

Winter & Spring 2022

Mono Craters Tunnel

Mono Air Quality Summit

Lee Vining Dump Remediation Field Seminars

ere at the Mono Lake Committee, we very much enjoy knowing detailed bits of obscure Mono Basin knowledge. Often these pieces of information are important, but they aren't always particularly interesting, especially on their own.

Some examples: In April 1983, the month I was born, Mono Lake's level was 6375.9 feet above sea level. The Lee Vining Creek diversion structure was replaced in 2005. The innocuous, sagebrush-covered hill west of the Mono Basin Visitor Center was designed and built on purpose.

As we put together each issue of the *Mono Lake Newsletter* we strive for a balance: Mono-specific information, complete with obscure details, strung together tell the story of our work on behalf of Mono Lake.

Sometimes one of these details takes on new importance. In this issue you'll read about how that unobtrusive berm at the Visitor Center has recently been put front and center. Our knowledge that it was built on purpose to preserve scenic views is key to solving the problem posed by its removal.

The article that begins on the next page really hits the sweet spot. It's truly obscure knowledge—not a secret, but known only to the nerdiest of Mono Basin aficionados. It's a tale of history, water policy, geology, and engineering intertwined. It highlights the Committee's detailed knowledge about the ways the Los Angeles Aqueduct affects Mono Lake. Plus, it's *fascinating*.

Every *Mono Lake Newsletter* is the story of Mono Lake and the Mono Lake Committee. Each issue has obscure details, compelling narratives, and a cast of characters diligently working to keep saving Mono Lake. So dive right in—we think you'll love this story.

-Elin Ljung, Communications Coordinator



Mill Creek after an overnight snowstorm. This winter started off with 3.5 feet of snow measured in Lee Vining in December, but 2022 has been very dry so far with only 2 inches of snow in January and February.

### **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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# Groundwater exports benefit Los Angeles, impact Mono Lake

DWP captures more than streams in the Mono Basin

eading south from Mono Lake, drivers on Highway 395 zoom past a road junction marked with a sign for a mysterious "West Portal." Portal to what? Is there a matching one in the east? Is this a science fiction destination, perhaps a portal to another dimension?

Follow the dirt road in search of the portal and you'll find sagebrush and a century of history involving—like so many things in the Mono Basin—hubris, the Los Angeles Department of Water & Power (DWP), and the Los Angeles Aqueduct. Not to mention that the portal itself leads into a hidden water source that flows free of oversight to the distant city at around 375,000 gallons per hour.

### Last century's engineering achievement

West Portal was a DWP company town, constructed in 1934 just west of the looming ash grey, thousand-foot slopes of the Mono Craters. Paved roads served 26 buildings that featured conveniences including electricity and water service. More than 200 workers lived in barracks and ate in dining halls; on a day off they sometimes went to Lee Vining for activities including recreation at the local dance hall, which is now home to the Mono Lake Committee. West Portal hummed with activity during its seven-year existence as workers labored in shifts around the clock.

The location of West Portal was determined solely by the engineering calculations that fueled a massive plan to extend the Los Angeles Aqueduct into the Mono Basin. The goal? In the straightforward words of DWP engineer H. L. Jacques: "The Mono Basin Project is being constructed in order to increase the water supply of the city of Los Angeles." by Geoffrey McQuilkin



The Los Angeles Department of Water & Power constructed the Mono Craters Tunnel in the 1930s as part of exporting surface water and groundwater from the Mono Basin into the Los Angeles Aqueduct.

The town and the portal itself were built to tackle a daunting engineering challenge: Mono Lake lies at the center of a closed watershed. Its tributaries naturally flow downhill to enter the lake and no water flows out. To divert the streams with dams and then move that vast quantity of water to the city, DWP would have to blast a path out of the Mono Basin.

Jacques summarized the challenge dryly: "The main feature of the project is the construction of the Mono Craters Tunnel, 59,812 ft. in length, through the mass separating the Mono Basin and the Owens River watershed."

The mass he refers to, it turns out, is the indeed-massive Mono Craters chain of quite recently-erupted rhyolitic plug-dome volcanoes. The tallest peak reaches above 9,000 feet in elevation and winter snow blankets the young mountain range that stretches ten miles south from the edge of Mono Lake.

DWP crews set records for their pace of drilling and worked from a remarkable six different headings: the West and East portals, plus drilling outward from the bottom of two separate vertical shafts sunk hundreds of feet into the craters.

Boring through volcanoes is no easy task. They encountered rhyolite tuff, volcanic ash, basalt, and glacial gravels while drilling; some materials immediately slumped into the tunnel and extensive bracing and concrete lining operations were required. Faults and fractures were encountered, plus

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vast quantities of carbon dioxide that required building extensive ventilation systems and, ultimately, sinking a third 535-foot vertical shaft just for fresh air. But perhaps the biggest challenge was the water that gushed into the tunnel in tremendous volumes, posing a major construction obstacle but becoming, ultimately, a major benefit for DWP.

The tunnel, which is more than nine feet in diameter, was completed in 1939. Stream diversions into the Aqueduct wouldn't begin for another two years, but the tunnel immediately produced a steady flow of water for Los Angeles.

### A water source of its own

As a town, West Portal didn't last a decade, but its purpose was met: the Aqueduct and the portal into the Mono Craters Tunnel persist today. Standing at the former town site, you can hear water rushing by on days when surface water export operations are underway, the cool flow of Rush and Lee Vining creeks slipping south and away from Mono Lake.

But today State Water Resources Control Board rules limit stream diversions, and there are plenty of days when the West Portal is dry and the only sound is the wind. It is not so eleven tunnel miles away, on the other side of the craters.

At the East Portal there is never a dry day. Water flows out of the tunnel and off toward Los Angeles at every hour, averaging about nine million gallons every day, annually rivaling the flow of Parker Creek, one of Mono Lake's tributaries.

"The water originates as snow and rain falling on and around the Mono Craters, which then moves rapidly down through the very pervious pumice into the sub-surface jumbled geology and becomes part of the groundwater systems of the Mono Basin and the Upper Owens River Basin," says Peter Vorster, expert Mono Basin hydrologist and longtime Mono Lake Committee advisor. "Over the last 30 years the tunnel has captured on average about 10,000 acre-feet of that groundwater per year and it is estimated that 50% to 60% of it would otherwise have flowed toward Mono Lake,"

In effect, the tunnel is a drain drilled deep beneath the Mono Craters that captures groundwater for the Aqueduct, adding it to the surface water currently diverted from Mono Lake's Sierra tributaries and bumping up the total volume of water flowing out of East Portal by 60%.

### Part of the plan

Few are aware of this Mono Basin groundwater supply today, beyond a small group of Mono Basin and Committee experts. It was no surprise, however, to the engineers who planned the tunnel. In fact, groundwater was expected to be a substantial water benefit. It was also one of the biggest tunnel construction challenges. Tunnel workers hit water within a mile of West Portal and by the time they were four miles in, a streamlike 20 cubic feet per second (cfs) of water had to be continually pumped out through a network of pipes to keep the tunnel dry enough for drilling operations to continue. "The dewatering of the tunnel has been a serious problem during most of the operations," reported a DWP engineer.

The tunnel engineers also knew that, when complete, the tunnel would capture—or "make"—enough water to be a major benefit to the LA Aqueduct and city. In 1939 Jacques wrote that "it is expected that the waters of Rush Creek ... plus some 30 [cfs] made in the tunnel itself, will be delivered into the Owens River early next year."

DWP hydrologists noted the continuing groundwater capture in a 1984 report, writing "The inflowing groundwater (tunnel make) averages 12,000 [acre-feet per year]... About half the tunnel length underlies the Mono Basin watershed and the remainder underlies the Long Valley Basin watershed. It is assumed that half the tunnel make is water that would otherwise be tributary to Mono Lake."

### Many decades, lots of water

Last year, DWP diverted 16,000 acre-feet of water out of Rush and Lee Vining creeks and sent it off through the Mono Craters Tunnel for delivery to Los

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A 1939 profile of the Mono Craters Tunnel, illustrating its 11-mile route beneath the Mono Craters and the groundwater table (dashed line). DWP engineers expected to capture substantial amounts of groundwater with the tunnel; today the tunnel delivers about 10,000 acre-feet of Mono and Owens water annually to the Los Angeles Aqueduct system.



Water streams into the Mono Craters Tunnel in this 1939 photo. Groundwater was a major challenge during tunnel construction—and has been a major benefit to DWP since the tunnel was completed.

Angeles. But more than 25,000 acre-feet came out the other end of the tunnel.

By volume, that's enough water to submerge every corner of the sprawling city of Los Angeles with an inch of water. Here at home, that same volume of water would raise Mono Lake more than half a foot.

The tunnel has been in operation for 83 years, and its groundwater capture alone adds up to large volumes of water.

The tunnel has captured about 90,000 acre-feet of Mono and Owens groundwater for Los Angeles in the past decade and over 260,000 acre-feet since the 1994 State Water Board decision required DWP to raise Mono Lake to a still-elusive healthy level.

