



Drought, Year Five

Ecological Monitoring

New Guided Tours

Mono Lake Map

full moon canoe tour on Mono Lake should be on your bucket list. There's nothing like it. With the cool salty air off the water, the moonglade, the tufa towers even more otherworldly, birds and bats skirting through the quiet open sky—it's like floating in the middle of a giant unbelievable black and white photograph.

While you've got your bucket list out, I recommend turning to page 14 of this *Newsletter*. The full moon canoe tour is just the beginning—the Mono Lake Committee is offering a whole slew of new guided trips and tours in addition to our regular offerings. We've pulled together some of the most knowledgeable, experienced, and fun people around to guide folks who are curious and want to see, learn, and do more in the Mono Basin.

In fact, in the process of putting the tours together we figured out that our staff has well over 100 years of experience in the Mono Basin, which is pretty fun to think about. So, it's true, there is way more than a lifetime's worth of things to learn about here. Turn the page to dive in—gulls, coyotes, fish, and Osprey are a good place to start.

But there's nothing like being at the lake. Nothing.

My partner Gabriel and I recently welcomed a baby into this world (see page 26). It's a little early for a full moon canoe tour with her but one of the things we can do is take benchmark photos down at the lake. Right now the lake is hovering around levels not seen since 1995, and while this is deeply concerning (see page 3), we take some solace in the protections in place and the Committee's 16,000 members helping us keep a watchful eye on the situation to help mitigate the blow of the drought.

And someday we'll take Illia out on a full moon canoe tour and be able to say, "See that tufa tower way down under the water? We have a photo of you sitting way down there."

We can't wait. And you shouldn't either.

-Arya Degenhardt, Communications Director



Osprey are one of the sure signs of summer at Mono Lake. These fish-eating raptors nest atop tufa towers and fly miles each way to the Mono Basin's freshwater lakes for food. This Osprey was banded by California State Parks staff. Mono Lake's Osprey have been tracked to Baja California in the winter via radio transmitters attached during banding.

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 in another drought year

Approaching the ecologically-critical lake level important for water exports, California Gulls, air quality

hen the California State Water Resources Control Board protected Mono Lake in 1994 by revising Los Angeles' water rights in a landmark decision, it linked lake level and water exports together. The closer the lake is to its mandated ecologically sound level, the more water Los Angeles is authorized to export.

This approach, advocated by the Mono Lake Committee to protect Mono Lake and meet real water needs in the city, also works in reverse: the lower the lake, the less water can be exported.

Last year, with the level of Mono Lake falling due to drought, the Los Angeles Department of Water & Power (DWP) reduced exports by 70%, as required by the State Water Board rules. This year, after a winter of belowaverage (but better than last year) precipitation, the lake is not expected to rise. Committee and DWP hydrologists have studied whether the lake might actually drop to the point that zero exports would be allowed.

The trigger level for halting exports is 6377 feet above sea level. Committee and DWP staff jointly measured the

by Geoffrey McQuilkin

lake level on April 1 and found it to be 6378.11 feet, roughly 13 inches above the trigger.

But the State Water Board requires more: Not only must the April 1 level exceed 6377, but the forecasted lake level for the entire subsequent year ending March 31, 2017 must also stay above 6377 feet.

Forecasting lake level for a year is not nearly as simple as reading the lake gauge.

March, April, and May were full of data gathering, analysis, and technical discussion. First the April 1 Mono Basin snowpack measurements came in at 84% of average. Then DWP prepared the Mono Basin runoff forecast, projecting streamflow at 74% of average. May 1 snowpack and precipitation data was then utilized to fine tune these forecasts.

The big question was how Mono Lake would respond to this level of runoff. The modeling considers many factors, including the varying surface area of the lake at different elevations, upstream operations such as reservoir storage, and of course water export to



DWP and Mono Lake Committee staff read the lake level gauge together every April 1. The lake level is one, but not the only, component used to determine DWP's allowable water exports for the year.

If the State Water Board had not required export reductions last year, Mono Lake would be a quarter-foot lower today, the forecast would have it falling below 6377 feet this year, and the safety of the nesting islands would have been lost.

Los Angeles. Also, there are two DWP models that provide useful forecasts, and the Committee runs the newer, collaboratively developed model to validate DWP's older model forecast.

While the technical work was underway, the Committee also engaged DWP leadership regarding the timing of planned water exports. We discovered that DWP had scheduled diversions to commence on April 1, but Committee staff and attorneys pointed out-through multiple meetings, calls, and discussions-that the lake level forecast would be unknown on April 1. It was reasonably possible that the lake would fall below 6377 feet, we argued, triggering the zero export rule, and so DWP exports should wait until the May data was in and a final consensus forecast was complete. To their credit, DWP managers agreed and, just 48 hours before diversion valves were scheduled to be turned on, DWP delayed exports until after the forecast was final.

Continued on page 24

Godzilla good riddance

by Bartshé Miller

inter is over, and with it, the passing of one of the strongest El Niño events on record. The heightened warming of the Eastern Pacific wrought storms, floods, and droughts around the world; it leveraged global carbon dioxide levels into record territory and propagated the longest coral bleaching event on record. In California El Niño did not perform as expected. It ameliorated, vexed, and ultimately extended a statewide drought into a fifth year.

Northern California fared well, with some regions receiving generous rain and snow. The north coast and the northern Sierra foothills received copious rain, and California's largest reservoirs, Shasta and Lake Oroville, filled to above normal capacity for the first time in years. Southern California was unlucky. From the south coast to the southeast desert basins it was a winter not unlike the previous four—warm and dry. Los Angeles logged about half of its normal rainfall and endured a third consecutive winter of well-above normal temperatures.

In the Sierra, years of drought and the arrival of wet weather played tricks on people's minds. Ski resorts opened early, and years of repressed winter fun was uncorked. News, blogs, and social media spun with tales of El Niño hype, storm hyperbole, and bountiful snow. Many concluded that the Sierra received healthy snowfall. However, the April 1 snow survey revealed that this was only 85% true, statewide. The perception is understandable and ironic: This year's below-average snowpack equaled the previous three years' worth, combined.

In the mountains above Mono Lake, El Niño delivered only 84% of the usual snowpack. Extreme drought conditions



BARTSHÉ MILLER

The story of this past winter: snowy Sierra Nevada peaks to the south but no snow on the ground near Mono Lake.

persist. The lake is missing at least two entire years' worth of runoff since 2012, and this year will leave the basin in further deficit. The lake is six feet lower than when the drought began, and it will shortly fall below a twenty-year low, narrowly avoiding the 6377-foot elevation that suspends all stream diversions to Los Angeles (see page 3).

While this winter put a dent in Northern California's drought, El Niño brought no relief for Southern California. Because there is more water in key reservoirs, there will be more water for cities and some farmers compared to recent years. Disaster is not around the corner, though nor is a quick end to the state's historic drought.

The "Godzilla" El Niño, highly anticipated but largely disappointing, has vanished. Meanwhile, La Niña approaches, whispering statistical probabilities of a drier winter ahead. �

Committee optimistic for new license in 2016

by Geoffrey McQuilkin

Since 2013 the Mono Lake Committee has been moving the Mono Basin Stream Restoration Agreement through the channels necessary to incorporate the terms into the official water license issued by the California State Water Resources Control Board to the Los Angeles Department of Water & Power (DWP).

The Agreement is a milestone in the long-running effort to recover the health of Rush, Lee Vining, Walker, and Parker creeks after the damage of decades of excessive water diversions. The Agreement was finalized between the Mono Lake Committee, DWP, California Department of Fish & Wildlife, and CalTrout.

The Committee continues to invest a large amount of time to ensure that each element of the Agreement is fully and accurately included in the text of the license. Once the license is issued, the many benefits of the Agreement will commence. Some, like winter flow schedules beneficial to trout, spring peak flows beneficial to Lee Vining Creek habitat, and a new approach to management of scientific monitoring, will commence immediately. Others—most notably the high flows slated for Rush Creek that require a new Grant Lake Reservoir outlet—require the license in order to commence construction.

A public comment period will be part of the process and we will be alerting Committee members when it begins. Please be sure we have your correct email address by visiting *monolake.org/action*.

