

# T-S IRWMA Project Submission Form

In order for a project to be eligible for grant funding the project proponent must be a member in good standing of the T-S IRWM Watershed Advisory Committee (WAC) and have adopted the T-S IRWM Plan.

Projects may be submitted by non-members with the sponsorship of a current member of the T-S IRWMA WAC, who is a member in good standing.

Any project submitted to the T-S IRWMA must entirely COMPLETE the Project Submission Form in order to be added to the T-S IRWM Plan. The T-S IRWMA Administrator may drop a project from consideration if the project's form is not complete.

Projects submitted to the T-S IRWMA must be physically located within the boundaries of the T-S IRWM Region.

Projects submitted to the T-S IRWM Authority are not a part of the T-S IRWM Plan or grant proposals until accepted by the Board of Directors of the Authority.

Project proponents are permitted to contact the media regarding their projects, but are PROHIBITED from commenting on the projects of other members.

For additional information or questions regarding the Project Submission Form please contact T-S IRWMA Administrator Lindsay Mattos at [tsirwm@gmail.com](mailto:tsirwm@gmail.com).

For access to the T-S IRWM Plan visit: [www.tstan-irwma.org](http://www.tstan-irwma.org)

## Name of Project \*

Forest and Watershed Health - Planning

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## Project Proponent \*

Please specify whether your organization is a member or is being sponsored by a member in good standing.

Tuolumne River Trust

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## Project Contact \*

Please provide the contact person for your project, their phone number and email.

Patrick Koepele, 209-588-8636, [patrick@tuolumne.org](mailto:patrick@tuolumne.org)

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## Revised Projects \*

Is this project a revision or update of an existing project within the IRWM plan?

Yes

No

## Project Location \*

Include county(ies), city(ies), and latitude and longitude if applicable.

Tuolumne County within the Stanislaus National Forest

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## Watershed(s) \*

Please specify where project will be located.

Tuolumne River watershed.

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## Updated Urban Water Management Plan (UWMP)

If you are an urban water supplier, do you have a compliant UWMP? Note: 2015 UWMPs are due to be submitted to DWR by July 1, 2016.

Yes

No

## Labor Compliance Plan (Requirement for Prop 1 Funding)

Your organization has a Labor Compliance Plan or can develop a Labor Compliance Plan prior to implementation.

Yes

No

## Contaminant Information

Does your project address any of the following contaminants?

- Nitrates
- Perchlorate
- Arsenic
- Selenium
- Hexavalent Chromium
- Mercury
- Uranium

## California Conservation Corps (CCC)

Have you consulted CCC in regards to your project? Or a certified community conservation corps?

- Yes
- No

## Project Description \*

A summary description including goals and objectives.

This project proposes to plan for the improvement of forest and watershed health within the Stanislaus National Forest, for the purpose of increasing and maintaining carbon sequestration and water supply through a suite of forest treatment actions. This watershed serves as the primary drinking water supply for 2.6 million people within the San Francisco Bay Area, provides irrigation water for over 200,000 acres of Central Valley farmlands, and supplies hydroelectric power throughout the region.

Forest stands treated with fuels reduction and prescribed fire actions will become more fire and drought resilient, and can enhance snowpack levels, increase water runoff, and mitigate the impacts of high-severity wildfires on watersheds.

Through this project, LiDAR remote sensing data will be acquired in order to assess forest and watershed health. This data will then be processed and validated for its on-the-ground accuracy, before being utilized to plan for specific project locations of the greatest ecological benefit to the Tuolumne River watershed within the Stanislaus National Forest.

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## Project Physical Benefits \*

Does your project address any of the following physical benefits? If so, please provide a brief description of the measurable accomplishments in the follow up questions.

- Water Supply
- Water Quality
- Ecosystem Improvement
- Energy Produced/Saved and Greenhouse Gases Avoided

## Water Supply

Amount of water supply produced, saved, or recycled?

A reduction in tree stand density within the watershed would be expected to increase water supply. The exact amount of water supply produced will be determined through the planning process.

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## Water Quality

Types (constituents) and amounts of water quality improvement provided, and the amount of water treated or improved.

Planning for the mitigation of future high-severity wildfires will strengthen project proposals that can lower turbidity and erosion issues within the Tuolumne River Watershed.

