



RESOLUTION No. 23-114

OF THE BOARD OF SUPERVISORS OF THE COUNTY OF NEVADA

RESOLUTION RETROACTIVELY AUTHORIZING THE DIRECTOR OF OFFICE OF EMERGENCY SERVICES TO APPLY TO THE WILDLIFE CONSERVATION BOARD GRANT PROGRAM FOR THE JONES BAR FOREST RESILIENCE PROJECT (JBFRP) IN THE AMOUNT OF \$2,396,000 AND AUTHORIZING THE DIRECTOR OF EMERGENCY SERVICES TO EXECUTE THE APPLICATION

WHEREAS, Emergency Preparedness is an Objective of the County of Nevada Board of Supervisors with a focus on wildfire by improving countywide evacuation routes and safety, continuing to strengthen early alert and critical communication systems, partnering closely with residents and community partners in emergency preparedness, defensible space, home hardening, green waste disposal, and fire-safe land stewardship; and

WHEREAS, the Jones Bar Forest Resilience Project (JBFRP) will improve forest health and reduce catastrophic wildfire risk using climate-smart management practices across multiple private and Federal parcels in Nevada City, California; and

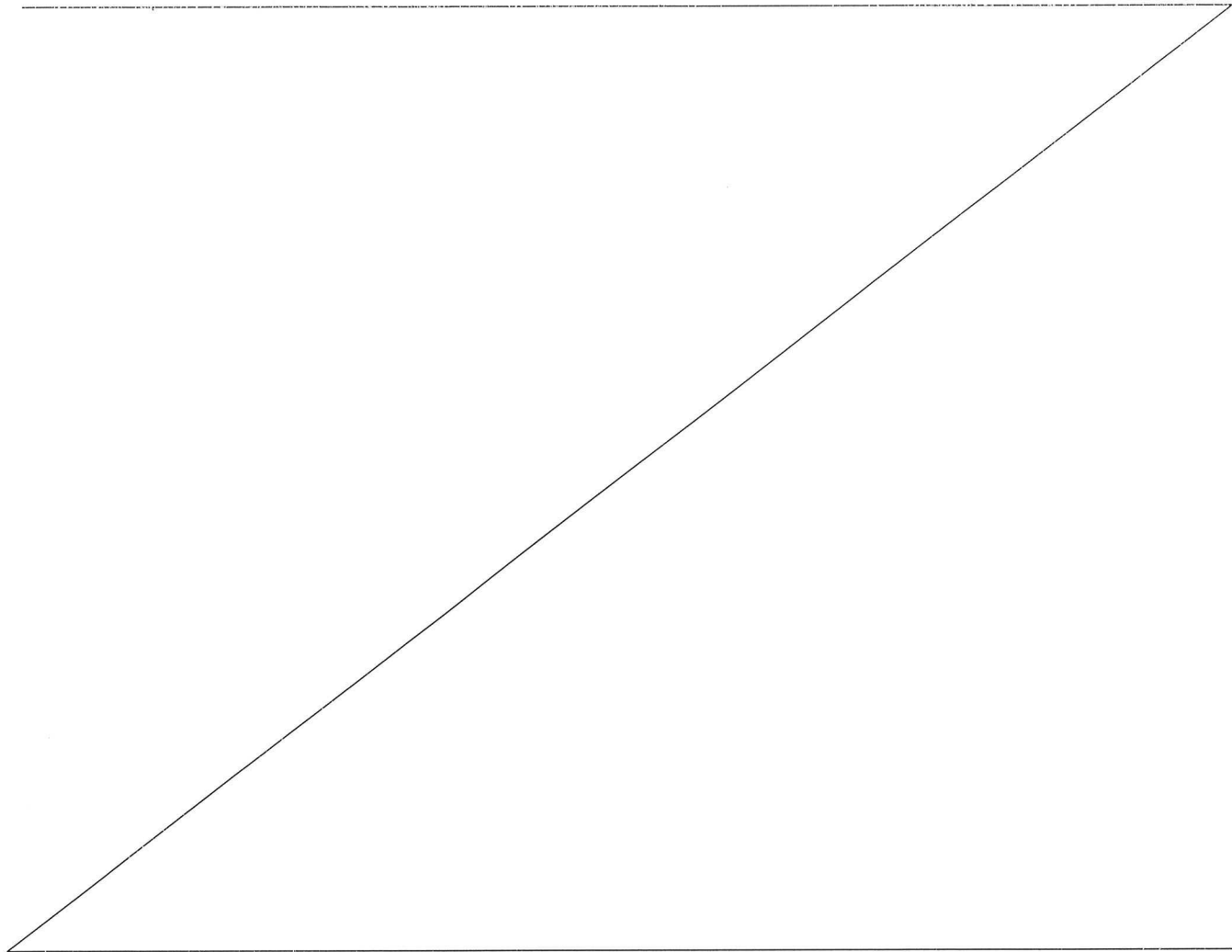
WHEREAS, the project area consists of a Firewise Community (Jones Bar), Bureau of Land Management (BLM) land, and three Outdoor Schools – each positioned within a priority location in Nevada County: (1) Shady Creek (within the footprint of the proposed South Yuba Rim Shaded Fuel Break); (2) Nevada City School of the Arts (within the footprint of the Lobo Fire and also in the Deer Creek watershed); and (3) the Woolman School (in the Jones Fire footprint and within the South Yuba River watershed); and

WHEREAS, the Nevada County Office of Emergency Services (OES) is in a unique position to be able to increase the pace and scale of wildfire mitigation in Nevada County by leveraging a cooperative partnership with Sierra Streams Institute, a Nevada City-based nonprofit established in 1995 through the implementation of this project; and

WHEREAS, the Nevada County Office of Emergency Services in partnership with Sierra Streams Institute submitted an application to the Wildlife Conservation Board for this project on February 15, 2023; and

WHEREAS, the grant award will be brought to the County of Nevada Board of Supervisors for acceptance.

NOW, THEREFORE, BE IT HEREBY RESOLVED by the Board of Supervisors of the County of Nevada, State of California, that the Board of Supervisors hereby retroactively authorizes the Office of Emergency Services Director, to apply for and execute all application documents for the Wildlife Conservation Board Grant Program for the Jones Bar Forest Resilience Project in the amount of \$2,396,000.



PASSED AND ADOPTED by the Board of Supervisors of the County of Nevada at a regular meeting of said Board, held on the 14th day of March, 2023, by the following vote of said Board:

- Ayes: Supervisors Heidi Hall, Edward C. Scofield, Lisa Swarthout, Susan Hoek and Hardy Bullock.
- Noes: None.
- Absent: None.
- Abstain: None.

ATTEST:

JULIE PATTERSON HUNTER
Clerk of the Board of Supervisors

By: 


Edward C. Scofield, Chair

3/14/2023 cc: OES*
AC*



GRANT APPLICATION FORM

***NOTE: EVERY QUESTION MUST BE ANSWERED IN ORDER FOR THE APPLICATION TO BE CONSIDERED FOR FUNDING. USE N/A WHERE APPLICABLE.**

PROJECT

Project Name: Jones Bar Forest Resilience Project

If applicable, what is the Native American name of your project site? N/A

Brief Project Summary (one paragraph)

The Jones Bar Forest Resilience Project (JBFRP) will improve forest health and reduce catastrophic wildfire risk using climate-smart management practices across multiple private and Federal parcels in Nevada City, California. The project area consists of a FireWise Community, BLM land, and three Outdoor Schools: Shady Creek, Nevada City School of the Arts (NCSA), and Camp Woolman. These parcels are all located within a very high wildfire severity zone in the Sierra Nevada Foothills (CAL FIRE, 2022). This project is unique in its extensive incorporation of data for treatment strategy development and through inclusion of educational outreach in the form of prescribed burn training, offering tours of treated sites, and student vegetation research plots. This project is in fulfillment of a WCB-funded planning phase grant (ID #2020121).

