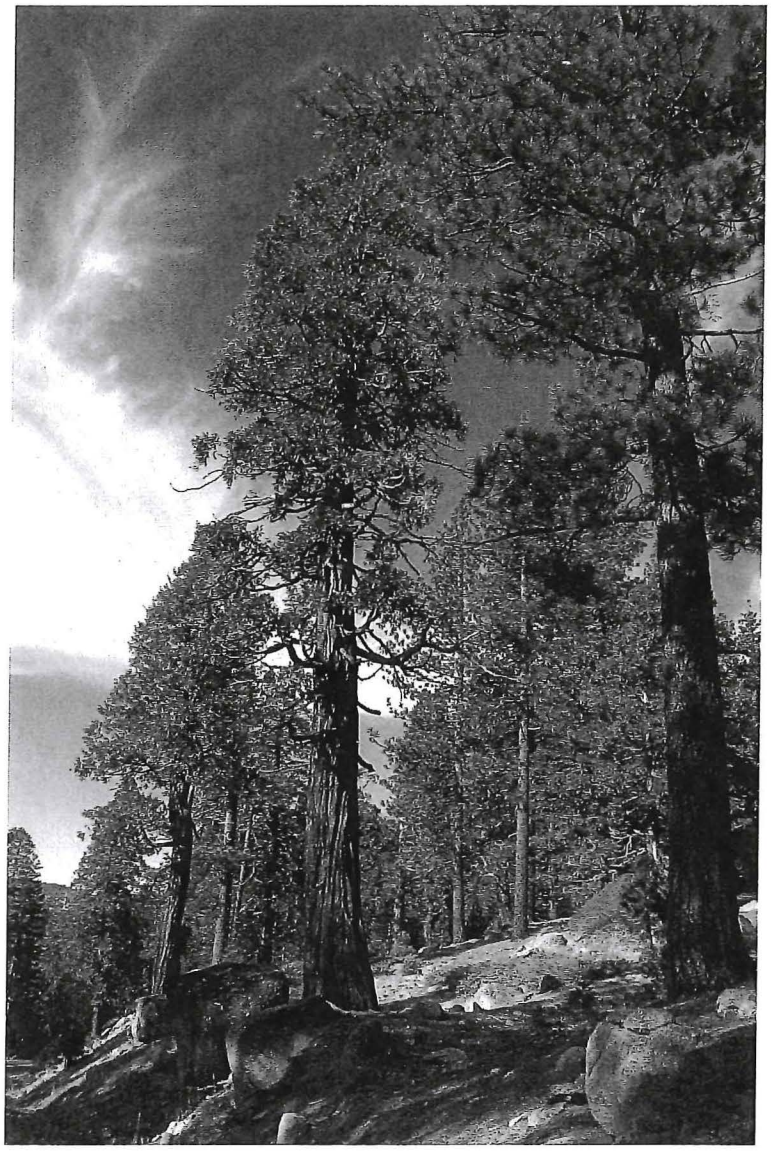

White Paper

Community Stewardship Project Proposal

November 21, 2011

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Introduction

It is with great enthusiasm and appreciation that we, the Community Stewardship Project Contributors, present this white paper to Susan Skalski, Stanislaus National Forest Supervisor, and her team, as the first step in co-creating a lasting, meaningful and cohesive partnership with the United States Forest Service and many communities of interest within Tuolumne County, California.

Actually, the original idea came from USFS Regional Forester Randy Moore, on a visit he made to the Stanislaus National Forest with US Congressman Jeff Denham in the Spring of 2011. Mr. Moore suggested that if an integrated plan were to be written for the Stanislaus National Forest, similar to that of the Weaverville Community Forest Stewardship Project, he would not only endorse it, but would find the funding necessary to implement the proposal. Congressman Denham backed this idea, sending two of his staff to actively participate with the group of white paper contributors.

The group of contributors met on five separate occasions in the late Summer and early Fall of 2011 to discuss and record their thoughts on how to create a cooperative effort to enhance, improve, restore and sustain a portion of the Stanislaus National Forest through strong partnership with the local community. Lively discussions ensued that enabled the group to, among other things: set objectives, take note of known challenges, brainstorm solutions, identify community partners, define performance measures, reference other similar projects and studies, identify critical gaps and create an action plan.

