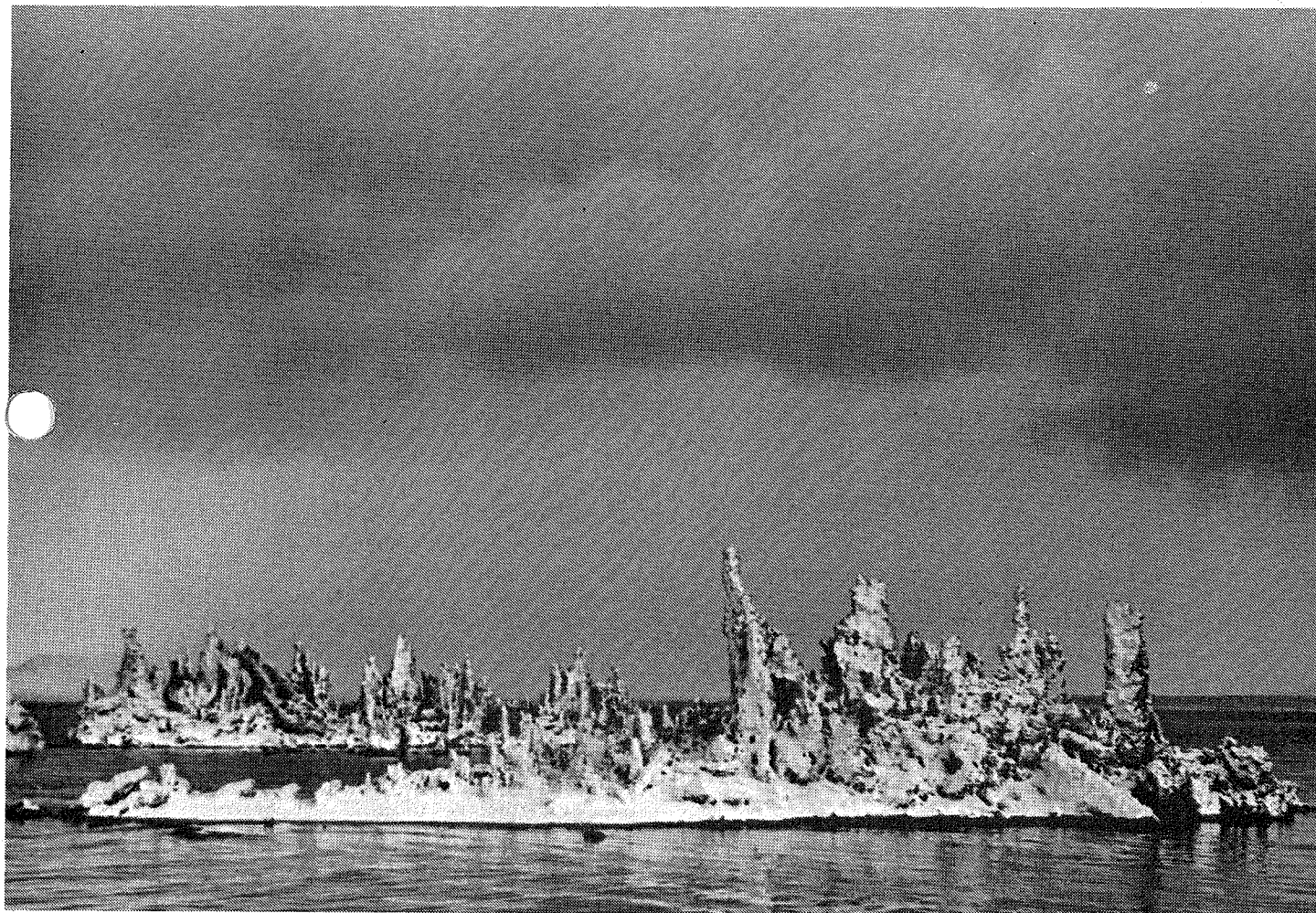


Winter 1986

Vol. 8, No. 3

MONO the LAKE

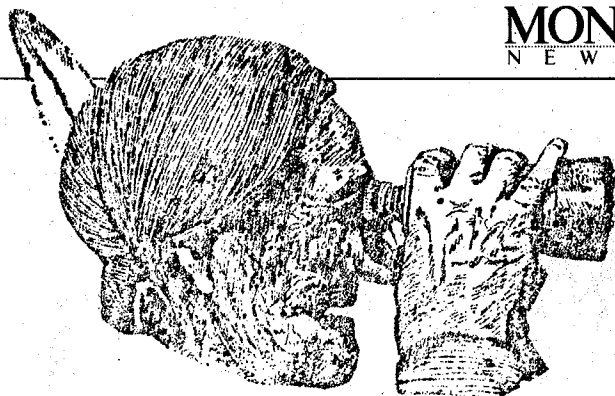
N E W S L E T T E R



DWP's Diversions May Be Illegal

EIR Decision Appealed

Biological Research Updates



The Mono Lake Committee

OFFICERS

Martha Davis Executive Director
David Phillips Treasurer
Genny Smith Secretary

LOS ANGELES OFFICE

1355 Westwood Blvd., Suite 6, Los Angeles, CA 90024
(213) 477-8229

Martha Davis Executive Director
Stephen Osgood Southern California Coordinator

MONO LAKE OFFICE

P.O. Box 29, Lee Vining, CA 93541; (619) 647-6386
David Gaines Chairman and Editor
Debby Jewett Visitor Center Manager
Ilene Mandelbaum Information Coordinator
Jim Parker Assistant Editor, Mail Clerk
Linda Brown, Jason Winnett Interns

SACRAMENTO OFFICE

909 12th Street, #207, Sacramento, CA 95814
(916) 448-1045

Marna Ikenberry Business Manager
Nini Redway Associate Director
Matt Kuzins Direct Mail Consultant

BAY AREA OFFICE

1045 Sansome St., Room 402, San Francisco, CA 94111
(415) 956-7532

Kimmery Wiltshire
..... Administrative and Development Consultant

CORPORATE COUNSEL

John Paul Hollinrake, Attorney-at-Law
145 South Washington St., Suite F
P.O. Box 743, Sonoma, CA 95370; (209) 533-2356

BOARD OF DIRECTORS

Todd Berens, Santa Ana
Ed Grosswiler, Portland
Grace de Laet, San Francisco
David Gaines, Lee Vining
David Phillips, San Francisco
Genny Smith, Mammoth Lakes
Timothy Such, San Francisco

*Whatever befalls the earth befalls the
sons of the earth. Man did not weave
the web of life; he is merely a strand
in it. Whatever he does to the web, he
does to himself.*

... Chief Seattle (1854)

IN THIS ISSUE

DWP's Diversions Illegal?	3
EIR Decision Appealed	4
Public Trust Update	4
1985 in Review	5
Bradley Water Plan Ignores Mono	5
L.A. Water Plan Slight Conservation	7
Conserving Water: Untapped Potential	7
L.A. Councilman Visits Lake	8
Scenic Area Management Hearings Ahead	8
National Academy, State Studies	8
Biological Research Updates	9

ON THE COVER. Larry Ford's stunning photograph should lure more of you to Mono's shores this winter. In its winter garb, the lake has a special magic not seen by summer visitors. The state reserve and Forest Service conduct walks or ski tours every weekend, and the Mono Lake Committee offers group tours by arrangement (619-647-6386). The basin is a nordic skiers' paradise. In January and February, there is usually enough snow to ski among the tufa towers.

The *Mono Lake Newsletter*, published quarterly, is the official newsletter of the Mono Lake Committee, a California Non-Profit Corporation, P.O. Box 29, Lee Vining, CA 93541. Copyright © 1986 by the Mono Lake Committee. Material contained in this newsletter may be quoted and/or reproduced for review, news reporting, educational purposes or related non-profit uses without prior written permission. Reproduction or quotation for other purposes may be approved upon written application.

Mono Lake Watch



Kids from the Valley Oak Elementary School in Davis journeyed to Mono this fall to present a skit on the lake's plight.

“A Unique and Scenic Location”

What will happen if the Los Angeles Department of Water and Power continues to take as much water as it wants from Mono Lake's tributary streams?

“Our philosophy is there is still going to be a unique and scenic location,” DWP Aqueduct Engineer LeVal Lund recently told the press.

Unique? Certainly. Scenic? Perhaps if you're a Martian.

Our version: “There is going to be a birdless chemical sump encircled by alkali wasteland.”

In the second week of November, I trod through foot-deep snow to South Tufa. The previous night, 90-mph winds had rocked the lake. It was bitter, unseasonably cold, and wisps of fog veiled the tufa. Out of the immense silence rose the small voices of eared grebes. There were hundreds of thousands of them peppering the lake to the islands and beyond. Yet they produced a quiet, lilting chorus that seemed to sparkle like crystals of snow on a frozen lake.

“One touch of nature,” wrote John Muir, “makes the whole world kin, and it is truly wonderful how love-telling the small voices of these birds are, and how far they reach into one another's hearts and into ours.” He might have been speaking of grebes rather than grouse chicks. His words express a wisdom that Mono Lake can teach: we are related.

And that's what the engineers have yet to learn.

...David Gaines

DWP's Diversions May Be Illegal

The Los Angeles Department of Water and Power's state-granted licenses to divert water from Mono Lake's tributary streams appear to have been granted in violation of California fish and game codes protecting downstream fisheries.

On Oct. 16, the Mono Lake Committee and the National Audubon Society joined California Trout in asking the California Third Appellate Court to “void” the licenses granted by the State Water Resources Control Board in 1973.

