7 Meadow Restoration, Assessment and Restoration in the American, Bear and Yuba Watersheds

GENERAL INFORMATION	
Project Title	**Meadow Restoration, Assessment and Prioritization in the American, Bear and Yuba Watersheds**
Organization	South Yuba River Citizens League
Abstract	This project addresses the problems of degraded meadows in the CABY region. Project partners will improve the ecological integrity of six meadows and will assess and prioritize remediation projects in more than 50 additional meadows. Restoration activities will address the full range of impacts facing Sierra meadows and will establish a foundation for future restoration activities through a watershed-scale assessment and prioritization. The project represents a coordinated program to maintain, protect and improve meadows across the CABY region.
Partner Organizations	Tahoe National Forest, American River Conservancy, American Rivers, Sierra Native Alliance
Disadvantaged Community	N/A
Grant Funds Requested	$ 308,016
Non-State Match	$ 118,500 (38%)
Total Budget	$ 607,516
Watershed	American, Bear and Yuba
Counties	Yuba, Nevada, Placer, Sierra and El Dorado
Status of Project Design	Rucker, Blackjack, Butcher, Bear and Gold Hill Meadow projects have completed project designs. The Elliot Meadow and Deer Meadow projects will be designed as part of this project.
Existing Data and Studies	Work at **Rucker, Butcher and Bear Meadows** will follow the following document: Sharing Stewardship: A Guide to Involving Volunteers in the Assessment, Monitoring and Restoration of Sierra Meadows. USFS will implement the **Blackjack Meadow Project** and will follow their design document. USFS will also conduct a hydrologic assessment of Deer Meadow using approved federal guidelines.

	American Rivers will design **Elliot Meadow** based on the best practices for meadow restoration. **Gold Hill Meadow** will follow the Wakamatsu Habitat Enhancement/Restoration Areas plan).
Status of CEQA, NEPA, and other environmental laws	**Rucker, Blackjack, Butcher, and Bear Meadows:** All planning and environmental permits complete. **Deer Meadow:** Will not require environmental compliance at this design stage. **Eliot Meadow:** NEPA environmental assessment will be 90% complete by October 2013. We expect a CEQA categorical exemption for Elliot Meadow (per discussions and prior permitting with Central Valley Regional Water Quality Control Board). **Gold Hill Meadow:** CEQA environmental work (categorical exemption) complete. A California Department of Fish and Wildlife Streambed Notification Permit is in process and an Army Corps of Engineers Permit is also in process.
Work that will be completed prior to October, 2013 (assumed contract date)	**Rucker, Blackjack, Butcher, and Bear Meadows:** Three acres of conifer removal in aspen stands has been completed at Rucker Meadow in 2012. **Eliot Meadow:** Conceptual designs for Elliot meadow will be complete before October 2013. **Deer Meadow:** No work will be completed prior to 2013 on this project. **Gold Hill Meadow:** Pre-project monitoring is complete and on-the-ground fieldwork for elements of this project has already commenced, including native hedgerow installation. Other project elements (stream-bank stabilization, riparian plantings, invasive species removal) will commence no later than August 2013. **American River Meadows Assessment**: Meadows in the American River watershed will be identified with a GIS analysis, the TNF has a GIS layer of meadows on NFS lands, and prioritization criteria will be built by October, 2013.
Procedures for coordination with partner agencies and organizations	SYRCL will convene a kick off meeting and quarterly check-in of all partners. Annually SYRCL will host a site visit to one of the projects for the project partners to discuss progress and mutual work. SYRCL will execute contractual agreements with each partner agency delineating responsibilities, tasks,

	schedules and budgets as well as clear deliverables.
Description of synergies or linkages between other CABY IRWMP projects	A key component of the CABY strategy of inclusion of both natural and infrastructure projects within every Proposal, this project also address issues of climate change and resiliency within the headwaters of this critical region. Not only resiliency but also conservation are key components of several projects within this suite. This project also supports the following CABY linkages and synergies objectives, articulated in the Introduction to the Proposal: selection of projects at multiple elevations: developing a mix of localized projects that address clear single-location needs with projects that have a regional impact; inclusion of pilot, demonstration or model projects whose benefits can then be expanded through implementation of similar projects across the region; siting of projects across all of the primary CABY watersheds; including projects that directly address the resiliency of natural and infrastructure systems; inclusion of projects which result in direct water conservation and/or use efficiencies; creation of implementation actions/projects that represent adaptive management options in response to climate change; pairing projects that create synergies of impact internally and between projects; balancing infrastructure and natural resource projects within each implementation package; and creating a balance of project sponsors across all stakeholder groups, including DAC, governmental agencies and non-profit organizations. The project will also collaborate with three other CABY projects in this proposal to train and employ Native Youth from the Native Youth Conservation Corps.
Status of acquisition of land or rights of way if applicable	All work will be completed on land owned by one of the project partners**.**
If project is part of a multi-phased project, describe how the project can operate as a stand-alone project	Each project location (i.e. named meadow) is a standalone project and can be completed regardless of the status of other project areas.