Total cost (round up to nearest \$1,000): \$ 2,556,000

Amount requested from WCB (round up to nearest \$1,000): 2,396,000

Start date: 06/31/2023

End date: 12/31/2025

Project type (select one): Implementation

APPLICANTS

Organization name: Nevada County Office of Emergency Services (OES; Fiscal Sponsor) and Sierra Streams Institute (SSI)

Organization type: County, nonprofit

Primary applicant contact name and title: Alex Keeble-Toll, Senior Analyst, Nevada County Office of Emergency Services and Erin Andrew, Forest Ecologist at Sierra Streams Institute

Phone: Alex Keeble-Toll, (530) 470-2521; Erin Andrew, (262) 501-1425

E-mail address: Alex: Alex.KeebleToll@NevadaCountyCA.gov; Erin: erin@sierrastreamsinstitute.org

Mailing address: Nevada County OES: 950 Maidu Ave, Nevada City, CA 95959

SSI: 117 New Mohawk Rd. Suite H Nevada City, CA 95959

Co-Signatory Name and Title: Craig Griesbach, Director, Nevada County OES

Co-Signatory Name and Title: Jeff Lauder, Executive Director at SSI

LANDOWNER

Organization type: Private Landowner

Primary landowner contact name and title: Multiple

Phone: SSI office: (530) 470- 6037

E-mail address: erin@sierrastreamsinstitute.org

Signatory Name and Title: Erin Andrew, Forest Ecologist

Signatory Address: 117 New Mohawk Rd. Nevada City, CA 95959

Signatory Email: erin@sierrastreamsinstitute.org

STATE ELECTED OFFICIALS

Assembly District Number and Representative (<https://www.assembly.ca.gov/>): District 1, Assemblymember Megan Dahle

Senate District Number and Representative (<https://www.senate.ca.gov/>): District 1, Senator Brian Dahle

LOCATION

Briefly describe the project location. Identify any previous WCB projects that you are aware of on the site, property or nearby. Describe historic and current land uses.

The project is in rural western Nevada City, north of the town of Rough and Ready and Highway 20. Lake Wildwood is to the west, and the South Yuba River is to the north of the project area. The WCB project on the site currently is the Sierra Foothill Forest Climate Resilience Project (ID #2020121), the planning phase of this proposed project.

The Nevada City Rancheria Nisenan Tribe territory was extensive and included present-day Nevada City land prior to colonization. During the Gold Rush, settlements from prospectors and miners drove out the Nisenan, displacing them. The fight for federal recognition as a tribe is a current priority for the Nisenan. Mining and settlements were the primary land use for some time, and currently the private parcels are used for residential homes and working farms, with the three Outdoor School properties used for recreation and education. The BLM land in the project area continues to exist as relatively unmaintained public land.

- County(ies): Nevada County
- Nearest City and Distance To: Nevada City, CA (no distance, technically within city)
- Specific Location (APN or Address) 004-470-066
- Latitude (Decimal Degrees): 39.2712538 N
- Longitude (Decimal Degrees): -121.1152751 W
- What is represented by the lat/long coordinates (e.g., center of project site): Center of mix of properties

BOARD MEETING DATES

Projects must meet readiness standards in order to be considered for funding approval at a board meeting (e.g., CEQA documents must be completed no less than 15 days prior to the board meeting where funding approval may be considered).

Use the following drop-down lists to select which board meeting dates are feasible, not feasible, and preferred from the applicant's perspective. Note: WCB requires a minimum of three months for due diligence prior to taking any item to the Board.

- February: Not Feasible
- May: Preferred
- August: Feasible
- November: Feasible

PURPOSE AND NEED

- 1. Describe the specific problems (current conditions, limiting factors, etc.), issues, or unserved needs the project will address.**

Forests of the Sierra Nevada evolved with fire, with many native tree species demonstrating fire adaptive traits such as serotinous cones which require fire to open and release seed, clear the understory for the seed to germinate, thick bark to protect against periodic fire, and

an open canopy for tree maturation. Suppression of this natural process and disturbance regime for over 150 years has led to a change in the composition and structure of Sierra Nevada foothill forests.

Fire likelihood is increasing due to climate change, with higher temperatures and shorter winters associated with increased burn frequency and intensity (Keeley & Syphard, 2016). Further, increasing drought intensity and frequency have been associated with and are expected to increase mass tree mortality events globally (Allen et al. 2010, 2015). In the Sierra Nevada, for example, 2012-2016 was the driest period in 1200 years (Griffin and Anchukaitis 2014, Belmecheri et al. 2016), leading to the death of >150 million trees via interactive effects of drought, high forest density (McIntyre et al. 2015, Young et al. 2016), and unprecedented bark beetle outbreak (Hicke et al. 2016, Stephenson et al. 2019). This mortality has implications for water resources (Goulden and Bales, 2014) and feeds back into fire likelihood by increasing dead, dry fuel loads (Stephens et al. 2018).

Currently, overstocked stands exist within much of the project area, with a dense tree and shrub understory consisting of ladder fuels on the project's private, State, and federal lands. The recently updated Fire Hazard Severity Zone map produced by CAL FIRE includes the entire project area as "very high" for fire likelihood (CAL FIRE, 2022). Dense stands can compromise forest health, potentially increasing disease and insect outbreak susceptibility. Additionally, shade-tolerant incense-cedar are regenerating in the understory, transitioning the forest composition in some places towards a less fire-resilient paradigm. High fire severity coupled with post-fire droughts in California can reduce tree regeneration ability, resulting in vegetation type conversion to shrubland (Young, 2019). Thinning small diameter trees is a common management approach that can mimic low-intensity fire impacts and is proposed for the JBFRP parcels.

Non-native invasive species threaten plant diversity in our project area, the primary species of which include Scotch broom (*Cytisus scoparius*) and Himalayan blackberry (*Rubus armeniacus*). On the Nevada City School of the Arts (NCSA) property in particular, Scotch broom quickly colonized after a 2015 fire and subsequent salvage logging operation. Scotch broom is a prolific seeder, and seeds can stay viable in the seedbank for decades (UCIPM, 2020).

The Central California District of the BLM oversees federal land (including within the Jones Bar Forest Resilience Project (JBFRP)) and has a wide jurisdiction. They are a handful of staff responsible for 230,000 acres within parts of ten counties and are aware of the greater pace and scale needed for the treatment of overstocked stands. The management of these particular BLM parcels is important acreage to thin in order to extend treatments across the landscape and in a contiguous fashion with the FireWise Community.

Some private landowners within the project area have managed to thin on their properties to mitigate fire risk, but many have not due to expense or time and energy involved. Creating defensible space on a property can be expensive and labor-intensive for the landowner, and grant funds are not available to every applicant. The JBFRP takes place entirely within Disadvantaged Community (DAC) polygons according to the California DAC mapping tool, with a median household income of \$47,203 - \$62,938. This project not only benefits landowners by making their homes more defensible in the event of a fire; they will continue to receive education about the ecological benefits of specific treatments through the promotion of SSI's Community Toolkit developed with the planning grant, improving the likelihood of maintenance.

Newtown Canal, which runs through the NCSA property, is owned and operated by Nevada Irrigation District (NID). According to Neysa King, Environmental Resources Administrator for the Nevada Irrigation District: "This canal provides raw water to 204 service boxes as well as the Lake Wildwood Treatment Facility, which provides 1,058-acre feet of drinking water annually to 3,248 homes in the Lake Wildwood Community" (Personal Communication, February 2nd, 2023). Maintenance of vegetation along the canal is crucial for preserving water quality and keeping its function as a fuel break.

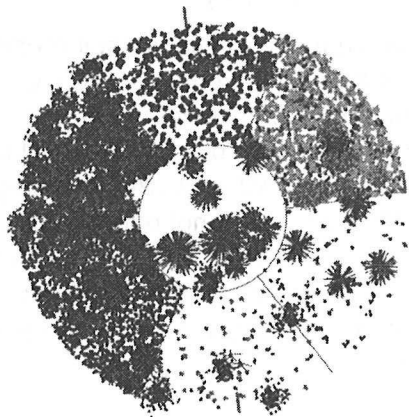
2. Describe the goals and objectives, quantify expected outcomes and benefits of the project. Be specific.