Incredibly, the tunnel has captured nearly one million acre-feet since construction. That's enough water to supply every resident and business in modern Los Angeles—for two years!

Equally incredible: the tunnel has deprived Mono Lake of around 525,000 acre-feet of groundwater inflow since it was built. Coincidentally that volume of water, if it was somehow instantly returned, would jump Mono Lake's level from today's troublesome low all the way up to its required healthy management elevation.

### The Mono Lake connection

Snowmelt in the Sierra that flows down the tributary streams is the largest and most visible contributor of water to Mono Lake each year. But large quantities of water move underground as well, and groundwater is an important element of the overall water balance in the Mono Basin, adding up to about 12% of the annual input to the lake.

DWP's diversion of Rush and Lee Vining creeks reduces surface water entering the lake while the Mono Craters Tunnel reduces the groundwater inflow. The significant impacts of surface water diversions on fish, wildlife, and stream habitats are well documented, with restoration work underway. The impacts of groundwater export are less known, but springs, seeps, and habitats dependent on the slow underground flow of groundwater toward Mono Lake have been altered since the tunnel's construction.

Quantification of Mono Basin water is essential to understanding the impacts of water exports on Mono Lake and projecting future lake levels. Averaged over 30 years, the tunnel has captured a total of about 10,000 acre-feet of water annually for the Los Angeles Aqueduct. Of that, around 4,500 acre-feet entered the tunnel as it runs through the adjacent Upper Owens River watershed, where nearby springs have dried out as a result.

That means 5,500 acre-feet of groundwater on average has departed the Mono Basin as an annual water export, rather than flow to Mono Lake. The tunnel's groundwater export is an important part of understanding and projecting the level of Mono Lake, and it is accounted for in the hydrologic model of the Mono Basin constructed by Vorster and the Committee team.

### Water, without regulation

The groundwater captured by the Mono Craters Tunnel provides millions of dollars of value to DWP annually. Yet from a regulatory perspective the water in the tunnel has flowed off the books.

DWP fills its Aqueduct by capturing Eastern Sierra water sources that are subject to a patchwork of regulatory authorities. At Mono Lake, diversions from tributary streams are regulated by the State Water Board, the source of the landmark 1994 Mono Lake protection decision. In the Owens Valley, water rights for surface diversions are constrained by court review and state regulations, and extensive groundwater pumping operations are regulated by groundwater agreements with Inyo County.

But no regulatory authority currently monitors the groundwater collected by the Mono Craters Tunnel, nor is it subject to any legal agreements. No agency or court requires reporting on groundwater capture, oversees its volume, nor mandates mitigation of its impacts. In fact, it appears that the Mono Craters Tunnel is the largest unregulated, unreported, and unmitigated source of water entering the Los Angeles Aqueduct.

# Permanent Mono Basin water for LA

A highway sign, dirt road, and a few foundations in the sagebrush are all that remain of the town of West Portal. But the work of those DWP laborers and engineers persists.

The Mono Craters Tunnel connected watersheds and changed the hydrology of Mono Lake and the Mono Basin. The tunnel and the Aqueduct made the Mono Basin part of the Los Angeles watershed, and the future of Mono Lake is bound to the future of water management in LA.

With Mono Lake still lingering at an unhealthy low level, the State Water Board plans to consider changes to the rules that govern DWP's stream diversions. Cutbacks may be made to ensure Mono Lake rises. Regardless, Mono Basin groundwater will continue to trickle and cascade into the Mono Craters Tunnel on into the future, providing water of great volume and great value to Los Angeles. �

# Setting stream restoration into motion

Mono Lake Committee and partners start implementing State Water Board Order 21-86

### by Elin Ljung

his winter Mono Lake Committee staff were even busier than usual, working to set Order 21-86 into motion to initiate an exciting new phase of restoration for Mono Basin streams. The order, issued last October by the California State Water Resources Control Board, amended the Mono Basin water rights of the City of Los Angeles to incorporate extensive new requirements to maximize the restoration of 20 miles of stream habitat damaged by past excessive water diversions by the Los Angeles Department of Water & Power (DWP) (see Fall 2021 *Mono Lake Newsletter*).

Since the order was issued, Committee staff have been in near-daily communication with California Trout, the California Department of Fish & Wildlife (DFW), and DWP to set up the new systems that will result in real improvements for Mono Lake's tributary streams.

### Putting out the welcome MAT

The first order of business was to establish the Monitoring Administration Team (MAT), composed of staff from the Committee, CalTrout, DFW, and DWP, an essential step for



implementing the required restoration and monitoring programs.

One of the MAT's first tasks was to choose an independent fiscal administrator to receive annual payments from DWP, which will fund the scientific monitoring work required by Order 21-86. After careful deliberation, the MAT selected the National Fish & Wildlife Foundation (NFWF) for this key role. NFWF is a Congressionally-chartered conservation grant-maker known as the gold standard for managing funds for legal and regulatory actions involving conservation efforts, and they specialize in fiscal management of funds between diverse parties, such as agencies and non-profits.

DWP will make annual deposits into NFWF accounts, which the MAT will manage for stream, waterfowl, and limnology monitoring. DWP will also make one-time deposits for stream restoration projects and for the purpose of improving waterfowl habitat.

The MAT is working with Stream Monitoring Directors Ross Taylor and Dr. Bill Trush, and Limnology Director Dr. John Melack, who are writing proposals for monitoring work that follows the order's guidance for scope of work and budget. This year will require additional planning because the Directors will need to set up labs, hire staff, and acquire equipment.

Because of the MAT's quick coordination this winter, the stream morphology and fisheries monitoring overseen by Trush and Taylor will occur without interruption to any data collection, and much more smoothly than previous years when contracting delays occurred with DWP. Melack's limnology monitoring of Mono Lake will resume this year after a long interruption caused when DWP unilaterally canceled his contract in 2012. Already, the MAT is a vast improvement for monitoring work.

### Next up: Operations planning

The same parties involved in the MAT are also working on the Annual Operations Plan (AOP), which must be determined each runoff year, and the Mono Basin Operations Plan (MBOP), a document that lays out detailed rules, guidelines, and criteria for DWP's operations in the Mono Basin.

The first AOP meeting will take place in late March when the group will have snowpack data relevant to the runoff year-type. The AOP is particularly exciting for restoration progress because it will plan out this year's Stream Ecosystem Flows (SEFs), the pattern of required water releases from DWP's diversion infrastructure that better resembles natural stream runoff in order to maximize restoration and overall stream health.

# DWP rebuffs cooperative solution to air quality problem

by Bartshé Miller

ast fall the Great Basin Unified Air Pollution Control District hosted a Mono Air & Water Workshop in Lee Vining. The purpose of the workshop was to initiate a dialogue among stakeholders, agencies, and the Great Basin governing board to discuss and address Mono Basin air quality and lake level issues in a public forum. Air quality violations at Mono Lake persist and remain the worst in the nation for particulate matter less than ten microns in diameter, or PM<sub>10</sub> (see 2021 Fall *Mono Lake Newsletter*).

### A Mono Lake air quality summit

Those in attendance included the Inyo National Forest, the Mono Lake Kutzadika'a Tribe, the Mono Lake Committee, California State Parks, California Air Resources Board, and Great Basin staff and senior scientists. The Los Angeles Department of Water & Power (DWP) was invited, but it neither attended nor provided any statement in lieu of its conspicuous absence.

Presentations by multiple parties, including the Mono Lake Kutzadika'a Tribe, provided clear direction that the best way to stop the air quality violations is to put water into Mono Lake and submerge the exposed lakebed. In the words of Kutzadika'a Tribe Chair Charlotte Lange, "Let's start making changes and not just talk about it."

### Mono is not like Owens

For the Inyo National Forest, the idea of large-scale engineering solutions to fix the dust problem—like those implemented at the dry Owens Lake—is clearly not appropriate within the Mono Basin National Forest Scenic Area. To maintain the Mono Basin's exceptional, protected scenic resources, raising Mono Lake's level to cover the dustemitting exposed lakebed is the only appropriate, feasible, and ecologically beneficial solution. This theme echoed among all stakeholders—the sooner the lake can be raised, submerging the dust-producing lake playa, the better.

### Reaching out to fix the problem

Particulate matter air quality violations at Mono Lake continue to occur because Mono Lake remains 12 feet below its mandated level. In July 2021, Great Basin sent a letter to the DWP Commissioners requesting that DWP "take immediate action" to solve air quality violations in the Mono Basin. Great Basin wrote, "Rather than expend our joint resources on animosities and court battles, we should



Mono Lake is a source of particulate air pollution because excessive water diversions by DWP dropped the lake's level, exposing dry lakebed that produces dust in the wind.

spend our energies and resources on forging a cooperative relationship ... success is achieved in continuing to provide water for the needs of the people of Los Angeles and the clean air needs of the people of the Mono Basin."

### DWP delays and obfuscates

Four months later, just days before the workshop, DWP responded: "While [DWP] ... has reviewed your letter and tried to understand the myriad claims and issues raised, our ability to meaningfully engage is limited without the benefit of the data and analysis..." The letter then stated, "[DWP] also encourages [Great Basin] to evaluate the numerous off-lake sources that potentially affect air quality in the Mono Basin."