SPECIFIC GOALS AND OBJECTIVES OF THE PROJECT

CABY Goal and Primary Issue	**Measurable Objectives**
Ensure sufficient water quality to support healthy ecosystems and dependent organisms: Headwaters Protection	• Six Meadows restored or enhanced • 12 acres of meadows improved or restored • 50-70 meadows surveyed

Preserve and Restore Watershed Health: Meadows	• Six Meadows restored or enhanced • 12 acres of meadows improved or restored • 50-70 meadows surveyed
Preserve and Restore Watershed Health: Terrestrial Invasive Species	• Four trainings for staff, volunteers and contractors • 20 acres surveyed for terrestrial invasive species • 4 Acres treated for terrestrial invasive species
Implement top three adaptive strategies coming out of the 2012 IRWMP Update to help make CABY region climate resilient	• Implemented meadow restoration projects in this Proposal
Maintain and enhance functioning landscapes that provide sustainable services for humans: Native American Uses	• 12 members of Native Youth Conservation Corps trained
Overarching Objective: Education and Outreach will be integrated into all CABY projects and programs	• Four trainings for staff, volunteers and contractors
Overarching Objective: Share useable data and information across the region	• Regular data updates to CABY website and state and all other relevant databases and agencies.
Overarching Objective: All planning in region to be coordinated to ensure communication and shared solutions.	• Regular communication with CABY partners to share project progress, lessons learned and applicability of project as a model to other partners in region.

PURPOSE AND NEED OF THE PROJECT

There are few places as majestic as a mountain meadow, and few landscapes that safeguard our rivers headwaters as well as a healthy meadow. Healthy meadows provide outstanding natural benefits: they store spring floodwaters and release cool flows in late summer; they filter out sediment and pollutant; and, they produce high-quality forage and provide habitat for rare and threatened species. Mountain meadows comprise less than one-tenth of the Sierra Nevada region (Ratliff 1985) yet provide important habitat for over half of the vertebrate species, with one-fifth of the region's terrestrial vertebrate species being dependent on riparian and meadow areas for survival (Ratliff 1985; Murphy et al. 2004). The important role meadows play in sustaining

diversity in the Sierras is fundamentally related to the abundance of available water during times when water in the surrounding landscape is severely limited. The physical structure that creates available water in meadows is therefore critical to their existence, and nearly all other ecological values associated with meadows are derived from this condition. Intact meadows provide important ecosystem functions for the immediate area and for their watershed including: increasing biodiversity; increasing late summer water storage; extending late summer baseflows; decreasing flooding; decreasing sediment load and delivery; improving water quality; providing increased forage; supporting aesthetic values; and, protecting Native American cultural values.

Gold Meadow, for example, is an important site for maintaining oak woodland habitat and connectivity. Several avian species breed, nest, feed, and migrate through the oak woodland, riparian, lacustrine, and wetland habitats on the property. Additionally, the riparian and lacustrine areas provide habitat for Sierra tree frog, western toad and western pond turtle.

However, a number of stressors including overgrazing, and altered fire regime, roads and trails, invasive species and climate change have profoundly affected how Sierra meadows work and the benefits they provide.
There are two primary threats to the meadows of the CABY region:

1) Invasion by conifers and invasive weeds which change the hydrology and plant communities of the meadows, and

2) Direct hydrologic changes, such as draining, ditching and roads.

These threats need to be addressed as they represent on-going and accelerating damage. Conifers and weeds are choking out meadows at an increased rate each year and drainage ditches deepen over time and dry up the meadows.

Rucker, Butcher, and Bear Meadows
Mature aspen stands are a keystone species in Sierra Nevada montane meadows in the CABY region because of high water tables in the early part of the growing season and open canopies that allow sunlight to penetrate to the ground. Aspens provide the single most species-rich avian habitat in the Sierra Nevada, as well as habitat for rare species, and diverse wetland vegetation. However, according to Forest Service aspen researcher Wayne Shepperd, aspen stands in the Tahoe National Forest and other Sierra Forests are on the brink of extinction. Today the aspen forest type makes up less than 1% of the Sierra Nevada's forested lands (Bruce Hiserote, Pacific Northwest Research Station, USDA Forest Service). In contrast, forests in the Interior West states of Utah and Colorado contain 9 and 16 % aspen types, respectively (Rogers et al. 1998; Keyes et al. 2001). Without intervention and removal of these invading species most of the value of these meadow communities will be lost.

