



**LAKE TAHOE**  
ENVIRONMENTAL  
IMPROVEMENT  
PROGRAM

AUGUST 2022



ENVIRONMENTAL IMPROVEMENT PROGRAM

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2021 ACCOMPLISHMENTS + LOOKING FORWARD

# ENVIRONMENTAL IMPROVEMENT PROGRAM

**EIP** This landscape-scale collaboration is a partnership between nearly 80 public and private organizations working together since 1997.

**2021 WAS A YEAR UNLIKE ANY OTHER AT LAKE TAHOE.** Smoke from the Dixie and Tamarack Fires blanketed the region for months. Shortly thereafter, the Caldor Fire's menacing march across the Sierra and into the Tahoe Basin underscored the reality of our rapidly changing climate. Fortunately, Tahoe is well positioned to increase its climate resilience through the Lake Tahoe Environmental Improvement Program (EIP).

Formed in 1997, the EIP is a comprehensive program that outlines the priority projects necessary to restore and protect Lake Tahoe and revitalize its communities. The EIP is implemented through a strong collaborative partnership that spans all jurisdictions and government sectors and includes the private business community, the science community, and the Washoe Tribe of Nevada and California. The collective impact of over 80 partner organizations over the last 25 years helped achieve one of the EIP's central goals: protect communities from damaging wildfires. Because of the heroic actions of first responders and decades of sound forest management under the EIP, Lake Tahoe was spared from catastrophic loss.

Continued investment in the EIP from all sectors is necessary to build upon over two decades of success and to increase the pace and scale of EIP projects to balance climate change challenges.

## 1997-2021 ACCOMPLISHMENTS



**197**

miles of bike and pedestrian trail constructed or improved



**833**

miles of roadway updated to reduce erosion and stormwater pollution



**101,620**

boats inspected for aquatic invasive species



**3,195**

feet of public shoreline added



**134**

acres treated to remove aquatic invasive weeds and Asian clams



**89,576**

acres of forest treated to reduce hazardous fuels



# Lake Tahoe

## 2021: MAKING PROGRESS THROUGH PARTNERSHIPS

**Caldor Fire Cooperation:** More than 30,000 people safely evacuated Tahoe's South Shore during the fire. Land managers, emergency management, law enforcement, fire agencies, and utility companies closely aligned to battle the flames without losing a single primary home in the basin.

**Forest Health Funding:** The Caldor Fire increased the urgency to expand fuels reduction projects and invest in water infrastructure. Tahoe Fire and Fuels Team (TFFT) partners were awarded more than \$45 million from the Southern Nevada Public Land Management Act, and \$38 million from the State of California to complete high-priority forest health projects.

**Destination Stewardship:** Partners came together to organize a new collaborative partnership to chart a new course for Tahoe on recreation and tourism.

**Tackling Aquatic Invasive Species:** The program continued to increase pace and scale, treating the most acres yet in one year: 24.2 acres.

**Building Resiliency to a Changing Climate:** Tahoe partners came together to identify and prioritize funding needs to make the basin more resilient to climate change. The Tahoe Climate Resilience Action Strategy now serves as the basin's roadmap for climate adaptation.

**Engaging Communities:** The Tahoe Network of Fire Adapted Communities helped seven neighborhoods receive fire preparedness national recognition from Firewise USA®. This brings the total number of recognized communities in the Tahoe Basin to 15.



PHOTO BY DRONE PROMOTIONS



# WATERSHEDS AND WATER QUALITY

Lake Tahoe

Meadows, wetlands, and streams play a major role in Lake Tahoe's ecosystem to keep Lake Tahoe's waters clear. In the last five years, partners have initiated some of the largest wetland restoration projects to date including the Upper Truckee River Marsh, the Taylor Tallac Ecosystem Restoration, and Meeks Bay Ecosystem Restoration. Local jurisdictions are exceeding targets to reduce nutrients and fine sediment from flowing into the lake through water quality improvement projects.

