proposal.

WHAT YOU CAN DO: Please contact Senator Pete Wilson, and urge him to support Mono Lake legislation (U.S. Senate, Washington, D.C. 20510).

Assembly Passes Research Bill; Enactment Still Doubtful

Assemblyman Norman Waters' (D-Plymouth) Mono Lake research bill, A.B. 1614, has passed the State Assembly. Even should it pass the State Senate, however, it may well be vetoed by Governor George Deukmejian. A.B. 1614 was only able to pass because gubernatorial vetoes of other bills freed several million dollars from the Environmental License Plate fund. There is no reason to expect the governor to treat the Mono Lake bill any differently.

A.B. 1614 would tap the Environmental License Plate fund to

finance a "scientific study of the effects of water diversion on the Mono Lake ecosystem." The Assembly trimmed the appropriation from \$500,000 to \$250,000. The measure is supported by both the Mono Lake Committee and the Los Angeles Department of Water and Power.

WHAT YOU CAN DO: Urge Governor Deukmejian and your state senator to enact A.B. 1614.

Owens Valley Pumping: Inyo, DWP Consider Compromise

Inyo County and the Los Angeles Department of Water and Power have released a proposed agreement to temporarily settle their protracted conflict over groundwater pumping in the Owens Valley. The five-year agreement calls for "joint management" of pumping until ongoing studies by the United States Geological Survey are completed. Then a groundwater management plan would be written.

DWP increased its pumping of Owens Valley groundwater with the completion of a second Los Angeles Aqueduct in 1970. Dismayed by dessicated springs, dying vegetation and a gradual increase in the frequency and intensity of dust storms, Inyo County went to court, charging DWP with failing to prepare an environmental impact report. In the succeeding years, two DWP EIRs were judged inadequate by the court, but the pumping continued. In 1980, Inyo County voters overwhelmingly approved an ordinance to prevent the overdraft of Owens Valley's groundwater basins. This summer, however, a Superior Court judge declared the ordinance unconstitutional, and issued an injunction against its implementation (Inyo officials believe the decision could be overturned on appeal).

The agreement now under consideration is the fruit of the latest round of DWP-Inyo negotiations. It purports "to avoid or mitigate impacts of pumping," but fails to detail how this will be accomplished. While DWP agrees to mitigate if "reasonably possible," specific measures are not spelled out. If Inyo and DWP are unable to agree, DWP will still be allowed to pump at rates that are known to damage Owens Valley vegetation. For these reasons, two local organizations, the League of Women Voters of the Eastern Sierra and The Concerned Citizens of the Owens Valley, oppose the agreement in its present form.

"We agree with the concept of joint management," league president Ellen Hardebeck told the Inyo Water Commissioners at a public hearing Sept. 28, "but we do not believe remaining concepts under consideration afford adequate protection of the Owens Valley."

Most everyone agrees that the proposal has a different tone than those that have been offered in the past, which have all been rejected as grossly unfair by Inyo County. DWP recognizes Inyo's need to have a voice in water management. It admits that damage is being done by its pumping. Inyo is not required to give up any lawsuits permanently. But one key element is still missing—willingness on DWP's part to reduce pumping to protect the Owens Valley environment.

Air Quality Compromise: DWP Gets Less Than It Wanted

S.B. 270, which requires the Los Angeles Department of Water and Power to mitigate air pollution caused by its water diversions and pumping in the Owens Valley and Mono Basin, has become state law.

This is not exactly what DWP, which sponsored the bill, intended. In its original form, S.B. 270 would have exempted all water conveyance activities from air quality standards, allowing DWP to evade responsibility for the clouds of alkali dust caused by its water operations.

Nor is it entirely acceptable to the Mono Lake Committee. While S.B. 270 authorizes the Great Basin Air Pollution Control District to require "reasonable measures . . . to mitigate the air quality impacts," it prohibits APCD from compelling DWP to reduce diversions, the only satisfactory solution to the dust problem at Mono Lake.

Both DWP and MLC learned a lesson about the state legislature. DWP initially thought it could get any bill passed, even if it required a two-thirds majority in both houses. Yet well-organized opposition from the Mono Lake Committee, the League of Women Voters and Eastern Sierran organizations jeopardized S.B. 270. Even when DWP removed the "urgency clause," it could not marshal a simple majority vote.

DWP had counted on the governor's support. But it was Gordon Duffy, chairman of the Air Resources Board and the governor's Secretary of Environmental Affairs, who dictated the compromise that became law. DWP was given the choice of compromise or nothing.

The Great Basin APCD preferred the compromise because it put into law its authority to require DWP to control the air pollution it causes. Without this guarantee, APCD foresaw a long, costly legal battle that it might not be able to afford.

Whether S.B. 270 improves Eastern Sierra air quality depends upon the Great Basin APCD's willingness to aggressively pursue effective mitigation.

While MLC opposed S.B. 270, its passage is not a defeat. We have learned that the state legislature will not pass a bill that is grossly unfair to the Eastern Sierra if we lobby effectively against it. DWP's activities are now subject to some regulation. And whatever mitigation APCD requires will raise the cost of Inyo-Mono water a little closer to its true value.

Biological Research at Mono Lake: More Questions Than Answers

Over eight years of studying the Mono Lake ecosystem, scientists have more questions than answers. How has the shrinking lake and consequent changes in water chemistry, temperature, mixing patterns and other parameters affected algae, brine shrimp, brine flies, gulls, grebes and other life forms? What will happen in the future if diversions are not curtailed? At what point will shrimp, birds and other organisms no longer be able to flourish in Mono's increasingly salty water? In sum, how much water is needed to keep the lake alive and healthy?

Answers are elusive. "The dynamic nature and year-to-year variation inherent in any ecosystem," writes Point Reyes Bird Observatory biologist David Shuford, "make easy answers to questions in field work exceedingly rare." Joseph R. Jehl Jr., Hubbs Sea World biologist and DWP consultant, echoes this view: "Without a data base covering about five years, if possible including years of differing environmental conditions, it is impossible to say with any confidence whether an event, such as a late hatch of brine shrimp, is within expected limits . . . Thus, until we get a better handle on baseline conditions and deal from a wider perspective, it is best to temper our enthusiasm for interpreting changes in each year as being either positive or negative . . ."

Biological research began in earnest in 1976, when a team of 12 undergraduate biologists received National Science Foundation funding to conduct the first in-depth ecological studies of Mono Lake. These studies verified the lake's biological and scientific importance, and raised concerns for its survival. Three of the students continued to pursue graduate studies at the lake: David Winkler on gulls, Gayle Dana on brine shrimp and David Herbst on brine flies. In 1978 another graduate student, Petra Lenz, initiated an extended study of brine shrimp. All of these studies, which prospered in spite of shoestring budgets, culminated in master's or Ph.D. dissertations and numerous scientific publications.

Since 1980, the Los Angeles Department of Water and Power has taken an increasingly active role in Mono Lake research. DWP alleges it has spent over \$500,000 on bird and life form studies, geologic and hydrologic evaluations, and environmental monitoring and analysis. Some of this research has been conducted by in-house biologists, such as Melinda Thun's work with brine shrimp, but most has been contracted to outside scientists. For example, Joseph R. Jehl Jr. of Hubbs Sea World Institute has been conducting studies on birds, Sheila A. Mahoney of Florida Atlantic University on bird physiology, David J. Chapman of UCLA on algae and Frank Conte of Dircon Consultants on brine shrimp. None of the DWP-sponsored research has yet been published, although articles are reported to be in preparation (L. Lund, pers. comm.). Confidential progress reports on bird research have been distributed to agencies involved in the Mono Basin and to the Mono Lake Committee.

During the past few years, additional research funding has come from the U.S. Fish and Wildlife Service (brine flies, gulls), David and Lucille Packard Foundation (brine shrimp), Arco Foundation (gulls), Conservation Endowment Fund (brine shrimp, gulls) and Mono County Fish and Game fine money (brine shrimp); the Mono Lake Committee was instrumental in securing many of these grants.

This year the Point Reyes Bird Observatory assumed responsibility for continuing the gull studies begun by David Winkler.

With so much attention focused on the Mono Lake controversy, researchers find themselves in highly politicized habitat. They are pressured for uncomplicated answers to complex ques-

tions. Their results are interpreted in ways they may not have intended. They are pushed to publish reports and testify at hearings. Yet, as Shuford remarks, it is "extremely rewarding to know that our efforts may help resolve a very important conservation issue."

We have asked biologists engaged in Mono Lake research to submit short reports on their objectives, methods, results, future research plans and publications. Reports on DWP research were prepared by DWP staff and "approved by each researcher for content." Interested readers may contact scientists directly.

ALGAE

With the main support of the Solar Energy Research Institute, Golden, Colorado and some support from the Bio-Energy Council and the National Science Foundation, we have been studying desert microalgae as a possible source of energy and/or protein. Additional studies have consisted of laboratory experiments on the algal yields, and on temperature, salinity and light requirements.

To investigate temperature and salinity responses we have used a temperature gradient block in which 30 combinations of temperature and salinity can be set up. Growth responses are measured by optical density in the culture bottles and these signals are fed into a microcomputer which plots the optical densities as functions of temperature and salinity for each day of growth. One of the algae we have studied is a culture of *Nitzschia* from Mono Lake.

We found that the best growth for Mono Lake *Nitzschia* occurred at a temperature of 30°C and a salinity of 4.5% salt. We also found that this salinity was consistently better for growth than higher or lower salinities.

Since the present salinity of Mono Lake is 9%, we can speculate that if the salinity were lower, the lake might be more productive of algae and in turn of brine shrimp, flies and birds. Our work also shows that, if the salinity were increased to 12%, *Nitzschia* growth would be very much inhibited and would essentially cease at double the present salinity, i.e., 18% salt.

In the future we plan to test the Mono Lake *Nitzschia* and other species for their ability to produce algal biomass at high yields. We hope to select the best species for the production of energy and/or protein through the capture of solar energy. Eventually we will transfer our laboratory technology to growing these desert algae in outdoor ponds.

William H. Thomas et al.
Institute of Marine Resources
Scripps Institution of Oceanography
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U.C. biologist Gayle Dana has been studying Mono Lake's brine shrimp since 1976.

Larry Ford

For the second year I am conducting research on the plankton dynamics in Mono Lake. My main field activities involve measurements of chlorophyll *a*, nutrients, physical parameters and primary productivity.

In addition to monitoring, I am conducting experiments to assess the major determinants of the spring transition from high to low standing algal crop. These include nutrient limitation experiments on algae, ammonium excretion experiments with brine shrimp and measurements of primary productivity. Nutrient limitation experiments have confirmed the importance of ammonium as a major limiting nutrient. Theoretical analyses using temperature and ammonium profiles in the lake will enable me to calculate the supply of ammonium from the deeper waters, while excretion experiments estimate the supply of ammonium due to the brine shrimp. Primary productivity measurements taken on different dates at various light levels estimate total lake primary production. The eventual goal is to understand how light, temperature, grazing and excretion by the shrimp, nutrient supply from the bottom, and algal growth interact to produce the spring transition. Knowledge of these interactions will help us interpret any changes observed in the lake.

The increased runoff of this past spring and summer has provided a unique opportunity to study the lake under a different set of conditions. Therefore continued experimentation and monitoring of the lake are imperative at this time.

My research is sponsored in part by a grant from DWP and administered through the Marine Science Institute at UC Santa Barbara.

