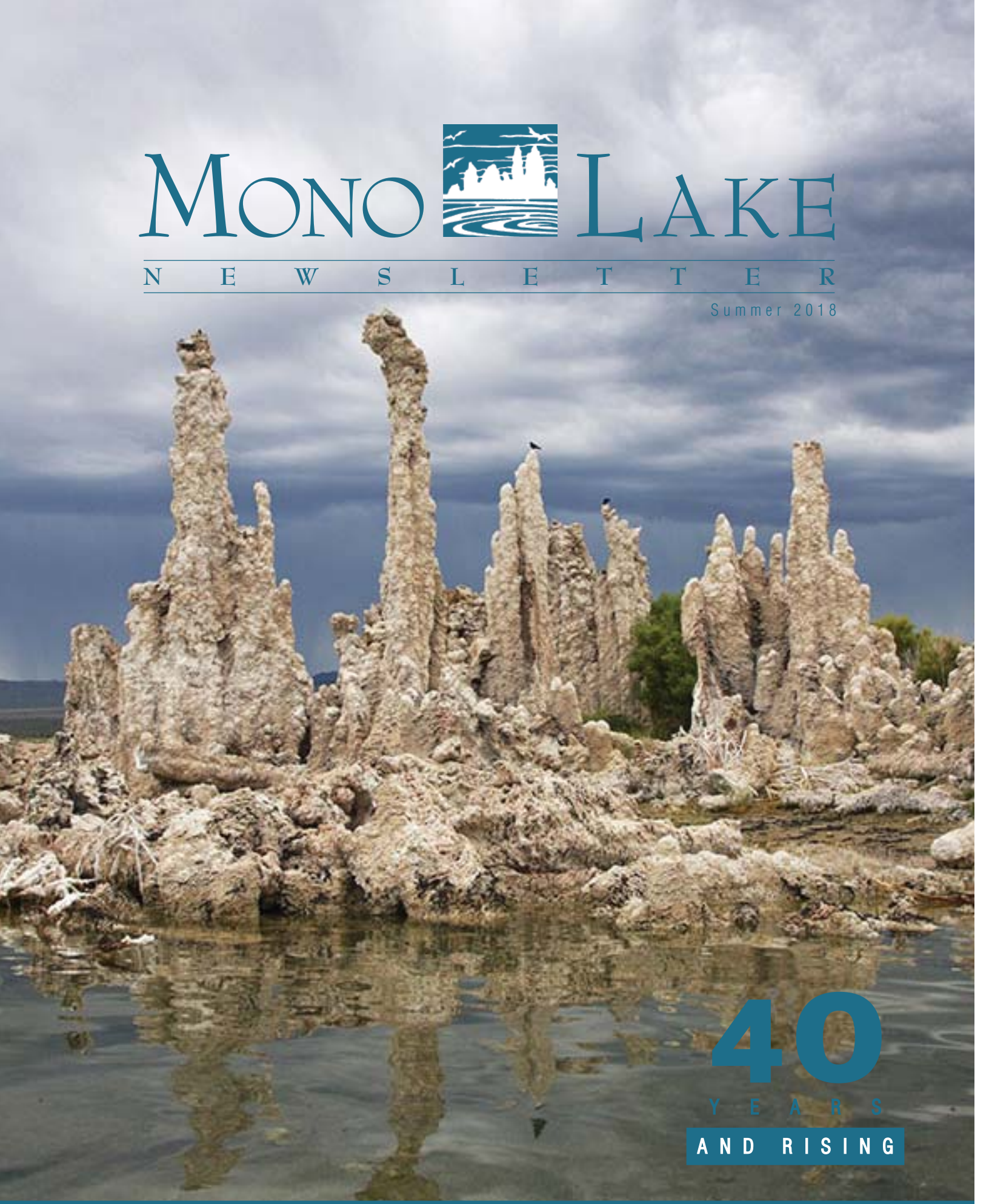
Mono Lake

Newsletter

Summer 2018



40 Years

And Rising

Future of Sierra Nevada Snow | Committee Turns 40 | Ensuring Export Accuracy | Mono Lake Map

It's the human condition to operate with one foot in the future and one in the past, right? Here at the Mono Lake Committee we are certainly human—building on the past, with eyes trained on the future.

This year—our 40th anniversary—invites a nod to the past. It's a chance to look back at the organization's strong foundation laid by good humans like Sally Gaines, the late Genny Smith, and so many others who set us on the course that led to landmark successes that continue to protect the Mono Basin today.

This *Newsletter* is a snapshot of what we're doing right now for Mono Lake. We're squeezing a record number of groups into this year's Outdoor Education Center season. We're determining the kind of restoration flows the streams should receive based on snowpack and runoff data. We're bringing 11 seasonal staff to the basin for a summer of hard work and great fun teaching visitors about this amazing place. We're clearing up mysterious cables and a washed-out trail along Lee Vining Creek. We're pulling invasive plants to help Mill Creek. We're checking and rechecking DWP's exports as that water leaves the basin.

The whole point? The future. Geoff's discussion with Dr. Alex Hall is about envisioning the future, and how we can shape the best one possible. We know this summer's OEC students will be the next water leaders in Los Angeles. We see Mill Creek's future healthy bottomlands full of native plants. We will work for 41 years and rising, 45 years and rising, 60 years, more...

With all this reflection, work, and planning for the future, it's a good thing we have Mono Lake just outside the office door. All it takes is a few minutes down at the lakeshore with the sound of lapping waves, the wind in the grasses, and the distant cries of gulls to pull you here—*right* here—into the present. This wild and vast inland sea helps us to reach the ideal human condition—present, grounded, recharged—so we can keep on working for that future.

—Elin Ljung, Communications Coordinator

COVER PHOTO BY ARYA HARP

ANDREW YOUSSEF

During a hike up Lundy Canyon after early April's warm rain event, Robbie and Lily found a rubber boa in the middle of a small rivulet flowing across the trail. These gentle snakes hibernate in underground dens in winter—perhaps this boa had just emerged for the season.

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.

Mono Lake Office
Information Center & Bookstore
Highway 395 at Third Street
Post Office Box 29
Lee Vining, California 93541
(760) 647-6595

info@monolake.org • monolake.org

Los Angeles Office
1718 Wellesley Avenue
Los Angeles, California 90025-3634

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The future of Sierra Nevada snow

Dr. Alex Hall on the climate future of the Sierra

interview by Geoffrey McQuilkin

What will happen to the Sierra Nevada's snowpack as climate change impacts accumulate through the 21st century? This question is vital to both the ecological health of the Range of Light and to water delivery systems throughout California. And, it matters a great deal to Mono Lake and its many miles of tributary streams, which depend on Sierra runoff for their vitality.

Forecasts of the future rely on complex climate modeling, and I talked with Dr. Alex Hall, Professor of Atmospheric & Oceanic Sciences at UCLA, about the work he and his team have been conducting to produce actionable climate science. Dr. Hall heads the Center for Climate Science, where they have developed cutting-edge downscaling techniques to create geographically detailed climate projections for the Los Angeles area and the Sierra Nevada.

Geoff: Thanks for taking time to talk, Alex. You have just released a major report, *Climate Change in the Sierra Nevada: California's Water Future*. What are the big takeaway messages?

Alex: Temperatures across the Sierra Nevada are warming. The snowpack is melting earlier, and increasingly, winter precipitation doesn't arrive as snow in the first place. There's already a detectable signal in snowpack loss in the Sierra due to anthropogenic climate change—due to human-caused warming. That trend is likely to accelerate in the coming decades so that by the end of the century, if we don't do anything to reduce carbon emissions globally, we really will see a pretty dramatic loss of snowpack by the end of the snow season. There will only be about a third left compared to the end of the 20th century.

It's a significant loss and it has all kinds of cascading consequences for water resources, such as changes in runoff timing and more flashiness in stream and river flows, making it harder to capture and store water with current infrastructure. And there are a lot of follow-on impacts to the ecology and wildlife of the Sierra Nevada too.

GM: I was struck by your team's ability to look back at the recent drought and calculate what part of those years of miserably low snowpack was due to climate change.

AH: There's a lot of emerging knowledge about detection of climate change signals and attribution of signals to climate change. Part of the reason that the science is becoming so much stronger is because the signals are becoming so much bigger. In the case of the snowpack, 15–25% of the spring snowpack is already missing due to climate change. It's a big effect. It is important to be able to sharpen up our statements about what role climate change is playing in the signals we are seeing, the extreme events we are seeing, and that's the work we are trying to advance at UCLA.

GM: So the basic equation here is that climate change brings warmer temperatures, and that causes both less precipitation to fall as snow and also earlier melting of the snow that does arrive, correct?

AH: That is the situation. By the end of the century, if there is no change to emissions, the snowpack shrinks to about a third of what it has historically

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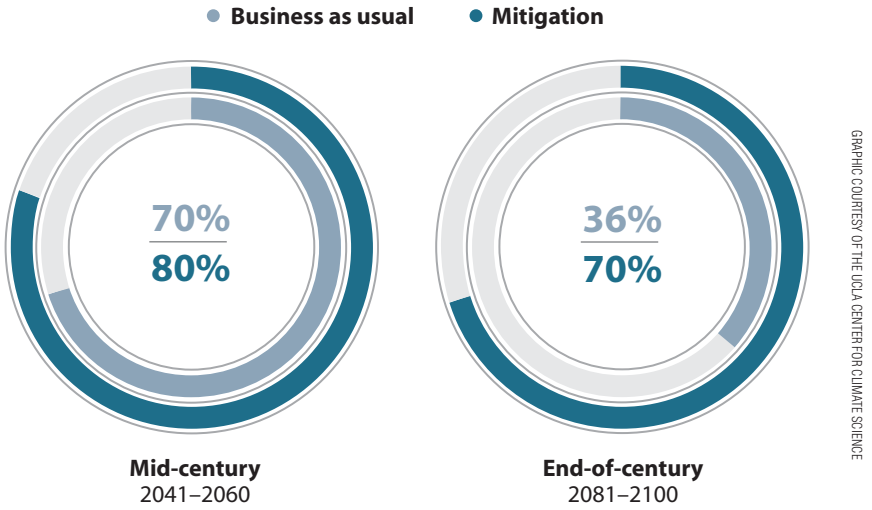
Sierra Nevada snowpack depletion scenarios, mid- and end-of-century