PHOTO BY CALIFORNIA TAHOE CONSERVANCY

## WATERSHEDS AND WATER QUALITY

### 2021 ACCOMPLISHMENTS »

- The California Tahoe Conservancy restored 200 acres of wetland and wildlife habitat during the first phase of the Upper Truckee Marsh restoration.
- The USDA Forest Service acquired 487.5 acres of undeveloped private land in the High Meadows area for conservation and public enjoyment.
- The Nevada Tahoe Conservation District partnered with Washoe County, Nevada Division of Environmental Protection, and the Nevada Division of State Lands to restore the stream channel and improve stormwater treatment in Incline Village as part of the Lower Wood Creek Water Quality Improvement Project.
- Vail Resorts improved stormwater treatment and the visitor experience at the Boulder Base parking lot at Heavenly Mountain Resort by rehabilitating the dirt parking area.

- The City of South Lake Tahoe received a \$6.2 million grant from the California State Water Resources Control Board to begin implementation of the Tahoe Valley Greenbelt project, a priority water quality project with recreational benefits.

### FUTURE PRIORITIES »

- Restore the entire Upper Truckee River corridor.
- Restore key Nevada riparian zones such as Marlette Creek and Rabe Meadow.
- Return native species to the ecosystem such as Lahontan cutthroat trout.
- Work in partnership with the Washoe Tribe to restore areas of cultural significance such as Meeks Meadow.
- Secure sustainable funding sources for operations and maintenance of water quality infrastructure.

### PROJECT SPOTLIGHT

#### THE LAKE TAHOE TOTAL MAXIMUM DAILY LOAD (TMDL) 10-YEAR LOAD REDUCTION MILESTONE ACHIEVED

In 2011, the states of California and Nevada, along with the Environmental Protection Agency, established a 65-year roadmap to restore Lake Tahoe's clarity to 97.5 feet. To achieve this goal, all local jurisdictions work together to reduce nutrients and fine sediment from entering the lake. Partners have prevented nearly 600,000 pounds of fine sediment, over 4,500 pounds of nitrogen, and approximately 1,700 pounds of phosphorus from entering Lake Tahoe over the last decade.



PHOTO BY DRONE PROMOTIONS



## AQUATIC INVASIVE SPECIES

To keep pace with the threat of aquatic invasive species (AIS), partners are collaborating to expand the scale of the program and aggressively combat existing infestations. Lake Tahoe's world-class watercraft inspection program has continued its track record of no new invasions since the program's inception.

### 2021 ACCOMPLISHMENTS »

- AIS inspectors intercepted 132 boats with invasive species, 28 of which had invasive mussels on board, marking the most invasive species ever intercepted in one season.
- The Tahoe Resource Conservation District (Tahoe RCD) completed the second year of control work at the Tahoe Keys Complex. This project is the largest infestation of AIS in Lake Tahoe proper at 105 acres.
- Project partners completed planning and environmental review for the Tahoe Keys Control Methods Test. This important project is now underway.
- The Tahoe Regional Planning Agency (TRPA) and the League to Save Lake Tahoe installed bubble curtains at three marinas to prevent the movement of aquatic invasive weed fragments.
- Homewood Marina rapidly responded to a new weed infestation through the League to Save Lake Tahoe's Eyes on the Lake program. Tahoe RCD contracted divers surveyed, mapped, and removed the infestation within one month.

### FUTURE PRIORITIES »

- Complete the Tahoe Keys Control Methods Test to find solutions to the region's biggest invasive weed infestation.
- Establish permanent watercraft inspection stations.
- Continue lake-wide monitoring of existing AIS species to track progress toward treatment goals.
- Build on the success of the Eyes on the Lake program to rapidly detect invasions and prevent further spread.



PHOTO BY NOVUS SELECT

### PROJECT SPOTLIGHT

#### TAYLOR TALLAC ECOSYSTEM RESTORATION

TRPA and the USDA Forest Service, with funding support from the Tahoe Fund and the U.S. Army Corps of Engineers, began implementation of Tahoe's largest AIS control project to date and the first to occur in a wetland. This 17-acre invasive weed removal project is using large mats to kill invasive weeds, the first step in a large ecosystem restoration project that will span several years. The Taylor Tallac ecosystem is the Tahoe Basin's largest functioning wetland and its restoration is critical in building resiliency in the wake of climate change.