Five weeks later the state joined in the fray. A brief filed by the attorney general would have the water board rather than the state decide the fate of Mono's streams.

The case would seem open and shut. Over 48 years ago the California Legislature enacted a law, Fish and Game Code 5937, requiring all dam owners to release enough water to keep “in good condition” downstream fisheries. In 1953 the state passed another law, Fish and Game Code 5946, specifically requiring that all water licenses issued in Mono or Inyo counties be conditioned on full compliance with 5937.

Before DWP dammed and diverted their waters, Mono Lake's tributaries—Rush, Lee Vining, Walker and Parker creeks—all supported abundant fish populations, and were popular sites for recreation and fishing. But that ended soon after 1941, when DWP began diversions and turned these trout streams into washes. For most of the last 45 years, DWP has let no water at all past its dams. Despite Fish and Game Code 5937, downstream fisheries have been destroyed.

Moreover the State Water Resources Control Board disregarded Code 5946 as well as 5937 in 1973, when it granted DWP a license to divert Mono Lake's tributary streams. That license does not require DWP to keep “in good condition” downstream fisheries. It says nothing at all about fish. “State resources agencies,” concludes Cal Trout attorney Barrett McInerney, “have consistently abdicated their legal

responsibilities in Inyo and Mono counties when confronted by the political influence and unlimited fiscal resources of Los Angeles."

There can be no question that Fish and Game Code 5946 was enacted to prevent DWP from destroying Mono and Inyo fisheries. In a letter to then Gov. Earl Warren, the law's author, state Sen. Charles Brown, called it "a solution to a problem which threatens to destroy the economy of Mono and Inyo counties . . . While the bill might, to some small extent, reduce the amount of water which the city of Los Angeles could export, the value of the water would be negligible compared to its value to Mono and Inyo counties . . . Some priority for fish life in the streams of Mono and Inyo counties is justified."

The measure met vehement opposition from DWP, the Agricultural Council of California, the California Municipal Utilities Association and other water interests on the grounds it "provide[d] a priority for the use of water for the maintenance of fish life over domestic and irrigation uses." Yet 5946 passed the California Senate by a vote of 25 to 1 and the Assembly 42 to 14. Clearly the Legislature intended to protect Eastern Sierran streams and, to quote Cal Trout's McInerney, "vastly limit the discretion of the various administrative agencies which had repeatedly capitulated to the influence of Los Angeles."

The Mono Lake Committee, National Audubon Society and Cal Trout are asking the court to "declare that the [DWP's] 1973 licenses are void, and that reissuance of such licenses shall be valid only to the extent that DWP permits such water to flow below its Mono Basin creek dams as will sustain the fish populations that existed at the time such dams were constructed."

How will a victory help Mono Lake? First it means more water, not only for fish in Lee Vining, Rush, Walker and Parker creeks, but for the lake as well. The amount could be substantial—perhaps half of what is needed to stabilize the lake at its present level.

Moreover this latest legal salvo might lead to meaningful negotiations. We believe it possible to fashion an out-of-court solution that saves Mono Lake while meeting the real water needs of Los Angeles residents. But to reach that point, DWP will have to recognize Mono's intangible values—or see the legal handwriting on the wall.

EIR Decision Appealed Court Asked to Stabilize Lake Level

A lower court ruling exempting the Los Angeles Department of Water and Power from preparing an environmental impact report on its Mono Basin diversions has been appealed. The Mono Lake Committee, National Audubon Society, Friends of the Earth and California Trout are asking the California Third Appellate Court not only to reverse this decision, but also to issue an injunction restoring and maintaining the level of Mono Lake at 6,380 feet until an EIR is completed.

DWP has never prepared an EIR on its diversions from Mono Lake's tributary streams. It claims its project was "approved and completed . . . before [the California Environmental Quality Act] and its EIR requirements became law."

But are aqueducts and dams the same as a completed project? MLC attorney Antonio Rossmann says no:



Rush Creek flows! A bedazzled Mono County Water Policy Committee is shown the stream by DWP's Duane Buchholz.

"Construction of an aqueduct and dam . . . must be separated from the ecologically more momentous activity of how that aqueduct and dam are operated; that latter, annual discretion must be made subject to CEQA. Only then will the court honor the mandate of *Inyo v. Los Angeles* to afford 'fullest possible protection to the environment.'"

In response DWP claims it decided how to operate the Mono Basin project long before CEQA was enacted. Its annual decision to divert more or less from Mono Lake's tributaries is "simply the application of longstanding operational criteria and objectives, adopted when the project commenced more than 40 years ago, to the annual conditions of weather, runoff and water needs which inevitably vary from year to year."

This is not the first time DWP has sought to evade a Mono Lake EIR. Ten years ago the California Attorney General and the State Water Resources Control Board instructed DWP to prepare an EIR on its Mono Basin diversions. Eight years ago the California Third Appellate Court urged that course on the city. DWP has ignored these mandates while continuing to divert as much water as possible.

Even should an EIR be required, DWP is vehemently opposing the stabilization of Mono Lake. In a voluminous filing it argues that continued diversions pose no threat to Mono Lake's ecology or wildlife; curtailing diversions would inflict "substantial hardship and financial loss" on Los Angeles—and even foul up fishing on Crowley Lake reservoir. Negit Island, DWP maintains, is unimportant to gulls.

Victory in this case, in and of itself, would not save Mono Lake. It would cause DWP to disclose the impacts of its diversions, and to assess alternatives and mitigation. It could force DWP to stabilize the lake until an EIR could be completed. But at that point, DWP might revert to diversions-as-usual.

It might or might not. As in the water license challenge, a victory would strengthen our position at the bargaining table. Thanks to the 1983 public trust decision, we already hold a strong hand.

Public Trust Update

The public trust suit can be compared to a glacier: slow but powerful. Filed almost six years ago, the suit still has no trial date in sight. Yet it remains Mono Lake's most potent legal defense. Since the California Supreme Court's favorable 1983 decision, the public trust case has bogged down in complex

procedural issues and disputes over the relationship between state and federal law. Currently the California Ninth Circuit Court of Appeals is reviewing a decision made by Federal District Court Judge Lawrence Karlton in November 1984. That decision sent the public trust heart of the suit to the California Superior Court in Alpine County, but retained the federal common law nuisance claims in federal court in Sacramento.

Meanwhile the Supreme Court's 1983 mandate to protect Mono Lake's public trust values "as far as feasible" remains unfulfilled. Nobody is predicting when the case will come to trial. Eventually, however, a court will have to weigh Mono's values against the water needs of Los Angeles and, as the high court mandated, reach a "better balance" between the two.

1985 in Review

JANUARY-FEBRUARY. At least four bald eagles winter along lower Rush Creek between Mono Lake and Grant Lake dam.

MARCH 7. Preliminary injunction forces the Los Angeles Department of Water and Power to continue releasing 19 cfs of water down Rush Creek into Mono Lake.

APRIL 4. Court rules that federal government, not state, owns 15,000 acres of land exposed by the declining level of Mono Lake. The state appeals.

MAY. Small numbers of gulls nest on Negit Island for first time in five years. Spring brine shrimp population again reaches high numbers.

JULY. Gulls fledge 16,000-18,000 young, about three times as many as 1984.

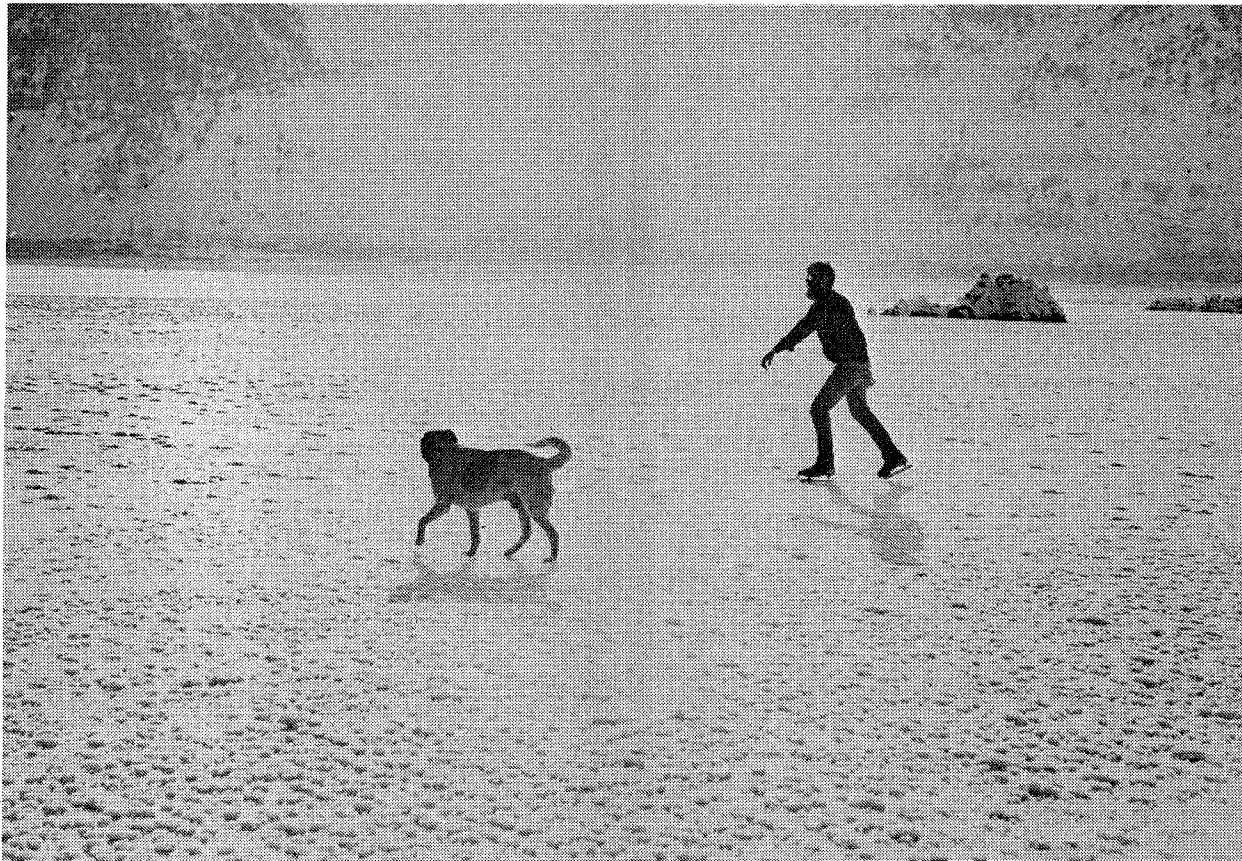
JULY-NOVEMBER. Phalaropes, grebes and other migratory birds return in usual high numbers.

