CLEAN UP THE LAKE

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Section 1: Heavy Lift Initiative Overview

CUTL defines “heavy lift” debris as submerged litter that exceeds the safe recovery threshold of traditional diver operated collection methods. During standard underwater cleanup operations, divers utilize lift bags capable of safely recovering approximately 60 pounds of debris at a time. Items exceeding this threshold often require specialized recovery strategies involving surface vessels, cranes, winching systems, engineered rigging, additional safety protocols, and multi agency coordination.

Over the course of underwater cleanup operations throughout the Sierra Nevada region, CUTL has developed field methodologies for identifying, documenting, and cataloging these large submerged debris targets. During cleanup dives, divers document oversized debris using underwater photography, surface marker buoys, and GPS tracking systems operated by support teams. This process enables CUTL to build long term datasets of submerged heavy lift targets while simultaneously collecting critical information related to depth, environmental sensitivity, access conditions, and removal feasibility.

To date, CUTL has documented more than 1,077 heavy lift targets, 184 of those heavy lift targets within Donner Lake. While these items remain underwater, they have already been physically located, mapped, and assessed by dive teams. As a result, heavy lift cleanup projects represent a uniquely actionable form of environmental restoration because the debris is already known, documented, and measurable before removal operations begin.

Section 2: Donner Lake Cleanup History and Existing Heavy Lift Data

Since 2020, CUTL has conducted three separate scuba cleanup and monitoring initiatives within Donner Lake, ranging from aquatic invasive species surveillance and shoreline cleanup operations to exploratory deep water dive surveys. These projects have collectively removed more than 15,000 pounds of submerged litter while simultaneously revealing substantial concentrations of large submerged debris throughout the lakebed.

Project outcomes include:

• 2020 Donner Lake Cleanup Project: 5,152 pounds removed
• 2022 Donner Lake Monitoring and Deep Dive Initiative: 7,865 pounds removed through shoreline and exploratory deep water cleanup operations
• 2024 Donner Lake Deep Dive Project: 2,318 pounds removed from deeper lakebed zones

Through these projects, CUTL divers identified and GPS documented 184 heavy lift targets requiring future specialized recovery operations. These targets include large metal debris, illegal buoy moorings, construction materials, submerged equipment, and other oversized submerged objects that exceed the safe recovery limits of standard diver lift bag operations.

Donner Lake has become a particularly important proving ground for CUTL's underwater cleanup methodologies because it provides an opportunity to test deep water cleanup operations, heavy lift documentation procedures, and future removal strategies within a more manageable regulatory environment than Lake Tahoe. As a single state lake entirely within California jurisdiction, Donner Lake offers a more direct permitting and coordination pathway while still allowing CUTL to develop operational frameworks that can later help inform future heavy lift initiatives throughout the Tahoe Basin.

This initiative also represents an important proof of concept for future freshwater heavy lift restoration projects throughout the Sierra Nevada region. By successfully implementing heavy lift planning, permitting, and pilot recovery operations within Donner Lake, CUTL will be able to demonstrate measurable environmental outcomes and operational feasibility to future partners, funders, and regulatory agencies interested in expanding similar restoration efforts into Lake Tahoe and other alpine waterbodies.

Section 3: Why Donner Lake Heavy Lift Restoration Matters

Donner Lake is one of Truckee's most valued recreational and ecological assets, yet 184 documented heavy lift objects currently remain submerged across its lakebed. Rusting metal, deteriorating debris, submerged equipment, construction materials, and improvised moorings are slowly breaking down underwater in ways that invisibly and incrementally impact lake health over time.

Because many of these objects exist at depth, they are unlikely to ever be addressed through routine cleanup efforts or public reporting alone. CUTL has already completed the difficult work of locating, documenting, mapping, and assessing these submerged targets through years of underwater cleanup and monitoring operations.

With support from community partners and agencies, this initiative creates an opportunity to proactively remove long standing submerged debris before further deterioration occurs. The result is not only a measurably cleaner lake, but also the establishment of a documented restoration baseline, improved understanding of submerged debris impacts, and long term protection of a critical community resource.

Section 4: Multi Year Heavy Lift Initiative Narrative

The proposed Donner Lake Heavy Lift Initiative is intended to serve as CUTL's first comprehensive heavy lift planning and removal program. Building upon years of underwater cleanup experience and submerged debris documentation, this initiative represents the organization's next major step toward developing scalable freshwater heavy lift restoration operations within the Sierra Nevada region.

For this reason, the first phase of the initiative is intentionally focused on planning, permitting, engineering coordination, and operational development rather than immediate removal. The objective of Phase One is to establish the regulatory pathways, technical methodologies, environmental protections, safety standards, and interagency partnerships necessary to responsibly execute future heavy lift operations.

