ROUND 12 CAPITAL PROJECT NOMINATION FORM
LAKE TAHOE FEDERAL SHARE EIP CAPITAL PROJECTS
APPENDIX K

Project Name:	Secondary Project - Aspen Community Restoration	**EIP Number: (*Required*)**	10080
Federal Agency Sponsor: (*Required*)	USFS LTBMU	**Contact:**	Stephanie Coppeto, Ecosystems Scott Parsons, VUFF
Threshold:	V, W, and SC2	**Phone Number:**	530-543-2679 530-543-2687
Threshold Standard:	V-1 Deciduous Riparian W-2 Riparian Habitat SC-2 SEZs	**Email:**	scoppeto@fs.fed.us sparsons@fs.fed.us
FUNDING REQUESTED IN THIS ROUND:	**$** 738,000		

Federal Share EIP Consideration

Select "yes" or "no" for each question. If you have a "yes" response, briefly describe. ***Projects must meet one or more of these 5 items.***

1. **Does the project involve federal land? If yes, is the federal land involved important to successful implementation of the project?** — ***Yes*** ☒ ***No*** ☐

The Aspen Community Restoration project would continue to occur solely on federal lands managed by the USFS Lake Tahoe Basin Management Unit.

2. **Is this project identified in the EIP? If yes, please ensure the EIP number is identified in the above project information box. If no, provide a description of the project's contribution to the EIP program.** — ***Yes*** ☒ ***No*** ☐

The EIP identifies the Aspen Community Restoration project as EIP #10080.

3. **Does the project involve the conservation of a federal or regional threatened, rare, endangered, or special interest species? If yes, identify.** — ***Yes*** ☒ ***No*** ☐

The Aspen Community Restoration project would continue to restore habitat for federal sensitive species and regional special interest species (e.g. nesting habitat for northern goshawk).

4. **Does the project involve an identified federal interest such as the detection and eradication of non-native invasive species (aquatic or terrestrial)? If yes, identify.** — ***Yes*** ☒ ***No*** ☐

Aspen stands were identified in the Lake Tahoe Watershed Assessment (USDA 2000, Vol. 1, pp. 496-526) as Ecologically Significant Areas (ESA) for their exceptional biological diversity and rarity on the landscape.

5. **Does the project develop knowledge and/or information to develop future capital projects in the EIP? (such projects that fulfill this function would include technical assistance, data management, and/or resource inventories)** — ***Yes*** ☒ ***No*** ☐

The Secondary Aspen Community Restoration project provides technical assistance to capital projects in the EIP engaging in similar restoration activities (e.g. provided technical assistance to the Blackwood Creek Restoration project in removing encroaching conifers from aspen stands and relocating the felled conifers into the stream channel for use as large coarse woody debris, floodplain control features, and fish habitat; also assisted in planning aspen stand treatments for the Big Meadow Fire Regime Restoration project).

Check all Capital Focus Area(s) that apply (as defined in the Federal Vision):

- ☒ 1. **Watershed and Habitat Improvement**
- ☒ 2. **Forest Health**
- ☐ 3. **Air Quality and Transportation**
- ☐ 4. **Recreation and Scenic**

Check all that apply (must meet a minimum of one category):

- ☒ 1. **Continued emphasis on forest ecosystem health/fuels reduction projects considering the LTBMU Stewardship Fireshed Assessment and Lake Tahoe Basin Multi-Jurisdictional Fuels Reduction and Wildfire Prevention Strategy.**

- ☒ 2. **Continued implementation and/or completion of projects approved in Rounds 5 through 11 which implement the EIP. Project proposal should clearly describe the phase/product being produced along with the consequence of not completing the project phase proposed for Round 12.**

  List Previously Approved Rounds and funding(provide project titles):

  Round 5 – Aspen Community Restoration: $215,000
  Round 6 – Aspen Community Restoration: $200,000
  Round 8 – Aspen Community Restoration: $200,000
  Round 10 – Aspen Community Restoration: $200,000
  Round 11 – Aspen Community Restoration: $330,000
  => funded Aspen assessment, analysis, NEPA & treated 250 aspen acres (including >100 high risk acres)

