December 5-6, 2012
Caltrans - District 3
Sierra Nevada Conference Room
703 B Street
Marysville, CA 95901

SIERRA NEVADA
CONSERVANCY

December 5, 2012
Board Tour **1:00 – 5:00 PM**
Members of the Board and staff will participate in a field trip to explore issues and activities relevant to the Conservancy's mission in the Central Subregion. Members of the public are invited to participate in the field tour but are responsible for their own transportation and lunch. The tour will start in the parking lot of the Comfort Suites located at: 1034 N. Beal Road, Marysville, CA 95901.

Reception **5:00 – 6:30 PM**
Following the Board tour, Boardmembers and staff will attend a reception open to the public. The reception will be held at Alcouffe Community Center located at: 9185 Marysville Road, Oregon House, CA 95962.

December 6, 2012
Board Meeting **9:00 – 1:00 PM**
(End time of the meeting is approximate)

I. Call to Order

II. Roll Call

III. Approval of September 6, 2012 Meeting Minutes (ACTION)

IV. Public Comments
Provide an opportunity for the public to comment on non-agenda items.

V. Board Chair's Report

VI. Election of a Vice Chair for 2013 (ACTION)
The Board will elect a vice chair to serve during calendar year 2013.

VII. 2013 Board Meeting Schedule (ACTION)
The Board will approve a schedule for Board meetings for calendar year 2013.

VIII. Executive Officer's Report (INFORMATIONAL)
a. Administrative Update
b. Mt. Whitney Fish Hatchery Update
c. CA Bioenergy Action Plan – SNC's Role
d. 2012-13 Grant Program Update
e. Central Subregional Report

IX. Deputy Attorney General's Report (INFORMATIONAL)

X. Forest System Indicators Report (ACTION)
The Board will review the Forest Indicators Report and may take action on the staff recommendation to approve it.

XI. Discussion on Future Proposition 84 Expenditures (INFORMATIONAL)
The Board will review staff recommendations on alternatives for expending Proposition 84 funds that remain after the March 2013 awards.

XII. Updates on Various SNC Activities (INFORMATIONAL).
a. Sierra Nevada Forest and Community Initiative
b. Sierra Nevada Geotourism MapGuide Project
c. Recognition of SNC's meeting in all 22 counties of the Region

XIII. Boardmembers' Comments
Provide an opportunity for members of the Board to make comments on items not on the agenda.

XIV. Public Comments
Provide an opportunity for the public to comment on non-agenda items.

XV. Adjournment

Meeting Materials are available on the SNC Web site at www.sierranevada.ca.gov. For additional information or to submit written comment on any agenda item, please contact Mrs. Burgess at (530) 823-4672, toll free at (877) 257-1212; or via email at tburgess@sierranevada.ca.gov. 11521 Blocker Drive, Suite 205, Auburn CA 95603. If you need reasonable accommodations please contact Mrs. Burgess at least ***five*** working days in advance, including documents in alternative formats.

***Closed Session*:** Following, or at any time during the meeting, the Conservancy may recess or adjourn to closed session to consider pending or potential litigation; property negotiations; or personnel-related matters. Authority: Government Code Section 11126(a), (c) (7), or (e).

Board Meeting Minutes
September 5 - 6, 2012
Mariposa Fairgrounds
Building A – Sequoia Hall
5007 Fairgrounds Road
Mariposa, CA 95338

I. Call to Order

Board Chair BJ Kirwan called the meeting to order at 9:10 a.m. and asked Deputy Attorney General Christine Sproul to administer the oath of office to incoming Boardmembers Barnie Gyant from the U.S. Forest Service, and Este Stifel from the U.S. Bureau of Land Management.

II. Roll Call

Present: Todd Ferrara, Bob Kirkwood, BJ Kirwan, Bob Johnston, John Brissenden, Bill Nunes, Linda Arcularius, Lee Stetson, Barnie Gyant, Este Stifel, and Karen Taylor-Goodrich

Absent: Pedro Reyes, Brian Dahle, Ted Owens, and Tom Wheeler.

III. Approval of June 7, 2012 Meeting Minutes (ACTION)

There were no changes to the meeting minutes.

Action: Boardmember Kirkwood moved and Boardmember Arcularius seconded a motion to approve the June 7, 2012 meeting minutes. Boardmember Brissenden abstained from voting. The motion passed unanimously.

IV. Public Comments

Mariposa County Supervisor Kevin Cann welcomed the Board to Mariposa County and thanked the Sierra Nevada Conservancy (SNC) for the outstanding staff located in the Mariposa office. He added that the county was successful in applying for an $826,000 planning grant for the Mariposa County IRWIMP process, and said they would not have been successful without the work of SNC grant writer Elissa Brown.

Glenn Franklin, President of the Mariposa Resource Conservation District, thanked the Board for the successful projects made possible by the SNC, and thanked SNC staff Kim Carr and Elissa Brown.

Ann Lombardo, representative of the Sierra Nevada Adaptive Management Project urged the Board to learn more about the damaging effects of marijuana growing operations on the Pacific fisher and the Sierra ecosystem. She said the growers' efforts to poison rodents near these plantations have caused the death of several Sierra species.

V. Board Chair's Report

Board Chair Kirwan pointed out that that Agenda Item VIII is very important to the future of the SNC in the "post grant award" phase of the SNC, and encouraged Boardmember comments and engagement on that issue.

VI. Executive Officer's Report (INFORMATIONAL)

The SNC Executive Officer Jim Branham prefaced his report by welcoming the new Boardmembers and said he is looking forward to working with both of them.

Branham said that despite the challenging fiscal times, the SNC team remains positive and diligent in its work. Branham also mentioned that staff would be bringing a proposed meeting schedule for the Board in December and that staff will likely propose the March meeting be held in Sacramento. He said that this not only provides an opportunity for the SNC to raise the profile of the Sierra in Sacramento, but it can also be difficult to find suitable places to meet within the Region in March due to weather and snow conditions.

a. Administrative Update

Administrative Chief Theresa Parsley said the SNC is dealing with the loss of its students, and the impending loss of its Retired Annuitants, whose experience she said would be very difficult to do without. The SNC continues to deal with the loss of 5 percent of its permanent staff time to furloughs. She added the SNC is hoping to get some relief through the creation of limited term and permanent intermittent positions, and is waiting to hear more from the Department of Human Resources.

Parsley said the SNC has been requested by the California Department of Finance to participate in the statewide "special funds" audit and has submitted information to respond to that request. In addition, a contracts and procurement operations manual has been compiled to document process and procedures in this area. A grant operations manual is now being created to capture and document the knowledge the SNC has gained, and to ensure the fiscal controls are in place for the next round of grant dollars.

b. 2012-13 Preservation of Ranches and Agricultural Lands Grant Program Update

Branham reported that the full applications for this $5 million grant round are due in October, and that $17 million worth of projects have been invited to apply after determining they are eligible based on their pre-applications. The SNC Staff is working hard to help applicants comply with California Environmental Quality Act (CEQA) requirements. He added there is good representation of applicants across the SNC's Subregions. Final recommendations will be brought before the Board for approval in March.

Branham noted that there have been some spirited discussions about acquisitions and easements in prior Board meetings, and wanted to alert the Board there are a number of those types of projects among the applications.

Boardmember Kirkwood noted that grant applicants, whose proposed projects are intended to improve the environment, are getting caught up in CEQA requirements. He asked if the SNC or the Natural Resources Agency would be involved in discussions regarding legislative changes to CEQA.

Branham indicated that the SNC would be pursuing process improvements related to CEQA. Boardmember Ferrara said there will be a refined effort in the next legislative session to look at CEQA issues, and the Natural Resources Agency would be involved and would work with the departments under its jurisdiction to get input.

c. South Central Subregion Report

The SNC Mt. Whitney Area Manager Julie Bear introduced Rebecca Miller-Cripps with UC Cooperative Natural, Resources Program, Sonora Office, who gave a presentation on the organization's study of non-native invasive plant species. She said her group is actively trying to engage the public on this issue, and is working to provide tools for monitoring and control. She said temperatures are rising faster at higher elevations and therefore weeds are going to find more opportunities to pollinate. She noted that large sites of invasives often get addressed but expressed concern over smaller sites and the clear trail of invasives that backpackers and tourists create when the weeds are carried in hiking boots, tennis shoes and tire treads. Miller-Cripps said the group is thinking about organizing an annual Sierra-wide "weed out" day in the model of the successful Great Sierra River Cleanup – a great example of "citizen science."

Garrett Dickman, Biologist for National Park Service, El Portal Office, said he is working on a volunteer program to include "citizen scientists" within Yosemite National Park to help combat the invasive weed problem. He said that with the help of Cal Flora, a smart phone application is being developed so that invasive, non-native plants can be identified and recorded via GPS technology.

d. Fund Development

Branham mentioned the work the SNC has done in helping collaborative organizations receive federal and other funding for projects. Branham thanked SNC staff member Brandon Sanders for the important role he played in helping the Amador-Calaveras Consensus Group receive funding from the federal Collaborative Forest Landscape Restoration Act earlier this year. He noted the SNC continues to pursue additional funding opportunities for the Sierra Nevada Region, focusing on its successes.