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## FOREST HEALTH

### Lake Tahoe

In August 2021, the 221,000-acre Caldor Fire put wildfire preparedness at Tahoe to the test. Lake Tahoe passed that test thanks to heroic firefighting, a lucky shift in wind, and decades of fuel treatments and preparedness by the Tahoe Fire and Fuels Team (TFFT). In the end, more than 30,000 people safely evacuated during the fire, and emergency management, law enforcement, fire agencies, and utility companies closely aligned to battle the flames without losing a single primary home in the basin. The fire underscored the importance of investing in water infrastructure and continuing fuel treatments throughout Tahoe's overstocked forests. It also sparked intensive restoration and data collection initiatives to prepare Tahoe for future extreme fire events.

PHOTO BY SARAH UNDERHILL

#### 2021 ACCOMPLISHMENTS »

- TFFT partners have completed 9,600 acres of hazardous fuels reduction since the release of the 2019 Forest Action Plan.
- Partners treated 3,292 acres within the Caldor Fire perimeter between 2011-2021. This advance work allowed firefighters to safely and aggressively suppress the fire.
- TFFT partners completed a record 6,534 defensible space inspections across jurisdictions.
- TRPA approved a pivotal code change to allow mechanized forest-thinning equipment on steeper slopes, which allows partners to tackle challenging terrain with new technology.
- Douglas County secured funding for its highest priority water infrastructure project, the Cave Rock Water System, to help protect the area in the event of a wildfire.

#### FUTURE PRIORITIES »

- Expand the workforce to reduce hazardous fuels through partnerships with Lake Tahoe Community College and the California Conservation Corps.
- Complete water infrastructure upgrades to better prepare communities to fight wildfire.
- Continue progress on energy resilience corridor projects with NV Energy and Liberty Utilities.
- Implement landscape-scale projects to improve forest and watershed health.
- Implement the Shared Stewardship Agreement between the State of California and the USDA Forest Service for increased fuel reduction and forest restoration.

#### PROJECT SPOTLIGHT

##### CALDOR FIRE RECOVERY

The Caldor Fire burned approximately 10,000 acres in the Tahoe Basin, including an area containing some of the region's most popular trails. Fire damage scarred the landscape. Through a strong public-private partnership with non-profits like the Tahoe Area Mountain Biking Association, the USDA Forest Service was able to quickly remove hazard trees and repair bridges to reopen trails to the public. Planning is underway to rehabilitate the landscape, restore the trail network, and re-establish meadow and wildlife habitat with an estimated cost of \$15 million.



PHOTO: NORTH UPPER TRUCKEE NEIGHBORHOOD RESTORATION, JOSH MARIANELLI



# CLIMATE ADAPTATION AND SUSTAINABILITY

Lake Tahoe

California and Nevada have aggressive targets to reduce greenhouse gas emissions and build both climate adaptation and resilience. In 2021, EIP partners worked together to develop the Lake Tahoe Climate Resilience Action Strategy. The strategy builds on existing Tahoe Basin climate and environmental improvement plans to identify five focus areas that will advance equity, create jobs, and build resilience for the basin's extraordinary natural resources and communities.

PHOTO BY HOMEWOOD HIGH AND DRY MARINA

## 2021 ACCOMPLISHMENTS »

- Local jurisdictions have increased electric vehicle infrastructure by 50 percent over the last 5 years. There are now 157 charging stations at 67 locations around the basin.
- Homewood High and Dry Marina installed the first on-the-water electric boat charging station at Lake Tahoe.
- The Tahoe Transportation District procured electric buses powered by overhead and plug-in charger infrastructure. Each bus accounts for a reduction of more than 200,000 pounds of carbon dioxide per year and the chargers generate low carbon fuel standard credits for the district.
- The region met its goal of a 15 percent reduction in greenhouse gas emissions from 2010 levels.

## FUTURE PRIORITIES »

- Advance EIP priorities in all focus areas to increase the basin's resilience to drought, fire, and other threats.
- Prepare for extreme weather and plan for emergencies by building community resilience centers, and upgrading water, sewer, broadband, and power infrastructure.
- Continue expanding electric vehicle charging and solar energy adoption to achieve net-zero emissions by 2045.
- Upgrade recreation and transportation facilities to prepare for longer summers, shorter winters, fluctuating lake levels, and changes in visitor patterns.