- ☐ *3.* **Project is consistent with and contributes toward TMDL pollutant reductions within the four source categories (atmospheric, urban & groundwater, forested uplands, and stream channel).** ***NOTE: If "yes", then please respond to questions in the Accomplishments section of the nomination proposal.***

- ☐ 4. **Control of aquatic invasive species and prevention and/or detection of new aquatic invasive species.**

Project Nomination Proposal Outline

Project Summary (a brief summary which clearly describes the proposed project –maximum 200 words)

- Summarize ONLY the Round 12 project (also summarize scaling of funding to be described in more detail in the "Project Description" section below)**.**

Aspen were identified in the Lake Tahoe Watershed Assessment (USDA 2000) as Ecologically Significant Areas (ESAs) because "they have an exceptionally diverse array of associated species," (DeByle and Zasada 1980; Verner 1988) yet aspen occupy less than two percent of the landscape on the Lake Tahoe Basin Management Unit. The Round 12 Secondary Aspen Community Restoration project would move aspen stands determined to be at high risk of loss from the landscape on National Forest System (NFS) lands within the Lake Tahoe Basin toward the desired condition where 1) the upper canopy is dominated by aspen; 2) conifers comprise less than 25% of the canopy; and 3) aspen regeneration is vigorous. Treated aspen stands would be expected to regenerate and mature toward a low or negligible risk of loss during the estimated 20-year lifespan of the treatments. Treatments may include (1) conifer removal to reduce or eliminate conifer encroachment, (2) aspen removal to promote root stimulation and stand regeneration, (3) aspen root separation, and/or (4) prescribed fire.

Project Description

Introduction

- Provide project background which explains the situation and state the problem and how it will be addressed.

Note: *Focus needs to be the project in Round 12 not a history of an ongoing project or program.*

Approximately 2,500 acres of aspen were found to exist on NFS lands in the Lake Tahoe Basin in our Aspen Stand Condition Assessment (2006); 1,600 acres were found to be at sufficient risk of loss to warrant action / treatments. Risk of loss is an assessment of the probability that an aspen stand may not persist on the landscape, based on stand conditions such as conifer encroachment and aspen regeneration. Our prior funded SNPLMA proposals spoke to treating aspen stands having risks of loss categorized as "moderate", "high" and "highest". We had been phasing our SNPMA funding requests at 75 acres per Round, with the intention of treating all 1,600 acres. Of these, 500 acres were the "high" and "highest" risk aspen stands identified in the Basin; for convenience, we speak to the combined "high" and "highest" risk categories henceforth in this document simply as "high risk aspen." More than 100 acres of high risk aspen stands have been treated, and 392 acres remain untreated. This secondary proposal requests funding to treat the remaining 192 acres of high risk aspen that were not funded in the scaled Round 12 1st Aspen Restoration Project Proposal which sought to treat 200 acres.

The Round 11 Aspen Community Restoration Project is in contract preparation and will thin conifers from approximately 29 acres of aspen and burn the resulting slash piles, as well as burn more than 70 acres of piles created during earlier project phases. It also includes monitoring of the effects of burning piles within aspen stands. Its primary objectives are to move aspen stands toward the desired condition where 1) the upper canopy is dominated by aspen; 2) conifers comprise less than 25% of the canopy; and 3) aspen regeneration is vigorous. Treated aspen stands would be expected to regenerate and mature toward a low or negligible risk of loss during the estimated 20-year lifespan of the treatments.

This Round 12 requested funding would be used to complete treatments of all remaining high-risk aspen stands on NFS lands in the Basin, a substantial environmental legacy.

- Describe what Round 12 is specifically funding; list the number of years the requested funding will cover; briefly describe how this project links into previous projects/rounds (identify and describe other round projects and funding received). Show scaling of project (reduced funding request and associated reduction in accomplishments).