Robert Jellison
Dept. of Biological Science
University of California
Santa Barbara, CA 93106

Dr. David J. Chapman of the University of California at Los Angeles performed salinity tolerance and growth rate experiments on two common species of Mono Lake algae, *Nitzschia* and *Coccomyxa*. He also performed the same tests on *Dunaliella*, a salt-tolerant alga that also inhabits the lake, but in lower numbers.

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

BRINE SHRIMP

In 1983, DWP biologists Melinda Thun and Gwen Schnoor and independent researcher Gayle Dana conducted a cooperative brine shrimp monitoring program at Mono Lake. Our goal is to understand the distribution of the shrimp in the lake and how it compares to previous years. Sampling was performed twice a month from established lakewide stations to measure the numerical abundance and horizontal distribution of shrimp in the lake. Between April and September discrete sampling methods were used on a monthly basis to estimate the shrimp population at different lake depths, in an effort to determine vertical distribution patterns. Our eventual goal is to understand how the environment influences the shrimp's abundance and distribution. Further data collection and analysis is needed before these patterns can be correlated with biotic and abiotic factors such as phytoplankton abundance, light intensity, temperature and oxygen.

Spring 1983 shrimp populations were found to be higher than 1981 and 1982. Summer abundances were found to be the same order of magnitude as those of 1981 and 1982. Several environmental factors may affect spring shrimp hatching and development. These include water temperature, salinity and dissolved oxygen concentrations. Attempts are being made to correlate these factors to shrimp hatching and abundances. Further analysis of the 1983 Mono Lake shrimp population must await final enumeration of the summer and fall surveys.

The DWP is also funding a study of the hatching mechanisms of the lake's brine shrimp, being conducted by Ms. Laurie Drinkwater of the University of California at Davis. Ms. Drinkwater is working under the direction of Dr. John Crowe, also of UC Davis.

Melinda Thun
Los Angeles Department of Water and Power

We are in our sixth year of monitoring the brine shrimp population at Mono Lake. The 1983 season included our standard lake sampling program in addition to a study of female shrimp fecundity. Both of these studies were done in a successful cooperative effort with the DWP. Laboratory experiments were directed toward studying the effects of increasing salinity on a full generation cycle of the brine shrimp. The purpose is to determine the impact of changes in water level and the accompanying changes in salinity on the brine shrimp population.

Spring brine shrimp numbers were 50% higher than those observed in 1981/1982, although densities still remained well below those found in 1979. The tremendous inflow of fresh water to Mono Lake may have had some bearing on this increase in spring numbers. In June we observed large numbers of second generation nauplii, which started maturing in July. Preliminary results on female fecundity showed that brood sizes in the first generation were up to three times larger than in the second generation. This most likely reflects differences in food abundance in the spring and summer.

The freshwater inflow has only mixed in the upper layers of the lake, with the lower layers remaining at the higher salinities of last year. The full effects of this year's fresh water may not be felt until next spring when the lake has mixed to the bottom. Therefore, 1984 may prove to be a critical transition year for brine shrimp population dynamics.

A long-term experiment was started this summer to test salinity effects on the Mono Lake brine shrimp through a full generation. We have raised shrimp in various salinities of Mono Lake water, and have been monitoring the following responses: mortality, growth and time to sexual maturity. We have just begun phase II of these experiments in which we are focusing on the reproductive cycle. In phase II we will measure the hatching success of the overwintering eggs produced in the different salinities. Because the eggs have to undergo a three- to four-month induced dormancy, phase II will not be implemented until March of 1984.

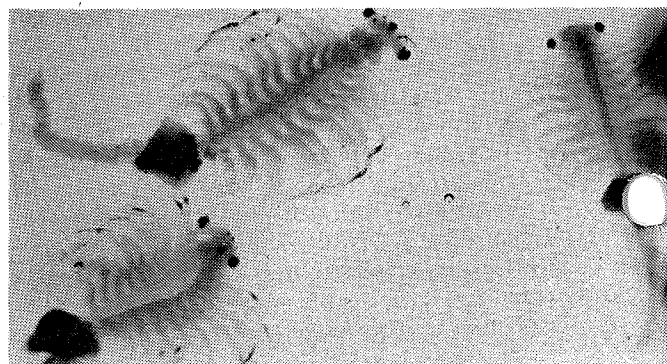
Along with the hatching experiments mentioned above, we plan to continue the standard lake sampling program next spring. It is important to continue monitoring Mono Lake through 1984 to determine if the decrease in salinity will be accompanied by changes in the shrimp seasonal cycle.

Gayle Dana and Petra Lenz
Marine Sciences Institute
UC Santa Barbara, Santa Barbara, CA 93106

I am happy to report that DWP has contracted with Dircon Consultants, Inc. to continue our 1982 project which had the primary objective of establishing the brine shrimp populations in the shallow shoreline tufa areas. In 1982, measurements were completed for the western bays of Mono Lake as regards spatial distribution, densities of shrimp and seasonal movements of brine shrimp. In 1983, measurements have been conducted for the eastern, northeastern and southern bays of Mono Lake relative to the same biological parameters.

Several different types of sampling techniques have been used, including both vertical and horizontal hauls of zooplankton nets, Schindler transparent trap system, and a newly devised diaphragm-type vacuum pump and sieving system. It is our goal to publish, with DWP personnel, a report on the Mono Lake brine shrimp population, abundance and spatial distribution for the years 1982-83.

Frank P. Conte
Dircon Consultants, Inc.
P.O. Box 515, Corvallis, OR 97330



BRINE FLIES

Nature and the elements have mixed together at Mono Lake in a dance of the seen and unseen like leaves in the wind. The mystery of this dance and the music that guides it have drawn me here again and again, to wonder and search for the forces that govern the expression of life at this oasis in the desert.

The portion of the cycle I have chosen to study centers around the biology of the alkali [brine] fly, and has now expanded to encompass the algae upon which it feeds and the nutritional value of flies to birds. My purpose has been to establish how salts in the lake and algal food supply affect the growth and reproduction of the fly throughout its life cycle. These studies are performed in a controlled laboratory setting so that the influence of each factor may be separately distinguished. Such experiments are the only way to provide predictive information on water diversion impacts to Mono Lake short of allowing the "water-diversion experiment" to reach completion. In addition, the fly population is being censused in nature on a regular basis at both Mono Lake and a sister lake, Abert, in Oregon.

Briefly, the results of these experiments indicate that either increased

salt content or reduced food availability (which may result from increased salinity) prolong the development time of larvae, lower survival, and reduce the size at maturity. Reproduction is also reduced in small flies; however, these flies may reproduce at an earlier age than large flies. The translation of this data on development and reproduction into models of population dynamics is planned in the future. Data on nutritional value indicate that overall caloric content is ranked in decreasing order from larvae to pupae to adults. On an equivalent weight basis, any life stage of the alkali fly exceeds the caloric value of brine shrimp, especially in terms of fat content. Continuation of these studies and integration with the results of other scientists will be an essential element in establishing a future management program for water and wildlife resources of the Mono Basin.

The research projects I am pursuing have been and hopefully will continue to be funded by the U.S. Fish and Wildlife Service.

David Herbst

Department of Zoology and Entomology
Oregon State University, Corvallis, OR 97331

BIRDS

Our work concentrated on the reproductive biology of the gulls on the Negit islets. Cooperative work was also undertaken with Dr. Joseph Jehl Jr., whose work focused on the Paoha islets and post-fledging biology. Our emphasis was on censusing and monitoring reproductive success.

In the past, estimates of the number of breeding adults have been obtained indirectly by extrapolating from the number of chicks counted on the "interagency census" in early July. This year we were able to get an accurate count of the number of gulls breeding on the Negit islets by direct methods: 1) counting nests one by one on the smaller islets; 2) using blinds to observe and map incubating birds on Little Tahiti, and 3) running transects on Twain. This direct count provided a check on the indirect chick extrapolation method.

We obtained estimates of breeding productivity from the same two sample plots on Spot Rock monitored in 1980-82. We checked these plots every three days, marking new nests and eggs, weighing and measuring chicks, and obtaining food samples from chick regurgitations.

We also monitored an undisturbed plot from a blind on Little Tahiti, watching the progress of 125 nests. Our final estimates of reproductive success will be based on data from the undisturbed plot, as studies have shown that data from disturbed plots may seriously underestimate chick production.

In early July over 1,500 chicks were banded on the Negit and Paoha islets combined. From band returns we hope to gain valuable information on local mortality and dispersal.

In August we conducted beach walks for dead juveniles and boat censuses of large parts of the lakeshore. We recorded the ratio of banded to

unbanded juveniles in order to derive an independent estimate of chick production.

Our research is funded through an anonymous donation, grants from the Conservation Endowment Fund and Arco Foundation, and a contract with the U.S. Fish and Wildlife Service.

David Shuford

Point Reyes Bird Observatory
4990 Shoreline Hwy., Stinson Beach, CA 94970

Dr. Joseph R. Jehl Jr., assistant director of Hubbs Sea World Research Institute, continued his studies of migratory bird and California gull populations at Mono Lake during 1983. Dr. Jehl's studies were funded by the DWP as its share of a cooperative research agreement with the U.S. Fish and Wildlife Service.

Dr. Jehl's studies consisted of extending population size and mortality baseline data on the California gulls, eared grebes, Wilson's phalaropes and northern phalaropes; on studying the productivity of California gulls on the islets west of Paoha Island (which included a major investigation to evaluate the effect of shade on gull productivity); and on gathering data on phalarope and grebe populations from other areas.

Dr. Sheila A. Mahoney of Florida-Atlantic University worked with Dr. Jehl in performing important physiological/behavioral experiments on Mono's eared grebes. The purpose of this study was to determine how these birds, the most numerous at the lake, can cope with the lake's saline conditions yet never visibly drink fresh water.

Los Angeles Department of Water and Power

Viewing the World Through Alkali-tinted Glasses

by DAVID SHUFORD

Excerpted from the Point Reyes Bird Observatory Newsletter, Summer 1983

The alkali gives the lake its flavor, so to speak, and underlines the general intensity of all natural phenomena here. The caustic water constantly stings, cracks and tightens the skin, especially around the nicks and abrasions acquired during the rough-and-ready carpentry projects (building gull observation blinds) climbing around on alkali-encrusted lava rock. We sport the "alkali look" of frosted outdoor wear that is sure to become the biggest rage since pre-faded jeans. Just splash some lake water on; it takes only a few minutes. Or send to us for your authentic tie-dyed-in-alkali Mono Lake T-shirt.

We are camped inside the ruins of "Krakatoa," a movie set volcano constructed of two-by-fours, chicken wire and *papier-mache* for a 1953 Fred McMurray film, *Fair Wind to Java*. Unfortunately this volcano lacks the usual central heating, as well as water and electricity and is six long miles from our boat launch site.

Fortunately the alkali spray on my glasses puts the world into dreamy, surreal focus, and I realize there is no better place to be or a better thing for a biologist to be doing than trying to add a grain of knowledge that perhaps will influence in a small way the future of this magnificent lake.