It is understood that this document outlines the framework from which a larger group of more diverse stakeholders can hone a mutually agreeable Community Stewardship Plan, at some point in the near future. The expectation is that the original intention and tenor of this proposal will not be lost or diluted in the process of inclusiveness, only enhanced and made stronger through optimal comm"unity" collaboration.

Executive Summary

Before you is a blueprint and potential future model others in rural areas may want to follow for a sustainable whole-community stewardship project with the United States Forest Service that addresses local needs with balanced and integrated solutions. This proposal is designed to promote seven objectives in its scope of work that will benefit many facets of the forest and community in terms of *improving* the following:

- Health of the forest, meadows, streambeds
- Water quality
- Water supply
- Hazard mitigation, fire safety
- Local job market and economy
- K-12 school attendance
- Protection of resources

The funding of this project would originally come from a source other than the Stanislaus National Forest's existing budget. This would essentially become a "goods for services" stewardship project with a regenerative funding where forest treatment and timber thinning pays for restoration projects and other services within the forest. A suggested model to follow could be that of the Healthy Forest Restoration Act whereby the US Treasury General Fund dedicates funding regionally (to the San Francisco region) which then is appropriated to the Stanislaus National Forest for this specific project. Subsequent profit from revenue generating activities of the project are cycled back into the Stanislaus National Forest for other activities as outlined in the plan. Or, there may be other models that would work similarly, at the discretion of the USFS Regional Forester, Region 5.

The Tuolumne County Office of Education is the point of contact for the group that formed the proposal as outlined herein. It is suggested that should the plan be approved by the USFS, the County Schools Office will remain at the helm of the project for the community. Although the local schools may become a future benefactor with the successful outcome of this plan, the County Schools Office of Education is well respected, is also considered by most to be a neutral party, and is one in which all participating organizations already do work well on a collaborative basis.

This is a local project, with local input and support. It addresses multiple benefits, solves multiple challenges, limits risk, provides mitigation and environmentally beneficial measures, is pro-active and action-oriented. Thank you for your interest in making this project a reality!

Project Description

The mission of the United States Department of Agriculture Forest Service (USFS) is "to achieve quality land management under the sustainable multiple-use management concept to meet the diverse needs of people". Healthy forests are a prime objective. Exactly how the healthy forests are defined can depend upon the constituency queried. Because of discrepancies found in various perceptions, it is the intention of this group to rely upon the best science available for Sierran forest management. Currently, that science can be found in the March 2009 PSW-GTR-220 (GTR- 220), also known as: *An Ecosystem Management Strategy for Sierran Mixed-Conifer Forests.*

The mission of the Community Stewardship Project group is to develop, implement and successfully consummate a long-range integrated Community Stewardship Project that assists the USFS in accomplishing their objectives in tandem with satisfying local community goals, optimizing outcomes for everyone. The solutions (goals and objectives) are achieved by resolving some very notable challenges.

Limited budgets, potential gridlock by various interest groups when it comes to agreement on forest management practices, the threat that public land wildfires pose to nearby community safety, shortage of future water supply and extreme competition for existing supplies, a high level of risk associated with water quality, erosion, greenhouse gas emissions and habitat destruction as the result of a devastating wildfire ...these are all elements of the problems we face today when navigating through the various challenges in attaining the goal of healthy forest management.

Compounding these elements are a depressed local, state and national economy, a high local unemployment rate, diminishing school enrollment, and local forest market businesses that are not being utilized to their full potential. Therefore, an effective Community Stewardship Project for the Tuolumne County area must satisfy many needs and resolve or overcome numerous challenges to be considered worthwhile.

Here is what the Tuolumne Community Stewardship Group would like to propose:

> *A 10 year project that utilizes the treatment of healthy heterogeneous forest thinning practices for up to 55,000 acres of the Stanislaus National Forest, not currently under*

a plan, preferably in the MiWuk Ranger District, to reduce fuel loading and overgrowth, mitigate the risk of catastrophic wildfires, increase utilization of renewable resources and forest by-products which ultimately improves the following:

1. *Health of forest, meadows & streambeds*
2. *Water quality*
3. *Water quantity*
4. *Habitat for -----*
5. *Local job market, the local economy*
6. *K-12 school attendance*
7. *Fire safety and protection of valuable resources*

Project Objectives

Below, are the seven objectives this project proposes to address:

1. Heterogeneous Forest Thinning Practices

It is recommended that this project follow the GTR-220, a summary of what is considered by many the best current research for mixed-conifer management, as its guide for forest thinning practices. This report concludes that "the risks of carefully considered active forest management are lower than the risks of inaction and continued fire suppression in the Sierras' fire-prone forest types" and "recognize(s) the need to address specific management priorities (e.g., sensitive species) while developing practical and ecologically sound silvicultural guidelines."

