ENVIRONMENTAL IMPROVEMENT PROGRAM

Formed in 1997, the Lake Tahoe Environmental Improvement Program (EIP) is an unparalleled partnership working to achieve major environmental goals for the Region. Local, state, and federal government agencies, private entities, scientists, and the Washoe Tribe of Nevada and California are all collaborating to restore the water clarity and environmental health of Lake Tahoe. The collective impact of 50-plus partner organizations last year resulted in improved forest and ecosystem health, restored fish and wildlife habitat, and better public recreational access. However, emerging threats from climate change, invasive species, and wildfire are challenging the partnership in unprecedented ways. For example, the end of the most severe drought in a millennium followed by the wettest winter on record and warming summer temperatures all combined in 2017 to reduce the lake’s average annual clarity to its lowest recorded level. Continued investment in the EIP from all sectors is necessary to build upon the success of the last 20 years and to adapt to more extreme weather events.

1997-2017 EIP ACCOMPLISHMENTS

- **154** miles of bike and pedestrian multi-use trail constructed or improved
- **780** miles of roadway upgraded to reduce erosion and stormwater pollution
- **3,195** feet of public shoreline added
- **62** acres of treatment to remove invasive weeds and Asian clams
- **74,638** acres of forest treated to reduce hazardous fuels
- **70,917** boats inspected for aquatic invasive species
- **30,576** boats decontaminated
- **1,735** acres of SEZ restored or enhanced*

*This includes the 592 acres of the Upper Truckee River Marsh Restoration Project, which is currently in the planning phase. The project will be one of the largest stream environment zone (SEZ) restorations undertaken at Lake Tahoe.

EIP INVESTMENT BY SECTOR: 1997-2017

- **Federal:** $706 million
- **State of California:** $839 million
- **State of Nevada:** $159 million
- **Local Government:** $121 million
- **Private:** $362 million

Photo by Drone Promotions
The 1960s building boom in the Tahoe Basin caused a precipitous decline in the lake’s water clarity because of increased stormwater runoff in urban areas that carries fine sediment, nitrogen, and phosphorus into the lake. EIP projects are treating stormwater runoff and restoring important natural filters like meadows and wetlands. Despite an improvement in clarity over the last 20 years, Tahoe’s average annual clarity declined to 59.7 feet in 2017—the lowest level ever recorded. The end of the worst drought in 1,200 years followed by one of the wettest winters on record combined to reduce clarity. But clarity numbers are rebounding in 2018 and the five-year average lake clarity is 70 feet, showing that environmental improvement projects are working.

2017 ACCOMPLISHMENTS

• Local jurisdictions and state transportation partners prevented approximately 299,550 pounds of fine sediment from entering the lake through water quality projects.
• El Dorado County created eight new stormwater infiltration basins and restored 3.5 acres of stream environment zone near Meyers Creek, reducing fine sediment by more than 50 percent.
• Nevada Tahoe Conservation District completed the Zephyr Cove Water Quality project preventing stormwater from discharging into the lake.
• The City of South Lake Tahoe demolished the blighted Knights Inn motel and started constructing new infrastructure to reduce flooding and revitalize the community.

FUTURE PRIORITIES

• Achieve the 2021 milestones for the Total Maximum Daily Load program to continue the reduction of fine sediment, nitrogen, and phosphorus reaching Lake Tahoe.
• Construct area-wide stormwater treatment basins in urban zones to efficiently filter large areas of runoff.
• Pursue dedicated funding for operations and maintenance of stormwater infrastructure and roads.

ANNUAL AVERAGE SECCHI DEPTH

Graphic courtesy of UC Davis: http://terc.ucdavis.edu/stateofthelake
Lake Tahoe owes its remarkable clarity to several factors, including its great depth, volume, and the runoff that is filtered through the surrounding watershed and wetlands before running into the lake. Many of the basin’s watersheds have been degraded due to development in floodplains and stream environment zones disrupting the natural flow of water into Lake Tahoe. Restoring the complex ecosystem in these watersheds requires integrated projects that improve habitat, restore the natural flow of streams and rivers, and build the watershed’s resiliency to large storms, drought, fire, and invasive species.

2017 ACCOMPLISHMENTS

- Nevada State Lands acquired 7.67 acres of sensitive land near Edgewood Creek, permanently protecting an important area from future development.
- Federal and state partners removed non-native fish from Fallen Leaf Lake and its tributaries to improve native fish habitat.
- Placer County completed the Snow Creek Wetlands Restoration project, removing 6,000 feet of coverage and building a new bridge to protect restored wetlands.
- The U.S. Forest Service, in partnership with the Washoe Tribe, restored 110 acres of native aspen trees.