Gulls Doing Better, But Why?

by DAVID SHUFORD
Point Reyes Bird Observatory

In 1976 University of California biologist David Winkler initiated a study of Mono Lake's California gulls which culminated in his Ph.D. dissertation this year. Before he left for Sweden to pursue post-doctoral studies, Winkler asked the Point Reyes Bird Observatory to continue the research. Says PRBO Executive Director Burr Henneman, "The project raises scientific questions which PRBO is very interested in . . . and we believe the gull research provides important information for the continuing effort to preserve the biological health of the lake." The research is being conducted under the direction of PRBO biologists Gary Page, David Shuford and Emilie Strauss and volunteer Bob Hogan. Many others provided invaluable short-term assistance.

The Point Reyes Bird Observatory is a nonprofit corporation devoted to biological research and education. All memberships and contributions are tax-deductible, and members receive an outstanding quarterly newsletter. To join, send \$15 + to: PRBO, 4990 Shoreline Highway, Stinson Beach, CA 94970.



Although all of the data is not yet analyzed, it is clear that 1983 was a successful breeding season for Mono Lake's California gulls. On July 11, an interagency census team (DWP, BLM, Tufa State Reserve, Point Reyes Bird Observatory) tallied 16,278 chicks compared to 5,010 in 1982. In 1981, 11,698 chicks were counted, but virtually all died after the census and before leaving the lake. This makes 1983 the best year for gull chick production since 1980, when 28,197 chicks were counted. Previous tallies were 14,550 in 1979, the year predators routed Negit Island's birds, and 35,813 in 1976-78, when the Negit colony was still flourishing.

Though it is tempting to attribute this year's increase in chick production solely to the rise in lake level, evidence is elusive, and all variables must be considered.

At least part of the increased chick production, however, is directly attributable to a higher lake: the 1,400 chicks on Twain and Java islets. Last year these islets were connected to the mainland, invaded by coyotes and abandoned by nesting gulls. This year they were islets once again. Their 1,400 chicks, however, account for only about 13 percent of the increase in chick numbers.*

Food supply must also be considered. Brine shrimp were about 50 percent more abundant this spring. While chicks were also fed fish, frogs, earthworms, cicadas, garbage, fly larvae and pupae, and other insects, brine shrimp were their predominant food.

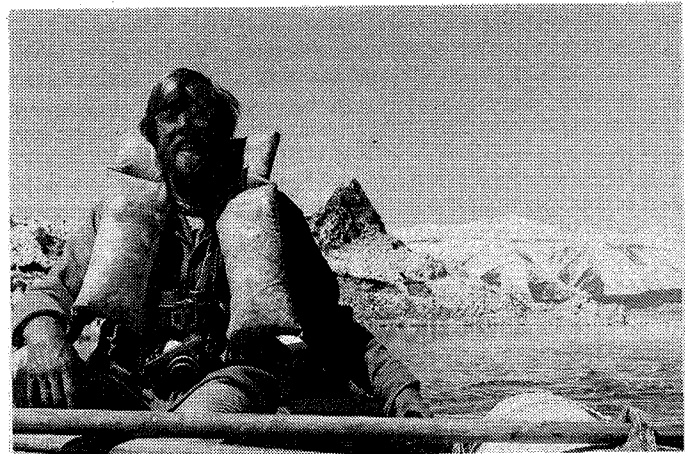
There is no clear-cut evidence, however, that the higher numbers of shrimp contributed to the gulls' nesting success. Key questions remain unanswered: 1) does an increase in shrimp really mean an increase in their availability to gulls, and 2) at what level does an increase or decrease in shrimp affect gulls' capture efficiency and the rate at which they feed their chicks?

Weather, especially temperature, can influence chick survival. Some biologists attribute the high 1981 mortality solely to abnormally hot weather, whereas others cite a combination of lowered food supply, heat, disease and other factors. This year was relatively cool, and there was no evidence of excessive heat stress among the chicks.

Other sources of minor mortality this year included tick and mite infestations, great horned owl predation and the July 6-8 windstorm. The rising lake level did cover some nest sites, but in most cases the chicks hatched and were able to move to higher ground.

To conclude, it is not yet possible to pin down the exact factors responsible for this year's encouraging chick production. The fact remains the lake rose dramatically and chick production increased substantially.

* There appeared to be residual effects of last year's coyote predation on Twain and Java. Nesting densities were much lower than on comparable habitat on other islets. Nesting activities, i.e. egg-laying, hatching, etc., appeared to lag a week to 10 days behind the other colonies. Only 1,400 chicks were tallied on the interagency census compared to 3,685 in 1981 and 11,475 in 1980. It may be that gulls routed from Twain and Java last year were hesitant to return, and did so later and in limited numbers; or it may be that the islet's former occupants moved to other colonies, and were replaced this year by younger birds.



Point Reyes Bird Observatory biologist David Shuford continued the gull studies initiated by David Winkler in 1976. In the background is Krakatoa, a Hollywood "volcano" which serves as base camp and blind for the researchers.

Mono Lake Bird Count January 1

Everyone is invited to participate on the seventh Mono Lake Christmas Bird Count on New Year's Day. MLC offers all counters a place to throw a sleeping bag on the nights of the 31st and 1st. Other Eastern Sierran counts include Bishop (Dec. 17), Lone Pine (Dec. 18), Death Valley (Dec. 21) and Mammoth (Dec. 31?). For more information, contact us in Lee Vining.

Recent Publications on Mono Lake Biology

The following list includes articles and theses on Mono Lake biology that have appeared since the publication of the benchmark *An Ecological Study of Mono Lake* in 1977 (David W. Winkler, editor; UC Davis Institute Ecology Publication 12). In addition the Los Angeles Department of Water and Power has published three short reports that summarize the research it is funding: *Lake Biology Research Findings* (1982), *Migratory Birds* (1982) and *1982-83 Progress Report*.

Bowen, Sarane T., James P. Durkin, Gery Sterling and Linda S. Clark. 1978. *Artemia* hemoglobins; genetic variation in parthenogenetic and zygogenetic populations. *Biol. Bull.* 155: 273-287. *Treats Mono Lake shrimp as distinct species.*

Bowen, Sarane T., Mary L. Davis, Steven R. Fenster and Glen A. Lindwall. 1980. Sibling species of *Artemia*. In: *The Brine Shrimp Artemia*, Vol. 1. Universa Press, Wetteren, Belgium. *Discusses brine shrimp taxonomy on basis of enzyme analysis and reproductive isolation. Presents evidence for considering the Mono Lake population an endemic species.*

Cooper, Scott D., David W. Winkler and Petra H. Lenz. 1983. The effect of grebe predation on a brine shrimp population. *J. Anim. Ecol.*, in press. *Discusses relationship between grebes and brine shrimp at Mono Lake. Concludes that grebe predation cannot account for the rapid autumnal decline in shrimp density.*

Dana, Gayle L. 1981. *Comparative population ecology of the brine shrimp Artemia*. Master's thesis, San Francisco State University. *Compares the ecology of Mono Lake brine shrimp to those of a Nevada population. Relates the aberrant characteristics of Mono Lake shrimp to its unique environment.*

Gayle L. 1983. Life history strategies of *Artemia*. In: *Proceedings of the second symposium on vernal pools and intermittent streams, May 9-10, 1982*, University of California, Davis. In press.

Herbst, David B. 1980. *Ecological physiology of the larval brine fly Ephydra hians, an alkaline-salt lake-inhabiting ephydrid*. Master's thesis, Oregon State University. *Examines the comparative physiology of osmotic and ionic regulation, energy metabolism and survival in brine fly larvae from Mono Lake and Abert Lake, Oregon. Relates these parameters to differing environments. Concludes that projected increases in Mono Lake salinity will likely cause the brine fly population to decline substantially and possibly disappear entirely.*

Herbst, David B. and Gayle L. Dana. 1980. Environmental physiology of salt tolerance in an alkaline salt lake population of *Artemia* from Mono Lake, California. In: *The Brine Shrimp Artemia II*: 157-167. Universa Press, Wetteren, Belgium. *Examines survival, respiration and internal solute regulation of adult Mono Lake brine shrimp subjected to varying concentrations of Mono Lake water. Concludes that projected increases in salinity may reach physiological limits of adult shrimp in 25 years, possibly resulting in their extinction.*

Lenz, Petra H. 1980. Ecology of an alkali-adapted variety of *Artemia* from Mono Lake. In: *The Brine Shrimp Artemia III*: 79-96. Universa Press, Wetteren, Belgium. *Presents and discusses data on life history, demographics and spatial distribution of Mono Lake brine shrimp during the 1978 growth season.*

Lenz, Petra H. 1982. *Population studies on Artemia in Mono Lake, California*. Doctoral dissertation, University of California, Santa Barbara. *Includes discussion of post-1979 decline in spring brine shrimp numbers.*

Jehl, Daniel R. and Joseph R. Jehl Jr. 1981. A North American record of the Asiatic marbled murrelet (*Brachyramphus marmoratus perdix*). *American Birds* 35: 911-912. *Documents and discusses occurrence at Mono Lake, the second North American record.*

Melack, John M., Petra H. Lenz and Scott D. Cooper. 1983. The ecology of Mono Lake. *National Geographic Society Research Reports*, in press.

Page, Gary W. and Lynne E. Stenzel, eds. 1981. The breeding status of the snowy plover in California. *Western Birds* 12: 1-40. *Documents that Mono Lake, Owens Lake and south San Francisco Bay support the largest breeding populations of this declining shorebird.*

Page, Gary W., Lynne E. Stenzel, David W. Winkler and Christopher W. Swarth. 1983. Spacing out at Mono Lake: breeding success, nest density and predation in the snowy plover. *Auk* 100: 13-24. *Discusses breeding biology and density of Mono Lake's snowy plovers with emphasis on the influence of predation by gulls.*

Swarth, Christopher W. 1983. *Foraging ecology of snowy plovers and the distribution of their arthropod prey at Mono Lake, California*. Master's thesis, California State University, Hayward. *Discusses distribution, diet and feeding success.*

Winkler, David W. 1983. *Ecological and behavioral determinants of clutch size: the California gull (Larus californicus) in the Great Basin*. Ph.D. dissertation, University of California, Berkeley. *Compares breeding biology of gulls at Mono Lake and Great Salt Lake. Attributes differences in chick productivity to food supply. Links increases in chick mortality and decreases in the numbers of nesting adults at Mono Lake to declines in level of lake.*

Mono Evaporation Station Threatened by Cutbacks

One of the evaporation research stations at Mono Lake may be shut down because neither the California Department of Water Resources (DWR) nor the U.S. Bureau of Land Management can afford to maintain it. The station is vital to understanding evaporation rates from Mono's surface, the largest component in the lake's water balance. According to hydrologist Peter Vorster, California State University at Hayward, more reliable evaporation measurements are needed. Vorster is completing work on a computerized model that will enable him to forecast

how the lake will fluctuate in response to various levels of water export. Rather than shutting down the station, says Vorster, it should be expanded with the following instruments: a recording anemometer, a radiation measuring device such as a pyroheliometer, and a hygrothermograph that can be installed close to or on the lake's surface. If anyone can contribute these or similar hydrometeorological instruments, or know where they can be obtained at minimal cost, please contact: Peter Vorster, 1821 Blake St., Berkeley, CA 94703.

MLC News and Activities

Bikeathoners, Bucket Walkers Bring Back The Water

On Sept. 3, 51 hardy pedal-pushers joined well over a hundred bucket-bearers in our annual rite of rehydration. A deep blue lake, shouts of welcome, circling gulls and cold duck capped off our fourth Mono Lake Bikeathon and fifth Labor Day Bucket Walk.