Further, in this report, fire was regarded as the most important process influencing ecosystems, and fire behavior was itself, influenced by topography. The suggestion was that forest managers could use localized site conditions and landscape positions as guides for varying treatments which could be based upon flexible thinning guidelines. The conclusion: forest thinning strategy could be based on "emulating forest conditions that would have been created by low-intensity, frequent fire, throughout the forest matrix."

A Forest Foundation document entitled *Protecting Communities and Saving Forests,* reports that "the problem is that many forests are too crowded with trees." This publication goes on to say that history tells us, in the Sierra Nevada, about 50-70 trees once stood per acre. Now there are 300-500 trees per acre and occasionally close to 1000 trees per acre in some sections of our forest. Unnaturally dense forests then become a

prescription for devastation of ALL habitat, threatening not just natural resources and the delicate ecological balance, but the entire community in terms of its very existence.

Additionally, the author, Thomas M. Bonnicksen, Ph.D., goes on to state "catastrophic wildfire has become a significant source of greenhouse gas emissions. If California is serious about reducing carbon emissions, it must address its overgrown forests. Policies that encourage forest management to reduce emissions from wildfires and encourage the use of clean energy from wood and green building products from sustained forests must replace the hands-off approach that has put our forests, lives and climate in jeopardy."

This objective aims to treat up to 55,000 additional acres within the Stanislaus National Forest in a ten-year period, over what is already under a current USFS work plan. The project would begin slowly, with only 1,000 acres of treatment in the first year, and adding another 1,000 acres each additional year. Other elements of this objective would include mimicking nature in the use of heterogeneous treatment, moving away from the past practice of homogeneity. It is also the intention of the Community Stewardship Project group to reduce fuel load in the treatment areas to the degree at which the Fire Regime Condition Class (FRCC) could be reduced from a rating of 3 to 2 by the end of the ten-year period.

The Community Stewardship Project group has resolved that responsible forest thinning as described in the GTR-220, should become the primary focal point from which all the other project objectives radiate.

2. Increased Water Supply

Forest thinning practices, whereby more snow hits the ground rather than melting off of the forest canopy, meadow restoration projects and streambed restoration projects may potentially add to base flow in terms of enhanced water quantity. There is much to be researched here in order to form a cohesive plan that is measurable and quantifiable.

A paper presented at the California Watershed Management Conference in Sacramento, in 1986 entitled: *Water Yield Opportunities on National Forest Lands in the Pacific Southwest Region,* by John R. Rector and Lee H. MacDonald made the following points:

> The Organic Act of 1897 made the first reference to water as a resource on National Forest lands when it said that securing

conditions of favorable flow was one of the principal reasons for establishing National Forests.
Vegetative manipulation activities, such as forest thinning/timber harvesting will generally decrease evapotranspiration and thereby increase runoff.

Water yield from National Forest lands in 1986 was typically regarded as a byproduct of other forest management activities and influencing water yield had not at that time been a specific objective of management actions.

Water supply is a concern of most Californians and therefore it is appropriate to assess water yield augmentation opportunities in the National Forests to determine if managing for water yield could be a partial solution to future water supply issues.

According to another paper presented at the same California conference in 1986 entitled: *Water Yields from Forests* by Robert R. Ziemer, stressed the following:

Approximately 70% of California's water flows from the coniferous forests, which occupy about 21% of the State's land mass.

Although it has been proven that vegetation treatments can and do increase water yield on small experimental watershed areas, there is less assurance that such yields can be observed at downstream points of use.

Scale is an important problem in water yield enhancement.

If multiple use and sustained yield guidelines are followed, the estimate is that increased water yield would be about 1% above current levels.

It may be technically, politically and socially possible to treat small watershed areas for increased water yields, but large-scale projects were not viewed as realistic.