VII. Deputy Attorney General's Report (INFORMATIONAL)

Deputy Attorney General Sproul said that a number of bills were introduced in the last legislative session that would have made substantial changes to CEQA had they passed. Sproul said CEQA reform efforts are expected to continue in the next session. She said the California Supreme Court remains very interested in CEQA with respect to issues of public access to information and public input. She added that she continues to work with SNC Staff to carefully review all grant applications to ensure that CEQA requirements are appropriately applied. Sproul confirmed the value of the public process, especially in exemptions, noting the process is ultimately beneficial for projects because exemptions that are challenged are more likely to be sustained.

VIII. Discussion on Organization of SNC Activities (INFORMATIONAL)

Branham said things have unfolded positively for the SNC since its inception. He said the Proposition 84 Grant Program has been very successful and has helped the SNC achieve its mission in the Sierra Nevada. With the end of the funding for this program in sight, the SNC is identifying the types of activities it will continue, using its base budget, including involvement with forest collaborative organizations and other opportunities where it may have a chance to engage in solutions in the Region.

Assistant Executive Officer Joan Keegan said that because of its broad mission and variety of statutory program areas and mandates, the SNC would have many ways in which it can add value to the Region. In thinking about life after the grant program, and how the SNC aligns itself with its statute, she said the SNC has grouped potential activities under seven primary program areas, with only one of them related to grants. Keegan said these are not related to the seven subject matter focused program goals in the enabling legislation; rather, these are seven types of activities the SNC is authorized to perform on behalf of the Region:

1. Policy Development Program (State and Federal)
2. Education and Advocacy Program
3. Region-wide Projects Program
4. Grant Program
5. Collaborative Planning Program
6. Technical and Other Assistance Program
7. Research and Monitoring Program

Keegan said that the seven activity types align well with the SNC Strategic Plan focus areas and the SNC Action Plan, as well. She said these activity types are another way for the SNC to look at how it budgets and spends its resources, and the Board will be hearing more on these in the future.

At Boardmember Kirkwood's suggestion, Keegan agreed to add the System Indicators Project to the education and advocacy section as well as research. Boardmember Arcularius asked if a cross reference could be created with the seven legislatively mandated program areas to track how well the SNC is doing in meeting its goal of equitable distribution of services and assistance across program areas.

Keegan said that could be done, and asked to follow up with Arcularius on her suggestion.

Boardmember Ferrara asked how funding challenges would impact the program areas.

Keegan pointed out that with the exception of the grant program, virtually all the SNC's work is funded through its base budget. However, there are ongoing efforts to partner with other organizations and to creatively look for opportunities to bring in funding. She added that describing the SNC activities in this way will help in future discussions with control agencies like the Department of Finance to ensure continued funding.

IX. 2011-12 Proposition 84 Grant Awards – Phase II (ACTION)

The Board was presented with the second phase of grant awards for the 2011-12 Proposition 84 Healthy Forests Grant Program. Branham reminded the Board that approximately $4.5 million was awarded in June; and, if approved, the remaining high value projects recommended today would bring the total to the $7 million previously authorized by the Board for award in this year's program.

Branham further explained that because of some outstanding appraisal issues on one of the recommended projects – through no fault of the applicant – staff would be requesting a conditional award on that project (#489 – Campstool) to allow more time for resolution. Staff is also asking for conditional awards on a separate list of additional projects that would be in line to backfill if the Campstool Project falls through.

Parsley presented a summary of the staff recommendations to authorize approximately $2.5 million for 25 projects, including project #489 (Campstool) to be conditionally approved pending resolution of the appraisal questions with the Department of General Services by November 1. If that deadline was not met, the SNC would award the other four projects recommended.

Action: Boardmember Nunes moved and Boardmember Stetson seconded a motion to adopt necessary California Environmental Quality Act (CEQA) findings and authorize the Executive Officer to file Notice(s) of Determination for projects approved or conditionally approved; authorize the grants listed in Agenda Item IX, Exhibit A, including

conditional authorization of project 489-Campstool Ranch and Working Forests, pending final appraisal approval; conditionally authorize projects 502- Blacksmith Ecological Restoration Project, 519-Leek Springs Meadow Restoration - Baseline Monitoring, Assessment and Restoration Plan, 523- Maidu Meadow Restoration and Riparian Enhancements South Fork Wolf Creek, and 616- Mt. Ralston Community Defense Zone, with direction that these projects be funded only if project 489-Campstool Ranch and Working Forests, does not obtain appraisal approval prior to November 1; and, the Board authorizes staff to enter into the necessary agreements for the recommended projects and direct staff to file the appropriate CEQA documentation with the State Clearinghouse. The motion passed unanimously.

Boardmember Arcularius asked about the equitable distribution of project awards across Subregions, noting that there were no projects proposed for East Subregion.

Branham clarified that the Board did not direct a specific allocation of funds for each Subregion for this grant round, but staff did consider the matter when making recommendations.

Public comment:
Connie Best, Pacific Forest Trust, thanked the Board for its consideration of awarding a grant to project #489, Campstool Ranch in Calaveras County, one of the last working ranches of its kind in eastern Calaveras. She added that the project not only protects vegetation, timber, mining and habitat resources on the ranch itself, but it also provides a permanent anchor for the local economy that builds on 30 years of active management, stewardship and investment by the landowners and partners.

X. Mokelumne Avoided Cost Analysis (INFORMATIONAL)

Sustainable Initiatives Coordinator, Kim Carr gave an update on work that is occurring as part of the Mokelumne Environmental Benefits Project.

She noted that partners include the U.S. Forest Service (USFS), Bureau of Land Management (BLM), East Bay Municipal Utility District (EBMUD), Pacific Gas and Electric (PG&E), The Nature Conservancy, Sustainable Conservation, Environmental Defense Fund and local stakeholders.

Carr said the purpose of the project is to quantify and track environmental improvements when landowners choose to restore their lands so a value can be ascribed to the work. With this information, priorities can be set to determine the best places to invest and to attract investment for treatments as a part of a

broader ecosystem marketplace. She added that the ecosystem marketplace effort will initially focus on the lower watershed.

As an extension of this effort, Carr said that it was decided that an "avoided cost analysis" was needed for the upper watershed because it is so different from the valley. She added that trying to figure out how to manage a project with so many potentially impacted entities opened up a lot of opportunities. SNC is leading the avoided cost analysis, which is expected to be completed in early 2013. She added that the primary focus in this phase of the avoided cost analysis is water and hydropower, and EBMUD and PG&E are key partners.

In citing the example of the investment the City of Denver made in its upper watershed after two major fires, Carr said that the Mokelumne Watershed Project is being carried out to demonstrate how fire and any resulting sediment damage may be avoided by getting ahead of the fire risk through investment from those benefitting from the ecosystem services. She said the Denver water district educated its ratepayers, received support, and raised rates $6.50 per household per year.

Carr introduced Rick Leong, a watershed analyst for EBMUD. Leong said approximately 90 percent of the water EBMUD customers receive comes from the Mokelumne River. He said EBMUD's main interest is the potential mass movement of sedimentation within the system following a major fire. He said EBMUD has done a lot of collaborative work in the lower Mokelumne Watershed for many years to protect the ecosystem.

Boardmember Brissenden asked Leong if he had conducted any analysis among their ratepayers to see if they would be willing to support the technical assistance work being done by the SNC in the watershed.

Leong said some education still needs to take place, but he feels that the data from the project will help in this area.

Brissenden asked if the SNC could participate in the survey and educational efforts.

Leong said he felt that kind of collaboration would be essential.

Boardmember Johnston said there have been studies that show the public is ready and willing to pay a small amount of money to pay for the services provided by the ecosystem, and cited the effort to save Mono Lake as an example. He said residents in Truckee have also shown a great willingness to expand the definition of an airport district by purchasing land around the airport to avoid the cost of accidents in the future.

Carr said that there are numerous ecosystem services in the Mokelumne Watershed, but due to a limited amount of time and money, the project will first hone in on water and power issues.

Boardmember Kirkwood said that increasing the capacity of the dams by increasing the storage in the watershed is a capital investment. Leong said he agreed.

Kirkwood said that PG&E should not only consider the cost of replacing power lines but also the millions of dollars they have invested in hydropower turbines and the potential damage to these from sediment.

Boardmember Gyant suggested that communications should be very clear; and that people will respond to and understand the importance of water quality and quantity.

SNC's Sustainable Initiatives Assistant, Nic Enstice, has been working on the project, and gave an overview of the threat of high fire risk areas across the watershed, saying it was nearly all in the medium-to-high risk category. He also reported on insects, such as bark beetles, and how they increase fire severity by reducing forest resilience, and how landslides and sediment could potentially impact ecosystem services and watershed infrastructure. He said the data that results from this analysis will help determine where treatment should take place to avoid a variety of potential costs.

Carr reported that the bulk of the work done to date has been "in-kind," valued at about $670,000. An additional amount of approximately $217,000 has been provided by the USFS, The Nature Conservancy and the SNC. She added that Region 5 of the USFS has provided hydrologists, water quality specialists, and information managers. Carr said there is a Request for Proposal out to hire a Project Manager to help integrate the modeling results and to make recommendations as part of this analysis.