It all began in downtown Los Angeles, where the cyclists filled vials with water from DWP's moat-like reflecting pond, taped them to their bikes and vanished into the traffic and smog. After six glorious days of flat tires, scorching asphalt, painful blisters in embarrassing places, Labor Day traffic, spectacular scenery and new friends, the bikeathoners returned the water to its natural destination—Mono Lake.

The bucket walkers, which included an ecologically oriented scout troop (Troop 260, San Jose), toted water from the Lee Vining Creek diversion dam down to the lake.

Thanks to generous sponsors, the bikeathon raised over \$15,000.



Father Christopher Kelley of Bishop leads the way to Mono's shore.

What flows south and causes an annual migration of bike riders from all over California to peddle 350 miles north for six days across scorching deserts and up steep mountain roads lined with volcanic craters which just might erupt in their lifetimes?

—Michael Dressler

10K Benefit Run a Great Success

Over 200 people ranging in age from 12 to 68 came from all over California for the first *Long Live Mono Lake 10K Run* Oct. 2. The runners enjoyed perfect conditions: a crisp, sunny autumnal day, rain-washed air and fresh snow powdering the Sierra and Mono Craters. A little over 40 minutes after the start, Stacey Geiken crossed the finish line, followed less than three minutes later by the first woman, Debra Chaddock. Everyone had a great time while raising about \$2,000 toward saving the lake.

The success of the 10K run is due to the hard work of volunteer Race Director Dennis Yamnitsky of Yosemite, his assistant Jim Rodrigues, their many helpers, and to the sponsors and donors listed below. In particular Dennis' high spirits and tireless energy made the run a joyous celebration. It was, in his words, "a fun run for an important cause." Mark your calendars for next year: tentative date Sept. 30!

Staff Hellos and Good-byes

Slip-up department: misspelled the names of our new Southern California and Northern California coordinators, Stephen Osgood and David Wimpfheimer, in our last newsletter.

We already miss David Takemoto-Weerts, who has been working with the committee since 1980. David has left his position as our legislative representative to become the manager of the UC Davis Bike Barn. With a two-month-old daughter, David felt the need for more remunerative employment, but will continue to help when he can. He writes, "I prefer not to think of myself as leaving the MLC, but simply as going from a paid to a non-paid position."

Martha Davis, formerly with Greenpeace, replaces David in Sacramento. We have also moved to a shared office with the Planning and Conservation League, which saves money and puts us in closer touch with other environmentalists. In Los Angeles, Marna Ikenberry has become our capable new business manager. In Lee Vining, two new interns, Joanne Tribble and Dennis McAuliffe, are helping us keep on keepin' on.

Another Membership Mailing

We have sent out another 25,000 membership appeals, and returns are encouraging: several hundred new MLC members, and more coming in. If you received an appeal, we trust you'll pass the information on to a friend. The cost of purging lists of MLC'ers is prohibitively high.

Interning with the Mono Lake Committee

by KATIE QUINLAN

Our Mono Lake operation, which wins thousands of friends and raises tens of thousands of dollars each year, depends on dedicated interns who work for room and food money. This summer Katie Quinlan, Emily Harris, Mary Kozak and Dean Cutter enabled us to keep the Mono Lake Information Center open 12 hours a day and seven days a week, and to conduct free field trips every day. Here's what it's like. For information on becoming an intern, contact our Lee Vining office.

I'm sitting at the edge of the lake on a September afternoon, watching the wind stir whitecaps on Mono's surface. Gulls bob up and down. The roughness of the water must remind them of the ocean, stirring memories in their souls and reminding them it's time to go. I too must migrate soon, and I wonder if the gulls also have thoughts of their summer along Mono's shores.

Back in June, when I arrived to intern with the Mono Lake Committee, swallows and bluebirds were busy gathering nesting material among the tufa. Now the golden blooms of rabbit brush remind me of the coming of fall.

June was pleasant, for Tioga Pass was closed and the flow of tourists was small. My days were spent learning to process mail, answer questions, lead field trips and restock the information center's inventory of books, posters, T-shirts and Mono memorabilia. But listening to frustrated, Yosemite-bound tourists did become old. I rejoiced more than they when the pass finally opened on July 1.

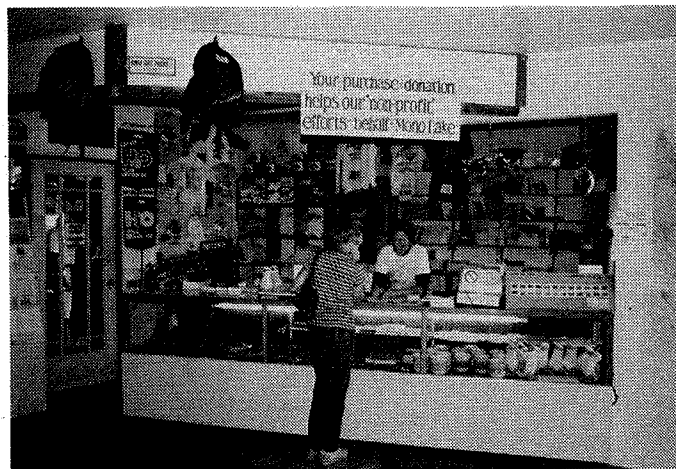
The fireworks brought hordes of people, and it stayed busy for the rest of the summer. My duties became more routine and lost some of their excitement. But I always looked forward to leading field trips, sharing with visitors Mono's magic and joining in their enthusiasm and discovery. I set a goal of learning something new for each trip, and read every book and article I could lay hands on.

Days off became more important. Trips to the White Mountains, Bodie and Mono's islands helped me put together what I was learning and appreciate how intricately it all connected.

Fledgling gulls along Mono's shores marked the beginning of August. Suddenly the lake was speckled with phalaropes stopping to rest and feed on their migration to Argentina. My field trips improved: I no longer stumbled over words, and, with all that I had learned, they stretched from an hour to an hour and a half.

As Labor Day approached, the center experienced a frenzy of activity. We organized the bucket walk and cheered the bikeathoners as they cycled through town and down to the lake. That evening we celebrated with a picnic, coyote stories and music late into the night.

Now summer interns bid farewell while new interns migrate here to Mono. Of the three months I have dwelt at its shores, I can say: the lake and its surroundings will lure and entice until they have hold of your soul. When you leave, a part of you will remain.



Intern Joanne Tribble explains Mono Lake's plight to one of the 50,000 visitors who passed through our information center this summer.

Bikeathon Business Sponsors

LEE VINING AND JUNE LAKE

Alpine Village Motel, Best Western Lakeview Motel, Channel's Union 76, Ernie's Tackle and Ski, Fern Creek Lodge, Gateway Motel, June Lake General Store, The King's Inn, Lee Vining Chevron Service, Murphey's Motel, Nicely's Restaurant, Schat's Bakery, Sierra Inn Restaurant, Tioga Pass Resort, Woody's Shell.

MAMMOTH LAKES

Alpenhof, Alpine Lodge, Anderson's Village Inn, Ash Kickers Chimney Sweep, Auto Parts and Sales, Berger's Restaurant, The Booky Joint, The Chart House, The Clothespin, Convict Lake Resort, Country Liquor, Designs Unlimited, Gayle's Hallmark, Gateway True Value, Engelhof, The Faucetry, Genny Smith Books, Insights Mountain Design, Island Cafe, Lake Mary Store, Mammoth Boulangerie, Mammoth Reservation, Mammoth Sporting Goods, Mill City Laundry, Minaret Lodge, Mogul, The Outfitter, The Rafters, Richmond's Auto Body, Rising Sun, Rocky Mountain Chocolate Factory, Roget's, Sew On and Sew Forth, Josh Slocum's, Snow's Corral, The Store for Natural Foods, The Stove, Swiss Cafe, Vision Centre, Whiskey Creek

BISHOP

Bill Bowles Insurance, Chuck Kilpatrick Insurance, Don Rossano Bookkeeping, Economotors, Fred Henke Insurance, Hal's Auto Body, The Happy Dragon, Inyo-Mono Body Shop, The Meathouse, Paradise Lodge, Richardson and Scrugg Attorneys, Wheeler and Wilson Boots

BRIDGEPORT

Bridgeport General Store, Bridgeport Inn, Buster's Market, Ken's Sporting Goods, Sportsmen's Inn, Taber Remodeling, Terry's Auto Repair, Ziglar's Sporting Goods

ELSEWHERE

Albany Press (Emeryville), Ann Flanagan Typography (Berkeley), CMS Fountain Consultants (Santa Cruz), Joseph's Bi-Rite Market (Lone Pine), Li'l Henry's Bicycle Emporium (Riverside), Pacific Pack and Pants (Santa Cruz), Reece's Shell (Lone Pine), Schat's Bakery (Lone Pine), Sierra Auto Recycling (Ridgecrest), UC Press (Berkeley), Western Mountaineering (Santa Cruz), Willow Motel (Lone Pine)

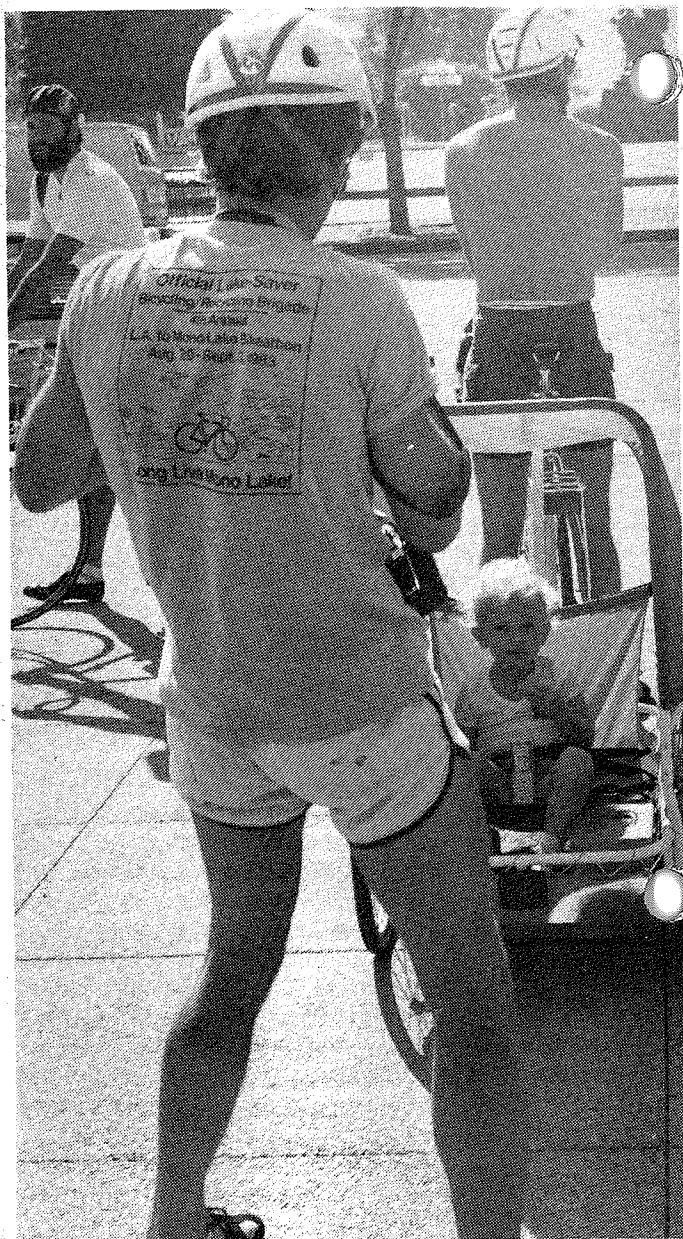
Hooray, Bikeathoners!