Hydrologic Improvements at Gold Hill, Blackjack, Deer and Elliot Meadows
Drainage ditches in meadows are insidious. Over time these ditches can lengthen and deepen through erosion. These ditches also dry out the soil in meadows to the point that many meadow species cannot survive. As the ditches grow in size, the soil becomes even drier. Grazing may also increase the damage done by ditches. The work proposed in Elliot and Gold Hill meadows will stop these drainage ditches from draining the meadows, and will reestablish a more normal hydrology and soil moisture. A road through Blackjack meadow is currently functioning as a drainage ditch. This road will be removed. The full extent of hydrologic changes to Deer Meadow are not known. One activity of this project will be to conduct an hydrologic assessment of Deer Meadow. The deliverable will be restoration recommendations for Deer Meadow.

American River Meadows Assessment
For nearly a decade, the momentum around meadow restoration has been building—some critical projects have been implemented and many others have been identified. CABY's meadow objective has catalyzed interest from funders, and currently, there is substantial funding from state and federal agencies for "shovel-ready," implementation projects. However, a major barrier to initiating new projects is the lack of funding available for *watershed-wide planning to assess the priority* for meadow restoration. This situation has created a bottleneck that many organizations and agencies are unable to overcome, slowing the meadow restoration effort as a whole, and limiting progress to a few watersheds where design and permitting expertise exists. A watershed-wide evaluation of meadows within the Yuba watershed has already been conducted and is helping guide restoration projects. This project will conduct a similar project within the American River Watershed. When complete this assessment will help guide projects within the American River Watershed for years to come.

DESCRIPTION OF THE PROJECT

Rucker, Butcher, and Bear Meadows: SYRCL will work with trained volunteers and the Native Youth Conservation Corps (NYCC) to improve 12 acres of aspens groves and meadows in the Yuba River Watershed. NYCC members will be trained to use handtools to remove encroaching conifers and weeds. This work will increase solar radiation to the aspen clone and increase biodiversity within the aspen stands. Soil moisture will increase and about two acres of yellow star thistle will be removed. Training of volunteers will be critical to the success of this project.

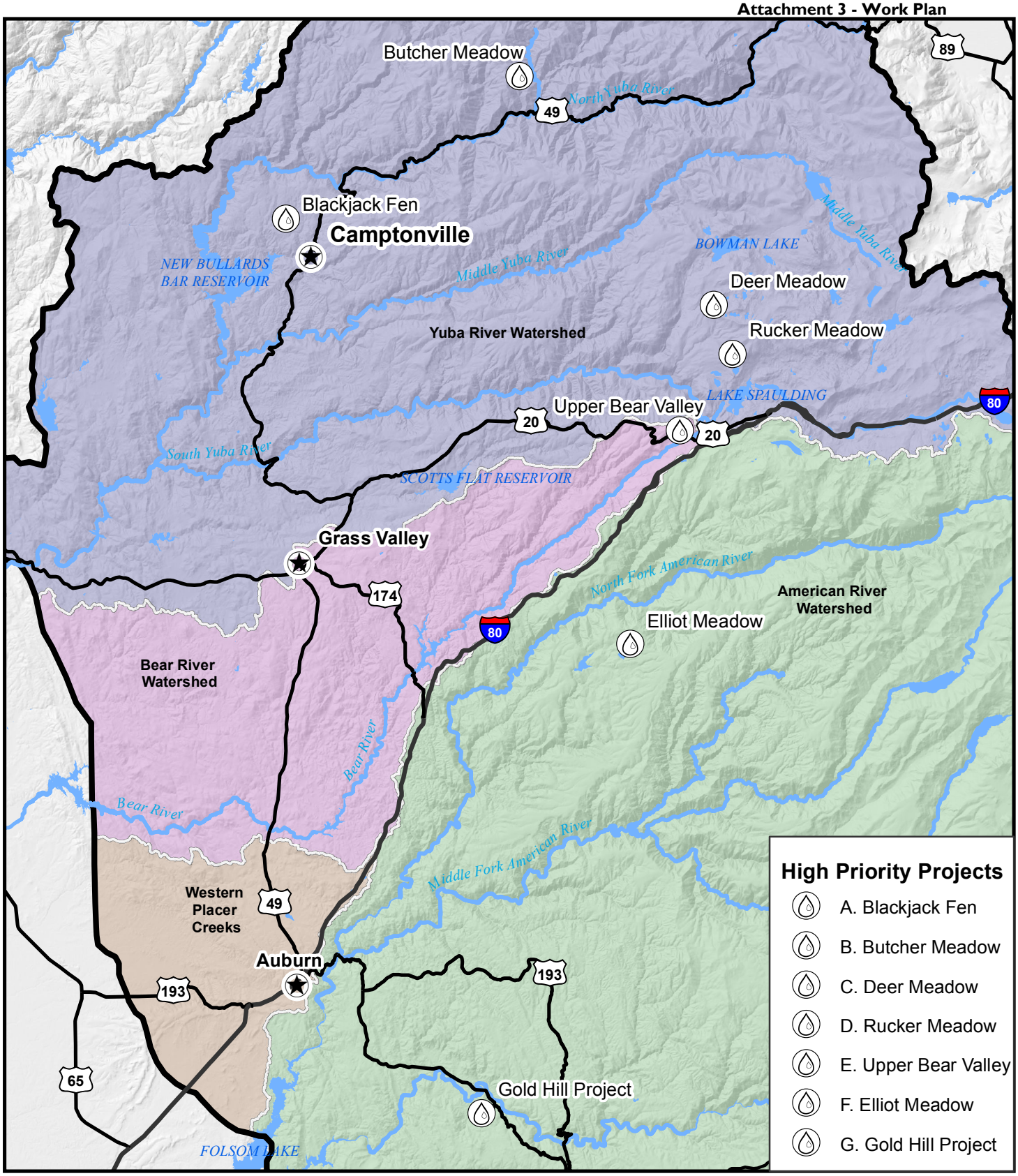
Deer Meadow: The USFS will conduct a hydrologic assessment of the whole meadow with the result being a list of recommended design actions to enhance the meadow.

