Mono Lake

Newsletter

Winter & Spring 2011

Mono Lake—Redefining Extreme

New Winter Baseflows

Be A Mono Lake Volunteer

Field Seminars

It felt like a historic moment when the whole Mono Lake Committee staff piled into the gallery to watch what was billed as a groundbreaking announcement from NASA. The press conference rolled and we listened intently … a strain of bacteria collected in Mono Lake's mud was able to live on arsenic and incorporate it into its DNA? No wonder the phones were ringing off the hook.

Since then, I've been mulling over a comment that was unrelated to the details of the research (see page 3). Astrobiologist Dr. Felisa Wolfe-Simon said, "It's not about arsenic, and it's not about Mono Lake. It's about thinking about life in a planetary context and asking questions…." Hmm.

Over time many people have studied various aspects of Mono Lake in the true spirit of scientific inquiry—to learn, to understand, to know. That research has informed public policy that has created unprecedented protections for Mono Lake. Those protections make this a place people can and want to know more about for infinite reasons—including, in this case, answering questions in a planetary context. This, in turn, inspires continued research, deeper understanding, and richer knowledge.

So, from my perspective, it *is* about Mono Lake. Mono Lake inspires people to learn more. It makes us wonder about life, it keeps our curiosity alive, and makes us realize that it is through knowledge that we can protect the places we love. That is why the Mono Lake Committee celebrates and supports scientific research. Even if the results of this particular study are proven wrong, the research itself is a tribute to this landscape and the ongoing efforts to learn more about, restore, and protect a place we love. And that's what it's all about.

I hope you can see the roots of science and that spirit of asking questions in the pages that follow.

—Arya Degenhardt, Communications Director

COVER PHOTO COURTESY OF JOHN DITTLI, *JOHNDITTLI.COM*

ARYA DEGENHARDT

Black Point, turned white, under a blanket of snow on a glassy winter day.

Mono Lake Committee Mission

The Mono Lake Committee is a non-profit citizens' group dedicated to protecting and restoring the Mono Basin ecosystem, educating the public about Mono Lake and the impacts on the environment of excessive water use, and promoting cooperative solutions that protect Mono Lake and meet real water needs without transferring environmental problems to other areas.

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MONO LAKE NEWSLETTER

Winter & Spring 2011
Volume XXXII, Numbers 2 & 3

The *Mono Lake Newsletter* is a quarterly publication of the Mono Lake Committee.

ISSN #0275-6633.

Printed on 100% recycled paper.

Mono Lake and the chemical meaning of life

by Bartshé Miller

Last December Mono Lake made international science headlines after a NASA news conference reported that a strain of bacteria found in the lake's sediment was able to live on arsenic and incorporate it into its DNA. The announcement was biologically profound and it set off a storm of interest and criticism that lingered in the blogosphere and news media for weeks.

Time and further research will settle the debate. Digital media and the scientific process are not always compatible. We are more conditioned to immediate and absolute answers than ever before, but true scientific understanding advances at the pace of traditional, slow media; through careful investigation, data-gathering, and peer-reviewed publications. Validation takes time.

Even with further research and verification pending this is still exciting news that challenges how we interpret fundamental biochemical processes, and how we interpret the scientific value of Mono Lake and extreme environments.

PHOTO COURTESY OF DR. RONALD S. OREMLAND

Scientists collecting samples of extremophiles, organisms that live in extreme environments, at Mono Lake.

From speculation to exception

The NASA media advisory, which appeared days prior to the scheduled December 2 news conference, piqued the world's interest by stating that the conference would "discuss an astrobiology finding that will impact the search for evidence of extraterrestrial life." There were reports of a new life form, a new species of bacterium, and evidence of a second genesis of life on earth originating in the inhospitable waters of Mono Lake. Science and news blogs were abuzz, and international attention focused on the web-televised NASA conference. In comparison to the speculation that preceded it, the NASA announcement was anti-climactic. There were no extraterrestrials, no new life forms, no shadow biosphere, and no evidence of a second genesis. But there was an announcement of an important and new scientific discovery that could potentially change the field of biochemistry and our understanding of life's chemical adaptation to extreme environments on earth and beyond.

The NASA news conference coincided with the publication of a research article in *Science Express*, "A Bacterium That Can Grow by Using Arsenic Instead of Phosphorus." The peer-reviewed article was authored by twelve researchers working with the NASA Astrobiology Institute, US Geological Survey, Arizona State University, Lawrence Livermore National Laboratory, and others. Dr. Felisa Wolfe-Simon was the lead author and researcher.

NASA and Wolfe-Simon revealed the discovery of a strain of bacteria from Mono Lake that could grow successfully on arsenic and incorporate it into its biomolecules, *including* its DNA structure. The consequences of this claim are significant because it outlines an exception to the six fundamental building blocks of life on earth. The finding also implies that life has a more flexible response to extreme environments than we once surmised, be it the hypersaline waters of Mono Lake, Earth's inhospitable geologic past, or elsewhere in the universe.

Better living through extreme chemistry

Collected from the sediments of Mono Lake, the bacterium GFAJ-1 resides in the genus *Halomonas*, a group of bacteria known to be salt- and arsenic-tolerant. This particular microbe

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is neither a new life form, nor is it a newly described species. However, GFAJ-1 is unique. When isolated in the laboratory, and subjected to increasing concentrations of an arsenic-rich medium, it survived. Subject any other organism on earth to increasing concentrations of arsenic and you will see some spectrum of response that is the opposite of "survive." Increasing concentrations of arsenic are toxic to cellular life, but GFAJ-1 was resilient, and contrary to expectations, flourished in the laboratory, arsenic-dominated environment. A GFAJ-1 control group was exposed to a phosphorus medium and grew better than the group exposed to arsenic.

In the microbe's natural Mono Lake habitat phosphorus is highly abundant compared to arsenic and there appears to be no preference for arsenic. Why the flexibility? Are there other microbes in Mono Lake or other bacteria in the Halomonadaceae family that have this capability to thrive on arsenic? These questions are the focus of further research.

Arsenic is chemically analogous to phosphorus. It resides in the same chemical family and is perched just below phosphorus in the periodic table. Phosphorus is a common nutrient in biology and it is critical in energy transport. Arsenic is more reactive than phosphorus and easily replaces its chemical kin. Its reactivity debilitates normal, healthy chemical processes in cells and increasing concentrations of arsenic destroy molecules essential to cellular life. Until GFAJ-1, no other organism has been known to endure increasing concentrations of arsenic to the point of successfully substituting phosphorus with arsenic.

BARTSHÉ MILLER

NASA scientists testing the Mars rover at Mono Lake in the fall of 2010.

CHNOPS + As?

Life is composed of six fundamental building blocks, or elements, commonly abbreviated as CHNOPS: carbon, hydrogen, nitrogen, oxygen, phosphorus, and sulfur. These are the chemical elements that sustain biological structure and processes, including the mighty DNA molecule—the complex double helix molecule in cells that holds genetic information for organisms. Other elements are present in trace quantities and contribute to cellular function, but you and I, a pika, a willow, an alkali fly, a yellowfin tuna, and a bacterium are composed almost exclusively of these six nutrient-elements. Substituting one of the elements for another in structure or function remains undocumented in the field of biology.

Wolfe-Simon and her collaborating colleagues measured arsenic in the bacteria cells and data suggested that arsenic was assimilated in a number of biomolecules, including genomic DNA. A life form which survives on arsenic is novel, but one which takes that arsenic and substitutes it for phosphorus in its DNA helix is stunning.

Research destination resort

Despite its productive ecosystem, Mono Lake is toxic to most aquatic life on earth due to its high salinity, alkalinity, and complex chemistry. For researchers who study extremophiles (microbes that live in environments impossible for other life), the lake is well-known.

Mono Lake is a research destination for astrobiologists, geochemists, hydrologists, engineers, and many others. NASA has been involved in periodic research-testing at Mono Lake since 1995 in preparation for robotic Mars missions. Researchers from the University of Georgia, Sierra Nevada Aquatic Research Lab, and US Geological Survey (USGS) have participated in collaborative research at Mono Lake for many years, forming a Mono Lake Microbial Observatory. Dr. Ronald S. Oremland, a research hydrologist from the USGS, has studied the arsenic cycle and arsenic-respirating microbes at Mono Lake and Searles Lake and has published numerous papers on the subject.

Wolfe-Simon was one of three other co-authors on a review written by Oremland et al. in the past and she speculated that a microbe in an arsenic-rich environment might be capable of substituting arsenic for phosphorus. Mono Lake seemed like a reasonable place to look for an answer. With an arsenic concentration of 200 μM (micromoles), Mono Lake is reported to have one of the highest arsenic concentrations of any natural water in the world.

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Chemical meaning of life from page 4

A great place to visit, but don't drink the water

If Mono Lake has one of the highest arsenic concentrations in the world, is it safe? The short answer for humans is: not if you drink it.

No one in their right mind would deliberately drink Mono Lake water. Accidentally ingesting Mono Lake water is rare, and it requires you put your face in the water, which most people avoid even when swimming. You would have to drink a lot of Mono Lake water, and keep it down, before you had to start worrying about the arsenic.

ARYA DEGENHARDT

With water that is almost three times the salinity of the ocean, it is a fun experience to float in Mono Lake.

Arsenic exists in many forms and the chemistry of arsenic is complex. Different organisms have different chemical strategies for tolerating arsenic. Humans tend to quickly get rid of arsenic, and it does not accumulate in the body like mercury does. Arsenic is an infamous poisoning agent, but it's not that easy to accomplish death by arsenic unless someone really knows what they're doing. For humans, chronic exposure to arsenic through drinking water is a real concern in parts of the world, and arsenic is a known carcinogen.

For other organisms, the answer is uncertain. Mono Lake is a highly productive ecosystem teeming with alkali flies and brine shrimp in the summer months. They seem to be unaffected by the arsenic, but it all depends on the chemical mechanisms you have on board, and your species-specific tolerance for the chemical. There is next to no research available to better answer how arsenic may be affecting the larger ecosystem, from brine shrimp to birds.

In 2009 a banded California Gull returned to the Negit Islets. A researcher was able to read its band through binoculars, later revealing that the gull was originally banded at Mono Lake in 1983, equaling the record for California Gull longevity. After over 20 years of the gull breeding at Mono Lake, was arsenic taking its toll or imparting some unknown benefit? Be it bacteria or gulls, we seem to know more about how arsenic affects humans than we know about its effects on other organisms.

A refuge for science

The research results announced by Wolfe-Simon and NASA are exciting and important to our fundamental understanding of biology. While we can question the results of this new and important research, the scientific value of Mono Lake is more certain.