To the intrepid participants in the 1983 bikeathon, we owe the success of this vital fund- and awareness-raising event. Tufa cheers to everyone, especially Eric Alger, Dean Cutter, Michael Dressler, Mike Green, Mary Kozak, Michael and Teresa Rigney, Vicki Silvas-Young, Norma Vedder, Steve Wenker and Bob Wolfensperger for raising over \$500 apiece!

Eric Alger, Bill Baughn, Terri Berkheimer, Jerry Brant, Art Campbell, Rob Clark, Russell Cole, Amy Cowan, Aaron Cox, Dean Cutter, Kevin Dixon, Michael Dressler, Steve Fate, Richard Foley, Martin Fouts, Navid Haghdan, David Hayes, Dave Jensen, Richard Keyes, Patty Kline, Barbara Kniffen, Mary Kozak, Alice Krueper, Michael Longacre, Bruce Lundquist, Jill McIntire, William Mendoza, Nick Mirkovich, Stephen Osgood, Casey Patterson, Aleida Pena, Dave, Tatia and Toodie Perry, Alma Ronis, Bob Ross, Laura Saltzman, Darren Sandquist, John Schaefer, Vicki Silvas-Young, Larry Spillane, Joe Stadler, James Stehn, Ana Toro, George Tredick, Mark Troxell, Norma Vedder, Steve Wenker, Roland Wissler, Bob Wolfensperger, Stu Zakow



Bikeathon coordinator Steve Wenker gives last-minute pep talk in downtown Los Angeles. Thanks to Steve's organizational skill, patience and high spirits, all 51 cyclists made the trip without mishap.



10K Run Sponsors and Donors

Ansel Adams Gallery, Yosemite
Booky Joint, Mammoth Lakes
Calistoga Water, Napa Valley
Caymus Winery, Rutherford
Chateau St. Jean, Kennwood
Charles F. Shaw, St. Helena
El Portal Market
Gateway Market, Mammoth
Gillespie Distributing (Lite beer)
Grgich Hills, Rutherford
Inyo-Mono Coca-Cola, Bishop
Joe's Market, Bishop
Kennwood
Lakeview Motel, Lee Vining
Lawrie Brown (blankets)

Madronia, Camino
Monterey Vintners
Nike
Sports 'n Trails, Mammoth Lakes
Rod and Cindy Kennec (plaques)
Rutherford Vintners
Safeway, Bishop
Santino, Plymouth
Schat's Bakery, Mammoth, June Lake
Stevenot, Murphys
Tioga Pass Resort
The Winery, Mammoth Lakes
Tony Tate (pottery)
Wheeler-Wilson Boots, Bishop
Yosemite Park and Curry Company



Accolades

We are deeply appreciative to the many MLC members who responded generously to our political fund appeal.

Photographers Kurt Kassman, Bob Kilpatrick and Norio Nakajima donated stunning prints to our information center. Tiley A. Gilkey and former Mono Basin residents Joan Dowdell and Myrtle Carson donated historical photographs, which are now part of our growing research library and archives.

Many of the items sold in our information center were donated by artistic monophiles: an oil painting by Michael Drury, bookmarkers by Charlotte Cooper, ornamental birds by Cherry Franklin, cards by Mrs. R.A. Diepenbrock and driftwood collected by Vera Sitze. A belated thank you to Marion Palmer, for fashioning beautiful Mono Lake pillows for our spring auction.

Lifelike mounted specimens of the California gull, eared grebe, common snipe and killdeer now grace the information center, thanks to the skill and generosity of taxidermist Anna Martyn. Ed Bastien and Nancy Mann donated two of the birds, all of which were found dead.

Randy Arnold, George Larimore, Keith Liker and Jana Marshburn helped us keep the information center ticking this summer. Mike Dunn and Mort and Edith Gaines staffed our booth at the Mammoth Labor Day Arts and Crafts Festival, which raised over \$1,000. Eileen Hall organized the Tioga Pass Run and Roller Ski event, and donated the proceeds to Mono Lake. Lynn Masson and friends are recycling aluminum cans for the lake. Mikel is auctioning Grateful Dead tickets on Mono's behalf.

Two special thank yous: to Fresno Audubon, which raised nearly \$2,000 through its birdathon, and to Palm Stout, whose generosity and encouragement have been a never-ending inspiration.

We are grateful to Bill James, *Glendale Printing Center*, for printing our business cards and fliers at cost.



Larry Ford

Snow-encrusted sand tufa, from our 1984 Mono Lake Calendar (see catalogue, p. 17).

Letters

If our understanding is correct, your goal is to secure Mono Lake in national park or monument status. Although we support any form of preserving the lake over dessicating it, our preference is for a wildlife refuge. National parks, with their visitor centers, campgrounds, parking lots, paved roads and trails, are irresistible magnets for hordes of tourists (and their RVs). A large part of Mono's beauty is its silence and uncrowded solitude. We fear that national park status will degrade or destroy these qualities, just as it has in other wildlands. Is not a wildlife refuge secure enough?

J. Wyneken and C. Miller
Berkeley

A dilemma we have agonized over. But with an adversary as powerful as the DWP, Mono Lake will need the thousands of new friends a park will lure to its shores. There is no other way to save it from insatiable human greed. When it comes down to the line, which will generate national support: a world-famous national park, or a wildlife refuge few have heard of? Moreover, a park need not sacrifice silence and solitude if few areas are developed and most of the lake remains inaccessible to motor vehicles. Right? Let us know your opinion.

I'd like to point out that, contrary to your sexist language in the summer newsletter, I have written to my congresswoman to thank her for her support. Why not refer to representatives or congresspersons rather than congressmen?

M.A. Erickson
Maryland

We have adopted this policy.



What duck is this supposed to be—a grebe? Or is this a hood merganser?

E. Bettetheim
Alameda

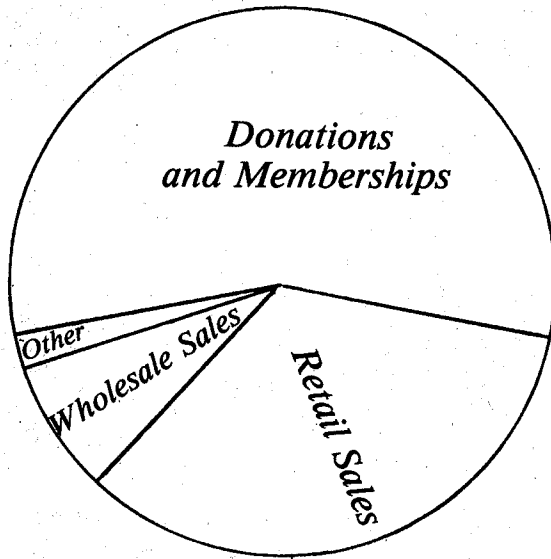
Breeding plumage eared grebes, Mono's most plentiful bird. Back in 1978, L.A. artist Keith Axelson designed this logo, and it's been with us ever since.

Mono Lake Committee Financial Statement

1 June 1982 - 31 May 1983

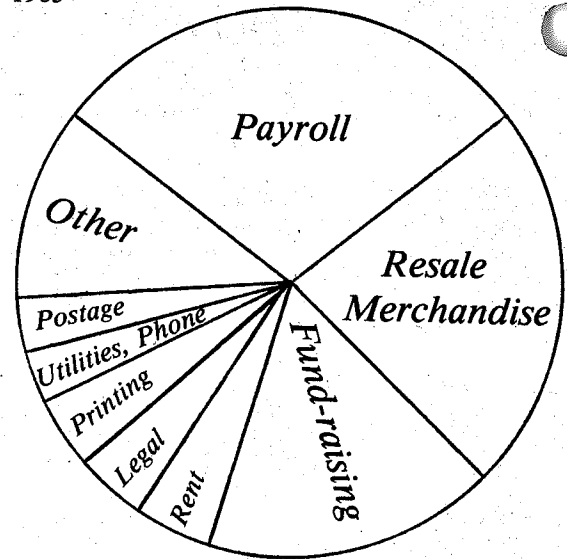
The MLC brought in about \$295,000 in the last fiscal year ending May 1983, with about \$125,000 from merchandise sales and the remaining \$170,000 from memberships, donations and special fund-raising events. We spent about \$20,000 more than we raised, our largest expenditures being merchandise for resale (23%) and payroll (29%).

If you have questions, comments, complaints or suggestions, please let us know. We are constantly striving to augment income and reduce expenditures while increasing our effectiveness on Mono Lake's behalf.



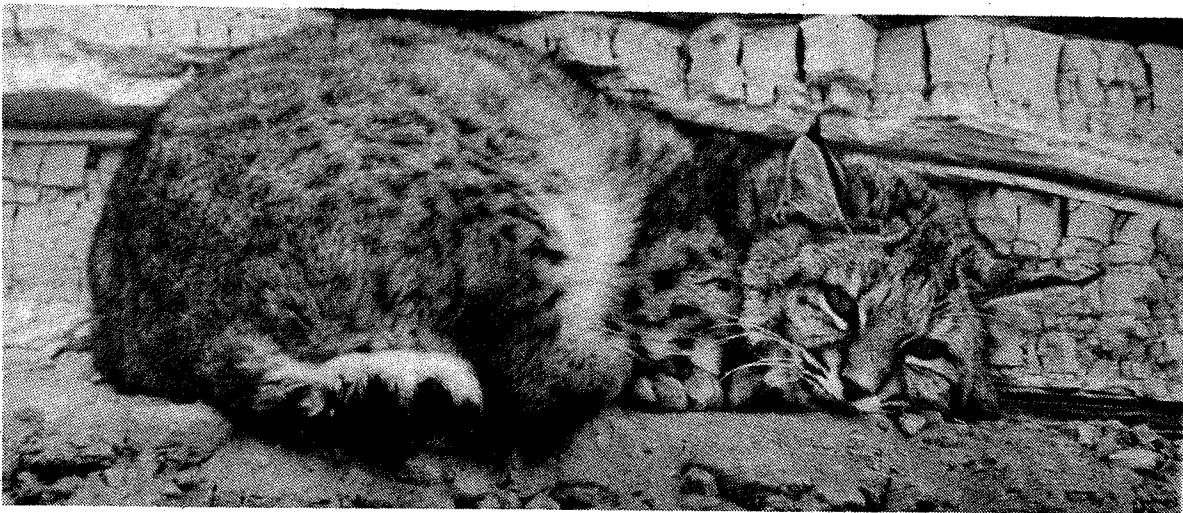
INCOME

Donations and Memberships	\$166,335.67	(56%)
Retail Sales	101,021.36	(34%)
Wholesale Sales	22,477.86	(8%)
Grants	2,500.00	(1%)
Interest	1,479.45	(1%)
Stock Donation	1,246.33	(+)
TOTAL	\$295,060.67	



EXPENSES

Payroll	\$92,028.10	(29%)
Resale Merchandise Cost	71,229.65	(23%)
Fund-raising Costs	52,170.52	(17%)
Rent	16,496.84	(5%)
Legal and Prof. Services	11,902.12	(4%)
Printing and Photo	11,164.52	(4%)
Utilities and Telephone	10,611.05	(3%)
Postage and Freight	9,493.97	(3%)
Payroll Taxes	7,738.88	(3%)
Travel	6,513.63	(2%)
Insurance	5,835.33	(2%)
Sales Tax	5,587.41	(2%)
Lobbying	4,228.90	(1%)
Advertising, Promo, Etc.	2,793.28	(1%)
Repairs and Maintenance	1,482.07	(+)
Bank Charges	1,081.95	(+)
Volunteer Meals	437.66	(+)
Dues and Subscriptions	380.57	(+)
Refunds	105.38	(+)
Taxes and License	58.98	(+)
TOTAL	\$315,833.13	



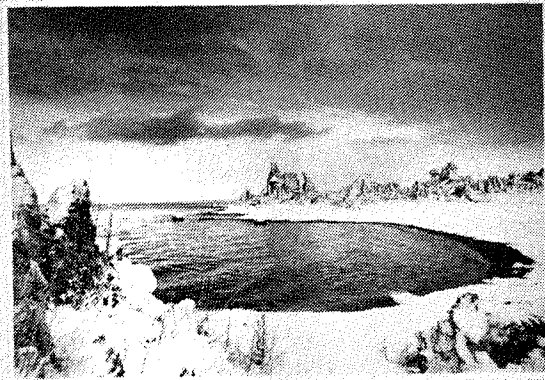
Larry Ford

Bobcat on ledge along Wilson Creek, from our 1984 Mono Lake Calendar (see catalogue, p. 17).