Boardmember Arcularius asked for a definition of "treatment." Carr said that refers mostly to forest treatment and fuel reduction to remove mostly the small, dense, brushy material out of the forest to reduce the fire risk but these projects may involve removing some trees with market value.

Boardmember Gyant (Deputy Regional Forester with the USFS) said there are a number of issues that should be looked at. Utilities, Sierra Pacific Industries, and water districts, should be at the table. He added that putting people back to work in these rural communities is also important. He said the "no action" alternative does not work…not for the economy, the water or the protection of species.

XI. Air and Water Quality and Climate System Indicators Report (ACTION)

Keegan said it has been a long road developing this project. The Board approved a set of 19 System Indicators a few years ago and it has taken this amount of time to collect data that accurately reflects the SNC area. This work will set a baseline for conditions in the Sierra related to the SNC's statutory program areas, track whether the conditions are getting better or worse, and inform some decisions about the SNC's strategic planning and investment.

She introduced and thanked SNC staff member, Chris Dallas, for compiling the data and analysis for the report.

Dallas pointed out a few highlights from the three areas of the report:

- Water Quality: Using data and GIS information, the report ties together for the first time an overview of the extent and location of impaired water bodies in the Sierra. Pollutants such as legacy mercury, temperature screens and pathogens are included in the report. Mercury has been identified in 535 miles of rivers and streams. It may also be in many other rivers. Spring snow pack has declined in the past 25 years. Dallas added that precipitation levels continue to fluctuate.

- Air Quality: In general, ozone is blown into the Region from more populated areas in the valley, but the levels are down, just as they are around the rest of the state. The larger particulate pollution in the Sierra Nevada is dust from dirt roads, as well as soot from fires of all sorts.

- Temperature: The daytime highs are generally increasing at higher elevations. Of particular note, the nighttime lows are increasing even more at all elevations.

Boardmember Arcularius asked how many miles of stream and rivers, in total, are in the Region? She further added that she suspected that there were many more healthy rivers and streams than unhealthy ones.

Dallas responded that the data used for this report did not contain information about total miles of streams present, but that he would look into the question.

Boardmember Arcularius said that if smaller healthy streams, particularly on agricultural lands, were not counted in the data, that there is a lot of good stewardship occurring around these smaller streams. She also thanked Dallas and said that his work will have an impact on how people plan their everyday activities.

Boardmember Stifel asked if this report was a snapshot in time, and how it would be incorporated into the work the SNC does. Dallas said the purpose is to continue to collect data over a period of time and update the report periodically.

Keegan said the SNC is already seeing opportunities to include this information in some of the educational materials when advocating for resources to policy makers.

Action: Boardmember Kirkwood moved and Boardmember Brissenden seconded a motion to approve the third System Indicators Report. The motion passed unanimously.

XII. Updates on Various SNC Activities

Branham reminded the Board of the upcoming 4th annual Great Sierra River Cleanup and invited them to attend one of the 100 event sites in the Sierra.

a. California State Water Plan

Kerri Timmer, SNC Regional Policy and Program Manager, updated the Board on two statewide water efforts. The first is the Department of Water Resources (DWR) California Water Plan (Update 2013), which has been around for many years, but has increasingly become an important document for both decision-makers and water managers. The other water effort is the Delta Plan. The SNC's focus for involvement in both of these efforts is to articulate the importance of the Sierra to the rest of the state and to ensure the Region is represented and recognized as well as to justify the need for more investment in the upper watersheds to maintain the many benefits they provide.

Within the California Water Plan, the SNC is leading the development of a regional report called the Mountain Counties Overlay. This will be in addition to the main body of the Water Plan. Regional reports are designed to address management issues that cross over the hydrologic region boundaries and that are of statewide significance. This is one of 12 regional reports within the Water Plan. It will report on current conditions in the mountain counties, as well as the challenges, strategies and actions to address those conditions.

Timmer thanked Angela Avery who has been working with consultant Walter Clevenger to develop the content, and to gain input from stakeholders.

The report will go to a review team, with representatives from a variety of interests in the Sierra, set up and staffed by DWR. Another regional forum will be held in the spring for public input. The final Water Plan Update, including the regional reports, should move forward to the Governor by the end of next year.

Timmer said the most exciting thing about this project is the opportunity to be working with other agencies on these issues, and that the SNC Strategic Plan

is one of the featured plans chosen to be highlighted, which means our goals and objectives will be taken into consideration by the other agencies as they plan for their own activities.

Boardmember Kirkwood noted the significance of the educational activity this project is having on state decision-makers. He also asked if there was any indication that this work will lead to DWR putting more of its Proposition 84 funding in the Sierra.

Timmer said it is hard to tell if the "trickle-up" theory is taking hold just yet; but being at the table and having a voice with the other agencies is an important first step.

The SNC's involvement in the Delta Plan has been more limited to commenting on various drafts with the intent of making sure that requirements for fixing Delta issues do not harm the upper watersheds. A final version of the draft is being presented for approval by the Delta Stewardship Council at the end of September. Once that happens it will kick-off finalization of CEQA review for the entire plan, as well as, start the rule-making process regarding the policies that are called for in the Delta Plan, Timmer said.

b. Annual Report
Like last year, Timmer said the SNC Annual Report will be scaled back in recognition of ongoing staffing and budgetary constraints, while still meeting the requirements of the Legislature. After thanking Julie Griffith-Flatter for her continued work on the document, Timmer reported that the SNC intends to stay with this more "bare bones" format until there is a milestone (such as completion of our Proposition 84 Grant Program) or other specific reason for a more comprehensive report. She noted, however, staff will continue to produce individual outreach materials for specific target audiences.

XIII. Boardmembers' Comment

Boardmember Kirkwood noted that it was ironic how so many projects undertaken by the SNC through its grantees are intended to protect the environment, and yet CEQA review continues to be a problem. He suggested the SNC continue to be an active participant in whatever emerges to reduce the unnecessary burden on the projects we deal with.

XIV. Public Comment

There were no comments.

XV. Adjournment

Board Chair Kirwan announced the next meeting would be December 5-6 in Yuba County, and adjourned the meeting at 12:32 p.m.

Background

The Sierra Nevada Conservancy has met quarterly throughout the Region since June 2006. These meetings provide an opportunity for Boardmembers and staff to interact with communities and observe work taking place that furthers the SNC mission, including projects funded by the SNC. With this meeting, we have visited all 22 counties within the Region.

Current Status

Having met in all 22 counties within the Sierra Nevada Region, staff is recommending that the Board meetings continue to rotate through the Subregions. However, staff is also recommending that the March Board meeting be held in Sacramento each year, providing an opportunity for SNC to raise our profile within state government. The first day of the meeting would involve some sort of policy discussion/outreach activities, replacing the normal field tour.

This would result in three of the quarterly Board meetings being held in the Region each year.

Next Steps

The following schedule is proposed for 2013:

- March 6 & 7, Sacramento
- June 5 & 6, North Subregion, Lassen County
- September 4 & 5, South Subregion Tulare County
- December 4 & 5, North Central Subregion, Plumas County (may be changed based on weather considerations)

Recommendation

Staff recommends that the Board approve the proposed schedule for 2013 and the annual March meeting to be held in Sacramento.

Background

As the Sierra Nevada Conservancy continues to assess priorities and identify opportunities to protect and meet the needs of the Sierra, it has become clear that getting the word out on the important work that needs to be done, and helping decision-makers to understand how investments in the Sierra meet key statewide policy objectives, have become increasingly critical activities. We took the first step toward increasing our capacity to address these important communication and outreach activities when we formed the Regional Policy and Programs Division (RPPD). We have recently moved our media program out of the Administrative Services Division and into the RPPD, uniting our media and outreach efforts and further focusing staffing resources to ensure that the Sierra is not left out of critical statewide policy and funding discussions.

Current Status – Grants Administration

Staff continues to support the final Proposition 84 grant cycle by coordinating and implementing application intake, evaluation and site visit processes, through the identification, hiring and training of the evaluator teams, by tracking and reporting on applications received and processed, and in preparing reports and coordinating final management team and staff recommendations for awards. In response to Board comments related to conservation easement acquisitions, staff has hired a planning expert as part of the evaluation team, to research and present additional information on these projects to assist in consideration of land use issues.

Staff is also working with grantees and processing grant agreements for the 2011-12 Healthy Forests grant cycle. Finally, we are happy to report that the Department of General Services has completed its final appraisal review for the Campstool conservation easement acquisition, conditionally approved by the Board in September, and we have been able to move that grant forward.

Current Status – Budget

As part of the budget building process for FY 2013-14 staff is considering the potential for securing funding from the state's Cap and Trade Auction Revenue. Staff is working with a variety of stakeholders and the U.S. Forest Service to identify important roles that the SNC and the Sierra can play in protecting forest-based carbon sequestration, meeting Bioenergy and low-carbon fuel goals, and reducing greenhouse gas emissions.

Budget staff has also responded to all requests for information on the Department of Finance audit of the Environmental License Plate Fund, and await the release of the final report.

Current Status – Facilities

Staff has continued to work with the Department of General Services on the completion of tenant improvement plans and execution of the lease for the new downtown Mariposa office, anticipated to be ready for occupancy in early spring.