Gull protection likely needed in 2017

alifornia's drought has lowered Mono Lake to the point at which the nation's second largest California Gull rookery, home to 50,000 nesting birds, is in danger. The shrinking moat of water between Negit Island and the lake's north shore could soon prove inadequate in deterring predators like coyotes.

While it appears that Mono Lake will stay just barely high enough to provide protection during the 2016 nesting season, the lake level forecast (see page 3) places it half a foot below that same threshold at the start of the 2017 nesting season.

As a result, management discussions have progressed from contingency planning to the actual logistics of how to efficiently construct a temporary fence as a covote barrier in the months ahead. Efforts could wait until early 2017, which would allow time to see how the 2016–17 winter develops, since a notably wet winter could still alleviate the need for a fence. However, constructing a fence on a remote patch of exposed lakebed is enough of a challenging project; doing it in the middle of next winter's cold and windy conditions only adds to the challenge. So options for installation in summer or fall 2016, when access is easier and fence crews are more available, are also under consideration.

No one really knows the minds of Mono Basin coyotes, so acting

by Geoffrey McQuilkin

sooner rather than later has another benefit: The primary value of a fence is to deter coyotes from reaching the nesting grounds and learning that they are a plentiful food resource. If coyotes have that motivation, a fence will be much less effective in providing protection. There are no guarantees of what will happen as the lake hovers at these low levels and an adventurous coyote could always decide to take an exploratory swim.

The Mono Lake Committee and California State Parks, in consultation with the Department of Fish & Wildlife, developed details for a protective fence over the last nine months. The current design is for a multi-strand, solar powered electric fence, similar to those used with livestock on ranches. Fence strands would be lowered for the fall and winter to avoid obstructing wildlife outside the nesting season. The fence will be temporary and fully removable when the lake rises several feet above the threshold of concern.

California State Parks will be the lead agency for the fence project, with the Committee serving as a major partner by providing funding for materials and coordination of volunteer support. State Parks has completed an environmental review, which helped guide careful thinking about routing and construction methods. Mono Lake's protected status means that multiple permits are required for the project, from agencies like the California Department of Fish & Wildlife, Army Corps of Engineers, and Lahontan Regional Water Quality Control Board; those are all underway. Working closely with adjacent land managers at the US Forest Service is also critical.

Concern for the safety of the nesting islands has existed since the earliest days of the Mono Lake Committee, as the lake was five feet lower at that time and the landbridge was extensive. Back then the primary concern was for the survival of the eggs and unfledged (flightless) chicks. This concern of course remains prominent, but there is also another—research has shown that the effects of a single summer of predation extend far longer.

California Gulls have been unexpectedly slow to recolonize safe island habitat that was once predated, even after the lake has risen. The concern now is that one year's predation could potentially change established nesting patterns for decades, driving California Gulls to less secure habitats, often where they are less desired.

Ultimately, wet winters will raise Mono Lake and restore the watery nesting island protection the gulls depend on. Until then we plan to lend a helping hand to mitigate the unfortunate problems that come with Mono Lake being so low. �



Committee wildlife cameras have captured evidence that coyotes are currently active in the landbridge area along Mono Lake's north shore.

Ecological monitoring program at 38 years

Mono Lake Committee field presence critical to protecting lake and streams

by Lisa Cutting

ype the word "monitoring" into the Mono Lake Committee's website search bar and 673 results appear. To say that scientific monitoring and environmental advocacy work go hand in hand for the Committee is an understatement.

Ever since the Committee's founders conducted the fundamental and pivotal ecological study of Mono Lake in 1976, scientific research and monitoring have been the basis for all of the work that has followed. In crafting policy positions, all aspects of an issue must be analyzed and understood, since arriving at a balanced solution often means that the ideal, perfect path forward isn't always possible. Sometimes a compromise can be negotiated, sometimes not. Science and monitoring inform those decisions.

Why the Committee?

Why does the Committee do field monitoring? Isn't that the responsibility of agencies like the Los Angeles Department of Water & Power (DWP) or the US Forest Service? The answer is both yes and no. Different agencies have different directives and most only do what is mandatory. Often the mandatory tasks aren't enough because they represent individual pieces of a much larger puzzle. That's why the Committee steps up.

The Committee looks at the whole Mono Basin—Mono Lake, the streams, and the surrounding lands—and how it functions as a complete system and therefore is always striving for the most comprehensive approach to protection and restoration. When information gaps arise the Committee musters the resources to help fill them. We are constantly



The Committee supports annual California Gull research.



Outdoor Education Center groups help remove invasive plant species from the banks of Mill Creek.

pushing for the most comprehensive scientific exploration, the most relevant monitoring, and the most expert analysis of Mono Basin-specific information.

The Committee's monitoring and scientific research also serve as a way to check to make sure that things like State Water Board flow requirements are being met. Issues such as equipment malfunctions, inconsistent sample processing, and quickly-changing conditions that need immediate monitoring have happened in the past, so having the Committee collect information helps augment the efforts of other agencies.

Plus, the Committee is the only organization or agency that has the staff resources to be at the lake or check a streamflow measurement within 15 minutes when necessary. Scientists often need Committee staff to field check an assumption or relay current conditions related to a study they're working on. The Committee is happy to help and makes these activities a priority.

A sample of monitoring tasks

In the late 1970s monitoring was simpler. Is there water in the creeks? Is Mono Lake rising? How much? But now, 38 years later, Committee staff perform a wide variety of monitoring tasks year-round and have sophisticated equipment to get the most accurate information possible.

The Committee's annual monitoring and scientific research support currently includes:

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Monitoring from page 6



Committee staff gather temperature and dissolved oxygen data at Grant Lake Reservoir.

Mono Lake level: Since 1978, Committee staff have read the official lake level gauge. DWP staff also read the gauge. Having two independent readings ensures accuracy and helps prevent conflicts.

Migratory bird projects: Since its founding the Committee has supported annual California Gull rookery monitoring by either sending staff out to the islands to help field researchers or with funding when other sources diminished and threatened to end the long-term data collection—or both, as is the current situation. The Committee also leads the annual Eared Grebe aerial population survey by organizing pilots, photographers, and data collection, which is then sent on to experts in Canada for scientific analysis.

Streamflow and water diversions: The Committee receives a daily report from DWP with flow and water storage information for the entire aqueduct system and reviews hydrological information posted on DWP's website. Any problems are investigated.

Rush and Lee Vining creek groundwater: Piezometers (tubes inserted deep into the ground near creek corridors) are used to read groundwater levels. These levels are important because they affect healthy vegetation growth, especially in the lower floodplain areas where the streams split into shallow channels. This monitoring began in 1995 and is conducted year-round, with more frequency in the summer months.

Mill Creek and associated diversions: Flow monitoring in the north part of the Mono Basin began in earnest in 1999, largely in response to excessive water diversions drying up Mill Creek before it reached Mono Lake. This has informed the Committee's Mill Creek restoration advocacy work and contributes significantly to progress on improving the Lundy hydropower operation and irrigation efficiency to ensure that Mill Creek receives all the water to which it is legally entitled.

Grant Lake Reservoir: In response to the past four years of drought and low Grant Lake Reservoir levels, last year the Committee began monitoring water temperature and dissolved oxygen by boat in three locations every three weeks throughout the summer. The Committee wanted to help refine the theory that a low reservoir was warmer and responsible for adverse downstream effects on Rush Creek. Since a higher water temperature correlates with less dissolved oxygen, it affects aquatic life, most notably trout. Since Grant is still very low, this monitoring will continue this summer.

Invasive plant species: The Committee's program of mapping key invasive plant species locations and removing the plants began in 1998 with a State Water Board restoration directive focused on tamarisk, and has since expanded. Degraded creek corridors remain a priority since disturbed habitats are vulnerable to invasive plant recruitment. The

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The Committee collects streamflow and water diversion data for Mono Basin streams monthly all year, and weekly in summer.

No drones in Mono Lake's State Park

Drone restriction issued for Mono Lake Tufa State Natural Reserve

by Lisa Cutting

ith the passes opening and visitors making their migrations to Mono Lake, California State Parks has issued a decisive and progressive special order just in time for summer—unmanned aircraft (drones) are now prohibited from flying over land and water in the Mono Lake Tufa State Natural Reserve. No longer will birds, wildlife, and visitors have to endure the buzzing disruption of drones along Mono Lake's shore.