FUTURE PRIORITIES

- Restore Johnson Meadow and the Upper Truckee River Marsh.
- Expand the Upper Truckee River Watershed Restoration Strategy to integrate climate change resilience and adaptation.
- Remove Burton Creek Dam and restore Antone Meadow in Burton Creek State Park.
- Complete the Meeks Bay Ecosystem Restoration project to remove a decommissioned marina, treat aquatic invasive species, and restore the natural flow of Meeks Creek.
10 years fighting invasive species

Aquatic Invasive Species

The nationally-recognized Lake Tahoe Watercraft Inspection Program is celebrating 10 years of fighting aquatic invasive species with no new invasions detected. Led by the Tahoe Regional Planning Agency and the Tahoe Resource Conservation District, the program inspects all motorized watercraft to ensure aquatic invasive species are not introduced into Lake Tahoe. EIP partners also implement projects to control and reduce populations of aquatic invasive plants, clams, and warm water fish through a science-based management plan. Control of these invasive species improves lake clarity, restores habitat for native species, and protects the recreation opportunities that drive Lake Tahoe’s economy. Managers and scientists continue to work together to monitor lake conditions, experiment with new treatment technologies, and prevent the introduction and spread of invasive species.

2017 ACCOMPLISHMENTS

- Inspected 8,870 boats for aquatic invasive species.
- Intercepted 41 boats carrying aquatic invasive species, including eight boats carrying zebra or quagga mussels.
- Treated 14.5 acres of aquatic invasive plants and Asian clams.
- Began testing ultraviolet light technology to treat invasive plants in Lakeside Marina.
- Surveyed 35 acres of Lake Tahoe for aquatic invasive species through the League to Save Lake Tahoe’s volunteer Eyes on the Lake program.

FUTURE PRIORITIES

- Complete an environmental analysis and a collaborative plan for the treatment of aquatic invasive plants in the Tahoe Keys.
- Continue to pioneer new technologies for the treatment of aquatic invasive species.
- Work with marinas to incentivize the prevention and treatment of aquatic invasive species.
- Develop a monitoring plan for consistent, lake-wide surveillance that will enhance strategic planning.

Localized Eradication of Aquatic Invasive Plants (to date)

Photos by Novus Select

Lake Tahoe

Truckee Dam

Tahoe Vista

Crystaul Shores

Emerald Bay

Nevada Shoreline
Lake Tahoe is within driving distance of three major metropolitan areas—Sacramento, the San Francisco Bay Area, and Reno—making it a popular vacation destination. Local and regional transportation solutions are a high priority to improve connectivity and safety, meet resident and visitor travel needs, and reduce environmental impacts. The 2017 Regional Transportation Plan lays out travel corridors and is a blueprint for transforming transportation at Lake Tahoe.

2017 ACCOMPLISHMENTS

- California and Nevada convened the Bi-State Transportation Working Group, a team of federal, state, local, and private sector policy leaders working to accelerate transportation improvements at Lake Tahoe.

- The City of South Lake Tahoe completed the Ski Run to El Dorado Beach Path—a critical link for bikers and pedestrians.

- The League to Save Lake Tahoe and Lime Bike’s pilot bike share project averaged 200 rides per day.

- The Tahoe Basin met its goal of reducing 5 tons of particulate emissions through local woodstove rebate programs.

- Transportation partners broke ground on the Incline to Sand Harbor shared-use path and Fanny Bridge Community Revitalization Project.

FUTURE PRIORITIES

- Implement the 10-Year Action Plan of priority projects.

- Implement pilot projects to test new technologies and travel options.

- Construct critical links in the Tahoe Trail multi-use path.

- Electrify transportation fleet vehicles.
Lake Tahoe scientists and land managers have worked together for decades to ensure restoration activities are informed by the best available science. Lake Tahoe has become one of the “world’s smartest lakes” with its long-term data record and the use of new technologies such as autonomous underwater vehicles, satellites, and aerial drones. Continued investment in research and monitoring to learn more about lake dynamics and its response to extreme weather events is critical in helping EIP managers better understand what actions will be most effective today and in the future.

**2017 ACCOMPLISHMENTS**

- In consultation with the Tahoe Science Advisory Council, TRPA adopted a reorganization of the basin’s environmental threshold standards.
- TRPA launched the LTinfo.org Monitoring Dashboard to aggregate Tahoe Basin monitoring activities and provide data, maps, and photos.
- Tahoe scientists began a pilot Mysis shrimp removal project which could improve lake clarity.
- The Tahoe Environmental Research Center installed nearshore monitoring stations at Camp Richardson and Timber Cove.
- The U.S. Geological Survey completed water quality research that indicated groundwater nutrients are contributing to algal blooms along the nearshore.