Beginning this process within Donner Lake provides a strategic opportunity to develop and refine these systems within a contained and more navigable regulatory environment before expanding future applications into Lake Tahoe and other Sierra Nevada waterbodies. Lessons learned through Donner Lake planning and pilot implementation will help CUTL better understand permitting timelines, equipment requirements, disposal logistics, environmental review considerations, diver safety procedures, and long term operational scalability for future heavy lift restoration work throughout the region.

Rather than beginning with uncertainty surrounding debris locations or feasibility, this initiative begins with years of existing underwater data collection, mapped targets, and demonstrated field experience. The challenge is no longer locating the debris. The challenge is building the operational and regulatory framework necessary to remove it safely, responsibly, and at scale.

Section 5: Project Phases and Deliverables

Phase 1: Planning, Assessment, and Engineering Coordination

Cycle: January 2027 to July 2027
Duration: 6 Months

Phase One is designed to establish the operational, regulatory, and technical foundation necessary for future heavy lift removal operations within Donner Lake. Because this would represent's first dedicated heavy lift initiative, the primary focus of this phase is planning and coordination rather than immediate removal operations.

This phase will involve verification of previously identified heavy lift targets, prioritization of debris sites based on environmental impact and removal feasibility, and coordination with agencies, engineers, contractors, and permitting bodies to better understand the requirements associated with submerged heavy lift recovery operations.

Key objectives include:

- Verification of previously documented heavy lift targets
- Diver confirmation, GPS refinement, and object classification
- Identification of environmentally sensitive or historically significant sites
- Coordination with regulatory agencies and permitting bodies
- Development of engineered recovery methodologies
- Consultation with crane operators, barge operators, and marine contractors
- Evaluation of disposal, recycling, and transportation logistics
- Development of diver safety protocols and emergency response procedures
- Creation of project reporting standards and pilot success metrics
- Stakeholder coordination and public outreach planning

Key deliverables include:

- Comprehensive Heavy Lift Inventory Report
- GIS mapping of submerged debris fields
- Heavy lift prioritization and risk assessment matrix
- Removal feasibility and operational analysis
- Preliminary permitting roadmap
- Pilot implementation plan and projected budget
- Partnership and stakeholder coordination meetings
- Public communications and outreach materials

This phase will also allow CUTL to leverage lessons learned from documenting more than 1,077 heavy lift targets throughout Lake Tahoe while refining methodologies specifically for future operational use.

Phase 2: Pilot Heavy Lift Removal Project

Cycle: July 2027 to December 2027
Duration: 6 Months

Following completion of planning and permitting efforts, Phase Two would initiate pilot heavy lift removal operations at select priority sites within Donner Lake. The purpose of this phase is to test and evaluate operational methodologies under real world conditions while refining safety procedures, environmental protections, equipment requirements, and removal workflows.

This phase is intended to function as a scalable proof of concept for future freshwater heavy lift restoration efforts both within Donner Lake and throughout the broader Tahoe Basin.

Key objectives include:

- Execute pilot heavy lift recovery operations at priority sites
- Test removal methodologies within Donner Lake conditions
- Evaluate diver safety procedures and surface support logistics
- Refine environmental protection and turbidity mitigation protocols
- Assess heavy equipment and vessel requirements
- Document operational costs, staffing needs, and scalability
- Evaluate debris transportation, recycling, and disposal workflows
- Collect before and after environmental documentation

Potential pilot metrics include:

- Number of heavy lift targets removed
- Estimated pounds of debris removed
- Lakebed area restored
- Diver and operational support hours completed
- Environmental observations recorded
- Disposal and recycling outcomes
- Before and after imagery and GIS documentation

Phase 3: Expanded Heavy Lift Removal Operations

Funding Cycle: December 2027 - June 2028
Duration: 6 Months or Ongoing Seasonal Operations

Phase Three would expand upon successful pilot methodologies to support larger scale heavy lift recovery operations throughout Donner Lake. This phase would focus on removing increasingly complex and environmentally significant debris targets while continuing long term lakebed restoration and prevention efforts.

Key objectives include:

- Scale successful pilot methodologies across additional sites
- Remove larger and more technically challenging submerged debris
- Address high priority environmental hazards and debris fields
- Continue long term lakebed restoration efforts
- Expand interagency and contractor partnerships

• Refine long term heavy lift operational standards
• Develop prevention and stewardship strategies informed by collected debris data
• Utilize lessons learned to help inform future heavy lift initiatives throughout the Tahoe Basin and Sierra Nevada region