Nesting Osprey will no longer be disturbed by drones at Mono Lake.

Specifically, Order Number 683-16-018 states, "Unmanned aircraft, also known as 'drones,' 'quad-copters' and similar are hereby restricted from non-permitted operation over the state lands and water under the operational control of California State Parks."

State Parks staff responded quickly to last summer's myriad reports of drone disturbance—drones seen flying over nesting Osprey, flushing foraging shorebirds, and hovering over people on walking tours. Working hand-in-hand with the State, Mono Lake Committee staff documented incidents over the last year; based on these observations it became clear that recreational drone use was a problem. With this new order the Mono Lake Tufa State Natural Reserve now joins Yosemite National Park and designated Wilderness Areas as "no-fly zones" for drones.

The Committee anticipates that beyond the State Park boundary recreational drone use in the Mono Basin will continue to negatively affect wildlife and interfere with visitors' experiences. The Federal Aviation Administration the lead agency on ensuring safety in the nation's airspace hasn't released any new restrictions or regulations since the 2015 requirement that all drone owners must register their aircraft so they can be traced if a problem arises.

The Committee realizes that this news will concern

some people, especially serious photographers or amateur filmmakers who want to capture Mono Lake's stunning beauty from this unique vantage point. Balancing this new restriction with the opportunity to secure special permission by way of a permit—which State Parks has done—is key to allowing careful use to occur in limited ways when approved.

Permits can also be obtained for drone use for scientific research purposes. Scientists already need to obtain permits for research studies so reviewing drone use will now be part of the permitting process.

For several years the Mono Lake Committee has been keeping an eye on the increase in recreational drone use and associated incidents of wildlife and visitor disturbances at Mono Lake (see Fall 2014 *Mono Lake Newsletter*). This new restriction will protect birds, wildlife, and people—and maintain the unique qualities of solitude and wildness that make Mono Lake so special. \diamondsuit

How to: Drone responsibly

when using your drone in allowed areas, please be sensitive and respect other visitors and their experience—your desire for a photo or video should not impair others' enjoyment of the natural surroundings. In addition, please keep in mind the following regulations:

- Drones are prohibited over land and water within the Mono Lake Tufa State Natural Reserve. (California Department of Parks & Recreation order)
- Do not disturb birds or wildlife. Disturbance causes stress that can significantly harm individuals and populations, especially during breeding, nesting, and feeding activities. (California Fish & Wildlife code)
- Drone operation is prohibited within five miles of an airport unless permission is granted in advance. Lee Vining Airport is located immediately east of the town of Lee Vining. (Federal Aviation Administration)
- In the event of wildfires, temporary flight restrictions are implemented and drones are prohibited so firefighters in fire suppression aircraft can respond safely. (Federal Aviation Administration)
- Drones are prohibited within designated Wilderness Areas and Yosemite National Park. (US Forest Service and National Park service)





The 2016 OEC group line-up

e've got a great roster of new and returning groups visiting the Mono Basin Outdoor Education Center for life-changing five-day watershed education programs in the 2016 season. We're looking forward to seeing you all!

- Academy of Environmental & Social Policy, City of Los Angeles Council District 1
- Homeboy Industries, Council District 1
- Olympia Academy, Council District 4
- Casa Esperanza, Council District 6
- Pacoima Beautiful, Council District 6
- Crown Preparatory Academy, Council District 10
- Roosevelt High School, Council District 14
- Franklin High School, Council District 14
- John Muir High School, Council District 14
- Port of Los Angeles High School, Council District 15
- Communities for a Better Environment, Huntington Park (2 groups)
- East Yard Communities for Environmental Justice, City of Commerce
- Outward Bound Adventures, Pasadena
- Northridge University, Chicano Studies Faculty, San Fernando Valley
- Friends of Los Angeles River, greater Los Angeles area
- LA WYLD, greater Los Angeles area
- Sierra Expeditionary Learning School, Lake Tahoe
- Global Lab Reunion, Modesto
- Renaissance International School, Oakland (3 groups)
- West Career & Technical Academy, Las Vegas, NV

Stewardship in LA

During the snowy season at Mono Lake the OEC staff does outreach in Los Angeles—connecting with new and returning groups and keeping the memories from and lessons learned at Mono Lake alive. This year we went out with a group from Ballona Creek Renaissance and Los Angeles Audubon for a native wildlife habitat restoration project at the Baldwin Hills Scenic Overlook State Park (photo above).

Thank you volunteers

e host the Wild & Scenic Film Festival in Los Angeles to benefit the Outdoor Education Center (see page 24). This year LA Education Coordinator Herley Jim Bowling rounded up five student volunteers from Port of Los Angeles High School to help at the event. Thank you volunteers for helping make the event a success!



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.

OTOS BY SANTIAGO M. ESCRUCERIA

monolake.org/education

Policy notes

by Lisa Cutting

Old Marina Trail

Work will continue this summer on the trail that connects the Old Marina visitor site to the David Gaines Memorial Boardwalk and the Mono Lake Trail to the Mono Basin Scenic Area Visitor Center. Last summer California State Parks contracted a California Conservation Corps trail crew to replace the old trail surface with new ADA-compliant, and more durable, material. The project is expected to be completed by fall.

Walking trails in the Mono Basin get lots of use by visitors and residents, so improvements and periodic maintenance are important. There are also several initiatives underway led by Mono County Community Development to connect existing trails that will further enhance the trail network.

Conway Ranch planning

Motivated by a desire to develop a detailed plan for the Conway Ranch property, Mono County has begun a strategic planning process with a series of public meetings and formal discussions. Ultimately the final plan will need Board of Supervisor approval.

The strategic plan will guide all activity at Conway Ranch, but it will

also be a living document, meaning that it can change over time in response to changing priorities and as new information about the property is learned. Any changes and all components of the plan will have to comply with the existing framework of the Eastern Sierra Land Trust conservation easement guidelines and restrictions. Of course, Mono County budget constraints will come into play, though grant funding may move some projects up in priority.

The Mono Lake Committee continues to urge Mono County to prioritize efficiencies related to water conveyance infrastructure improvements, water monitoring, and appropriate irrigation practices.

Inyo National Forest plan release

The long-awaited Draft Environmental Impact Statement (DEIS) for the updated Inyo National Forest Management Plan is expected to be released to the public this summer for comment. Guided by the 2012 planning rule and begun in earnest in August 2014, the Inyo—together with the Sequoia and Sierra National Forests—has been sharing information



Work continues this summer on the trail from Old Marina to the Scenic Area Visitor Center.



Committee staff keep close track of water flowing in the north Mono Basin.

and collecting input on various sections of the plan during the past two years.

Throughout the process, the Committee has provided information focusing first on the Mono Basin and then other areas of the Inyo as appropriate. The current management plan is 28 years old, which underscores the importance of the plan and indicates how long it will guide activities in the Inyo National Forest into the future.

The Committee will give the DEIS a thorough review during the 90-day comment period. Watch for updates and get involved in this process at *monolake.org*.

National Park Service centennial

The National Park Service is celebrating its centennial with special events scheduled throughout the year to commemorate the August 25, 1916 anniversary of its establishment. Visitors may recall celebrations from last year when Yosemite National Park celebrated its 125th anniversary; Yosemite became a national park 26 years before the National Park Service existed.

Events in Yosemite will highlight the achievements of the last 100 years



Rockfall project: Final construction season

By this fall, the Lee Vining Rockfall Safety Project work will be completed and the clock will start for the five-year revegetation portion of the project. The project will reduce rockfall occurrences along a narrow stretch of Highway 395 north of Lee Vining and adjacent to Old Marina, making the highway safer for motorists.

Road work is scheduled to begin mid-July. Temporary traffic control signals will operate 24 hours a day for the duration of the project and motorists should expect delays of up to 20 minutes. The signals will be activated by motion sensors to reduce the wait time.