Salt lakes provide a unique habitat on earth. Many of them harbor life and extreme environments that are ecologically exceptional or critically important. Nearly all have suffered or are suffering significant impacts due to water diversions and pollution. The Aral Sea, Owens Lake, the Dead Sea, the Salton Sea, Great Salt Lake, and Laguna Mar Chiquita are just a few saline lakes that are either mere shadows of their former selves or are increasingly imperiled. Mono Lake barely missed joining the company of its sister lakes.

The biological implications of GFAJ-1 and its phosphorus-arsenic substitution have yet to be affirmed, and the Mono Lake Committee will continue to follow and report on the developments. In the interim we can celebrate the importance of Mono Lake as a refuge for scientific study. Like the microbes it supports, there is something weird, wonderful, and exceptional about Mono Lake. Most of what we know about this place we have learned in only the last 30 years of research. What will we find out next? ❖

Bartshé Miller is the Committee's Education Director. You can now find the hefty text Arsenic: Environmental Chemistry, Health Threats and Waste Treatment *in with the field guides on his bookshelf.*

The Mono Basin Field Station

The Mono Lake Committee founded the Mono Basin Field Station in 2004 to foster scientific research in the Mono Basin. Transformed from a motel in Lee Vining, the Field Station offers facilities specifically for scientists doing field research in the area. For more information visit *monobasinresearch.org/station* or contact Bartshé Miller (*bartshe@monolake.org*) at (760) 647-6595.

The Mono Lake water rules

What happens when the lake reaches its mandated level

by Geoffrey McQuilkin

Out on the horizon lies one of the biggest challenges to the successful management of water in Mono Lake, its tributary streams, and the Los Angeles Aqueduct. Known as "post-transition operations," it's a topic that, so far, has been little discussed and little planned for. Starting this year, all that will change.

Current Mono Lake water rules

The State Water Resources Control Board set rules for the diversion of water from the Mono Basin to Los Angeles when it issued its landmark water rights decision in 1994. Setting aside a lot of (important) detail, these rules can be seen as a two-step process.

Step one: raise Mono Lake to an ecologically sound management level—a process underway right now, with about ten feet to go. This is called the "transition" period.

To raise the lake, the State Water Board allows a fixed amount of water—currently 16,000 acre-feet—to be exported to Los Angeles each year. The rest goes to Mono Lake. How much gets to the lake in a year depends on the winter snowfall, and in wetter years the lake rises. The transition period is straightforward for the Los Angeles Department of Water & Power (DWP) to accomplish, because a fixed export amount can be easily translated into a clear schedule of water exports.

Step two: once the lake reaches the management level, keep it there. That requires operating the aqueduct under a set of "post-transition" rules that have yet to be written. And they will be rather more complicated.

To maintain the lake at its ecologically sound level is challenging. The transition period water formula flips: Mono Lake gets the amount needed to maintain its level, in a time and volume pattern that is best for the streams, and DWP can export the rest. This means the amount of export depends on how wet the winter was; a bigger winter makes more water potentially available for export.

Post-transition operations require a lot more planning. Hydrologic modeling is needed to project how much water will be needed to maintain the level of Mono Lake from year to year. Runoff forecasts based on snowpack data are needed to project how much water will be available. Operational plans are needed to know when, and how far, to open the aqueduct valves—and constant monitoring is required to respond to natural flow changes and assure that minimum in-stream flows are met.

ARYA DEGENHARDT

A State Water Board visit to the Lee Vining Creek diversion facility that has been upgraded to allow DWP to better meet State Water Board restoration requirements.

Making post-transition work

DWP won't need to operate under post-transition rules for perhaps a decade, but discussion of those rules with the Mono Lake Committee and others gets underway this year.

Why? Because effective, reliable operations that serve the lake and the aqueduct will require talk—probably a lot of talk—and then they will require something more: poured concrete, new aqueduct components, hydrologic models that have consensus support, and clear operational plans that meet streamflow and lake level requirements. That will take multiple years to implement, and the Committee wants to be sure the aqueduct is ready to operate smoothly when the new rules kick into gear.

Discussions will be an element of an intensive process slated for 2011 that will produce what we here in the Mono Lake Committee office are calling the Collaborative Aqueduct Modernization and Management Plan, or CAMMP. The CAMMP process is focused on the implementation of the scientific streamflow prescriptions issued last year, but it's all one big puzzle in the end: the amount of water in the streams is directly tied to the operation of aqueduct infrastructure.

If a piece of the aqueduct is going to be rebuilt to work more reliably and accurately, it should certainly continue to work as successfully under future post-transition rules. And to do that requires diving into post-transition operations now and putting some good thinking into this still-unexplored realm of Mono Lake water management. ❖

Geoff McQuilkin is the Committee's Executive Director. He enjoyed the snowy winter and is proud that, for now, he can still ski faster than his children.

Quick action prevents Grant Lake Reservoir winter spill

Creative solution protects stream ecosystem

by Lisa Cutting

For all of us here at the Mono Lake Committee, the prospect of Rush Creek's Grant Lake Reservoir spilling almost always generates anticipation and excitement. But that's not the case when that spill is predicted to happen in the dead of winter.

MORGAN LINDSAY

The Grant Lake Reservoir spillway in February when the lake level was about one foot shy of spilling, which would mean potentially damaging higher winter flows on Rush Creek.

Grant Lake Reservoir spill—good or bad? Or both?

High spring runoff flows have been identified as the single-most important component of stream restoration—providing the physical energy necessary to move sediment, scour out pools, and recharge side channels and groundwater in the system's floodplain. Usually these flows happen in late June or early July as the snowpack melts. Therefore, the potential arrival of high flows on Rush Creek in winter is cause for concern.

In winter, the biological aspects of the system are literally in a deep freeze. The trout are in a state of torpor, in which they spend the least amount of energy possible due to a reduced food supply. Abnormally high winter flows due to a spill would be the most stressful condition for trout, which already battle extreme winter habitat conditions including colder, icy water and a greater exposure to predators due to shallow, or "skinny" water. For these reasons and others, the State Water Board-appointed Stream Scientists have prescribed *lower* winter baseflows for Rush and Lee Vining creeks as part of their April 2010 Synthesis Report (see Fall 2010 *Newsletter*). The previous 44 cubic feet per second (cfs) winter baseflow requirement for Rush Creek has been reduced to 27 cfs, which is more in line with natural wintertime flows. Lee Vining Creek's winter baseflow requirement has similarly been reduced from 40 cfs to 18 cfs.

New winter baseflows

The Los Angeles Department of Water & Power (DWP) has been delivering these new winter baseflows for the past two winters under a Temporary Urgency Change (TUC) order issued from the State Water Board. Part of the rationale for operating under these new flows is to monitor throughout the winter months—making sure there are no problems with icing, which could potentially dewater certain areas of the creek. So far, so good.

But heading into this winter, the unusually high amounts of rain and snow started raising the water level of Grant Lake Reservoir (see *Lakewatch* on page 14) to a point where it would likely have spilled in February. Depending on the magnitude and duration of the spill, fisheries scientist Ross Taylor had concerns that incubating brown trout eggs might be harmed.

DWP's adaptive export schedule prevents spill

Fearful of a spill and the impacts it might have to the fishery and the impairment of this year's icing studies, DWP proposed a rather bold solution: For this runoff year (April 1, 2010 to March 31, 2011) DWP would export up to an additional 6,000 acre-feet (AF) and reduce export by the same amount during the next runoff year. The Committee concurred with this approach, the State Water Board approved this request, and DWP's TUC order for this winter was modified. Depending on how the rest of this winter goes, this adjustment should postpone the spill of Grant Lake Reservoir until late March at the earliest. Stay tuned for

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Mono Lake California Gull population in 2010

by Kristie Nelson, PRBO Conservation Science

*Editor's note: For 28 years field biologists and volunteers have braved severe weather conditions, extreme boating situations, and assaults by protective gull parents to conduct the Mono Lake California Gull field research. They have created an impressive and relatively rare data set that is a critical component in assessing the recovering health of the lake. The research takes place on a shoestring budget, and has been a labor of love for many dedicated people, but it does cost money to run. The Mono Lake Committee knows the importance of the gull research for the restoration of Mono Lake, and has been able to cover the cost of the program when other funding sources have run out in order to keep the long-term data set complete. It has become increasingly difficult to raise the money needed to sustain the program. We would hate to have to interrupt this important research due to a lack of funds. Please contact Lisa Cutting (*lisa@monolake.org*) at (760) 647-6595 if you are interested in helping to sustain this critical legacy.*

PHOTO COURTESY OF KRISTIE NELSON

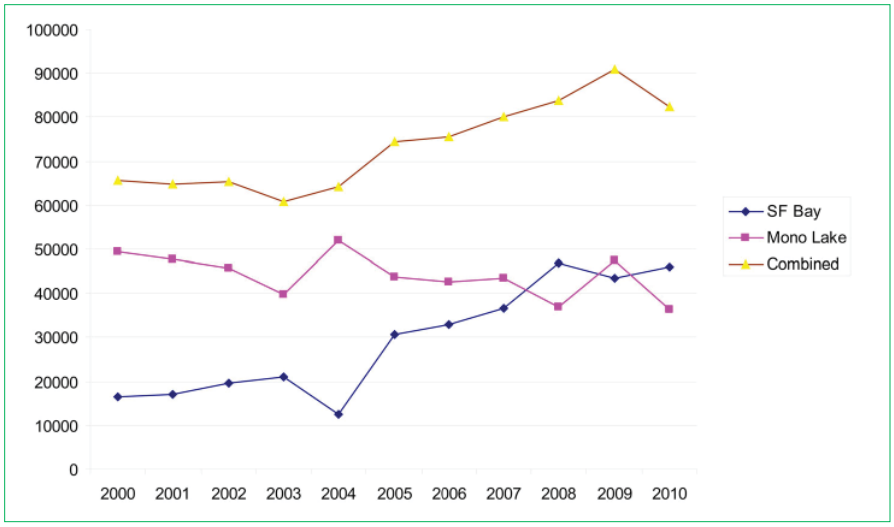
A California Gull chick born at Mono Lake.

Summer 2010 marked the 28th consecutive year that a team of biologists and volunteers with PRBO Conservation Science (founded as Point Reyes Bird Observatory) has assessed the health of the Mono Lake California Gull colony. April and May set many local cold-weather records, which greatly delayed and reduced the brine shrimp hatch. This meant little food and poor conditions for nesting gulls, and it showed.

The population size was an estimated 36,372 in 2010, the second lowest recorded, and the estimated chick production was 4,759, the lowest measured since efforts began in 1983. For comparison, in 2009, which was average in all respects, Mono Lake gulls fledged an estimated 22,655 chicks. Gulls can make up for some bad years through longevity—in 2009 we found a live banded gull at the colony that was 26 years old!