DWP's letter seemed to refute the existence of air quality exceedance data from decades of monitoring. During the workshop, Phil Kiddoo, Great Basin's Air Pollution Control Officer, remarked, "Correspondence received from DWP clearly indicates that DWP has withdrawn from trying to productively resolve or even discuss the air quality problem that they have. It's unfortunate, we had the opportunity for everybody to bring something to the table today, but they are not here."

Meanwhile, another drought is emerging, and Mono Lake's level is likely to fall farther, increasing the likelihood of more air quality violations. With Mono Lake's unfortunate status as the largest active source of  $PM_{10}$  pollution in the nation, we can expect to learn more soon regarding Great Basin's modeling, analysis, and potential enforcement actions.  $\clubsuit$ 

# California Gulls catch a break

by Robert Di Paolo

E ach spring tens of thousands of California Gulls migrate inland to their nesting grounds on Mono Lake's islets. Because of the lake's current low level, the landbridge to the islets is once again becoming exposed, which increases the threat of coyote predation on the gull colony.

With February snow surveys and closely-monitored lake elevation observations and data in hand, the Mono Lake Committee is forecasting that Mono Lake's elevation will hover around 6380 feet above sea level during this year's nesting season. The 6380-foot elevation figure is significant because it has been identified by California Gull researchers as a conservative "lowest lake elevation" that effectively protects the gulls from hungry coyotes that could cross the exposed landbridge.

In 2017 the Committee successfully installed a mile-long temporary electrified gull protection fence because Mono Lake dropped below 6380 feet.

This year, after consultation among Committee staff, California Gull biologists from Point Blue Conservation Science, and California State Parks staff, it was decided that the gull protection fence deployment will remain on standby. Instead, a new coyote activity monitoring system of wildlife cameras and regular surveys on the landbridge is being established to ensure the gulls remain safe on their nesting islets.

While the Committee feels confident that Mono Lake will maintain a lake level high enough to keep nesting gulls and chicks safe from coyotes this year, the monitoring is essential. Motion detection wildlife cameras that wirelessly transmit images have been positioned where coyotes have historically accessed the islets at lower lake levels. If, during the nesting season, new information about coyote behavior causes concern, we are prepared to quickly mobilize—with permits complete, the fence route mapped, and the equipment needed for the specialized installation at the ready.

Raising Mono Lake's level is the best way to protect nesting California Gulls from coyotes. But until Mono Lake reaches its healthy management level of 6392 feet, dry years may drop the lake to levels that require this type of significant intervention. The Committee will continue to coordinate and collaborate with management agencies and California Gull scientists to make sure we are prepared to act when needed to protect the gulls and preserve this important nesting habitat. �

### Traditional burn in the works at Parker Creek

by Caelen McQuilkin

The Mono Lake Kutzadika'a Tribe is currently working on a number of projects aimed at reviving the uses of Traditional Ecological Knowledge (TEK) of the Indigenous peoples of the Mono Basin. These efforts confront the dispossession of Indigenous peoples from their land and the loss of cultural practices. The Mono Lake Committee is supporting efforts to further the growth of TEK in sustaining the Mono Basin now and in the future.

One of these efforts is the Tribe's plan to conduct a traditional, prescribed burn in the Parker Meadows area on Los Angeles Department of Water & Power (DWP) land adjacent to Parker Creek, one of Mono Lake's tributary streams. Pre-colonization, many Indigenous tribes, including the Kutzadika'a Tribe, used occasional managed fire to prevent catastrophic wildfire, according to a document prepared by Dean Tonenna, a Kutzadika'a elder. These prescribed burns reduce fuel loading, which means that when natural forest fires do start, they burn less intensely and spread out of control less easily.

The Tribe has teamed with Cal Fire and DWP and is currently conducting an environmental review and planning for

a burn to take place in winter. The Committee has discussed the project with the Tribe as well, and looks forward to assisting with this revitalization of TEK resource management.

The traditional burn will also help plants and wildlife thrive. Janice Mendez, a member of the Bridgeport Indian Colony with familial ties to the Kutzadika'a Tribe, explained that, "A traditional burn is important because not only does it suppress fires, but it helps the regrowth of the vegetation." As Tonenna described, "We're taking marginal habitat and we're going to turn it into great habitat in the long run."

Tribe members explain the benefits extend to culture as well. Fire removes accumulated dead material and revitalizes the plant community. For example, fire helps stimulate the growth of long, unbranched willow shoots, which are essential for basket making, and helps the growth of plants with cultural significance. Mendez described, "This is important because we have our herbs—some of our Indian herbs—and we are really happy with what we find [after natural fire occurs]. This is elemental to the survival of us as a people, for healing, for materials that we use, for the vegetation that grows."

# Dump site remediation goes awry

Project at Mono Basin Visitor Center skips review and permitting

by Bartshé Miller

ast fall the California Department of Resources Recycling & Recovery (CalRecycle) began extensive work to remediate the former Lee Vining Burn Dump site adjacent to the Mono Basin National Forest Scenic Area Visitor Center. This site, like many old dump sites, was out of compliance with state regulations. Closed in 1972, the old dump was largely hidden from view on the bluff northwest of the Visitor Center where native sagebrush and bitterbrush had revegetated the area. The project plan was to consolidate and cover approximately 1,800 cubic yards of sub-surface waste and construct new, concrete-lined diversion channels around the covered area. Last year CalRecycle obtained funding through its Solid Waste Cleanup Program to remediate the site.

# Project begins without environmental documentation

Unfortunately, neither CalRecycle nor its contractors adequately filed all the legally required environmental documentation before construction. A joint press release with the Inyo National Forest announced the remediation project just days before it began, but the public was not noticed under the California Environmental Quality Act (CEQA), nor was the public provided an opportunity to comment before earth moving equipment began leveling and clearing approximately three acres of ground.

Problems quickly emerged as excavators and haulers began removing a prominent, fully vegetated berm adjacent to the Visitor Center parking lot to use as capping fill. The berm was intentionally designed and constructed when the Visitor Center was built in the early 1990s to screen the Visitor



The old dump site is on the bluff northwest of the Visitor Center.

Center and parking area from the State Scenic Highway 395 corridor and block views to the highway, focusing the visitor experience toward Mono Lake. The eight-foot-tall berm also protected the parking area from extreme wind and snow loading. If the project had been properly noticed under CEQA, the public would have had the opportunity to comment about the berm's importance.

Alarmed by the demolition of the berm and the scale of earth moving, the Mono Lake Committee requested that work halt and asked for the project's CEQA documentation. After the Committee's inquiries, CalRecycle posted a late notice claiming an exemption from CEQA; however, Committee attorneys found the exemption to have a dubious basis because the project is in a federally designated Scenic Area and

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CalRecycle wrongly removed a large visual-screening berm at the Mono Basin Visitor Center.

# Policy notes

by Bartshé Miller and Betsy Reifsnider

### Hundreds of acres permanently protected in the Mono Basin

Three parcels of private land north of Mono Lake have been permanently retired from future development. This past January the Wilderness Land Trust acquired the properties, which are locally referred to as the "Bodie 880" in reference to the total acreage and location in the Bodie Hills. The Mono Lake Committee collaborated in support of the successful acquisition.

"By purchasing the Bodie Hills property, we have protected this land from the threat of development and mining, preserved the resilience of the surrounding landscapes and protected access to a truly beautiful spot overlooking Mono Lake and the Eastern Sierra," says Aimee Rutledge, Wilderness Land Trust Vice President and Senior Lands Specialist.

The property is located north of the old Goat Ranch at the top of Cottonwood Canyon Road, less than three miles from Highway 167, at the southern end of the Bodie Hills. The property lies adjacent to the Mount



Looking south from Conway Summit, the green line denotes the two-mile-long Caltrans Conway Ranch Shoulders Widening Project area on Highway 395.

Biedeman Wilderness Study Area, and the land provides an important habitat link between the Bodie Hills and the lower elevations of the Mono Basin. The land is ecologically significant because mule deer and pronghorn cross the area during seasonal migration. This part of the Mono Basin and Bodie Hills is home to ephemeral streams, mature piñon stands, and cultural and historical sites.

The acquisition was a happy collaboration of multiple conservationminded groups in the Eastern Sierra and beyond. Rutledge gave "a heartfelt thanks to all our supporters and especially to the landowner and our partners—Friends of the Inyo, the Mono Lake Committee, Eastern Sierra Land Trust, DeChambeau Creek Foundation, Wildlands Conservancy, and Resources Legacy Fund—for making this acquisition possible."

### Highway 395 shoulder widening project planned for the north Mono Basin

Caltrans is planning a project to construct new highway shoulders and replace culverts on Highway 395 from the junction of Highway 167 to the bottom of Conway Summit. The Conway Ranch Shoulders Widening Project draft environmental document was released last fall.