Crews will be working on the last two of the six original slopes—slopes 3 and 4. The treatments for slope 3 will include removing loose rocks, adding soil amendments, and a specialized revegetation plan. Slope 4 is the most challenging of the slopes—it is broad by Lisa Cutting



Vegetation has begun to grow on the slopes stabilized during last year's work.

and steep and has numerous ancient lakebed tufa formations to work around. In fact, last summer work crews observed birds nesting in the tufa cavities, which influenced the contractor to start construction work after the nesting season is over. Work on slope 4 will include an additional treatment of anchored mesh (like slopes 5 and 6) for additional stability. This Caltrans project will improve motorist safety by reducing rockfall incidents along this heavily-traveled one-mile section of Highway 395. For the Mono Lake Committee, the end result of improving road cut scars with a long-lasting revegetation plan is a great example of a project that improves this area of the Mono Basin—both for people as well as the landscape. �

Policy notes from page 10

and will also look toward the future the second century of stewardship for America's national park system. Focus areas include recreation, conservation, and historic preservation, with a specific focus on today's youth and the next generation of National Park advocates—all of which the Committee wholeheartedly supports.

Committee shares experience at conferences

Once again Committee staff presented at the California Society for Ecological Restoration (SERCAL) conference in South Lake Tahoe, and at the Great Salt Lake Issues Forum in Salt Lake City, Utah, both held in May.

The Committee has much in common with Friends of Great Salt

Lake, the organization that hosts the Issues Forum. It's beneficial to talk through the challenges and strategies involved in protecting two of the West's important saline lakes.

The SERCAL conference theme— Creativity in Collaboration—is one that drives our policy work every day so we were eager to share the Committee's successes.

This year our presentations focused on the Mono Basin Stream Restoration Agreement finalized in 2013 and the Caltrans Lee Vining Rockfall Project (see above). Both of these projects have unique components that make them extremely successful restoration achievements. For example, the Stream Restoration Agreement includes the development of a new monitoring procedure that allows critical changes in operations to be made quickly. This will improve the existing program that is currently full of time-consuming administrative hurdles that can delay restoration progress. The Rockfall Project includes a five-year postconstruction revegetation plan with specific and detailed success criteria, including predetermined plant composition and density goals.

The goal of presenting these exemplary projects and collaborating with other Western organizations is to generate thought-provoking discussion among our restoration colleagues and inspire creative and balanced solutionapproaches to environmental challenges where applicable. \bigstar

Exceptional drought drags on

by Greg Reis

uring February and March, a Temporary Urgency Change Petition allowed the Los Angeles Department of Water & Power (DWP) to release flows as low as 20 cubic feet per second (cfs) into Rush Creek from Grant Lake Reservoir. The minimum flow would have been 36 cfs when the reservoir held more than 11.500 acre-feet, and as low as the inflow when the reservoir was lower. DWP released a steady 24 cfs in order to avoid mirroring the wildly fluctuating inflows, and stored an additional 1,130 acre-feet in the reservoir. This additional water in the reservoir will help keep Rush

Creek colder, which should help the downstream trout fishery this summer.

The preliminary runoff forecast issued in April is 74% of average, which classifies the 2016 runoff year (April 1, 2016–March 31, 2017) as a Dry-Normal I year type. If the final May 1 forecast exceeds 75% of average it will be a Dry-Normal II year type, which requires a slightly larger peak flow release to Rush Creek. Last year was the driest runoff year on record, which at 43% of average turned out to be much wetter than the forecast of just 25% thanks to the wettest summer on record. As the fifth consecutive year of

well below average runoff begins, the drought severity lessens slightly but continues to be worse than any fiveyear drought on record.

This Dry-Normal year is the first non-"Dry" year since 2011 and it means that this will be the first year since 2013 that peak flows will be released to the streams. Even though the peak flows will be relatively low, it is hoped they will be enough to flush some of the fine sediments downstream that have accumulated in the stream channels over the last four years, helping to maintain stream conditions that benefit the fisheries. 🛠

Lakewatch

Mono Lake decline continues at a less-rapid pace

by Greg Reis

rediversion lake level, 1941

Aanagement lake level

ith forecast runoff this year only 74% of average, according to the DWP lake level forecast Mono Lake is expected to drop from its current

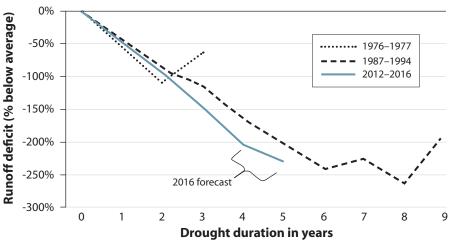
May elevation of 6378.15 feet 6417' above sea level to a low point near 6377 feet in November, and rise to near 6378 feet by next April. The Committee's Lake levels this year. 6392' The forecast always assumes median precipitation will occur,

expert review of DWP's forecast shows it reasonably matches our expectation of likely Mono

> however it has been that wet only four times during the last 15 6372' years, and Mono Lake has been as high as predicted only three times. Last year was 1982 one of those unusual years-the record-wet low, spring and summer Historic lo caused Mono Lake to exceed the level

forecasted for April 1, 2016 by 0.9 feet. New tools can improve accuracy, and DWP will switch to a newer forecasting equation that reflects more recent trends in Mono Lake level when the new license is approved by the State Water Board (see page 4).

The late summer lake level is expected to be the same as it was in 1995. Extreme weather can cause rapid changes in Mono Lake's level-since the beginning of this exceptional drought, the wettest four years on record would have raised the lake seven feet, but instead the driest four years on record have caused an almost six-foot drop-and the drought continues into a fifth year. 🛠



Mono Basin drought severity

A comparison of the Mono Basin's most severe droughts, showing the cumulative runoff deficit below the combined 122,121 acre-foot annual average runoff for the creeks.

Mono Basin Journal

A roundup of quiet happenings at Mono Lake

by Geoffrey McQuilkin



his past winter my daughter studied Mill Creek for a science project, confirming that the creek flowed at temperatures far below freezing and discovering all manner of interesting ice formations. Walking with her in Lundy Canyon to the creek in a chilling wind, through waist-deep drifted snow, felt like we were far from urban California, virtually in the wilderness.

But just as the aqueduct extends the Los Angeles watershed to Mono Lake, so too do miles of hydroelectric power lines tie Mill Creek and its future to California's power grid. We were reminded of this, surprisingly enough, while visiting the Huntington Library in Pasadena after the regional science fair.

There, just down from a rare copy of the Gutenberg Bible, was a California history exhibit, showing a portion of the

1921 Southern California Edison promotional film titled, with the unabashed enthusiasm of a century ago, Kilowatt the Conqueror. And what should appear but Mill Creek. "Longest high voltage transmission line in the world: from Mill Creek back of the Yosemite, to Yuma ... 539 miles," it bragged, showing scenes of industrious dam construction.

The next exhibit to the left was a letter from John Muir about preserving Hetch Hetchy, a fitting reminder that all of our special Sierra places need vigilant protection, because they are interconnected with all of California-and that means our choices determine their fate. *

Geoff McQuilkin is the Committee's Executive Director. He is eager to explore the Mono Basin backcountry this summer with his backpacking family.

Benchmarks

RTESY OF THE AMERICAN RIVER CONSERVANC



July 2013: This partially submerged tufa spring near Navy Beach was a popular stop on canoe tours in years past. Mono Lake level: 6381.7 feet above sea level.



April 2016: After years of drought, with 3.6 feet less water than the photo at left, you can now see this tufa tower without getting your feet wet. Mono Lake level: 6378.1 feet.

Custom guided trips

ustom Mono Lake guided trips allow individuals, couples, or families the flexibility and convenience to enjoy the Eastern Sierra beyond the surface. We can help you shortcut the planning and homework. Our staff have over 100 years of collective outdoor experience in the region. Whether you are looking for an adventure, some good hikes, canoeing, or a birdy jaunt, we have the energy, knowledge, and stories to go with it.

Custom guided trip ideas • monolake.org/trips

Better birding

Working on your life list? Hoping to take great bird photos? We'll take you to the best habitats and help you make the most of your birding time.

Fall color secrets

Don't know where to go to find the best fall colors? We do! Great for photography or to simply enjoy this incredible seasonal treat at its peak.





Mono Lake: The whole picture

Spend a day learning all about the natural history of the lake while exploring the basin with an expert.