NOTE: *Focus should be on finishing current/phased projects.*

The target aspen stands would be treated by hand thinning and piling, followed by pile burning approximately two years after thinning. The small sizes and widespread distribution throughout the Basin of the aspen stands to be treated (see Aspen Restoration Project map, attached below) are significant factors that increase costs per acre over other treatments in the Basin, since a good deal of the resource surveys (e.g., hydro, biology, botany, heritage) and mitigation (e.g., confirming marking, implementing and checking of flag and avoid areas, buffer zones, etc.) need to be done piecemeal for these small-acreage treatment units scattered widely around the Basin; there are also significant increases in the mobilization – demobilization costs of the treatment contractors and in the scheduling and coordination of the activities of many participants on a short-turnaround basis. Completion of the proposed work would save the aspen stands at high risk and move them into a low-risk category, thus ensuring a lasting legacy of environmental improvement in Lake Tahoe Basin.

Slightly more than 100 acres of high risk aspen on NFS lands have been treated or are currently funded for treatment; 392 acres remain to be treated, and up to 10% of those will require two successive entries / treatments due to the extreme conditions present. The Round 12 Aspen Community Restoration project would restore those high risk stands that were identified in SNPLMA Round 5 and analyzed in Round 6, but were not treated in Round 8 and Round 10, or planned for treatment with Round 11 funding. Round 12 funding would be used to complete restoration of these remaining 392 acres of high risk aspen (200 acres from the initial RD 12 proposal and another 192 acres from this secondary proposal) and it would continue an essential portion of the wildlife and vegetation monitoring that informs implementation of this and related projects (e.g., Big Meadow Fire Regime Restoration). Due to heavy fuel loads, approximately 10% of the treated acres will require two treatments to reach desired conditions for habitat; thus, approx. 172 acres will be treated nominally and up to an additional 20 acres will receive a second treatment (our costs are based on treatments of 192 acres total).

Contract prep would be accomplished in 2012. Thinning treatments would begin in summer 2013 and would be completed by winter 2014, and would be followed by final pile burns by 2016. Post-implementation and effectiveness monitoring of wildlife and vegetation would begin five years after treatment of a sufficient number of aspen stands (the optimal sample size is being determined, based on stands treated with Rounds 8, 10 and 11 funding), and would be continued post-2016, as needed, through other agency funding.

The Round 12 Aspen Community Restoration project would restore the target aspen stands at a rate of approximately 220 acres per year (based on present costs, per acre). Contract prep would be accomplished in 2012. Thinning treatments would begin in summer 2013 and would be completed by winter 2014, and would be followed by final pile burns by 2016. Post-implementation and effectiveness monitoring of wildlife and vegetation would begin five years after treatment of a sufficient number of aspen stands (the optimal sample size is being determined, based on stands treated with Rounds 8, 10 and 11 funding), and would be continued post-2016, as needed, through other agency funding.

- Describe the "readiness" of this project to move forward (urgency, capacity, capability, environmental documentation, interagency agreements, etc).

The LTBMU is uniquely poised to capitalize on several years of prior collaboration (University of Nevada Reno, University of Arizona, Texas A&M, University of California Berkeley, Rocky Mountain Research Station) and investment (USFS, SNPLMA, and Bureau of Reclamation) to translate funding dollars into restoration treatments on the ground using programmatic environmental documentation (Decision Memo, 2008, funded by Round 6). The project would also benefit from pre-existing local interagency coordination on our Round 8, Round 10, and Round 11 aspen restoration implementations, reducing time spent acquiring permits and similar agency process requirements. Environmental documentation and analysis (e.g. NEPA) for this project has been completed; this project is ready to implement. Slash piles have been and continue (through previous round funding) to be created and need to be burned. We and our partners at HSU would continue pile burn monitoring.

- Describe partnerships for this project. (if applicable, project should identify and describe committed/secured partner funding and/or other partner contributions and how it is integrated into the project).

The Round 10 Angora Aspen Planting Project informs this Aspen Community Restoration Project (all phases: Rounds 8, 10, and 11 treatments were earlier project funding phases, and this Round 12 project would be the last), on the potential to include aspen planting as a viable method of restoring stands in the Lake Tahoe Basin.

This multi-year Aspen Community Restoration Project has a partnership with Humboldt State University for pile burn monitoring; the Aspen Project contributes $10,000 annually to the monitoring effort. HSU has contributed approximately $10,000 of in-kind funds for pre-implementation monitoring, as well as a like amount for post-implementation monitoring.