Blackjack: Currently a road cuts through a part of Blackjack meadow. This road is draining the meadow and drying the soil. As part of this project the road will be removed and the drainage will be stopped.

Elliot Meadow: The first step in implementing this project is development of a restoration design. Tasks will include filling a network of deeply incised channels and ditches that drain groundwater form the meadow. A ditch (up to six feet deep in places) and developing head cuts has lowered the water table in the meadow. Restoring Eliot meadow will ensure that the meadow will once again become part of the State's natural water storage infrastructure.

Gold Hill Ranch: Decades of ranching and erosion have created a highly degraded channel in Gold Hill Meadow. Work will provide restored channel and protective fencing. An active head cut will be stabilized preventing further erosion, and a concrete apron will be removed. Part of the work will be done with NYCC crews and volunteers. Training will be provided to both NYCC and volunteers.

American River Watershed Meadow Prioritization: Field crews will assess the quality and impact of 50 to 70 meadows within the American River Watershed. The data will be placed into at GIS database for analysis and ranking. The resulting report will provide a clear roadmap for the most critical actions to improve meadows.



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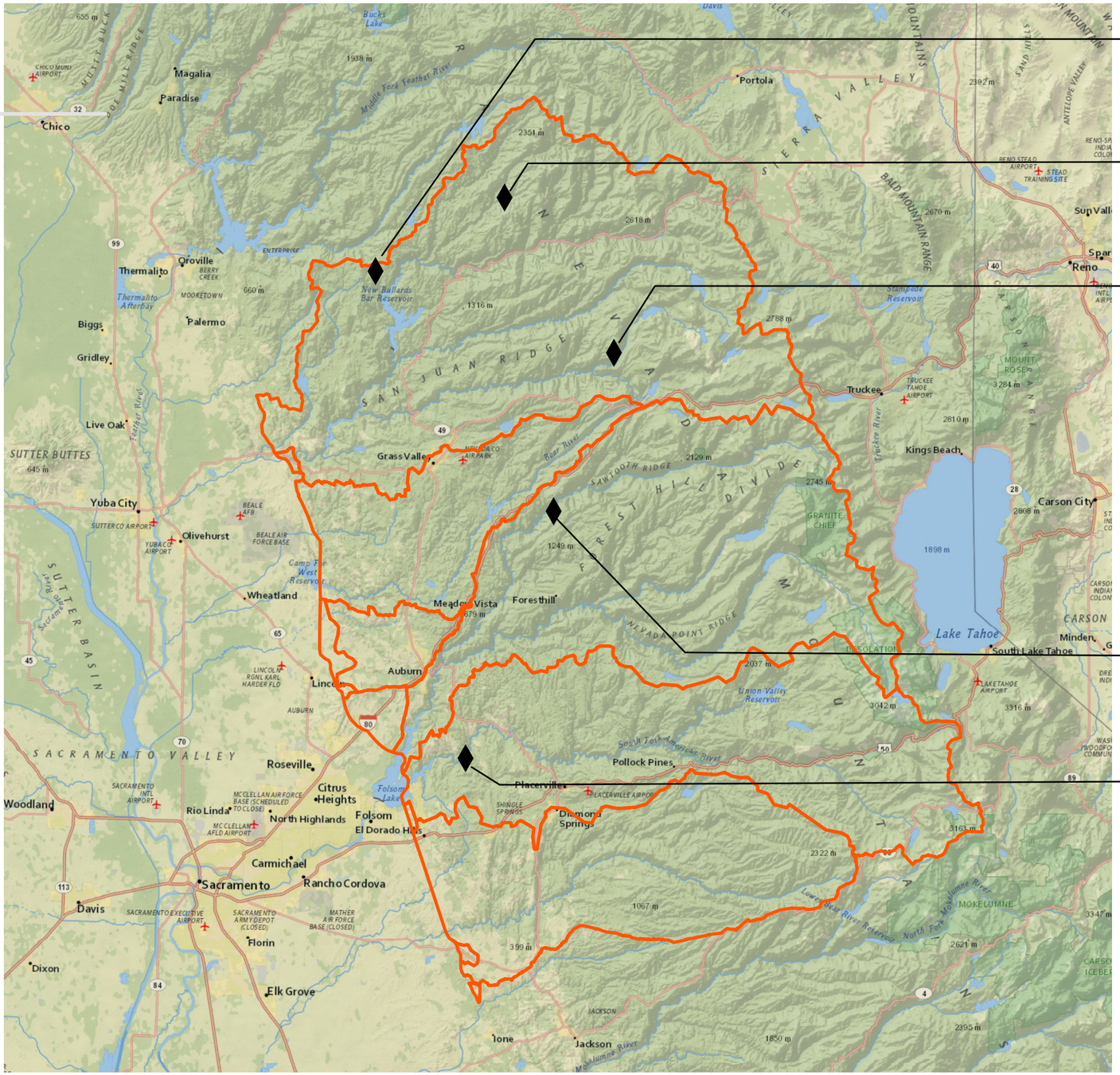