Ice & fire

Explore geology hotspots and transport yourself millions of years into the past.

Photography

Want to get that early morning sunrise shot? Let us lead you in the dark.

e jumped at the chance for a full day of birding with Nora. We were delighted to find that she is not only an expert birder who knows her patch well, but has a broad range of associated skills in natural history as well. If you are looking for a birding guide in the Mono Lake area, Nora and the Mono Lake Committee can't be beat." -Jess Morton

Call (760) 647-6595 or email nora@ for a custom trip!

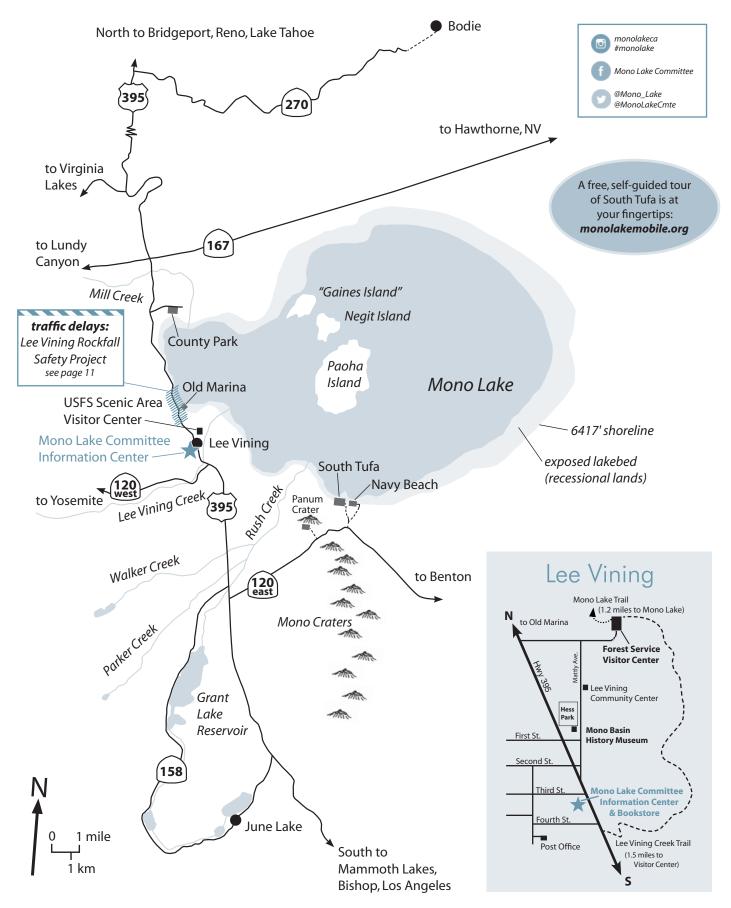
Meet Lead Naturalist Guide Nora Livingston

ora first worked for the Mono Lake Committee as an intern in 2008. Since that time she has worked as a field biologist studying birds in the Eastern Sierra, coastal California, and on Santa Cruz Island. While earning her degree in Environmental Studies, she led many birding outings for her college's Biology program.

Many may recognize Nora from leading popular field trips at the Mono Basin Bird Chautauqua. Nora's love for birds, flowers, geology, and hydrology is contagious. Her knowledge of the natural and cultural history of the Mono Basin paired with her guiding skills make any outing with her a blast!



Summer at Mono Lake



When you visit Mono Lake

Restled at the edge of the arid Great Basin and the snowy Sierra Nevada mountains, 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. In 1979 the Committee took the City of Los Angeles to court, arguing that DWP had violated the public trust doctrine, which states: "The public trust ... 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



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.

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.



Canoe on Mono Lake

- Saturdays and Sundays at 8:00, 9:30, and 11:00_{AM}, tours last one hour
- \$25 per person, \$30 on holiday weekends
- Reservations are required: monolake.org/ canoe or (760) 647-6595
- Sorry, no kids under the age of 4

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

Full moon canoe tours

New this year! Full moon canoe tours August 17 and September 16—see page 19.

you are part of the Mono Lake story



Free naturalist tours at South Tufa

- Daily at 10:00 АМ, 1:00 РМ, and 6:00 РМ
- Tours are free, but there is a \$3 per person entrance fee for 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.

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.

Long Live 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 guided trip (new this year). Check out Mono Lake online at *monolake.org*. Stay connected to Mono Lake and help ensure its protection for generations to come. \clubsuit



Free bird walks at County Park

- Fridays and Sundays at 8:00AM
- Meet at Mono Lake County Park, tours last 11/2-2 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).

Guided Trips



Birding Basics

June 3, morning half day

New to birding? An expert birder will get you started off right. Spend the morning practicing your skills finding and identifying some great birds.

Birding Riparian Zones

June 8, morning half day August 16, morning half day

Mono Basin creeks and canyons are hidden jewels for breeding and migrating songbirds in the high desert. This birding trip will explore lush riparian areas that are hotspots for bird activity.

Birding Bridgeport Valley & Reservoir

June 9, full day July 15, full day August 27, full day September 4, full day

Bridgeport Reservoir offers spectacular waterbird viewing and hosts many songbirds on the riparian edges of waterways. This full day trip will explore the diversity of species on the water and in the valley.

Twilight Birding & Owling

June 25, evening half day

Evening in the Mono Basin is spectacular—the fading light rarely disappoints and unique wildlife emerges in the dusk. Spend the twilight hours with a naturalist while the sun sets.

Wildflower Waltz

June 29, morning half day July 14, morning half day July 21, morning half day

Working on learning wildflowers? We will focus on identification and natural history of the plethora of blooms that grace the trails and wet meadows. Great for photographers and budding botanists.

High Country Birding

June 30, morning half day July 7, morning half day

On this birding trip we will explore the pine and fir forests above 8,000 feet to search for specialty birds and learn about their mile-high lives.

• half day:

\$75 per person, \$65 for members, \$35 for kids (ages 5–12)

• full day:

\$135 per person, \$125 for members, \$65 for kids (ages 5-12)

• kids under age 5 are free

monolake.org/trips or (760) 647-6595 to sign up

Crowley Lake Reservoir Birding

July 1, morning half day August 25, morning half day

This birding trip will explore wet meadows, alkali lakes, sagebrush scrub, and the open waters of the freshwater Crowley Lake Reservoir to build an exciting list of bird species in a spectacular location.

Mono Basin Butterflies & Dragonflies

July 6, morning half day

On this trip we will spend the morning wandering riparian meadows and dry sagebrush habitats learning to identify some of the local butterflies and dragonflies as well as the plants that they need to flourish.

Natural History Ramble

July 17, morning half day August 20, morning half day September 7, morning half day

The Mono Basin has beautiful and diverse habitats, as well as ample opportunities to observe wildlife, wildflowers, and wild views. Hike with a naturalist guide and learn more about your spectacular surroundings.

Woodpecker Wander

July 28, morning half day

Explore the Jeffrey and lodgepole pine forests in the Mono Basin with a guide, searching out and paying special attention to snag-happy species like woodpeckers, Mountain Bluebirds, and nuthatches.

Mining the Past Through Binoculars

July 31, full day August 3, morning half day September 15, full day September 18, morning half day October 1, morning half day October 21, full day

The Mono Basin is rich with Native American, mining, logging, and ranching history. Spend the day visiting historic locations while learning about the stories behind them and the critters that inhabit them today.

Birding the Volcanoes

August 9, morning half day September 2, morning half day October 6, full day

The Mono Basin is a world-famous window to the rich geologic past of California, where stunning evidence of glaciers and volcanoes abounds. Visit local geology spots while searching for birds and mammals.

Full Moon Canoe

August 17, evening half day* September 16, evening half day*

There is no better way to immerse yourself in the majestic calm of Mono Lake than to experience it by canoe. This special evening program offers a two-hour guided canoe tour as the sun sets and the full moon rises. **Pricing:* \$100 per person, \$90 for members, \$50 for kids (ages 4–12), no kids under the age of 4.

Shorebird Migration Birding

August 31, full day

The east slope of the Sierra Nevada is a major migration route for birds traveling from northern nesting areas to warm southern habitats. This all-day trip will focus on scouring mudflats and ponds for birds on the move.