The project purpose is to increase safety along this stretch of Highway 395



The Wilderness Land Trust purchased 880 acres of ecologically significant habitat between Bodie and Mono Lake, removing the threat of mining and development.

and "reduce the number and severity of accidents." According to Caltrans, "this segment of Highway 395 has a total accident rate of 4.8 times the statewide average." Eighteen collisions were recorded during the three-year project study, including injuries and a fatality. In December 2021, a head-on collision within the project area resulted in a double fatality.

The project proposes to extend existing two- to four-foot shoulders to eight feet on each side of the highway with rumble strips. The project will require additional fill to flatten side slopes and will also require extending culverts, including a new culvert for Wilson Creek. The project area also crosses over Mono County's Conway Ranch parcel.

The Committee commented on the draft environmental document in December and supports efforts to reduce the number and severity of accidents in the project area. The Committee pointed out that a thorough, multi-year, detailed revegetation plan will be needed to mitigate the significant aesthetic impacts due to multiple new fill slopes. The Committee also requested that Caltrans notify all water rights holders about detailed construction plans and schedules related to the new concrete culvert work and any potential changes to or suspension of water flows related to project work. Construction along the two-mile project area is tentatively planned for May 2023.

# Statewide effort to conserve thirty percent of California

Conserving 30 percent of California's lands and coastal waters by 2030—that's the ambitious goal of Governor Gavin Newsom's "Nature-Based Solutions" Executive Order.

After input from interests around the state, including the Committee, California's Natural Resources Agency recently released its draft "Pathways to 30x30: Accelerating Conservation of California's Nature."

There is much to cheer in the draft document. It puts natural and working lands at the center of California's efforts to fight climate change and conserve biodiversity, and increases everyone's access to nature. It requires state agencies to consult and partner with California Native American tribes.

But the draft still needs work. For instance, it doesn't adequately address how climate change will affect water exports from the Sierra Nevada, which, as those who love Mono Lake know, is critically important. It also fails to describe the region's rich biodiversity and varied ecosystems in any detail.

The Committee is working with groups throughout the Sierra Nevada to make 30x30 as strong as possible. To see the draft go to *californianature.ca.gov* and click on 30x30. ❖

### Horse manure removal at South Tufa



Horse manure removal work days at South Tufa and Navy Beach helped clear the trails of stud piles from the recent influx of horse activity. With high numbers of visitors during the dry winter and spring, Mono Lake Volunteers and staff from the US Forest Service, State Parks, and Mono Lake Committee worked to keep the popular Mono Lake visitation areas accessible and enjoyable. Horse activity is damaging delicate tufa towers and sensitive lakeshore wetland and spring habitats. The horses can also pose a threat to visitor safety at the popular recreation site. This new development has generated serious concern for the Inyo National Forest, the lead management agency for these horses.

### Lowest Grant Lake Reservoir levels since 2016

by Greg Reis

**S** tate Water Board Order 21-86, adopted on October 1, 2021, incorporated new flow requirements called Stream Ecosystem Flows (SEFs) into the Los Angeles Department of Water & Power's (DWP) water rights licenses. SEFs follow a more natural flow pattern that will restore and sustain the stream ecosystems. Lower October– March flows—a minimum of 25 cubic feet per second (cfs) and a maximum of 29 cfs in Rush Creek—are designed to benefit the trout fisheries, with low water velocities allowing fish to conserve energy through the winter.

These lower flows are also intended to keep Grant Lake Reservoir storage higher than under the previous minimum flows. Low Grant levels are a concern for multiple reasons, including high turbidity and warm summertime water temperatures as water is released into Rush Creek from the low reservoir, both of which are detrimental to fish health.

The Mono Lake Committee expressed concern in December about Grant dropping too low, and DWP slowed the surface water export rate-making it more likely that Grant will stay just above its minimum operating storage of 12,000 acre-feet. Unfortunately, initial data indicate DWP over-released 700 acre-feet from Grant to Rush Creek during October-December, which was followed by the driest January on record and a dry February. At press time, Grant storage has dropped to the lowest levels since near the end of the last drought in early 2016. If dry weather continues and DWP completes its export of 16,000 acre-feet of water from the reservoir, it is unlikely that DWP will be able to meet the summertime minimum storage requirement of 20,000 acre-feet.

Order 21-86 has safeguards that will keep the reservoir higher, but rules for achieving the required levels won't be adopted until the Mono Basin Operations Plan is developed and finalized later this year, illustrating the importance of the Committee's engagement with these detailed matters of aqueduct operations (see page 6). In the meantime, the Committee is working closely with DWP, the Stream Restoration Directors, and conservation partners (California Department of Fish & Wildlife and California Trout) to determine the best operations plan for DWP in the coming year.

### Lakewatch

6417′

diversion lake level, 1941

### Roller-coaster weather keeps Mono Lake near 6380 feet

by Greg Reis

ono Lake fell below 6380 feet above sea level in October, and after a brief winterspring rise, it is likely to continue declining this year. 6380' has been identified as the level below which coyotes can more easily 5392' access the California Gull colony on Mono's islets (see page 8). It is also the trigger for a reduction in 5379.9' DWP's allowed surface water exports. However, that crucial 637 determination is made based on the April 1 level, and 2022 is the anagement lake level first year we may not storic low, 1982 rent lake level know which way that technicality swings until we read the lake level gauge on that day.

A record-breaking late October storm resulted in the wettest October on record at Cain Ranch, and bumped up Mono Lake's level to within 0.15' of 6380'. Then, after a dry November, it fell to 0.25' below 6380'. December brought Lee Vining's second-snowiest December on record, which resulted in a lake level that was just 0.11' below 6380'. And in January, Mono Lake had its lowest rise for that month since 1989—just 0.02'.

January 2022 was the first completely dry January on record. At Cain Ranch, where weather records go back to 1932, the only other January with unmeasurable precipitation was in 1947, when just a trace was recorded. Only a tenth of an inch of precipitation fell during February 2022.

Mono Lake at the end of February

is just 0.09' below 6380'—not close enough to get it over 6380' on April 1 if this year is similar to 2013, 2015, 2020, or 2021. But if it makes it over 6380' due to precipitation or warm weather melting snow, it is likely to be there only briefly—just long enough to change the year's surface water export rules.

Snowpack is below average, which rules out 2022 being a year like the wettest years on record, but does not rule out the driest years if dry weather continues through spring. If the runoff forecast of only 72% of average comes true, the lake will soon resume its decline below 6380'. ◆

# Mono Basin Journal

A roundup of quiet happenings at Mono Lake

by Geoffrey McQuilkin



The expansive open landscape of the Mono Basin can make a present-day hiker feel like the first person to discover a viewpoint, a rock outcrop, a hidden spring, or a special corner of forest.

It is a welcome experience, though of course it is not so. Since time immemorial the Mono Lake Kutzadika'a people have lived here; they know these lands. And then there's the landscape altering history of the Los Angeles Aqueduct, which once mobilized hundreds of people to toil in places that few visit today. A hike in the volcanic terrain of the Mono Craters can be one such solitary experience, until you stumble across a structure crafted of poured concrete and metal, see the trace of a road, and discover one of the vertical shafts used to construct the Mono Craters Tunnel (see page 3). The vast work project staged a century ago casts a long shadow through time, impacting Mono Lake today. The tunnel's history is a reminder: the work we do today to ensure Mono Lake is raised to a healthy level will, if successful, be equally impactful decades from now. �

# Benchmarks



January 2021: The Mono Lake Committee Information Center & Bookstore in Lee Vining was buried under snow after nearly five feet of snow fell in the last week of January.



February 2022: While Lee Vining received an impressive 3.5 feet of snow this past December, the start of 2022 has been very dry, with just 2 inches of snow recorded in January and February.



### GEOLOGY UNDERFOOT IN DEATH VALLEY AND EASTERN CALIFORNIA: SECOND EDITION BY ALLEN F. GLAZNER, ARTHUR GIBBS SYLVESTER, ROBERT P. SHARP ILLUSTRATED BY CHELSEA M. FEENEY Delve into the dramatic geology of Death Valley and the Eastern Sierra in this freshly revised *Geology*

Underfoot edition. This full-color guide to 33 distinctive geologic sites in eastern California, from Death Valley to the Mono Craters, is the perfect companion for your next trip along Highway 395. Geology Underfoot in Death Valley and Eastern California, paperback, Mountain Press, 326 pages, 6¼"x 9": \$24.00





CALLS US WHAT WE CARRY: POEMS

by Amanda Gorman

*Call Us What We Carry*, the first poetry collection by inaugural poet Amanda Gorman highlights her versatility and inventive style. This luminous collection explores themes of history, language, and identity; it is ultimately a lyric of hope.