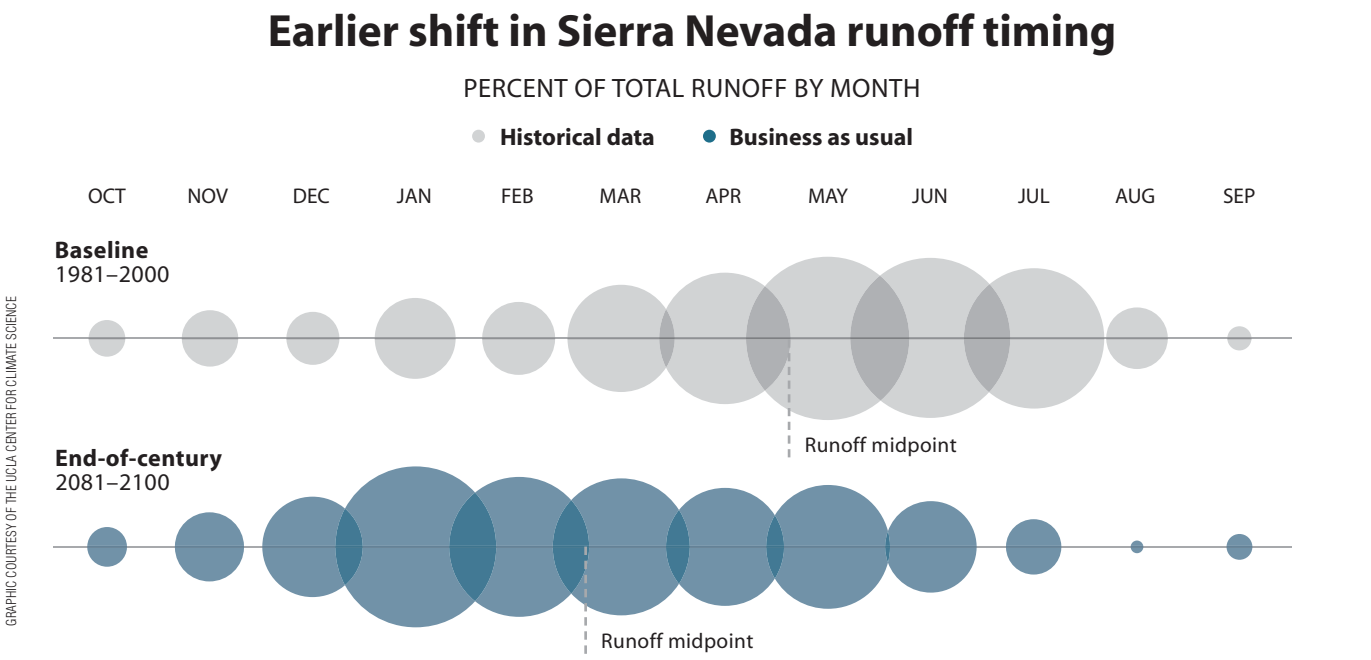
PERCENT OF SNOW VOLUME REMAINING



GRAPHIC COURTESY OF THE UCLA CENTER FOR CLIMATE SCIENCE

This figure shows baseline volume of Sierra Nevada snowpack against business as usual and mitigation (global carbon emission reduction) scenarios for both the middle and end of this century. Global carbon emission reduction and mitigation efforts would have a significant effect on the percent of remaining snow volume in the Sierra in the future. For more, and to read the full Climate Change in the Sierra Nevada: California's Water Future *report, visit* bit.ly/uclaclimatereport.

Sierra Nevada snow from page 3



In this figure, circle size represents the percentage of total annual surface water runoff occurring each month in an average year in the Sierra. In the business as usual scenario, the midpoint of total runoff shifts about 50 days earlier in the year as we move toward the end of the century.

been. However, if we get our emissions under control, snowpack will be at two thirds of what it was. So there's a big benefit of global carbon emissions reduction to California, which is that we retain an extra third of our natural water storage in the Sierra. By mid-century, no matter what pathway we are on, snow continues to decline because there is so much climate change baked into the system. That means there is a need for planning, for thought to be given to how to manage water needs and water systems.

GM: Here at Mono Lake we think a lot about what a climate-impacted future means for the level of the lake and the many linked ecological systems. Your report is interesting because the forecast is for about the same amount of total precipitation, meaning rain and snow combined, in the future.

AH: It turns out that the real story in terms of overall precipitation is not the change in the mean, because it does seem that the best answer we have is that there will be very little change to mean precipitation. But California is a land of extreme variability, and the stable average forecast shouldn't be allowed to hide the much more complicated story, which is about really big increases in extremes.

In a separate paper we found that there will be large increases in the number of wet years, like the 2016–17 wet year, and we found a very significant return period for that type of year. Likewise, drought years return more quickly, especially the further south you go in California. So you add those together and the mean doesn't change much—but if you are dealing with rapid switching between really wet years and really dry ones it exacerbates the challenges for water management around the state. For example, from the perspective of a utility, the Los Angeles Department of Water & Power had to deal with the recent really wet year that far exceeded the capacity of the aqueduct system.

GM: This suggests that our top Mono Basin climate challenge may not be lake level but instead habitats and wildlife affected by increased extremes and variability.

AH: We didn't study Mono Lake dynamics specifically, but it seems the big thing to look at is the certain change to the character of the flows into the lake. The habitats these flows support will see significant changes. We found that by the end of the century, under the business as usual emission scenario, there's an advance in runoff timing of about two months. It varies by watershed but the loss in snowpack causes the runoff to occur much earlier and to be a lot flashier.

GM: That's a huge shift in snowmelt runoff timing and well outside what stream and forest habitats are built on. Earlier and flashier runoff—what does flashier mean?

AH: If you imagine a precipitation event that dumps a lot of rain instead of snow, it produces a runoff event very quickly in the streams of a watershed. For example, in 2016–17 the events that caused the spillway damage at the Oroville Dam were associated with a warm precipitation event, which is the kind of thing we project will become much more common. In contrast, when precipitation falls as snow it is likely to melt off a lot more gradually, making for a regular and predictable pulse of

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Aqueduct retrofit ensures export accuracy

Mono Lake Committee advocacy produces results

by Geoffrey McQuilkin

One thing the Mono Lake Committee and the Los Angeles Department of Water & Power (DWP) can agree on is that accurate measurement of water exported from the Mono Basin is important. One might assume that measuring water sent out of the Mono Basin through the Los Angeles Aqueduct would be fairly straightforward, but due to infrastructure complexities, DWP has historically used a calculation to derive the export amount.

Getting from calculation to measurement

To understand why DWP couldn't simply measure its allowed export, one needs to understand how water leaves the Mono Basin. Water destined for Los Angeles leaves Grant Lake Reservoir in a concrete aqueduct, passes a release point to Rush Creek, and runs under Highway 395. It then enters an impressively long tunnel bored beneath the volcanic Mono Craters—ultimately exiting the tunnel at a location known as East Portal. Export measurements have long been made at East Portal using a flume, and are fairly precise; however, the amount of water that emerges at East Portal is not the same as the amount that departed from Grant Lake Reservoir. At East Portal there is more water due to "tunnel make," which is groundwater that the Mono Craters tunnel, like a well, has captured along its 11-mile-long path.

Because East Portal has historically been the point of measurement for aqueduct exports, an equation has been used to account for the groundwater inflow:

East Portal flow – tunnel make = Mono Basin export

Such calculations are not unusual in water management, but the Committee's concern has been that the value being used for tunnel make in this equation was too high, making the calculated Mono Basin export value artificially low.

The formula used to get the tunnel make number

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GREG REIS

Aqueduct improvements in 2009, shown here, added equipment to directly measure water exports, but the system was unreliable until recent repairs, thanks to the Committee's persistence.

DWP to deliver materials to advance water license revision

by Geoffrey McQuilkin

Implementation of the five-year-old, legally-binding Mono Basin Stream Restoration Agreement is waiting on just one thing: a supporting environmental document to go to the California State Water Resources Control Board. DWP is responsible for preparing this document and has committed to producing materials shortly after this *Newsletter* goes to press.

Once DWP delivers, the State Water Board can proceed with the official revision of Los Angeles' license to divert water from the Mono Basin. The process of revising a water license of this magnitude has been as arduous as one might imagine—and has taken notably longer than expected, even with the Committee's diligent work moving it to finalization.

When finalized, the new license will put into action new provisions that come from scientific analysis of the restoration to date. This will accelerate restoration of the health of Rush, Lee Vining, Parker, and Walker creeks after the damage of decades of excessive water diversions. Some benefits, like winter flow schedules beneficial to trout, spring peak flows important to Lee Vining Creek habitat, and a new approach to management of scientific monitoring, will commence immediately. Others require the license to be issued before anything can happen—most notably, the high flows slated for Rush Creek that require construction of a new Grant Lake Reservoir outlet.

A public comment period will be a critical part of the license revision process and we will alert Mono Lake Committee members when it begins. Please be sure we have your correct email address for notification: *monolake.org/action*.

Evidence of high flows persists on Mill Creek

Restoration potential reaffirmed

by Lisa Cutting

Almost a year after the epic 2017 winter and resulting record Mono Basin runoff, positive effects from the high flows can still be seen on all of Mono Lake's tributary streams—including, notably, the beleaguered floodplain of the Mill Creek bottomlands.

Last summer, long-dry side channels in the bottomlands carried water when Lundy Lake Reservoir spilled for almost the entire summer. Some of these rewatered channels are *still* flowing despite low-flow early springtime conditions, and evidence of lasting restoration benefits is abundant. Back eddies and ponded areas well away from flowing channels continue to hold water. Below the surface, recharged groundwater is once again available for vegetation, and fine sediment deposited across floodplain cobble is primed for new seedlings to grow. All of this is a glimpse into Mill Creek's bright future.

Restoration vision

As Mono Lake's third-largest tributary, Mill Creek should carry a significant amount of water, but hasn't for over a century. Most Mill Creek water is diverted for hydropower generation and, due to infrastructure limitations, is not returned to the creek as it should be. The resulting lack of water has caused vegetation, including stands of large cottonwoods, to die, and has degraded habitat essential for migratory songbirds, trout, and other wildlife. Overall, Mill Creek gets the short end of the stick and is barely hanging on.

The Mono Lake Committee is working to change this situation and has long held that Mill Creek has the greatest restoration potential of any stream in the Mono Basin. Because most of the stream was never completely dewatered, the damaged area is primarily the stream's lower section closest to Mono Lake. The Committee's goal is to increase Mill Creek flows by managing water upstream in a manner consistent with long-established water rights. The next step is to mimic the seasonal pattern of the natural hydrograph in order to activate natural stream restoration processes. As we have seen with other Mono Lake tributaries, providing water and flows following the natural hydrograph goes a long way to restoring the form and function necessary for healthy habitat.