Managing for "clumpiness" (or breaking up of forest cover, with clumps of trees separated by variable-sized gaps) has been linked to both increased forest resilience to fire and increased habitat quality for wildlife (Larson and Churchill, 2012; Fertel et al. 2022). A guiding principle towards development of these gaps and clumps is the natural range of variation (NRV), or forest structure pre-colonization in the western United States (USDA Forest Service, 2019). The spatial structure of fire-frequent forests visited by low and moderate – intensity fires consist of three elements: openings, widely-spaced single trees, and tree clumps. This structure generally occurred at scales <0.4 ha (1 acre) in fire-frequent forests in North America (Larson and Churchill, 2012). The JBFRP will incorporate this approach into management across the parcels for landscape-scale forest heterogeneity.

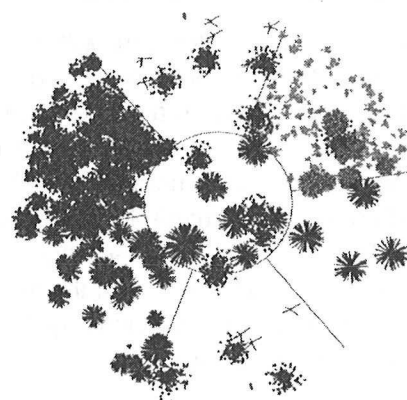
Based on inventory results from the WCB planning grant, stocking is as high as 15,016 trees/acre on the private parcels, with a respective basal area (BA) of 94 ft² (and a low quadratic mean diameter (QMD) of 1.3"). By reducing standing tree volume on these properties, the project will enhance growth of remaining trees, reduce competition, and increase resource availability. All three of these outcomes will improve remnant tree resilience to future stressors, including pest outbreak, drought, and wildfire.

This proposed work can be simulated using the Forest Vegetation Simulator software from the U.S. Forest Service (2022). For example, stand 8 of the Jones Bar FireWise Community (JBFWC) currently has a BA of 107 ft², and initial QMD of 2.2". Applying a thinning-from-below operation with the removal of 10% of trees (according to the CEQA exemption) results in a shift to 105 ft² basal area and increased QMD to 9.1". Although BA did not decrease by much with the simulation, that is to be expected considering the high density of very small diameter trees and regeneration removed, but the increase in QMD and the following illustration gives a better sense of what the stand looks like post-treatment:

Stand 8, pre-treatment



Stand 8, post-treatment



Note the absence of the smaller trees in the post-treatment illustration on the right. Thinning-from-below will result in a stand with retained, larger-diameter trees and naturally occurring “clumps” and gaps.

Heterogeneous fuels reduction using a combination of hand-thinning and mastication on a total of 274 acres of private land with hand-thinning on 82 acres of BLM land will result in slowed wildfire transmission in areas across the landscape on a mosaic of private and public lands. Slow, low – intensity fire can add valuable time for ingress/egress for private landowners and fire personnel. Thinning 6 acres of vegetation within a 25’ buffer on both sides of the Newtown canal will expand its firebreak potential of the canal on the NCSA property while reducing potential debris loading downstream from wildfire damage, keeping water safe for citizens and saving money with a preventive approach.

Additional cleanup is warranted on the properties, including within the footprint of the 2020 Jones Fire on Woolman school and JB landowner parcels. Six acres of fire-killed oak snags remain on the Woolman property, which should be removed from a fire risk and aesthetic perspective. Snags, particularly large, “wolfy” ones will be retained for wildlife use. On many of the parcels, mature dead ponderosa pine clumps will eventually fall over onto roads or trails. We propose hand-removing at least 5 acres on the school properties, with more dead trees to remove on the other private parcels.

Removal of 28 acres of Scotch broom monoculture on the NCSA property, 10 acres of broom on the Shady Creek property, and throughout the mastication and hand thinning sites will give native species an opportunity to re-establish. Herbicide (Triclopyr) will be applied by a qualified applicator as a targeted, foliar spray on 30 acres of Scotch broom and subsequently masticated; stumps and sprouts on 160 acres of hand-thinned and other masticated areas will be sprayed on the private lands. We will utilize Scotch broom removal activities as research plots to test viability of multiple alternative non-native vegetation treatments, using a citizen science approach whereby students and community members monitor plot change over time. Where broom removal occurred on the NCSA property, planting of tree seedlings (175-200 per acre) and a native seed mix carefully selected for future environmental conditions will restore the forest component, sequester more carbon, stabilize soil, and develop habitat. A total of 30 acres will be planted (9 of which will occur where the Pleasant fire burned in August 2022) and 33 acres seeded on the project site. We will work with the U.S. Forest Service to identify genetically sound species appropriate for projected drought in our area.

The application of prescribed fire on a target of 24 acres throughout the project area will complete our goal from Phase 1 of treating at least 625 acres of the project area. Fire will return portions of this fire-dependent ecosystem to the landscape, reducing fuels, controlling species composition (e.g., burning blackberry and broom), opening growing space for a greater diversity of native flowering species, and improved health of residual trees. Working with Nevada County’s Prescribed Burn Association (PBA), Yuba Bear Burn Cooperative (YBBC), SSI and local volunteers will prepare the site and apply prescribed fire. These invitations for volunteers will offer locals examples of prescribed burning in the Sierra Foothills while strengthening relationships in the community.

At Woolman School, large piles of cut material were made after the Jones Fire in 2020. We propose to produce biochar from these piles using kilns borrowed from a local organization, Biochar Coalition. Biochar increases soil organic carbon and improves the soil quality “thus

improving ecosystem functions and services, food security, and resilience to climate change” (Gross et al. 2021).

In addition to prescribed burning workshops (as burn windows allow), we propose the following outreach activities and events:

- Promotion of the Jones Bar Area Community Toolkit from Project Phase 1, working with SSI’s Community Science Director and Education and Outreach Coordinator to reach the targeted audience
- Host at least one post-treatment site walk at Woolman School for the public
- Host at least one in-person project meeting shareout with the JBFWC
- SSI Education staff will coordinate with NCSA to develop Scotch broom removal research plots for students to monitor treatment efficacy, and will re-sample the Our Forests plots on NCSA that have received treatment using their standardized protocols

Nevada County involvement will include:

- A SimTable demonstration (fire movement modeling with sand representing topography) at the County Office in Nevada City with the public to raise fire behavior awareness
- Hosting one virtual community meeting, promoting the Community Toolkit
- The County will attend one JBFWC meeting promoting the Toolkit and ultimately demonstrating project support

3. What would happen to the project if no funds were available from WCB? What project opportunities or benefits could be lost if the project is not implemented?

Without funds from WCB and the project not implemented, the threat of wildfire with the potential to severely impact life and property remains high. Wildfire will occur in the future on the forestland of the project area, and with the same or increased contiguous, dense fuel loading, fire has the potential to carry quickly and at high severity. Extensive tree mortality events are a stronger possibility in the future with increased drought and dense, stress-induced trees. Non-native invasive species will continue to reduce biodiversity on the land, inhibiting growth of native trees, shrubs and understory species, ultimately reducing habitat and carbon sequestration potential. Hands-on educational opportunities within our community on the benefits of prescribed fire and other fuels treatments and stewardship learning with children will be missed. Phase 1 enabled SSI to have significant outreach with landowners and develop management plans, but to not implement these plans would be a lost opportunity.

APPROACH

4. Thoroughly describe the full project, the scientific merit of the approach, use of best available science, and methodologies and technologies to be used.