AUGUST 23. Court rules that Rush Creek is a public trust resource that must be protected if feasible, but that DWP need not prepare an environmental impact report. On Sept. 4, the court sets trial for Aug. 4, 1986, to afford time to determine flows needed to sustain healthy fisheries.

OCTOBER 8. Mono Lake Committee and others appeal EIR decision and ask for injunction maintaining Mono Lake at a level of at least 6,380 feet until EIR is completed.

OCTOBER 16. Mono Lake Committee, National Audubon, Cal Trout and others challenge legality of DWP's state-granted licenses to divert Mono's streams.

DECEMBER 3. Mono Lake lies at a surface elevation of approximately 6,378 feet, 18 inches below its level one year ago.



Ice-skating on Mono Lake, January 1983! Winter that year was exceptionally cold and wet. It's been even colder this year, plummeting to zero in November (-20° in Bodie). For the third consecutive fall, storm after storm has whitened the Mono landscape. But in 1983 and 1984, wet falls gave way to dry winters. Will the pattern recur this year?

Bradley Water Plan Ignores Mono Lake But Strong on Conservation

Los Angeles Mayor Tom Bradley, in a bid to end California's simmering north-south water wars, has proposed a sweeping program of water conservation and storage.

"Through creative conservation programs and new capital investment," he told the press, "we can begin saving and storing large quantities of water in the south . . . We can put ourselves in a position where for the first time we can guarantee the north tough environmental protections . . . in exchange for needed future expansions in the state water project."

Bradley's plan, commendable though it is, ignores Mono Lake and Owens Valley. The mayor seems to consider everything east of the Sierra part of the south. While he talks about "permanent environmental protections for the north," he mentions only San Francisco Bay and the Delta.

Moreover Bradley continues to hear only the DWP line on Mono Lake. In a recent letter to one of our members, he claims that "natural variations in the Mono Lake ecosystem, especially the effect of two abnormally wet winters, have had a much greater negative impact on the Mono Lake environment in the 1980-85 period than have water diversions and lake level."

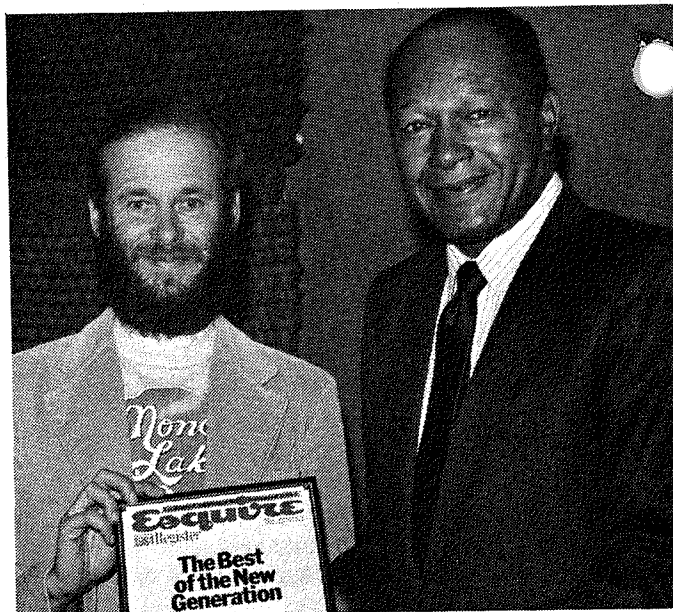
To those who have seen the rising lake submerge alkali, resurrect Negit Island, rejuvenate the brine shrimp hatch and restore the beauty of the Mono Basin landscape, Bradley's statement is incomprehensible. Someone is pulling the wool over the mayor's eyes.

WHAT YOU CAN DO: Write Mayor Bradley (City Hall, Los Angeles, CA 90012), and let him know he will never allay northern fears so long as the Los Angeles Department of Water and Power continues to devastate the Eastern Sierra. Commend him for backing conservation, but urge him to stand up for Mono Lake as well!

L.A. Water Plan Slight Conservation

According to the Los Angeles Department of Water and Power's draft *Urban Water Management Plan*, Los Angeles can reduce per capita consumption by no better than two percent over the next 25 years (from 177.9 gallons per capita per day in 1985 to 174.5 gpcd in 2010). That amounts to just under 3.5 gallons per person per day—not even one flush of an average toilet!

In contrast, Tucson, Ariz., has already reduced per capita consumption by 27 percent in 10 years (from 205 gpcd in 1974 to 149 gpcd in 1984).



Los Angeles Mayor Tom Bradley with MLC Chairman and founder David Gaines. His new water plan, though strong on conservation, ignores Mono Lake.

In a detailed, 29-page critique, MLC Southern California Coordinator Stephen Osgood told DWP that "the current plan is inadequate and requires substantial revision," and that "Los Angeles can achieve far greater water conservation savings."

The plan is the result of the California Urban Water Management Planning Act. Passed in 1983, it requires Los Angeles and other cities to "develop water management plans to achieve conservation and efficient use."

In response, DWP prepared a hefty document replete with computer-generated tables, pie diagrams and bar graphs that, at first glance, seems to provide what the Legislature asked for. Yet the more one probes and analyzes, the more evident and pervasive its shortcomings become. Here are four examples:

- *Estimates of conservation savings lack documentation and are consistently lower than those in other studies.* DWP, for instance, estimates per capita water savings from the installation of low-flow shower heads, toilet dams and other retrofit devices at 6.5 gpcd, whereas the East Bay Municipal Utility District estimates 16.2.
- *The cost-effectiveness of water conservation is seriously underestimated.* Cost figures, which are not explained or referenced, are clearly inflated. For instance, DWP prices a retrofit program at \$40 per household; the author of retrofit legislation at \$4 to \$10. Moreover DWP ignores the substantial energy savings that are a bonus of water conservation. Retrofitting alone would save Angelenos millions of dollars per year (saving water also saves the energy needed to heat, treat and distribute that water).
- *The escalating cost of purchasing imported water from the Metropolitan Water District is ignored.* That cost is projected to increase to at least \$400 per acre-foot by the turn of the century. In comparison, DWP's current, modest water conservation program is extremely cost-effective: an investment of approximately \$1 million is already saving 36,000 acre-feet annually, a cost of roughly \$28 per acre-foot. A much greater investment in conservation would still be economical.
- *Environmental problems are not considered.* Despite the legislative mandate to take "into account . . . environmental

factors,
pollutio
ted
WF
Plan to
substan
produc
investm
cost of
Legisla
our sta
of plac

If yo
critique
Plan, p

Cor
Un
Review

"W
modes
unnee
projec
Washi

The
Postel
In eac
ld
dema

• If
water
crop
perce
would
Monc

• E
urban
Los A
perce

• Ty
as W
Scan
bigge
drink
Scan

Hi
polic
steep
enco

Co
refer
avail
Mas

L
wat
Vin

factors," DWP ignores Mono Lake, the Owens Valley, sewage pollution problems in Santa Monica Bay and other water-related environmental issues.

DWP, in sum, has used the draft Urban Water Management Plan to promulgate the myth that water conservation cannot substantially reduce the need for Mono Basin water. By producing a document that fails to honestly assess an investment in conservation commensurate with the escalating cost of imported water, it has subverted the intent of the Legislature. We can only hope the final version will commit our state's largest city to aggressive conservation and protection of places like Mono Lake.

If you would like a copy of the Mono Lake Committee's critique of the Los Angeles draft Urban Water Management Plan, please contact Stephen Osgood in our Los Angeles office.

Conserving Water: The Untapped Potential

Review of Worldwatch Paper 67

"With the technologies and methods now available, even modest expenditures on conservation and efficiency could make unnecessary many expensive, ecologically disruptive water projects," concludes a new study by Worldwatch Institute, a Washington-based non-profit research group.