Recommendation

This is an informational item only; no formal action is needed by the Board at this time, although Boardmembers are encouraged to share their thoughts and comments.

2012-13 SNC EXPENDITURES AND ENCUMBRANCES

As of October 25, 2012

State Operations				
Personal Services	***Budgeted***	***Expended***	***Balance***	***% Spent***
SALARIES AND WAGES	1,931,326	601,805	1,329,521	31%
STAFF BENEFITS	583,430	224,933	358,497	39%
Personal Services, Totals	***$2,514,756***	***$826,738***	***$1,688,018***	***33%***
Operating Expenses & Equipment	***Budgeted***	***Expended***	***Balance***	***% Spent***
GENERAL EXPENSE	292,462	41,205	251,257	14%
TRAVEL - IS	55,000	12,098	42,902	22%
TRAVEL - OS	5,590	-	5,590	0%
TRAINING	47,500	11,236	36,264	24%
FACILITIES	287,025	79,633	207,393	28%
UTILITIES	21,480	5,477	16,003	25%
CONTRACTS- INTERAGENCY AGREEMENT	992,171	453,506	538,665	46%
CONTRACTS- EXTERNAL	85,000	50,000	35,000	59%
INFORMATION TECHNOLOGY	95,173	5,110	90,063	5%
CONSOLIDATED DATA CENTER	-	-	-	0%
EQUIPMENT	-	-	-	0%
OTHER ITEMS OF EXPENSE	21,124	6,015	15,109	28%
PRO RATA (control agency costs)	161,517	40,379	121,138	25%
Operating Expenses & Equipment, Totals	***$2,064,042***	***$704,659***	***$1,359,383***	***34%***
Local Assistance				
Appropriation	***Budgeted***	***Expended***	***Balance***	***% Spent***
2007 Original Appropriation (reapprop 11/12)	17,000,000	17,000,000	0	100%
2008 Original Appropriation (reapprop 11/12)	17,000,000	14,538,350	2,461,650	86%
2009 Original Appropriation (reapprop 12/13)	15,448,000	9,059,388	6,388,612	59%
	Budgeted	***Expended***	***Balance***	***% Spent***
State Operations	***4,578,799***	*1,531,397*	*3,047,401*	33%
Local Assistance *	***49,448,000***	*40,597,738*	*8,850,262*	82%
SNC EXPENDITURES, TOTALS	***$54,026,799***	***$42,129,135***	***$11,897,663***	***78%***

* The balance does not include encumbrances for Sept awards totaling $2,545,140. If all of this amount is encumbered, the balance available for 12/13 and future awards is $6,305,122.

Background

At the June 2012 Board meeting, staff provided an update on discussions with the California Department of Fish and Game (DFG) and Inyo County regarding the potential transfer of ownership of the Mt. Whitney Fish Hatchery from DFG to the Sierra Nevada Conservancy (SNC). The potential transfer of ownership is being considered due to the fact DFG no longer operates the facility as a hatchery due to several constraints and would like to dispose of the site. SNC was identified as a possible temporary party for the transfer, given that our statutory authority provides greater flexibility to work with the local community in developing a long term plan.

Current Status

Several processes are underway since the June 2012 Board meeting and are close to being completed, including the following:

- The Wildlife Conservation Board (WCB), acting on behalf of DFG, is completing their due diligence including an appraisal, title report, and Phase 1 environmental report.
- DFG has finalized a draft document identifying areas of concern and restrictions for future use of the facility that will become conditions of a transfer.
- Inyo County is developing a transfer agreement to establish protocol for a possible transfer of ownership from SNC to the county (in the event SNC takes ownership). They are also developing and preparing for a planning process that will create a strategic plan for the facility that will identify possible long term uses.

SNC Staff is monitoring all of these efforts and expediting discussions as needed among all of the parties involved in this effort.

Next Steps

WCB will complete their due diligence by the end of 2012 and be prepared to act upon a possible transfer, if and when appropriate. SNC Staff may be facilitating additional discussions between Inyo County, DFG, and the Friends of Mt. Whitney Fish Hatchery to clarify understandings in order to finalize the conditions of future use document drafted by DFG

It will be critical to the SNC's decision on taking temporary ownership of the hatchery, that Inyo County continue to demonstrate progress on the development of their transfer agreement and long-term plan for future use of the facilities. This will include identifying an ultimate owner of the property, and a specific timeline for a transfer. SNC Staff will participate in the development of the long-term plan, as needed and as available. SNC staff will further identify the process and any implications of accepting the property, and develop a recommendation about SNC's future role in the transfer of ownership process for the SNC Board's consideration and approval, when appropriate.

Recommendation

This is an informational item only; no formal action is needed by the Board at this time, although Boardmembers are encouraged to share their thoughts and comments.

Background

During the past five years, over 4.5 million acres of California forests have been impacted by wildfire. Costs to suppress these wildfires have averaged approximately $1.2 billion per year. Numerous scientists predict increasing size and severity of fires unless aggressive forest restoration treatments are implemented. These treatments involve removing the excess biomass 'fuel' (mostly brush and small diameter trees) built up in the forests, which reduces the severity and scale of wildfires. This fuel reduction work used to be integrated into timber harvest contracts which balanced the costs with the economic value of large trees. But with the increased environmental concerns over large tree removal, as well as the housing market crash, logging activity and the corresponding reduction of forest fuel has been greatly reduced. Without the value of large trees to offset the cost of biomass fuel removal, public land managers have been unable to keep up with the need for fuel reduction, with the result that California's forest ecosystems are at greater risk to catastrophic wildfire.

In order to create a new economic model that supports forest fuel reduction and wildfire mitigation, the forest biomass generated as a byproduct of forest restoration activities must generate sufficient economic value to cover the costs of collection, processing, and transport. Recent innovations in biomass energy technology provide an opportunity for the economically and environmentally sustainable use of biomass to create renewable energy for California at the same time protecting the state's valuable forests, and the region's communities, from catastrophic wildfire. Development of additional biomass power generation facilities in the Sierra Nevada Region that utilize forest waste would provide a ready market for biomass removed as a byproduct of forest restoration activities.

California leads the nation in deployment of biomass power generation capacity. There are just over 30 commercial scale biomass power generation facilities in commercial operation, the majority of which rely upon agricultural residues, urban woody waste, and sawmill residues rather than forest biomass directly from the forests as a primary fuel source[1]. Recently, however, there has been significant advancement of biomass conversion technologies that facilitate the efficient use of forest biomass as a primary feedstock for power and heat production. The first of these is the development of technologies appropriate for clean, efficient, small-scale, bioenergy facilities. These new 'gasification' facilities range in scale from .5 MW to 3 MW and can be easily located in forest communities, particularly in areas where there is an abandoned sawmill site. These facilities are sized to utilize biomass fuel sustainably removed from the forest within a 20 to 30 mile radius for fire safety or forest health purposes. A further innovation is the utilization of the waste heat from these bioenergy facilities to pre-dry the forest biomass, improving the efficiency of the gasification process.

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[1] Electricity – Woody Biomass Utilization 2012. University of California. 11/2/2012. http://ucanr.edu/sites/WoodyBiomass/Woody_Biomass_Utilization_2/Energy/

Although none of these new forest biomass 'gasification' facilities are currently operating in the State, several are under development. These include a 1 MW project in Calaveras County (Wilseyville), which has completed a feasibility study, a 2 MW facility in Placer County which has completed its Environmental Impact Report (EIR), and a 1 MW facility in Madera County (North Fork), which has completed a feasibility study and is currently engaged in pre-development design/engineering and California Environmental Quality Act (CEQA) documentation. The SNC has been providing assistance to the Wilseyville and North Fork projects, which are both in low-income communities suffering from economic dislocation from the reduction in local timber harvest activity. It is intended that these two projects will act as demonstrations for other communities in the region where forest bioenergy would be both feasible and beneficial.

These issues are starting to be addressed at the state-wide level. A 2012 state Bioenergy Action Plan was released in August. This plan, prepared by the Bioenergy Interagency Working Group, acknowledges the benefits of forest biomass, stating:

> "Increased utilization of forest biomass residues improves community safety and forest health by offsetting costs of forest restoration, fuel reduction, and forest thinning treatments. These activities reduce wildfire hazards and mitigate wildfire damage to public health and safety, natural resources, infrastructure, and public and private property. Restoration activities can also make forest ecosystems more resilient to the effects of climate change. Community-scale distributed generation facilities using forest biomass residues are important for forest restoration and protection as well as community development. Scaling bioenergy facilities to the community's resource potential ensures that biomass use is environmentally and economically sustainable. Sustainable development will promote long-term economic and social stability in rural, economically-disadvantaged communities by providing construction, plant operation, and in-forest biomass collection and transportation jobs."

The 2012 Bioenergy Action Plan includes a broad array of action items related to the promotion of forest bioenergy. The SNC is identified as one of the key responsible agencies for these action items, particularly as regards to outreach and assistance to stakeholders and assisting collaborative efforts related to the development of small scale forest Bioenergy facilities.

Collaborative efforts are particularly important in promoting forest Bioenergy development because there are so many factors involved in creating successful projects. These include:

- The price that utility companies pay for the power produced (set by the California Public Utilities Commission (CPUC));
- Analysis of the correct size of the facility so that it utilizes the amount of biomass that will be sustainably harvested for forest health and fire safety;

- Identification of suitable sites for bioenergy facilities;
- Utility company policies and procedures regarding interconnection with the power grid;
- Community capacity to implement large development projects; and,
- Funding for feasibility, predevelopment, and implementation costs.