The goal of JBFRP is ultimately to improve forest health and wildlife habitat in respect to climate change using scientific and informed approaches to treatments. The project area includes the Jones Bar FireWise Community (JBFWC), a contiguous arrangement of over 300 private parcels (including BLM land within) and three Outdoor School campuses in rural Nevada City.

SSI factored in drought, stand density, fuel connectivity, wildlife connectivity, and overall need for treatment to prioritize where within the JBFWC to begin the work over this long-

term project. Without a developed precedent in our organization for managing Sierra Nevada forests specifically with respect to climate change, SSI turned to literature to target treatments based on water availability.

We explored topography in ArcGIS, identifying areas where water is most likely to pool using Topographic Wetness Index (TWI). The equation for TWI is derived from Bevin and Kirkbi (1979):

$$\ln \frac{\alpha}{\tan \beta}$$

Where α is the unit contour length, and β is the local slope angle.

Forested sites with high TWI will be unthinned (with some exceptions, for example if threats to infrastructure exist), as they will be sources of higher moisture levels, predictive of higher tree diversity and survivorship in a changing climate. These will serve as *climatic hydrologic microrefugia* (also known as “climate refugia”) sites, offering habitat for wildlife. These areas refer to zones of high relative water availability, which could be critical for drought-stressed sites now and under future climate change conditions (Mclaughlin et al. 2017).

Coupled with TWI, we examined projected future limited water availability in the project area. True water availability can be calculated as a function of precipitation (P) minus actual evapotranspiration (ET). Actual evapotranspiration is the amount of water evaporated and transpired. We obtained P and ET data from the California Basin Characterization Model through the U.S. Geological Survey, which offers hydrologic data from past and future projected climatic conditions (Flint and Flint, 2014). We calculated P-ET for years 2014 and 2016, which are known as significant drought years in the state. Both years were represented as multidimensional rasters for our project site and were cross-referenced for available moisture. Each stand was categorized as “high”, “moderate” and “low” (e.g., high as in higher drought) and prioritized for treatment accordingly (*see Table 1*).

The habitat connectivity GIS layer from the U.S. Department of Fish and Wildlife was used to identify priority zones in the JBFWC connectivity based on ratings (1 as “Limited Connectivity Opportunity” up to the most critical value of 5 as “Irreplaceable and Essential Corridors”). We assigned our importance values (“High”, “High and Moderate”, “Moderate and Low”, and “Low”) based on this layer.

FVS was used to get stand density in trees per acre derived from our field data collection. Again, we assigned the rankings of “High”, “Moderate” and “Low” in reference to stand relative density.

To address fuel connectivity, we used a .tif raster derived from a Normalized Difference Vegetation Index (NDVI), derived from the USGS National Land Imaging Program (Landsat; 2023). NDVI quantifies vegetation greenness and can be a useful tool for evaluating density and plant health. We assigned colors in ArcGIS to differentiate lower versus higher density sites and assigned them accordingly per stand. There was some subjectivity in this.

Stand	PPT- AET (high = higher drought)	Density (relative to other stands)	Connectivity (fuels)	Wildlife connectivity importance	Fire Transmission Likelihood	Treatment Need Score	Treatment priority
1	moderate	low	moderate	high	moderate	10	2
2	moderate	low	moderate	high and moderate	high	10.5	2
3	high	high	low	high and moderate	high	12.5	1
4	high	high	high	high	high	15	1
5	moderate	low	moderate	high	low	9	3
6	high	low	moderate	high	high	12	2
7	high	low	moderate	High	high	12	2
8	high	moderate	moderate	high	high	13	1
9	high	high	moderate	high	moderate	12	2
10	high	high	moderate	high	high	13	1
11	high	high	moderate	moderate and low	moderate	11.5	2
12	moderate	high	moderate	Moderate	moderate	11	2
13	moderate	low	low	moderate and low	low	6.5	3
14	low	low	low	moderate	moderate	7	3
15	low	moderate	moderate	moderate and low	high	9.5	2
16	moderate	moderate	moderate	moderate	high	11	2
17	moderate	moderate	low	moderate and high	moderate	9.5	2
18	moderate	moderate	low	high	moderate	10	2

Table 1. Prioritization tool used for the Jones Bar FireWise Community.

All of the above variables will continue to be factored in as treatments are assigned on the ground, with the caveat that management itself may restrict or conflict with the idealized prescription on occasion (i.e., feasibility of masticator to prioritize leaving oaks over small pine for habitat).

5. Describe the actions required to solve the identified problem(s).

The Forest Ecologist and Technician will meet with the landowners to discuss treatments, hang flagging to delineate parcel boundaries and archaeological and biological avoidance areas, perimeters of clumps to leave, and watercourses. They will develop maps of the treatment boundaries to share with the contractors.

Reduction of brush, coarse woody debris and ladder fuels will occur on the private and public lands in compliance with CEQA and NEPA requirements. Crews will hand thin on BLM land, within WLPZs, and terrain where mastication is not feasible. Retention of oak with preference for incense-cedar removal will limit sprouting potential and reduce the need for future efforts at abatement— while maintaining an excellent food source. Crews will use chain saws, pole saws, loppers and a tracked chipper to break up the fuel. Depending on volunteer availability from YBBC, the crew may prepare the perimeters on the burn units, digging the control lines. A Licensed Timber Operator (LTO) will operate – or oversee the operations of – the masticator and hand crew.

Prescribed burn prep and application of fire will occur as much as possible with YBBC volunteers. YBBC has a gear trailer with most of the tools needed to implement the prep and burn tasks. Experienced practitioners will be consulted to write the burn plans and to guide the operations.

Backpack sprayers will be utilized by crews to carefully target foliage of Scotch broom and stump sprouts of broom and oak. To plant the seedlings and seeds, the same crew will plant and disperse seed to replace the broom. If available, crews will apply biodegradable fabric around the base of each seedling as a weed suppressant and moisture-retainer. On the Pleasant fire burn scar, the private landowners will assist with the planting.

6. Provide a description of how the data and other information generated from the project will be handled, stored, and made publicly available.

Physical project documents (maps, contracts, contact information, notes from site visits) will be stored at the SSI office, and similar digital materials will be saved on the SSI server and the Forest Ecologist’s work computer. General project updates may occur on our SSI website. Advertisements for fuels reduction demonstrations will be distributed on platforms such as our PBA listserv, our SSI digital newsletter, and paper flyers.

7. Provide a detailed workplan as an attachment. See attached workplan.

CONSISTENCY WITH STATE, FEDERAL, REGIONAL AND LOCAL PLANS

8. Identify and discuss how the proposed project meets the specific goals, strategic initiatives, and objectives outlined in the WCB Strategic Plan.

This project addresses Goals A, B, and D of the WCB Strategic Plan.

Goal A: Environmental Protection and Conservation

This project promotes landscape level conservation, habitat quality, vegetation connectivity and wildlife success by using carefully planned, targeted treatments across parcel and jurisdictional boundaries to promote forest heterogeneity. Reducing fuels yet leaving intact wildlife corridors, maintaining the oak component as a food source, leaving snags, and developing occasional gaps and clumps of trees will improve habitat quality. Types of habitats protected include oak woodland and mixed-conifer forest, whiteleaf manzanita chaparral, and drainages.

Goal B: Environmental Restoration and Enhancement

Regarding the JBFRP, Goals A and B are intertwined, because the forest treatments proposed not only protect the landscape from high-severity wildfire but restore forests by adding previously suppressed disturbance. Treating at least 625 acres will provide numerous benefits. Thinning will promote natural regeneration of pine, which has poor

recruitment on the site, and will increase understory plant species diversity. Dense, overstocked stands experience more stress, increasing susceptibility to disease and pest attacks. Returning fire to the landscape encourages nutrient cycling, forb and grass diversity, abatement of non-native invasive species, and prevention of high-severity fire.