**FUTURE PRIORITIES**

- Complete a comprehensive review and update of the Lake Tahoe Basin’s environmental thresholds.
- Explore monitoring techniques to gather data on changing lake dynamics.
- Increase land-based and aerial data collection to better understand watershed health.
- Continue research on drivers of nearshore conditions.
Catastrophic wildfire is a major threat to Lake Tahoe’s watershed and tourist-based economy. The Tahoe Fire and Fuels Team, which includes federal, state, and local agencies, is committed to creating fire-adapted communities and treating forests in the wildland urban interface to protect the Tahoe Basin from catastrophic wildfire. With over 100 million dead trees covering the state of California as a result of prolonged drought, the team is also prioritizing building resilience to extreme weather conditions. Partners are collaborating to develop new and innovative approaches to restore and maintain forest health. Through the Lake Tahoe West Restoration Partnership, EIP partners are developing a large-scale landscape restoration strategy for the West Shore that can serve as a model throughout the Tahoe Basin.

**2017 ACCOMPLISHMENTS**

- The Tahoe Fire and Fuels Team treated 3,569 acres of forest to reduce hazardous fuels and prevent catastrophic wildfire.
- Tahoe Network of Fire Adapted Communities launched a Data Collection App that tracks defensible space inspections across all fire protection districts in the Tahoe Basin.
- The U.S. Forest Service completed the environmental review for 3,800 acres of hazardous fuels treatment in South Lake Tahoe.

**FUTURE PRIORITIES**

- Complete initial treatment of 117,000 acres of wildland urban interface at Lake Tahoe.
- Increase the capacity of crews to remove hazardous fuels.
- Complete the Lake Tahoe West Restoration Strategy.
- Increase the utilization of biomass and wood products.
- Support the restoration of 2.4 million acres of Sierra Nevada forests through the Tahoe-Central Sierra Initiative.

**Lake Tahoe West Restoration Partnership**

In 2017, the partnership completed the Landscape Resilience Assessment. For the assessment, agencies shared the best available data across 60,000 acres to evaluate the current environmental conditions of the project area. These conditions help determine the ecosystem’s resilience to a variety of disturbances amplified by climate change, such as drought, fire, insects, and flooding.

The assessment is available for review at: [www.nationalforests.org/LakeTahoeWest](http://www.nationalforests.org/LakeTahoeWest)
Lake Tahoe is experiencing record visitation for its world class recreational opportunities. While outdoor recreation is a major driver of Lake Tahoe’s economy, overcrowding in peak seasons can degrade natural areas and lessen the visitor experience. The EIP partnership is working to implement strategies that meet visitor demand while protecting the Tahoe Basin’s unique natural resources.

2017 ACCOMPLISHMENTS

- The U.S. Forest Service and Tahoe Area Mountain Biking Association built 4.5 miles of the new Angora Ridge Trail.
- Tahoe residents and visitors contributed over 17,000 volunteer hours to maintain 168 miles of the Tahoe Rim Trail.
- Public and private partners expanded messaging of the Take Care stewardship campaign to educate visitors on critical issues.
- Vail Resorts and partners implemented interpretive signage and hiking trails for the Epic Discovery project at Heavenly Mountain Resort.

FUTURE PRIORITIES

- Develop a Tahoe Basin Sustainable Recreation Strategy.
- Complete the State Route 89 Recreation Corridor Management Plan.
- Implement priority projects in the Kings Beach State Recreation Area.
- Expand public access to provide high-quality recreational experiences.
- Increase recreation data collection to better inform land managers.
Future support of the Lake Tahoe Environmental Improvement Program (EIP) is crucial to protecting the investments and accomplishments of local, state, and federal government partners along with the private sector and Washoe Tribe of Nevada and California. With emerging environmental threats from climate change, wildfire, and invasive species, continuing the commitment to Lake Tahoe is more important than ever.

**EIP Future Priorities**
- Continue to secure federal appropriations through the Lake Tahoe Restoration Act.
- Direct funding from California Proposition 68 to high-priority California EIP projects.
- Pursue continued bond sales from the $105 million committed by the Nevada Legislature in 2009.
- Establish a sustainable funding source to maintain the investment made in projects and infrastructure over the last 20 years.
- Incentivize private investment in the EIP by strengthening public-private partnerships.

**Lake Tahoe Restoration Act**

In 2016 the Lake Tahoe Restoration Act authorized up to $415 million over 7 years for the EIP. In federal fiscal year 2018, $5.5 million was appropriated for forest health and aquatic invasive species projects.

Partners are working with the congressional delegation to seek future appropriations across all EIP program areas.