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Submitted via
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From: Michele Prestowitz, Project Director
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July 25, 2022

Re: Cost share request for Donner Lake Interagency Partnership for Stewardship (DIPS)

Better Stewardship of Donner Lake

Donner Lake is a critical resource in the Truckee River watershed, yet it is listed as impaired by multiple pollutants by the U.S. EPA. Potential pollutant sources include roads, highways, the railroad, commercial and residential development, increased visitation, recreation, and reservoir management. Aquatic invasive species threaten the ecology, economy, and recreation at Donner Lake. And altered precipitation, fire regime, and excessive soil erosion threaten ecosystem resilience.

The Donner Lake Interagency Partnership for Stewardship (DIPS) was founded in 2020 to develop a coordinated stewardship plan to protect and enhance the long-term ecological and economic health of Donner Lake. It is a cross-jurisdictional collaboration of local and state agencies, special districts, homeowners' association, and community organizations with special interests in Donner Lake. Core Team members include California State Parks, Tahoe Donner Association, Town of Truckee (Town), Truckee Donner Land Trust (TDLT), Truckee Donner Public Utility District, Truckee Donner Recreation and Parks District, Truckee Meadows Water Authority, Truckee Sanitary District, Truckee Trails Foundation, and Truckee River Watershed Council (TRWC). DIPS is facilitated by TRWC at the agreement of the Core Team. The stewardship plan will be a coordinated process and framework for policy and action to address ongoing use, management, and funding.

State of Donner Lake – Understanding Donner Lake's "Vital Signs"

A foundational piece of the stewardship plan is the State of Donner Lake, an integrated data set of the ecological and community conditions at Donner Lake. In 2021, with \$15,000 from each TDLT and TRWC, DIPS engaged the University of Nevada, Reno (UNR) Global Water Center to collect a baseline of key physical, chemical, and biological data. The purpose was to characterize current conditions compared to historic and similar environments, identify areas for further analysis, and communicate with the public and stakeholders. We found that offshore water quality has improved since the 1970s and 1980s, but nearshore water quality is degrading influenced by factors such as invasive species, runoff, and climate change (UNR and DIPS, 2022).

2022 State of Donner Lake – Continuing to inform Stewardship with Data

In 2022 and beyond, we will continue to build upon this valuable baseline so we can "check the vital signs" of Donner Lake, identify trends over time, inform decision-making at the local and regional level, direct resources, and maximize opportunities for funding to implement priority data-driven actions.



The budget for 2022 work with UNR is \$35,150 (please see the attached basic scope of work and timeline). TRWC will once again provide up to \$15,000 this year and is committed to ongoing funding.

We are seeking cost-sharing support from several Core Team members, including the Town. Building upon the leadership of TDLT and TRWC in 2021, we are requesting the Town consider cost-sharing for \$3,000-5,000 each year for the next 2 or more years.

GLOBAL WATER CENTER

The University of Nevada, Reno's Global Water Center is a response to societal demands for creative, integrative approaches in addressing complex issues related to water resources. The Global Water Center's mission is to solve large-scale and long-term problems related to water sustainability.

Global Water Center
College of Science
University of Nevada, Reno

Sudeep Chandra, Director, Global Water Center College of Science – 775-354-4849
Leigh Fitzpatrick, Director of Development – 775-741-2935

**Truckee River Watershed Council:
Proposal to develop a State of Donner Lake report**

2022



Global Water Center

College of Science
University of Nevada, Reno

Introduction

The University of Nevada's Global Water Center is a response to societal demands for creative, integrative approaches in addressing complex issues related to water resources. The Global Water Center's mission is to solve large-scale and long-term problems related to water sustainability.

The Center accomplishes this mission by providing a physical venue, organizational structure, and a collaborative culture to foster scientific interaction and discovery, pursue emerging research opportunities, and address stakeholder concerns in an efficient and timely manner. Center faculty educate and train the next generation of scientists to tackle emerging water issues by providing them with a wide breadth of knowledge and conceptual thinking needed to communicate scientific findings to an often disengaged or unaware public.

Scope of Work and Timeline

The Global Water Center is grateful to the Truckee River Watershed Council for inviting the Center to submit this proposal to develop a 'State of Donner Lake' presentation and continue efforts at Donner Lake following the 2021-2022 project. This presentation will be instrumental to the efforts of the Council and its partners to understand the state of Donner Lake in this moment in time in order to inform policy decisions at the local and regional level.

| Task | Timeline |
|---|------------------------|
| <ol style="list-style-type: none">1. Coordinate data collection with local stakeholder and implement basic limnological data collection. These activities include:<ol style="list-style-type: none">a. Measure lake clarity once in the following months, June to Septemberb. Measure concentrations of nitrogen (nitrate, ammonium, total), phosphorus, orthophosphate), and carbon (organic carbon) at 10 discrete depths in the following months, June to Septemberc. Measure temperature, oxygen, and chlorophyll <i>a</i> profiles once per month in the following months, June to Septemberd. Measure air particulate concentrationse. Measure nearshore temperature and oxygenf. Model nearshore production and ecosystem respiration | June to September 2022 |

| | |
|---|-------------------------------|
| g. Measure densities of zooplankton in the following months, June to September | |
| h. Measure mysid densities and size distribution at 5 sites in August 2022 | |
| i. Measure densities of benthic invertebrates at 5 sites in August 2022 | |
| j. Assess fish species abundance and diets once in June, once in July, and once in August | |
| 2. Train Truckee River Watershed Council in data collection methods | September to October 2022 |
| 3. State of the lake presentation, Draft submission | March 10 th , 2023 |
| 4. State of the lake report, Final submission | March 31 st , 2023 |

Funding

To complete the scope of work in the given timeline, the Global Water Center respectfully requests funding in the amount of \$35,150 from the Truckee River Watershed Council and its partners.

Gifts on behalf of the College of Science and Mackay School of Earth Sciences and Engineering should be made payable to the *UNR Foundation* and sent to:

Director of Development
College of Science, Dean's office
University of Nevada – Mail Stop 0424
Reno, NV 89557

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