Call Us What We Carry, hardcover, Viking Books, 240 pages, 6"x 81/2": \$24.99

### ENAMEL MONO LAKE CAMP MUG

Cozy up to the fire with this top-selling handmade enamel camp mug. These mugs are durable, beautifully crafted, and feature a Mono Lake tufa design and the Mono Lake Committee logo on the bottom. Perfect for camping, travel, or home. *Mono Lake Committee exclusive. Enamel Mono Lake camp mug, 12 ounces: \$25.00* 



### Mono Lake watercolor card set

Add a touch of Mono Lake's beauty to your correspondence with these cards featuring watercolor paintings by local Bishop artist Nancy Overholtz. Each set of ten cards includes images of Mono Lake and the birds and mammals that call the Mono Basin home. *Mono Lake Committee exclusive.* 

Mono Lake watercolor card set, ten unique 7"x 5" cards with envelopes: \$22.00

order at monolake.org/shop or (760) 647-6595

# Mono Lake map





### OEC team returns to Los Angeles for outreach

Typically, the Mono Basin Outdoor Education Center (OEC) team visits Los Angeles every winter to connect with our participating groups at the southern end of the Los Angeles Aqueduct. This outreach is an essential part of the OEC program because it deepens our understanding of the participants' lives in Los Angeles, which helps us better match the OEC program to the needs of the groups.

After a one-year hiatus due to the pandemic, OEC Manager Santiago Escruceria reached out to group leaders and was delighted to hear how enthusiastic people were to greet us again. We cautiously and optimistically scheduled a weeklong trip to Los Angeles to reconnect with OEC groups.

Throughout the week we visited high school classes, community-based organizations, family groups, and longtime OEC participants. Some of these visits included a classic Mono Lake slide show, some ended up being virtual meetings, and others became conversations about the ups and downs our Los Angeles partners have experienced through the pandemic. It was inspiring and invigorating to hear about the successes and persistence of our participants, and to commiserate with





The OEC team visits Roosevelt High School, whose groups have been visiting Mono Lake for more than 20 years.

the struggles. It was also exciting to put some dates on the calendar for the groups' visits to Mono Lake this summer!

Many of the community-based organizations are seeing record numbers of involvement. We discussed with groups how the civil and environmental unrest of the past few years has led to community members becoming motivated to improve their neighborhoods. One participating group, Communities for a Better Environment, shared their efforts at helping to phase out oil drilling throughout the city of Los Angeles. Homeboy Industries' Homegirl Café shifted from being a restaurant to serving free food to their community by securing grant funding. Frequent OEC group, Outward Bound Adventures, whose mission is to get local youth into the outdoors, has more leaders, participants, and trips scheduled than ever before. The high schools we visited were full of students who had heard about the trip to Mono Lake from previous students and are excited for the opportunity to visit.

Now more than ever students traveling to the OEC are vital for the future of Los Angeles and Mono Lake. Learning about water conservation, keeping communities strong, and caring for one another continues both in Los Angeles and at the OEC.

PHOTOS BY ROSE NELS

Naturalist notes

by Nora Livingston

inter in the Mono Basin has more dark hours than light, chillingly cold air, and a silence so profound it feels physical. It is either a time of rest, of moving slowly, of torpor to reduce the toll simply existing can take on a body in this season, or a time during which all energy goes towards survival. Bears may be hibernating, but voles are navigating under snow with very little sunlight to guide them and birds are working hard to keep their cores warm, which means letting their legs and feet get close to freezing.

Winter is brutal but also beautiful. The ice crystals that form on every blade of grass during a poconip fog are delicate, intricate art. The colors of the landscape form a palette of muted browns and greens and blues: illuminated wheat, dusky olive, burnt buckwheat red, pale sage green with hints of cornsilk, dark cyan to powder blue. The few audible sounds in the silence stick strongly to memory. Winter is a time to appreciate the subtler things.

A handful of winter sightings:

A Common Redpoll in Mono City—don't be fooled by the name, this is an incredibly rare bird in the area!

A bobcat perfectly camouflaged in the whorl of a giant tree root observing potential prey.

Frozen bubbles suspended in lake ice, depicting stopped time.

A mountain lion slinking through the sagebrush, tail impossibly long.

A Fox Sparrow mingled with Dark-eyed Juncos and Pine Siskins in search of seeds in my neighbor's yard. Could it have been the same lost Fox Sparrow as last winter?

A dark-morph Rough-legged Hawk perched on a tufa tower amid sagebrush, scanning the ground for snacks scurrying about.

Spring is the season of new beginnings, of fresh leaves



A bobcat (Lynx rufus) on the prowl.

and softening earth, of remembering what warmth feels like. Everything starts to move—insects emerge from their winter slumber, brine shrimp hatch from their cozy lake-bottom bed, grasses send up new shoots. Greater Sage Grouse strut their stuff on leks, and we eagerly await the return of migrant songbirds, who, in a few months' time, will float their songs through the air and show us all how to begin again.

I am looking forward to Painted Lady butterflies dancing past my gaze, hearing the first Red-winged Blackbirds holler from the treetops in town, walking the Lee Vining Creek Trail as the new leaves unfurl, meditating on the rushing snowmelt as it cascades down the canyons to Mono Lake, and soaking up all the birdsong that I have so dearly missed. I love the quiet of winter, but by the time spring peeks around the corner, I am ready.  $\clubsuit$ 



Bubbles entrapped in ice on Lundy Lake.

The MBOP must be submitted to the State Water Board at the end of September 2022. A substantial portion of the MBOP will involve Grant Lake Reservoir operations, including requirements to ensure the new Grant Lake Outlet works as planned, which will result in the reservoir being higher on average.

### Blazing this new path for restoration

Until now, the Mono Lake Committee has had to monitor and watchdog Los Angeles Aqueduct operations and Mono Basin restoration using legal challenges and State Water Board orders as the templates to ensure the right things were happening to restore Mono Lake and its tributary streams. Now, thanks to the precedent-setting Order 21-86, the State Water Board has tasked the Committee, CalTrout, and DFW with continuing this work from the inside with DWP—as the parties specifically charged with helping to implement this new phase of restoration. Order 21-86 is like the blueprint for the Monitoring Administration Team, the Annual Operations Plan, Stream Ecosystem Flows, the Mono Basin Operations Plan, and the new Grant Outlet. Along with CalTrout, DFW, and DWP, we are building from that blueprint a new era of stream restoration based on decades of scientific work in the Mono Basin. The Committee is bringing 44 years of focused experience to power this process and to make sure that restoration advances on the ground, along the stream channels, and all the way downstream at Mono Lake. �

### Dump remediation from page 9

adjacent to a State Scenic Highway. The Inyo National Forest agreed with the Committee that the berm removal should stop. CalRecycle halted berm removal and agreed to retain what was left of the original berm.

### Permitting not completed, runoff problems

More Committee probing revealed that CalRecycle also failed to file a stormwater pollution prevention plan with the Lahontan Regional Water Quality Control Board (Lahontan). That plan is a routine, yet critical regulatory step in ensuring that stormwater runoff is planned for and controlled. Lahontan had no knowledge of the remediation project and was not provided an opportunity to view or comment on the project design and erosion control plans, despite the project's proximity to Mono Lake.

Unfortunately, the remediation work triggered significant runoff. The first runoff event occurred after a water truck operator accidentally discharged excess water during construction, which eroded and transported sediment downhill to the County Road—a quarter mile below the project toward Mono Lake. More runoff occurred along the same incised drainage path after heavy rain from an atmospheric river rainstorm on October 24–25. Erosion accelerated, disgorging project soils and sediment that covered a portion of the County Road, less than a third of a mile from lake-fringing wetlands near Old Marina. In the week before the expected storm, CalRecycle and its contractor resumed removing the berm without notifying the Inyo National Forest or the Committee, despite their prior commitment to halt further removal.

### Advancing a collaborative solution

While berm restoration, water quality, and erosion issues are paramount, the way the project has been approached has also

caused problems to the site's soil health, which will negatively impact the success of short- and long-term revegetation. In pursuing solutions to these problems, the Committee is once again working with Michael Hogan, a Tahoe-based expert who helped guide Caltrans' revegetation of the Lee Vining Rockfall Safety Project, which now stands as a model for successful revegetation in the Eastern Sierra. Hogan and the Committee are advancing a revegetation plan in collaboration with the Inyo National Forest and with Traditional Ecological Knowledge and assistance from the Mono Lake Kutzadika'a Tribe. Lahontan is also engaged in the revegetation plan.

### Restoration instead of litigation

Restoring the berm and implementing a successful revegetation and erosion control plan are key to reaching a negotiated settlement agreement between CalRecycle and the Mono Lake Committee. The Committee is prepared to file a CEQA challenge unless satisfactory project mitigation is achieved. Both CalRecycle and the Committee have signed a tolling agreement to allow for sufficient time to reach a settlement beyond the usual 30-day timeframe required for a legal challenge. The path toward project completion will depend on CalRecycle's willingness to financially commit to the successful revegetation, restoration, and stabilization of the Visitor Center landscape.