Research has also shown a relationship between the Mono Lake California Gull colony and the one in South San Francisco Bay. Statistics indicate the two populations are negatively correlated. This is remarkable, suggesting gulls may assess conditions at both places, and nest in the "better" one that year. However, the gulls are not welcome in the San Francisco Bay. They have negative effects on other ground-nesting birds and are major predators of eggs and chicks of American Avocets, Black-necked Stilts, and Western Snowy Plovers. Established only in 1980, the San Francisco Bay California Gull population has grown exponentially and now surpasses Mono's nesting colony. The gulls nest on the levees surrounding former salt evaporation ponds and dry salt pond bottoms in the South San Francisco Bay. The growth of the colony is largely attributed to the abundance of habitat provided by the salt ponds as well as easy access to food at landfills.

But big change has come to the San Francisco Bay population. In December 2010, the former salt pond that hosted over 24,000 nesting gulls was breached for the South Bay Salt Pond Restoration Project, the largest wetlands restoration project along the Pacific Coast, displacing the majority of the gulls at that colony. We are very curious to see if those gulls move to Mono Lake (hundreds have been color-banded so they can be tracked), displace other waterbirds in the San Francisco Bay region, or do something we do not anticipate. 2011 will be a very exciting year for observing California Gulls at Mono Lake. ❖



California Gull population numbers at Mono Lake and San Francisco Bay since 2000 show a negative correlation between the two colonies.

Mill Creek losing over 75% of water to diversions

Return ditch repair will enable water rights compliance

by Morgan Lindsay

A hike up Lundy Canyon reveals one of the Sierra's hidden gems—impressive waterfalls and massive beaver ponds lie below steep canyon walls. It is hard to believe that just below Lundy Lake Reservoir Mill Creek slows to a trickle in desperate need of water.

A fresh analysis of the past 20 years of hydrology data has confirmed the striking disparity between what Mill Creek is supposed to receive according to long-established water rights and the amount actually flowing between its banks.

The third largest creek feeding Mono Lake, Mill Creek was never diverted south to Los Angeles. Instead, for over a century water has been diverted for hydropower, irrigation, and, more recently, aquaculture in the North Mono Basin. Over time those diversions, combined with Mono Lake's decline, profoundly degraded Mill Creek's cottonwood-willow streamside forest, wet meadows, and bottomland deltaic habitats with severe consequences for the associated trout fishery, migratory and nesting birds, and other wildlife. Today, Mill Creek and its streamside lands represent the most remarkable opportunity for restoration in the Mono Basin.

How the water flows

Mill Creek begins high in Lundy Canyon where fresh Sierra snowmelt tumbles down a series of steep waterfalls each spring. Wildflowers abound with the arrival of warm summer sun and thick stands of quaking aspens provide welcome shade to hikers and songbirds alike. This life-giving water collects in Lundy Lake Reservoir, a natural lake enlarged by a dam. The majority of the water then leaves the reservoir through a penstock to the Lundy hydroelectric plant where it produces renewable energy.

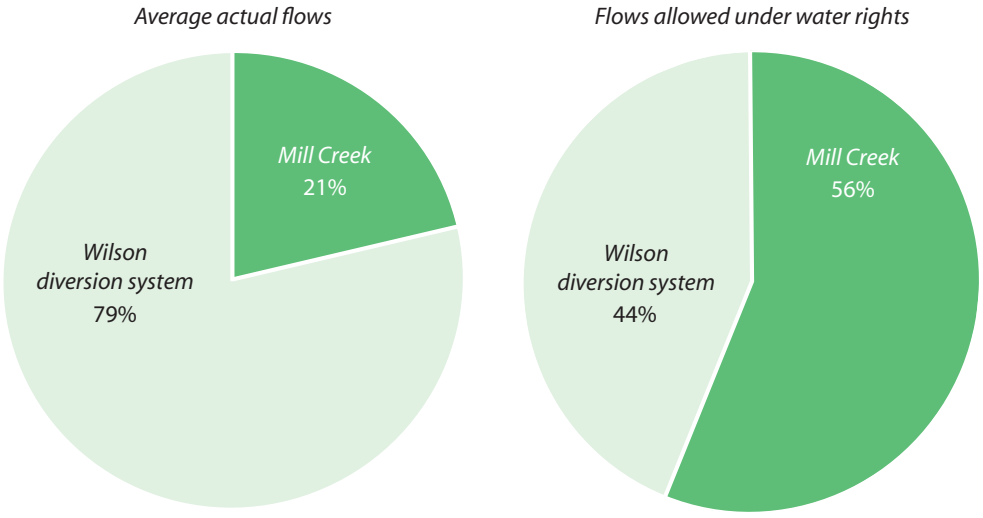
After generating electricity, only a limited amount of water should be diverted north to satisfy water rights holders' needs while the remainder is supposed to return south to Mill Creek. Unfortunately, the return ditch, originally constructed in 1911 to transport water back to Mill Creek, has degraded substantially over the past century and has not carried any water since 2005. Even when in use the return ditch had an insufficient capacity, lost half the water volume to groundwater, was subject to icing problems, and was used only a few weeks out of every year. Without a feasible way to return the water diverted for hydropower generation, for decades nearly all of Mill Creek's water has by default gone into the Wilson diversion system, a collection of irrigation ditches, watercourses, and related uses developed over the last century.

Mill missing most of its water

Over the last 20 years Mill Creek has received less than half of the water it should lawfully receive according to the water rights adjudicated in 1914.

As shown in the pie charts below, on average, less than one quarter of the total Mill Creek flow above Lundy Lake Reservoir has remained in the stream. The rest, 79%, is diverted into the Wilson system.

In contrast, under a generous charting of the water rights for the same time period, diversion to the Wilson system should have been 44%, meaning Mill Creek should have received 56% of the flow, more than double the 21% that actually flowed downstream.



The average flows to Mill Creek and the Wilson diversion system over the past 20 years stand in sharp excess of what is allowed under the established water rights.

In recent years the disparity between water allocated to Mill Creek and water delivered to Mill Creek has become even more extreme. For example in 2008, a moderately dry year, 89% of Mill Creek's flow was diverted from Lundy Reservoir and delivered to the Wilson diversion system, leaving only 11% in Mill Creek—just a fraction of the 56% that should have been in Mill Creek if water rights were followed.

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SoCal water drops

by Geoffrey McQuilkin

Ron Nichols takes charge at DWP

The Los Angeles Department of Water & Power (DWP) has a new General Manager. Think you've already heard that recently? You're right, because DWP has rotated through five General Managers in the past five years. But in contrast to recent "interim" appointments, this round looks to be different.

Mayor Villaraigosa has tapped Ron Nichols, a utility expert with decades of experience, for the position; the City Council confirmed Nichols for the job in January. Nichols' background includes working for the California Energy Commission, playing a key role in resolving the state's power crisis earlier in the decade, and extensive involvement consulting in the creation, management, and planning of power utilities.

As General Manager, Nichols is the top executive responsible for DWP's commitments at Mono Lake—as well as the agency's 9,000 workers, $4 billion annual budget, and 1.4 million customers. I met with Nichols in February to discuss Mono Lake issues, including modernization of Mono Basin aqueduct facilities, educating urban youth on the source of their water, and the city's Eastern Sierra land management policies.

Los Angeles water plan embraces conservation

The Los Angeles Urban Water Management Plan is a key planning document that is updated every five years by DWP. A recently released draft contains two notable projections for the next 25 years. First, Los Angeles Aqueduct water deliveries remain constant, maintaining balance with commitments in the Eastern Sierra. Second, urban water conservation, water recycling, and stormwater capture supplies expand to cover an additional 20% of the city's water needs.

Perhaps most striking of all are the modest demand increase projections—the estimates of how much water the city will need in coming decades. Past plans have forecast ever-increasing consumption. But Angelenos have done remarkable work in conserving water, and current use is far below those outdated projections. Those accomplishments are reflected in the new draft plan. Los Angeles water demand for the year 2035 anticipates urban growth and yet is projected to be roughly 700,000 acre-feet—not much higher than what the city has actually required over the past 30 years.

DWP oversight goes to voters

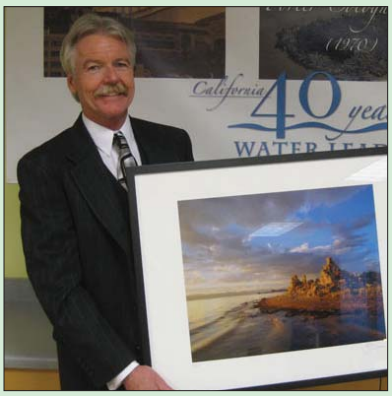
As this issue of the *Mono Lake Newsletter* goes to press, Los Angeles voters will be considering two ballot measures that propose new oversight over DWP. Both measures were crafted and placed on the ballot by the City Council.

The first measure creates a "ratepayer advocate" position within DWP. The job would entail reviewing and analyzing proposed rate increases for water and power—a topic filled with controversy in recent years. The second measure would compel DWP to complete its budget in advance of the City Council's own financial deadlines. The firm rules are a response to a highly charged situation last year when the anticipated transfer of DWP revenue to the City budget was thrown into doubt. ❖

State Water Board member Art Baggett moves on

Changes are afoot within the five-member State Water Resources Control Board, which oversees California water rights and, notably, issued the 1994 decision balancing Mono Lake's protection with Los Angeles' rights to export water from the Mono Basin.

Board member Art Baggett departed in January when his term ended, leaving his seat open for an appointment by Governor Brown. Just weeks earlier, a different vacancy was filled with the appointment of Dwight Russell, an experienced Department of Water Resources leader.



GEOFF MCQUILKIN

Departing State Water Board member Art Baggett.

Baggett served on the Board for over 11 years, including five as chairperson. He played a key role in water negotiations and decisions over the decade, including the Bay Delta, Klamath River, and numerous others. As a resident of the Sierra Nevada he brought a passion for the state's mountains and rivers to California's complex water discussions.

With Mono Lake, Baggett frequently reminded the Board of the significance of its 1994 decision to raise the lake, restore lost stream and waterfowl habitat, all while providing continuing water supply to Los Angeles. He organized several field trips to Mono Lake for Board members and staff, putting a focus on assuring continuing progress in implementation of the Mono Lake decision.

Among his successes, the State Water Board recognized Baggett as "bar none, the best backcountry skiing member in the history of the board…." Here at the Committee we suspect we'll see him down along the lakeshore soon.