Collaborative groups representing different agencies and stakeholders can help make sure that these issues are addressed in a coordinated manner to reduce the many obstacles to successful project development.

One collaborative group that addresses these issues is the Biomass Working Group, which includes representatives from federal and state agencies, forest and energy industries, conservation and community development groups and technical experts. The SNC is an active member of the working group and has provided coordination assistance and additional resources for the activities it undertakes. In addition, SNC participates in the State Bioenergy Group which is coordinating the Bioenergy Action Plan implementation.

Over the past year, SNC Staff and consultants have worked hard to address funding, policy development, and technical assistance needs related to forest biomass projects. Specific achievements include:

- Providing funding and staff support, as well as assisted in securing funding from other sources, to the North Fork Bioenergy demonstration project to complete their feasibility study and select a technology provider and development team;
- Providing funding and staff support to assist with the completion of the Wilseyville project feasibility and engineering study;
- Obtaining a U.S. Forest Service (Forest Service) grant for the North Fork project to move forward into predevelopment work;
- Compiling information about public and private funding mechanisms and building relationships with financial managers
- Providing input and information for the state Bioenergy Action Plan;
- Providing information relevant to the CPUC's rulemaking process regarding pricing of Bioenergy power;
- Providing information relevant to the CPUC's rulemaking process regarding standard power purchase agreements between Bioenergy facilities and utility companies;
- Providing information relevant to the CPUC's rulemaking process regarding interconnection policies and procedures;
- Developing public information materials regarding the benefits of forest biomass for forest health and wildfire protection; and,
- Communicating the multiple benefits of forest Bioenergy and best known technologies.

Current Status:
As previously noted, the Governor's 2012 Bioenergy Action Plan assigns the SNC to take responsibility for a number of action items regarding the statewide development of forest bioenergy. Specific responsibilities include:

- Continue working with stakeholders and expanding the forest biomass collaborative to identify and promote small-scale forest biomass projects that reduce fire hazards, restore healthier, more resilient forests, provide renewable energy, and promote rural economic development.
- Update research on bioenergy utilization co-benefits and quantify the cost-benefit of biomass use.
- Coordinate the Biomass Working Group, a collaborative of agencies, stakeholders and technical experts, to:
    - Refine criteria for "community-scale" biomass energy facilities, identify a few candidate projects, and seek developers and cost-share for deploying and demonstrating commercial and emerging community-scale bioenergy technologies.
    - Provide input to CPUC and others on ratepayer and other benefits of converting forest biomass to energy; identify areas where additional research is needed, and coordinate with and/or secure funding from state agencies, private and federal sources, Western Governors' Association or others for this purpose;
    - Identify and seek private, state, including public interest research, and public goods charge, and federal funding for feasibility studies, pilot and demonstration projects, and research to support community-scale biomass utilization projects.
- Develop screening criteria to help local agencies determine the applicability of community scale woody biomass technologies and projects in their communities.
- Pursue Federal Funding Opportunities for Bioenergy: State and Federal agencies will coordinate to identify and pursue opportunities for federal research, development, and commercialization of bioenergy facilities, including funding from the US Department of Agriculture, Forest Service, Environmental Protection Agency, Department of Energy and other federal partners.

Since the Bioenergy Action Plan was published, additional legislation regarding forest biomass has been signed into law. Senate Bill 1122 (Rubio, Chpt 612 Stats. 2012), adds new benchmarks for the development of small scale forest biomass projects. It requires the state's electrical corporations to collectively purchase 50 MW of generating capacity from new small scale (3 MW or less) bioenergy projects using byproducts of sustainable forest management.

Senate Bill 1122 adds new urgency to the SNC's responsibilities under the Bioenergy Action Plan by adding an additional 50 MW of forest biomass from at minimum of 16 new facilities in the next 10 years. This will take a concerted and coordinated effort and SNC is prepared to continue playing a lead role in the development of forest bioenergy facilities in the Sierra Nevada Region.

SNC management has allocated resources to this area of concentration, including staff members Kim Carr and Nic Enstice and consultants Elissa Brown and, more recently, Mike Chapel, whom recently retired from the Forest Service and is now serving as a contractor to the SNC.

Next Steps

Focus areas for the SNC's Forest Bioenergy Team's activities, working with Cal Fire, Forest Service and other partners, over the next year will include:

- Continuing to provide project support for the North Fork and Wilseyville Projects; provide support as capacity allows for Placer County and other projects in the Region;
- Developing financing and investment models for project implementation, including private funding, tax credits, Energy Commission Electric Program Investment Charge (EPIC) funding, etc. Team members have already met with the Northern California Community Loan Fund to discuss potential for utilizing New Market Tax Credits for forest bioenergy projects;
- Providing grant writing assistance for appropriate funding opportunities such as the U.S.D.A. Rural Business Enterprise and Woody Biomass Utilization Grants;
- Addressing barriers to project implementation, such as complicated grid interconnection requirements;
- Identifying the most appropriate sites for forest bioenergy and providing information and assistance to interested communities;
- Convening stakeholders to address critical forest management and environmental concerns, such as the definition of 'sustainably harvested biomass';
- Providing targeted education for representatives of key agencies, such as the CPUC, the Energy Commission, and the Air Resources Board; and,
- Developing educational materials, coordinating and leading a series of workshops and engaging in various public information efforts.

Recommendation

This is an informational item only; no formal action is needed by the Board at this time, although Boardmembers are encouraged to share their thoughts and comments.

Background

The Sierra Nevada Conservancy (SNC) was allocated $54 million from the Proposition 84, Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006, passed by the voters in 2006.

At its June 2012 meeting, the SNC Board approved the 2012-13 Grant Guidelines for the final competitive grant cycle to support the Preservation of Ranches and Agricultural Lands (Ranches and AgLands) grant program as identified in the SNC's Strategic Plan. The Board had previously directed that $5 million of the remaining dollars available to the SNC through Proposition 84 would be used to support this area of focus. The Grant Guidelines and accompanying Grant Application Packet were released on June 18, 2012, opening the grant round and requesting grant project proposals in the form of pre-applications.

Current Status

SNC received 62 full applications totaling $11,112,362.75 in funding requests. Of those, 44 (71%) are for Category 1 projects (site improvement or conservation easement acquisitions) and 18 (29%) are for Category 2 (pre-project activities leading to an eligible project). There are 32 projects requesting $6.4 million for site improvement projects and 12 projects requesting approximately $3.5 million for conservation easement acquisitions. Pre-project planning activities have been proposed for the remaining 18 projects, requesting $1.1 million.

The Project breakdown by Subregion is noted below:

2012-13 Ranches and AgLands Grant Program Full Applications Received				
By Subregion		**% of Projects**		**% of Funding**
Central	16	26%	$2,661,840.00	24%
North	13	21%	$2,588,267.41	23%
North Central	10	16%	$1,985,295.33	18%
South	8	13%	$1,402,447.01	13%
South Central	8	13%	$1,232,300.00	11%
East	3	5%	$537,482.00	5%
Multiple Subregions	4	6%	$704,731.00	6%

Next Steps

SNC Staff is currently working in conjunction with external evaluation teams to review all full applications and to conduct project site visits, as appropriate. These teams are evaluating projects based on the quality of their proposal as well as compliance with Proposition 84. A separate team is also evaluating each project for California Environmental Quality Act (CEQA) compliance. Projects that are identified as being unable to comply with CEQA will be addressed early in the full application review process.

The full schedule for this grant cycle is as follows:

GRANT PROGRAM ELEMENTS	Target Date or Duration
RELEASE PRESERVATION OF RANCHES AND AGRICULTURAL LANDS GUIDELINES AND GAPS – OPEN RFP	6/18/2012
PRE-APPLICATION DEVELOPMENT PERIOD: SNC staff will be available to work with applicants on preparation of pre-applications to be submitted during this period.	6/18/2012-7/13/2012
PRE-APPLICATION SUBMISSION DEADLINE: If an applicant wishes to receive SNC grant funding, they **must** submit a pre-application and the associated attachments no later than 5:00 pm on this date.	7/13/2012
PRE-APPLICATION REVIEW PERIOD: SNC will review pre-applications for eligibility (including focus area alignment) and completeness. Invitations to submit a full application may occur any time after the pre-application has been reviewed, but no later than close of business 8/13/2012.	7/16/2012-8/13/2012
FULL APPLICATION DEVELOPMENT PERIOD: Applicants who receive an invitation to submit a full application should work with SNC staff to develop and refine their full application during this period.	8/15/2012-10/19/2012
FULL APPLICATION SUBMISSION DEADLINE – CLOSE RFP: All elements of a full application must be complete and submitted by COB on this date.	10/22/2012
FULL APPLICATION REVIEW: SNC staff and technical evaluators will evaluate all complete applications, resulting in a score up to 100 points. Consultation with the Board Subregional committees, as well as communication with affected local agencies will occur during this period.	10/22/2012-1/13/2013
FINAL RECOMMENDATIONS TO SNC BOARD: Staff will provide recommendations based on the evaluation, including consideration of geographic distribution of projects.	3/7/2013

For this round, as with the last round, staff will provide recommendations to Board subcommittees via email, and be prepared to respond to any comments/concerns raised.