Mono Lake Catalogue

T-Shirts, Posters, Calendar, Books and More!

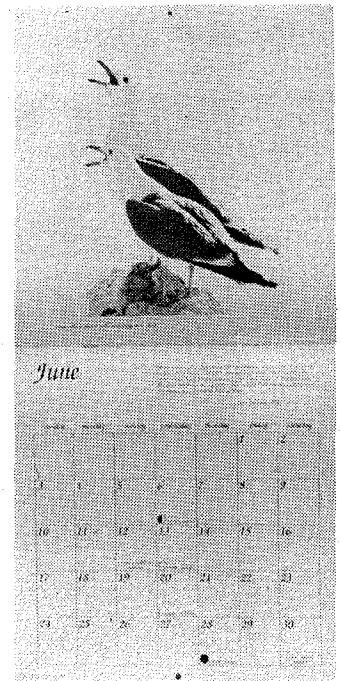
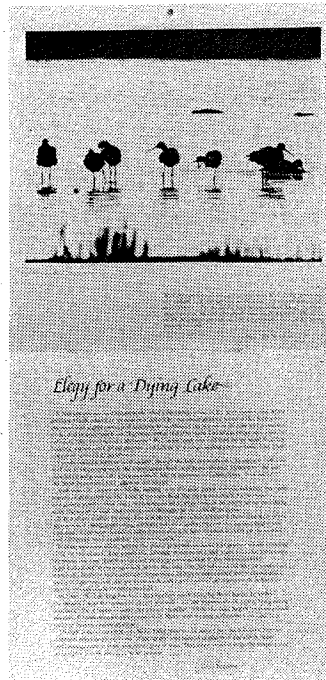
All proceeds benefit the Save Mono Lake Campaign.



Mono Lake

1984

Proceeds from the sale of this calendar will benefit the Save Mono Lake Campaign.



1984 MONO LAKE CALENDAR. Wonderful black-and-white photographs of bobcat, great horned owl, shorebirds, swans, tufa and more highlight our 1984 calendar. 11 by 11 inches, with hole for easy hanging. By Larry and Meredith Ford and the Mono Lake Committee. **\$4.95, or 5 for \$21.95**



GULLIVER SEAGULL. A cuddly reminder of the birds we're fighting to save. We've never seen a more adorable stuffed animal. Ideal for children of all ages—adults, too! **\$5.95**



TODDLER T-SHIRTS. "Another Baby for Mono" design by Rebecca Shearin.

Lap shoulder, 12- or 24-month size, pink or blue **\$4.50**
Baseball jersey, toddler 1-2 or 3-4 size, pink or blue sleeves **\$5.95**

MONO LAKE T-SHIRTS AND SWEATSHIRTS. High quality shirts silkscreened with Rebecca Shearin's evocative and colorful design. Sizes S, M, L, XL.

Short-sleeved kids' in blue or beige	\$7.00
Short-sleeved men's in blue or beige	\$8.00
Women's French-cut in blue or ivory	\$8.50
Baseball jersey with red, yellow, powder blue, navy, pink or burgundy sleeves	\$9.00
Long-sleeved in lilac, powder blue or beige	\$11.00
Sweatshirt in powder blue, turquoise or white	\$14.00



MONO TOPO T-SHIRT. USGS topographic map emblazoned on a 100% cotton ivory shirt. Sizes S, M, L, XL. \$9.95



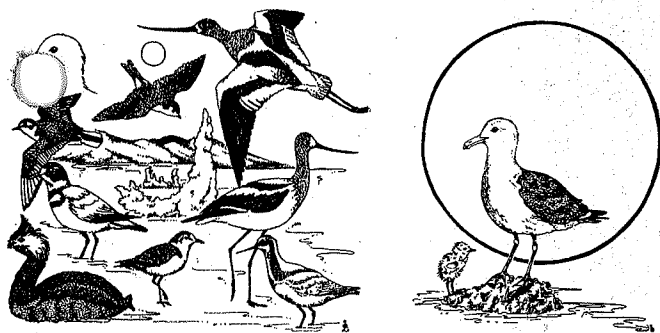
MONO LAKE PATCH. Striking 5-color design by Rebecca Shearin. 3 inches across. \$3.50



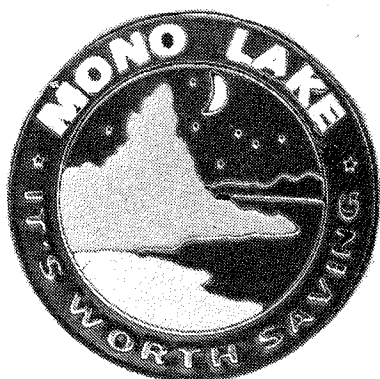
High-quality day packs with Mono Lake patch, by Butter-milk Mtn. Works of Bishop. Royal blue, navy blue, red, brown and silver. \$18.00

MONO LAKE CAPS. These quality caps, silk-screened with Rebecca Shearin's classic design, are available in seven colors (red, light blue, dark blue, brown, purple, green and black). Their size is adjustable, and fits everyone we know. \$4.95

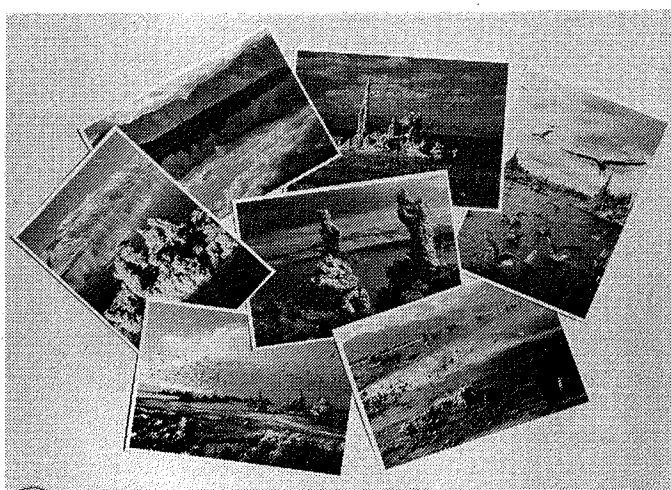




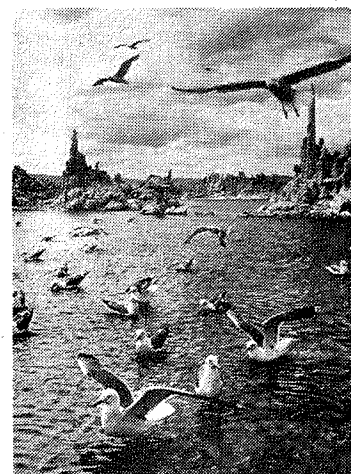
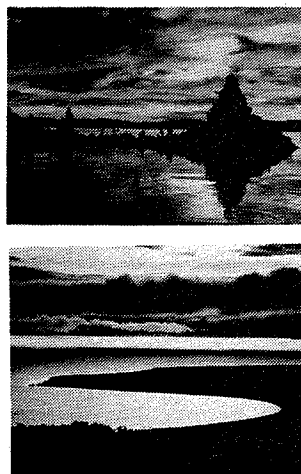
MONO LAKE NOTECARDS. Two designs to choose from: Mono Lake Birds (left) or Gull and Chick (right). By Lauren Davis. *Packet of 5 cards/envelopes-\$2.50*



MONO LAKE PIN. High quality metal pins, one-inch diameter, engraved with a haunting nocturnal scene in blues, silver and white. Designed by Rebecca Shearin. *\$1.95*

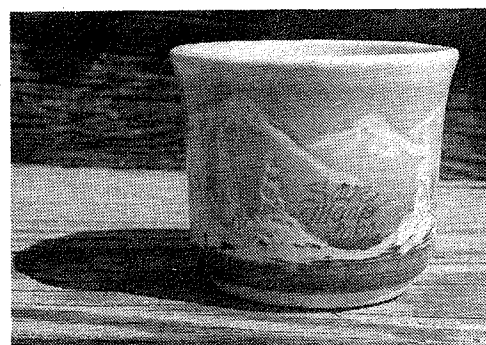


INEXPENSIVE POSTCARDS. Seven evocative new scenes on 4" by 6" postcards: *Gulls Among Tufa, Gulls Over Tufa, Shorebirds and Tufa Spire, Tufa and Sierra, Tufa and Mono Craters, South Shore Vista and Reflections.* *Set of 7-\$1.75, or 20¢ each*

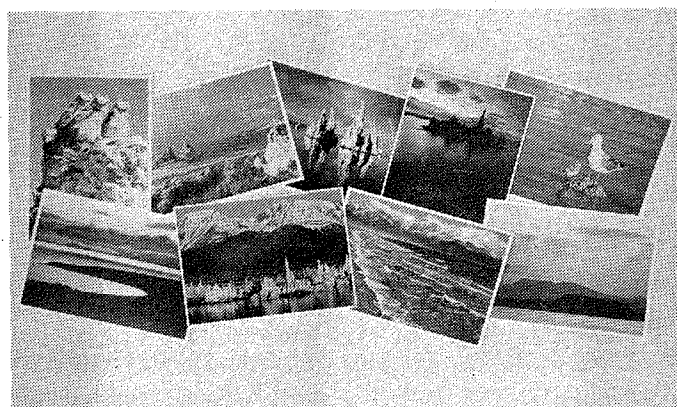


MONO LAKE COLOR PRINTS. 8" by 10" color prints mounted in 11" by 14" overmat boards. Three dramatic scenes: *Gulls Among Tufa* (by Smithsonian photographer Liane Enkelis), *Tufa Sunrise* and *Sunrise Vista*.