Goal D: Public Awareness and Education

This project has a strong outreach component, with multiple stakeholders (including 85 landowners, BLM staff and outdoor school institutions) each with an education opportunity upon meeting during site visits. Occurring before implementation, visits with the landowners will offer description of treatments with ecological reasoning. In the Sierra Foothills Forest Climate Resilience Project planning project, we developed a Toolkit for the Jones Bar area to use, responding to common questions and offering information from local contractors to blackberry removal. This Toolkit will be promoted by Nevada County and SSI as an educational resource. Project updates will occur at an in-person town hall meeting at Woolman School. SSI will develop research plots with NCSA, educating children on non-native invasive species and land stewardship, and the County will host public education events virtually and in person regarding the project.

Strategic Initiatives (SI) and objectives we are addressing with this project include:

SI 1.3. This restoration project aims to develop more climate change resilient forestland habitat through forest thinning, which enables trees to recover after disturbances such as pests, fire, and drought. Increased temperatures and shorter winters associated with climate change are increasing fire likelihood and burn frequency and intensity (Keeley & Syphard, 2016). The JBFRP additionally proposes to thin the forest while prioritizing habitat connectivity according to USFW while leaving pockets of unthinned forest as “climate refugia” based on water availability analysis.

SI 2.1. The forest composition in the project area is oak woodland-mixed conifer. The oak woodland ecosystem type is on many of the parcels, and we propose to protect mature, masting oaks by clearing out brush and ladder fuels that can carry fire into their crowns.

SI 2.4. This project also supports both *Priority 1 (post-fire habitat recovery)* and *Priority 2 (hazardous fuel reduction)* components, and addresses all three primary goals of the 2015 State Wildlife Action Plan (SWAP) in the following ways:

1. Directly reducing fuel load through hand-thinning and prescribed burning will enhance or maintain ecosystem function, including disturbance, by restoring forests in the region to historical fire regimes (*SWAP Goal 3*). The project area historically burned at low intensity every few years. Removing large fuel loads reduces likelihood of catastrophic burns, while using prescribed burns mimics the historic fire regime these systems are adapted to, reducing fire transmission and increasing “climate refugia” for wildlife.
2. Implementing and encouraging native plant revegetation post-fire and after treatment maintains native species abundance, richness, and distribution (*SWAP Goal 1*) in both our targeted understory vegetative communities and the wildlife that use these habitats.
3. By implementing a community-driven approach to land stewardship, we will provide the “starter” projects, along with the tools, education, and expertise, to drive community-wide adoption of a forest health management standard in a heavily fragmented landscape. This novel approach ensures our treatment project is not a single event, but a pilot built upon by the community itself, ensuring long-term climate-smart forest management in the WUI. The project is located adjacent to the South Yuba River and multiple tributaries,

and long-term reductions in fire likelihood via community adoption of standards will directly reduce fire impacts on water quality (*SWAP Goal 2*).

9. How does your project support the State's Pathway's to 30x30 strategy (<https://www.californianature.ca.gov/>)?

This project supports the State's 30 x 30 strategy through the retention and restoration of forestland that is otherwise threatened by the potential for high-severity wildfire killing many trees. With enough fuel and a "perfect storm" of weather conditions, a fire may scorch the soil to such a degree that regeneration is not possible for trees such as Ponderosa pine, and shrubs such as manzanita (*ceanothus* spp.) may dominate, eliminating the forest component altogether.

Specifically, the 30 x 30 strategy to *Expand and Accelerate Environmental Restoration and Stewardship* is addressed with our project. The subcategory *Restore degraded landscapes, waterways, and priority habitats* applies to our project area, where the forests are considered to be degraded, especially the areas that have not received thinning or burn treatments in decades. This strategy supports implementation of the Natural and Working Lands Climate Smart Strategy (2021), which points out that "forest management reduces the threat of catastrophic wildfire and supports long-term carbon storage", and recommends ecological thinning, prescribed burning, and development of climate change refugia, which are all treatments within our project scope.

Also in fulfillment of this strategy, the JBFRP plans to remove invasive species, monitor them, and carefully select seedlings that will survive with climate projections for planting in burned sites on the project area.

10. Describe ecosystem benefits, such as restoration or enhancement of rare species habitats, or the protection of priority vegetative communities (macrogroups) identified in the State Wildlife Action Plan and/or CDFW's Areas of Conservation Emphasis. Describe those benefits and how they alleviate existing ecological problems.

As included in Appendix D of the SWAP, the California Forest and Woodland USNVC macrogroup has a target rank of 4 indicating that it has relatively high biodiversity, vulnerability, and endemism (CDFW, 2015). By targeting this macrogroup for restoration, we will improve resilience of an important, high-priority ecosystem type according to the State.

Ecosystem benefits through this project include:

- *Forest health improvement and development of climate refugia*

Forest management in the form of thinning ladder fuels and reducing overall forest density will improve forest health and resilience to stressors. Currently, the stands are overstocked with small-diameter biomass; with maintenance, this ensures protection of the forest component, and therefore, habitat and biodiversity protection. Climate refugia sites developed on the project area will serve as habitat in predicted drought conditions and will retain microclimatic factors needed to sustain existing flora and fauna.

- *Low-intensity fire return*

Applying prescribed fire on the project site will return fire to this forested ecosystem that has departed from its fire regime, burning through duff and preparing the soil for regeneration of pine, forb and grass species. Reduction of fuel will create gaps of

vegetation on the landscape with the potential to slow high-intensity fires and prevent conversion to non-forest land.

- *Improved native species diversity*

Scotch broom and Himalayan blackberry have overtaken land on multiple properties, degrading sites and hogging resources. By proposing to remove these species and replace them with planting of climate-smart native tree seedlings and seed mixes – with encouraged regular maintenance – we will restore native habitat.

- *Watershed protection*

Rain events after moderate and high-severity wildfire are much more likely to invite mudslides than low-severity fires (Rengers et al. 2020). By managing forests using a combination of thinning and burning, future burns across the landscape have comparatively reduced potential for sediment and organic matter runoff into local waterways. This is the objective of the JBFRP for thinning along the Newtown canal, which runs through the NCSA property and out to the Lake Wildwood reservoir. The project area shares the watershed with the South Yuba River, offering additional water protections through forest management.

11. Identify any key plan(s) that the proposed project supports or will help achieve its goals. For example, Central Valley Joint Venture 2020 Implementation Plan, 2008 American River Parkway Plan, State Wildlife Action Plan, etc.

This project supports the CAL FIRE 2018 Strategic Fire Plan for California, specifically addressing Goal 5 (*integrate fire and fuels management*) objectives (*a, b*) by utilizing prescribed fire and supporting landowners in their fuel reduction goals. From Phase 1, SSI has gathered input from landowners at community shareout events and continues to have ongoing conversations. By hosting YBBC workshops to implement prescribed burns and to share information about treatments on the project area, JBFRP will increase public education and awareness (*objective g*; Cal Fire Strategic Plan, 2018).

The Community Wildfire Protection Plan (CWPP) for Nevada County (2016) from the Fire Safe Council has mitigation measures of which this project supports:

Fuels reduction

- The JBFRP advocates for defensible space for private homes and essential infrastructure by providing the planning and resources to do so. This includes clearing along roads (*Tasks 1,5*).
- This project treats BLM land to uphold fuel reduction goals on their properties (*Task 8*).
- All management activities will be in compliance with the California Forest Practice Rules, CEQA and NEPA (*Task 13*).

Education and outreach

- A Community Toolkit for the Jones Bar area was developed during Phase 1 by SSI, which includes information on home hardening, among other useful forest management resources for private landowners (*Task 2*).
- This project also supports both *Priority 1 (post-fire habitat recovery)* and *Priority 2 (hazardous fuel reduction)* components, and addresses all three primary goals of the 2015 SWAP (*refer back to question 8, section SI 2.4*).