Recommendation

This is an informational item only; no formal action is needed by the Board at this time, although Board members are encouraged to share their thoughts and comments.

Background

The Central Subregion encompasses substantial portions of Yuba, Placer, and El Dorado Counties, and the entirety of Nevada County. This Subregion encompasses the largest concentration of people in the Region, with a population of 375,000 within the Sierra Nevada Conservancy (SNC) boundary. It is also the fastest growing Subregion. West to East, the Subregion stretches from the highly populated 'gold country' foothills, into significant Wildland-Urban Interface (WUI) slopes of mixed conifer, and up into higher elevation National Forest land. All the counties of the Subregion have a substantial balance of private and public lands.

The Subregion contains all the branches of the American River Watershed, as well as, the Bear and Middle and South fork of the Yuba Watersheds on the western slope, and the Truckee River Watershed on the east side. These are critical watersheds for millions of downstream users. It is widely acknowledged that what takes place in the upper watershed has very distinct implications in terms of water quality and supply for those whose lives depend on Sierra Nevada water on a daily basis.

Two major routes (U.S. Highway 50 and Interstate 80) and 3 major Union Pacific Rail lines cross the Subregion connecting the Central Valley and Sacramento to Lake Tahoe and Reno. These routes provide the main access for the majority of traffic crossing the Sierra Nevada and are major corridors for tourism and commerce.

Current Status

The SNC is actively engaged in numerous activities throughout the Central Subregion. First and foremost among those activities is the SNC's Proposition 84 Grant Program, which has had a measureable impact in terms of watershed protection, as well as, raising awareness of the enormous amount of conservation opportunities and needs throughout the four county area.

To date, the SNC has invested over $9,200,000 in the Subregion, supporting a range of projects consisting of forest management activities aimed at decreasing the risk of high-severity wildfire, invasive species eradication, rangeland improvements and preservation, water infrastructure planning and development, land conservation, trail and recreational facility improvements, wildlife habitat protection and abandoned mine remediation. All of these activities are creating economic opportunities for Sierra communities who have a long and lasting legacy of working to manage the myriad natural, cultural, and economic resources of the Subregion.

The Central Subregion has an extremely high concentration of abandoned mines and is impacted in several ways by the legacy effects of the gold rush era. A more detailed presentation on this topic will be presented to the Board during this meeting.

The four counties in the Central Subregion rely heavily on tourism as an economic anchor. Year-round recreational opportunities and attractions, including several of the world's largest ski resorts, help form the foundation of a tourism economy that generates $1.6 billion in annual travel spending and supports more than 21,000 jobs.

The SNC works to promote recreation and tourism in the entire Sierra Nevada by partnering with the Sierra Business Council and National Geographic on the Sierra Nevada Geotourism MapGuide Project (SNGT). The SNGT provides visitors from around the world Web site access to recreational, historical, and cultural attractions and local events. The site has been visited by more than 1.6 million viewers since its start in 2009.

In El Dorado County, the SNC has been working with the El Dorado County RCD to complete the Finnon Lake Restoration and Habitat Improvement Project, which rebuilt a reservoir that will provide water in a critical location for wildfire protection needs, as well as, providing forest treatments and habitat for wildlife and aquatic species. SNC funding has also led to forest health and water quality improvement projects at Camp Sacramento- located on the banks of the American River, and Sly Park's Jenkinson Lake reservoir, which provides clean drinking water to El Dorado County users. Other completed projects include a Fish Friendly Farming certification program, and land acquisition assistance for the Wakamatsu Tea and Silk Colony, a historic farm and ranch settled by Japanese immigrants. Upcoming SNC projects in El Dorado County include fuel reduction assistance in the Caples Creek Watershed and restoration design for the Van Vleck meadow complex, a critical upper water storage and wildlife habitat area.

Placer County has been a hub of activity for the SNC relative to the Sierra Nevada Forest and Community Initiative (SNFCI). Placer County recently closed the public comment period on their Draft Environmental Impact Report for the proposed two-megawatt wood-to-energy biomass facility located on Highway 89 between Tahoe and Truckee. If this facility were to be constructed it could use between 40 to 50 bone dry tons of local forest-sourced biomass wood waste per day and power up to 2,000 homes. SNC funding has also supported several forest thinning projects aimed at protecting recreational resources and water quality in Placer County. Shaded fuel breaks at Hidden Falls Regional Park, the Harvego Bear River Preserve, the Auburn State Recreation Area, the Canyon View Preserve, and Squaw Valley Park will protect popular trails and sports facilities, and the adjacent Coon Creek, Bear River, Truckee River, and American River Watersheds.

SNC activities in Nevada County include funding of abandoned mine remediation projects such as the Combie Lake Mercury Remediation and Humbug Creek Sediment/Mercury Assessment-Remediation. SNC also contributes to forest health and fuel reduction activities through projects on public lands that are closely situated to populated areas, as well as projects that will help to restore native vegetation and restore meadow functions in riparian habitats. On Nevada County's east side of the Sierra, SNC projects work with the U.S. Forest Service to remove isolated populations of invasive weeds. SNC Staff continues to monitor and assist with the Nevada County Biomass Task Force and the U.S.D.A. Biomass Steering Committee, to research and develop biomass plants in the Central Sierra Subregion.

In Yuba County SNC has been a part of regular Yuba County Fire Safe and Watershed Council meetings. Grant funds have been awarded to support pre-project planning work and fuels thinning in the foothills of Yuba County. During the Healthy Forest grant round an award was made to complete the remaining 190 acres of a 438 acre shaded fuel break established to protect both the Feather River Watershed and the Yuba River Watershed.

Next Steps

The SNC will continue its engagement in collaborative processes taking place throughout the Subregion and support partnerships that will have real and lasting impacts on forest health, economic prosperity, and community vitality.

Recommendation

This is an informational item only; no formal action is needed by the Board at this time, although Boardmembers are encouraged to share their thoughts and comments.

Background

The Sierra Nevada Conservancy (SNC) 2006 Strategic Plan identifies the need to develop System Indicators to measure progress in improving the environmental, economic, and social well-being of the Sierra Nevada Region. Since that time, staff has worked diligently to overcome data limitations and other obstacles in order to develop a set of Indicator Reports that include all of the nineteen Board approved Indicators. While staff previously reported to the Board that there would be five Indicator Reports, further analysis suggests that a sixth report is needed to deal comprehensively with data related to fire threat within the entire Region. Therefore, the six reports are:

- Demographics and the Economy
- Land Conserved and Habitat
- Water and Air Quality and Climate
- Forest Health and Carbon Storage
- Agricultural Lands and Ranches
- Fire Threat

The first report on Demographics and the Economy was presented at the September 2011 Board Meeting. The second report on Land Conservation and Habitat was presented at the December 2011 Board meeting. The third report on Water and Air Quality and Climate was presented at this September 2012 Board meeting. This fourth report on Sierra Nevada forests is being presented at this December 2012 Board meeting.

While staff are now proposing to develop a separate Indicator Report to address fire threat, there is also an important linkage between certain data sets related to fire and the health of Sierra forests. Therefore, some fire-related information is included in this report as it relates to forest health. The subsequent Indicator Report on fire threat will build on this information and also provide a comprehensive set of data on fire threat that addresses the threat not only to forest lands within the Sierra, but agricultural lands and communities as well.

Forest System Indicators Report

This fourth report includes Indicators related to Forest Health and Carbon Storage on forest lands. Because we could not determine a single measurement of forest health in the Region, three data sets are used to provide an indication of the health of the forests in the Region. The specific indicators included in this report are:

- Forest Health
  - Fire Return Interval Departure(FRID) (Number of acres in each FRID Condition Class);
  - Wildfire Threats to Ecosystems (Number of acres within each Priority Level for addressing wildfire threat); and,
  - Forest Pest Impact and Threat (Number of acres identified for each Landscape Priority Level for Pest Impacts and Prevention);

- Carbon storage on forest lands (total tons of above-ground forest biomass and the estimated amount of carbon contained therein)

In addition, this report describes the extent, character, and ownership of forest land in the Sierra Nevada.