From the Sierra Nevada Conservancy 2010-11 Annual Report, we find more compelling local information. This report notes that the Sierra Nevada covers 25 million acres, which encompasses 25% of California. Further, this document goes on to state that the Sierra Nevada provides California with up to 2/3 of its water. And, in the *Status of the Sierra Nevada*, a 1996

summary of the Sierra Ecosystem Project Report, under the heading of Ecosystems-Based Revenues, we learn that they consider water as "the most valuable commodity, followed by timber, livestock, and other agricultural products, based on gross revenues."

In a recent long-term study, published in 2003 by the First Interagency Conference on Research in the Watersheds, researchers investigated the effects of forest management on streamflow, sedimentation and erosion in the Caspar Creek Watershed area of California's north coast. 21 stream sites were gauged. Between 1971 to 1973, 65% of the timber volume was selectively cut and tractor yarded along the South Fork of Caspar Creek. Between 1985 to 1992 about 50% of the North Fork of Caspar Creek was harvested, mostly as cable-yarded clearcuts. Three unlogged tributaries served as controls. The conclusions drawn from the Caspar Creek study did document increases in peak flows, and also increases in suspended sediment loads and erosion using two very different harvesting methods. Changes in "basin wetness and canopy interception" explained why there was post-harvest flow increases. As the forest grew back, the stream flow increases diminished and returned to pre-harvest flow conditions after about 12 years.

Note: It is *not* recommended that the Community Stewardship Project yield the volume of timber that the Caspar Creek study harvested. But the suggestion and proposal is that thinning the forest in a selective and heterogeneous manner should net some increase in stream flow, thus producing an increase in water supply for a given amount of time.

In a 2009 discussion paper published by the *British Columbia Journal of Ecosystems and Management* (JEM), entitled "An Overview of the Effects of Forest Management on Groundwater Hydrology" the authors reviewed the potential effects of forest management practices such as timber harvesting, reforestation, road building, etc on groundwater hydrology. Although not much has yet been published on this subject, it was learned that such forest management activities do have some effect on groundwater systems. In this paper it was noted from two earlier studies that groundwater: 1) "contributes to runoff generation from headwater hillslopes", by Moore and Wondzell, in 2005; a 2) "provides water supply as baseflow during the low-flow season", by Pike and Scherer, in 2003; and 3) "when groundwater regime is impacted, so is streamflow", Pike and Scherer, in 2003. This discussion paper noted that in every hydroeologic landscape identified, from wet, steep watersheds to drier climate and lower relief terrain, a rise in water table can be expected to follow harvesting practices. Therefore, the possibility of increasing overall water flow through

the use of carefully executed forest management practices should include groundwater hydrology.

Finally, a pilot project currently underway by the Sierra Nevada Research Institute (a collaborative effort between UC Merced, UC Davis and UC Berkeley) is showing a direct correlation between forest management practices and water supply according to Roger Bales, Director of the Institute and UC Merced Professor. He stated that 'first-order estimates based on average climate information suggest that in the Sierra Nevada, treatments that would reduce forest cover to 60% of maximum levels across a watershed could increase yields (of water) by about 9%." Regarding meadow restoration, Bales said, "restoring a meadow from dry to wet vegetation should increase water use by vegetation, which would reduce overall stream discharge. However, raising the water level in the meadow will also increase storage, which will allow for delayed discharge of water into the stream." From all of the research as noted above, it stands to reason that carefully designing project parameters to capture more water for downstream use is not only important, but an essential element of this project. This particular objective is filled with complex issues and many qualifiers, but one in which new information is emerging that may benefit this project, if approved to move forward.

3. Enhanced Water Quality

It is this group's intention to show that streambed and meadow restoration in the forest can lead to measurable differences in water quality.

According to the Clavey River Watershed Assessment from March 2008, stream channels are a key structure within ecosystems and their ecological influence is substantial. The pattern, profile, and dimensions of stream channels affect many ecosystem components and processes including water quality. A report to the Clavey River Ecosystem Project Steering Committee on the river watershed's existing conditions lists potential restoration sites and treatments for streams and meadows, including channel, soil, vegetation and other treatments. Potential sites range from 100 feet to approximately one mile with one or more treatment prescriptions. This group recommends reviewing the Clavey River Project study in depth to glean wisdom from their experience, when it comes time to formulate the assessment and plan for enhancing water quality through streambed and meadow restoration in the Stanislaus National Forest.