Blackjack Fen
Lead: Tahoe National Forest

Butcher Meadow
Lead: South Yuba Citizens League

Rucker Meadow
Lead: South Yuba Citizens League

Deer Meadow
Lead: Tahoe National Forest

Upper Bear Valley
Lead: South Yuba Citizens League

Bear Meadow
Lead: South Yuba Citizens League

Elliott Meadow
Lead: American Rivers

Gold Run Project
Lead: American River Conservancy

Meadow Restoration, Assessment and Prioritization in the American, Bear and Yuba Watersheds

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SYRCL

SYRCL -- January 2013

PROJECT WORK TASKS

The **Meadow Restoration, Assessment and Prioritization in the American, Bear and Yuba Watersheds** project is organized as follows: SYRCL is the Project Proponent and Project Administrator. SYRCL will also take the lead role on the projects within the Yuba Watershed (Rucker, Butcher, and Bear Meadows) SYRCL will contract with the following partner organizations for their role:

- **American Rivers** will take the lead role on the design and implementation at Elliot Meadow and will also conduct the American River Watershed Wetland Assessment.
- **American River Conservancy** will take the lead role on the improvements at Gold Hill Meadow.
- **Tahoe National Forest** will take the lead role on improvements at Blackjack Meadow and planning the improvements at Deer Meadow. Rucker, Butcher and Bear Meadows are on USFS lands and are critical partners with SYRCL on these projects.
- **Sierra Native Alliance, Native Youth Conservation Corps (NYCC)** will work on all restoration activities. Developed by the Sierra Native Alliance, the NYCC program includes job training and environmental restoration activities with native youth from Placer, El Dorado and Nevada Counties – all in the CABY region.

Budget Category (A)
DIRECT PROJECT ADMINISTRATION

Task 1: Direct Project Administration

Task 1.1: Administration and Management

Project management and administration is a critical aspect of a successful project. Under this activity, SYRCL, with support of project partners, will take the lead in fiscal management and developing and managing subcontracts and grants, as well as meeting reporting and performance requirements, finalizing the work plan, convening project team meetings, developing project information, and coordinating with funders and partners. In addition, American Rivers and CABY will be responsible for outreach and dissemination of project materials and results.

Subtask 1.2: Labor Compliance

SYRCL has managed contracting and compliance for public works projects funded by Federal, State, and private sources requiring labor compliance. Our labor compliance program includes contractual agreements to insure State labor practices are followed. Prior to awarding any contract for public works SYRCL will create and submit to Department of Water Resources (DWR) a Labor Compliance Program that meets the standards set in Labor Code Section 1771.5(b). This Labor Compliance Program will become an obligation of The Sierra Fund and any sub-recipients under the terms of the grant agreement with the DWR. This Labor Compliance Program will consider all relevant labor codes and the applicability of prevailing wage laws in developing the Budget as explained in Section IV of the 2012 Guidelines.

Subtask 1.3: Reporting

SYRCL will establish reporting protocols to ensure consistent and timely reporting to The Sierra Fund, DWR and CABY of project activities and finances. Quarterly progress reports will include a narrative of

accomplishments of the project as well as a summary of challenges experienced and how they were managed, and photos, data, or other information developed as part of the project activities. Quarterly financial reports will include copies of all invoices paid, an accounting of funds used and funds remaining, and requests for any needed budget changes will be made in advance of any budget change approvals. SYRCL will also submit final financial and project reports at the end of the project.