The lucid, thoroughly referenced 66-page report by Sandra Postel focuses on agriculture, recycling and urban conservation. In each of these areas, Postel uses examples from around the world to document the substantial potential for reducing water demand. Here are some examples:

- *If given sufficient incentives, most farmers could cut their water withdrawals by 10 percent to 40 percent without reducing crop production.* In California, where agriculture uses 85 percent of the developed supply, a reduction of only 10 percent would save approximately 3.2 million acre-feet, enough to save Mono Lake 46 times over!
- *Eighty percent of the water consumed in the highly urbanized Dan Region in Israel will be reclaimed and recycled.* Los Angeles, in contrast, projects it can recycle a mere 1.5 percent, even by the year 2010.
- *Typical U.S. toilets consume twice as much water per flush as West German toilets, and three times as much as Scandinavian toilets.* The average American flusher—the biggest water user in the home—turns about 5 gallons of drinking-quality water into wastewater each time it is used. Scandinavian toilets work well on only 1.6 gallons.

Hindering conservation, the report finds, are laws, pricing policies and planning and engineering practices that "are steeped in a supply-side management philosophy" that encourages waste.

Conserving Water: The Untapped Potential is an essential reference that everyone concerned with water should read. It is available for \$4 from: Worldwatch Institute, 1776 Massachusetts Avenue NW, Washington, D.C. 20036.

A. Councilman Visits Lake

Los Angeles City Councilman John Ferraro presented a water conservation exhibit to the Mono Lake Committee's Lee Vining Visitor Center Sept. 19.

"This presentation signifies the joint commitment of Los Angeles and the Mono Lake Committee to promote conservation of vital water and energy resources," said Ferraro.

The councilman and his staff spent the morning touring Mono Lake, and were obviously impressed. Ferraro, who chairs the city council's Energy and Natural Resources Committee, expressed commitment to saving Mono Lake while meeting Los Angeles' water needs.

Promoting Public Values in the Mono Basin and Los Angeles

by Antonio Rossmann

Excerpted from the Mono Lake Committee's filings before the Third Appellate Court in support of requiring an environmental impact report on DWP's Mono Basin diversions. Tony Rossmann, one of California's leading public interest attorneys and an authority on the California Environmental Quality Act, is donating his services to help Mono Lake.

The Mono Lake plaintiffs do not discount the natural and cultural values of Los Angeles and her people. We understand the role that water has played in bringing life to that civilization. We seek not its destruction, but its preservation as a constituent of California.

We also seek the preservation of the Mono Basin. Its lakes and streams, lofty peaks and pine-covered slopes must remain healthy to inspire a little girl's first splash in salt water, a youth in his vigorous hike, a scientist in his study, an elderly couple whose meal comes from the stream by which they camp. That accomplishment does not threaten the civilization and people of Los Angeles; it honors and preserves them.

The Los Angeles Department of Water and Power has ample water supplies available to meet its legitimate needs and still protect the Mono Basin. The natural values of that basin are the property of all Californians, including citizens of Los Angeles.

It is not the people of Los Angeles who have threatened the survival of the Owens Valley and the Mono Basin without first examining the ecological consequences.

These acts have been those of a handful of engineers who control and manage the Department of Water and Power. As professional technicians in an entrepreneurial society, they perceive their single purpose to maximize water extraction from the Mono Basin, with no voluntary meeting ground, concession or compromise for the interests at the other end of their aqueduct.

It is not the case, as DWP alleges, that plaintiffs speak merely for fish. Of course the state's fisheries form an important resource. But more than fish are at issue. As the Supreme Court articulated in 1983, DWP's Mono Basin diversions threaten the very survival of one of the nation's most splendid natural regions, long "treasured as a unique scenic, recreational and scientific resource," now threatened to become "a desert wasteland." At stake are the "spectacular natural, scientific and scenic values" Congress venerated in creating the Mono Basin National Forest Scenic Area.

We seek to honor the teachings of California's Resources Secretary Huey Johnson, who reminded us that our ability to treat the Mono Basin with respect reflects on our ability to treat each other with respect, and our ability to survive.

Scenic Area Management Hearings Ahead

The Mono Basin National Forest Scenic Area will hold meetings and solicit public input on its comprehensive management plan early this year. The plan will address roads, trails, campgrounds, grazing, hunting, boating, ORV use and numerous other issues that will, in sum, determine what the scenic area will be like.

The first public meeting will probably be held in Lee Vining in January or February, and will address historical recreational uses within the scenic area. If there is sufficient interest, future meetings may be convened in the San Francisco or Los Angeles areas as well.

If you care about the management of lands around Mono Lake, your participation is crucial. Contact the Forest Service and ask to be placed on its mailing list (Mono Basin National Forest Scenic Area, P.O. Box 10, Lee Vining, CA 93541). Or contact any Mono Lake Committee office.

National Academy, State Embark on Mono Lake Studies

Both the National Academy of Sciences and the state of California have embarked on Mono Lake studies that, on the surface at least, seem remarkably similar.

In mid-October, the National Academy's nine-member Mono Basin Ecosystem Study Committee met in Reno and toured Mono Lake. The committee, mandated by Congress to assess the ecological impacts of water diversions, will complete a report by 1987. The members, who are serving as unpaid volunteers, are experts in their scientific disciplines. Congress and the Forest Service have earmarked \$360,000 to finance the study.

The state's study has a more tortuous history. In May 1984, the Legislature appropriated \$250,000 to the California Department of Fish and Game for Mono Lake research. Fish and Game, to avoid "administrative costs," passed the buck to the Community and Organization Research Institute, a non-profit organization associated with UC/Santa Barbara. This fall, CORI, in turn, disseminated a "request for proposals" asking for "an analysis and integration of existing data, providing a report on the current understanding of the factors that control the water level in Mono Lake and the effect of lake level on aquatic ecology and avifauna." In sum, the study is being sub-subcontracted to a yet unknown party.

The similar thrust of the National Academy and CORI studies has prompted the Mono Lake Committee and others to urge close cooperation and coordination. It appears that progress is being made toward this end.

Neither the National Academy nor CORI will fund much, if any, new research. Rather they will conduct meta-research—a critical assessment of what has already been done.

The studies can serve, to quote Congressman Richard Lehman, as "an unbiased yardstick" on which decision makers can rely. They are bound to exert substantial influence on the outcome of Mono Lake litigation as well as future legislation.

Mono in the Media

Mono Lake continues to garner widespread press coverage, although not all of it accurate. The Aug. 2 Glendale Leader, for example, featured a color photograph with the caption, "Mono Lake used to be a source of water for the Los Angeles area . . . However, water officials stopped pumping there a few years ago because the scenic lake was drying up." If only that were true!

Fortunately, most stories do not give the fallacious impression that Mono Lake is saved. A fine piece by Associated Press reporter Steve Lawrence appeared in dozens of newspapers including the New York Times, Los Angeles Times, Albuquerque Journal, Reno Gazette Journal and Torrance Daily Breeze.

One of the first reporters to focus on Mono's plight, Kent Pierce, returned to shoot a documentary for Sacramento's KCRA television that aired with prime-time news. Econews also visited the lake to film an excellent television documentary, "Mono Lake: A Question of Survival," that aired in Los Angeles in January.

The summer edition of Golden State magazine featured a fine article that even plugged our Mono Lake Visitor Center and recommended our "Mono Lake Guidebook." It was titled "Mono Lake: A Landscape That is Out of This World."

Overseas, Mono Lake continues to attract media attention. The October issue of Italian magazine *Abitare* featured a four-page, color-illustrated article, "*Mono Lake: Il Paesaggio Trasfigurato*," that begins with a discussion of the film "Chinatown." It even includes a photograph of our bucket walk!



A Citizen's Guide to CEQA

The Planning and Conservation League Foundation has just released a 16-page "Citizen's Guide to the California Environmental Quality Act." This new publication is a concise explanation of the key requirements for preparing environmental impact reports, and provides useful definitions of the terms and concepts involved in California's environmental protection law. It gives details concerning citizen participation, monitoring of compliance with the law, and deadlines for filing lawsuits challenging the adequacy of an EIR. Copies of the *Citizen's Guide* are available from the PLC Foundation, 909-12th St., Suite 103, Sacramento, CA 95814 for \$2 per copy.

Biological Research Updates

Perspective by David Gaines

"If," wrote Gray Brechin a few years back, "the Great Basin were photographed from a satellite with life-sensitive film, we would see concentrations of energy shining like suns in the vast space of the desert. Among the brightest would be Mono Lake . . ."

Indeed Mono's salty waters dance with life in exceptional abundance. At peak densities 200,000 brine shrimp crowd a cubic yard of lake water. Brine flies darken its shores for mile after mile. As many as 800,000 birds have been tallied on its surface at one time.

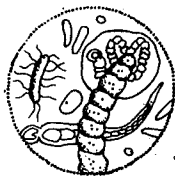
To what extent is this life-productive ecosystem threatened by declining lake levels? For the past 10 years, biologists have been probing the lives of algae, brine shrimp, brine flies and birds for answers to this question.

"The biotic simplicity of brine ecosystems," wrote biologist Nicholas Collins in 1977, renders them "especially good subjects for empirical studies." Yet the following research updates sound a recurrent theme: Mono's ecosystem is not that simple. Despite its relatively few species, the relationship between organisms, nutrients, water chemistry, temperature, mixing patterns and other parameters is proving surprisingly complex. Perhaps, to paraphrase J.B.S. Haldane, not only are ecosystems more complicated than we imagined, they are more complicated than we *can* imagine.

Be that as it may, Mono is rapidly becoming one of the best-studied ecosystems on earth. The research is tremendously exciting, for it delves into mysteries of which we are part.

Ten years of research have answered more questions about Mono Lake's biology than about its biological future. At present diversion rates, there is little doubt that projected increases in salinity will have devastating impacts on brine shrimp, brine flies and birds. The specifics—what will happen at a given lake level—remain in doubt and dispute.