Partnerships for wildlife monitoring will be sought to continue with post-implementation monitoring of this project as the treated aspen stands mature; previous partners include the University of Arizona, Texas A&M, and University of Nevada, Reno.

Note: *The form requests information about project goals, objectives, accomplishments, and questions the program is designed to answer across several different sections. These issues are closely linked and your individual responses should provide a cohesive description.*

Goal – Purpose and Need **("larger" statement of future expected outcome – usually not measurable)**

Aspen were identified in the Lake Tahoe Watershed Assessment as Ecologically Significant Areas because "they have an exceptionally diverse array of associated species," yet occupy less than two percent of the landscape. The purpose of the Aspen Community Restoration Project is to reduce conifer encroachment in aspen stands, and to increase aspen regeneration, the spatial extent of aspen stands, and enhance the diversity and abundance of aspen community species. The Aspen Community Restoration Project will contribute to V1, W-2, and SC-2 thresholds through the restoration of aspen stands at high risk of loss from the landscape on NFS lands within the Lake Tahoe Basin.

Objectives (specific measurable statements of action – Round 12 only - which when completed will move towards achieving the goal)

Note: *Objectives will form the basis for the milestones/deliverables to be identified in Appendix B-8*

- Describe how fulfilling objectives will contribute to the achievement of one or more environmental thresholds (air quality, water quality, soil conservation, vegetation, fisheries, wildlife, scenic, noise, recreation). Provide measures if applicable. For example: acres treated, miles of stream restored for each objective.

Objectives for restored aspen stands include the following:

1. Aspen dominate the upper canopy for the next 20 years;
2. Conifers comprise less than 25% of the canopy for the next 20 years;
3. Aspen regeneration is vigorous (i.e., $\geq$ 500 stems/acre) within three years;
4. Aspen stand expansion is initiated within three years;
5. Aspen stands regenerate and mature toward a low or negligible risk of loss during the years following treatment; and
6. Aspen and associated deciduous tree, shrub, and herbaceous habitats are improved and benefit the biological diversity and ecological condition of the forest.

Secondary benefits anticipated to result from the restoration of aspen stands include:

1. Aspen stand resilience to wildfire will be improved and wildfire behavior within and adjacent to treated stands will be moderated through conifer removal.
    a. Wildland fire burn severity and duration within treated aspen stands will be reduced;
    b. Risks to heritage resources and visual resources from wildland fire will be reduced; and
    c. Aspen stands in the desired condition will act as natural fire-breaks on the landscape.
2. Aspen community health and vigor will be improved as sunlight and subsurface water become more readily available to aspen and associated understory plant communities (i.e., mountain pennyroyal and California corn lily).
    a. Greater availability of subsurface water will improve the ability of aspen to repel insects and diseases, especially during periods of drought;
    b. Resistance to conifer invasion will be improved in treated stands where reduced transpiration rates lead to increased subsurface water, as conifers generally prefer drier soils than aspen do; and
    c. Infiltration and hydrologic function will improve in treated stands with healthy aspen understory plant communities.
3. The composition, species richness, and function of forested areas and associated wildlife and plant communities will be improved.
4. Visual resources will be improved as treated aspen stands regenerate and mature.

- Describe the estimated environmental risks from unintended consequences of the proposed project (if applicable)**.**

The programmatic environmental documentation completed with funding from the SNPLMA Round 6 Aspen Community Restoration Project mitigates environmental risk for the SNPLMA Round 12 project, as directed by law and in coordination with local agencies. The estimated environmental risks from unintended consequences for the proposed project are very limited to negligible, due to project design features.

Pile burning is a common practice; yet pile burning in aspen has potential for unintended consequences such as causing a net loss in stand vigor or regeneration. The estimated level of risk in this project is low, however, because our slash piles typically cover less than 20% of the area of a stand. Further, we are gathering key information, by collaborating with Humboldt State University to monitor the effects of pile burning in aspen, regarding the controlling variables such as pile diameter and height, and we are using this monitoring to inform our management practices; that is the basis of this Round 12 project's adaptive management framework.