DURABILITY AND CLIMATE RESILIENCY

12. Describe how the proposed project will deliver enduring sustainable benefits.

The JBFRP will be sustained through commitment of the landowners to maintain the treatment footprint that has been created. Through education, SSI will continue to emphasize the need for re-treatment of these parcels. Vegetation will grow back, but by providing an example of beneficial treatments in alignment with ecologically beneficial practices we expect that landowners will continue the work. Some parcels have a need for multi-phase treatments (e.g. Scotch broom removal, thinning before prescribed burning), therefore a long-term project duration will achieve the desired results.

13. Describe the provisions to maintain the benefits and how long management and maintenance activities will occur. Implementation grants shall require a long-term management plan of the grantee to maintain the improvements for typically 20-25 years.

A Landowner Access Agreement will be developed and signed by SSI and each landowner receiving work on their land. This agreement essentially requires the landowner to uphold the outcome that has been met on the property, and to not drastically change the property to undo the goals of this project. SSI and the landowner will acknowledge that if the parcels are selected for monitoring by WCB and are not found to have upheld a degree of forest maintenance, SSI would be held financially responsible to WCB. The landowner would have an obligation to inform the new homeowner of the Access Agreement if the home is sold.

14. For projects involving restoration or construction, describe a plan for monitoring, evaluating, and reporting project effectiveness. Describe the adaptive management strategies (compiling baseline data, adaptive management strategies, documentation, etc.), if applicable. Who will be responsible for funding and implementing on-going management and monitoring? For planning projects, does the project include development of monitoring and metrics for project success?

Monitoring of the project sites will occur at no fewer than 12 photo points, with before, during, and after treatment photos. Each of the outdoor school parcels and BLM lands will have photo points, including the Scotch broom experimental plots on NCSA, and there will be several on private parcels representing the JBFWC. At each of these photo points, visual inspection of the project area will occur.

In conjunction with overseeing contractors while they are working, the Forest Ecologist and Field Technician will determine that the Scope of Work has been met for the project area. Beyond the project duration, ongoing monitoring will take place on behalf of the private landowners whose properties were treated, as they will ideally continue to maintain the work on their properties – and in accordance with the Land Access Agreement. To assist them, landowners will have observed the completed work as an example of what to aim for and will have access to the Community Toolkit that SSI developed, including physical forestry mensuration tools.

Monitoring progress reports (with narrative and photographs) will be submitted to WCB, included in the final project report upon completion.

15. Describe how the proposed project will provide habitat and/or species resilience to climate change:

- a) What are the projected climate impacts? Tools such as CalAdapt and the Department of Fish and Wildlife’s Areas of Conservation Emphasis can aid in identifying climate vulnerabilities and potential resilience in the project area.

	1961-1990	2023-2099 Medium Emissions (RCP 4.5)	2023-2099 High Emissions (RCP 8.5)
Avg. Max Temperature (°F)	70.0	74.7	76.6
Average Precipitation (in.)	45.0	48.6	50.3

Table 2. JBFRP site baseline/projections for temperature and precipitation from CalAdapt. *RCP = representative concentration pathway. RCP 4.5 refers to the Intergovernmental Panel on Climate Change as a scenario with C emissions peaking around 2040 and declining; RCP 8.5 is the highest scenario with emissions continuing to rise through the end of this century (cal-adapt.org, 2023).

According to the models through CalAdapt, precipitation and temperature are projected to increase for our project area with both medium and high greenhouse gas emissions (Table 2). Despite increased average precipitation predicted, however, this is more likely to be in the form of rain than snowpack in the Sierra Nevada (Schwartz et al. 2017, Sun et al. 2021), with earlier runoff timing (Schwartz et al. 2017). Less available water in the foothills could drive our region into further, sustained drought, continuing to kill and stress vegetation coupled with an extended growing season.

In current and anticipated drought conditions relating to climate change, tree mortality is expected to occur in greater numbers (Moran et al. 2017, Allen et al. 2015, 2015), as they are more susceptible to pathogens, pests, and wildfire (Ontl et al. 2020). This is particularly the case if the project area continues to have little management, as overstocked stands cause tree stress, limiting resilience capacity. Further, research in the target watershed has demonstrated that reduction of standing biomass increases streamflow and groundwater reserves, increasing resilience to long-term drought (Goulden and Bales, 2014; Roche et al. 2018).

- b) How would the project address those impacts and provide long-term climate resilience?

The JBFRP addresses climate impacts by the replacement of invasive Scotch broom and Himalayan blackberry with climate-adapted native trees, grasses and forbs, which will improve forest resilience and increase the carbon storage capacity onsite.

Using TWI to target areas of relatively high water availability and applying treatments (if at all) with a light touch on those sites will produce climate refugia “clumps”, which will more likely endure drought and serve as habitat in the future. Communicating the retention of these sites to landowners is key. These treatments should serve as a “footprint” for thinning activities that have not occurred for some time, to set a routine maintenance plan on the private lands. Continued treatments are crucial to mitigating these impacts in the long-term.

- c) **Will there be net, long-term carbon sequestration benefits from the project, taking into consideration the carbon emissions from construction and vehicle miles traveled to the site for management and monitoring? How is this evaluated?**

Yes, there will be net long-term carbon sequestration benefits. Thinning of ladder fuels and smaller trees has been shown to lead to a net carbon gain due to decreased competition for larger trees—which are known to accumulate more carbon per growth year than smaller trees—and reduced likelihood of catastrophic wildfire that fully consumes and volatilizes all carbon back into the atmosphere (Hurteau et al., 2011; Hurteau and North, 2010). There is a carbon cost to implementation, however, including emissions from heavy equipment and from burning of any fuels that are not chipped or removed in some other way. There are numerous tools available for estimating total carbon emissions and stocking before and after treatment, such as the U.S. Forest Service Carbon Calculation Tool (USFS, 2007). We will utilize one of these tools, yet to be determined, to quantify total net carbon gain and loss in our treated forest area. We will determine the preferred tool after grant receipt by running test calculations using our given plot information to determine which tool best fits our forest type and treatment approach. We would note that the majority of these tools were designed for large-scale harvest and wood products utilization activities, none of which are entirely applicable to this project. However, the tools may still provide a useful proxy for total carbon benefit.

- 16. Are there any protections or restrictions affecting the project (e.g., utility easements, conservation easements, mineral rights, etc.)? N/A**

PROJECT TEAM QUALIFICATIONS

- 17. Describe the project team’s qualifications, experience, and capacity to perform the proposed tasks to complete the proposed project. Provide specific examples of similar projects completed to date.**

Sierra Streams Institute is a citizen-science organization focused on connecting the community to natural resource management through direct volunteer data collection, education, and research. We have over two decades of experience in the field of ecological restoration, community engagement and citizen science, and research on watershed health ranging from freshwater stream ecology to forest management. SSI staff includes specialists in native plants/habitat, wildlife, hydrology, birds, and forest ecology. Staff certifications and qualifications include: one PhD (Forest Ecology), four MS (2 x Environmental Science, Biogeochemistry, Hydrology), and one Certified Project Geologist.

A prior implementation project includes fuels reduction and trail maintenance at Hirschman’s pond, a Nevada County Historical Landmark.

As direct support of project follow-through, we are nearing completion of the planning grant awarded by WCB. Progress on deliverables include:

1. The Forest Management Plans for 625 acres (including 85 private landowners) are underway and will be completed and signed by a Registered Professional Forester (RPF) by the extension deadline (May 31st, 2023).
2. The Forest Management toolkit is nearing completion and will be ready for dissemination by the deadline.

3. Citizen Scientist volunteers through the NSF Our Forests partner program (a program providing matching funds to this project, including outreach to 750 students and 100 private landowners) to collect standardized data on forest health and fire risk have successfully collected data.
4. Pre-implementation surveys were conducted in the summer of 2022 to assess forest structure, fuel loads, understory diversity, wildlife occupancy, and drought resilience at all target properties. The FMPs will contain data summary statistics.
5. Archaeology and biological surveys are complete and the CEQA exemption methods to be pursued have been identified.

In addition, SSI hosted four community shareout events, which included project updates, input from landowners, and shared education on the benefits of potential treatments.