We are grateful to the biologists engaged in Mono Lake research for the following updates on their objectives, results and future research plans.



Lake Stratification and Algal Productivity

ert Jellison

Biological Sciences Department, University of California, Santa Barbara, CA 93106.

This is the fourth year of our study of primary production in Mono Lake. Photosynthesis by the algae provides food for the brine shrimp,

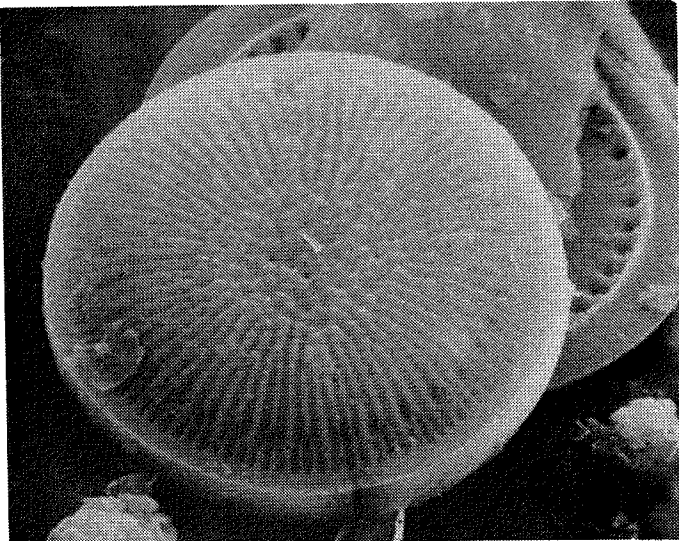
which in turn nourish the bird populations. My research consists of direct measurements of primary productivity, experiments designed to determine what factors control productivity, and monitoring of algal, nutrient and physical parameters. By integrating this information with data on the brine shrimp populations (see Gayle Dana's report), we hope to decipher which factors determine the different seasonal patterns as well as the year-to-year differences noted over our period of study. This information is critical to designing a monitoring program at the lake, and to predicting its future.

Our studies show very strong interactions between the nutrients, the algae and the shrimp, with each dependent on the dynamics of the others. The seasonal dynamics can be divided into two periods, winter and summer. The winter period is characterized by cold waters, high levels of algae and the absence of shrimp. Algal growth is slow due to cold temperatures, low light levels and low nutrient levels. Since there is no grazing by the brine shrimp, however, the algae accumulate. The source of nutrients for the algae is the mixing of ammonia-rich deep waters into the surface where there is enough light for photosynthesis. Ammonia accumulates in the bottom waters as dead organisms sink and decay. During the summer period the upper 16 meters of the lake become warm, shrimp are abundant and algal levels decline. As the brine shrimp mature in late May, their grazing reduces the algal levels while, at the same time, their excretion provides ammonia for new growth of the algae. Our work suggests that ammonia excretion by the shrimp exceeds the algal demand. The warm water temperature, abundant light and ammonia supply from the shrimp make this the period of high productivity despite the low algal levels. Although the algae are doubling more than once a day, the shrimp are grazing the algae even faster.

The main perturbation to the lake over the period of our study has been the onset of persistent chemical stratification. This resulted from increased creek flow due to the large spring runoff and decreased diversions during 1983. This state, known as meromixis, in which lighter fresh water overlies heavier, more saline water has persisted until today. Normally, Mono Lake mixes from the top to the bottom each fall as the surface cools and winter storms stir up the lake. With the strong salinity gradient beginning in 1983, this "fall overturn" has been prevented. The effect has been to reduce the nutrient supply to surface waters during the winter and spring, periods when vertical mixing is important in supplying nutrients to the algae. The summer period has not been greatly affected since the major source of ammonia then is the (living) shrimp, and vertical temperature gradients normally prevent mixing during this time even in the absence of salinity gradients.

The 1985 season looked very similar in many respects to 1984. The lake has remained meromictic (unmixed), and there were low algal levels in the spring compared to 1982 and 1983, while summer populations remained about the same. The chemocline (the depth where the upper fresher meet the lower, more saline waters), however, has moved downward several meters, and the surface waters have become more saline due to evaporation. As the upper water continues to become more saline, the salinity difference will become small enough so that the winter storms will have enough energy to mix the lake again, thus ending meromixis. The timing of this event will depend on a number of climatic factors including runoff, temperature, and the magnitude and frequency of storms. The dynamics observed at this time will further our understanding of the coupling of physical, chemical and biological components of the lake.

We plan to continue to monitor the physical/chemical environment and plankton dynamics in the lake next year. I will change the emphasis of my own work from the field to concentrate on analyzing our data. The temperature, light, nutrient, algal and shrimp field data will be synthesized with shrimp grazing, shrimp ammonia excretion, and algal-growth experimental data to determine the causes of seasonal and year-to-year differences that we have observed over the past four years. This research is funded by a grant from the Los Angeles Department of Water and Power to Dr. John M. Melack at UCSB.



Mono Lake diatom magnified 3,000 times. This scanning electron micrograph was taken by Francis Jones in 1984.

Brine Shrimp Population Dynamics

Gayle L. Dana and Rebecca E. Todd

Marine Sciences Institute, University of California, Santa Barbara, CA 93106

In 1985 UCSB continued its research on the limnology of Mono Lake. The project included research on algal productivity described by Robert Jellison in a separate report in this newsletter and the work described here. DWP biologists Gwen Starrett, Christopher Foley and William Perry participated in the brine shrimp research.

In 1984 and 1985, the spring brine shrimp hatches were high compared to the lower hatches observed from 1979 to 1983. The resulting first generation densities were similar in both 1984 and 1985: 44,000 animals per meter squared in 1984 and 40,000 per meter squared in 1985. In comparison, first generation adult densities were less than 6,000 animals per meter squared from 1980 to 1983 and 19,000 per meter squared in 1979.

The higher first generation numbers in 1984 and 1985 may be related to the large freshwater inflows to Mono Lake in 1983 and 1984, which resulted in a salinity decrease in the upper water layers of the lake. The exact causal mechanisms for the increased first generation have not been identified, although salinity, as well as temperature and oxygen, are known to influence hatching.

To better understand spring hatching and subsequent first generation densities, we did a pilot study to determine temporal and spatial characteristics of hatching in the lake and the environmental factors present at the time of hatching. This year's study included development and testing of a trap to "catch" and quantify shrimp as they hatched from the lake bottom. The pilot study was successful, and we plan to deploy traps to measure hatching rates during the 1986 season.

Production of second-generation nauplii by first-generation females was higher in 1985 than 1984 (peak numbers: 35,000 and 5,000 animals per meter squared, respectively). These densities were much lower than those observed between 1980 and 1983, when an extreme of 220,000 animals per meter squared was reached. The lower production of young in both 1984 and 1985 was associated with low food availability in the spring. Algae, the shrimp's food, has decreased in the last two springs due to lower nutrient levels in the upper water layers. A salinity gradient, which ensued because of the high inflow of freshwater, has prevented mixing of nutrients into the upper layers. Increased production of second-generation nauplii in 1985 over 1984 was due to an increase in brood size and in the numbers and percent of egg-bearing females in June 1985.

We plan to continue studying the brine shrimp population in 1986 to understand how it responds to both natural and human-induced

environmental changes in Mono Lake. This research was funded by a grant to UCSB from the Los Angeles Department of Water and Power, and was coordinated by Dr. John Melack.

Effects of Salinity on Brine Shrimp

Melinda Thun, Christopher Foley, Gwen Starrett and William Perry

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

We have recently completed a nine-month laboratory study to assess the effects of salinity on Mono Lake brine shrimp. The study was a long-term multiple generation experiment involving the brine shrimp's entire life cycle from the first instar stage to reproductive adult. As each successive brine shrimp generation was acclimated to incremental increases of salinity, changes in growth, survival, development and reproductive parameters were examined. In the artificial environment of the laboratory, the acclimation aspect of the study was designed to reflect the brine shrimp's ability to adapt to gradual fluctuations in salinity. Our results are currently being analyzed and prepared for publication.

We are also participating in a cooperative study with UCSB researchers Gayle Dana and Rebecca Todd involving field work and data analysis to determine the size and distribution of the spring hatch of brine shrimp. In 1985 our primary purpose was to produce the most efficient sampling device for collecting brine shrimp nauplii as they emerge from their cysts. The emergence study is designed to complement the ongoing monitoring program, and plans for 1986 include a more detailed sampling program to determine the population dynamics of Mono Lake's shrimp.

Dormant Stage of the Brine Shrimp

Laurie Drinkwater

Department of Zoology, University of California, Davis, CA 95616

I am continuing my work on the effects of salinity on hatching and termination of dormancy in Mono Lake cysts. This year my approach to this problem has shifted from hatching studies and biochemical methods to doing comparative work on the biophysical characteristics of the water in the cysts. The physical structure of water itself is determined by how much water is actually in the cells. In brine shrimp this is a direct function of salinity because the cysts cannot regulate their internal water content.

We know that water in all organisms exists in at least two states because of the hydrogen bonding which occurs between water molecules and the components of cells. The larger portion of the water in cells is present as "bulk" water and acts as a solution which is free to move around the cell. The remaining water is bound to the organic molecules which make up cells (lipids, proteins, carbohydrates, etc.). This water is referred to as "bound" or "unfreezable" water because the water molecules are highly structured and form a fairly stable shell around the other molecules which make up cells.