High severity wildfires in mountainous areas that entirely burn the vegetation and top soil are followed by extreme erosion that significantly lowers water quality. Meanwhile, homogeneous stands don't collect and maintain snowpack as well as stands of lower density (Pickard, pers. comm.).

By reducing stand density and reducing wildfire risk, we will improve water quality and potentially improve hydrology to create less "flashy" stream flows while increasing water storage and annual runoff.

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## Ecosystem Improvement

Types and amounts of environmental benefits provided, such as types of species and their numbers benefited, acreage of habitat or floodplain improved, restored or protected, amount of flow provided, or habitat units restored or protected. If a Habitat Evaluation Procedure has been performed, provide information from that analysis.

This project proposed to analyze approximately one million acres of forested areas within the Stanislaus National Forest for the purpose of producing and supporting an average of 5,000 acres of habitat restoration per year. These restoration areas will restore forest heterogeneity and complexity characterized by an ICO structure will provide diverse conditions required by a diversity of species, many of which are currently endangered.

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## Energy and Greenhouse Gases

Amount of energy produced or saved, and amount of greenhouse gases that can be avoided.

The exact amounts of greenhouse gases saved and avoided will be calculated during the planning process. Assuming that a biomass component is included, it is estimated that 14,000 metric tons could potentially be avoided per each 5,000 acres restored.

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## Disadvantage Community (DAC)

Does the proposed project directly impact a disadvantage community? Is it within a Place, Tract or Block Group? or does your organization have a income survey to show DAC status? Please check all that apply. (For more information and map tool visit [http://www.water.ca.gov/irwm/grants/resources\\_dac.cfm](http://www.water.ca.gov/irwm/grants/resources_dac.cfm))

- DAC Place
- DAC Tract
- DAC Block Group
- Income Survey has been conducted.

## Economically Distressed Areas (EDA)

Does the proposed project directly impact a Economically Distressed Area? Please check all that apply. (For more information visit <https://gis.water.ca.gov/app/edas/>)

- Rural County
- Unemployment - Place
- Unemployment - County
- Low Population Density - Block Group
- Low Population Density - Tract
- Low Population Density - Place
- Low Population Density - County
- Municipality - Block
- Municipality - Tract
- Municipality - Place

## T-S IRWM Plan Objectives \*

Please check each objective that the proposed project meets. Descriptions will be detailed in the "Purpose and Need" section that follows.

- Ensure water consumers have access to a clean and safe water supply within the region.
- Improve water supply infrastructure wherever it is deteriorating or causing water quality and system reliability issues, prioritizing DACs and populated areas. (e.g. fireflow, contamination, etc.).
- Reduce contamination in groundwater, surface water, water conveyance and storage systems.
- Improve wastewater infrastructure to meet discharge and disposal requirements and to reduce sanitary sewer overflows.
- Enhance watershed health and resiliency to increase sustainable water yield, ecosystem function and recreational opportunities.
- Improve the condition and ecosystem function and value of meadows, forests, and rangelands.
- Assist in the protection and recovery of native aquatic and other water dependent species, prioritizing sensitive special status, threatened and endangered, rare and unique, and culturally sensitive.
- Restore, preserve, and promote the regeneration of wetlands, springs, fens, vernal pools, and native riparian communities, and reduce invasive species.
- Reduce the risk of localized flooding, and improve stormwater management and retention.
- Improve energy efficiency of water/wastewater systems.
- Improve water supply efficiency and reliability of man-made conveyance systems.
- Increase water conservation strategies and water use efficiency (WUE) by both municipal (residential and commercial) and agricultural end users.
- Develop sufficient reliable and affordable water supplies and infrastructure to meet regional demands of existing and projected water supply needs including multi-year drought and climate change.



- Integrate land use and natural resource planning to support watershed protection actions that restore, sustain and enhance watershed functions.
- Assess, plan, and prepare for natural disaster impacts that affect watersheds and water resources.
- Protect and preserve tribal watershed values and water use.