There are countless abandoned dump sites in California in need of remediation, and CalRecycle is the lead agency tasked with making these sites safe and stable. Accomplishing that work is important, but not without critical and careful planning that minimizes additional impacts. Here in Lee Vining, the work ahead will involve making the old dump site safe for the public while also successfully restoring native vegetation, scenic views, and protecting water quality. **\*** 

# **2022 Field Seminars**



### Spring Photography at Mono Lake

May 13–15 • Joe Decker \$310 per person / \$295 for members enrollment limited to 12 participants

Spring in the Mono Basin offers brand new leaves emerging along the creeks and washes of color as wildflowers bloom in the sagebrush. Bright warm sunshine, late-season snowstorms, and gentle spring rainstorms are all possible, combined with a still snow-covered Sierra Nevada as the backdrop. Along with a rising full moon and opportunities to photograph the landscape by moonlight, the photographic possibilities are endless. Though primarily a field seminar, this class will discuss composition and methods of proper exposure under the diverse variety of lighting conditions encountered in the Eastern Sierra.

### Breeding Birds of the Mono Basin

June 4 • Nora Livingston \$145 per person / \$130 for members enrollment limited to 8 participants

Late spring and early summer are the best times to find breeding birds in the Mono Basin as they sing from the top of trees and shrubs to declare their territory to rivals and protect their mates. This one-day seminar will visit birding hotspots in the Mono Basin to learn about the many breeding birds that raise their families here. In this class, we will learn to identify these breeders and observe their behavior as they gather food for their young or material to build nests. We will delve into their migration patterns and conservation status, as well as any natural history tidbits that come up.

### Creating the Illuminated Field Journal

June 10–12 • Hannah Hinchman \$280 per person / \$265 for members enrollment limited to 14 participants

A field journal is an ideal vehicle to record moments of discovery about the natural world, as well as a quiet way of simply being present outdoors. Through guided explorations of nearby habitats from early morning to evening, we will learn to personalize these experiences through journal entries, both drawn and written. Following time in the field, we will move indoors for a leisurely review of our pages, discussing what we have learned and experienced.

To sign up for a Mono Lake Committee Field Seminar please visit *monolake.org/seminars* or call (760) 647-6595.

June 13–15 • Ane Carla Rovetta \$280 per person / \$265 for members \$30 required materials fee; additional \$55 materials fee to order a set of 72 chalks (optional) enrollment limited to 12 participants

The rich light and deep colors of the Mono Basin are perfect subjects for the brilliance of pastel chalks. During this seminar, we will work outside, on location, to make landscape studies in pastel. We will be challenged by wind, weather, and our copious gear, however, the exuberant brilliance of "plein air" paintings make them worth the effort. We will concentrate on vista paintings in the mornings, move indoors for midday lectures, and late afternoons will consist of painting a smaller scene in a sheltered place. Each participant will go home with at least one small finished painting and several sketches, color studies, and value experiments to fuel future artistic endeavors.

### Natural History of Mono Basin Woodpeckers

### June 21–24 • Steve Shunk \$280 per person / \$265 for members enrollment limited to 12 participants

Join this seminar for a dynamic overview of Mono Basin woodpeckers. One of the most specialized bird families in the world, 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 carpenters. We will visit prime local habitats to discuss forest ecology, woodpecker behavior, and natural history. This seminar also includes two evening lectures on specialized woodpecker topics.

### Capturing the Mono Basin in Pastel Mono Basin & Bodie Photography

June 25–27 • David J. Gubernick \$325 per person / \$310 for members enrollment limited to 12 participants

Enhance your photography skills 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, and the group will visit Bodie for private, after-hours evening access. This seminar is designed to enhance your picture-taking abilities in a supportive learning environment. In addition to mastering the technical aspects of creating images, we will explore the artistry of photography with an emphasis on composition.

### Mono Basin Natural History: Aquatic & Terrestrial Habitats

July 8–10 • David Wimpfheimer \$285 per person / \$270 for members enrollment limited to 12 participants

The Mono Basin is one of the most diverse ecosystems on the continent; this seminar will be an overview of the varied habitats found here. One of the best ways to get an appreciation for Mono Lake's drama and productivity is to explore its shores and then proceed higher in elevation to other habitats. We will enjoy the rich diversity of mammals, butterflies, wildflowers, and trees, and a major focus will be the identification and ecology of birds that breed here. In sagebrush meadows and riparian and conifer forests, the class will explore a number of sites intensively, mixing short leisurely walks with periods of observation and natural history discussion. A guided canoe tour of Mono's south shore is included.



Red-necked and Wilson's Phalaropes use Mono Lake as a critical stopover during their summer migration to South America. Their flocking behavior at Mono Lake is a spectacular sight to behold.

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



Many of this year's seminars focus on natural history, with an emphasis on the identification and ecology of the wide diversity of birds that inhabit the Mono Basin.

### *En Plein Air* at Mono Lake: Beginning Oil Painting

July 15–17 • Penny Otwell \$280 per person / \$265 for members enrollment limited to 12 participants

Painting outdoors allows an instant connection with landscape, and the textural possibilities and complete-coverage quality of oil paint allow participants to portray their own unique feelings in their art. This field seminar is designed to be an introduction to the sometimes-intimidating subject of oil painting for those who want to learn oil painting outdoors. With demonstrations, individual instruction, group discussions, and plenty of humor, we will discover the tools, techniques, and some of the challenges of the outdoor oil painter. Learn to transfer the feeling of where you are into what you want to say.

### Geology of the Mono Basin: Land of Fire & Ice

July 22–24 • Greg Stock \$250 per person / \$235 for members enrollment limited to 15 participants

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 a variety of fascinating geological sites, will present in understandable fashion the geologic stories of the Mono Basin. The seminar will visit and explain such scenic wonders as Mono Lake, the Mono Craters, Lee Vining Canyon, and Tioga Pass. If you've ever wanted to know more about the geologic forces that formed the diverse landscapes of the Mono Basin, this seminar is for you.

### Mountain Botany & Ecology

July 29–31 • Michèle Slaton \$250 per person / \$235 for members enrollment limited to 12 participants

This seminar will explore the diverse plant communities from the shores of Mono Lake to the forests and meadows at the high elevations of Lee Vining Canyon. The class will begin by identifying common wildflowers, starting with common traits used to recognize plant families. We'll then learn the basics of flower and plant anatomy and how to use a plant key before discussing soils and geology, and examining the adaptations that enable plants to tolerate the extremes of mountain environments.

# Natural History at the Edge of the Sierra

### August 6 • Nora Livingston \$145 per person / \$130 for members enrollment limited to 8 participants

Natural history pays attention to all aspects of nature and widens your view when out in the forest or high desert. In this seminar, we will make our way up the east slope from Mono Lake to Tioga Pass, stopping at several locations to observe all that we find, which may include wildly colorful butterflies like the lustrous copper, hidden Sierra rein orchids in pristine meadows, and plenty of birds, from warblers to rosy-finches. This is the quintessential day in the field with a naturalist, where we will ponder the grandeur and the minutiae that envelops us in this amazing place.

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



Learn about the stunning array of flowering plants in the Mono Basin on a Field Seminar, such as this skunky monkeyflower.

### Mono Basin Landscape & Night Photography

August 19–21 • Jeff Sullivan \$310 per person / \$295 for members enrollment limited to 10 participants

Summer is a special time in the Mono Basin, with wildflowers blooming, Sierra Nevada peaks catching morning alpenglow, and afternoon cloud formations for potential sunset color, often yielding to clear skies for night photography. This seminar will cover best practices for composing and capturing stunning landscape and night sky photographs. We'll also spend time learning how to anticipate and plan for great sunrise and sunset shots and how to use composition and light for greater impact in every photograph. When we're not out photographing in the field, we will have discussions and demonstrations on post-processing indoors to refine our skills.

### Late Summer Birding

### August 27 • Nora Livingston \$145 per person / \$130 for members enrollment limited to 8 participants

As birds fly south for winter, people often wonder: "Where exactly are they going? Where are they coming from? How long does it take them to get there? How do they know where to go?" This seminar strives to answer those questions during a fun time in the field observing these lightweight travelers as they fuel up along the way. We will focus on shorebirds, but there will be plenty of songbird migrants to see as well.

### Mono Basin Tree Identification

September 3 • Nora Livingston \$145 per person / \$130 for members enrollment limited to 8 participants

From cottonwoods and willows along creeks to gnarled windswept pines high in the mountains, the Mono Basin and adjacent mountains provide a wonderful gradient on which to look at trees and tree-like shrubs in their plant communities. There are plenty of trees to learn about and celebrate here in the Eastern Sierra. This one-day seminar will delve into the diversity of trees in the Mono Basin and their identifying traits. We will take time to examine and observe the trees to help ingrain the knowledge into our senses.

### Los Angeles Aqueduct Tour

September 10 • Rose Nelson \$145 per person / \$130 for members enrollment limited to 15 participants

The Mono Basin extension of the Los Angeles Aqueduct began exporting water 350 miles south to the City of LA in 1941. Today, the aqueduct must balance competing needs for this water instead of exclusively serving one. During this seminar, we'll visit all the major aqueduct facilities in the Mono Basin and learn about their modern relationship with Los Angeles, Mono Lake, and the lake's tributary streams. We will look at the changes coming from the new State Water Board Order 21-86, discuss past and present diversions, and see how 20<sup>th</sup> century infrastructure is serving 21<sup>st</sup> century water needs. This seminar will provide a great overview of the Los Angeles Aqueduct, and a few of the historical, engineering, and ecological anecdotes that make up this fascinating water infrastructure.