Report Highlights

- Productive forest land within the SNC Region totals over 10.5 million acres, covering 43 percent of the Region.
- Plumas and Shasta Counties have the most forested acres (1.4 and 1 million respectively within the SNC Region) followed closely by Lassen and Tulare Counties (about 900,000 each.)
- Seventy percent of Sierra forests are under public ownership; Yuba, Butte, and Calaveras Counties have the least public forest land with 39 percent, 37 percent, and 34 percent respectively. Public ownership of forest land in Fresno, Alpine, Inyo, Mono, and Tulare Counties runs from 95 to 98 percent.
- In a historical, natural, and healthy fire regime, nearly half of Sierra forests would experience fire mostly of low severity every 12 years and three-quarters would experience fire every 20 years. However, only two-tenths of one percent of Sierra forest land has burned repeatedly at least every 20 years in modern times, and 74 percent of Sierra forest land has not had a single wildfire or prescribed burn in the last 103 years.
- Much of the Sierra forest land is vulnerable to high severity wildfire. More than half of forest land within the Region – 5.5 million acres – is classified as 'high priority' by CalFire for treatment to prevent severe wildfire threats. The North Central and North Subregions had the most high priority acres with 1.6 million and 1.5 million respectively.
- High severity wildfire poses a threat to watershed function, particularly in the northern half of the SNC Region. Nearly two-thirds of the watershed area in the North Central and North Subregions are classified as high threat.
- Insects and diseases are a natural and necessary part of healthy forests, but tree mortality rates have increased from historical rates. About 3.6 million acres of Sierra forest land is identified for some amount of restoration need from pest damage, with 1.2 million acres classified as high priority.
- Sierra mixed-conifer is the most impacted forest type from pest damage, with 1.7 million acres (36 percent of this forest type) identified for restoration need to mitigate damage.
- Over one million acres of Sierra forest not yet significantly impacted by pests are identified for some level of needed action to prevent future pest infestation.
- Sierra productive forest land holds about 840 million tons of above-ground biomass, representing approximately 420 million tons of stored carbon. About 62 percent of this biomass/carbon is on public lands.

- Nearly half of total forest biomass is in mixed conifer forest. The North Central Subregion contains the most forest biomass, followed by the South Subregion (with 220 million and 175 million tons respectively).

Next Steps

The data in this report, along with the methodologies and frameworks that have been developed, will allow consistent tracking of forest changes and impacts over time. Information relative to these indicators will be available on the SNC Web site and will be updated periodically as the underlying data is updated.

In addition to providing information relevant to the administration of SNC's programs throughout the Sierra Nevada Region, we hope that this information will also be useful to others located in or working in the Region, including other State agencies, as they develop and implement their own projects and programs.

Recommendation

Staff recommends the Board approve this fourth System Indicators report after making any revisions resulting from its review.

System Indicators

Forest Health and Carbon Storage

SIERRA NEVADA CONSERVANCY

DRAFT Report

December 2012

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GIS data development and spatial analysis by
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Introduction

This fourth report in the System Indicators series focuses on Sierra Nevada forests, and includes indicators related to Forest Health and Biomass/Carbon Storage on forest lands. In addition, this report describes the extent, character, and ownership of forest land in the Sierra Nevada Conservancy (SNC) Region.

Two of the nineteen indicators approved by the SNC Governing Board are incorporated into this report: Forest Health and Carbon Storage. Forest Health is a particularly difficult indicator to frame and quantify, as there is no consensus on exactly what defines forest health. Fires, and fire suppression, are certainly critical elements of forest health. Yet wildfire in the Sierra Nevada is a larger issue that goes beyond forest health, since it impacts woodland, grassland, and communities throughout the Region as well. In this light, aspects of wildfire as it relates to forest health are incorporated into this report; Fire Threat, in the broader scope and context, will be covered in a subsequent stand-alone System Indicators report.

Indicators of Forest Health

Because forest health cannot be characterized by any single, simple measure, three data sets are used to provide an indication of the health of the forests in the Region: fire return interval departure, wildfire threat to ecosystems, and forest pest impact and threat.

Prior to fire suppression efforts and forest management priorities of the last century and a half, Sierra Nevada forests experienced frequent wildfires mostly of low severity, which were part of maintaining a healthy forest. Fire Return Interval tracks the frequency at which wildfire revisits the same land over and over. A comparison of the frequency of fire return between the "natural" state and modern times is reflected in the Fire Return Interval Departure (FRID). The amount of departure between now and then puts land into a Condition Class. A higher Class number identifies a greater divergence in fire return rates and indicates forest land where frequent low severity fire, the primary ecological process shaping Sierra forests, has not been occurring. The acreage in each Condition Class is one Forest Health indicator. A reduction in the acreage from a higher to lower condition class would indicate improving forest health if those additional acres are burned at low severity.

CAL FIRE prioritizes landscape as to its risk and susceptibility to high severity wildfire. A second Forest Health indicator is the acreage of forest landscape that is prioritized as High threat for severe wildfire. A reduction over time in the acreage of forest categorized as High threat would indicate one aspect of improving forest conditions.

Similarly, CAL FIRE prioritizes forest land with regard to the severity of current pest impact and the threat to forest of potential pest infestation. The acreage prioritized as High for both impacts and threat comprise the last Forest Health indicator.

Biomass/Carbon Storage

Using U.S. Department of Agriculture Forest Service (USFS) Forest Inventory and Analysis (FIA) data, the amount of above-ground biomass can be mapped by SNC Subregion, forest type, and

land ownership. The amount of stored carbon can be estimated from the dry biomass figures. This indicator will track the total tonnage of above-ground biomass and the amount of carbon it contains.

Highlights

- Productive forest land within the SNC Region totals over 10.5 million acres, covering 43 percent of the Region.
- Plumas and Shasta Counties have the most forested acres (1.4 and 1 million respectively within the SNC Region) followed closely by Lassen and Tulare Counties (about 900,000 each.)
- Seventy percent of Sierra forests are under public ownership; Yuba, Butte, and Calaveras Counties have the least public forest land with 39%, 37%, and 34% respectively. Public ownership of forest land in Fresno, Alpine, Inyo, Mono, and Tulare Counties runs from 95 to 98 percent.
- In a historical, natural and healthy fire regime, nearly half of Sierra forests would experience fire mostly of low severity every 12 years and three-quarters would experience fire every 20 years. However, only two-tenths of one percent of Sierra forest land has burned repeatedly at least every 20 years in modern times, and 74% of Sierra forest land has not had a single wildfire or prescribed burn in the last 103 years.
- Much of the Sierra forest land is vulnerable to high severity wildfire. More than half of forest land within the Region– 5.5 million acres – is classified as 'high priority' by CAL FIRE for treatment to prevent severe wildfire threats. The North Central and North Subregions had the most high priority acres with 1.6 million and 1.5 million respectively.
- High severity wildfire poses a threat to watershed function, particularly in the northern half of the SNC Region. Nearly two-thirds of the watershed area in the North Central and North Subregions are classified as high threat.
- Insects and diseases are a natural and necessary part of healthy forests, but tree mortality has increased from historical rates. About 3.6 million acres of Sierra forest land is identified for some amount of restoration due to pest damage, with 1.2 million acres classified as high priority.
- Sierra mixed-conifer is the most impacted forest type from pest damage, with 1.7 million acres (36 percent of this forest type) identified for restoration need to mitigate damage.
- Over one million acres of Sierra forest not yet significantly impacted by pests are identified for some level of need to prevent future pest infestation.
- Sierra productive-forest land holds about 840 million tons of above-ground dry biomass, representing about 420 million tons of stored carbon. About 62% of this biomass/carbon is on public lands.
- Nearly half of total forest biomass is in mixed conifer forest. The North Central Subregion contains the most forest biomass, followed by the South Subregion (with 220 million and 175 million tons respectively).

Overview of Sierra Nevada Forests

Sierra Nevada forests are a beautiful, diverse, and extensive resource to California residents. Of the 25 million acres in the Sierra Nevada Conservancy Region, over ten-and-a-half million are covered with productive forests. Forest land is defined as land that is at least 10% covered by trees. Productive forest lands are forests that is at least 10% covered of commercial tree species including Ponderosa Pine, Incense Cedar, White and Red Fir, Lodgepole, and Sugar and Jeffrey Pine. Productive forest land is the definition used here in order to distinguish the subject of this report from forested areas at lower elevation where oak woodlands cover at least 10% of the landscape. These two types of forest have substantially different uses and regulatory environment. Oak woodlands have primarily been used as rangelands for cattle grazing while productive forest lands in private ownership have traditionally been used for timber and biomass harvesting regulated by the California Department of Forestry and Fire Protection (CAL FIRE) under the California Forest Practices Act.

Sierra Nevada forests are diverse with different tree species growing at different elevations and latitudes. Different 'forest types' with characteristic combinations of trees are shown in Figure 1. Traveling east and uphill from the great California Central Valley, grassland and foothill oak woodlands give way to Ponderosa Pine, mixed conifer, and Jeffrey Pine forests, leading to sub-alpine forests and bare peaks at the crest of the mountain range. On the east side of the crest, the landscape dries and gives way to eastside pine forests and Pinyon-Juniper types. Shrub dominated areas of chaparral and combinations of hardwood and conifers are found in rugged canyons throughout the range. These bands of vegetation generally increase in elevation at the southern end of the range as temperatures get warmer.

Of the 10.5 million acres of productive forest land in the SNC Region, 70% is owned by the public while 30% is privately owned (see Table 1). Of the 7.5 million acres of public land, 84% is administered by the U.S. Forest Service (USFS), 13% by the National Park Service (NPS), 2% by the U.S. Bureau of Land Management (BLM), and 1% by other public agencies including the Bureau of Indian Affairs, Department of Defense and local and state government. The 3 million acres of private land is owned by a range of small to larger ownerships including industrial timber companies and non-governmental organizations (NGOs) such as the Nature Conservancy.