ELIN LJUNG

During last year's record runoff, long-dry side channels in the Mill Creek bottomlands carried water; some of the rewatered channels were still flowing this spring.

Removing invasive plants in the meantime

Streams that do not receive natural flows are vulnerable to non-native plant invasion because invasive plants establish quickly and out-compete native plants for water and space. The Committee has seen this happen on both Lee Vining and Rush creeks, and has been proactively removing invasive plants in the lower reaches of Mill Creek for over a decade, educating and engaging volunteers and school groups in the process.

The most predominant invasive species on Mill Creek is white sweet clover (*Melilotus albus*). Sweet clover is especially problematic because the mature plants are tall (3–5 feet), and its

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Lee Vining Rockfall Safety Project

Revegetation program growing strong

by Lisa Cutting

People driving along the west shore of Mono Lake past the rockfall slopes covered with anchored mesh may think that the project is complete. But Caltrans' Lee Vining Rockfall Safety Project is actually comprised of two key components—the rockfall prevention project that wrapped up in 2016, and the Plant Establishment Program (PEP) to further stabilize the slopes and reduce visual impacts with native plant growth.

Unique place, unique approach

Because the project area is along a narrow stretch of Highway 395 north of Lee Vining and adjacent to the sensitive Mono Lake shoreline, Caltrans and the Mono Lake Committee agreed early on to a creative solution that balances the need for immediate slope stabilization with the long-term goal of reestablishing native vegetation in the area. From the beginning, the Committee saw this project as an opportunity to permanently fix road cut scars from the past.

Restoring vegetation in the project area is especially challenging because of the steep slopes and soil made up of ancient Mono Lake sediments. Caltrans and vegetation experts worked to identify and test the right blend of soil nutrients and native seeds most appropriate for the slopes. Native sagebrush, bitterbrush, Great Basin wild rye, squirreltail, and wax currant were originally selected and subsequently, mountain brome was added based on a recommendation from the consulting vegetation expert. The seeds were covered with locally-sourced pine needle mulch, which sticks to steep slopes and slowly releases nutrients into the soil, giving the seeds the best chance to germinate.

Remedial action part of the process

The PEP is a five-year project with pre-identified check-in points to make sure plant density, species diversity, and survival rates are on track. If the PEP goals are not being met, then remedial action is required. This was the case last October when monitoring results indicated that two of the more challenging slopes needed additional native seed and mulch. In a dramatic moment (for vegetation restoration), a climbing crew scaled the steep slopes to spread native seed by hand, and then, while they were still perched up there, a helicopter delivered bags of mulch for them to disperse over the seeds.

This innovative approach, and specifically the ability to do additional treatments when necessary, is something the Committee and Caltrans built into the project during the planning stages to ensure that the goals of slope stability and erosion control, soil rehabilitation, and the reestablishment of native plants are achieved.

GEOFF MCQUILKIN

Last fall Caltrans crews scaled the Rockfall Project slopes to spread more native seeds and then cover them with pine needle mulch, which was delivered by helicopter in large white bags.

Slow and steady progress

Each slope within the project area varies in steepness and substrate, and has challenges that require a unique remedy; for example, steep, rocky areas with protruding ice age tufa are not expected to have plant cover. Overall the project has been successful at reducing erosion, which also helps native plants reestablish. Great Basin wild rye and squirreltail are already broadly established while sagebrush, bitterbrush, and wax currant are growing more slowly.

After this summer the pipes currently used to irrigate the vegetation will be removed since watering requirements will have been met. Thankfully, the amount of precipitation Lee Vining has received over the past three years has helped the seedlings get a good start.

When the PEP ends in November 2021, Caltrans will submit a report with recommendations for additional work if necessary. In the meantime, the Committee is confident in the success of the project, and agrees with the test plot monitoring report that says, "The erosion control and revegetation approach taken in the Lee Vining Rockfall [Safety] Project is relatively unique and may be used as a model for other projects where actual outcomes are critical." ❖

A current look at the Mono Lake Committee

by Sally Gaines

ARYA HARP

Editor's note: To celebrate the Mono Lake Committee's 40th anniversary in the Newsletter*, Sally Gaines, co-founder and Board Chair, is writing a series of reflections on the past, present, and future of the organization.*

Today the Mono Lake Committee is widely respected as a model environmental group. I attribute this to an incredible staff, now numbering 15, as well as 11 seasonal staff, plus a cohesive Board of Directors. The policy issues grow ever more complex, and drag on for years, if not decades. The longevity of our staff means we are forever reeducating new bureaucratic staff we work with.

ARYA HARP

Several bequests have stabilized our financial picture, enabling us to improve the front of our headquarters, still and forever in Lee Vining. We continue to have excellent information for visitors, a fitting selection of books, clothing, and gifts, as well as staff offices in back. We are never changing our name either.

Scientific research continues; some is old: California Gulls, Eared Grebes, lake level, salinity, stream restoration. Newer topics include: Greater Sage Grouse, Willow Flycatchers, Ospreys, woodpeckers in burned forests, bacteria living on arsenic (well, maybe not), scuba-equipped alkali flies, Mars landing rovers practicing in the sand, and much more.

ANTONIA CHIHUAHUA

With in-kind donations, we have made modest improvements to the Mono Basin Outdoor Education Center, where underserved students from Los Angeles are introduced to dark skies, camping, and the Mono Lake ecosystem and watershed. The program is our answer to the question "where does my water come from?" in a way that inspires the next generation of water leaders.

BARTSHÉ MILLER

At our converted motel property in town, we offer basic housing for researchers doing the scientific studies that are the basis of our policy work, like extracting core samples of the sediments beneath Mono Lake.

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A current look from page 8

In the early years of the Committee we never imagined the scope of the issues Mono Lake faces today, with the exception of the need for a retrofit to the Grant Lake Reservoir dam to be able to restore Rush Creek. Years of negotiating with the Los Angeles Department of Water & Power (DWP) and years of studies on the streams (wisely mandated by the California State Water Resources Control Board) have put us on the precipice of retrofitting that critical piece of aqueduct infrastructure, and a whole new level of stream restoration it will enable.

ARYA HARP

Five years ago DWP signed on to the Mono Basin Stream Restoration Agreement, which includes a "hole in the dam" at Grant Lake Reservoir that will enable much-needed restoration benefits to Rush Creek.

This model of working with, instead of against, DWP toward solutions that balance multiple needs in any given situation, has proven to be the most effective way to work for Mono Lake. From stream restoration to subdivision proposals to highway projects to air quality issues to the effects of drought to State Park closures to recreational drones to threats to the public trust and on—we are here every day working with many agencies and organizations to look out for Mono Lake.

No longer just the young hippies invading town, the Committee is part of the community with staff owning houses, having kids in the schools, serving on the local volunteer fire department and Regional Planning Advisory Committee, coaching kids' sports teams, and offering college scholarships for Mono County high schoolers. Some of our staff are now onto a new phase of their life: retirement.

If you'd like to hear more from Sally, you can sign up to be a monthly donor—a Guardian of the Lake. Each month Sally writes a short letter with current Committee and Mono Basin news to all Guardians. Call Membership Coordinator Ellen King at (760) 647-6595 or go to *monolake.org/guardians* to sign up.

ROBBIE DI PAOLO

Keeping an eye on the Mono Basin means regular monitoring of lake level, streamflows, and water temperatures as well as documenting wildlife and changes at the shoreline and along tributary streams.

ANDREW YOUSSEF

The Committee's large volume of mail (transported back and forth to the office via little red wagon) in and out of the Lee Vining post office has probably helped it survive cutbacks. The ripples of Committee member dollars helping restore Mono Lake are felt in many ways in our little town, which is more vibrant than ever.

Computers, smartphones, etc. have revolutionized how we do things each day, but not the content or human aspect with our members. As the person who originally set up the membership system on Hollerith cards in a box, I have always felt that keeping people's contact information accurate is an important part of membership relations. Forty years later and 16,000 members strong, technological advances have made it possible to keep that human connection, and we can fix member records quickly in the office. If you call during business hours, you will get a real live person. We are here for you and of course, for Mono Lake. ❖

Policy notes

by Lisa Cutting, Geoffrey McQuilkin, & Bartshé Miller

Invasive weed burn delayed

A controlled burn on the California Gull nesting colony islets in Mono Lake initially planned for this past spring has been postponed until fall. Researchers discovered the invasive plant *Bassia hyssopifolia* on the islets several years ago, and last year documented its rapid spread and growth as an issue for the gulls who need open ground to nest (see Winter & Spring 2018 *Mono Lake Newsletter*).

Despite early coordination between the Mono Lake Committee, the researchers, and the Inyo National Forest, plans to do a burn on the islets this spring were ambitious. Many variables would have had to line up for a spring burn to come together: *Bassia* does not burn easily so dry weather conditions are critical; the gulls return to the islets in late March so all work would have to be completed before then; multiple boats were needed for crews and equipment; and burn plans and crews from the US Forest Service require time to prepare and schedule.

In the end, March came in like a lion—precipitation made the plants too damp to burn and wind made getting to the islets unsafe. Then the return of the gulls signaled that the narrow burn window had closed. Plans are underway for fall when burn conditions will likely be more favorable.

Lee Vining Creek's mysterious cable

The Lee Vining Creek cable "whodunit" mystery of last summer is partially solved after a site visit with Frontier Communications in April. Committee staff and the two relevant agency landowners—the US Forest Service and the Los Angeles Department of Water & Power (DWP)—met with a Frontier representative at the site of the curious cable to discuss details regarding not only the original cable strung haphazardly across the creek and trail but an additional, recently-installed, aerial cable spanning the same area.

Frontier explained that it had temporarily installed the cables after last summer's high streamflows damaged the fiber optic cable running under Lee Vining Creek. Once Frontier identifies the permanent cable route and method for installation (likely boring under Lee Vining Creek) the landowners will need to approve the plans. One thing is certain: in the end the cable will not be visible to people hiking on the popular Lee Vining Creek Trail.

ROBBIE DI PAOLO

At a meeting with Mono Lake Committee, US Forest Service, and DWP staff, Frontier Communications explained that two temporary cables will be removed after a permanent cable is reinstalled beneath Lee Vining Creek.

Lee Vining Creek Trail repair update

A washed-out section of the Lee Vining Creek Trail is proving to be more challenging to repair than originally anticipated. Although extensive evaluation work has been completed by multiple organizations, including the Committee, a final fix is still under development (see Fall 2017 *Mono Lake Newsletter*). The problem is a steep slope adjacent to the creek, which necessitated the original routing of the trail so close to the creek in the first place.