Fall Raptor Rapture

September 28, morning half day October 14, morning half day

Bridgeport Valley provides ample wide-open habitat for charismatic raptors. This trip will focus on locating and identifying those tricky hawks and accipiters, both perched and in flight.

Fall Color Foray

October 5, morning half day October 13, afternoon half day October 15, morning half day October 18, morning half day October 19, afternoon half day

During peak season, we will hit the hotspots of colorful quaking aspen groves in the morning or early evening, enjoying the glittering gold, ruby, and emerald forests while learning about aspen ecology.

See full descriptions, trip leader information, cancellation and refund policies, and more helpful information at *monolake.org/trips*.

2016 Field Seminars



Visions of the Past: First Discoveries June 4–5 • Terri Geissinger \$155 per person / \$140 for members

The Mono Basin is filled with monuments to a bustling past—take a journey back in time and discover its fascinating history. The past will spring to life as you hear stories of the discoverers, the prospectors, and the families who settled here and made the Mono Basin their home. Visit Dogtown, Monoville, Bodie (with a special visit to the Bodie Bluff!), Mono Mills, stagecoach routes, railroads, and gold mines. Terri Geissinger is a Bodie State Historic Park interpreter and guide with a contagious love of history.

South Shore Kayak

June 11 • Stuart Wilkinson & Committee staff \$105 per person / \$95 for members limited to 12 participants

Early summer 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 that will cover a wide variety of topics relating to this unusual Great Basin lake, including 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.

The Natural History of Mono Basin Woodpeckers

June 14–16 • Steve Shunk \$165 per person / \$150 for members

Join North American woodpecker specialist Steve Shunk for this dynamic overview of Mono Basin woodpeckers. Woodpeckers are one of the most specialized bird families in the world, and at least nine species of woodpeckers occur regularly in the Mono Basin, making the forests around Mono Lake a perfect stage for observing these amazing forest carpenters. Steve has studied the ecology of western forests for the last 16 years and recently completed the *Peterson Reference Guide to Woodpeckers of North America*.

Miwok-Paiute Basketry

June 24–26 • Julia Parker, Lucy Parker, Ursula Jones \$265 per person / \$250 for members \$80 materials fee limited to 12 participants primitive group campsite included (no pets)

During this seminar, participants will prepare materials and create a small Miwok-Paiute burden basket—used for gathering pinenuts, acorns, and berries. This seminar is designed for weavers of all levels and participants are encouraged (but not required) to camp with the group at

Mono Lake Committee Field Seminars fill quickly every year register online at *monolake.org/seminars* or call (760) 647-6595. a peaceful private campsite near Lundy Canyon. 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 who has dedicated her life to learning and teaching basketry. Ursula, Lucy's daughter and Julia's granddaughter, is carrying the tradition forward.

Music & Ecology in the Mono Basin

June 24–26 • Cole & Priscilla Hawkins \$180 per person / \$165 for members

This nature and music adventure in the Mono Basin will connect the grandeur of the Sierra Nevada and Mono Lake with the music of Ludwig van Beethoven and Jean Sibelius. The seminar will include dinner catered by Linda Dore at the Hawkins' home on the north shore of Mono Lake. Priscilla Hawkins received a Bachelor of Music from the University of Michigan, holds a California teaching credential and has taught cello and chamber music for 40 years. Cole Hawkins earned a Master's in Biology at Fresno State and a PhD in Wildlife and Fisheries Sciences from Texas A&M.

Mono Basin Natural History: Aquatic & Terrestrial Habitats

July 8–10 • David Wimpfheimer \$190 per person / \$175 for members limited to 12 participants

The Mono Basin is one of the most diverse ecosystems on the continent; this field seminar will be an overview of the varied habitats that are found here. We will enjoy the rich diversity of mammals, butterflies, wildflowers, trees, and other plants as we explore the Mono Basin, and a major focus of this seminar will be the identification and ecology of birds that breed here. A guided canoeing exploration of Mono's south shore is included in this class. David Wimpfheimer has been an educator and interpreter for over 20 years, focusing on birds and California's natural history.

Loosen Up with Watercolor

July 8–10 • Penny Otwell \$175 per person / \$160 for members limited to 12 participants

With larger brushes and brilliant transparent watercolor, learn to express your vision of the remarkable landscape of the Mono Basin through this field seminar. Painting exercises focusing on design and color will form the basis of this class for beginner to intermediate painters while working both indoors and outdoors. Instructor Penny Otwell paints professionally in the Sierra Nevada, and her distinctive style has evolved as a self-taught painter. Her work has been influenced by the work of Chiura Obata, Maynard Dixon, Edgar Payne, and Wayne Thiebaud.

Mono Basin Moonlight Photography

July 15–17 • David Gubernick \$275 per person / \$250 for members limited to 10 participants

Nighttime photography opens up a new world of photographic possibilities, both compelling and challenging. Through guided practice sessions, field trips in the Mono Basin and upper reaches of the Eastern Sierra, coaching in the field, and review of images, you will learn to create nighttime images with visual impact. David Gubernick is an internationally and nationally published and award-winning nature photographer and workshop leader. His exhibition prints can be seen at Gallery Sur in Carmel and the Ventana Inn & Spa in Big Sur.

Insects & Plants for Kids

July 16 • Richard Potashin & Nancy Hadlock \$165 per person / \$150 for members open to participants ages 9–14 children must be accompanied by an adult

Have you ever wondered why there are so many insects around flowers? How do they use each other for protection and food, and how do they support all life, including you? Early summer in the Eastern Sierra is a fascinating time to discover what's in bloom and who is buzzing around. Richard Potashin is a longtime Eastern Sierra resident who, in a previous life as a landscape gardener, developed a passion for native flora. Nancy Hadlock has been a naturalist, interpreter, and educator for the National Park Service and US Forest Service for over 30 years.

Mono Basin & Bodie Photography

July 22–24 • David Gubernick \$300 per person / \$275 for members limited to 12 participants

Join this warm and supportive field seminar to enhance your photo-taking abilities in the uniquely beautiful Mono Basin and at the world-renowned Bodie State Historic Park. Field trips and classroom sessions will combine to cover a multitude of photographic topics. Plus, the group will visit Bodie for private after-hours evening access. David Gubernick is an internationally and nationally published and award-winning nature photographer and workshop leader. His exhibition prints can be seen at Gallery Sur in Carmel and the Ventana Inn & Spa in Big Sur.

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

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

July 29–31 • Ann Howald \$165 per person / \$150 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. A special focus this year will be the ways high elevation plants and animals of the Mono Basin are affected by climate change, now and in the future. Ann Howald is a retired consulting botanist who has taught popular Committee field seminars for over ten years.

Los Angeles Aqueduct Tour

August 13 • Bartshé Miller \$105 per person / \$95 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. Bartshé Miller is the Committee's Education Director with 24 years of experience working in the Mono Basin.

Birding the Migration: Mono Basin & Bridgeport Valley

August 18–19 • Dave Shuford

\$155 per person / \$140 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 fall migrants and early arriving wintering birds in the Mono Basin and Bridgeport Valley. Dave Shuford has been a staff biologist at Point Blue 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.

Birding the Migration: Mono Basin & Long Valley

August 20–21 • Dave Shuford \$155 per person / \$140 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 fall migrants and early arriving wintering birds in the Mono Basin and Long Valley. Dave Shuford has been a staff biologist at Point Blue 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.

Miwok-Paiute Basketry

August 26–28 • Julia Parker, Lucy Parker, Ursula Jones \$265 per person / \$250 for members \$80 materials fee limited to 12 participants primitive group campsite included (no pets)

During this seminar, participants will prepare materials and create a small Miwok-Paiute burden basket—used for gathering pinenuts, acorns, and berries. This seminar is designed for weavers of all levels and participants are encouraged (but not required) to camp with the group at a peaceful private campsite near Lundy Canyon. 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 who has dedicated her life to learning and teaching basketry. Ursula, Lucy's daughter and Julia's granddaughter, is carrying the tradition forward.