Members and grants sustain Outdoor Experiences

by Bartshé Miller

In 2011 hundreds of students from Los Angeles and Southern California will travel to the Eastern Sierra. They will hike along bracing mountain streams, climb towards towering Sierra peaks, and canoe among tufa towers. They will see something new, and expand their understanding and imagination just like we did the first time we saw Mono Lake. These students will participate in the Committee's Outdoor Experiences Program (OE), and they will be following in the footsteps and paddle wakes of thousands of youth before them. For 16 years the Mono Basin watershed has provided learning adventures for students.

Over 16,000 Mono Lake Committee members contribute to make these adventures happen, but OE is also sustained through grants. This year, thanks to support from the Southern California Water Replenishment District (WRD), and the US Forest Service program *More Kids in the Woods* (USFS), students will have the opportunity to travel to the Eastern Sierra to explore, learn, and practice stewardship.

WRD funding will provide transportation assistance and help with supplies, equipment, and landscape improvements at the Mono Basin Outdoor Education Center. USFS funding will help students experience their watershed by supporting recreational activities and stewardship projects. Invasive plant removal, trail rehabilitation, and USFS job-shadowing will provide students with a picture of what it's like to manage the land and make a living in places like the Eastern Sierra.

The Mono Basin is home to over 30 years of outdoor education history. Hope and possibility are part of the story of Mono Lake—what a perfect place to prepare students for the future. ❖

ROSA BREY

An Outdoor Experiences group from the Immaculate Heart Community's Blythe Street Project–Casa Esperanza from the San Fernando Valley was able to visit Mono Lake thanks to a grant from the US Forest Service program More Kids in the Woods.

Stewardship projects get much-needed weed wrenches

by Julia Runcie

A generous grant from the Bristlecone Chapter of the California Native Plant Society will allow the Mono Lake Committee to purchase several Weed Wrenches™, heavy-duty tools designed for uprooting stubborn plants.

The wrenches will come in handy this summer as we tackle outbreaks of invasive weeds like sweet clover and woolly mullein. We are very grateful for the grant, which honors botanist Mary DeDecker, and supports our efforts to aid in the recovery of native vegetation throughout the Mono Basin.

If you are interested in volunteering for a stewardship day contact Julia Runcie (*julia@monolake.org*) at (760) 647-6595.

ARYA DEGENHARDT

Volunteers pull invasive plants by hand along the Lee Vining Creek Trail.

Keeping tabs on Eared Grebes

by Julia Runcie

Almost every fall since 1996, the Mono Lake Committee and volunteer researcher Sean Boyd of the Pacific Wildlife Research Centre in British Columbia have undertaken a considerable task: an aerial survey of the entire Eared Grebe population at Mono Lake.

PHOTO COURTESY OF RICK KATTELMANN

A photo from the fall 2010 Eared Grebe aerial survey captured tufa towers and small white specks that are the grebes.

In order to get an accurate count, a small airplane flies transects over the water while a passenger takes photographs of the lake surface every ten seconds. The photos are then sent to Sean Boyd, who painstakingly counts each tiny grey dot and extrapolates based on the current surface area of the lake to arrive at a total. The results add to a long-term data set indicating that Mono Lake supports over half the continent's Eared Grebes during a critical part of their life cycle.

Thanks to volunteers Geoff Pope, a pilot for LightHawk, and Rick Kattelmann, a local photographer, the fall 2010 count went off without a hitch. However, the resulting figures were low. Boyd estimated 514,000 birds, significantly fewer than in years past when the lake has hosted as many as two million grebes. Perhaps the timing of the birds' migration has changed, or perhaps the lower numbers point to a decrease in the total continental population. As the preferred fall habitat for the majority of North America's Eared Grebes, Mono Lake offers a rare scientific opportunity to seek out the answers to these questions by tracking the entire population across years. ❖

Julia Runcie is a Committee Project Specialist. She broke her arm skiing this winter but feels lucky to live in a place where the doctor can mold the cast to a ski pole.

Mono Lake Committee storefront feedback and photos

by Rosanne Catron

In 2011, the Mono Lake Committee plans to remodel the front of the Information Center & Bookstore, keeping many of the historical elements of the storefront intact while making it a more comfortable and functional space for visitors and staff.

With this in mind, we have a request for all Committee members: Do you have a photo of the storefront stashed somewhere in an album, shoebox, or somewhere on your computer? Maybe you snapped a shot during a trip last summer … posed in front of the store during a Bike-A-Thon … took a picture during the hubbub of the Chautauqua with the store as a backdrop … or have a snapshot of the Committee back when it first opened. Whatever the case, if you have a photo that captures the spirit of our unique storefront, we'd like to see it! Or, if you can think of a specific feature (drinking fountain, bicycle rack) that would make the storefront more enjoyable and useful for your next visit, let us know.

You can either email or send copies of any photos, along with comments or stories, to *rose@monolake.org* or to Rosanne Catron at the Mono Lake Committee, PO Box 29, Lee Vining, CA 93541. Please include your name and contact information with your email or letter.

MONO LAKE COMMITTEE ARCHIVE

An early iteration of the Mono Lake Committee storefront during a bucketwalk event.

Lights, sirens, and helping hands

by Erika Obedzinski

When new staff arrive for the summer season, on my list of things to mention when I'm walking them to the Intern House to help get them settled, is the town siren. It's not an every-day-at-noon-siren, or a once-a-month-test-siren. Ours can go off anytime of the day or night and it's *really* loud. I let the new arrivals know that if they hear the siren (and if you are in town when it goes off, you most certainly will), they don't need to do anything. But it does signal that an emergency is happening somewhere nearby.

Maybe you too have been in town when the siren goes off and have wondered what's going on. Maybe you've even seen a handful of people running through town towards the Fire Department. Like many small towns, here in rural Mono County, Lee Vining's Volunteer Fire Department plays a critical role in responding when an emergency occurs. While it's called the "Fire Department," fires make up only about 20% of the siren calls; the rest are for medical emergencies and car accidents. Of the 65 calls in 2010, 22 were traffic collisions, 29 were for medical or trauma reasons, and 14 were for fires.

Here at the office when the siren goes off, it's common to see several staff quickly make their way out the door and run or bike the block to the Fire Department. We are fortunate to have five dedicated Mono Lake Committee staff also dedicated to serving the community and public as first responders: Arya, Elin, Greg, Rose, and Santiago. Arya, Elin, and Greg are also Emergency Medical Technicians. It is a valuable community service the Fire Department offers since they may be able to arrive on scene 15 minutes before an ambulance. While the Mono Lake Committee does not pay staff to be out on calls, it does offer the flexibility to go on a call if their work at the time allows and they can make up the work later.

Currently the Fire Department has about 20 volunteers. The volunteers meet one evening a week for planning, maintaining vehicles, and training. The Mono Basin's mountainous terrain requires the department to prepare for a variety of situations. Volunteers are trained in driving and engineering the department's five fire trucks, vehicle extrication, avalanche safety, ropes rescue for steep terrain, cold water rescue, hazardous materials incidents, and of course, fire rescue and fire fighting.

In addition to the Committee staff on the department, the generous volunteers who work around their family responsibilities and work schedules include two caterers, one RV Park owner and his two kids (one in college and one in high school), one retired school bus maintenance supervisor, one animal control officer, one market owner/ski patroller, one motel manager/welder, one pumice plant employee/pumice sculptor, two construction/Caltrans workers, one restaurant employee, and one restaurant manager. We are lucky to have these level-headed, knowledgeable, and kind individuals providing a crucial service at life-and-death moments.

When I asked if there was anything our staff would like the public to know about the Fire Department, here's a little of what they said: "We are a dedicated group of professional volunteers who are here to help you. Lee Vining is in a remote area, and time is critical in emergency situations. If you need emergency help, call 911, and our crew will be there for you. If you see lights and sirens behind you when you are driving, make sure to pull over as quickly and safely as you can."

We all know that the best thing is to stay safe and healthy and not need to call 911, but if you do need to do so while you're in Lee Vining, know that you will be in good hands.

The Lee Vining Volunteer Fire Department works with limited resources and welcomes donations. If you are able to help, you can make a check out to LVFD and mail it to PO Box 352, Lee Vining, CA 93541. ❖

Erika Obedzinski is the Committee's Office Director. She was glad to hear the Red-winged Blackbirds back in town—a sure sign of spring.

ARYA DEGENHARDT

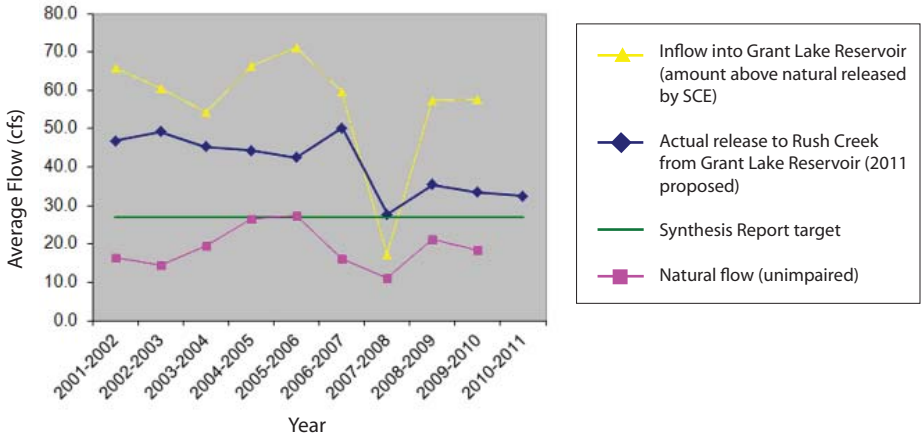
The Lee Vining Volunteer Fire Department includes Committee staff Elin Ljung, bottom row left, Greg Reis, bottom row second from left, and Arya Degenhardt, bottom row right.

Streamwatch

Fourth winter of lower flows in Rush Creek

by Greg Reis

Southern California Edison (SCE) stores snowmelt runoff every spring in a series of reservoirs above Grant Lake Reservoir. Because this water is released the following winter, the inflow to Grant Lake Reservoir (yellow line in the graph) is much higher than Rush Creek's natural, unimpaired winter flow (pink line in the graph). Prior to the 2008 winter, the actual release below Grant (blue line in the graph) conformed to the minimum flow requirements spelled out in State Water Board Decision 1631. But during the last four years, the State Water Board has issued three Temporary Urgency Change (TUC) orders (in 2008, 2010, and 2011) that allowed lower flows to be released.

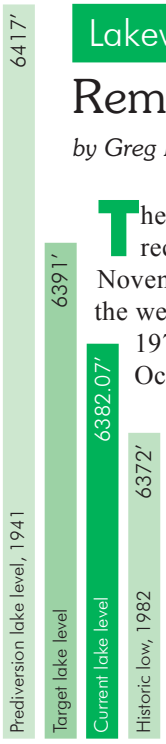


October–March flows on Rush Creek from 2001–2011.