Accomplishments

- Describe the anticipated project accomplishments (i.e. products or identifiable environmental benefits being produced or implemented under this project), and how the project results/accomplishments will be communicated and made available to the public.

Note: *Differentiate between direct and/or primary project effects and secondary and/or overall watershed effects.*

Approximately 172 acres of high risk aspen stands would be restored each year (dependent upon cost per acre at the time of implementation), until the treatments of the high risk aspen stands have been completed. Specialist surveys (e.g. wildlife, botany, heritage, hydrology, soils, and engineering) would occur prior to implementation (e.g., 2012 – 2014), as needed to meet the design features of the environmental documentation supporting implementation. Implementation and effectiveness monitoring for wildlife and vegetation would continue as described above.

- If you checked "yes" for the project being consistent with and contributing to TMDL pollutant reductions, please consider and integrate the following in the project description:

a) Describe whether, and how, the project demonstrates advanced, alternative, or innovative practices.

n/a

b) If project includes project level monitoring, describe ability of proposed monitoring strategy to contribute to the state of TMDL knowledge. Also describe if purpose of the capital project is to conduct data collection and/or analysis related to Lake Tahoe clarity.

n/a

c) Describe treatment approach for reducing pollutants and/or measures to address connectivity between pollutant sources and Lake Tahoe or its tributaries. Identify target pollutants, and, to the degree feasible, provide quantitative estimates of project effectiveness at reducing pollutant loads (and/or a commitment to provide post-project estimates).

n/a

d) If appropriate, describe whether, and how, the project can be combined or coordinated with other TMDL implementation projects.

n/a

Monitoring

- Describe the project monitoring that will be implemented as part of this project including:

    - List the questions the monitoring program is designed to answer.

The monitoring program for the multi-phased, multi-year Aspen Community Restoration Project has three independent emphasis areas:

- Best Management Practices (BMPs),
- Effects of pile burning in aspen, and
- Wildlife community response monitoring.

Best Management Practices (BMPs) monitoring will be conducted for mechanical treatments in the R11 project. The monitoring question is: *"Were soil and water quality protection BMPs implemented as planned/designed?"*

Pile burning in aspen monitoring will be conducted as part of the Round 11 project. The monitoring question is: *"Did the pile burning affect aspen regeneration?"*

Wildlife community response monitoring will be conducted as part of this Round 12 project, if funded for full duration (four years treatment, including monitoring and reporting). Wildlife community response, pre-implementation monitoring was completed in earlier project phases (2004-09). Post-implementation monitoring will wait for approximately five years from the time that a sufficient number of stands have been treated, to let the stands respond (e.g. grow and expand) before assessing wildlife community response. Partnerships will be sought with previous partners in such work in the Basin, to continue monitoring beyond the duration of this project. The monitoring question is: *"Were the desired aspen community improvements and habitat conditions reached?"*

- Describe any coordination with, or input from, the science community on monitoring and adaptive management that has occurred on the development of this nomination and what changes (if any) to the project were made as a result of this input.

As we are following established protocols (developed by Region 5 USFS and State Water Board), no input was solicited or received for BMP monitoring.

Monitoring protocols to study the impacts of pile burning in aspen were developed by Humboldt State University, with input and review from the LTBMU. The size and distribution of slash piles were affected as a result of the collaboration.

Texas A&M, University of Arizona, and University of Nevada at Reno completed pre-implementation wildlife community monitoring, under contract with the LTBMU. Current science suggests that conifer-free aspen stands provide the greatest benefit to wildlife; Round 11 thinning prescriptions are incorporating these findings to the extent feasible (with consideration for old forest trees, sun scald, and wind-throw) and the thinning prescriptions generated by Round 12 would do likewise. Coordination with the science community to assess wildlife community response would begin to occur after a sufficient number (sample size) of treated stands have had time to respond (about 5 years).

- Describe the methods and strategies (i.e. monitoring, research, or both) that will be used to verify whether the project goals and objectives have been met? (*Note: A detailed monitoring plan and/or research plan is not required, however, enough detail must be provided to allow someone that is unfamiliar with the project to understand and evaluate the proposed methods and strategies.*)

BMP monitoring will be conducted using a BMP implementation checklist. The BMP checklist includes all BMPs identified in the NEPA document for this project and evaluates whether the BMPs were implemented as described.