Earlier work with other brine shrimp cysts has shown that the limits imposed on hatching by salinity occur because, as salinity increases, more and more of the bulk water inside the cysts is removed until there is little or no bulk water left in the cells. At this point, the cysts cannot carry out the metabolism necessary for hatching. Using biophysical methods, it is possible to measure the amount of bound water in Mono Lake cysts and compare it with the values obtained for other brine shrimp cysts. If this trait is determined by environmental parameters, we would expect to see some differences between populations. If it is the same for populations from different habitats, however, then we must conclude that the ability of cysts to adapt to hatching at higher and higher salinities is limited by the physical properties of water and other cellular components. Preliminary data indicate that Mono Lake

brine shrimp cysts respond to salinity in a manner similar to the San Francisco Bay cysts, and contain the same amount of bound water.

The physiological mechanism controlling dormancy has turned out to be much more complicated than first imagined, and studies in this area are still in progress. Mono Lake cysts are unique in that they will respond only to cold temperature to break dormancy while other populations are more flexible and respond to several cues. Studies this year will focus on understanding what physiological mechanism is responding to this environmental cue to cause the cysts to resume development.

This research is partially funded by a grant from the Los Angeles Department of Water and Power administered by the Office of Research at UC/Davis.



A Tour of the Lake Bottom

David Herbst

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

My research has been concerned with the ecology, physiology and life history of the alkali (brine) flies (*Ephedra hyans*) and algae that dominate the benthic (bottom) community of Mono Lake. This work represents virtually the only information available for this portion of the lake environment. The following topics have been investigated.

(1) *Physiology of salt tolerance in alkali fly larvae.* The concentration of dissolved minerals and water in the blood of larvae is maintained at a constant level over a wide range of external salinities. Since this implies that salts entering through food and water must be disposed of, the saltier the water they live in, the more costly it will be for larvae to maintain this balance and remove salts from their systems. Further studies are planned to determine how salts are removed and how expensive this process is to the organism.

(2) *Environmental factors in the natural history of the alkali fly.* These studies describe the micro-habitat preferences of this insect and the effect of temperature and salinity on development of larvae and pupae collected from natural populations. Tufa and protected detritus are the substrates on which highest densities of larvae and pupae are found. Development rates and success are enhanced by the physical factors of increased water temperature or decreased salinity.

(3) *Physical and chemical environments and the benthic communities of Mono and Abert lakes.* This work documents the history and seasonality of environmental changes in salinity, elevation and local temperatures in Mono Lake and Abert Lake (Oregon), and compares their flora and fauna. The diversity of benthic invertebrates and standing crop of benthic algae are greater at the lower salinity of Abert Lake.

(4) *Comparative population ecology of the alkali fly.* Population dynamics were monitored concurrently at Mono and Abert over two years while salinity in both lakes was declining. Locations at Mono Lake with active freshwater seepage and tufa/detritus sediments were most productive, while the sites closest to river inflow at Abert Lake were the least productive. Furthermore, abundance within sites increased at Mono Lake and decreased at Abert Lake over the study period. Productivity may be limited at either end of the salinity spectrum due to salt stress at high salinities and to biotic interactions at low salinities. A model proposing an intermediate salinity optimum between the two lakes is presented to account for these results (see Herbst, D.B., 1986, Comparative population ecology of an insect from alkaline salt lakes, *Amer. Zool.*, in press.)

(5) *Developmental biology of alkali flies in response to salinity and food availability levels.* Alkali flies from both Abert and Mono lakes

were reared from egg stage in the laboratory and exposed to various salt concentrations and degrees of food deprivation. These factors influence the life history of the alkali flies by altering development rates, survival and size at maturity. In addition there are heritable differences in these traits between populations. Mono flies are relatively resistant to the adverse developmental effects of salinity increase to 150 g/l total dissolved solids. Reduced size in pupae and adults appears to be a crucial problem produced by increasing salinity and/or decreased food availability to larvae.

(6) *Reproductive biology of the alkali flies in relation to adult body size and food quality and quantity.* Adults from both Mono and Abert lakes were isolated from the time of emergence. Schedules of their egg laying and survival were recorded on different experimental food treatments. Small body size or decreases in the quality or quantity of algal food resulted in decreases in egg-laying rate, total fecundity and the probability of reproductive success. Increased reproductive effort apparently detracts from longevity only when food is in short supply.

(7) *Growth of benthic algae at different salinities.* The filamentous green alga *Ctenocladus circinnatus* was isolated from both Mono and Abert lakes and cultured in a series of nutrient-enriched salinities. Growth rate decreased with increasing salinity and growth failed to occur at all in 150 g/l TDS. This indicates that algal food may become limiting to the alkali fly as a result of increased salinity.

These studies have been supported in part by grants from the American Museum of Natural History, Sigma Xi and the Mono Lake Foundation.



California Gull Research, 1985

David Shuford

Point Reyes Bird Observatory, 4990 Shoreline Highway, Sinson Beach, CA 94970.

This was the third summer of PRBO's involvement in gull research at Mono Lake. We spent less time at the lake this year, but continued to monitor the size and reproductive success of the gull population and gather data on factors that might influence reproductive performance.

Although our work again focused on the Negit Islets where approximately 85 percent of the gulls currently nest, sharing of data with Dr. Joseph Jehl Jr. allowed us to make lakewide estimates of the gull population and its reproductive success. While the breeding population has been stable at 44,000-45,000 adults for at least the last three years, reproductive success has not. This year about 16,000-18,000 young fledged (were successfully raised) from the nesting islands—about three times the 1984 estimate. The search for the factors that explain this difference proved elusive.

For the first time in several years, a small number of gulls returned to Negit Island to nest. Although these birds represented an extremely small fraction of the breeding population, it was encouraging because it may lead to further recolonization in upcoming years and allow for future studies on habitat preference and Negit's importance to the maintenance of a healthy gull population, as discussed below.

There are six main factors that influence reproductive success of the gulls:

(1) *Parasites.* Chicks were less heavily infested with ticks this year than in 1984 and the degree of tick infestation correlated with decreased mortality from the time of banding until fledging. The decrease in tick infestation may explain some, but surely not all, of the increased nesting success in 1985.

(2) *Food.* Food samples from chicks banded in July revealed that brine shrimp was their main food item (40.6%), followed by brine flies (23.2%) and garbage (21.9%). Although the gulls will switch to larger, more easily exploited prey when available, their reliance on brine

shrimp year after year stresses its importance. Despite their omnivorous food habits and adaptable nature, the gulls at Mono Lake depend on a large and dependable supply of brine shrimp in June and July to fuel their breeding efforts. If the changing lake chemistry caused by dropping lake levels eventually suppresses brine shrimp production, this is bound to lower the gulls' breeding success.

(3) *Predation.* Aerial predators such as great horned owls, golden eagles and prairie falcons regularly feed on gulls, but only make a small dent in their population. Ground predators, specifically coyotes, however, caused large-scale breeding failure in 1979 and 1982 when Negit, and then Twain and Java Islets, were abandoned when they were connected to the mainland as the lake dropped. In fact, coyote predation is the only factor so far that has been clearly identified as causing massive nesting failure at Mono Lake in any year.

(4) *Weather.* Air temperatures were quite hot in June and July of 1985—in fact, as hot or hotter than any other year that the gull colony has been studied. In 1981 almost complete failure of the breeding effort was blamed on heat stress, yet in 1985 the gulls did well despite the heat. What explains the discrepancy between these years? Perhaps the timing of heat waves is important. In 1981 the heat wave occurred right before fledging, a time when the adults invariably leave the chicks unattended for long periods and therefore provide them with little shade. In 1985 the heat waves occurred earlier in the season when adult attendance is higher. An alternative explanation is that heat was not the main or only cause of nesting failure in 1981. Although the heat wave that year coincided with the mass chick die-off, the effects of the heat were not directly observed. Perhaps the chicks were already weak and the heat was "the straw that broke the gull's back." We may never know the answers to these questions.

(5) *Quality of nesting habitat.* Opinions differ on what nesting habitat(s) the gulls prefer and, in that light, what the importance of Negit Island is to the long-term health of the gull population. The former primary nesting site on Negit is covered with open greasewood scrub, while the small islets where the gulls currently nest are rocky and barren of vegetation. Some observers feel that open rocky habitat is preferred, while others feel the scrub habitat provides shade that would be important to the chicks during periodic heat waves. Shaded chicks are generally much cooler than chicks in the open. A scrub-shaded chick, however, may be slightly warmer than a parent-shaded chick in the open because, other factors being equal, wind speeds tend to be lower under vegetation and air temperatures higher. These observations at first suggest vegetative cover may not confer an advantage. Since parental attendance decreases as the nesting season progresses, however, scrub-shaded chicks still have an increasing advantage compared to their open-nesting counterparts when their parents begin to leave them alone for long periods. Scrub habitat may have other benefits as well, such as protection from other adverse weather conditions, flooding or intra- and inter-specific predation.

Our gull decoy experiments this year were inconclusive regarding habitat choice.

(6) *Nesting densities.* In recent years the loss of Negit Island and some of the Paoha Islets for nesting has increased densities on the Negit Islets. This prompted concern as some gull researchers have found a negative correlation between increasing nesting densities and reproductive success, although others have found a positive correlation or no correlation at all. We at first interpreted the low reproductive success in 1984 as partly due to high nesting densities, but reproductive success was much better in 1985 even though densities continued to increase slightly. Unfortunately, we do not have adequate data to test the effect of increasing nesting densities at Mono Lake.