Field Seminars have a range of activity levels, from slow, easy walking to strenuous off-trail hiking. Learn more at monolake.org/seminars.

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

### Eastern Sierra Volcanism

### September 17–18 • Claire Landowski \$195 per person / \$180 for members enrollment limited to 10 participants

The Eastern Sierra is a fascinating and exciting place to learn about volcanoes and to experience the volcanic history of the region. Over two days this seminar will explore some of the world-class volcanic features in Mono Lake's backyard. At Hot Creek we'll imagine the catastrophic eruption of Long Valley Caldera and observe its remnants; at the Mono-Inyo Craters we will hike through spectacular obsidian and pumice deposits; and in the north Mono Basin we will envision underwater eruptions. Whether you're a casual observer of landscape or an avid rock nerd, this seminar will deepen your understanding and appreciation of Eastern Sierra geology and natural history.



RFW YOUSSE

The changing fall leaves are the perfect backdrop for a Field Seminar.

### Rare Birding in Mono County

September 24–25 • Nora Livingston \$195 per person / \$180 for members enrollment limited to 6 participants

This birding seminar will scour the county looking for rare birds that show up during the fall migration. We will seek out rare birds that have been reported and we will bird several hotspots where rarities tend to appear. This seminar requires patience and enthusiasm for long days. There are no guarantees of seeing rare birds, but we will do our best to find them and will enjoy what we see, regardless of rarity.

### Arborglyphs & Aspen Natural History

October 8–9 • Richard Potashin & Nancy Hadlock \$195 per person / \$180 for members enrollment limited to 12 participants

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 this seminar for an enchanting journey into the aspen groves at peak color to explore this historical art form and to learn about the wildlife, insects, and birds that are drawn to this habitat. By visiting several different groves we will compare the designs and artistic and cultural content of aspen carvings. Participants will have an opportunity to document carvings using photography, pencil drawing, and video.

# **Field Seminar Information**

Please visit *monolake.org/seminars* to register for a Field Seminar, see complete itineraries, cancellation and refund policies, and learn more about our Covid-19 requirements.

Our Covid-19 requirements are in place to ensure that everyone can participate safely. Keeping participants, instructors, and our staff safe is our highest priority. **All participants and instructors must be fully vaccinated and boosted.** Proof of vaccination will be required after you register for a seminar. Because statewide and region-wide conditions will continue to change, we may have to cancel seminars, possibly lastminute. Full refunds will be issued in that case.

*No pets are allowed on any Field Seminars.* Please consider this in advance and find boarding accommodations for your pets or leave them at home; do not leave pets in your car during seminars. Service animals assisting people with disabilities are allowed on seminars and must be leashed.

Field Seminars are open to all, but Mono Lake Committee members may 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.

Questions? Email fieldseminars@monolake.org or call us at (760) 647-6595.

# Enduring collaborations

by Karen A. Hegtvedt

Editor's note: Each year we ask a writer to contribute to the Mono Lake Calendar—this essay appears in the 2022 calendar.

wenty-two (nonconsecutive) years of Mono Lake calendars sit on a shelf in the hallway closet. Over 264 visual reminders of the unique landscape of the Mono Basin—as it was and as it is becoming. Although I grew up on the west coast, I had never heard of Mono Lake until 1984 when I met attorney Patrick J. Flinn, then an associate at Morrison & Foerster working on a case for the National Audubon Society and the Mono Lake Committee. For the next 36 years of our personal "collaboration," Pat regaled me with stories of the efforts to save and restore Mono Lake and its tributary streams.

Admittedly, I cannot recite the ordering of the various hearings intended to challenge the appropriation of water from the Mono Basin to serve the city of Los Angeles or which legal doctrine went with which hearing. I do recall sitting in Judge Terrence Finney's courtroom one summer and hearing opposing counsel mention something about the "lifestyles" of brown trout. I have visited the area only a handful of times and our young adult children note that one of our failures as parents involved never taking them there (not fully true as we have photographic evidence of Patrick carrying our son as a toddler on his back at the lake shore). Nonetheless, Mono Lake became a touchstone for our Atlanta-based family life not simply because the calendar adorned our kitchen wall yearly—but owing to the enduring collaborations it wrought.

During his years of legal practice, Patrick successfully litigated for many clients (largely regarding intellectual property), yet he remained "attached"—intellectually or emotionally—to only a few. Top among those was the Mono Lake Committee. The collaboration with environmental activists, scientists, and attorneys representing other interested parties expanded his knowledge and forged lifelong friendships. On our annual holiday visit to the Bay Area, all family members heard updates, often at length, on the progress of stream restoration from hydrologist extraordinaire, Peter Vorster. And Pat typically tried to arrange his demanding and travel-filled schedule to attend the Defense Trust weekend at Mono Lake.

In 2000, Patrick and I exemplified what had become our mutual attachment to the Mono Lake cause by collaborating on a publication that joined my expertise in the social psychology of justice and his in the litigation to ensure water flow into Mono Lake. Entitled *Intergenerational Justice and the Environment: Determining the Fair Use of Mono Basin Water*, we consider the historically situated "collaborations" that emerged to challenge the status quo of water diversions threatening the viability of the ecological treasure of the Eastern Sierra.

In the parlance of my discipline, we framed determination of the use of Mono Basin water in terms of justice (highlighting emphasis on collective welfare, not simply justified self-interest). We stressed power dynamics, conditions affecting goals and perceptions of individuals and groups, collective reactions to perceived injustice, and resolution of conflicting claims to ensure a just outcome that benefits current and future generations.

We connected these processes with the Mono Lake case, first delineating how Los Angeles came to claim water from the Mono Basin (yes, they seemed to follow the "rules" existing at the time to secure water rights, thereby implying fair use). We noted the rise of concerns about the consequences of water diversion for the ecosystem of the Mono Basin as well as the economy of its area (a collective reaction beginning as early as 1928, and later fueled by the advent of the ecological worldview in the 1970s stressing the balance between human societies and ecosystems despite

Continued on page 25



# Property donation enables new research opportunities at Mono Lake

by Anna Christensen

ast summer, longtime Mono Lake Committee members donated a home and surrounding land to bolster the Committee's scientific research and education programs. Located northeast of Mono Lake, the house and 320-acre property are perfectly positioned to serve as a home base for research and projects located in this quieter and less-traveled corner of the Mono Basin.

Frank and Marie-Agnes Stephens used the property as a retreat for decades and loved the sweeping views of Mono Lake framed by the Sierra crest. The house is powered by a sturdy solar array and is hardy enough to be utilized year-round. The Stephenses' intent is to preserve the natural beauty of the area while supporting the work of the Mono Lake Committee.

Since the donation was received, the Committee has put the property to good use for research infrastructure installation and as a Covid-safe outdoor convening spot for meetings.

The donation comes at a critical time. The Committee's Mono Basin Field Station provides much-needed researcher housing in Lee Vining, but Mono Lake continues to be a focal point for many different types of scientific research and demand for space exceeds capacity at times. The Stephens property can house small groups in multiple bedrooms with the benefit of a garage and kitchen facilities. This spring the Stephens property will be used for several long-term research stays that will expand knowledge of Mono Lake limnology and the area's Greater Sage Grouse population.

Thank you to Frank and Marie-Agnes for making this generous donation to continue benefiting Mono Lake.



Mono Lake Committee staff convene at the Stephens property.

### Enduring collaborations from page 24

limits on economic growth). We concluded by analyzing the ensuing litigation between (power-disadvantaged) environmental groups and the (power-advantaged) Los Angeles Department of Water & Power, as adjudicated by state institutions (State Water Resources Control Board and the courts).

The Mono Lake Committee legal team drew from longstanding laws, thus "collaborating" with prior lawmakers and parties with varying interests. They invoked the legal doctrine of the Public Trust, rooted in Roman law, which dictates that the state should act in the best interests of all beneficiaries equally regarding natural resources. They cited 1933 laws in the Fish & Game Code advocated by mountain counties and instituted to protect fisheries (and the fishing pleasure of the affluent tourists of the day). Even though the Public Trust doctrine explicitly anticipates intergenerational justice, the substantive limits it imposes on water rights were not well defined. Thus, court decisions on the application of the simpler allocation rules to protect fish ultimately ensured a rise in lake level and restoration of the ecosystem for future beneficiaries. The collaborations inspired by the movement to "save" and then "restore" Mono Lake are many. Opposing sides in the earlier litigation even partnered to establish the Mono Basin Outdoor Education Center. In uniting underserved Los Angeles youth with the source of their water, the Center reinforces the collaborations necessary to meeting water needs of people and stewarding the vitality of the environment. Patrick's contributions to the movement connect our family to a distinctive and now sustainable landscape hosting a unique and inspiring variety of plant and animal life. Mono Lake's anticipated long life pays tribute to all those who collaborated to safeguard it. �

Karen A. Hegtvedt is a Professor of Sociology at Emory University in Atlanta, Georgia. Her research has examined factors affecting perceptions of environmental injustice. She holds her late spouse, Patrick J. Flinn, accountable for her attachment to Mono Lake. Though they made a home in the land of dogwoods and magnolias, the values and vistas of the west colored their lives.