The Forestland Steward, a publication produced under a grant from the USDA Forest Service, in their Fall 2011 Report, states that much of our clean water originates from mountain meadows. It goes on to say that

California has roughly 300,000 acres of meadowland located primarily in the Sierra Nevada and Cascade mountains. Further, about 40-60% of Sierra Nevada meadows are considered degraded, and much of this damage is from past land use practices. *The Forestland Steward* mentions that "meadows appear to respond quickly to restoration efforts" and "once restored, maintenance costs are low". So, it makes sense to propose meadow restoration projects as one way to help improve water quality, which also works in combination with streambed restoration projects. One of the Feather River Coordinated Resource Management projects is the Upper Dotta Canyon Restoration Project. In March of 2011 they published a Water Resource Effects Assessment. This document stated that their first objective of the Streamside Management Zone Plan is to maintain or restore water quality (on National Forest lands) to a degree that provides for stable and productive riparian and aquatic ecosystems. Water quality parameters that apply to these ecosystems include timing and character of temperature, sediment and nutrients. Stream channel and meadow improvements have been proposed to improve water quality, among other enhancements on-site and downstream. It is hoped that some of the restoration work conducted in the Upper Dotta Canyon Restoration Project may emerge and prove useful for framing the project we are proposing, where water quality is concerned.

Another source of information regarding water quality can be found through the United States Environmental Protection Agency's WATERS (Watershed Assessment Tracking for Environmental Results) program, via their national water quality assessment database.

It is proposed that the Community Stewardship Project rely on current studies, tools and assessments, such as the ones mentioned above for useful guidance in the development of the plan to measure and improve both water quantity and enhance water quality.

4. Restoration Projects

Active ecological restoration, as cited in the Northeast Washington Forest Vision 2020, (and also referenced in the Collaborative Forest Landscape Restoration Project Glossary) is "the process of assisting the recovery of resilience and adaptive capacity of ecosystems that have been degraded, damaged, or destroyed. Restoration focuses on establishing the composition, structure, pattern, hydrologic function and ecological processes necessary to make terrestrial and aquatic ecosystems sustainable, resilient, and healthy under current and future conditions."

These types of restoration efforts will enhance sensitive threatened and endangered species habitats. The restoration of specific species habitats through high country meadow and streambed restorations is an integrated component of this proposal that goes hand-in-hand with water supply and quality objectives, as noted above. This objective will be scaled according to what current ecological studies indicate.

State research universities could be utilized to support this objective in the assessment phase and monitoring process. Students from the local high schools, community college and possibly nearby state universities could benefit from their involvement in these educational opportunities. Documentation will be an important component to this objective and to the water quality and supply objectives.

The restoration projects chosen will obviously need proper vetting with those who have experience in this arena.

5. Increased Local Employment

Creating forest treatment programs will create more jobs in the community. Beginning with the first year's treatment of 1,000 acres, a crew of 15 new positions would be created for timber workers who would work directly in the forest, and another 30 spin-off jobs would also be created as a *very conservative* estimate. Over a ten-year period, *at least* 450 additional jobs would be created, with a new crew added each of the ten years.

According to Larry Cope, Economic Development Authority Director for Tuolumne County, approximately 250 jobs equals 1% of the unemployment rate. The desire for this objective is to decrease the local unemployment rate at least 2% over the ten-year period as a direct result of creating jobs through forest-related activity. In order for this plan to be effective, there would have to be involvement by other organizations to provide training to those who are still unemployed beginning in year two or three through the Workforce Investment Program, Welfare-to-Work, and Columbia Community College training programs. It is the hope and intention to draw folks from both inside and outside of the area to train for these jobs, creating a ready, willing and able workforce to support forest activities related to this project. Developing a trained and locally available workforce is an important aspect of this project, for it to have a statistically significant impact on local employment figures.

The Economic Development Authority will monitor the results of the forest-related job hiring process to draw conclusions on how it directly affects the County's unemployment rate.

6. Increased School Attendance

An increase of 45 forest-related jobs per year will have an impact on our local school attendance figures. For the most part, folks hired for these jobs are able-bodied, young, and married with families. It has been postulated that there are 1.5 children per new worker hired, which equates to 67.5 newly enrolled children per year. Since the spin-off jobs can be as high as 7-8 times that of those hired to work directly in the forest, rather than the 2 times given in the example above (15 forest workers + 30 spin off forest –related jobs = 45 new jobs created a year).