## PROJECT SPOTLIGHT

### SUGAR PINE VILLAGE PROJECT

Agencies approved the 248-unit Sugar Pine Village project, the largest affordable housing development in the Tahoe Basin. This project is a public-private partnership between the state of California, City of South Lake Tahoe, Related California, and St. Joseph's Community Land Trust. Increasing the supply of local housing is important to build sustainable communities in the face of climate change.



PHOTO BY RELATED CALIFORNIA, LLC AND STUDIO T SQUARED



## TRANSPORTATION AND SUSTAINABLE RECREATION

*Lake Tahoe*

A top priority of the Environmental Improvement Program is to create a world-class transportation system for Tahoe that serves residents and visitors while preserving the region's environment. There is broad consensus that to meet the growing travel demand, Tahoe needs to transform its transportation system. Improvements will help conserve Tahoe's environment, revitalize communities, enhance recreation access, reduce greenhouse gas emissions, and make the system more resilient to climate change.

PHOTO BY LAKE TAHOE TRANSPORTATION DISTRICT

### TRANSPORTATION

#### 2021 ACCOMPLISHMENTS »

- The Lake Tahoe Community College's Mobility Hub became the go-to charging station for the Tahoe Transportation District's new 35-foot Proterra electric buses.
- City of South Lake Tahoe completed 1.5 miles of multi-use path as part of the Al Tahoe Blvd Complete Street project, improving safe access to the middle school, community college, and parks.
- Placer County completed its West Shore Highway Crossing Improvements Project, constructing numerous crosswalk improvements to increase safety and improve traffic flow.
- El Dorado County completed a 1-mile segment of the newly named Dennis T. Machida Greenway Memorial Trail connecting the Sierra Tract neighborhood to Lake Tahoe Community College.

#### FUTURE PRIORITIES »

- Implement bi-state sustainable funding solutions for Lake Tahoe's transportation system.
- Complete the Emerald Bay Multi-Use Trail Feasibility Study.
- Continue implementation of the East Shore Tahoe Trail as part of the State Route 28 Corridor Plan.
- Decrease reliance on the private automobile by improving transit linkages to recreation sites and mobility hubs.
- Implement innovative and coordinated parking management strategies.
- Complete the US 50 East Corridor Management Plan.

### PROJECT SPOTLIGHT

#### ON-DEMAND MICRO-TRANSIT

In 2021, a coalition of public and private partners worked together to launch micro-transit on both the North and South Shores. TART Connect served 50,000 passengers throughout the summer from the Placer, Washoe, and Truckee regions. In 2022, Lake Link micro-transit will begin service in the highly visited casino corridor from Stateline, NV to Lake Tahoe Community College on the South Shore. These innovative operations reduce vehicle trips and traffic and provide easier access to jobs, services, and recreation sites.



PHOTO BY RYAN SALM PHOTOGRAPHY



## SUSTAINABLE RECREATION

Lake Tahoe's \$5 billion recreation and tourism-based economy touches the lives of all who work, live, and play here. EIP partners are coming together to improve public access and recreation infrastructure, and to create a shared destination stewardship plan that will balance the needs of the environment, businesses, visitors, and local communities.

### 2021 ACCOMPLISHMENTS »

- Nevada State Parks and the Nevada Tahoe Resource Team began implementation of the Spooner Front Country Improvement Project including construction of a new visitor center and amphitheater.
- The California Tahoe Conservancy completed the Tahoe Pines Restoration and Public Access Project to restore riparian habitat while providing public access improvements.
- A coalition of Tahoe-Truckee partners initiated the Tahoe Trails Plan and collected over 1,000 survey responses that will help guide the planning, funding, and maintenance of a dirt trail network in the basin.
- The Tahoe Fund partnered with the USDA Forest Service, the Tahoe Area Mountain Biking Association, and the Tahoe Rim Trail Association to establish the Caldor Fire Trails Restoration Fund. This fund allows private funding contributions to the rehabilitation of trails affected by the fire.

### FUTURE PRIORITIES »

- Expand and improve recreation infrastructure to adapt to changing visitor patterns and conditions caused by climate change.
- Complete the Roundhill Pines new entrance to improve public safety and traffic flow.
- Construct public piers to increase access to Lake Tahoe, including the CA State Parks Kings Beach Public Pier.
- Expand equitable access opportunities for all to experience Lake Tahoe.