## Program Preferences

Please check each preference your project meets. (Proposition 1, 2016 IRWM Program Guidelines)

- Leverage Funds – Give priority to projects that leverage private, federal, or local funding or produce the greatest public benefit.
- Employ New and Innovative Technology or Practices – Give special consideration to projects that employ new or innovative technology or practices, including decision support tools that support the integration of multiple jurisdictions, including, but not limited to, water supply, flood control, land use, and sanitation.
- Implement IRWM Plans with Greater Watershed Coverage – Give priority to projects in IRWM Plans that cover the greater portion of the watershed.
- Multiple Benefits – Give special consideration to projects that achieve multiple benefits.



## Proposition 1 Eligible Project Type

Please check the description your project meets. Must check at least one to be eligible for IRWM Prop 1 funding. (Proposition 1, 2016 IRWM Program Guidelines)

- Water reuse and recycling for non-potable reuse and direct and indirect potable reuse
- Water-use efficiency and water conservation
- Local and regional surface and underground water storage, including groundwater aquifer cleanup or recharge projects
- Regional water conveyance facilities that improve integration of separate water systems
- Watershed protection, restoration, and management projects, including projects that reduce the risk of wildfire or improve water supply reliability
- Conjunctive use of surface and groundwater storage facilities
- Water desalination projects
- Decision support tools to model regional water management strategies to account for climate change and other changes in regional demand and supply projections
- Improvement of water quality, including drinking water treatment and distribution, groundwater and aquifer remediation, matching water quality to water use, wastewater treatment, water pollution prevention, and management of urban and agricultural runoff
- Regional projects or programs as defined by the IRWM Planning Act (Water Code §10537)

## Proposition 1 Eligible Project Type: Storm Water Resource Management

Please check the description your Storm Water project meets. (Proposition 1, 2016 IRWM Program Guidelines) \*If your project is a Storm Water project for inclusion in the T-Stan Storm Water Project List please also complete the "T-Stan Storm Water Project Submission Form."

- Projects to reduce, manage, treat, or capture rainwater or stormwater
- Projects that provide multiple benefits such as water quality, water supply, flood control, or open space
- Decision support tools that evaluate the benefits and costs of multi-benefit stormwater projects
- Projects to implement a stormwater resource plan developed in accordance with Part 2.3 (commencing with Section 10560) of Division 6 including Water Code § 10562

## Statewide Priorities: Make Conservation a California Way of Life

(For Statewide Priorities answer "yes" or "no" to whether your project meets any or part of the priority.) Building on current water conservation efforts and promoting the innovation of new systems for increased water conservation, Expand agricultural and urban water conservation and efficiency to exceed SB-X7-7 targets, Provide funding for conservation and efficiency, Increase water sector energy efficiency and greenhouse gas reduction capacity, Promote local urban conservation ordinances and programs.

- Yes
- No

## Statewide Priorities: Increase Regional Self-Reliance and Integrated Water Management Across All Levels of Government

Ensure water security at the local level, where individual government efforts integrate into one combined regional commitment where the sum becomes greater than any single piece, Support and expand funding for Integrated Water Management planning and projects, Improve land use and water alignment, Provide assistance to disadvantaged communities, Encourage State focus on projects with multiple benefits, Increase the use of recycled water.

- Yes
- No

## Statewide Priorities: Achieve the Co-Equal Goals for the Delta

This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support achieving the co-equal goals providing a more reliable water supply for California and to protect, restore, and enhance the Delta ecosystem.

Yes

No

## Statewide Priorities: Protect and Restore Important Ecosystems

Continue protecting and restoring the resiliency of our ecosystems to support fish and wildlife populations, improve water quality, and restore natural system functions, Restore key mountain meadow habitat, Manage headwaters for multiple benefits, Protect key habitat of the Salton Sea through local partnership, Restore coastal watersheds, Continue restoration efforts in the Lake Tahoe Basin, Continue restoration efforts in the Klamath Basin, Water for wetlands and waterfowl, Eliminate barriers to fish migration, Assess fish passage at large dams, Enhance water flows in stream systems statewide.

Yes

No

## Statewide Priorities: Manage and Prepare for Dry Periods

Effectively manage water resources through all hydrologic conditions to reduce impacts of shortages and lessen costs of state response actions. Secure more reliable water supplies and consequently improve drought preparedness and make California's water system more resilient, Revise operations to respond to extreme conditions, Encourage healthy soils.