The overall objective is to increase school enrollment through the addition of at least 450 new jobs over ten years, increasing school enrollment by .75% per year, or 7.5% total in the ten-year period.

There have been no previously undertaken Community Stewardship projects this group could find correlating the addition of forest-related jobs with increased school enrollment. This is an exciting component to the project and will be monitored by the Economic Development Authority and the Tuolumne County Office of Education (County Schools) for reporting purposes.

7. Fire Safety and Protection of Resources

Ultimately, this entire proposed project could be distilled down to this very important objective. The more densely crowded the trees in the Stanislaus National Forest, the more risk there is of an all-consuming, unnaturally severe wildfire that wreaks havoc on everything we all hold sacred: a beautiful forest teaming with an environmentally-balanced habitat, naturally enhanced water quality and run-off, which all contributes to supporting the nearby local economy. A catastrophic wildfire ends all that. Period.

"California faces a forest health and wildfire crisis", Dr. Bonnicksen reports. Forests on public lands "have grown dangerously overcrowded due to a century of fire suppression and decades of restricted timber harvesting". Basically, Dr. Bonnickson's premise is that low-intensity fires were a natural occurrence for thousands of years, which left small openings where the younger trees had room to grow. These small fires kept the State's forests open with various trees and shrubs of different sizes and ages,

which kept the possibility of a large devastating fire as an infrequent possibility.

Forest overcrowding has significant risk implications to the health and safety not only of the forest, but to nearby communities nestled in or nearby should they catch fire. Property and lives are lost. The effects of such a wildfire are equally catastrophic to wildlife, plants and animals, all aspects of the environment. Streams dry up, or are totally degraded as the result of high intensity fires, and epic insect infestations proliferate. Air quality is greatly diminished. Well-intended policies over the last decade have played a role in creating this untenable and now severely risky situation in our local forest.

The costs of dealing with the aftermath of such devastating wildfires is overwhelming when compared to the relatively small cost to treat the forest, restoring it to a more 'natural' density level as experienced historically. Treatment costs can average as low as $1000 an acre, compared to more than $5000+ an acre for *firefighting services alone*. If one looks at *just* the cost of wildfire firefighting, and not the total expense of reparation after such a catastrophic event, there should be no doubt about the direction we need to take. The trend speaks for itself: as Cal Fire/CDF firefighting costs have risen in California to $1.7 billion during the period of 2000-2008 compared to almost $63 million from the 1990-1995 time period, timber harvesting has plummeted, dropping nearly 90% between 1990 and 2007.

More trees per acre means more fuel and hotter fires. This is the risk we have unwittingly taken on from past policies. But we don't have to live with the threat of a catastrophic wildfire just because we live close to the National Forest. And we also don't have to go to the other extreme of clear-cutting as so often the general public thinks when 'timber treatment' or 'forest management practices' are suggested. There is a middle way which significantly reduces the risk of destruction, as noted above and in the first objective. Fire safety is a worthy goal in which to invest.

In partnership with this objective is the issue of access to the forest. Better access equals improved opportunity to treat forestlands, conduct streambed and meadow restorations, etc. Improving road maintenance and/or extending roads into the forest would allow better access for emergency vehicles, improved access to waterways, riparian habitat and protection of many resources. Maintenance of roadways could include fixing past problems that have caused erosion, replacement of culverts that are too small, and so forth.

Because of the US 10th Circuit Court of Appeals ruling handed down on October 21, 2011 upholding a decade-old (roadless rule) law that prohibits new road construction or timber harvesting on tens of millions of National Forest acres, it is unknown how this might impact the plans and objectives laid out in this document. It has been noted by the local newspaper that 236,000 acres of the 900,000 acres Stanislaus National Forest are designated as 'roadless'.

It is not the intention of this project to create roads in current roadless or wilderness areas that would impair or threaten the wild and pristine areas of the Stanislaus National Forest or in any way harm the delicate ecosystems found therein. As is all things, a balanced approach is best whereby road extensions, where deemed necessary, could be carefully and 'consciously' built. Maintenance or repair of existing roads would be an important component as well.