### PROJECT SPOTLIGHT

#### DESTINATION STEWARDSHIP

The region is coming together to collectively redefine how destination management can better serve the greater Tahoe Region and balance the needs of the environment, businesses, visitors, and local communities. The Lake Tahoe Destination Stewardship Plan will tap into a full range of perspectives and expertise to surface new ways of viewing recreation and tourism related challenges, from North to South Lake Tahoe and Truckee.

PHOTO BY CALIFORNIA TAHOE CONSERVANCY





# SCIENCE, STEWARDSHIP, AND ACCOUNTABILITY

## Lake Tahoe

Science and research are key components to natural resource management decisions at Lake Tahoe, but they cannot be made in a vacuum. The EIP also prioritizes bringing a key partner to the table: the public. Community engagement magnifies the benefits of EIP investments by expanding stewardship, empowering citizen scientists to monitor and protect the environment, and generating private support for EIP projects.

PHOTO BY DRONE PROMOTIONS

### 2021 ACCOMPLISHMENTS »

- Partners launched the Lake Tahoe Ambassador program in several recreation areas to expand stewardship, encourage responsible behavior, and monitor impacts.
- The Citizen Science Tahoe App, co-created by UC Davis, the Desert Research Institute, and the League to Save Lake Tahoe, documented data from millions of visitors.
- TRPA partnered with the Tahoe Fund to construct an AIS educational gazebo at the Meyers watercraft inspection station. This gazebo allows boaters to learn more about aquatic invasive species and how inspections play a role in preventing new invasions.
- Lake Tahoe's Water Trail map and access guide was translated into Spanish to increase its reach to residents and visitors.
- Clean Up the Lake kicked off a 72-mile diver-assisted cleanup of Lake Tahoe's shoreline. So far, the project has removed over 25,000 pounds of underwater trash.

### FUTURE PRIORITIES »

- Utilize the new Tahoe Clarity model to better understand lake clarity dynamics and guide policy decisions.
- Implement citizen science programs to engage residents and visitors in data collection while they enjoy the outdoors.
- Expand and increase awareness of Take Care Tahoe basin-wide stewardship messaging.
- Continue to track all research, monitoring, and project data at [www.laketahoeinfo.org](http://www.laketahoeinfo.org) to enhance public transparency.

### PROJECT SPOTLIGHT

#### CALDOR FIRE SCIENCE + RESEARCH

As the Caldor Fire encroached on Lake Tahoe, a team of researchers from the Tahoe Science Advisory Council quickly began collecting samples of water and ash falling from the sky. This quick response was made possible by a coalition of nimble funding partners such as the League to Save Lake Tahoe, the Tahoe Fund, TRPA, and the Lahontan Water Quality Control Board. Scientists are currently conducting research to measure the efficacy of the forest fuel treatments in the Caldor Fire area and how smoke and ash affect lake clarity.



PHOTO BY KATIE SENFT, UC DAVIS TERC



## LOOKING FORWARD

# Lake Tahoe



PHOTO BY CALIFORNIA TAHOE CONSERVANCY

The Lake Tahoe Restoration Act (LTRA) has been the cornerstone for the federal funding share of the EIP since the original law passed in 2000. Since Congress reauthorized LTRA in 2016, a total of \$80.6 million has been directed to the basin, which is 19 percent of the total authorization. This funding has allowed strategic implementation of the highest priority EIP projects including hazardous fuel reduction, large-scale wetland restoration, aquatic invasive species control, and more.

### FUTURE PRIORITIES

- Reauthorize the 2016 Lake Tahoe Restoration Act (expires 2023).
- Secure sustainable funding commitments to EIP program areas not identified in LTRA such as Transportation, Sustainable Recreation and Tourism, and Science.
- Continue to strengthen the collaborative partnership across all sectors and jurisdictions.

LAKE TAHOE INFO is the online information hub for the region.

Go to the EIP tracker for all EIP project information, spending, and accomplishments.

[WWW.LAKETAHOEINFO.ORG](http://WWW.LAKETAHOEINFO.ORG)



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A Blueprint for Climate Resilience