Our Equity, Diversity and Inclusion Statement: At SSI, our goal is to increase understanding of and engagement with robust scientific information regardless of socioeconomic status, race, gender, ethnicity, or any other factor. Since 1995, over 250 community volunteers have monitored over 25 sites in the Deer Creek and Bear River Watersheds, collecting data on water quality, algae, benthic macroinvertebrates, and physical habitat. We host regular community events that invite the public to learn and engage in science at whatever level they wish to, from providing input and guidance to collecting and interpreting data. In rural Sierra Gold Country, there are more than 50 low-income communities that lack access to many opportunities, including participation in the scientific process. Only 8.6% of the population identifies as non-white (as compared to 65% statewide) and faces additional pressures from social exclusion and discrimination due to low presence. We have partnered with a local social justice organization, Color Me Human, to assess and improve how we support equity, diversity and inclusion in our work. One of our current focuses is strengthening relationships with the local Tribe, the Nevada City Rancheria Nisenan, with whom we have partnered for over a decade, and other Tribes throughout the region with whom we collaborate. We support the Tribe in their own capacity building by making ongoing financial payments and giving public acknowledgment and support to the Nisenan through our participation in the Ancestral Homelands Reciprocity Program, supporting their autonomy in engaging us and the scientific process in a way we can learn from each other.

PROJECT READINESS

- 18. Are the environmental documents complete and all required State, federal and local permits for the projects obtained? If not, what is the anticipated date for completion?**

The CEQA exemptions are not all complete for the private parcels. NEPA is nearing completion for the BLM parcels (projected to be done by the end of February, 2023 based on communication with staff). We anticipate the first wave of CEQA exemptions to be finalized by May 15th, 2023.

- 19. For implementation projects: is the project shovel ready? If yes, describe.**

This project is not shovel-ready until the FMPs are completed by SSI and signed off by an RPF by the end of the extension period (May 31, 2023). We are on target for completion before that date.

For planning projects, will the planning project result in an implementation-ready project? If yes, describe.

- 20. A CEQA determination is required prior to WCB approval. What is the status of CEQA for the proposed project?**

a) If complete, what document was prepared?

One CEQA document is complete on behalf of Woolman School; a Nonindustrial Timber Management Plan was completed in 2018 for 127 acres (NTMP#: 2-02-005-3-NEV).

Provide the State Clearinghouse Number and a copy of the NOD or NOE, and associated CEQA document.

Section 21080 of the Public Resources Code exempts from the application of CEQA those projects over which public agencies exercise only ministerial authority. Therefore the State Clearinghouse does not need the documentation.

b) If using a CEQA exemption, specify which exemption(s) apply and the basis for this determination.

Because the CEQA exemptions pursued in the JBFRP are valid for only one year and are completed per landowner, we communicated with WCB staff and were approved to waive the exemptions up front with this application. We anticipate a new cohort of landowners each year, therefore providing all the annual exemptions at this time is not feasible.

The exemptions planned for the JBFRP are:

1. Title 14 CCR § 1038 *10% Dead, Dying or Diseased Trees Fuelwood or Split Products or Removal of Slash and Woody Debris not Located Within a WLPZ Exemption*. This exemption type accomplishes the volume reduction that we want for the JBFWC.

2. Title 14 CCR § 1038 *Forest Fire Prevention Exemption* for the NCSA, and Shady Creek properties. This exemption type enables the removal of a higher volume of material than the 10% form (above), including large dead and dying Ponderosa pine and dead oak snags. An RPF will be the signatory for these two forms, as required by CAL FIRE.

The Project is statutorily exempt from CEQA pursuant to Public Resources Code Section 4799.05(d)(1), as the Project involves prescribed fire, thinning, or fuel reduction projects undertaken on federal lands to reduce the risk of high-severity wildfire that have been reviewed under the federal NEPA. Subject to approval of this proposal by WCB, the appropriate NOE will be filed with the State Clearinghouse.

c) If CEQA is not complete, specify who is the “lead agency” under CEQA, status of the CEQA documents, what documents are under consideration, and when the documents will be submitted to the State Clearinghouse.

The lead agency under CEQA is CAL FIRE.

Section 21080 of the Public Resources Code exempts from the application of CEQA those projects over which public agencies exercise only ministerial authority. Therefore, the State Clearinghouse does not need the documentation.

For more information on CEQA, visit the [Governor’s Office of Planning and Research CEQA](#) page.

21. Using the WCB Budget template, provide a complete line-item budget for the proposed project. Submit budget electronically along with the application. Budget tasks should be consistent with the work plan tasks and sufficiently detailed to describe project costs. Ensure all tabs are completed including the cost share tab.

Justification must be provided for costs to ensure that they are cost effective and appropriate to the work proposed. *Please see attached budget.*

COMMUNITY SUPPORT AND COLLABORATION

22. Does the project have broad-based public and institutional support, at the local, regional, or larger scale? Describe efforts to include stakeholders in project planning, design, outreach/education, implementation, monitoring, and maintenance.

This project does have broad-based support at the local, regional, and larger scale. The stakeholders directly involved include the BLM, many JBFWC private landowners as well as Shady Creek, Woolman and NCSA staff and adjacent landowners. We have letters of support (attached) from CAL FIRE and outdoor school administrators expressing their enthusiasm for the project.

SSI staff has communicated frequently with the JB landowners, particularly during summer site data collection visits – this was an opportunity for landowners to express their concerns and desired vegetation management outcomes for their parcels. These visits educated those who wished to learn more about forest data collection and defensible space requirements.

As part of phase1 objectives, SSI has held 4 shareout presentations at Woolman School via Zoom and in-person, to garner more participation, receive feedback and share updates, from the JBFWC.

At the time of this writing, we are finalizing the Jones Bar Area Toolkit, which is a digital and paper-formatted resource consisting of local vegetation management contacts, relevant grant opportunities, addresses FAQs, etc. and adds an ecological perspective to forestry to make better-informed management choices. The need for continued maintenance after the project occurs has been expressed to all participating landowners, and the Toolkit will assist with this should they choose to consult it. We expect that all landowners will monitor their properties to note regrowth and recognize the need for fuels reduction and invasive species removal when the time comes, and to stay compliant with the Land Access Agreement.

Other outreach has included meeting with the school stakeholders to update them on the project status and to receive input on their land objectives for their Forest Management Plans. All of the direct stakeholders in the implementation phase are involved to exchange opinions and permissions regarding what practices occur.

An experimental design for the JBFRP involves students at Nevada City School of the Arts campus with pulling Scotch broom and comparing treatment effectiveness via monitoring. The Our Forests education team at SSI will be consulted for appropriate protocols to use for the schoolchildren.

Finally, addressing the much-emphasized need for greater pace and scale of forest treatments should involve many players beyond the federal lands; tribal, State, and privately-owned landowners should collaborate and share resources to cross boundaries and have the greatest management impact where possible. By proposing to treat both BLM and private lands, we are contributing cross-jurisdictional treated acres to help meet the California Wildfire and Forest Resilience Task Force goal of treating one million acres annually in California by 2025 (Wildfire and Forest Resilience Task Force, 2022). Therefore, this project addresses impact on a larger scale by adding to much-needed treated acreage.

23. Is the Project Area in a Disadvantaged Community?

Use the DWR Disadvantaged Communities Mapping Tool. Select one Yes

24. Does the project benefit or serve severely disadvantaged communities? If yes, describe services and/or benefits provided.

Yes. Services include the development of defensible space for homes and other infrastructure via removal of brush, ladder fuels, and dead and dying trees; de-limbing, chipping of piles, removal of Scotch broom, and preparation for and implementation of prescribed fire — without cost to the landowner. The potential for catastrophic wildfire risk will be reduced, thereby protecting infrastructure and homes. JBFRP will set an example of ecological fuels reduction, with an explanation of approaches taken upon site visits with the landowners and public tours given.