Pile burning in aspen monitoring will include quantification and evaluation of pre-and post-treatment conditions such as tree size and location, stocking (e.g. basal area and number of trees), tree species composition, ground cover vegetation, and environmental data (topography, proximity to watercourse, etc.). Hemispherical photographs will be analyzed for stand conditions such as canopy cover and total growing-season light reaching the understory, which are correlated with regeneration. Existing regeneration will be assessed so that it can be separated from regeneration arising after/in response to restoration treatments.

- Describe whether the monitoring or research associated with this project fits into or is part of a larger monitoring or research program.

The BMP monitoring for this project is very basic and not part of a larger program.

The monitoring of pile burning in aspen fits into, and has been coordinated with, the larger picture of SEZ and upland pile-burning monitoring across the Lake Tahoe Basin.

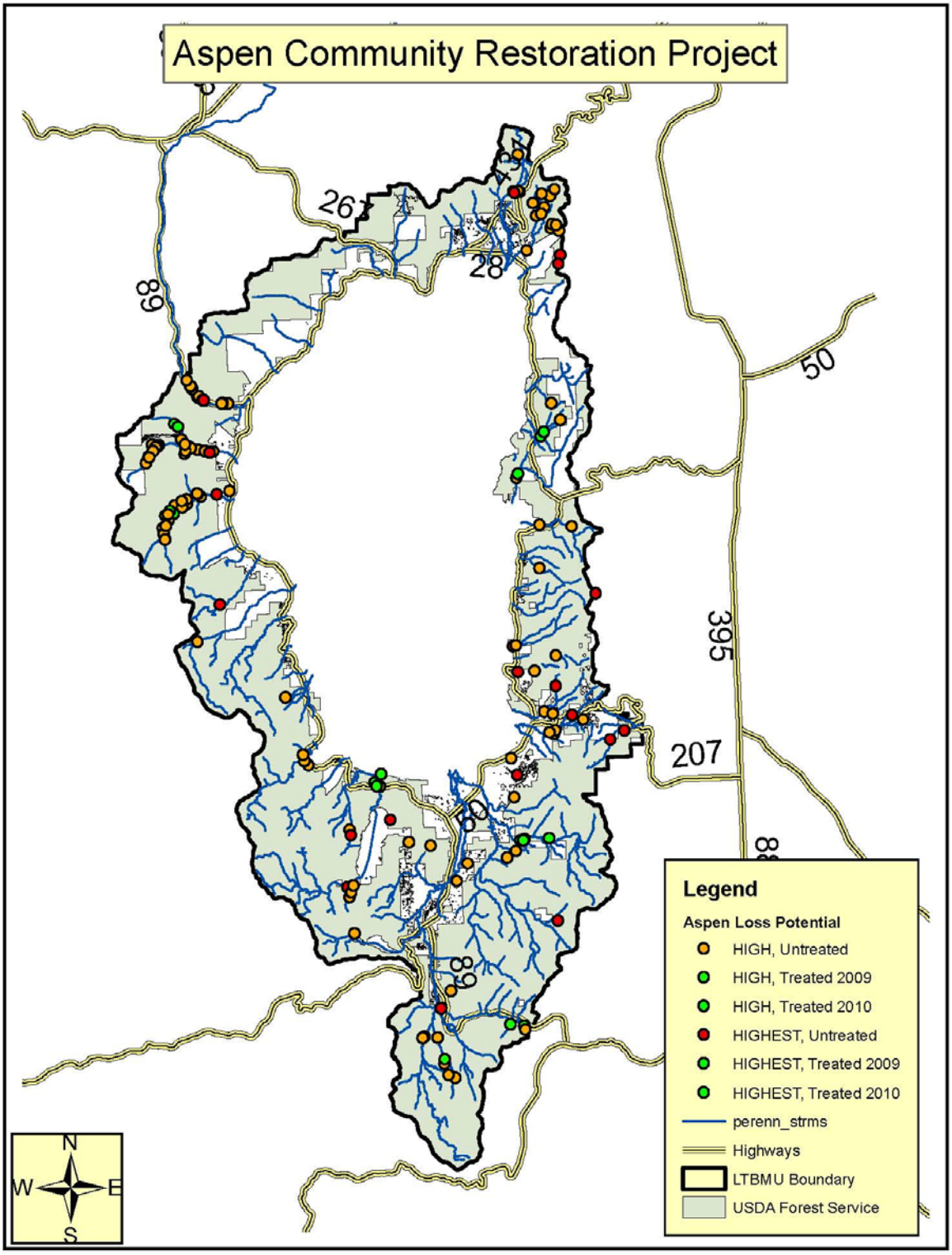
Wildlife community response, pre-implementation monitoring was completed in earlier project phases (2004-09). Post-implementation monitoring will complete the data needs to produce a comparative analysis of "before" and "after" habitat conditions, stand vigor, and species richness.