Suggested Partners

This is a 'suggested list' of partners for our area that may want to join in this collaborative community-oriented effort, but by no means an exhaustive list. Tuolumne County has long enjoyed a collaborative spirit in working toward whatever goals it sets out to accomplish. This has taken the form of neighbors helping neighbors in benefit drives for those in need; to the City of Sonora and the County joining in a Joint Powers Agreement to form an effective Economic Development Authority; to forest-related efforts such as the Granite Stewardship Project, the Clavey River Watershed Project, or the Collaborative Forest Landscape Restoration Act program now underway, to name just a few. We *are* a community that joins together, when called. Therefore, the Community Stewardship Project contributors would like to invite participation from the following groups to join with them and the USFS in this community-wide venture:

- Local Chambers of Commerce, Visitor's Bureau
- Business Council
- CSERC and/or other environmentally conscious groups
- TuCARE
- Research Institutes (e.g.: Sierra Nevada Research Institute)
- Pacific, Gas and Electric Company
- Water and Irrigation Districts
- City and County Governments, Special Districts, Hetch Hetchy
- Me-Wuk Tribe
- Fish and Wildlife
- All forms of Media
- Local School Boards
- Columbia College, Stanislaus State University, UC Extension
- Service Clubs
- Farm Bureau, Farms of Tuolumne County, Farm Advisor
- Cal Fire, Fire Districts, Fire Safe Councils
- Employment Agencies, Job Connection

How this Project Will Benefit Others

The suggested objectives of this Project will benefit others in the following ways:

USFS:	Assists in the USFS mission
Fish and Wildlife Environmental Groups:	Provides for a healthier habitat, reduces carbon footprint and improves water resources
State Government:	Reduces overall cost of firefighting for this area
Federal Government:	Efficiency of funds; less reliance on FEMA due to a proactive approach in the forest
Local Community:	Job creation, new training opportunities, improved economy, retention of youth
Education:	Increased student services and educational opportunities due to increased revenue
Water Agencies:	Water reliability, increased supply, enhanced quality
Local Businesses:	Opportunities for growth, expanding economy
Regionally:	The intention for this project is to be a blueprint for others to follow on a regional level; also increased air quality regionally

Community Stewardship Action Plan (Draft)

The next several pages contain a chart illustrating the seven objectives as outlined under the Project Description section of this document. It is important to note that the Community Stewardship Project contributors feel strongly that this project is meant for 'action', and as such it is not simply a call for another study or a roundtable discussion. The impetus here is for action, and sooner, rather than later. It is understood that there will be certain procedures that will take time such as the NEPA process. What this group wants to stress is that there is a sense of urgency about this project. The time is *now* to create executable plans leading to accomplishment that will benefit all.

The following Community Stewardship Action Plan is a suggested start, with objectives, descriptions of actions, performance measures, timeline, and a value or cost benefit associated with each objective. This is by no means a comprehensive list. Missing, are such items as tasks, expected outcomes, which groups will perform each step, etc. This plan merely serves as a starting point, from which to broaden and clarify how this project will be executed.

Objective	Action/Description	Performance Measure	Timeline	Value/Cost Benefit
Forest Thinning Practices by following the latest science, such as the GTR 220 (Ecosystem Mgt)	• Reduce fuel load, over-growth, forest stocking reduction, etc. • Moving from homogeneity to heterogeneity w/ fire breaks. Mimic nature.	• 1000 acres p/yr 1st yr to a max of 10,000 acres for the year by year 10 – in addition to the USFS' ongoing program. Up to 55,000 acres total in 10 years. • By yr 10 reducing FRCC 3 to FRCC 2 in areas of acres treated per year. • Wildland Urban Interface recognized as an area of emphasis.	10 years	Revenue neutral moving to revenue positive by 10 year period-end Increased potential for greater biodiversity from the thinning of a too densely wooded forest
Increased Water Supply	• Through forest thinning • Increased 'on ground' snow pack • Meadow restoration • Increased streamflow from streambed restoration	• Water quantity increased by 2000 acre ft per year per 1000 acres treated (forest thinning) • Meadow restoration number of acres treated TBD to enhance water quantity. • Increased streamflow per acre feet or cubic feet per second	10 years	Value of each additional acre foot of water produced is equal or greater than what the State or Federal water contractors pay. On the average it is $600 an acre foot.
Improved Water Quality	• Streambed restoration • Fire prevention measures	• Cost of not mitigating for a devastating fire in the Stanislaus NF. Example: Santa Ana Watershed Authority costs = $450M to mitigate their fire's effect on water quality and repair of water delivery infrastructure. • Measurement of decrease in turbidity per acre foot.	10 years	Like an insurance policy which limits liability. Cost avoidance example for Hetch Hetchy water system: 15,000 acre ft per year x an increase of $1,200 per acre ft more in cost = $18M increase in costs plus dredging costs and economic losses to recovery from devastating fire.