The 2008 TUC was granted due to the dry year and concerns about lower reservoir levels. The following winter's flows were low because the release often matched the low inflow (permitted when the reservoir contains less than 11,500 acre-feet). Last year and this year, TUCs allowed the testing of the lower flows identified by August 2008 and April 2009 instream flow studies and recommended by the Stream Scientists in the April 2010 Synthesis Report.

Thanks to a very wet fall, Grant Lake Reservoir is full and inflow is high. In order to prevent it from spilling and disrupting the winter low-flow test, additional water is being exported in the Los Angeles Aqueduct (see page 7).

The reservoir spilling this spring, combined with a reduction in exports after April 1, is a perfect setup for testing the peak-flow portion of the Synthesis Report prescriptions, as well as when to release additional water above the prescriptions. Since the Grant Lake Reservoir can't release even a normal-year peak flow to Rush Creek, use of the spillway this spring could help in achieving the required peak flow release; the actual amount and timing of the spill is largely controlled by SCE releasing water from its upstream reservoirs. ❖



Lakewatch

Remarkably wet fall causes Mono Lake to rise

by Greg Reis

The wettest October on record, the snowiest November since 1994, and the wettest December since 1977 combined to make October–December 2010 the fourth wettest such period since Cain Ranch rainfall records began in 1931. The December precipitation caused Mono Lake to rise 0.4 feet, gaining back half of the elevation lost to evaporation since August.

December's "atmospheric river" was then shut down by January's "mid-winter dry period." Only 0.09 inches of precipitation fell at Cain Ranch during the 40 days following January 3. During La Niña years, the mid-winter dry spell averages 21 days for San Francisco (the longest period was 42 days in 1963).

Luckily the fall precipitation has gotten the Eastern Sierra close to the seasonal average, meaning that even with a dry winter we will end up with a close-to-average season. February 1 snow surveys found 140% of average snowpack in the Mono Basin, which is 88% of the April 1 average. Based on these surveys the preliminary forecast of runoff in the Mono Basin for the April–July period base is 112% (which assumes median precipitation for the rest of the year).

Mono Lake was at 6382.07 feet as of February 28. On average, Mono Lake rises almost 0.2 feet in March, which means when combined with the 0.3 feet average springtime rise, we are likely to see the lake approach the 6383-foot elevation this summer. ❖

Greg Reis is the Committee's Information Specialist. He feels privileged to live and work in buildings that generate over 40% of their own electricity.

Mono Basin Journal

A roundup of quiet happenings at Mono Lake

by Geoffrey McQuilkin

GEOFF MCQUILKIN

Winter is the time for poconip, the icy fog that swirls up off Mono Lake and fills much of the Mono Basin. Mornings are grey and dim; afternoons are grey and lightly lit. A quick trip to higher ground reveals bright sun, yet the trees and bushes have no such options. Day by day the ice accumulates, creating great, fragile crystals that cling to every branch and twig. When the sun finally breaks through, the trees appear to be nothing more than snow sculptures; then slowly they melt away to reveal the wet wood that lies beneath.

When the snow falls heavy and fast, as it did in December, there is much to be celebrated as a skier and much adventure to be had as a driver. But what of the smaller inhabitants of the Mono Basin? A walk amongst the sagebrush, after 18 inches of snow, suggests that happy winter homes are built much more easily by mice, rabbits, and their cousins in such times. Sure, a few inches of snow might collect in the bushes and provide pockets of protection. But a foot and a half of snow—now that's a blanket that really does something.

From above, bushes are but soft ripples in the continuous snow covered surface; from below, great mansions await the many small mammals who seek them. The trapped air spaces are large; the branches that raise the snowy roof are long. And these homes come with food, branches with ample leaves and bark that are all accessible from below the snow's surface. The only risk is the imprint of the occasional adventuring human who tends to posthole in such conditions, providing, one optimistically hopes, convenient ventilation and easier access for those who live beneath. ❖

Benchmarks

PHOTO COURTESY OF BURTON FRASHER

1938: The west shore of Mono Lake, Highway 395, and the Mono Craters in the distance. Lake elevation: 6418 feet above sea level.

JULIA RUNCIE

2011: A winter view of the same area. Lake elevation: 6382.07 feet above sea level.

Policy notes

by Lisa Cutting and Morgan Lindsay

State parks face budget shortfall (again)

California's state parks remain dependent on over-appropriated General Fund monies for day-to-day operating expenses as well as a growing maintenance backlog. Like most other state-funded programs, state parks face very difficult additional cuts; a total of $22 million in permanent cuts over the next two years from an already austere budget. To date, yearly budget reductions have hobbled the state parks system with 150 partial closures and service reductions. The new cuts will no doubt mean further closures for parks throughout California.

Here at the Mono Lake Tufa State Natural Reserve, few dollars remain for the state to save. The Reserve has always been lean on staff, and now the park has further cut expenses by having its Law Enforcement Ranger position covered by rangers on occasional assignment from nearby Bodie State Historic Park. Still, the Reserve provides the only regular resource-focused law enforcement at Mono Lake. The only other Reserve staff is a part-time Interpretive Ranger, a position that depends entirely on outside funding from the non-profit Bodie Foundation.

Over time the state's Mono Lake expenses have been essentially whittled down to a phone line and a few office supplies. But through strong partnerships with the Inyo National Forest, the Bodie Foundation, the Mono Lake Committee, and many hard-working volunteers, the few dollars the state is able to spend at Mono Lake are leveraged to stretch as far as possible. Given this reality, it would make no sense for California to "close" the park for the purpose of saving money.

DWP Solar Ranch planning underway

The Los Angeles Department of Water & Power (DWP) is studying two potential sites for its proposed Southern Owens Valley Solar Ranch, a 200 megawatt solar photovoltaic installation on 3,100 acres near Lone Pine. Last November, out of interest in the project's implications for management and use of City lands in the Mono Basin, the Mono Lake Committee submitted detailed comments to DWP on the scope and content of the planned Environmental Impact Report.

One major concern the Committee highlighted is the relationship between the Solar Ranch project and two previous large-scale solar proposals; a 5,000 megawatt solar park in the Owens Valley and possible solar production on the Owens lakebed to help control dust emissions. The total scale of planned solar development has significant consequences, including transmission capacity and water use, which could stretch far north of the proposed sites.

In addition, the Solar Ranch project is a significant departure from DWP's historic practice of non-development for the 300,000+ acres it owns throughout the Eastern Sierra—including 60,000 acres in the Mono Basin—and raises important questions about the future of these ecologically important lands. Any renewable energy project should include mitigation in the form of land protection verified by a third party. DWP has a straightforward opportunity to do this by committing to a no-development plan for critical open space lands under its control.

Regional Water Management Group brings funds to Eastern Sierra

Now in its third year, the Inyo-Mono Integrated Regional Water Management Group (RWMG) is working to attract much needed funding to the Eastern Sierra. This winter, the RWMG applied for over $4 million potentially available from the Department of Water Resources (DWR) to implement 15 shovel-ready water projects.

Two projects eligible for funding in the Mono Basin include overdue repairs to the June Lake wastewater treatment plant, located just north of Grant Lake Reservoir, and the installation of water meters in June Lake to meet requirements and expand water conservation efforts. These projects will improve water quantity and quality in Rush Creek and its tributaries that feed Mono Lake. DWR is expected to announce the outcome of the implementation grant award in April.

The RWMG also recently received over $300,000 from DWR in a planning grant to help continue efforts to improve water supplies in Inyo and Mono counties. The Mono Lake Committee is active in the RWMG as a founding member organization and contributes in-kind support through our role on the administrative committee. The next round of funding is expected for spring 2011 and may include more projects in the Mono Basin that would address needs for increased water storage, outdated pipe replacement, and stormwater management in the communities of Lee Vining and Mono City.

Lee Vining Airport recovery on track

Now that the 10-acre stockpile at the airport has been partially reduced and contoured to match the existing view from Lee Vining towards Mono Lake, the next step is implementing the revegetation plan. When earthmovers scraped away the topsoil to level and widen the runway (see Fall 2010 *Newsletter*), the bare earth was left lacking the nutrients and seeds needed to support quick regrowth. Instead, the large area will need a specifically engineered treatment to encourage the recovery of the native sagebrush scrub and prevent invasive species like cheatgrass from taking root.

Last fall at the Committee's urging, Michael Hogan, a restoration specialist from Tahoe-based Integrated

Continued on page 17

Policy notes from page 16

Environmental Restoration Services, laid out a matrix of plots with test treatments to determine the most effective and cost efficient method for encouraging the growth of native shrubs, grasses, and flowers, including big sagebrush, desert peach, and spiny hopsage.

Once the seedlings sprout this spring, Hogan will evaluate the test plots, which will inform the implementation of the full program on all ten acres. The airport stockpile will be monitored for four years and must meet specific success criteria to ensure that the revegetation program is on the right trajectory. Successful plant recovery is critical to reducing the remaining visual impacts as well as controlling erosion and restoring lost habitat.

ARYA DEGENHARDT

Revegetation test plots being planted at the Lee Vining Airport restoration site.

Mono Basin residents chart course for the future

The Mono Basin Regional Planning Advisory Committee (RPAC) and its Visioning Steering Committee have been working to develop a comprehensive Mono Basin Community Plan. The purpose of the plan is to define a community vision that will help Mono County shape planning policy decisions, guide future land use priorities, and generally provide the roadmap for the future of Lee Vining and the Mono Basin.

The Steering Committee recently released a draft vision statement based on numerous community workshops and is processing feedback for revisions. The primary application of the finalized plan will be to help inform the Mono Basin element of the Mono County General Plan. The Mono Basin Community Plan will also guide the RPAC in prioritizing local planning issues.

Eastern Sierra's Pete Pumphrey appointed to the Lahontan board

Eastern Sierra Audubon president—and Mono Lake enthusiast—Pete Pumphrey was appointed to California's Lahontan Regional Water Quality Control Board by Governor Schwarzenegger at the end of last year. Because he is filling a seat vacated by a resignation, Pumphrey's term will expire in September of this year.

There are nine regional water quality control boards throughout the state. The regional boards are responsible for protecting and restoring water quality and are the enforcement "arm" of the State Water Board when laws and regulations are violated. Nine members serve on each board, representing a diversity of expertise ranging from water supply to agricultural irrigation to industrial water use. Pumphrey's appointment category is water quality.

Pumphrey's qualifications will serve him well in this new position. He is a retired attorney and a previous environmental prosecutor for the District Attorney's office in San Joaquin County. Since moving to the Eastern Sierra in 2004 he has been very active in regional conservation issues, most notably the Owens Lakebed Master Plan process.