Yes

No

## Statewide Priorities: Expand Water Storage Capacity and Improve Groundwater Management

Increase water storage for widespread public and environmental benefits, especially in increasingly dry years and better manage our groundwater to reduce overdraft, Provide essential data to enable Sustainable Groundwater Management, Support funding partnerships for storage projects, Improve Sustainable Groundwater Management, Support distributed groundwater storage, Increase statewide groundwater recharge, Accelerate clean-up of contaminated groundwater and prevent future contamination.

Yes

No

## Statewide Priorities: Provide Safe Drinking Water for All Communities

Provide all Californians the right to safe, clean, affordable and accessible water adequate for human consumption, cooking, and sanitary purposes, Consolidate water quality programs, Provide funding assistance for vulnerable communities, Manage the supply status of community water systems. Additionally, as required by Water Code §10545, in areas that have nitrate, arsenic, perchlorate, or hexavalent chromium contamination, consideration will be given to grant proposals that included projects that help address the impacts caused by nitrate, arsenic, perchlorate, or hexavalent chromium contamination, including projects that provide safe drinking water to small disadvantaged communities.

Yes

No

## Statewide Priorities: Increase Flood Protection

Collaboratively plan for integrated flood and water management systems, and implement flood projects that protect public safety, increase water supply reliability, conserve farmlands, and restore ecosystems, Improve access to emergency funds, Better coordinate flood response operations, Prioritize funding to reduce flood risk and improve flood response, Encourage flood projects that plan for climate change and achieve multiple benefits.

Yes

No

## Statewide Priorities: Increase Operational and Regulatory Efficiency

This action is directed towards State and federal agencies; however, consideration will be afforded to eligible local or regional projects that also support increased operational of the State Water Project or Central Valley Project.

Yes

No

## Purpose and Need \*

A description of the purpose and need of the Proposal Project and how it addresses the adopted IRWM Plan's goals and objectives, Program Preferences and Statewide Priorities. Additionally, if the proposed project is for Operations and Maintenance describe why grant funds would be necessary to finance the project.

The Central Sierra's forests have a long fire history; most of the landscape historically had a fire return interval of 7-25 years. For a variety of reasons, much of this landscape now includes overstocked stands resulting in increased fire risk, reduced resiliency, and diminished carbon storage potential. In order to create a landscape plan for recurring treatments, we are seeking funds to acquire and interpret LiDAR across this landscape, which will result in reduced fire risk, increased resiliency and water supply, and elevated carbon storage.

We also propose a research component in which we will examine watershed impacts of site prep and planting. We will use new or existing sites to monitor runoff, erosion, infiltration, and ground cover as part of the herbicide, ripping, and planting activities.

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## Integrated Elements of Project \*

A description of synergies or linkages between projects that result in added value or require coordinated implementation or operation. Integration can be with current projects that are being implemented, proposed projects, existing projects, etc.

This proposal has multiple benefits. While intended to serve for the implementation of specific projects, this data created through this project would have significant utility for many types of projects that would promote the overall health of the forest and watershed, and specifically ones that serve to mitigate the risk of wildfire or increase snowpack and water supply.

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## Existing Data and Studies \*

A brief discussion of the data that have been collected and studies that have been performed that support the project(s) site location, feasibility, and technical methods.

This project is intended to produce its own data to determine site locations, feasibility and technical methods. LiDAR data acquisition projects in similar areas have provided extensive and diverse information about forest structure and areas of potential erosion.

Multiple General Technical Reports (GTR) have also been conducted that support the goals of the project, including GTR 220: An ecosystem management strategy for Sierran mixed-conifer forests (Malcolm North, Peter Stine, Kevin O'Hara, William Zielinski, Scott Stephens), and GTR 237: Managing Sierra Nevada forests (Malcolm North, ed.).

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## Local Planning Documents \*

Cite the local planning documents that support the proposed project.

This project would be supported by several existing plans of the Stanislaus National Forest. These plans include the existing Forest Plan, the Reforestation Plan adopted in the wake of the 2013 Rim Fire, and multiple General Technical Reports (GTR), including GTR 220: An ecosystem management strategy for Sierran mixed-conifer forests (Malcolm North, Peter Stine, Kevin O'Hara, William Zielinski, Scott Stephens), and GTR 237: Managing Sierra Nevada forests (Malcolm North, ed.).