This discussion points out how much remains to be understood about the factors affecting reproductive success of California gulls at Mono Lake. Since we lack critical data, the debate over the effects of declining lake levels on the gull population has been rife with speculation. We hope that future studies will provide the answer to the many questions that have been raised. Hope is dim, however, that we will be able to find answers about habitat preference, or the importance of Negit Island to the gulls, since a minimum of several years of data is needed concerning birds nesting on Negit. Current



projections indicate the land bridge to Negit will reform in about two years, which is not enough time to conduct the necessary studies.

In addition to the continuing studies on population size and ecology of the gulls, Dr. David Winkler and I have recently submitted an article to *Colonial Waterbirds* on the historical trends in the Mono population. Our interpretation of these trends differs in important ways from those in another recent paper (Jehl, *et al.*, 1984, *Colonial Waterbirds* 7: 94-104). We interpret the increase in Mono's gull population this century to be the result of a rebound from commercial eggging on the islands in the 19th century combined with a continent-wide increase in gull populations using human food sources.

Many thanks to the numerous volunteers who made possible our studies as well as to our funding sources: Mono Lake Foundation, Golden State Audubon Society, Recreation Equipment, Inc., and Los Angeles DWP.

Additional Research

The following scientists are currently conducting Mono Lake biological research, but declined to submit updates.

Brine flies. Timothy Bradley (*Biology Department, University of California, Irvine, CA 92717*) is studying brine fly salinity tolerance. He will be working with David Herbst on these studies in 1986. His work is supported by the Los Angeles Department of Water and Power.

Birds. Joseph R. Jehl Jr. (*Hubbs-Sea World Research Institute, 1700 South Shores Rd., Mission Bay, San Diego, CA 92109*) is studying gulls, eared grebes, Wilson's phalaropes and other water birds. According to DWP, which supports this research, Jehl is (1) monitoring population sizes, composition and distribution, (2) measuring gull productivity on the Paoha islets, (3) creating artificial habitat on the Paoha islets to measure effects of increased or decreased nesting density on productivity, (4) investigating energetic requirements of captive and free-ranging gulls at different times of year, (5) investigating captive and free-ranging grebes at different times of year, and (6) monitoring patterns of mortality via beached bird censuses.

Recent Publications on Mono Lake Biology

The following list updates the comprehensive review published in the *Mono Lake Newsletter*, Vol. 6, No. 2, p. 11 (Autumn 1983) and the additions listed in Vol. 7, No. 3, p. 13 (Winter 1985). For copies of these reviews, please contact our Lee Vining office.

Bowen, Sarane T., Emil A. Fogarino, Kenneth N. Hitchner, Gayle L. Dana, Victor H.S. Chow, Martin R. Buoncristiani and Jaya R. Carl. 1985. Ecological isolation in *Artemia*: Population differences in

tolerance of anion concentrations. *Jour. Crustacean Biol.* 5: 106-129. argues that the Mono Lake brine shrimp *Artemia monica* is a valid, separate species because it is reproductively isolated.

Jehl, Joseph R., Jr., David E. Babb, and Dennis M. Power. 1984. History of the California gull colony at Mono Lake, California. *Colonial Waterbirds* 7: 94-104. Examines history of the Mono Lake gull colony and argues that its increase during the 20th century is due to the increase in preferred habitat created by the lowering of the lake.

Page, Gary W., Lynne E. Stenzel, and Christine A. Ribic. 1985. Nest site selection and clutch predation in the snowy plover. *Auk* 102: 347-353. Discusses the relationship between nest sites subject to a high level of predation and the fate of snowy plover young at Mono Lake.

Jehl, Joseph R., Jr. 1985. Leucism in eared grebes in western North America. *Condor* 87: 439-441. Describes tendency of some Mono Lake grebes to grow feathers that lack the characteristic dark pigment of their species.

Mahoney, Sheila A., and Joseph R. Jehl Jr. 1985. Physiological ecology and salt loading of California gulls at an alkaline, hypersaline lake. *Physiological Zoology* 58: 553-563. Gulls at Mono Lake avoid too much salt intake by taking in very little lake water with food and by visiting freshwater sources along the shore. Dilute body fluids of prey (brine shrimp) are an important factor.

Mahoney, Sheila A., and Joseph R. Jehl Jr. 1985. Avoidance of salt-loading by a diving bird at a hypersaline and alkaline lake: eared grebe. *Condor* 87: 389-397. Mono's grebes do not drink freshwater while at the lake. They ingest very little lake water during feeding on brine shrimp, whose body fluids are more dilute than lake water.



Accolades

We are deeply grateful to the many lake lovers who continue to donate time, energy and resources toward saving Mono Lake. Please forgive us if we neglect to say THANK YOU loudly enough. Only with your continued help and energy can we save our lake.

In our last issue we printed a "wish list" of items needed in our various offices around the state. We are pleased to offer thanks to those who responded: Frank Bellinto of Los Angeles, who gave a used refrigerator to our Los Angeles office, and Ms. C.S. Wong of San Francisco and Dorothy Haub of Santa Rosa, who gave used typewriters to our San Francisco office.

Very special thanks go to the Strong Center for Environmental Values, of Berkeley, which provided a grant of \$2,500 to the Mono Lake Foundation to support the legal efforts to secure permanent flows of water to Mono Lake. The grant will be used to support preparation of legal arguments for the challenges to DWP's water license in the Mono Basin. These efforts also received big boosts from the Eastern Sierra Audubon Society and the Cabrillo Section of the Angeles Chapter of the Sierra Club.

Donations of used books help our Mono Lake Visitor Center raise funds. Special thanks to Ann & Riley Gilkey of Groveland and MLC Board member Genny Smith for helping stock our used book nook with literary delights. More used books are always welcome. We are also grateful for the donation of an aquarium pump for our visitor center brine shrimp display by Chuck Culbertson of Menlo Park.

Finally, we thank Ansel Adams Gallery in Yosemite for donations and peddling bumper stickers; Gary and Betty Ball of Groveland for helping distribute Mono Lake information and merchandise; Mildred Bennett for selling Mono Lake Christmas items; Todd Berens for the sales he made at the Sea & Sage Audubon Society meeting in Santa Ana; Jean Dale for hosting a Mono Lake luncheon in Santa Paula; and Steve Anderson of Destinations, Inc., for sponsoring a lobbying tour to Washington, D.C., and the East Coast. We appreciate you, the Mono Lake Committee members, who do so much to keep our efforts alive and to spread the word. Thanks to you all!

LETTERS

Overpopulation: The Basic Problem

It is with considerable sadness and regret that I must inform you that my feelings have changed about responding to your appeals both personally and as director of Zero Population Growth - Los Angeles.

I have given support in good faith, expecting that you would eventually understand that there is simply no way you can be regarded as anything but a Band-aid until you come to grips with your basic problem—human overpopulation. Your material rarely uses the word.

We suppose you consider the subject too controversial and might irritate some of your members. But please consider that irritate would be a better result than the total destruction of our ecosystem on which survival of our arrogant selves at the top of the food chain depends! And that destruction will come from too many people pushing aside wilderness, wildlife, open space, wetlands, prime farm land, animal life . . .

Those who are fed up with being put on hold, with bumper-to-bumper freeways, with lines everywhere, still don't see the connection. Organizations like yours must help them see, or we will all go under.

Elaine Stansfield
Director, ZPG-LA

Met a fellow from New Zealand who had somehow acquired a Mono Lake T-shirt from a Texan while working in Alaska! He said he hitched across the U.S., telling all those who ask about the lake's plight.

Becky Shearin
Wengen, Switzerland

Mono Lake native and artist Becky Shearin donated designs for our T-shirt, decal, pin, patch, hat, etc., and contributed artwork for our guidebook, coloring book, position paper and other publications. She is spending the year abroad, and we miss her!

MLC News and Activities

Staff Farewell

David Wimpfheimer, who served as our Northern California Coordinator for over two years, has departed to pursue his career in environmental education. His skill and dedication will be sorely missed.

Summer Internships Available

Summer internships are available in our Lee Vining office. Interns work full-time leading field trips, staffing the information center, answering mail and other projects. Compensation consists of housing and a stipend of \$275/month. To apply, please send a letter and resume to our Lee Vining office (P.O. Box 29, Lee Vining, CA 93541).

Out-of-state News Clippings Wanted

If Mono Lake makes the news in out-of-state newspapers or magazines, we don't hear about it unless someone sends us the clippings. Please send out-of-state articles to our Lee Vining office (P.O. Box 29, Lee Vining, Ca 93541). We'll add them to our permanent file.

TV Editorials? Let Us Know!

If you see or hear any television or radio editorial concerning Mono Lake or Rush Creek, please let us know. If it is biased against us, we will seek equal time. Please call any Mono Lake Committee office.

Lee Vining Office To Be Remodeled

This February or March we embark on a do-it-yourself, budget remodel of our claustrophobic Lee Vining office. We could use some energetic, volunteer, hammer-swinging help! We can offer shelter from the storm, and that's about it. If you'd like to volunteer, please write or call our Lee Vining office (P.O. Box 29, Lee Vining, CA 93541; (619) 647-6386).

Mono Lake Committee Wish List

Our Lee Vining office covets several sturdy wooden desks with drawers as well as file cabinets. We still need a 15-hp outboard to motor gull researchers, VIPs and media types around the lake. We'd love a computer system with word-processing capability.