The Committee is working with trail experts to finalize the best route possible for a long-lasting solution given the terrain constraints. Since the trail is on DWP land, repair plans must be authorized. The trail was originally constructed in 1993 as a joint project of the town of Lee Vining, Mono Lake Committee, US Forest Service, and DWP so we are optimistic that the reconstruction work will go smoothly once plans are submitted.

New air quality monitoring station in Lee Vining

During last fall and winter, the Great Basin Unified Air Pollution Control District (Great Basin) constructed a new air quality monitoring station in Lee Vining. The station, located along the east side of Mattly Avenue, adjacent to the Lee Vining Community Center, replaces the previous station located in the Caltrans facility next to Highway 395 a few hundred feet to the west. The new station continues long-term air quality monitoring in Lee Vining and the Mono Basin. A chain link fence surrounds the shed-sized structure, and

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Watershed moments

news from the Mono Basin Outdoor Education Center

Water, and power

Since the OEC's 16 solar panels went online in April 2017, they have generated 9.27 megawatt hours of energy. That translates to an offset of 7,185 pounds of carbon, or the equivalent of 171 mature trees offsetting the OEC's energy demands for the year. Real-time solar data has become a great new part of the OEC curriculum—bringing to life lessons about resource use, the connections between water and power, and the real and measurable effects of our individual conservation practices.

MONO BASIN Outdoor Education Center

Our mission is to build understanding and appreciation for the Mono Basin/Los Angeles watershed through education programs and muscle-powered recreational activity; to demonstrate that balanced solutions are possible for meeting the water needs of people and the environment; and to kindle stewardship through service projects that restore and improve the quality of the Mono Basin watershed.

monolake.org/education
facebook.com/mono.oec

Record-breaking 28 groups in 2018

Twenty-eight groups are coming to the Mono Basin Outdoor Education Center this year. They will learn about the Mono Basin/Los Angeles watershed and balanced solutions that meet the water needs of people and the environment through 3–5 day education programs, muscle-powered outdoor activities, and stewardship projects that help restore the Mono Basin watershed. We are so proud to work (and play) with all these great groups.

- **Asian American Drug Abuse Program/Olympia Academy**, City of Los Angeles Council District 4
- **Asian American Drug Abuse Program/Youth Family Program**, Council District 8
- **Bijou Community School**, South Lake Tahoe
- **California State University Northridge Chicano Studies faculty/staff**, San Fernando Valley
- **Casa Esperanza**, Council District 6
- **Communities for a Better Environment**, Huntington Park (2 groups)
- **Crown Preparatory Academy**, Council District 10
- **Dorsey High School Alumni**, Council District 10
- **East Los Angeles Performing Arts Magnet School**, East Los Angeles
- **East Yard Communities for Environmental Justice**, City of Commerce
- **Generation Green/Semillas High School**, Council District 14 (2 groups)
- **Girl Scout Troop #7911**, Temple City
- **Homegirl & Homeboy Scholars of Santa Monica College**, Santa Monica
- **John C. Fremont High School**, Council District 9
- **LA WYLD/Carver Middle School**, Council District 9 (2 groups)
- **Lincoln High School, Environmental & Social Academy**, Council District 1
- **Los Angeles Conservation Corps, College Bridge Academy**, Compton
- **Outward Bound Adventures**, Council District 14
- **Port of Los Angeles High School**, Council District 15
- **Renaissance International School**, Oakland (2 groups)
- **Roosevelt High School**, Council District 14
- **Sherman Oaks Center for Enriched Studies Magnet School**, Council District 3
- **Sierra Expeditionary Learning School**, Truckee
- **West Valley Career & Technical Academy**, Las Vegas, NV

PHOTOS BY ANTONIA CHIHUAHUA AND SANTIAGO ESCRUCERIA

Streamwatch

Wet spring means streams should get restoration flows

by Greg Reis

Back in February, the winter had been among the driest on record, and it appeared that springtime Stream Restoration Flows (SRFs) would not be required this year. Then March storms boosted the snowpack to 76% of average, which resulted in a runoff forecast of 85% of average for the runoff year (April 1, 2018–March 31, 2019) and required SRFs.

In early April, an atmospheric river hit California and drenched the high-elevation snow-covered mountains of the Mono Basin with rain. Atmospheric rivers are narrow bands of warm tropical moisture entrained in the jet stream that hit the west coasts of continents. The rain event triggered significant runoff in the streams and raised Mono Lake almost a tenth of a foot. In the first ten days of April, statewide runoff forecasts increased 12 percentage points on average.

The minimum required base flows in the streams, as well as the minimum required snowmelt-driven SRFs, are set based on the year-type, which is determined by the runoff forecast—the 85% runoff forecast makes this a "Normal" year-type. In a Normal year-type an SRF of 380 cubic feet per second is required on Rush Creek, and the peak flows must be passed un-diverted on Lee Vining, Parker, and Walker creeks.

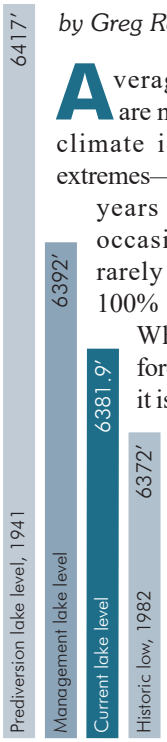
This is great news for Mono Lake's recovering tributaries. Chances are there will be enough water to deliver the streams the required—and much needed—Stream Restoration Flows. ❖

ANDREW YOUSSEF

Robbie places a temperature recorder into Lee Vining Creek that will collect data all summer.

Lakewatch

Mono Lake likely to drop less than a foot this year



by Greg Reis

Average years in California are not the norm. California's climate is increasingly one of extremes—many drier-than-average years are interspersed with occasional wet periods, but rarely does a year land near 100% of average (see page 4). While the April 1 runoff forecast was 85% of average, it is now likely higher after a wet April.

When we forecast Mono Lake's level, we use runoff and hydrologic model results from similar years to project what could happen. In searching for years similar to 2018, other recent average years are hard to find—and getting harder. Thirteen years between 1935 and 1979 had runoff 95–115% of average, but since 1979, there have been zero years with runoff 95–115% of average.

Drier years with between 75% and 95% of average runoff are well-represented, with ten since 1979. As for wetter years, four years since 1979 have fallen in the range of 115% to 135% of average runoff. Former state climatologist Bill Mork famously said, "It rains easy in wet weather." In the Mono Basin, when it is wet enough to be average, that "easy rain" usually pushes the annual precipitation totals to well above average.

1999 and 2000 are years that were fairly close to average (94.8% and 93.7%, respectively), and for various reasons we used hydrologic conditions from 2000 to predict Mono Lake's 2018 levels. Based on our modeling, from its May 1 level of 6381.9 feet above sea level, Mono Lake is likely to rise less than ⅓ of a foot by July, and is likely to reach a late-autumn low point of around 6381 feet. A wet upcoming winter could propel Mono Lake levels to over 6382 feet by next April, making up for any declines this year, and a dry winter could cause it to remain near the autumn low point. ❖

Greg Reis is the Committee's Information & Restoration Specialist. He thinks we should have a big party if 2018 is a 98–101% of average runoff year because that hasn't happened since DWP began collecting data in 1934.

Mono Basin Journal

A roundup of quiet happenings at Mono Lake

by Geoffrey McQuilkin

MAUREEN MCGLINCHY

Light and fluffy snow, heavy slushy snow, driving sleet, passing hail, graupel, rain: precipitation arrives in the Mono Basin in every form possible. As winter departs and warmer days arrive these types switch back and forth frequently.

Still, the warm storm of early April stood out as an event of note. An atmospheric river originating near Hawaii delivered a pulse of precipitation that fell as rain at the top of the Sierra—as high as 12,000 feet. And while water is good for Mono Lake, the heavy rainfall sent streams surging out of their banks, DWP scrambling to protect facilities, and closed nearby Yosemite Valley with flooding.

It was, as the climate scientists say in their forecasts, a "flashy" event that will become more frequent. Water surged across the land and yet just a few days later the streams were back to their regular flows. But the event endures in the landscape. Lundy Lake Reservoir was a murky brown for weeks after. The dirt road up to the Lundy trailhead is sliced with erosion. And on the trail, well, where is the trail? Entire sections disappeared under flows of rocks, sand, silt, and debris. The aspens will survive, and the summer flowers will return over time, but hikers must now pass through an altered landscape that will inspire contemplation of the flashy future. ❖

Geoff McQuilkin is the Committee's Executive Director. His daughter Ellery placed first at the California Science & Engineering Fair this spring—she examined how different slope aspects create microclimates in Lundy Canyon.

Benchmarks

ERV NICHOLS

May 2016: At the height of the drought, many of the tufa towers at South Tufa became landlocked. Mono Lake: 6378.2 feet above sea level.

ANDREW YOUSSEF

April 2018: With the lake 3.5 feet higher the shoreline changed dramatically and these formerly landlocked tufa towers became partially submerged. Mono Lake: 6381.9 feet above sea level.

Discover more on monolakemobile.org

by Andrew Youssef

Have you ever been down at Mono Lake wondering: How many brine shrimp live in Mono Lake? Why do the tufa towers at Old Marina look different than the ones at South Tufa? What else can I do during my visit?

You can find the answers to all of these questions and more by visiting *monolakemobile.org* on your phone. Designed to be mobile-friendly and used while visiting the lake, Mono Lake Mobile is the best way to learn about the lake on your own schedule and at your own pace. You can take a self-guided tour of South Tufa (complete with audio narration) and learn about other great sites to visit around Mono Lake including Old Marina and County Park.

You can also check out the calendar of activities to get up-to-date information about daily walking tours, Field Seminars, and weekend canoe tours—you can even reserve your seat on a canoe tour with just a few taps. Be sure to sign the digital guestbook to share what you love about Mono Lake, and if you find Mono Lake Mobile useful, tell your friends and visitors you meet along the way! ❖

ANDREW YOUSSEF

When you visit Mono Lake, pull up monolakemobile.org *on your phone for a self-guided tour of South Tufa, directions, and more.*

Save the tufa!

Tufa is otherworldly, oddly enchanting, and one of Mono Lake's most iconic and popular features. Tufa towers are important nesting sites for birds—from Osprey to owls—while underwater tufa is habitat for alkali flies. For years, photographs of tufa have played an important role in spreading the message that Mono Lake, and the tufa itself, needs protecting.