- Describe how information from the monitoring and/or research will be used to improve the continued performance of the proposed project or future similar projects.

Project-level monitoring results will be used in the short term to determine whether maintenance or corrective actions are needed to meet design goals and specifications. Project-level monitoring results will be periodically assessed in a comprehensive evaluation of results to evaluate overall success of design approaches with the Biological Sciences program. BMP information collected will continue to be used to install new or additional BMPs, or redesign BMPs to be more successful.

The monitoring of pile burning in aspen will continue to be part of an adaptive management framework that will inform and improve the continued performance of this Aspen Community Restoration Project and similar projects west of the Rocky Mountains (i.e. those with similar forest composition, aspen stand distribution, wildland fire regimes, and site conditions). Information from this monitoring will influence project aspects such as the proximity of piles to aspen and the maximum size of slash piles in future restoration stands.

Attachments
(if applicable, include 8 ½ X 11 map depicting the project)



Appendix B-8

LAKE TAHOE RESTORATION PROJECTS
ESTIMATED NECESSARY EXPENSES & KEY MILESTONE DATES

Project Name:	Secondary Project - Aspen Community Restoration Project	Agency:	USFS LTBMU
Prepared by:	Stephanie Coppeto, Ecosystems Scott Parsons, VUFF	Phone:	530-543-2679 530-543-2687
SNPLMA Project #:		EIP #:	10080

Identify estimated costs of eligible reimbursement expenses:

1. Planning, Environmental Assessment and Research Costs (specialist surveys, reports, monitoring, data collection, analysis, NEPA, etc.)	$ 48,440	7	%
2. FWS Consultation – Endangered Species Act	$		%
3. Direct Labor (Payroll) to Perform the Project	$ 191,000	27	%
4. Project Equipment (tools, software, specialized equipment, etc.)	$ 2,000	<1	%
5. Travel (including per diem where official travel status required to carry out project, such as serve as COR, experts to review reports, etc.)	$ 2,000	<1	%
6. Official Vehicle Use (pro rata cost for use of Official Vehicles when required to carry out project)	$ 2,000	<1	%
7. Cost of Contracts, Grants and/or Agreements to Perform the Project	$ 384,000	52	%
8. Other Direct and Contracted Labor: Agency payroll for the Contracting Officer to do project procurement, COR, Project Inspector, Sec. 106 Consultation if required, NEPA Lead, Project Manager, Project Supervisor, and subject experts to review contracted surveys, designs/drawings, plans, reports, etc.; Also covered is the cost to contract for a Project Manager and/or Project Supervisor if contracted separately from other project contract(s)	$ 20,000	3	%
9. Other Necessary Expenses (see Appendix B-11): Indirect costs associated with implementing a project, such as support services, budget tracking etc.	$ 88,560	12	%
TOTAL:	$ 738,000	100	%

Estimated Key Milestone Dates:

Milestones/Deliverables:	Date:
Prepare field work; advertise & award contracts	8/1/2012
Complete hand-thinning contract work, continue admin & inspection	12/31/2014
Complete pile burning work	10/15/2016
Complete post-implementation monitoring & Final Report	11/30/2016
Final Completion Date:	12/31/2016