25. Will the project include work undertaken by the California Conservation Corps or a Local Conservation Corps?

A Sacramento Regional Conservation Corps (SRCC) crew of 8 will hand-thin the 82 acres of BLM land specifically within a 200' buffer off of infrastructure and BLM boundary in compliance with the BLM Programmatic Environmental Assessment.

26. Describe which tribe(s) were consulted for this project, the outcome, and any on-going discussions. N/A

ADDITIONAL INFORMATION - ONLY AS APPLICABLE

27. Use of Herbicide: If the proposed project will use herbicides, complete the Herbicide Questionnaire. *Please see attached Herbicide Questionnaire.*

28. Planning Projects: For planning projects, describe potential or secured funding for project implementation. N/A

29. Groundwater Sustainability Plan: Is the proposed project located within a medium or high priority groundwater basin and what is the status of the Groundwater Sustainability Plan?

No. Groundwater Sustainability Plans are not required for low priority groundwater basins.

30. Stream Flow: Projects must measurably enhance stream flows (a change in the amount, timing, and/or quality of the water flowing down a stream, or a portion of a stream, to benefit fish and wildlife) at a time and location necessary to provide fisheries or ecosystem benefits that improve upon existing flow conditions, are measurable, and significant, in that they help alleviate a limiting factor.

Reduction in total standing biomass in overstocked Sierra Nevada forests has been shown to significantly increase surface and groundwater availability due to decreased competition for and use of water by vegetation (Roche et al. 2018). This project will not directly quantify streamflow enhancement but is anticipated to indirectly improve water availability. Further, reduction of fuels and likelihood of high severity fire reduces potential erosion inputs into local waterways, thereby improving overall water quality (Rengers et al. 2020).

a) How significant is the anticipated stream flow enhancement in the context of the stream's current (pre-project) flow regime? Will the limiting factor be eliminated or reduced and by how much? Provide analysis and documentation to demonstrate

the significance of expected stream flow benefits and the likelihood that anticipated outcomes will be realized. N/A

- b) Quantify to the best of your ability the stream flow benefits anticipated from successful completion of the project (i.e. length of stream improved, flow enhancement in cfs, water quality improvements, as applicable). N/A
- c) If applicable, please complete and attach the Water Rights Supplemental Questionnaire. N/A

31. **Lower American River Parkway Project:** Select the primary goal of the project Choose an item. If other, please describe. N/A

- a) **Lower American River Parkway Project:** Is the project area within the American River Parkway boundary? Choose an item. If other, please describe. N/A
- b) **Lower American River Parkway Project:** For projects that are completely or partially within the American River Parkway boundary, what is the Land Designation and what Area Plan is the project within? See the 2008 American River Parkway Plan. N/A
- c) **Lower American River Parkway Project:** Explain how the project is compatible and consistent with the 2008 American River Parkway Plan. N/A
- d) **Lower American River Parkway Project:** Explain how the project advances the goals and objectives of the 2022 American River Parkway Natural Resources Management Plan. N/A

32. **Inland Wetlands Conservation Program Project:** Explain how the project advances habitat and/or species conservation objectives of the Central Valley Joint Venture.

N/A

33. **Wildlife Corridors:** Does the proposed project address wildlife barriers as described in the CDFW's 2020 Wildlife Movement Barrier Priorities list? What is the proposed project's location connectivity score based on the California Department of Fish and Wildlife's (CDFW) Areas of Conservation Emphasis (ACE) Terrestrial Connectivity dataset?

The JBFRP does not address the specific wildlife barriers as described in the CDFW's 2020 Wildlife Movement Barrier Priorities list. The project area does span multiple hexagonal datapoints within the ACE Terrestrial Connectivity Layer, with ratings of 1, 3, 4 and 5, indicating that the project site overall ranges from *Limited Connectivity Opportunity* (1) to having *Irreplaceable and Essential Corridors* (5). These corridor ratings will continue to be incorporated into the project plans.

34. **Public Access and ADA:** Does the proposed project include public access? If so, describe how the project will enhance public access and Americans with Disabilities Act (ADA) accessibility. Be specific (e.g., the project will install one ADA compliant fishing pier, ADA compliant vault toilet, and 2 miles of accessible trails).

This proposed project does not include public access.

By signing this form, I certify that I am authorized to apply for this grant and the information contained in this application and its attachments is true and accurate to the best of my knowledge.

SIGNATURE

Name: Craig Griesbach

Title: Director, Nevada County Office of Emergency Services

Date Signed:

SIGNATURE

Name: Jeff Lauder

Title: Executive Director, Sierra Streams Institute

Date Signed: 02/15/2023

END OF APPLICATION

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Appendix A) Applicant Budget - Planning, Studies, and Implementation Projects Only (only include amounts requested from WCB)

Jones Bar Forest Resilience Project				Justification (provide a short justification of each budget item regarding cost effectiveness and appropriateness to the work)
A. PERSONNEL SERVICES (Ensure that all personnel are described in the Project Application)				
Project Role	Hours	Rate	Amount Requested From WCB	
Senior Analyst	141	\$46.45	\$ 6,549.45	Project scheduling, coordination, subcontractor oversight, reporting, invoicing
Community Wildfire Coordinator	25	\$39.09	\$ 977.25	Plan and host in-person and virtual sessions for the public, promoting Toolkit

Subtotal Personnel Services	\$ 7,526.70	
Staff Benefits	64%	\$ 4,786.98
SUBTOTAL A : PERSONNEL SERVICES		\$ 12,314

B. OPERATING EXPENSES: GENERAL		
	\$	-
SUBTOTAL B: OPERATING EXPENSES: GENERAL		\$ -
Integrated into SSI subaward		

C. OPERATING EXPENSES: SUBCONTRACTORS (Ensure all subcontractor tasks are described in Project Proposal)		
Contractor - Prescribed burning	\$ 56,400	Cost varies from \$0 - \$3800 per acre, depending on volunteer availability
Contractor - Mastication	\$ 410,600	144.5 acres of mastication at \$2,800-\$3,000 per acre
Contractor - Hand thin & chipping	\$ 900,624	214.25 acres of hand thinning/chipping at \$4,000 - \$4532 per acre
Contractor - Planting/seeding	\$ 11,880	Planting 30 acres at \$150-210/acre, plus seeding 33 acres at \$180/acre
Contractor- Scotch Broom mastication	\$ 25,200	28 acres of Scotch broom mastication at \$900/acre
Contractor- Herbicide application	\$ 56,000	160 acres of herbicide application at \$350/acre
Contractor - RPF	\$ 24,000.00	General consult, oversight
Contractor - Wildlife Biologist	\$ 5,700.00	Consult
Contractor - Sierra Streams Institute	\$ 391,281	Project management, including coordination of contractors
SUBTOTAL C: OPERATING EXPENSES: SUBCONTRACTORS		\$ 1,881,685

D. INDIRECT CHARGES (Maximum Indirect Rate - 15%)		
	Indirect Rate*	
Indirect Charges = (Subtotal A+B+C) * (Indirect Rate)	15.00%	Indirect costs at 15% support County of Nevada Office of Emergency Services Director for programmatic oversight, Information and General Services Fiscal Officer for fiscal oversight, Office of Emergency Services overhead (rent, utilities, printing, office supplies, and tech support), and County of Nevada Auditor's Office for fiscal oversight
SUBTOTAL D: INDIRECT CHARGES		\$ 284,100

E. CONTINGENCY (10%)		
	Contingency	
Contingency = (Subtotal D) * (Contingency Rate)	10.00%	
SUBTOTAL E: CONTINGENCY		\$ 217,810
GRAND TOTAL (A + B + C + D + E)		\$ 2,395,908

*Actual indirect rate of the Organization not to exceed 15% of the total cost to be funded by WCB. In the Budget Justification, please explain the methodology used to determine the rate and provide detailed calculations in support of the indirect cost rate.

**Contingency can only be used with proper justification and written permission from the WCB Grant Manager.