Geology of the Mono Basin

September 9–11 • Greg Stock \$165 per person / \$150 for members

From volcanic craters to glacial moraines, earthquake faults to tufa towers, the Mono Basin displays some of the most unique, spectacular, and accessible geology anywhere in the world. This seminar, consisting mostly of field visits to the premier sites, will present the geologic stories of the Mono Basin in understandable fashion. Greg Stock is the first ever Yosemite National Park geologist. He has authored and co-authored over 50 papers and abstracts on Sierra Nevada geology and is co-author of the book *Geology Underfoot in Yosemite National Park*.

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

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

This field seminar will involve discussions of the fascinating biology of the federally endangered Sierra Nevada bighorn sheep, their relationship with other mammals (including mountain lions and humans), and their conservation in the field. Past participants saw bighorn 15 out of the last 16

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

years—while there is a very good chance of seeing bighorn sheep during this seminar, there is no guarantee. John Wehausen 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.

Visions of the Past: Bodie & Aurora

September 10–11 • Terri Geissinger \$155 per person / \$140 for members

In the Bodie Hills are 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, with tours of the Standard Stamp Mill and the Bodie Jail. Next, a journey that hasn't changed much since the historic mining days will end up at Aurora, once a bustling town of 8,000 souls in the 1860s. Terri Geissinger is a Bodie State Historic Park interpreter and guide, with a talent for making history come alive.

Geology of the Mono Basin

September 30–October 2 • Greg Stock \$165 per person / \$150 for members

From volcanic craters to glacial moraines, earthquake faults to tufa towers, the Mono Basin displays some of the most unique, spectacular, and accessible geology anywhere in the world. This seminar, consisting mostly of field visits to the premier sites, will present the geologic stories of the Mono Basin in understandable fashion. Greg Stock is the first ever Yosemite National Park geologist. He has authored and co-authored over 50 papers and abstracts on Sierra Nevada geology and is co-author of the book *Geology Underfoot in Yosemite National Park*.

Arborglyphs & Aspen Natural History

October 8–9 • Richard Potashin & Nancy Hadlock \$180 per person / \$165 for members

A century of sheep grazing brought Basque sheepherders into the Mono Basin's aspen-bordered meadows, and they left numerous carvings—arborglyphs—on the aspens. Join the instructors for an enchanting journey into the aspen groves to explore this historic art form and to learn about the wildlife, insects, and birds that are drawn to the groves. Richard Potashin has been discovering and documenting aspen carvings for many years. Nancy Hadlock has been a naturalist, interpreter, and educator for the National Park Service and US Forest Service for over 30 years.

Mono Basin Fall Photography

October 11–13 • Robb Hirsch \$275 per person / \$250 for members limited to 12 participants

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-andwhite. Join accomplished photographer and workshop leader Robb Hirsch to explore shoreline locations at sunrise and sunset, fall color in nearby canyons, and grand overviews of the Mono Basin. Photographers of all levels are welcome; a fully adjustable camera of any size or format is suggested.

Field Seminar Registration Information

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

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.

Registration opens every year on February 1 for members.

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

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

All Field Seminars, Guided Trips, and Custom Trips operate under permits from the Inyo National Forest and California State Parks.

Fifth annual Wild & Scenic Film Festival

by Andrew Youssef

This past March, the Mono Lake Committee presented its fifth annual Wild & Scenic Film Festival in El Segundo and Sierra Madre. Each year Committee staff make the 350mile journey south, following the Los Angeles Aqueduct, to connect with members and friends who are linked by water from the Mono Basin. This is the first year we expanded the festival to a second venue, making it easier for people to enjoy the films and celebrate Mono Lake.

This year's film lineup included compelling stories of personal journeys and environmental victories, such as *Defined by the Line*, which reminded us that just loving a place is not enough—we must work to protect it, just like David Gaines and the founders of the Committee did. Both nights it was inspiring to hear people tell us about the snowpack and weather in Lee Vining, showing how connected and concerned Committee members are about the state of Mono Lake.

Thank you to all the volunteers, co-host Carolyn Dasher who made the events in Sierra

Madre possible, and festival sponsors Los Angeles Department of Water & Power and Juniper Ridge. Thanks also to national sponsors Patagonia,



Committee staff Bartshé and Andrew with Wild & Scenic Film Festival co-host Carolyn Dasher.

Klean Kanteen, Sierra Nevada Brewing Company, Barefoot Wine & Bubbly, Orion Magazine, Clif Bar, Earth Justice, Keen, and the South Yuba River Citizens League, the festival organizer. �

Lake level from page 3

The end result of all this forecasting work? Mono Lake is expected to remain above 6377 feet through March 31, 2017. Just barely. Snowmelt runoff is expected to lift the lake slightly to 6378.2 in July. Then the warmer, drier months of the year will drop the lake to an expected low of 6377.2 in November, and winter precipitation will lift it to 6377.6 in March of 2017.

This is a significant forecast that tells us four important things.

First, Mono Lake is forecast to stay above the critical 6377-foot threshold, which is good for the lake and the wildlife that depends on it. The salinity of the lake, productivity of brine shrimp and alkali flies, success of migratory and nesting birds, and severity of dust storms are all contingent on lake level. Significantly, the lake will be high enough to maintain a watery moat protecting the island home to the nation's second-largest California Gull rookery (see page 5). Second, DWP will be allowed to export up to 4,500 acre-feet of water this year. That's the same as last year, and is once again 70% less than the 16,000 acre-feet it exported annually from 1995 to 2014. These exports are equivalent to about a tenth of a foot of Mono Lake elevation and are part of the State Water Board's wise link between protecting Mono Lake and providing for urban water needs.

Third, the lake is likely to drop below the 6377-foot mark in 2017. With the forecast putting it half a foot lower next March, Committee analysis suggests that even an average 2016–17 winter snowpack would allow the lake to fall below 6377 in 2017. That gives us a lot to consider and plan for this summer, especially the resulting threat to the gull rookery.

Fourth, the State Water Board rules are working successfully. Additional lake protections have kicked in, and the pain of the severe California drought is being shared between Mono Lake and Los Angeles. If the State Water Board had not required export reductions last year, the lake would be a quarter-foot lower today, the forecast would have it falling below 6377 this year, and the safety of the nesting islands would have been lost.

It has been, and remains, difficult to watch Mono Lake drop after so much successful effort by so many to protect this special place. But we must continue to remember that it would be much, much worse without our efforts; without the State Water Board rules, excessive diversions would have continued and the lake's surface would be at 6350 feet above sea level todaymore than 25 feet lower and far past the level of ecological collapse. Truly, our collective advocacy for Mono Lake has saved this unique place and its wildlife; now we must dig in and continue to make smart plans to survive the lingering California drought. 🛠

Monitoring from page 7

Committee works with local agencies to identify problem areas and Mono Lake Volunteers and Outdoor Education Center participants help with the field work.

Mono Basin Field Station: The Committee offers convenient low-cost housing for scientists while they conduct research in the Mono Basin. In 2003 the Committee identified this type of housing as a limiting factor for research in the Mono Basin, and the Mono Basin Field Station has hosted a wide variety of research projects since. The Committee benefits because that research is added to the collective knowledge of the Mono Basin and will ultimately inform future policy decisions. For example, this summer, Greater Sage Grouse researchers with the US Geological Survey are staying at the Field Station.

New monitoring for 2016

This summer the Committee is adding two additional monitoring tasks to assist the State Water Board-appointed stream scientists with their monitoring activities.

Stream temperature: Committee staff will place digital monitoring devices in the creeks to record water temperature throughout the summer. With Grant Lake Reservoir still below minimum recommended levels, continuous monitoring of in-stream temperatures is critical for informing management of the reservoir and the Rush Creek fishery.

Riparian vegetation growth rate: Staff will monitor cottonwood growth rates by measuring the distance from leaf



Mono Lake Intern Matt Rice measures groundwater levels adjacent to Mono Lake's tributary streams using piezometers (the white pipe pictured above).

nodes to stems throughout the summer. The data can then be correlated to streamflow and groundwater levels.

Monitoring key to adaptive management

In addition to informing policy positions, monitoring is critical to adaptive management, which the Mono Lake Committee has always embraced as the best way to achieve successful restoration. Adaptive management is an approach used to address uncertainty by viewing management actions as experiments derived from hypotheses, conducting extensive monitoring, evaluating the results, and then determining if the management and underlying assumptions need to be changed accordingly. By quantitatively tracking information related to specific management directives and actions, as well as the effects of those actions, management decisions can be reevaluated and adjusted to create even better outcomes.