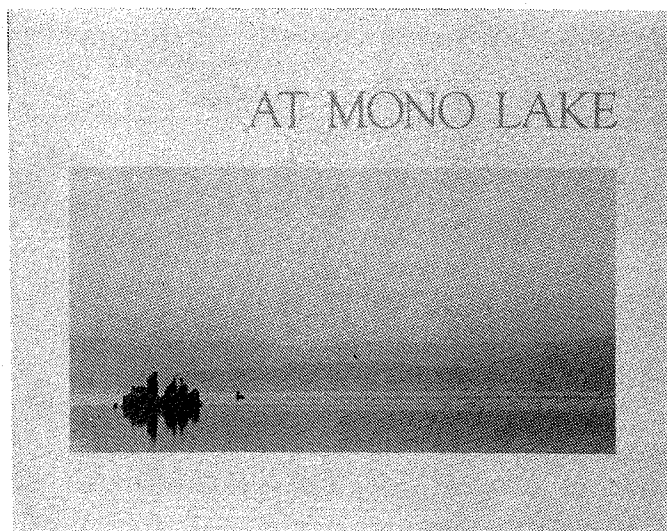
\$10.00 each, or 3 for \$25.00



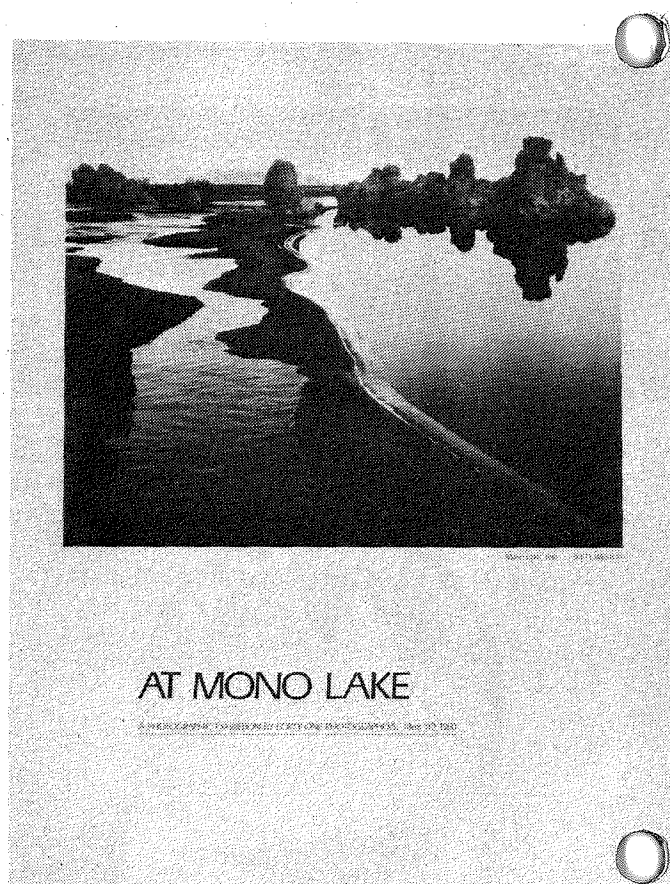
MONO LAKE FLOWER POTS. Beautiful ceramic pots 5 inches in diameter and 4 inches deep, each one hand-painted. *\$14.00*



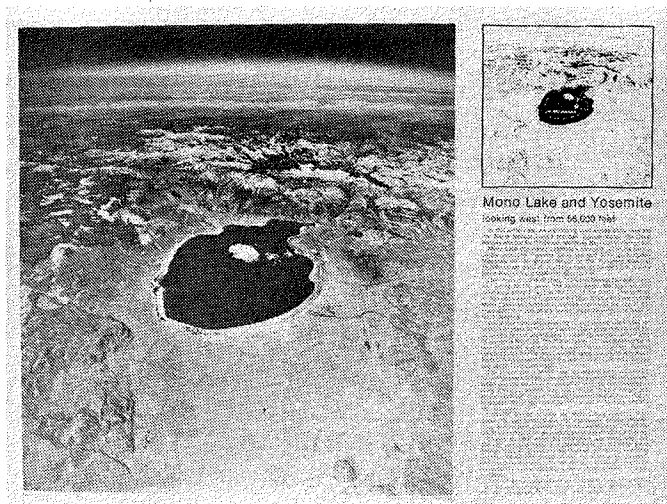
DELUXE POSTCARDS. Nine spectacular photographs beautifully reproduced on 5" by 7" postcards. A brief text explains Mono's plight. Scenes are: *Gull Chick, Beach, Tufa and Gulls, Tufa Reflections, Negit Island Sunrise, Shoreline Sunrise, Owls on Tufa, and new scenes Tufa and Sierra and Tufa Sunset.* Ideal Christmas cards. *Set of 9-\$4, or 50¢ each*



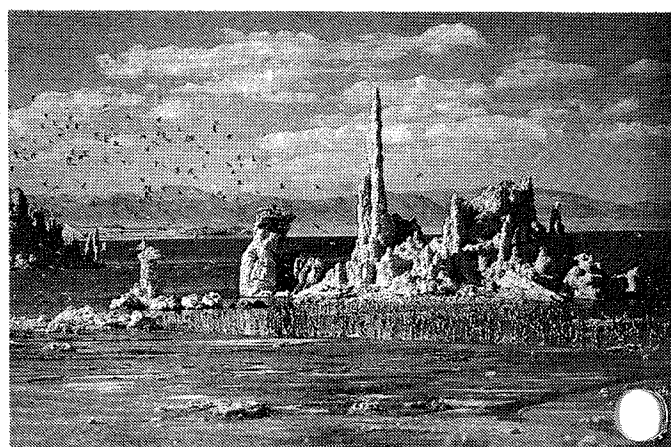
AT MONO LAKE CATALOGUE. Highest quality reproductions of 16 color and 49 black-and-white photographs from the *At Mono Lake* exhibition, including work by Ansel Adams, Brett Weston, Phillip Hyde and many other artists. Edited by Stephen Johnson and published by Friends of the Earth Foundation with the financial assistance of the Mortimer Fleishhacker Foundation and Zellerbach Family Fund. Paper; 8½ by 10½ inches. A stunning production! **\$12.95**



BRETT WESTON POSTER. Classic 1961 photograph of north shore tufa. This state-of-the-art, laser scan duotone reproduction is printed on 100-lb., varnished cover stock. Black and white, 18 by 24 inches. **\$10.00**



AERIAL POSTER. Looking west from 55,000 feet toward Yosemite National Park, the Coast Ranges and the Pacific Ocean. Mono's ice-age shorelines, the Grand Canyon of the Tuolumne, Half Dome, Monterey Bay and most everything in between are clearly visible. Commentary discusses volcanoes, peaks and other geological features. Black and white, 19 by 25 inches. **\$1.95**



MONO LAKE COLOR POSTER. A striking 15" by 22" color reproduction of shorebirds swooping among tufa spires. Photograph by Tim Snyder. **\$3.95**



WATER-SAVER SHOWER HEADS. Finest quality chrome-plated brass shower fixtures mix air and water for truly luxuriant showers. Cuts water consumption by up to 75% and pays for itself in lower water-heating bills. Easy to install.

Standard-\$9.00

Deluxe (with turn-off)-\$13.00

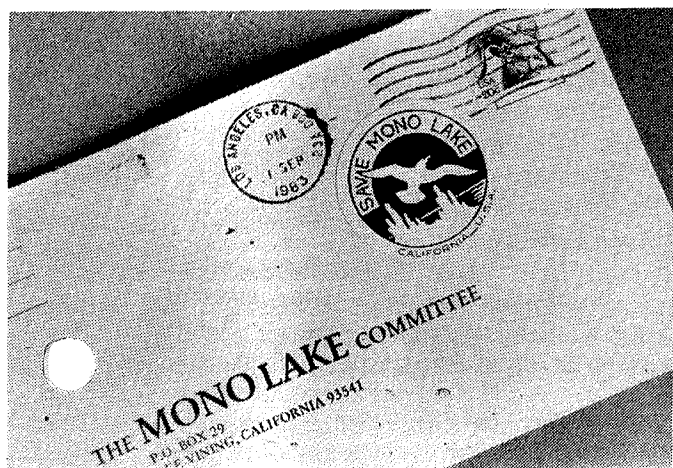
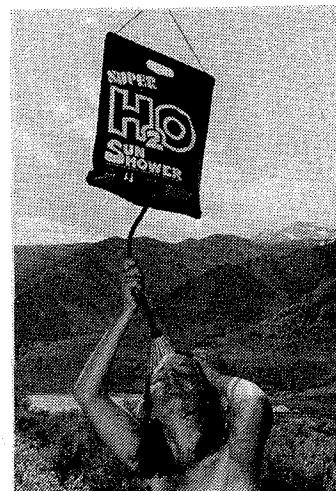
SUNSHOWER. Enjoy a hot shower anywhere with water heated by the sun. Made of durable, long-lasting vinyl.

Regular (holds 2½ gallons, enough for two showers)-\$14.95

Super (holds 5 gallons, enough for four showers)-\$19.95

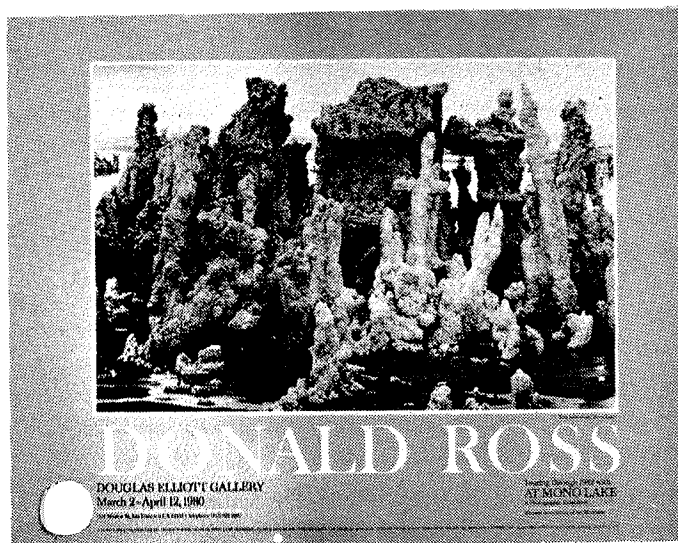
TOILET DAMS. These sturdy, metal and rubber dams save water every time you flush. Installs in seconds!

Two for \$1.50



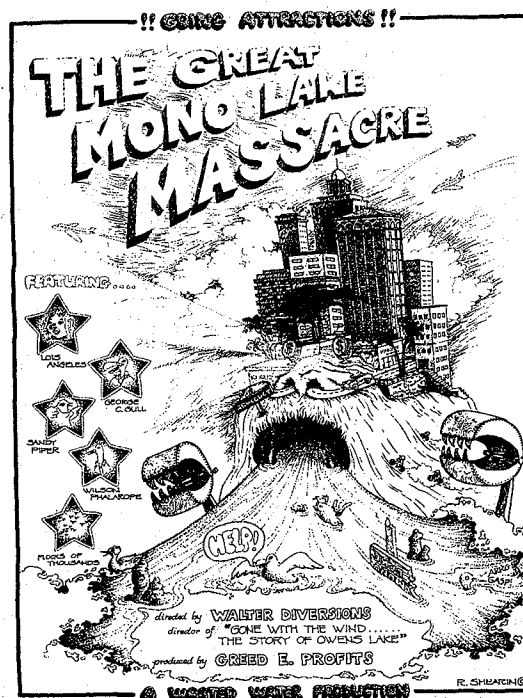
SAVE MONO SEALS. Spread the word! Use these eye-catching blue-on-white, self-affixing seals on letters and envelopes. Actual diameter, 1½ inches. Designed by Charlotte Cooper.