Fragile rock

Growing only underwater, tufa is a precipitate formed when calcium-rich spring water mixes with carbonate-rich Mono Lake water—slowly building up around seeps and springs. Though tufa towers are rock formations, they are fragile—they crumble, topple, and erode from wave action, high desert weather, and, unfortunately, from people being careless around them.

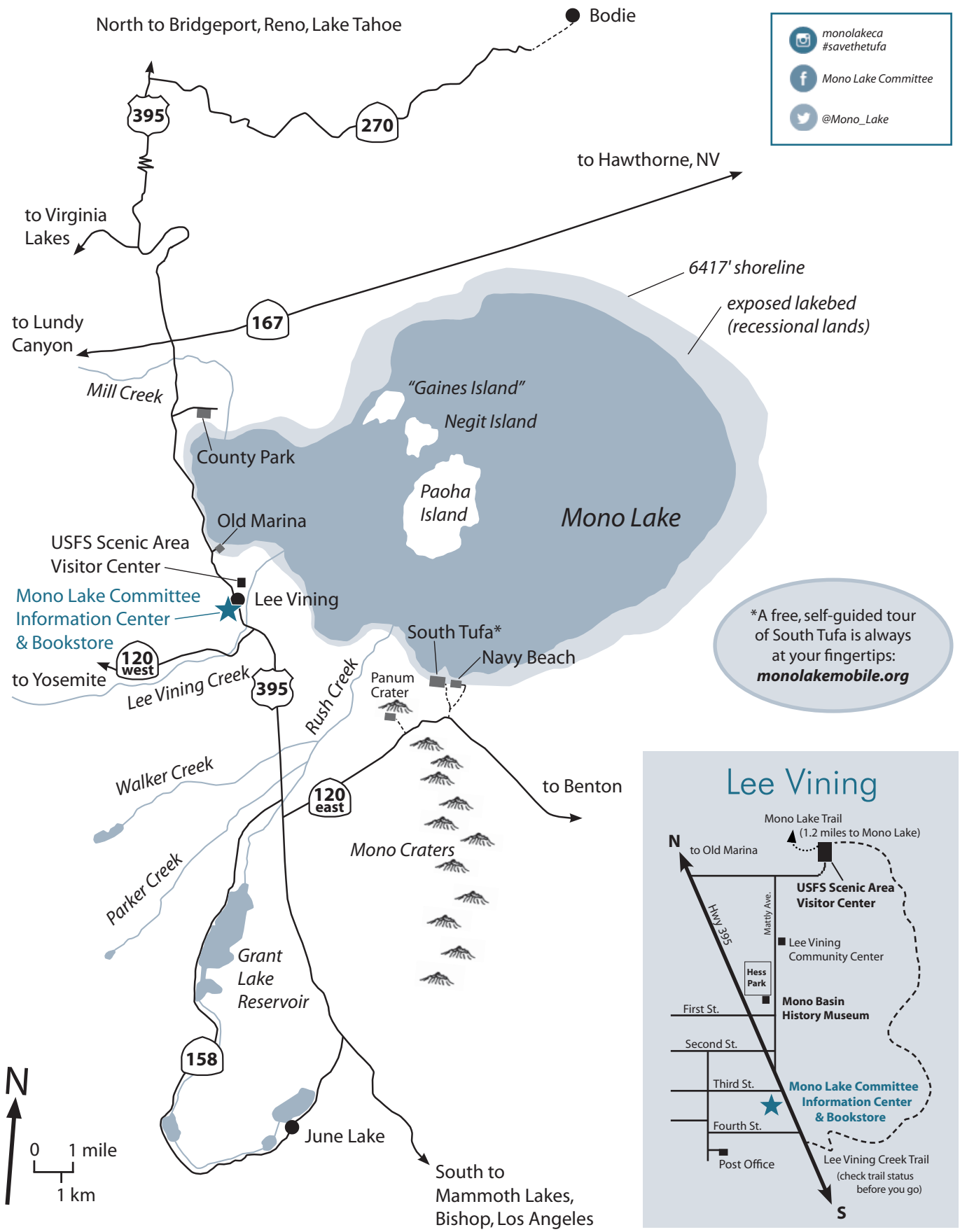
Tufa for future generations

Today with a camera in virtually everyone's pocket and with social media giving photographs more visibility than ever, there are a lot of amazing images of Mono Lake out there. Unfortunately, there are also many photos of people climbing on, standing on, and otherwise—knowingly or unknowingly—damaging tufa. Not only does damaging tufa negatively impact Mono Lake's scenic value and fragile ecosystem, but it is also illegal under California State Park regulations.

Long live Mono Lake's tufa

When you visit Mono Lake you can help save the tufa by enjoying and taking photos of the spectacular formations from the ground, rather than standing or climbing on them. Also, make sure others in your group know to be careful around the fragile tufa. After your visit, share your own responsibly-taken tufa photos with the hashtag #savethetufa to encourage others to take care of the tufa too.

Summer at Mono Lake



Lee Vining

When you visit Mono Lake

Nestled at the edge of the arid Great Basin and the snowy Sierra Nevada, Mono Lake is an ancient saline lake that covers over 70 square miles and supports a unique and highly productive ecosystem. The lake has no fish; instead it is home to trillions of brine shrimp and alkali flies. Freshwater streams feed Mono Lake, supporting miles of lush riparian forests of cottonwood and willow. Along the lakeshore, scenic limestone formations—tufa towers—rise from the water's surface. Millions of migratory birds visit the lake each year.

In 1941, the Los Angeles Department of Water & Power (DWP) began excessive water diversions from Mono Basin streams. Mono Lake dropped 45 vertical feet, lost half its volume, and doubled in salinity.

The Mono Lake Committee was founded in 1978 in response to the threat of inevitable collapse of the Mono Basin ecosystem. The Committee bought the old dance hall in Lee Vining to use as headquarters and went to work spreading the word about Mono Lake. The Committee took the City of Los Angeles to court, arguing that DWP had violated the public trust doctrine, which is "an affirmation of the duty of the state to protect the people's common heritage of streams, lakes, marshlands and tidelands..." —Supreme Court of California, 1983

In 1994, after over a decade of litigation, the California State Water Resources Control Board ordered DWP to let Mono Lake rise to a healthy level of 6392 feet above sea level—twenty feet above its historic low. DWP has reduced its Mono Basin water exports by over 80 percent, and Mono Lake is on the rise. This is truly an environmental victory.

Mono Lake's recovery depends on water conservation in Los Angeles, and the Committee has created solutions to the demand for water by implementing conservation and recycling programs in LA that have saved more than enough water to share with Mono Lake. Today LA is one of the most water-conscious cities in the United States, and the Committee works statewide to promote wise water use for people and the environment.

LYNETTE VILLAGOMEZ

Mono Lake Committee Information Center & Bookstore

- *Open daily from 8:00AM–9:00PM during the summer*
- *monolake.org and (760) 647-6595*

Stop by to see detailed displays about Mono Lake's political history and the current work of the Mono Lake Committee, "The Mono Lake Story" film, an art gallery, a comprehensive selection of books on natural and local history, T-shirts, maps, and locally made artisan gifts. This is also the Lee Vining Chamber of Commerce and our friendly staff are happy to help with local information for your visit.

AMERICAN RIVER CONSERVANCY

Canoe on Mono Lake

- *Saturdays and Sundays at 8:00, 9:30, and 11:00AM*
- *June 23, 2018 through September 2, 2018*
- *Tours last one hour*
- *$35 per person; $20 for kids ages 4–12*
- *Reservations required: monolake.org/canoe or (760) 647-6595*
- *Sorry, no kids under the age of 4 and no pets*

Guided canoe tours provide a unique look at the ecology and geology of Mono Lake. Discover bubbling springs, alkali flies, brine shrimp, underwater tufa towers, and migrating birds from the vantage point of a canoe. No canoe experience is necessary and all equipment is provided.

you are part of the Mono Lake story

ARYA HARP

Free naturalist tours at South Tufa

- *Daily at 10:00AM and 6:00PM starting June 23, 2018*
- *Tours are free, but there is a $3 per person entrance fee to the South Tufa Area*
- *Meet at the kiosk at the South Tufa parking lot*

Find out why Mono Lake is salty, taste alkali fly pupae, make tufa, and catch a glimpse of thousands of phalaropes or Eared Grebes on this fascinating and free hour-long walk. (If you can't make a tour, you can take the self-guided tour on monolakemobile.org—see page 14.)

The Mono Lake story is not over

The Committee works in public policy, ecological restoration, public education, water conservation, scientific research, and hands-on stewardship. We continue to strive for thoughtful solutions—an approach that has been consistently successful for Mono Lake.

We protect Mono Lake. Challenges facing Mono Lake include demands for water, poorly-planned development, increasing recreational use, underfunded management agencies, and climate change, among others. The Committee works to balance competing needs in a way that protects Mono Lake.

We restore Mono Lake. Restoration work at Mono Lake seeks to achieve healthy, self-supporting lake and stream systems that will thrive into the future. Rejuvenating the Mono Basin ecosystem's dynamic natural processes is the best way to heal the damage caused by 50 years of excessive water diversions.

We educate people about Mono Lake. The Committee offers hands-on programs to share the sense of wonder that Mono Lake evokes. South Tufa tours, canoe tours, activities for school groups, Field Seminars, and the annual Mono Basin Bird Chautauqua all provide ways to learn more about Mono Lake. In addition, the Mono Basin Outdoor Education Center brings students from Los Angeles to learn about the source of their water, educating the next generation of California's policymakers.

We support sound science. Scientific research is the basis of our policy work, a guide for restoration, and an inspiration for understanding Mono Lake. The Committee supports and works closely with researchers, hosts a comprehensive research library, and runs the Mono Basin Field Station to enhance the scientific knowledge of Mono Lake, its tributary streams, and the surrounding lands.

Get involved at Mono Lake

Mono Lake is a great success story, and you can be a part of it! Add your voice to the 16,000 members who are committed to the protection and restoration of Mono Lake. Your support as a Committee member will be put to hard work for Mono Lake.

Join us on a walking tour, canoe tour, Field Seminar, or design your own custom guided trip. Check out Mono Lake online at *monolake.org*. Stay connected to Mono Lake and help ensure its protection for generations to come. ❖

Keep up with Mono Lake

monolake.org
monolakemobile.org

monolakeca
#savethetufa

@Mono_Lake

Mono Lake Committee

(760) 647-6595

info@monolake.org

ELIN LJUNG

Free bird walks at County Park

- *Fridays and Sundays at 8:00AM starting May 18, 2018*
- *Meet at Mono Lake County Park, tours last 1½–2 hours*

Magic is literally flying and flitting through the air in the Mono Basin. Join a resident expert to see everything from shorebirds to songbirds on a free walk for all levels of birders. Bring binoculars and a bird book if you have them (not required).