The best example of this is the recent Mono Basin Stream Restoration Agreement that outlines new fine-tuned streamflows to provide the most ecological benefit. As a result of over ten years of monitoring and additional studies conducted to fill in the information gaps, the scientific data supported changing the streamflows that DWP is required to deliver throughout the year in a way that will significantly benefit the overall system without increasing the total amount of water needed. In this case, additional information has resulted in maximizing ecological health while still meeting the water needs of Los Angeles.

A lot has been learned from the Committee's monitoring activities since the original studies from the 1970s. It's reassuring to know that this summer's monitoring will no doubt one day influence policy decisions and restoration actions yet to come and Mono Lake and its tributary streams will be the better for it. \clubsuit

Lisa Cutting is the Committee's Eastern Sierra Policy Director. She was thrilled to experience a robust Paraleptophlebia hatch on the Owens River this past March.

Mono Basin Clearinghouse

he Mono Basin Clearinghouse is an comprehensive online listing of scientific information about the Mono Basin maintained by the Mono Lake Committee. Visit *monobasinresearch.org* to find results and reports from Committee monitoring programs, including:

- Mono Lake levels since 1850
- California Gull reports since 1992
- Eared Grebe counts since 1996
- Real-time hydrology monitoring data
- Mono Basin Field Station information

Staff migrations

by Jessica Horn

he American Robins hopping outside the office window and Yellow-headed Blackbirds singing at the Mono Basin Field Station mean the arrival of much more than warmer weather; a new baby, a slew of returning seasonal staff, and new faces in the bookstore and at the Outdoor Education Center signal yet another busy summer.

On March 15 Communications Director **Arya Degenhardt** and fiancé **Gabriel Harp** welcomed their first child, daughter **Illia Orion Harp**. Congratulations to Arya and Gabe, we are so happy for you both!



Gabe and Arya with new daughter Illia Orion Harp.

Information Center & Bookstore Assistant **Connor Mullinix** spent time exploring Mono Lake last summer, and decided he wanted to work here. With his experience as a teaching assistant at Humboldt State University and a background in marketing, he makes a great addition to the bookstore team.

Information Center & Bookstore Assistant **John Warneke** has a lifetime of experiences in the Mono Basin. Currently a Ph.D. candidate in Education and Sikh & Punjab Studies at UCSB, he has been both an instructor and teaching assistant, and also comes to us with retail experience. You may have seen him around, as he is the son of Membership Coordinator **Ellen King**.

Outdoor Education Instructor **Antonia Chihuahua** first visited Mono Lake as a high school sophomore and has been enamored ever since. She spends the school year volunteering for the Mono Lake Committee in Los Angeles and teaching at the alternative, humanistic, non-profit school Play Mountain Place.

Outdoor Education Instructor **Lisa Godenick** brings experience working with youth through non-profit Envirolution and clinically driven wilderness program Second Nature Blue Ridge. Her lifelong passion for the environment combined with her interpretation and leadership skills make her a great asset to the team. Andrew Youssef was a Project Specialist through the winter and thoroughly enjoyed cross-country skiing, downhill skiing, and exploring the Mono Basin in a quieter season. He will be leading canoe tours as the Canoe Coordinator this summer.

Birding Interns **Erv Nichols** and **Sandra Noll** return for their third year sharing this position and their interpretive and photography experience. We can't wait to see Erv's photos and hear Sandra's tales of birding the Southwest over the winter.

We are pleased to boast a full roster of returning Mono Lake Interns this year. With a year of experience under their belts, this intern crew brings an extra level of knowledge and enthusiasm to Mono Lake this summer.

Previously an Information Center & Bookstore Assistant, Grace Aleman spent last fall in Argentina studying Patagonian ecosystems and completing a research project utilizing aquatic macroinvertebrates as a measure of stream health. Grace graduated from UCLA in March.

Adam Dalton was an intern in summer 2014 and enjoyed leading canoe tours and working in the bookstore so much, he is joining us again. He spent last summer as an Urban Planning and Social Media Intern in New Mexico. He graduated from Grinnell College this spring.

After returning to Arcata as a Lecturer for the Geospatial Concepts Lab at Humboldt State University last fall, **Sara Matthews** will again be a Mono Lake Intern. She is helping with California Gull research on the islands and is excited to be back in the Eastern Sierra for the summer.

Gabby Renteria spent the winter working with Inside the Outdoors, a non-profit that leads environmental education field trips. You may remember Gabby from her time as an Information Center & Bookstore Assistant last year. This summer she is looking forward to leading tours at South Tufa and by canoe.

Finishing up his job as a Scientific Aide for the California Department of Fish & Wildlife in La Grange, Matt Rice returns for a second season as a Mono Lake Intern. His infectious smile and love for Mono Lake make him a welcome addition to the staff. 🛠



Charlie, Erika, and Greg with new baby Ana.



From the mailbag

News from members and friends

by Ellen King

Spring is my favorite season. Here in Lee Vining the fruit trees flower and the songbirds return. I put away my warmest winter clothes (while keeping a jacket handy for the inevitable snowy day) and look forward to being able to sit outside in the sunshine as summer approaches.

Thank you to all of you who sent in contributions in honor or in memory of your friends and loved ones. These gifts 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. Sherreye Plowman of Chilhowie, VA gave a gift for "my Mom—Patsy Hess." Marjorie Singleton of Paso Robles made a donation in honor of Gerry O'Brien.

In memory

John & Edyth Churchill of Salem, OR made a donation in memory of "our dear friend" Patsy Schley. Gary Conner of San Clemente sent a contribution in memory of Lupe Conner. Christina Irvin of Stockton gave a gift in memory of Karl Irvin. Carol Mathews of Walnut Creek made a donation "in loving memory" of Robert Mathews. Nicole Nedeff of Carmel Valley gave a gift in memory of Kevin Dummer—"he made the 1984 map of the exposed shoreline and loved Mono Lake." The Tramutolo family sent a contribution in memory of **Richard Tramutolo.**

Karen & Michael Worle and Joan McGovern sent a contribution in memory of Ken Gustafson. They wrote: "We would like to make a donation to the restoration and protection of Rush Creek as a memorial to Ken Gustafson. He loved fishing in the Sierra and the creeks that feed Mono Lake. He would talk for hours about the whole process from casting to reeling in a fish. The joy he experienced, his eyes would light up as he recounted the act. This would be the biggest honor to his memory, knowing that others would be able to have these adventures kept alive and to create their own memories."

Bequests

Putting the Mono Lake Committee into your will or estate plan ensures that this special place will remain protected for generations to come. It's less complicated than it might seem.



Bequest gifts to the Committee are a meaningful way to create a lasting legacy for Mono Lake.

Contact me at (760) 647-6595 or by email (*ellen@monolake.org*) and I'll be happy to help you.

We would like to acknowledge receipt of bequests from the estates of these generous supporters:

Virginia Barber of San Diego, Lance Bills of Ridgecrest, Lewis Dale of Santa Paula, Robert Daskam of Danville, Catherine Horne of Salinas, Rheta Howland of St. Louis, MO, Nancy Rorty of Palos Verdes Estates, Eugene Swantz of San Diego, James & Barbara Ward of Santa Barbara, and Alvah "Hall" Warren. ❖

Wish list

The Mono Basin Outdoor Education Center is in need of the following items in new or likenew condition:

- Sun hats
- Winter hats
- Winter gloves
- Warm jackets
- Rain jackets
- Pants suitable for cold weather
- Hiking boots
- Sturdy walking shoes

Please contact Outdoor Education Center Manager Santiago Escruceria (*santiago@monolake.org*) at (760) 647-6595 if you can help.



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

Nonprofit Organization U.S. Postage PAID Mono Lake Committee

Explore Mono Lake with a guide

Guided trips to see birds, wildflowers, fall colors, local geology, mining sites, and more!

> See pages 18–19 and monolake.org/trips





A free, self-guided tour of South Tufa is at your fingertips....

Weekend canoe tours on Mono Lake are offered throughout the summer. Call (760) 647-6595 or visit monolake.org/canoe for reservations.

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