Roll of 50-\$2.50



DONALD ROSS POSTER. Evocative photograph of tufa formations printed on heavy, 100-lb. cover stock. Black and white, 18 by 22 inches.

\$7.50



MONO MASSACRE POSTER. Rebecca Shearin's imaginative poster, 17 by 22 inches.

95¢

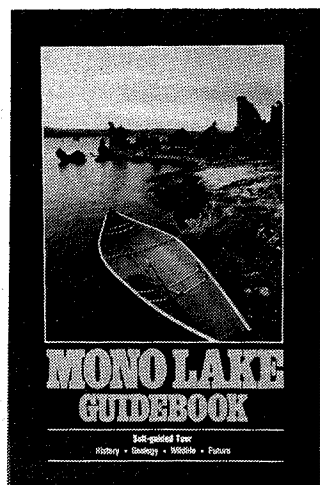
MONO LAKE SLIDE PROGRAM. Our 80-slide program vividly conveys the beauty and importance of Mono Lake and the water conservation alternative to its destruction. A cassette tape commentary and script accompany the slides. We loan the program to groups and schools for up to two weeks without charge, but ask that a \$35 refundable deposit be sent with each request. The show can also be purchased for \$50, discounted to \$40 for nonprofit groups and schools (California residents please add 6% sales tax). Allow three weeks for delivery.

MONO LAKE SLIDES. Set of 24 color transparencies selected from the Mono Lake slide program. Includes tufa, craters, aerials, brine shrimp, birds, etc.

\$10.00

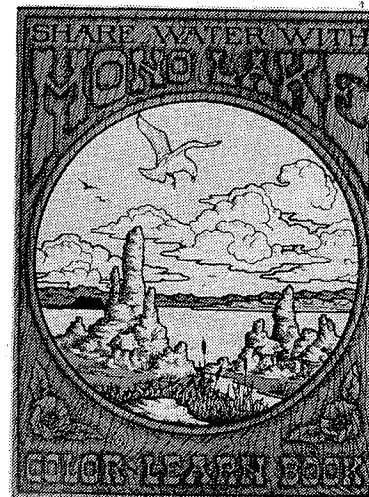
BOOKS

We offer the following selection of classic and hard-to-find books on the natural and unnatural history of Mono Lake, the Great Basin, the Sierra Nevada and the Los Angeles Aqueduct.



MONO LAKE GUIDEBOOK. From tufa to volcanoes, brine shrimp to gulls, aqueducts to water conservation, this lively, authoritative guidebook delves into Mono's geology, wildlife and history, and the alternatives to its destruction. Sixty-eight photographs and numerous drawings, figures and tables complement 113 pages of text. By David Gaines and the Mono Lake Committee. **\$4.95**

MONO LAKE COLOR-AND-LEARN BOOK. An ecological story and coloring book for children of all ages. A waylaid water droplet tells the story of Mono Lake's plight. Beautiful drawings and spirited text. "An outstanding accomplishment" . . . Huey P. Johnson, former California Secretary for Resources. By Rebecca Shearin, Michael Ross, David Gaines and the Mono Lake Committee. **\$1.95**



MONO LAKE

HISTORY

An Ecological Study of Mono Lake, ed. by David Winkler. Technical but fascinating information on geology, hydrology and biology. Includes update. 190 pp., paper. **\$7.50**

USGS 15' Topographic Maps of Mono Lake: Bodie, Mono Craters, Trench Canyon, Cowtrack Mtn. Set of 4, \$8.00 (or \$2 each)

A Trip to Bodie Bluff and the Dead Sea of the West (Mono Lake) in 1863, by J. Ross Browne. Vivid early account of the Mono Lake region. 72 pp., paper. **\$3.95**

The Mono Lake 'Public Trust' Decision of the California Supreme Court, Feb. 17, 1983. An eloquent, inspiring document destined to become a classic of environmental law. Reprinted by the Mono Lake Committee. **\$3.00 Donation Appreciated**

Doctor Nellie, by Dr. Helen Macknight Doyle. Classic autobiography by one of California's first woman physicians. "Dr. Nellie" practiced medicine in the Eastern Sierra from 1895 to 1917. 364 pp., paper. **\$9.95**

Westering Man, The Life of Joseph Walker, King of the Trailblazers, by Bil Gilbert. Enthralling, authoritative new book on the greatest of the "mountain men." 339 pp., hardbound. **\$17.95**

Roughing It, by Mark Twain. Includes near-fatal adventures at Mono Lake. 626 pp., paper. **\$8.95**

Up and Down California in 1860-1864, by William H. Brewer. Classic Californiana, including visit to Mono Lake (he sampled brine fly soup). 538 pp., paper. **\$10.95**

The Story of Inyo, by W.A. Chalfant. Bishop newspaperman tells local history from Owens Valley perspective. Reprint of 1925 edition. 430 pp., paper. **\$12.50**

Gold, Guns and Ghost Towns, by W.A. Chalfant. Eyewitness account of the mining booms. 175 pp., paper. **\$7.95**

The Story of Early Mono County, by Ella M. Cain. Stories from the ol' days by someone who was there. Illustrated with historical photographs. 166 pp., paper. **\$5.95**

The Story of Bodie, by Ella M. Cain. Firsthand accounts of the West's wildest boom town. 196 pp., paper. **\$6.95**

Old Mammoth, by Adele Reed, edited by Genny Smith. Superb collection of historical photographs complemented by reminiscences from the ol' days. Beautifully produced. 193 pp., paper. **\$14.50**

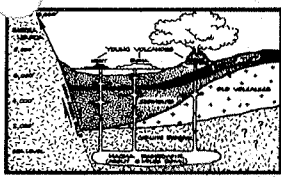
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The Water Seekers, by Remi A. Nadeau. Drama and intrigue objectively told. Best general account. 278 pp., paper. **\$9.95**

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Roadside Geology of the Eastern Sierra Region



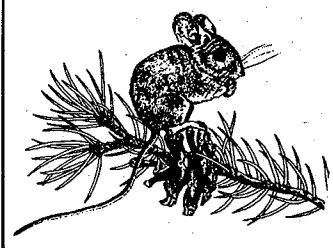
*Bodie • Mono Lake • Yosemite
June Lake • Devil's Postpile
Convict Lake • White Mountains*

Geologic Society of the Oregon Country

Roadside Geology of the Eastern Sierra Region, by the Geologic Society of the Oregon Country. Includes Yosemite, Mono Lake, Devil's Postpile, White Mountains and more. 42 pp., paper. \$3.50

MAMMALS of the Mono Lake-Tioga Pass Region

By John H. Harris
Illustrated by Sally L. S. Hestley



Mammals of the Mono Lake-Tioga Pass Region, by John H. Harris. Intimate, authoritative accounts of every species. 55 pp., paper. \$3.95

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Survival Arts of the Primitive Paiutes, by Margaret M. Wheat. An intimate, beautiful portrayal illustrated with superb photographs. 117 pp., paper. \$7.50

The Way We Lived—California Indian Reminiscences, Stories and Songs, edited with commentary by Malcolm Margolin. The Californians talking about the old ways, with sensitive, insightful commentaries. 209 pp., paper. \$6.95

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Sierra Nevada Natural History, by Tracy I. Storer and Robert L. Usinger. Everything from rocks and trees to bugs and bears. 374 pp., paper. \$7.95

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Incomparable Valley—A Geologic Interpretation of the Yosemite, by Francois E. Matthes. Best on subject. 160 pp., paper. \$6.95

Basin and Range, by John McPhee. Geology of the Great Basin, skillfully told. 216 pp., paper. \$5.95

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The Yosemite, by John Muir. 225 pp., paper. \$4.50

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History of the Sierra Nevada, by Francis P. Farquhar. Lively and scholarly. 175 pp., paper. \$6.95

Mammoth Lakes Sierra—A Handbook for Roadside and Trail, ed. by Genny Smith. Outstanding general guide that includes Mono Basin. 147 pp., paper. \$7.95

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Present and Extinct Lakes of Nevada, by Israel C. Russell. Reprint of 1885 classic by the Great Basin's greatest geologist. 36 pp., paper. \$2.25

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A Trace of Desert Waters—The Great Basin Story, by Samuel G. Houghton. A lucid, well researched account of history and geology. 287 pp., hardbound. \$17.75

Mormon Country, by Wallace Stegner. Vivid vignettes from Great Basin history. 362 pp., paper. \$6.95

EARTH HOUSEKEEPING

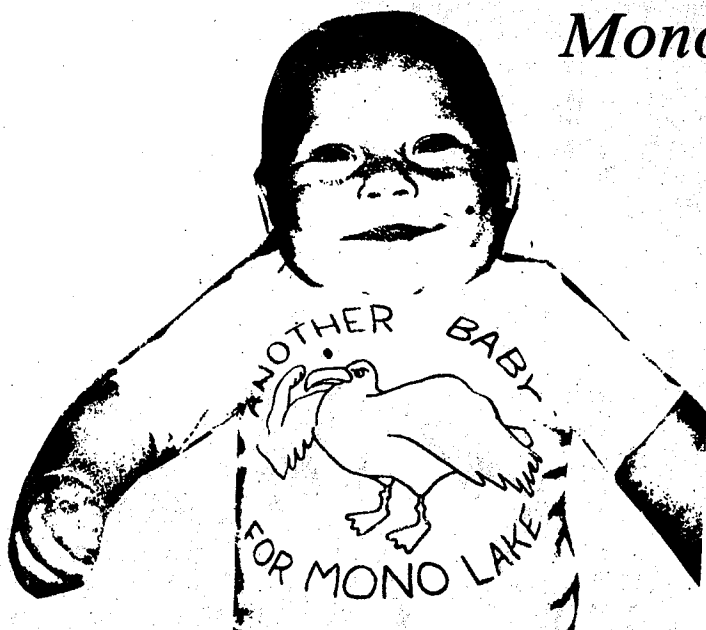
Progress As If Survival Mattered, by Friends of the Earth. There's hope, folks! This book tells why and how. 456 pp., paper. \$14.95

A Sand County Almanac, by Aldo Leopold. An inspiration for the Mono Lake Committee. 295 pp., paper. \$2.75

Soil and Civilization, by Edward Hyams. Human history from an ecological point of view. 312 pp., paper. \$6.50

The Unsettling of America—Culture and Agriculture, by Wendell Berry. Why we need to live well, in place, on the land. 228 pp., paper. \$5.95

Cycles and What Makes Everything Go?, by Michael Ross. Ecology for children of all ages by the author of our Mono Lake Coloring Book. \$2.95



Mono Lake Committee

Gift Memberships

Sales from this catalogue support the Mono Lake Committee, a 6,000-member, nonprofit citizen group. Your purchase, donation or membership will help save Mono Lake, one of America's priceless natural resources.

Won't you join us? Or, if already a member, give a friend a gift membership? We will send your friend an attractive card acknowledging your gift.

All MLC members receive our quarterly newsletter and timely action alerts, which keep them informed of what's happening and how they can help.

Please sign up _____

as a **Mono Lake Committee** member :

- ☐ \$15 Regular Member ☐ \$100 Patron
☐ \$25 Sponsor ☐ \$
☐ \$50 Supporting Member ☐ \$8 "I Can't Afford More"

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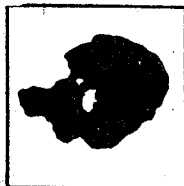
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For information or to order by phone, call (619) 647-6386.



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Committee**

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