Subtask 1.4: Coordination with Partner Agencies and Organizations
SYRCL will establish contracts and/or MOUs with project partners, which will include reporting protocols for partners to ensure consistent and timely reporting of activities and finances. SYRCL will maintain active communication with partners on this collaborative project using two methods: semi-annual project partner meetings to ensure smooth coordination and allow for any needed time or activity adjustments; and regular reporting with point-person at each project partner organization or agency using email to ensure that project partners are kept informed about each other's activities, challenges and successes. Quarterly project and financial reports will be circulated to the partners in this collaborative.

Task	Task Title	Deliverables
1	**Direct Project Administration**	
1.1	Administration and Management	• Final Workplan and Budget • Finalized Subcontracts • Accessible and Accurate Records
1.2	Labor Compliance	• Adherence to Labor Code Compliance through Board policies, administrative regulations and contracting procedures and documents. • Submission of Labor Compliance Program
1.3	Reporting, Performance Measures and Monitoring Plan	• Monthly Invoices and Reports • Quarterly, Annual and Final Reports to the Sierra Fund and DWR • Reports to CABY • Final Report • Project Specific Performance Measures and Monitoring Plan
1.4	Coordination with partner agencies	• MOUs/Participating agreements between partners • Meeting minutes and agendas

Budget Category (B)
LAND PURCHASE/EASEMENT

TASK 2 –N/A

Budget Category (C)
PLANNING/ DESIGN/ ENGINEERING/ ENVIRONMENTAL DOCUMENTATION

TASK 3: PLANNING/DESIGN/ENGINEERING/ENVIRONMENTAL DOCUMENTATION

The goal of this task is to design and permit the Gold Hill Meadow and Elliot Meadow restoration projects and implement them as a task under this grant (see Task 4.2 below). The Deer Meadow project will result in the necessary studies and permits so that the project can move into an implementation phase. Planning level studies will result in a meadow prioritization for American River Watershed.

Task 3.1: Gold Hill Meadow
American River Conservancy commenced work on this task commenced in October 2012. IN this task planning, design and environmental documentation will be completed for Gold Hill Preserve restoration. Subtasks include:

Planning and Conceptual Design: Field surveys and pre-project monitoring have been completed. American River Conservancy has collected the data necessary to complete or a Restoration Design Plan.

Environmental Permitting: The American River Conservancy has completed CEQA with El Dorado County as the lead agency. A categorical exemption was claimed because the work Gold Hill Ranch is a restoration project that will disturb less than 5 acres. American River Conservancy will complete a streambed alteration permit (CA Department of Fish and Wildlife). American River Conservancy will consult with and complete an Army Corps of Engineers Permit.

Technical Design*:* American River Conservancy has completed this task, and has created a Restoration Plan for the project.

Task 3.2: Elliot Meadow
In this task, which will commence in June 2013 with matching funds, American Rivers in partnership with the United States Forest Service (USFS) will complete planning, design and environmental documentation for Elliot Meadow restoration. Subtasks include:

Planning and Conceptual Design: America Rivers will carry out field surveys and pre-project monitoring and will collect all data necessary for a conceptual restoration design, conduct public stakeholder meetings to insure broad support during the design phase, and develop conceptual designs for two to three restoration alternatives.

Environmental Permitting*:* The USFS and American Rivers will complete the NEPA EA based on field data and conceptual designs completed in the previous subtask. The USFS will complete NEPA and a finding of no significant impact is anticipated. American Rivers will complete CEQA with the Central

Valley Regional Quality Control Board as the lead agency. A categorical exemption is anticipated because the work in Elliot Meadow is a restoration project that will disturb less than 5 acres (Ben Letton Central Valley RWCB, pers. comm. 2012). American Rivers will complete clean water (401, 404) permitting. A streambed alteration permit (CA Department of Fish and Game) is not required for this project, which is a Forest Service partner project on Forest Service lands. Finally, the USFS will prepare a Stormwater Pollution Prevention Plan (SWPPP).

Technical Design: American Rivers will develop the conceptual design through to ready-to-bid construction documents, if required.

Task 3.3: Deer Meadow

A USFS interdisciplinary team will assess the hydrology of Deer Meadow so that restoration projects can be developed. Baseline data will be collected concurrent with the hydrologic assessment so that proposed management activities can be developed that reduce the risk of negative impacts to other resources such as cultural resources, amphibians, and rare plants. The final product will include a restoration plan for Deer Meadow. Subtasks include:

Planning and Conceptual design: USFS will carry out field surveys and pre-project monitoring and will collect all data necessary to a conceptual restoration design.

Hydrologic Assessment: The USFS will develop a hydrologic assessment of the meadow along with conceptual projects to address hydrologic needs.

Restoration Plan: The USFS will develop a Restoration Plan for the meadow.

Environmental Permitting: The USFS will conduct the environmental analysis to determine the impacts of implementing suggested projects within the restoration plan with the goal of a finding of no significant impact for portions of the restoration plan so that project implementation can begin as soon as funding is obtained.