# Volunteer at Mono Lake this summer

by Claire Landowski

Since the beginning of the Mono Lake Volunteer program in 2004, helping hands from near and far have contributed thousands of hours of work to Mono Lake and the surrounding basin. The volunteers are vital in ongoing protection and restoration efforts and in educating visitors at key sites around Mono Lake.

We are once again inviting new folks to join the volunteer

group to help host tours and birdwatching stations, do roving interpretation at South Tufa and Old Marina, pull invasive weeds and maintain trails, and assist with seasonal projects in the Mono Basin and at Bodie State Historic Park. People of all ages, backgrounds, and abilities are welcome to join this friendly team that's united by a love for the area and a sense of stewardship for the land.

This year, volunteer training will take place May 27–29 at several outdoor sites in the Mono Basin. This training is required for all new volunteers, and we also ask that volunteers plan to work a few hours per month, or a total of about 50 hours, from June to September.

The Mono Lake Volunteer program is a joint project of the Mono Lake Committee, California State Parks, and the Inyo National Forest, with additional support from the Bodie Foundation and the Eastern Sierra Interpretive Association.

If you would like to sign up, or have questions about the program, please contact Mono Lake Volunteer Program Coordinator Karen Gardner (*monolakevolunteers@gmail.com*) or Mono Lake Committee Office Director Claire Landowski (*claire@monolake.org*) at (760) 647-6595. �



Join the Mono Lake Volunteer training May 27–29, 2022.

## 2021 Free Drawing prize winners

by Ryan Garrett

ike many things in 2021, the Free Drawing made a return to near-normal. As tradition dictates, on the day of the drawing Mono Lake Committee staff convened in the bookstore, played celebratory music, and drew the winning tickets. We are grateful to the generous prize donors and drawing participants who send in extra donations, making this fundraiser successful every year. Every ticket entered and dollar raised ensures that Mono Lake will be protected for years to come. Thank you and congratulations to the winners!

Richard Smisek of Torrance won the early bird prize, an iPad Mini. National Park Grand Adventure: Dale H. Berven of Livermore. June Mountain ski pass: Jan Rhoades of Bishop. Cross country ski pass: Theresa Thistle of Mammoth Lakes. June Lake retreat: Lynn & Nancy Higbee of Perris. Yosemite vacation: Denise Baca of Covina. Lee Vining getaway: Paul & Mary Cummins of Santa Monica. Mono Lake trip: Charmaine Gunther of Naples, FL. Mono Basin fun in the field: Tim & Nancy Mahoney of Reno, NV. A day on the Bay: Rick Rogers of Diamond Bar. Bird the Mono Basin: Hugh & Rosita Harvey of Walnut Creek and Rupert Deese of City Island, NY. Aquarium Experience: Lorri Oja of Fort Bragg. Canoe adventure on Mono Lake: Leslie Gardner of San Diego and James Arneson of Neillsville, WI.

David Urquhart of Sonora and Christine Decker of San Jose each won a Patagonia Nano Puff jacket. Outfit your Eastern Sierra adventures: Joyce Schutten of Highland. Patagonia Black Hole backpack: Michael Perkins of Fresno. Patagonia Black Hole duffle bag: Charlet Steffani of Bettsville, OH. REI gift pack: Lisa Frost of Oakland. Pentax Papilo binoculars: Skye Swanson of Mariposa. Mammoth Bike Park season pass: David Miller of Fremont. Photographer's favorite book bag: Denise Munkvold of Reno, NV. Bodie exploration: Peter & Renee Lesniak of Ridgecrest. Mono Lake Committee Gift Pack: Thomas Bieri of San Francisco and Jon Stutz of Arroyo Grande.



# From the mailbag

News from members and friends

by Ellen King

### In honor

RachelAnn Alikes of Modesto made a donation in honor of Lourdes Antero Lacamen, "my great aunt and mentor." David & Karen Bennett of San Rafael gave a gift in honor of Linda & Bill Anderson, "long-time Mono Lake conservationists." Ryan Dietrick of Annandale, VA made a donation in honor Scott Eastman Dietrick: "He's a very cool father." Beth Dolos of Ashland, OR gave a gift in honor of Keri French, "for her boundless love of the Eastern Sierra." Carrie & George Fields of Long Beach sent a contribution in honor of Uncle Greg. Anna Gade of Bolinas gave a gift in honor of Michael Light & John Lum.

Samuel Jackson of San Francisco gave a gift in honor of Rob Bennett. Jess Morton of San Pedro sent a contribution in honor of the Mono Lake Committee's Lead Naturalist Guide Nora Livingston. Ann Noble of Davis gave a gift in honor of Cathy Toft. Karyn O'Hearn of Mariposa sent a contribution in honor of Jen "Coyote" Sandstrom and their friendship born on the Eastside. Susan Osborne of Carmel Valley made a donation in honor of Sherryl Taylor, "who taught me about Mono Lake."

Ron Rutowski of Tempe, AZ gave a gift in honor of the Rutowski/Mitchell family's abiding love of the Mono Lake region. Margo Schueler of Berkeley made a donation in honor of Rosa Cox and Emma Cox. Kristine Zeigler of Walnut Creek sent a contribution in honor of her parents Wanda & Phil Zeigler. Joy Zimnavoda of Redondo Beach made a donation in honor of Janet Carle.

### In memory

**Robert Alberti** of Atascadero made a donation "in loving memory" of **Dorothy Millerd**. **Mary Jane Baird** of San Anselmo gave a gift in memory of **John**  Hetzner. Janice Bowers of Tucson, AZ sent a contribution in memory of Steve McLaughlin. Gray Brechin of Berkeley made a donation in memory of Grace de Laet. Laurie Buffington of Tahoe City gave a gift in memory of her father Wilbur Vaughn: "My dad was always drawn to Mono Lake and was grateful for your efforts of save this special place."

David Chittenden of Mill Valley sent a contribution in memory of Claudia Chittenden. Bonita Churney of Cayucos made a donation in memory of her brother Tom Churney. Raymond Elliott of Menlo Park gave a gift in memory of Emily Gere. Mary Emmons of Los Angeles sent a contribution in memory of Bill Dahl, "who loved Mono Lake." Steven Evitt of Somerville, MA made a donation in memory of Bill & Gisela Evitt, "who introduced me to this place." Richard & Allyn Feldman of Los Altos gave a gift in memory of Carl Feldman. Sara Fousekis of Los Angeles sent a contribution in memory of Susan Fousekis.

Sharen Gasior of Irvine made a donation in memory of Larry Gasior. Fred Gottlieb of Los Angeles gave a gift in memory of Phyllis Gottlieb. Cathi Grant of Castro Valley sent a contribution in memory of Rick Knepp. Robin Hamlin of McKinleyville made a donation in memory of Del Hubbs. Mike Hammes of Cupertino gave a gift in memory of John Schumacher. John Hanna of Santa Ana sent a contribution in memory of Bob Schotz. Jennifer Herron of Anacortes, WA gave a gift in memory of Don Moore.

Marvin Hess of Bishop sent a contribution in memory of "my mother and father, Barbara & Earl Hess,

Indigenous natives of the homelands of Mono Lake." James T. Hollibaugh of Nevada City made a donation in memory of Ron Oremland. Cindy Hoover of Paradise gave a gift in memory of Karen Van Wagner. Robert Jacobs of Los Angeles sent a contribution in memory of Mort & Edith Gaines. Steve Knight of Fullerton made a donation in memory of Reagan Heater. Alan Lawson of Brea gave a gift in memory of Jorge Zavaleta. Nancy Mann of San Luis Obispo sent a contribution in memory of Allan Schoenherr: "He devoted his life to the natural history of California, especially the Eastern Sierra."

Jack Meagher of Petaluma made a donation in memory of Pat Heron. Kathy Oakes of Reno, NV sent a contribution in memory of Ed Oakes. Amy Rodney of Santa Rosa made a donation in memory of her brother Ray Rodney. Gloria Spitzer of Palo Alto gave a gift in memory of Jack McKellar. Chris Swarth of Mariposa sent a contribution in memory of Jan Simis. Karen Valentine of Soquel made a donation in memory of her brother David Flickwir. Peter Vorster of Oakland gave a gift in memory of Patrick Flinn. Jeanne Walter of Swall Meadows made a donation in memory of Lorenzo Stowell. Robert Woessner of Carson City, NV sent a contribution in memory of his mother Marian Woessner. Gerald & Nancy Wright of Mill Valley made a donation in memory of Park Loughlin. Ted Zukoski of Boulder, CO sent a contribution in memory of his mother Joan Zukowski.

Jeff Burch & Christine Weigen of Palo Alto, Tim Excell of Auburn, and Elaine White of Bakersfield made donations in memory of David Gaines. \*



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# Volunteer for Mono Lakes! Kaad tours, rove trails, pull invasive plants share the Mono Lake story with visitors, and much more. Read more on page 26:

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