Restoration Projects (with Biological Benefits)	• High country meadow restoration 5000' – 8000' elevations • Streambed restorations (as above)	• Total number of meadow acres improved and/or restored for the 10 yr period TBD • Linear feet of streambank protected and restored per year for the 10 yr period TBD.	10 years	Restoration of specific habitats to be measured and noted
Increased Local Employment	• Reduce local unemployment by offering more forest-related jobs as we increase acres treated • As more positions are filled, begin local training programs to enhance skills of those who are still unemployed through Workforce Investment Program (WIA), Welfare-to-Work (WtW), Columbia Community College classes, Junior Achievement, etc.	• Reduction of current unemployment rate of 12.7% (Aug 2011) by at least 2% over the 10 year period, strictly due to forest-related job creation. • 1% unemployment rate = approximately 250 jobs. • 450 new jobs created over the 10-year period. • Number of new local persons trained and hired to serve in forest-related jobs to be recorded.	10 years	The value is in reduced unemployment which helps lower poverty levels, increase school enrollments and provide future jobs for our community. This strengthens other local businesses, as there is more local spending, which helps the local economy survive unpredictable regional and national fluctuations.
Increased School Attendance (ADA) in County Public Schools	• Increase forest jobs by 15 positions per 1000 acres treated, including 30 spin off positions created for a total of 45 new jobs created per 1000 acres treated. Supposing 1.5 children per new hire x 45 positions = 67.5 new enrolled children per year. Potential of 675 new school children in 10 years	• Increase school enrollment by .75% per year and/or a 7.5% increase over the 10 year period.	10 years	Average revenue per child in 2011 is $6000 for the schools. $6000 x 67.5 children = $405,000 per year in new revenue; $4,050,000 potential new revenue in a 10 year period.

Fire Safety and Protection of Resources	• By way of improving road maintenance, access for emergency vehicles, improved access to waterways, culvert maintenance/replacement, erosion control, riparian habitat/protection of species	• Increase forest road access & maintenance by improving or adding 10 miles of road per year or a total improvement or addition of 100 miles of road in the 10 year period. • Number of smaller culverts changed out for larger ones over the 10 yr period TBD.	10 years	Activities enhance the value of water quantity & quality; the maintenance/extension of roads controls erosion & limits damage to habitat; allows for better access to waterways various restoration & various projects. The value = resource protection via mitigation. The cost of 'just fighting' a wildfire is $5000 p/acre – not including the huge restoration costs. Treatment is only $1000 p/acre. Cost avoidance is $4000 (firefighting cost only.)

Conclusion

This Community Stewardship Project offers many practical solutions to minimize the threat of catastrophic wildfire, enhance biodiversity, protect or improve water and air quality, improve water flow, create jobs thereby improving the local economy, retain students and create more revenue for better local education. It is a project that benefits the whole community, inside and surrounding the Stanislaus National Forest.

We know what will happen if we do nothing, if we don't get involved, if we say, it is not my problem. The consequences are dire. It is not a question of "if" but "when" a catastrophic wildfire in the Stanislaus National Forest will create major disruption, chaos, loss of precious life, property, biological resources and economic strife beyond what we have already experienced. The costs go well beyond mere dollars.

It is time for all of us in the Tuolumne County community to become better educated and join together in creating a higher vision for ourselves rather than opting for the 'do nothing' approach. The inspiration for this project comes from the local community, addresses multiple needs, and will be a model for other rural communities to follow. It can provide a sustainable plan for using funding wisely, which puts profits back into the program and provides our own form of economic stimulus on a local level.

We have the determination, we have a proven track record for inclusionary collaboration, and we have the beginning of a plan that was developed by members of the local community. Only a lingering question remains: "How soon can we get started?"

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