Task 3.4: American River Watershed Meadow Prioritization

In this task, which will commence in June 2013 using matching funds, American Rivers will prioritize meadows in the American River watershed for restoration. American Rivers will develop a GIS dataset of meadow conditions within the American River Watershed. All meadows larger than 15 acres will be assessed using the established method of rapid field assessment described above under Existing Data and Studies. From work in adjacent watersheds, American Rivers estimates that they will survey 50 to 70 meadows in the field. American Rivers will then prioritize meadows for restoration based on scientifically valid criteria. American Rivers will prepare an Assessment and Prioritization Report that will be informed by discussions with the USFS and CABY members, as well as partners and stakeholders in the watershed to develop support for restoring the identified priority meadows.

Task	Task Title	Deliverables
3	**Direct Project Administration**	
3.1	Gold Hill Meadow	• Gold Hill Meadow Restoration Plan (complete) • Technical Designs

		• CEQA complete • Streambed Alteration Permit • USACE permit
3.2	Elliot Meadow	• Conceptual Design Alternatives Memo • 90% Design Plans • Completed Technical Designs • NEPA complete • CEQA complete • 401 and 404 permits completed • SWPPP
3.3	Deer Meadow	• Hydrologic Assessment • Updated GIS layers for cultural, botanic and wildlife resources • Environmental analysis for projects within the restoration plan • Restoration Plan
3.4	Assessing Meadow Conservation Priorities	• GIS of meadows in the watershed, including ownership • Meadow Restoration Prioritization Report

Budget Category (D)
CONSTRUCTION/IMPLEMENTATION

TASK 4: CONSTRUCTION

Task 4.1 Restoring Meadow Communities

The goal of this task is to improve the habitat in meadow communities within the CABY region through the remove of weeds and invasive conifers. Without this work, these meadow communities would continue to degrade over time as these species displace meadow species and change soil conditions by dewatering.

Bear Meadow

SYRCL will work with trained volunteers and the Native Youth Conservation Corps to manually treat nonnative plants in this meadow twice per year for three years to reduce nonnative and promote native vegetation. Target nonnative vegetation includes yellow star thistle, bull thistle, and Scotch broom. In the third year of treatment, native grass seed will be broadcast to improve vegetative diversity. The TNF database of record and Calweedmapper database will be updated with treatment information.

Butcher Ranch Meadow
SYRCL will work for two seasons with trained volunteers and the Native Youth Conservation Corps to remove all conifers that have encroached within the meadow/aspen complex that are less than 10 inches dbh. SYRCL will treat 15 to 20 acres of the meadow/aspen complex. The woody material will be piled in the uplands for either future burning or as wildlife habitat.

Rucker Meadow
SYRCL will work two seasons with trained volunteers and the Native Youth Conservation Corps to remove all conifers that have encroached within meadow/aspen complex that are less than 10 inches dbh. SYRCL will treat 2 acres of the meadow/aspen complex. The woody material will be piled in the uplands for either future burning or as wildlife habitat.

Task 4.2: Restoring Meadow Hydrology
The goal of this task is to improve the habitat in meadow communities within the CABY region through removal of drainage ditches and eroding areas within meadows. Without this work, these meadow communities would continue to degrade over time these drainage features will artificially remove soil moisture to the point that only upland plant species could survive.

Blackjack Meadow and Fen Restoration
USFS employees will remove approximately one third of a mile of road that goes through the Blackjack Meadow and Fen Complex. The road surface will be ripped and planted with native grass seed. The culvert will be pulled and the natural flow of water restored. Improved meadow/fen complex health is anticipated.

Gold Hill Meadow
American River Conservancy will work for two seasons to stabilize and restore a severely eroded stream bank and remove a concrete structure within the stream corridor; install and maintain native hedgerows as a buffer between sensitive wetland areas and agricultural lands; plant native riparian vegetation around the lake perimeter and conduct invasive species management in the small lake.

In this task, headcuts and streambanks will be stabilized per the designs developed under task 2. Native sedge plugs will be reused from on site, and on-site native willow cuttings will be planted. Methods to remove non-native invasive species from water bodies will include electro-shock fishing, seine netting and hand removal. Invasive weeds will continue to be removed from planting sites (hedgerows, seasonal wetland) using hand removal and mechanical removal methods throughout the project period.

Elliot Meadow
In this task, American Rivers will fill and re-vegetate the eroded ditch at Elliot Meadow will be filled and re-vegetated. Additionally, headcuts and streambanks will be stabilized per the designs developed under task 2. The project team is experienced with meadow restoration and received the 2012 USFS award for the best watershed improvement project in California. In that project, we used the pond and plug technique. We anticipate using a modified form of this technique in Elliot meadow to repair the eroded ditch.