Sierra Nevada snow from page 4

water. That's what water managers much prefer.

GM: What's next for your work and your team?

AH: The limitation of this study is that we are looking at the impact of warming on the climate average. I want to get at this question of the change in the variability of the climate—how far apart the extremes will be and how often we will experience them. We believe that is going to turn out to be a very important element of the climate change story in California, and it's one that we want to tell in the most robust and scientifically credible way we can. We want to apply all this scientific downscaling know-how we have developed to that problem of looking at changes in variability and changes in extremes.

The other project we are working on is to look at the impact of all of our results, including the changes in snowpack and the changes in variability, on fire in California. It's a collaboration with fire ecologists and fire management experts, and I think that project will be quite useful. It is likely we can identify climate change signals already present with fire.

GM: Your report forecasts notably different futures depending on emissions scenarios, suggesting all is not lost.

AH: Yes. If the world undertakes an emission reduction program, like in the Paris Agreement, then we see some loss of snow by the end of the century, but there's still snowpack remaining and the Sierra Nevada is still broadly the place that we know and love. That's in stark contrast to the business as usual scenario, which has the very large loss of two thirds of the snow. There's a big benefit to be gained from a global effort to reduce carbon emissions, and California is, in general, a leader on that path. Large scale change often comes from a smattering of places that transform, as California is doing, and move broader change forward.

At the same time, there are a lot of emissions reductions that are up to individual people implementing changes in how they live their lives. The key is in our hands, and we can accomplish a lot even if the federal government is inactive. Luckily in California we have many options: electric vehicles that really advance the transformation of the vehicle fleet, installing solar panels on our homes, broader energy conservation and water efficiencies. They are all pieces of the puzzle and as individuals we can do a great deal to make emissions mitigation truly happen. ❖

PHOTO COURTESY OF UCLA

Dr. Alex Hall, Director of the Center for Climate Science at UCLA.

To read the full report, *Climate Change in the Sierra Nevada: California's Water Future*, visit *bit.ly/uclaclimatereport*.

Export accuracy from page 5

incorporated a 20-year-old estimate for this key term in the calculation, instead of a more accurate, already existing, annual measurement of tunnel make. So, if the reported daily export is less than the actual daily export, it can lead to total actual export that exceeds what is allowed. While the Committee has been understanding of infrastructure limitations, we have been asking DWP for years to update its calculation.

Persistence pays off

In 2009, when aqueduct improvements were underway, DWP installed a new weir close to Grant Lake Reservoir with the express purpose of being able to directly measure export water. Unfortunately, the weir was plagued by flow surges and other issues that only an engineer could love, so the Committee continued advocating for an updated annual adjustment to the export calculation.

This past January, the Committee wrote a formal letter to DWP highlighting the importance of this issue—and again offering options for a more accurate calculation and advocating for the infrastructure fix needed for direct measurement at the new but nonfunctional weir.

As a result of this letter, we learned that DWP had in fact acted in response to our concerns and had made engineering changes to the weir in 2017. But because no exports were happening at the time, the fixes couldn't be tested. DWP now reports that preliminary results show the recent fixes have worked. Which is to say, as of 2018, 77 years after building the Los Angeles Aqueduct, DWP is now directly measuring how much water is exported from the Mono Basin.

DWP's obligation to restore Mono Lake is only a small part of its massive operation, and it's hard to imagine that an issue like this would make it to the top of its agenda. But the Committee knows that water quantity details are important for the health of Mono Lake and its tributary streams, and years of careful prodding can, and do, make positive change happen. We are proud to be able to say that the Los Angeles Aqueduct has been retrofitted to ensure that water exports are now measured accurately, and that it wouldn't have happened without the Mono Lake Committee. ❖

2018 Field Seminars

PHOTO COURTESY OF RICHARD ERB

Mining the Past through Binoculars

June 24 • Nora Livingston
$95 per person / $85 for members

Natural History Ramble

June 27 (half day) • Nora Livingston
$75 per person / $65 for members

Birding Between the Breweries

June 28 (half day) • Nora Livingston
$135 per person / $125 for members

Miwok-Paiute Basketry

June 29–July 1 • Lucy Parker & Ursula Jones
with special guest Julia Parker
$265 per person / $250 for members
$80 materials fee; group campsite included

Wildflower Waltz

July 6 (half day) • Nora Livingston
$75 per person / $65 for members

Birding Between the Breweries

July 12 (half day) • Nora Livingston
$135 per person / $125 for members

Mono Basin & Bodie Photography

July 13–15 • David Gubernick
$300 per person / $275 for members

Mono Basin Natural History: Aquatic & Terrestrial Habitats

July 13–15 • David Wimpfheimer
$207 per person / $192 for members
Mono Lake canoe tour included

Mining the Past through Binoculars

July 19 (half day) • Nora Livingston
$75 per person / $65 for members

En Plein Air at Mono Lake: Beginning Oil Painting

July 20–22 • Penny Otwell
$192 per person / $177 for members

Butterflies of the Mono Basin & Sierra Nevada

July 21–22 • Kristie Nelson
$172 per person / $157 for members

Register online at *monolake.org/seminars* or call (760) 647-6595.

Natural History Ramble

July 25 (half day) • Nora Livingston
$75 per person / $65 for members

Wildflower Waltz

July 26 (half day) • Nora Livingston
$75 per person / $65 for members

Birding the White Mountains

July 27 • Nora Livingston
$95 per person / $85 for members

NORA LIVINGSTON

A Pale Swallowtail, Papilio eurymedon, *is one of the many butterfly species that can be seen in the Mono Basin in the summer months.*

Mono Basin Mammals

July 27–29 • John Harris
$182 per person / $167 for members

High Country Plants & Habitats: How are they coping with climate change?

August 3–5 • Ann Howald
$182 per person / $167 for members

Landscape Photography, Milky Way, & Perseid Meteor Dark Sky Astrophotography

August 10–12 • Jeff Sullivan
$275 per person / $250 for members

Mining the Past through Binoculars

August 15 (half day) • Nora Livingston
$75 per person / $65 for members

Falling for the Migration: Bridgeport Valley & Mono Basin

August 16–17 • Dave Shuford
$172 per person / $157 for members

Falling for the Migration: Crowley, Mammoth, Mono

August 18–19 • Dave Shuford
$172 per person / $157 for members

Miwok-Paiute Basketry

August 24–26 • Lucy Parker & Ursula Jones with special guest Julia Parker
$265 per person / $250 for members
$80 materials fee; group campsite included

Natural History Ramble

August 30 (half day)
Nora Livingston
$75 per person /
$65 for members

Don't see the trip you're looking for? Email *guides@monolake.org* for a custom trip.

Volcanism at Mono Lake

August 31 • Nora Livingston
$95 per person / $85 for members

A Long Journey: Shorebird Migration

September 7 • Nora Livingston
$95 per person / $85 for members

NORA LIVINGSTON

During late summer migration, more than one hundred bird species can be seen in the Mono Basin, including Mountain Bluebird.

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

AVA STAVROS

Mono Lake's water is very dense from salts and minerals, which allows stunning mirror-like reflections to form on the lake's surface.

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

September 8–9 • John Wehausen
$182 per person / $167 for members

Mono Basin Tree Identification

September 14 • Nora Livingston
$95 per person / $85 for members

Fire Ecology of the Eastern Sierra

September 15–16 • Malcolm North
$172 per person / $157 for members

Mining the Past through Binoculars

September 21 (half day) • Nora Livingston
$75 per person / $65 for members

Geology of the Mono Basin

September 21–23 • Greg Stock
$182 per person / $167 for members

Fall Color Foray

October 3 (half day) • Nora Livingston
$75 per person / $65 for members

Fall Color Foray

October 11 (half day) • Nora Livingston
$75 per person / $65 for members

Mono Basin Fall Photography

October 12–14 • Robb Hirsch
$275 per person / $250 for members

Arborglyphs & Aspen Natural History

October 13–14 • Richard Potashin & Nancy Hadlock
$197 per person / $182 for members

Fall Color Foray

October 15 (half day) • Nora Livingston
$75 per person / $65 for members

Field Seminar Information

To register for a Field Seminar, please visit *monolake.org/seminars* or call (760) 647-6595.

To see complete Field Seminar itineraries, cancellation and refund policies, seminar leader information, and answers to frequently asked questions, visit *monolake.org/seminars*.

Field Seminars are open to all, but Mono Lake Committee members get to register early and receive discounts. All instructors are experts 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 Field Seminars benefit research and education in the Mono Basin.

All Field Seminars and custom trips operate under Inyo National Forest and California State Parks permits.

Mill Creek from page 6

hard and light seeds are easily dispersed and can stay viable in the soil for up to 30 years. Advance removal of sweet clover helps give the native streamside vegetation the best chance to establish once restoration flows begin.

Side channels fundamental to vegetation health

Near Mono Lake, Rush, Lee Vining, and Mill creeks all have "inner delta" bottomlands consisting of multiple stream channels, which provide a unique mix of riparian forests, wooded wetlands, and backwater marshes. This is rare in the region—Eastern Sierra streams are usually ribbon-like with a narrow band of vegetation closely following the creek. The Mono Basin's lush cottonwood-willow riparian bottomland habitats are oases for birds, fish, and wildlife in an otherwise dry sagebrush scrub environment.

Rewatering dry side channels in Mill Creek's lower reaches is also key to restoring these important bottomlands. To function properly, multiple side channels are necessary to distribute surface water and recharge groundwater so vegetation can survive in periods of little water. This groundwater "sponge" effect was evident in our flow monitoring during recent years. Together with newly-deposited fine sediment, it means native plants will get a boost this summer.

Because it is so unusual that these flow conditions have persisted through the winter, we will be mapping the length of the rewatered channels and the acreage of vegetation benefiting from the groundwater recharge. The Committee continues to work to secure the return of flows to Mill Creek consistent with water rights—in the meantime, we continue to do everything we can to ensure that Mill Creek's eventual restoration will result in a beautiful and healthy stream once again. ❖

Lisa Cutting is the Committee's Eastern Sierra Policy Director. Over the winter she built a new bamboo fly rod, tied plenty of flies, and patched her waders so she can conduct unofficial fish studies on the Mono Basin's rejuvenated tributary streams this summer.