Mono Basin's Tim Hansen is the new Mono County Supervisor

Tim Hansen won the District 4 Mono County Supervisor election this past November to fill a vacancy and will serve through 2012. Mono County District 4 is one of the largest districts in the county, spanning from Coleville to Lee Vining, and it's not often that our supervisor is a Mono Basin resident.

Hansen replaces interim supervisor Bob Peters, a Bridgeport business owner who was appointed by the Governor after Supervisor Bill Reid's death in 2009. Despite the challenges of transition and a short learning curve, Peters was able to help the town of Lee Vining accomplish previously unresolved goals. Most impressive was the reduction of the speed limit in town to 30 miles per hour, something the community had wanted for almost ten years.

Hansen is a 40-year resident of Mono County and owns and operates the High Sierra Shrimp Plant, a brine shrimp harvesting operation on Mono Lake. Hansen's roots in the Mono Basin are deep; he still lives on property that his grandfather established in the 1930s. As he explains, "I spent most summers on the north shore of Mono Lake, from a baby at our grandfather's property where he made mineral salts, to being a full-time resident in 1969. I believe this gives me a good sense of the values of this beautiful place I call home. I am honored to be the elected representative for Mono County District 4 and because of my background here I think I can make good decisions to represent the residents." ❖

Sharing the vision and legacy of Andrea Mead Lawrence

by Geoffrey McQuilkin

The Mono Lake Committee is excited to announce a special new program designed to share the legacy and vision of environmental hero and Olympic double gold medalist Andrea Mead Lawrence.

Andrea, a key Mono Lake supporter throughout the battle to save Mono Lake, passed away in 2009 (read more about Andrea in the Summer 2009 *Newsletter* and at *monolake.org*). Her non-profit organization, the Andrea Lawrence Institute for Mountains and Rivers (ALIMAR), then faced the difficult task of charting a path forward.

PHOTO COURTESY OF QUENTIN LAWRENCE

Andrea Mead Lawrence, 1932–2009.

Lead by Andrea's daughter Quentin, ALIMAR approached the Mono Lake Committee to discuss how a joint effort might ensure that Andrea's inspirational environmental achievements and vision continue to be shared among those who knew her and those who will become the environmental leaders of tomorrow.

ALIMAR, an all-volunteer non-profit, and the Committee found much common ground and then crafted a practical and efficient plan to transfer the ALIMAR program to the Committee.

The Mono Lake Committee's newly created Andrea Lawrence Fund will promote and celebrate passionate engagement in community and the land with an emphasis on facilitating collaboration and inspiring youth to become environmental leaders. The Fund was kicked off by the transfer of all assets from ALIMAR, which has now dissolved as an organization. Special gifts in Andrea's honor are welcomed and will be dedicated to the purposes of the Fund.

All ALIMAR supporters will become Mono Lake Committee members, and the Committee will begin hosting ALIMAR's annual dinner and award event—now called the Andrea Lawrence Award Dinner—at Mammoth Mountain (check the Mono Lake Website for details).

The Committee and ALIMAR's now-retired Board of Directors—including Quentin Lawrence, Rusty Gregory, Rick Kattelmann, Lynn Haber, and Geoff McQuilkin—will make sure that Andrea's story continues to inspire us all to achieve great things.

Mill Creek from page 9

Fixing excessive diversions

The solution to this dramatic, damaging problem is simple: update and repair the return ditch. The win-win results will be unimpaired hydropower generation, delivery of water rights to the Wilson diversion system and, critically, the return of Mill Creek's missing water. In October 2010, Southern California Edison, the Lundy Hydroelectric Project operator, filed an application with the Federal Energy Regulatory Commission to construct a return conveyance system as prescribed by the 2005 Settlement Agreement. The improved pipeline will follow the path of the old return ditch and efficiently return the water Mill Creek is entitled to after it generates electricity at the hydropower plant.

The return conveyance system will also benefit the Black Point marsh, a valuable spring-fed wetland, by reducing the damaging deposition of thick debris caused by excess water in the Wilson system (see Spring 2010 *Newsletter*). And finally, this straightforward infrastructure improvement will at last allow the water allocation between Mill and Wilson to conform to the decreed water rights. ❖

Morgan Lindsay is a Committee Project Specialist. Her favorite task this winter was skiing out to observe and record Mono Lake's exact height above sea level. At press time, 6382.07 feet and rising!

2011 Field Seminars

PHOTO COURTESY OF ROBB HIRSCH

South Shore Kayak

June 12
Stuart Wilkinson & Mono Lake Committee Staff
$90 per person / $80 for members
limited to 12 participants

Late spring reveals snow-capped mountains towering over a glassy Mono Lake—a great time to kayak! Join Stuart Wilkinson and a Mono Lake Committee staff member for a guided naturalist expedition along Mono's south shore. This natural history kayak tour will cover a wide variety of topics relating to this unusual Great Basin lake, such as geology, ecology, history, and politics. Expect to see underwater tufa towers, birds, brine shrimp, and lake-bottom springs. Some kayak experience is helpful, but not necessary; kayaks and safety equipment are provided. This seminar is being offered for the 15th year in a row, and is highly rated by past participants. Space is limited in this popular seminar, so register early!

Birding & Bird Photography

June 14–16
Santiago Escruceria
$150 per person / $135 for members
limited to 12 participants

This seminar will focus on identifying and photographing birds found in the Mono Basin's diverse habitats. The group will visit sagebrush scrub, open meadows, riparian corridors, and montane forests, combining light hiking with observation and photography. This seminar makes a perfect addition to the Mono Basin Bird Chautauqua weekend, which begins Friday, June 17th. Participants should have basic photography skills and photography equipment suitable for taking photos of wildlife. Santiago Escruceria is a Colombian-born American citizen who has taught environmental education at the Mono Lake Committee for 12 years. He also runs a birding tour company and leads annual birding tours in the area of Cali, Colombia.

Mono Lake Committee Field Seminars fill quickly every year—call (760) 647-6595 or register online at *monolake.org/seminars*.


ARYA DEGENHARDT

Mono Lake's abundant wildflowers provide many photo opportunities.

The Art of Wildflower Macrophotography

June 24–26
David Gubernick
$250 per person / $225 for members
limited to 8 participants

Learn to take creative and beautiful close-up images, further develop your artistic vision, and enhance your photographic skills in the supportive learning environment of this workshop for beginning to advanced amateur photographers. The weekend will emphasize the artistry of macrophotography and the technical means to render such images; this is not a course in botanical identification. David Gubernick, PhD, is an internationally and nationally published and award-winning nature photographer and workshop leader. This is a popular workshop, garnering rave reviews.

Mono Basin Landscape Photography

July 8–10
Robb Hirsch
$220 per person / $200 for members
limited to 12 participants

The Mono Basin is a magnet for nature photographers due to its unique, otherworldly landscapes, striking canyons, and dynamic light—it's the perfect outdoor classroom to learn the fine art of landscape photography. All levels of photographers are welcome to join professional photographer Robb Hirsch as he teaches participants the process of creating the best possible images. Topics will include creating strong compositions, evaluating proper exposure, utilizing depth-of-field for maximum impact, pre-visualizing images, reading light to increase productivity, and how to visually isolate a subject for more appealing images. As a biologist/naturalist turned professional photographer based in Groveland, Robb brings a positive and engaging teaching style to his workshops.

Los Angeles Aqueduct Tour

July 9
Greg Reis
$90 per person / $80 for members

The Mono Basin extension of the Los Angeles Aqueduct began transporting water 350 miles south to the City of LA in 1941. Visit all the major aqueduct facilities in the Mono Basin and learn about the aqueduct's effects on Mono Lake, its tributary streams, the Upper Owens River, and land management in the area. The group will discuss the history of water diversions, the effort to save Mono Lake, and the future of habitat restoration. Greg Reis is the Committee's Information Specialist and the perfect guide for unraveling the Mono Basin's complex and fascinating plumbing—he has over 15 years of experience in Mono Basin hydrology and restoration and he keeps close track of Mono Basin water management.


ARYA DEGENHARDT

A flock of Wilson's Phalaropes takes wing near County Park.

Summer Birds of the Mono Basin

July 15–17
David Wimpfheimer
$150 per person / $135 for members

This field seminar will concentrate on the identification and ecology of birds that breed in the Mono Basin and others that migrate by Mono Lake during the summer. In sagebrush meadows and riparian and montane forests, the class will explore a number of sites, mixing short leisurely walks with periods of observation and natural history discussion. Woodpeckers, corvids, flycatchers, warblers, and other passerines display varied behaviors, but a major focus will be Mono Lake and other special wetlands. David Wimpfheimer has been educating and interpreting birds and the natural history of California for over 20 years. His seasoned focus and knowledge always make for enjoyable and educational outings!

monolake.org/seminars or (760) 647-6595 to register

Digital Photography Basics

July 22–24
David Gubernick
$225 per person / $200 for members
$10 materials fee
limited to 12 participants

This workshop is designed to demystify the technical terms and functions of your digital SLR camera and enhance your picture-taking abilities in a warm and supportive learning environment. Learn how to get good exposures, read your histogram, understand different f-stops, shutter speeds, shooting modes, ISO settings, depth-of-field, white balance, lens choices, and much more. In addition to mastering the technical aspects of creating images, we will explore the artistry of photography with an emphasis on composition. Through guided practice sessions, field trips in the Mono Basin, coaching in the field, and review of images, you will learn to create better images with visual impact. Participants must bring digital SLR cameras; no point-and-shoot cameras.

Capturing the Mono Basin in Pastel

July 29–31
Ane Carla Rovetta
$160 per person / $145 for members
$30 materials fee
limited to 12 participants

The sparkling light and radiant skies of the Mono Basin are pure inspiration. Add a set of brilliant pastel chalks and your own unique imagination, and you have an incredible weekend of color exploration and art. Landscape painter Ane Carla Rovetta is known for her realistic depiction of our golden western lands. She will guide students through a value system she modeled after Ansel Adams' work that will help organize the overwhelming hues of the summer terrain. Each participant will go home with at least one small finished painting and several sketches, color studies, and value experiments that will fuel future artistic endeavors. Ane Carla can provide you with your own set of 72 pastel chalks; *you must reserve your set when you sign up for the class.*

ELIN LJUNG

Ane Carla Rovetta paints the view along the Lee Vining Creek Trail.

Introduction to High Country Plants & Habitats

August 5–7
Ann Howald
$150 per person / $135 for members

This class will explore the mosaic of habitats found in the Eastern Sierra high country—flower-filled meadows fed by meandering streams, sagebrush-covered slopes, lodgepole pine forests, subalpine lakes bordered by willows, and flowery rock gardens. Sight identification of common trees, shrubs, and wildflowers will be emphasized, as well as the many ways that plants, birds, insects, and other wildlife interact in high country habitats. Ann Howald is a consulting botanist and volunteer for the California Native Plant Society. She has taught popular Committee field seminars for over ten years.