Task 4.3: Performance Testing and Demobilization
All the partners in these related projects will undertake post-project monitoring of their projects. Activities will include long-term vegetation plots, photo points, wildlife surveys, and short-term (2-years) groundwater

monitoring. An array of groundwater wells will be installed to estimate the increase in groundwater storage using the estimation method employed by Jones and Stokes (2007), Limnotech (2012) and others.

Task	Task Title	Deliverables
4	**Construction**	
4.1	Restoring Meadow Communities – Bear Meadow, Butcher Ranch Meadow, Rucker Meadow	• Projects Completed per designs • Monitoring points in place and documented • Pre- and post-construction photographs
4.2.	Restoring Meadow Hydrology – Blackjack Meadow and Fen Restoration, Gold Hill meadow, Elliot Meadow	• Projects Completed per designs • Monitoring points in place and documented • Pre- and post-construction photographs
4.3	Performance Testing and Demobilization	• Up to 12 acres of meadow habitat improved • Post-project Monitoring Plan • Finalized Monitoring Report

Budget Category (E)
ENVIRONMENTAL COMPLIANCE/ MITIGATION/ ENHANCEMENT

TASK 5: ENVIRONMENTAL COMPLIANCE/MITIGATION/ENHANCEMENT

Subtask 5.1: Mitigation Monitoring: The goal of this task is to fulfill any mitigation obligations identified in Task 3 and include them as part of project implementation. Project managers will monitor and ensure compliance with mitigation measures as per the Mitigation Monitoring Plan.

Task	Task Title	Deliverables
5	**Environmental Compliance**	
5.1	Mitigation Monitoring	• Mitigation Monitoring Plan • Completed Mitigation Compliance

Budget Category (F)
CONSTRUCTION ADMINISTRATION

TASK 6: CONSTRUCTION OVERSIGHT

The goal of this task is to ensure complete and correct implementation of the Project on-time and under budget.

Project managers will provide focused project management during the construction phase. A qualified biologist will be on site at all times during the contraction phase. Their role includes the following:

- Serve as the primary point of contact and coordination between all parties engaged in the project.
- Establish, manage and coordinate all tasks
- Ensure the mandated inspection requirements are fulfilled;
- Monitor and report work through all phases of construction.
- Plan, facilitate, and prepare minutes for regular meetings.
- Review and approve progress payments
- Monthly financial and progress reporting

Project lead to provide project oversight during the construction phase of the project. This requires a qualified staff biologist on site during the construction phase.

Task	Task Title	Deliverables
6	**Construction Oversight**	
6.1	Construction Management	• Quarterly Progress Reports during construction

Budget Category (G)
OTHER COSTS

TASK 7: OTHER TASKS

Subtask 7.1*:* Performance Measures and Monitoring Plan

The following performance measures will be evaluated and reported within the monitoring plan (Task 1.3):

- Number of meadow restoration or enhancement projects developed, funded, and/or implemented
- Acres of land improved or restored (SNC-PM)
- Number of trainings conducted per year
- Number of acres surveyed for terrestrial invasive species
- Number of acres treated for terrestrial invasive species
- Number and diversity of people reached (SNC- PM)

Subtask 7.2: Develop and Maintain CABY Project-Specific Webpage

The goal of this task is to ensure that all CABY members and members of the public have access to updated and thorough information about the implementation and characteristics of the project. CABY staff or

contractors will provide this information through the maintenance of a webpage on the CABY website. CABY staff or contractors will post project progress reports, status updates, and other similar materials (or link them) to this webpage. The webpage will be designed and brought online activated within the first quarter after contract agreement. The page will be updated periodically.

Subtask 7.3: Data Management
The goal of this task is to ensure that all data gathered and developed as a result of the project is made available to state databases as well as CABY members and the interested public using data management and monitoring deliverables that are consistent with the IRWM Plan Standards and Guidance (as stipulated in the August 2010 IRWM Guidelines, page 20). In this case, the appropriate approach is identified in the CABY Updated Plan, which will direct the IRWMP data collection efforts. Data will be made available to all CABY members and the general public through the existing CABY SWIM Database. Material will be uploaded as it becomes available, however most of the data will be posted upon completion of the primary project activities. The CABY technical committee will evaluate project-related data to determine its appropriateness for upload to additional relevant state databases.

Task	Task Title	Deliverables
7	**Other Costs**	
7.1	Post-Project Performance Measures	• Performance Measures Tracked and reported in final Monitoring Report (Task 1.3)
7.2	Develop and Maintain CABY specific Webpage	• Complete and updated webpage
7.3	Data Management	• Complete and submitted data set to all relevant databases

Budget Category (H)
CONSTRUCTION/IMPLEMENTATION CONTINGENCY

Task 8: Contingency
A small contingency has been included in case of project construction needs. However, the budget and tasks reflect experience of previous projects completed and it is not anticipated that cost over-runs will occur.