Policy notes from page 10

monitoring equipment projects above the building to sample air quality and log weather conditions.

Great Basin enforces air quality requirements under the federal Clean Air Act and operates two monitoring stations at Mono Lake. Air quality was part of the 1994 California State Water Resources Control Board Decision 1631 to raise the level of Mono Lake because air quality, like water, is a recognized public trust asset in California. The Mono Basin remains out of compliance with federal air quality health standards due to the frequent and intense dust storms that originate from the exposed lakebed. These events, which have been up to 43 times higher than federal standards for particulate density, are measured on the north shore of the lake. One benefit of tracking air quality in Lee Vining, which is typically clear during dust events due to the way the wind blows, is that the data provides confirmation that Mono Lake's exposed lakebed is the local source of the air pollution. The ultimate solution to the dust storm problem is to raise the level of Mono Lake, which the State Water Board requires. Continued monitoring will help track the expected improvement in air quality as Mono Lake rises to its management level.

ELIN LJUNG

A new monitoring station located near the Lee Vining Community Center will continue Great Basin's tracking of air quality in Lee Vining, in addition to stations monitoring dust storms originating from exposed lakebed.

Thompson Main ditch

The powerful spring streamflows of 2017 produced many benefits but at one location on Mill Creek they created a management problem that is still awaiting resolution. Gravel and cobbles washed downstream were trapped by a logjam upstream of Highway 395—raising the elevation of the streambed and spreading water laterally into new channels. These normally beneficial processes, however, pushed water into a historic DWP irrigation ditch that runs adjacent to the stream, causing the ditch to flow with water even though the headgate remained firmly shut. The unmanaged flow, which varies from 5–10% of the total flow of Mill Creek, subsequently eroded a US Forest Service road and has continued to carry water that ends up soaking

Continued on page 23

Policy notes from page 22

ELIN LJUNG

Mono County is developing a grazing management plan for its Conway Ranch property.

into the ground. The situation crosses jurisdictional boundaries and the Committee is working with multiple management agencies to end the unintended ditch flow.

Grazing at Conway Ranch

After Mono County ended domestic sheep grazing on its Mono Basin property in order to eliminate the risk of disease transmission to endangered Sierra Nevada bighorn sheep, it realized the need for a grazing management plan going forward. The Committee applauded the removal of domestic sheep and supports the development of a grazing management plan (see Summer 2017 *Mono Lake Newsletter*).

Mono County, as the owner of Conway Ranch, must meet the requirements of a conservation easement on the property held by the Eastern Sierra Land Trust (ESLT) since 2014. The easement contains requirements of the original grants that Mono County used to purchase the property in 1998, which include protecting open space and wildlife habitat while allowing for historic uses such as fish-rearing and grazing.

The grazing management plan will likely include elements such as wildlife-friendly fences to keep livestock away from sensitive water areas, flagging on fences for Greater Sage Grouse protection, and monitoring of wildlife/livestock conflicts. ESLT has recommended that Mono County graze cattle on the property in order to maintain and improve habitat biodiversity related to irrigated meadows. Mono County is moving forward with plans to lease approximately 500 acres of irrigated meadow and upland sagebrush scrub for cattle grazing on both the Conway and Mattly sections of Conway Ranch. Although the lease is expected to run for ten years, the County has made it clear that if conservation values specified in the easement are not upheld it can terminate the lease.

Remembering Supervisor Larry Johnston

Mono County Supervisor Larry Johnston died on March 13 at age 67 after a fight against brain cancer. Larry was in his second term as a Supervisor, having been elected to the District 1 seat in 2010 and again in 2014.

Before his terms on the Board, Larry worked as a planner, with his own firm as well as for the town of Mammoth Lakes and later Mono County, until his election as Supervisor. As a planner he was thoughtful about how Mono County's small communities could grow and thrive while preserving the region's natural assets, such as Mono Lake and backcountry wilderness. He was the lead county planner on Mono Basin issues for a number of years. An outdoor adventurer and avid cyclist, Larry explored the West and beyond and yet always gave his full energy and time to projects that would make Mono County and Mammoth Lakes more sustainable, better places to call home.

Larry was a steadfast supporter of Mono Lake's protection and wise water management. We will miss his experience, integrity, and passion in County government. Larry's Supervisor seat will be filled in an upcoming election this year.

DWP pulls water from grazing lands

The irrigated green pastureland around Crowley Reservoir will fade away if the latest move by DWP comes to pass. Local ranchers have long leased over 6,000 acres in the area from DWP and irrigated it for livestock, supporting the local agricultural economy as well as wildlife that favor the green meadows. However, during recent renewal negotiations DWP abruptly decided that it would strip access to any water from the lease agreements. The move effectively reverses 70 years of grazing and has caused significant local upset. Mono County has sent a detailed letter to Los Angeles Mayor Eric Garcetti, an advocate of collaborative relationships between the city and the Eastern Sierra, seeking his intervention, and the Mayor has delayed implementation to allow time for a review process.

Owens Lake designated internationally-important bird site

Congratulations to Owens Lake on being designated a Western Hemisphere Shorebird Reserve Network site of international importance. Owens Lake joins Mono Lake as a member of the 104-site network that highlights the coordinated international conservation necessary to protect these critical habitats for the long-range, multi-national journeys of migratory shorebirds. ❖

Farewell to Mono Lake advocate Genny Smith

by Geoffrey McQuilkin

On Sunday, March 4, the Eastern Sierra lost a lifelong champion with the passing of writer, conservationist, and Mono Lake advocate Genny Smith at age 96.

Genny played a key role in protecting Mono Lake, getting involved in 1982 as a Board member of the young Mono Lake Committee at a time when court battles with the Los Angeles Department of Water & Power (DWP) were heating up. Martha Davis, former Executive Director says, "Genny kept the Committee's feet on the problem-solving path, dedicating countless hours to policy discussions with DWP even when there was little hope for agreement. Thanks to her persistence, those talks were pivotal to LA's acceptance of the final decision that secured Mono Lake's protection."

A visit with a ski club first introduced Genny to the Eastern Sierra and she was captivated—returning for summer hiking and acquiring a cabin in the Mammoth Lakes area in the 1950s. She was a writer and editor who gave many readers their first introduction to the region with her guidebooks including *Mammoth Lakes Sierra* (1959), *Deepest Valley* (1962), and *Sierra East: Edge of the Great Basin* (2000). These popular guides were updated many times and have remained in print for years.

Though a great writer of guidebooks, Genny also encouraged people to wander—to discover for themselves the treasures off the beaten path. In an essay for the 1993 Mono Lake Calendar she wrote, "Most important of all, [this calendar] invites you to leave the roads and trails behind and wander—wander away, anywhere up, north or south or any direction in between. Much of the Mono Basin remains wild; with just a little effort you can discover some of its wild places and the wild things that live there. Not that we can supply you with a map and say, 'Go west two miles and then turn north…' No, wildness just doesn't appear that easily, on command. The thrill of wildness comes from those rare, unforeseen encounters when you happen upon the unexpected."

MONO LAKE COMMITTEE ARCHIVE

Genny Smith, 1922–2018.

MONO LAKE COMMITTEE ARCHIVE

Genny, fourth from left, at a Mono Lake Committee Board meeting in the 1990s with Ed Grosswiler, Barbara Blake, Helen Green, and Tom Soto.

Among Genny's conservation achievements in the Eastern Sierra, her most famous was the successful effort to stop a trans-Sierra highway from being built from Mammoth Lakes to Fresno. In the 1950s she organized a group of activists who persisted for decades years to stop the highway—the idea was officially quashed in 1972 when then-Governor Ronald Reagan announced that the road would not be built.

As a mentor to the young Mono Lake Committee staff, Genny provided guidance, political savvy, and constant reminders of the need for persistent advocacy to as broad an audience as possible. Genny helped build the Committee's strategy of recruiting members to the cause, making sure that the Committee was assembling a coalition of people who cared about Mono Lake for the long haul. In later years as a Board member emeritus she was always available to give advice—and inspiration—on the continuing efforts to protect this place.

We were fortunate to be able honor Genny's dedicated efforts to protect Mono Lake and the Eastern Sierra at last year's Andrea Lawrence Award Dinner. If ever there was someone who embodied "passionate engagement in community and the land," as the award she received says, it was Genny Smith. The weekend after the dinner became a reunion of sorts, with friends gathering from all over the Eastside to visit with Genny and reminisce.

Mono Lake continues to need dedicated, thoughtful, persistent advocacy, and though Genny is very much missed, she will continue to be part of the work of Committee staff, Board, and lake advocates as enduring inspiration to stand strong and make the right thing happen. ❖

Andrea Lawrence Award presented to Phil Pister

by Lily Pastel

Community members, friends, and family of Andrea Mead Lawrence gathered at Mammoth Mountain's Parallax Restaurant on May 4 to present longtime golden trout and desert fish conservationist Phil Pister with the Andrea Lawrence Award.

Phil spent his career with the California Department of Fish & Wildlife (at the time called Fish & Game) protecting the biodiversity of fish populations in the Eastern Sierra and beyond. Phil is perhaps best known for saving the Owens pupfish from near extinction by scooping the last-surviving, inch-long fish from their shrinking pond and carrying them to safety in two buckets. On this topic, in the magazine *Natural History*, Phil wrote, "I literally held within my hands the existence of an entire vertebrate species. If I had tripped over a piece of barbed wire or stepped into a rodent burrow, the Owens pupfish would now be extinct! But good fortune smiled upon us, and the recovery continues today."

While saving a species from extinction is worthy of an award in and of itself, Phil has gone far beyond that. Phil's work in the Eastern Sierra has fostered an ethic of conservation. He has worked tirelessly toward the goal of protecting and enhancing the area's fisheries for both recreational and biotic purposes, often citing the words of Aldo Leopold: "A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise."

Phil embodies the true spirit of the Andrea Lawrence Award, which celebrates passionate engagement in community and the land, and the Mono Lake Committee was honored to celebrate both Phil's and Andrea's legacies at this year's event. This fundraiser would not be possible without the generous support of the Lawrence family and Mammoth Mountain Ski Area. Thank you also to our guests; to speakers Tim Alpers, Carol Blanchette, Pete Korfiatis, Steve Parmenter, and Darrell Wong; and to award recipients like Phil Pister for their important work. Proceeds from the event go to the Andrea Lawrence Fund to encourage collaboration and to inspire youth to become environmental leaders. ❖

ANDREW YOUSSEF

Geoff McQuilkin and Quentin Lawrence with Phil Pister, recipient of the 2018 Andrea Lawrence Award.