ELIN LJUNG

Kayaking on Mono Lake offers a unique way to see flocks of birds, freshwater springs, and the lake's iconic tufa towers.

monolake.org/seminars or (760) 647-6595 to register

Birding the Migration: Mono Basin & Long Valley

August 6–7
Dave Shuford
$140 per person / $125 for members

The east slope of the Sierra Nevada is a major migration route for birds traveling from northern nesting areas to warm southern habitats. As a result, late summer is the time of year to see the greatest diversity of landbirds, shorebirds, and waterbirds in the Mono Basin and on Crowley Lake Reservoir. Dave Shuford has been a staff biologist at PRBO Conservation Science for over 30 years. He has conducted numerous surveys and research projects in the Mono Basin and beyond and is well acquainted with where to find birds in the Eastern Sierra.

The Artist's Book & the Great Outdoors

August 12–14
Camden Richards
$160 per person / $145 for members
$150 materials fee
limited to 8 participants

With stunning Mono Lake as a backdrop and natural resource inspiration, artists of all skill levels will gain an understanding about artists' books by creating their own. Participants will make handmade paper utilizing natural fibers from the Mono Basin, and will develop book content through merging of various fine art media, natural elements, and simple printmaking techniques. We will also explore various book structure techniques, with the goal being to combine material and content into a bound format. Instructor Camden Richards is a book artist, graphic designer, and teacher.

ELIN LJUNG

A California Gull along Mono Lake's north shore.

Identifying High Country Wildflowers

August 20–22
Mark Bagley
$150 per person / $135 for members

At the headwaters of Lee Vining Creek amidst a rich summer display of wildflowers, shrubs, and trees, this class will identify a great diversity of plants using Norman Weeden's *A Sierra Nevada Flora*. This seminar will start with a lecture and hands-on session to introduce the basics of plant identification for beginners. The group will then move to the field for easily-paced short walks at high elevations with much more time stopping and keying out plants than walking. This seminar is suitable for beginners or those with some experience with keying. Mark Bagley is a consulting botanist in the Eastern Sierra and Mojave Desert who has been leading field seminars in the Mono Basin since 1988. He is well known among past seminar participants for his easy-going pace and engaging teaching style in the field.

ELIN LJUNG

The Mono Basin is full of insect-plant interactions each summer.

Miwok-Paiute Basketry

August 26–28
Lucy Parker & Julia Parker
$185 per person / $170 for members
$80 materials fee
primitive group campsite included (no pets, please)

During this seminar, participants will prepare materials and create a Miwok-Paiute burden basket—used for gathering pinenuts, acorns, and berries. This seminar is designed for weavers of all levels. Participants are encouraged (but not required) to camp with the group, and evenings will be spent around the campfire with traditional songs and stories. Lucy Parker is a descendent of the Yosemite Miwok, Mono Lake Kutzadika[a], and Kayasha Pomo peoples. She learned traditional handiwork from her mother Julia, a master basket weaver. Julia Parker has dedicated her life to learning and teaching basketry and is the only weaver still practicing who was taught by women who wove in the early 20th century.

monolake.org/seminars or (760) 647-6595 to register

Living on the Edge: Sierra Nevada Bighorn Sheep in the Mono Basin

September 10–11
John Wehausen
$165 per person / $150 for members

The US Fish & Wildlife Service listed the Sierra Nevada bighorn sheep as Federally Endangered in 2000. This field seminar will involve discussions of the fascinating biology of bighorn sheep, their relationship with other mammals (including mountain lions and humans), and their conservation in the field. Past participants saw bighorn 12 out of the last 13 years—while there is a very good chance of seeing bighorn sheep in the wild during this seminar, there is no guarantee. John Wehausen is a research scientist at the White Mountain Research Station in Bishop who has been studying the Sierra Nevada bighorn and working for their conservation since 1974. *Please be aware that this seminar involves very strenuous hiking at the 10,000-foot elevation and above.*

Birding the Migration: Mono Basin & Bridgeport Valley

September 17–18
Dave Shuford
$140 per person / $125 for members

The east slope of the Sierra Nevada is a major migration route for birds traveling from northern nesting areas to warm southern habitats. As a result, autumn is the time of year to see late fall migrants and early arriving wintering birds in the Mono Basin and Bridgeport Valley. Dave Shuford has been a staff biologist at PRBO Conservation Science for over 30 years. He has conducted numerous surveys and research projects in the Mono Basin and beyond and is well acquainted with where to find birds in the Eastern Sierra.

Visions of the Past: Bodie, Masonic, Aurora

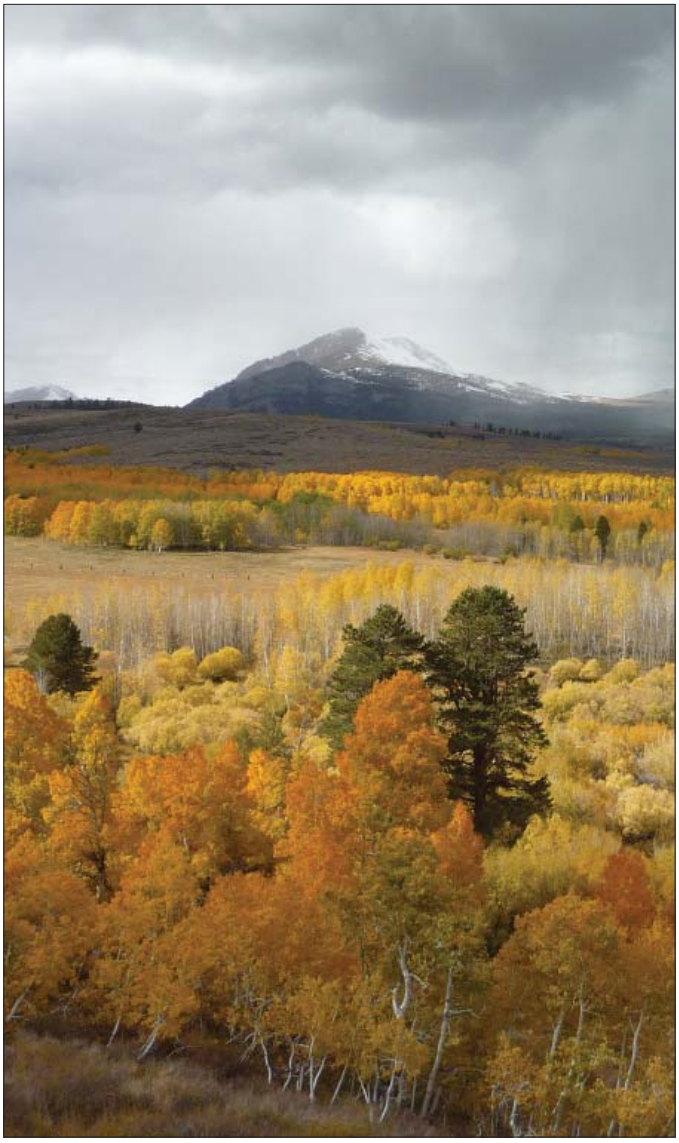
September 17–18
Terri Geissinger
$140 per person / $125 for members

In the Bodie Hills, all within 20 miles of each other, lie three ghost towns full of stories of pioneer families, prospectors, muleskinners, heroes, and gunslingers. This guided tour will visit the town and the cemetery of Bodie, once the second largest city in California. Next, visit the rock cabins and foundations of Masonic, where 500 people resided in a beautiful canyon—mining gold with great hope and eventually producing considerable wealth. The last stop is Aurora, once a bustling town of 8,000 souls in the 1860s. Your leader Terri Geissinger is a Bodie State Historic Park interpreter and guide. She is active in the Mono Basin Historical Society, and has a talent for making history come alive.

Photography at Burger's Sierra Retreat

September 30–October 2
Elizabeth Kenneday-Corathers
$300 per person / $285 for members
accommodations & meals included

This field seminar will explore photography of the beautiful aspen groves and alpine landscapes above Mono Lake. Practical topics include landscape representation, macrophotography of wildflowers and other flora, painting with light, night photography, and time studies, as well as philosophical and ethical issues in photographing the natural



BARTSHÉ MILLER

Golden aspens blanket the slopes of Conway Summit each fall.

monolake.org/seminars or (760) 647-6595 to register

environment. Accommodations will be provided at the rustic and comfortable Burger's Sierra Retreat above Lee Vining, with all meals catered by Linda Dore Food Service. Photographers of all skill levels using either film or digital cameras are welcome. Elizabeth Kenneday-Corathers is an accomplished local photographer who is currently working on a photography book of the Mono Basin.

Mono Basin & Bodie Fall Photography

October 7–9
Richard Knepp
$300 per person / $285 for members

Autumn in the Mono Basin is one of the greatest photographic experiences in the country. Spectacular foliage and skies combine with exceptional light, presenting ample subject matter for photographers in both color and black-and-white. And, for the seventh year, the class will spend Saturday at Bodie, inside some of the buildings—a very special treat. Join accomplished photographer Richard Knepp to explore varied shoreline locations at sunrise and sunset, fall color in nearby canyons, and the ghost town of Bodie. Photographers of all levels are welcome; a fully adjustable camera of any size or format is suggested. This is the 17th year in a row of this popular seminar.

PHOTO COURTESY OF GREG LUGO

Bodie's buildings, frozen in time, offer haunting glimpses into the past.

Field Seminar Registration Information

To register for a field seminar, please call the Mono Lake Committee at (760) 647-6595 and ask for the seminar desk, or register online at *monolake.org/seminars*.

More extensive seminar descriptions are available online at *monolake.org/seminars*.

We accept VISA, MasterCard, and Discover only. We cannot accept personal checks or registration by mail or email. Seminars are limited to fifteen participants except where noted. If a seminar receives less than six participants (with some exceptions) the seminar will be cancelled two weeks in advance, and full refunds will be issued. If you cancel three weeks prior to the seminar start date, we will refund your payment (less a $15 processing fee). No refunds can be issued for any reason if cancellation is within three weeks of the field seminar date, but tuition can be applied to another seminar in 2011.

Participants must sign a liability release form. All seminars operate under permits from the Inyo National Forest and California State Park system.

The Mono Lake Committee works with instructors and field leaders who have received high ratings from past seminar participants. We emphasize a spirit of learning and camaraderie in this magnificent outdoor setting for a reasonable cost. Proceeds from Mono Lake Committee Field Seminars benefit research and education in the Mono Basin.

Mono Lake Committee Field Seminars are open to everyone, but Mono Lake Committee members get advance notice and class discounts. If you are not a current member of the Mono Lake Committee, you may receive the discount by joining when you register.