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## Readiness to Proceed: CEQA/NEPA/Permits \*

Status of California Environmental Quality Act (CEQA)? Status of National Environmental Policy Act (NEPA)? Status of local, state, and federal permitting requirements?

For most anticipated implementation actions, NEPA has been completed and CEQA is exempt within the Rim Fire burn area per an exemption granted by the California Governor's Office. CEQA crosswalk based on NEPA analysis is required for some of the proposed actions.

NEPA & CEQA have not been started for the research and planning portion of the proposal.

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## Readiness to Proceed: Capacity \*

Capacity of proponent to carry out the proposed project? Status of necessary authority and approvals to implement the proposed project?

Capacity is currently being demonstrated through a series of projects being undertaken within the Stanislaus National Forest under nearly \$5 million in total funding provided by the California Wildlife Conservation Board, the Sierra Nevada Conservancy and the National Forest Foundation. The Tuolumne River Trust serves as the fiscal agent for the Yosemite Stanislaus Solutions stakeholder collaborative to help fund a variety of Rim Fire restoration projects, many of which are directly related to hydrologic function.

The Trust is also expected to partner with the Stanislaus National Forest and Tuolumne County for the implementation of projects undertaken during a 10-year Master Stewardship Agreement adopted in late 2017.

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## Readiness to Proceed: Feasibility/Design \*

Feasibility analysis for the proposed project? Status of necessary engineering, designs, blueprints, and work plans?

The proposal is intended to assess the feasibility of subsequent implementation projects. These projects have been considered under previous grant submissions, and already have a robust framework in place for their design and scope of work. Engineering, designs and work plans would be developed under this proposal.

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## Cost and Schedule: Project Costs \*

Please provide all anticipated project cost.

This project is scalable to some degree, but expected costs would total approximately \$1.7 million. \$1,000,000 would be utilized for LiDAR acquisition across the watershed, \$200,000 would be needed for the processing and validation of this data, and \$500,000 would go towards the planning and administration for specific projects.

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## Cost and Schedule: Matching Funds \*

Potential Sources of Project Funding? (Including internal funding.) Potential Sources of Local Match? (Local match required unless project qualifies for a Disadvantaged Communities Waiver.)

Prop 1 sources would likely serve as the primary source of potential funding. Several sources of potential local match also exist. Proposals for \$14.7 million to the Cal FIRE California Climate Investment grant program and \$192,000 to the U.S. Endowment for Forestry & Communities Healthy Watersheds Consortium have recently been submitted on behalf of the Master Stewardship Agreement between the Stanislaus National Forest and Tuolumne County. The subsequent implementation of projects planned for under this grant would also be expected to generate \$945,000 in timber sale receipts.

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## Cost and Schedule: Schedule \*

Please include a start and completion date for each project stage. Project stages include: Earliest Start Date, Conceptual, Planning, Environmental, Permitting, Design, Construction/Implementation

This proposal would be intended to start as soon as July 2018, and be completed by late 2019. Subsequent implementation of projects would initiate in early 2020, with the goal of being completed by late 2022.

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## Cost and Schedule: Timing and Phasing

If the proposed project(s) is part of a multi-phased project complex, provide a description that demonstrates that the proposal can operate on a standalone basis, i.e., can be fully functional without implementation of the subsequent projects.

This project has been submitted in tandem with a separate implementation proposal. This proposal can be very beneficial even without the approval of a subsequent implementation project. Due to the impacts of a warming, drying climate, large-scale wildfires and an unprecedented tree mortality epidemic that has killed an estimated 129 million trees within California since 2014, the structure of the forested areas of the Tuolumne River watershed have been altered at an unprecedented pace and scale over the last 5-10 years. Current data is often obsolete for the purpose of planning projects.

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## Cost and Schedule: Completed Work \*

A description of the work that has been completed or is expected to be completed prior to the grant award date. For example, if CEQA/NEPA and other environmental compliance efforts have been completed discuss the environmental determination made by the lead agency and the documents that were filed.

NEPA analysis for anticipated projects has been completed by the Stanislaus National Forest, with CEQA being exempted within the Rim Fire burn area per an exemption granted by the California Governor's Office.

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