Wild & Scenic Film Festival lands new venues, sells out

by Arya Harp

This year the Mono Lake Committee hosted the Wild & Scenic Film Festival at two new venues in Los Angeles—the Monica Film Center in Santa Monica and the Sierra Madre Playhouse—and by all measures it was the best festival yet. The Santa Monica crowd enjoyed comfy seats in a state-of-the-art theater and attendees at the sold-out Sierra Madre venue were treated to the first film showing at the Playhouse in over 40 years.

Each March, the Committee celebrates conservation success at both ends of the Los Angeles Aqueduct with a lively selection of short adventure and environmentally-oriented films. The festival is a fundraiser for the Mono Basin Outdoor Education Center (OEC).

The festival is made possible by our local sponsor—the Los Angeles Department of Water & Power. Extra-special thanks go to volunteer Carolyn Dasher of Sierra Madre. Thank you to OEC student volunteers from Port of Los Angeles High School and to Herley Jim Bowling. Thank you national festival sponsors: Barefoot Wine & Bubbly, Clif Bar, Earth Justice, Klean Kanteen, Sierra Nevada Brewing Company, and Peak Design.

Mark your calendar for next year's festival: March 7–9, 2019.

Staff migrations

by Jessica Horn

When I write this article each spring, I am always amazed at the qualifications and diverse experiences each seasonal staff member brings to the Mono Lake Committee. Keep an eye out for our enthusiastic staff this summer in the Information Center & Bookstore, at South Tufa, hiking with Outdoor Education Center students, or leading bird walks at County Park.

Marissa Leonard, Information Center & Bookstore Assistant, moved to Lee Vining when she was 18 years old and fell in love with Mono Lake and the Sierra Nevada. Since then, she has gained an extensive background in customer service and management working at Vail Resorts in Vail, CO. She also worked in the Yosemite Lodge gift shop and has extensive knowledge of Yosemite and the Eastern Sierra.

Information Center & Bookstore Assistant **Galina Peters** joins us with a wealth of non-profit experience doing strategic fundraising, grant management, membership campaigns, and event planning as Development Manager with Friends of the Los Angeles River. She attended the Mountain School of Arts in Los Angeles, and was a resident volunteer at Tashirat Orphanage in the mountains of Tepoztlán, Mexico.

Outdoor Education Instructor **Savanna Deger** brings her passion to connect students with the natural world—a goal of hers since childhood trips to Yosemite, where she also worked for two summers. Inspired by environmental educators, she majored in Environmental Science & Management at Humboldt State University, and currently holds the position of President of the Redwood Chapter of Environmental Educators & Interpreters.

Ava Stavros was a Mono Lake Intern last summer, and stepped in to help staff the Mono Basin Outdoor Education Center last fall. After a winter in the Eastern Sierra ice skating, exploring, and providing local childcare, she is excited to return for a full season as Outdoor Education Instructor, and we're glad to have her back.

Canoe Coordinator **Alison Kaplan** joins us with experience as a climbing instructor, lifeguard, and camp counselor. She is familiar with the Sierra, having been the lead lifeguard at the Yosemite Lodge in Yosemite Valley for several summers while attending Whitman College, where she majored in English with a history minor. Alison is fluent in Italian and proficient in Spanish, which will be a great help on weekend canoe tours.

Birding Intern **Nigel Bates** holds a degree in biology with a concentration in environmental studies from Williams College in Massachusetts. While there, he led a team that inventoried and analyzed data on old-growth forest carbon cycles, ran varsity cross country and track and field, and thru-hiked the Appalachian Trail. This summer he'll be adding to his life list of over 500 bird species.

Eric Bergdoll, Mono Lake Intern, attends the University of Pittsburgh where he is studying environmental science. After a NOLS Semester in the Rockies he is proficient in kayaking, rafting, rock climbing, and landscape ecology interpretation. Eric has a specific interest in western water issues, so he is particularly excited to be at Mono Lake for the summer.

Mono Lake Intern **Anna Boyes** attends Whitman College and although she hasn't yet declared a major, her interests include chemistry, environmental studies, and history. She has been a YMCA outdoor educator, Student Conservation Association trail crew member, and has led adventure tours in Central and South America using her fluent Spanish. She also worked as an *au pair* in Vicenza, Italy.

Mono Lake Intern **Alexis Helgeson** is from Sierra Madre and attends Mount Holyoke College, where she is majoring in mathematics and environmental science. She has visited the Eastside her whole life to hike and kayak in the area. She is a black belt in Kenpo Karate, and teaches children's karate. Alexis also runs her school's Outing Club, is on the club rugby team, and works in the college alumni office.

Mono Lake Intern **Max Price** is a recent graduate of Indiana University. He worked as a research assistant for the Indiana Geologic & Water Survey, collecting water samples at Indiana schools to detect lead in drinking water and maintaining well sites as part of a statewide groundwater monitoring network. He first visited Mono Lake with his Indiana University field class—they had a South Tufa tour with Education Director Bartshé Miller.

Joslyn Rogers, Mono Lake Intern, first fell in love with Mono Lake when she visited on a UC Santa Cruz Natural History Field Quarter program. She studied abroad at the University of Cape Town in South Africa, worked in Yosemite National Park collecting data on river otters in the Merced River, and was an Environmental Law Intern for the Ecological Rights Foundation.

With the help of seasonal staff we reach more visitors to share with them the Mono Lake story and the Committee's role in protection, restoration, education, and science at this place we all love. Here's to a great summer! ❖

Jessica Horn is the Committee's Office Director. She and her fiancé are getting married this summer and are planning to include some of their 40 ranch animals, like their Nigerian dwarf goats, in the ceremony.

Interested in working at Mono Lake? We accept applications for seasonal staff positions each year starting January 1. Learn more at *monolake.org/jobs*.


ANDREW YOUSSEF

From the mailbag

News from members and friends

by Ellen King

This year marks 40 years since the Mono Lake Committee was founded. Donations from members old and new comprise over 85% of our operating budget—without your loyal and generous support we would not be celebrating this milestone, and Mono Lake would not have the hard-won protections that the Committee has secured over the years. Thank you!

In honor

Angela Moskow of Albany made a donation in celebration of the marriage of **Sylvia Quast & Peter Weiner**.

In memory

Marybel Batjer of Reno, NV made a donation in memory of **Lura Gamble Batjer**. **Richard Farrell** of Springfield, OR sent a contribution in memory of **Debbie Farrell**. **Martha Miller** of Yosemite gave a gift in memory of **Jan Simis**. **Angela Moskow** of Albany made a donation in memory of **Neil Lyons**. **Janis & Peter Nelson** of Cupertino sent a contribution in memory of **Genny Smith**. **Camilla Saviz** of Stockton gave gifts in memory of **Eugene Ressler** and **Mrs. Leal**.

We received gifts in memory of **Ralph Kunin** from **Sarah Loyer** of Los Angeles, **China Short** of Sherman Oaks, and the **Broad Trust** of Los Angeles.

Anniversary donation

A thoughtful donor from San Francisco responded to our 40th anniversary fundraising campaign with a gift commemorating the Mono Lake Committee's founding date—$1978. We think that was so clever, and we are very pleased to receive that generous gift!

Committee supports Pioneer Solar Pavilion

The **350 MONO** climate action group and the **Mono Basin Historical Society** are collaborating to build a pavilion in Lee Vining this summer. The demonstration solar project and community gathering space will be located in Hess Park, generate renewable power, and feature displays about the Mono Basin's pioneer families.

The pavilion is being funded completely by donations, and the Committee is proud to have contributed $4,000 to celebrate our 40 years as part of the Lee Vining community.

If you'd like to learn more, or are interested in making a donation, please visit *bit.ly/solarpavilion*.

Naming Mt. Thoreau *book reading and signing*

In celebration of the new book, *Naming Mt. Thoreau*, editor **Laurie Glover** and contributors including **Gary Snyder**, **Tom Killion**, **Kim Stanley Robinson**, and others will be doing a reading and book signing in Lee Vining on Sunday, September 30, 2018.

Naming Mt. Thoreau is a beautiful and thoughtfully-crafted collection of essays, poems, and reflections that arose from the simple undertaking of ascending a mountain; it is a meditation on friendship and influence, proximity, and distance.

The authors started out to rename USGS peak 12,691 "Mt. Thoreau" to honor Henry David Thoreau for his writing that has been so important to generations of Americans seeking to define their relationship to wilderness and nature. Taking their cues from Thoreau, they compiled a set of texts and images as a call to close attention—not just to what is present but to what is not, but still is.

The reading is free, open to the public, and starts at 2:00PM at the Lee Vining Community Center. Books will be for sale at the event, and proceeds benefit the Committee. For more information visit *monolake.org/nmt*. ❖

Ellen King is the Committee's Membership Coordinator. She recently returned from a four-week vacation to Bhutan and Cambodia and is happy to be back in the Eastern Sierra just in time for summer!


ANDREW YOUSSEF

The Mono Lake Committee Wild & Scenic Film Festival team in Los Angeles in March.

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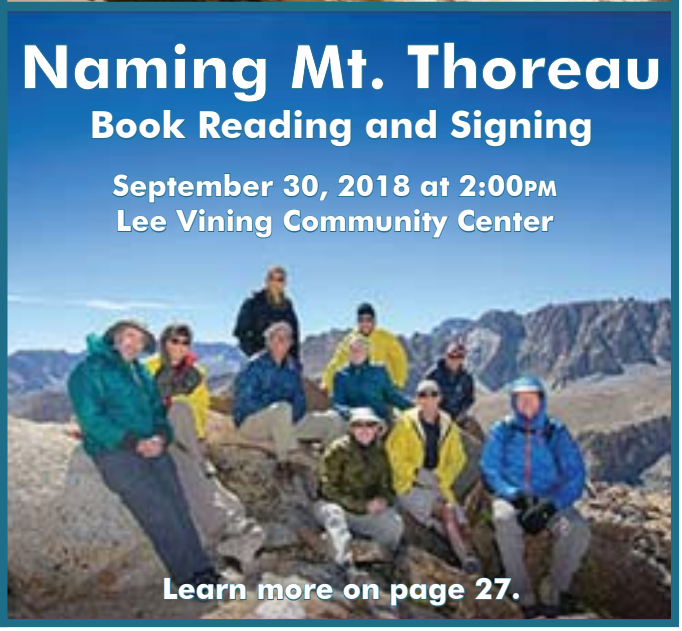

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