Tioga Pass Run: 30 years and counting

by Morgan Lindsay

The popular Tioga Pass Run reached new heights last September with over 100 runners participating in the 30th annual run—more than double the previous year's attendance. The challenging course climbs 3,163 feet over 12.4 miles, from the Mono Lake Committee in Lee Vining to the Yosemite entrance station at Tioga Pass.

PHOTO COURTESY OF RICHARD ERB

Olympic marathon runner Ryan Hall strides past Ellery Lake on his way to a 1:20:57 time in the 2010 Tioga Pass Run.

Congratulations to Olympic marathoner Ryan Hall, who beat the previous course record for fastest time by more than ten minutes.

The run is a perfect opportunity for athletes to enjoy the Mono Lake area and at the same time support its restoration and protection—in 2010 the Tioga Pass Run raised $3,000 for the Mono Lake Committee.

Many thanks

Thank you to Ken Corathers, Run Director, for his tireless efforts to make the run a success, and to Elizabeth Kenneday-Corathers for her expert poster design and volunteer coordination. Many thanks to Sergeants Mike O'Sullivan and Reggie Whitehead of California Highway Patrol, Kevin McBride and Kevin Smith of Mono County Paramedics, the Lee Vining Volunteer Fire Department, and the Lee Vining Catholic Church. Special thanks also to race day volunteers from near and far: Jill Adams, Kim Burtnyk, Kathy Duvall, Judy & Dick Erb, Laurie Gehrman, Connie Henderson, Cheryl James, Kathie Kinzie, Dave Marquart, Raja Mikalonis, and Bill Taylor.

Thank you to the following businesses for their generous and invaluable support in sponsoring the Tioga Pass Run: The Tioga Pass Resort and Crank Sports. In Lee Vining, special thanks go to Tioga Toomey's Whoa Nellie Deli, El Mono Motel & Latte Da Coffee Café, and the Mono Market. In June Lake we thank Horseshoe Canyon Gallery, Doug Nidever—The Mountain Guide, and the Double Eagle Resort & Spa. In Mammoth Lakes, thank you to Footloose Sports, State Farm Agent Linda Wright, Mammoth Mountaineering, Mammoth Hospital, and Mammoth Pet Shop. In Bishop, we thank Sage to Summit and Alex Printing. ❖

Save the date:
Tioga Pass Run
Sunday, September 11, 2011
tiogapassrun.com

Grant spill from page 7

updates on The Mono-logue at *monolake.org*.

It's important to note that under State Water Board Decision 1631 the total water export allowed for DWP is 16,000 AF per runoff year. Assuming that DWP exports the planned amount this year (22,000 AF), then only 10,000 AF would be available for next year's exports, and the two-year average will be in compliance with the requirement.

Flexible operations could benefit streams and DWP

In the history of Mono Basin stream restoration, operating outside the discrete water export parameters set by the State Water Board has never happened until now. In fact, DWP usually attempts to export a constant flow to ensure that it receives its full export allocation. Moving forward with improving the current infrastructure and implementing the new prescribed streamflows, this "adaptive export strategy" might come into play in reaching our desired restoration goals while still meeting State Water Board requirements. ❖

Lisa Cutting is the Committee's Eastern Sierra Policy Director. As the days start to lengthen there is more time to daydream of all things related to trout and fly fishing—stream health, alpine lakes, and delectable flies.

Staff migrations

by Erika Obedzinski

When the snow started to fly, we bid farewell to two dedicated Outdoor Experiences (OE) seasonal staff, who spent six months teaching over 200 youth about the source of their drinking water through outdoor activities in the Mono Basin. OE Instructor **Rosa Brey** is now on a ranch on Colorado's western slope where she is planning a nature center, constructing a mile-long nature trail, and developing an environmental education program for all ages and interests. Rosa keeps an eye on her favorite salty lake via the Mono Lake webcam and we know she'll be back often.

After several weeks exploring Greece and learning about olive farming, harvesting, and distribution, OE Lead Instructor **Michael Clausen** is now near the small village of Gualchos, Spain living at La Loma Viva farm. His current projects at the high-elevation permaculture farm include starting up a chicken run and planting a terrace full of vegetables. We wish both Rosa and Michael well in their new adventures.

Last summer Mono Lake Committee Board of Directors members **David Kanner** and **Brent Coeur-Barron** organized a ride tracing part of the historic Bike-A-Thon route. In August, three intrepid former Bike-A-Thoners took on the five-day, 120-mile ride from Lone Pine to Mono Lake. Congratulations to these hardy folks for bringing back the ride. And thank you to Mono Lake Committee members **Steve Schmidt & Brielle Johnck** for hosting a celebratory dinner for the riders at their home in Lee Vining. ❖

DAVID KANNER

Reunion Riders Stan Yurfest, Glenn Skinner, and Mono Lake Committee Board Member David Kanner on their way to Mono Lake.

Mono Lake Volunteer training starts in May

Lend a hand at Mono Lake! Meet visitors from all over the world and share your knowledge of the Eastern Sierra in the beautiful Mono Basin through the volunteer program.

The free Mono Lake Volunteer training class begins on May 25 and continues for three weeks on Wednesday and Thursday afternoons from 1:00–4:00PM. Training dates are: May 25–26, June 1–2, and 8–9.

Volunteers are required to attend the training classes and are asked to contribute eight hours per month in the summer roving at South Tufa or Panum Crater, staffing a bird watching station at the Mono Lake Tufa State Natural Reserve Boardwalk, or answering questions at the Scenic Area Visitor Center patio. If you are interested, please contact Rosanne Catron (*rose@monolake.org*) at (760) 647-6595.

MONO LAKE VOLUNTEER

ARYA DEGENHARDT

A Mono Lake Volunteer staffs a bird watching station at the Mono Lake Tufa State Natural Reserve Boardwalk.

ROSE CATRON

From the mailbag

News from members and friends

by Ellen King

Thank you to all of you who sent in contributions in memory or in honor of your friends and loved ones. We appreciate these gifts that help us carry on the work that will keep Mono Lake a special place for many generations.

In Honor

Angela Moskow of Albany sent a contribution in honor of **Peter Vorster**. **Carol Winter** of Iowa City, IA made a donation in honor of **Kirsten Winter & Charlie Van Tassel**.

In Memory

Cameron Ainsworth of Redwood City gave a gift in memory of **Paula Buickerood**. **LeeRoy & Carly Brock** of Point Reyes Station made a donation in memory of **Alice Boothe**. **Doug & Lee Buckmaster** of Santa Barbara sent a contribution in memory of **Micky Grout**. **Alex Fabbro** of Mammoth Lakes gave a gift in memory of her father **Robert Fabbro**. **Edith Gaines** of Los Angeles sent a donation in memory of her son **David Gaines'** birthday.

Patricia Greenhood of Los Altos made a contribution in memory of **Peg Hobson**. **Pat Griffin** of Taft gave a gift in memory of **Russ Groves**. **Helen Harrington** of Boise, ID made a donation in celebration of **Dorothy Harrington**. **Mary Elliott James** of San Simeon sent a contribution in memory of **Bryce Tingle**. **Colleen Julian** of San Jose gave a gift in memory of **Joseph Julian**.

Carol Mathews of Walnut Creek made donations in loving memory of **Robert Mathews**. **Ron Melin** of Torrance gave a gift in memory of **Howard Bridges**. **Norma Roper** of Norman, OK sent a contribution in memory of her cousin **Troy Bellomy**. **Ted & Sue Schroeder** of Reno, NV gave a gift in memory of **Pauline Aigner**— "she loved the people and water of the Eastern Sierra."

Douglas Smith of Santa Paula made a donation in memory of **Howard Hobson**. **Genny Smith** of Cupertino sent a contribution in memory of **Vern Judy**, father of Sally Gaines. **Terry & Ruth Wood** of Piñon Hills made a donation in memory of Ruth's father **Norman Cloys**. ❖

Ellen King is the Committee's Membership Coordinator. She is getting ready for spring training. Go Giants!

2010 Free Drawing winners

Congratulations to everyone who won prizes in the 2010 Free Drawing! Thank you to all of you who entered the drawing—your contributions support Mono Lake.

Mammoth Mountain adventure package: Earl & Anna Johnson of Los Altos. Wilson's Eastside Sports gear package: Deborah Landowne of San Rafael. Mono Basin boating vacation: Lynda Parker of El Dorado.

Rock 'n' roll rock climbing package: David Maurer of Somers, MT. Bay Area waves-to-wine weekend: David Ruderman of Sacramento. Yosemite splendor vacation: Charles Fisk of Spokane, WA. Yosemite field seminar trip: Alan Waldvogel of Encinitas. Hope Valley retreat: Robert Lea of Monterey.

Wave Rave snowboard: Susan Nickum of Lancaster. Patagonia jackets: Linda & Cameron Jacobi of Sonora and Mark Poteet of Santa Cruz. Jansport backpacks: Shirley Fuller of Tehachapi and Meyer & Doreen Luskin of Los Angeles. Mono Lake Committee shopping spree: Margaret Coakley of Cypress. Eastern Sierra theater package: John & Marilyn Shirey of Sacramento.

REI binoculars: George Winard of Sherman Oaks. Local and world music sets: Amy Isenhart of South Lake Tahoe, Irene Katzenstein of Ridgecrest, and CD Ritter of Mammoth Lakes. Mono Lake Committee gift packs: Gloria Ann Barke of Encino and Robert Leslie of Rancho Cordova.

Many thanks to our Free Drawing sponsors, who donated such wonderful prizes. We are so grateful for your support!

Music & Ecology Camp at Mono Lake

Explore Mono Lake through an independent camp for instrumentalists ages 12–18 from June 19–25, 2011 in the Mono Basin. Study ecology and natural history in the Mono Basin and Sierra Nevada while horseback riding, hiking, and boating on Mono Lake. Play instruments in coached chamber groups, private lessons, and classes. For more information visit *musicandecology.com* or contact Cole & Priscilla Hawkins at *phawkins@dcn.org*.

MONO LAKE
COMMITTEE
Highway 395 at Third Street
Post Office Box 29
Lee Vining, CA 93541

Nonprofit Organization
U.S. Postage
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Mono Lake Committee

the 10th Annual

Mono Basin Bird Chautauqua

June 17–19, 2011

registration opens

Friday, April 15

at birdchautauqua.org

join us for the

Andrea Lawrence Award Dinner

Friday, April 29

at 6:00PM

Main Lodge
Mammoth Mountain

RSVP by April 1: (760) 647-6595

Volunteer at Mono Lake!

Help make a difference for Mono Lake in a hands-on way! Free volunteer training begins in late May.

Call
(760) 647-6595
for more
information.

MONO LAKE VOLUNTEER