Another Mono Lake Drawing

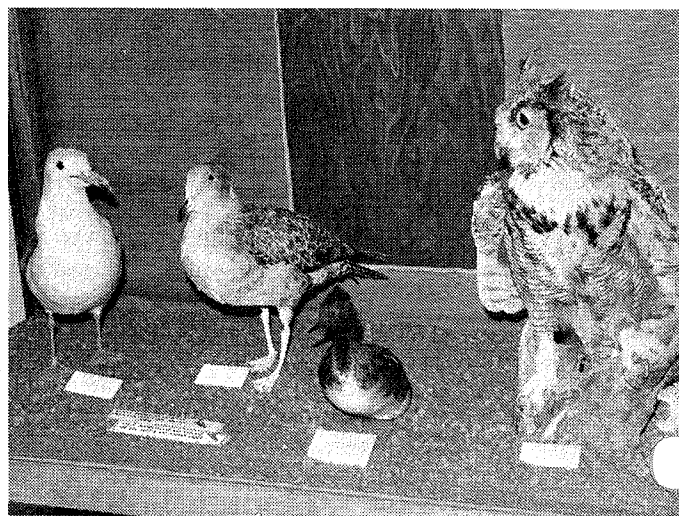
This winter we are sponsoring another drawing to raise funds to save Mono Lake. You will be receiving packets in February or March. Help us beat last year's net income of \$37,000. Winners will be selected at our annual meeting Aug. 30.

Belated Bikeathon Thank-yous

A complete set of bicycle touring equipment, featuring Plumline clothing and Kangaroo Baggs panniers, has been awarded to Dr. Ken Brummel-Smith for raising over \$1,400, the most raised by any bikeathoner. The prize was donated by Wilderness Group, Inc. of Ventura. "The equipment is just fabulous," said Brummel-Smith. "I hope Mono Lake's Christmas is as good as mine."

The 1985 bikeathon grossed approximately \$24,000. It could not have been successful without the volunteer help of the following individuals and businesses:

Wilderness Group, Inc. of Ventura (donation of Plumline clothing and Kangaroo Baggs panniers); North American International, Santa Monica (donation of Whizzzz bicycle reflectors); Windkissed Productions, Palo Alto (commemorative decals); Gray's Graphics, Long Beach (silkscreening T-shirts); St. Timothy's Episcopal Church, Bishop; St. Augustine By-the-Sea Episcopal Church, Santa Monica; Kern County Parks and Recreation Department; Mono County Department of Parks and Facilities; Automobile Club of Southern California; Palmdale Department of Parks and Recreation; Inyokern Chamber of Commerce; Ticor Title, Lancaster; Alpha Beta, Palmdale; Two Sisters Plus One Restaurant, Inyokern; Matterhorn Restaurant, Mammoth; John's Pizza, Mammoth; Dan Burdick; Anne Kelly; Daemon Filson; Jean Sponsellar; Doug Burrows; the Rev. Christopher Kelley; Dr. Ken Brummel-Smith; Bill Baughn; Jim Stehn; Dave Perry; Toya Haynes; Mort Linder; Michael Longacre; Connie Bradley; Steve Wenker; Jamie Bliss; David Van Ness.



Bird diorama graces our Mono Lake Visitor Center, thanks to taxidermist extraordinaire Anna Martyn. All specimens were found dead.

GALAPAGOS- ECUADOR—PERU and AMAZON, too!

A Benefit for Mono Lake, June 24 - July 10, 1986



The Mono Lake Committee is sponsoring an exciting fund-raising excursion to the Galapagos Islands, Ecuador and Peru in 1986. This trip offers participants an exceptional opportunity to experience Darwin's "enchanted isles" and the rich cultures of the Andes. An optional three-day extension into the jungles of Tambopata National Park in the headwaters of the Amazon is also available. Costs for double occupancy, depending on cabin category, are \$1,805, \$1,910 and \$2,035 for the 12-day Galapagos-Ecuador segment. The five-day tour to the cities and Inca ruins of Peru is \$655 and the three-day extension into the headwaters of the Amazon River is \$200. Airfares are additional. Part of the total cost is a tax-deductible donation to help save Mono Lake. The costs quoted are for reservations made before Jan. 15. After that they will be \$100 more. Reservations close Feb. 15. For full information, please send self-addressed, stamped 4½" x 9" envelope to "Adventure for MLC, c/o M. Bennett, 2719 Marin Ave., Berkeley, CA 94708.

JOIN US!

Still not a Mono Lake Committee member? Join us, and increase our strength and effectiveness. We will keep you informed, through our quarterly newsletter and action alerts, of what's happening and how you can help. Regular membership is \$20/year (\$30 Sponsor, \$50 Supporting Member, \$100 Monophile, \$500 Monomaniac, \$8 "I Can't Afford More"). Checks should be payable to the Mono Lake Committee, and are not tax deductible.

TRIPS TO SEE ELEPHANT SEALS

The Mono Lake Committee is again sponsoring bus tours to see the elephant seals on their breeding grounds at Ano Nuevo State Reserve. The dates are Monday, Feb. 10; Sunday, Feb. 23; and Friday, Feb. 28. The guided tour consists of a 2½-hour, 3-mile hike over sand dunes to observe the males, females and pups. The bus will leave the N. Berkeley BART station at 9:30 a.m. and return at 5:30 p.m. There will be an early lunch stop en route. Bring your lunch; cold beverages will be provided. The cost is \$19 per person prior to Jan. 15 and \$21 thereafter. The trips are limited to 40 people, and last year all space was taken well before the date!

For reservations, send a check payable to the Mono Lake Committee, c/o M. Bennett, 2719 Marin Ave., Berkeley, CA 94708, with a self-addressed, stamped envelope and your telephone number. If you have questions, please call (415) 526-1260. The trips go, rain or shine; the animals will be there. No refunds.

Mono Lake Workshops: Birds, Wildflowers, History and More!

This summer the Mono Lake Foundation is again offering an outstanding series of weekend workshops with proceeds to help Mono Lake. MLC Chairman David Gaines is leading workshops on *birds* (June 21-22), *natural history* (July 26-27) and *wildflowers* (Aug. 9-10). He joins Jim Vanko and Lily Mathieu in a *Mammoth-Mono historical tour* July 12-13. Raymond Gray conducts a *geology workshop* July 19-20, and Peggy Gray a *watercolor workshop* the same weekend. Julia Parker's *Indian basketry* is scheduled July 26-27.

You need no prior knowledge of these subjects to enjoy the workshops. All take place Saturdays and Sundays in the vicinity of Mono Lake, and cost \$50 per person. If you would like more information, or to enroll, please contact the Mono Lake Foundation. We will be happy to send you a course outline and full information on what to bring and where to stay.

The Mono Lake Foundation may be reached at: P.O. Box 153, Lee Vining, CA 93541; (619) 647-6349.



WIN A \$1,000 WINE CELLAR 1986 GRAND WINE DRAWING to HELP SAVE MONO LAKE



The California wines have been donated to the Mono Lake Committee by Herbert Cerwin of Cerwin & Peck Consultants, San Francisco, from his private collection of rare vintages, some no longer available.

The French wines have been selected for the Mono Lake Committee by Gerald Asher, distinguished Wine Editor of Gourmet magazine.

GRAND WINE CELLAR NO. 1

1982 Chateau Latour (1), 1982 Chateau Margaux (1),
1982 Chateau Ducru Beaucaillon (1), 1982 Chateau La
Mission Haut Brion (1), 1983 Chablis "Bougros" Wm.
Fevre (1), 1983 Chassagne-Montrachet, Ramonet (1),
1983 Meursault, Le Limozin, Monnier (1)

*** PLUS ***

1960 Beaulieu Cabernet Sauvignon Private Reserve (1),
1961 Beaulieu Cabernet Sauvignon Private Reserve (1),
1963 Inglenook Cabernet Sauvignon Estate Bottled (1),
1968 Louis Martini Cabernet Sauvignon (1)

*** SUPER PLUS ***

1957 Louis Martini Cabernet Sauvignon Private Reserve (1)



GRAND WINE CELLAR NO. II

1982 Chateau Latour (2), 1982 Chateau Margaux, 1982
Chateau Ducru Beaucaillon (2), 1982 Chateau La
Mission Haut Brion (2), 1983 Chablis "Bougros" Wm.
Fevre (2), 1983 Chassagne-Montrachet, Ramonet (2),
1983 Meursault, Le Limozin, Monnier (2)

*** PLUS ***

1950 Sebastiani "Casa de Sonoma" (Perhaps the only
bottle left) (1), 1960 Beaulieu Cabernet Sauvignon
Private Reserve (1)

*** SUPER PLUS ***

1982 Chateau Lafite Rothschild (1 Magnum)

You have an extraordinary opportunity to WIN! ONLY 500 tickets will be sold, so the odds are 1 in 250! (In the California Lottery, your chances to win \$1,000 are 1 in 40,000.)

The drawing will be held Friday, March 21, 1986.

A \$50 tax-deductible donation is requested for each ticket.

For more information and tickets, please send a self-addressed stamped envelope to Grace de Laet, Board Member, Mono Lake Committee, 37 Calhoun Terrace, San Francisco, CA 94133.

Your presence or contribution not required to win.



**The
Mono Lake
Committee**

Post Office Box 29
Lee Vining, California 93541

Non-Profit
Organization

U.S. POSTAGE
PAID
Oakland, Ca. 94601
Permit No. 4230

Postmaster: Address Correction Requested