Table 1. Ownership of productive forest land in the Sierra Nevada

Ownership	Acres	Percent of forest land owned	Percent of public forest land owned
USFS	6,322,189	59%	84%
NPS	962,589	9%	13%
BLM	149,187	1%	2%
Other Public	102,780	1%	1%
Private/NGO	3,143,291	29%	------
Grand Total	10,680,037		

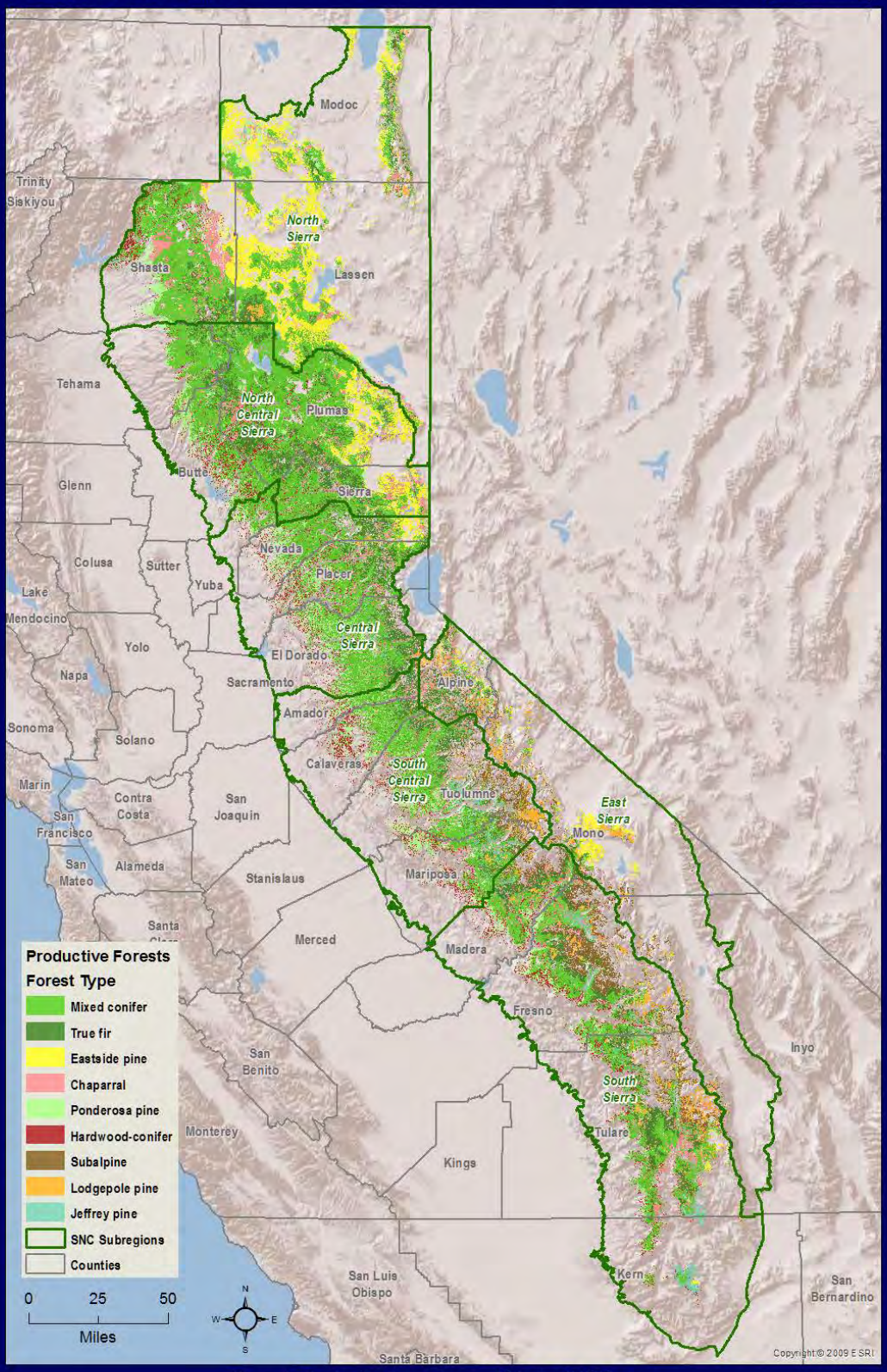

Figure 1. Productive forest types within the SNC Region

The vast majority of public forests in the Sierra Nevada are contained within eleven National Forests and four National Parks. Private forest lands are primarily found at lower elevations and in the most productive of the forest types (ponderosa pine and mixed conifer). Sierra forests are managed for multiple objectives depending on ownership and resources contained therein. Private landowners have a range of ownership goals including producing income, maintaining natural amenities and enjoying rural lifestyles (Ferranto et al., 2011). Regardless of ownership, Sierra forests are a critical source of services to the state of California and it's residents, supplying human living space, recreation, drinking water, wood products, wildlife habitat, carbon storage and myriad other benefits.

Ownership patterns vary by Subregion (see Figure 2). The East Subregion has the fewest acres of productive forestland with just over half a million acres, but the highest public ownership at 97%. The largest amount of productive forest land is in the North Central Subregion, with 2½ million acres, 68% of which is publicly owned. The South and South Central Subregions have the highest acreage of ownership by the National Park Service, with 426,000 and 443,000 acres respectively.

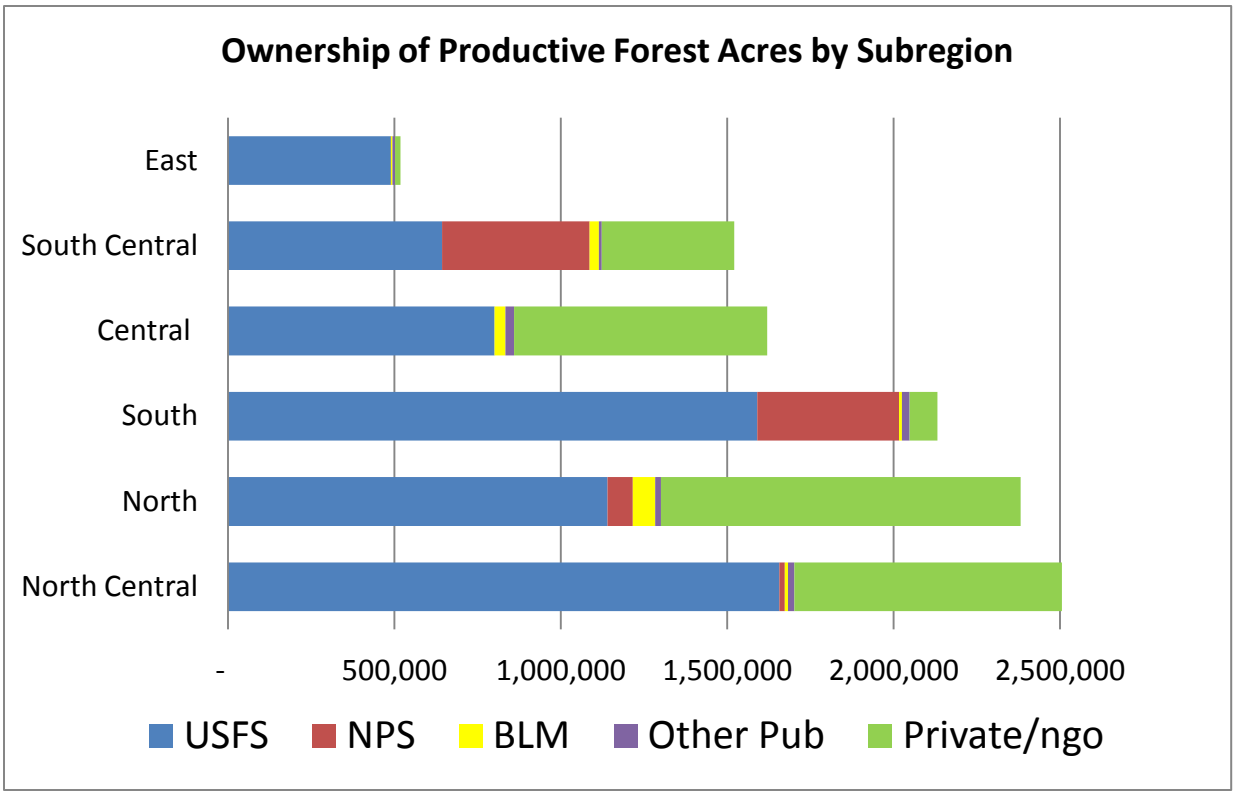

Figure 2. Acres of ownership of forest land in the Sierra Nevada Region by Subregion

Counties in the Sierra Nevada have a range of ownerships and acreages of productive forest land (see Table 5 in Appendix). Plumas and Shasta Counties have the most forested acres with about 1.4 million and 1 million acres (within the SNC Region) respectively. Lassen and Tulare Counties are next with about 900,000 acres each. Inyo, Mono, and Alpine Counties, all in the East Subregion have the most public land with 97%, 97%, and 96% respectively. Yuba, Butte, and Calaveras have the least public forest land with 39%, 37%, and 34% respectively (see Figure 3).

Although the Sierra's forest resources are diverse and abundant, the ability of these forests to supply services to California is dependent on the health and integrity of the forest ecosystem. Multiple threats to Sierra forests include an increase in scale and intensity of wildfires, a rapidly changing climate with warming and a decreased snow pack, and increased residential and urban development in forested areas.

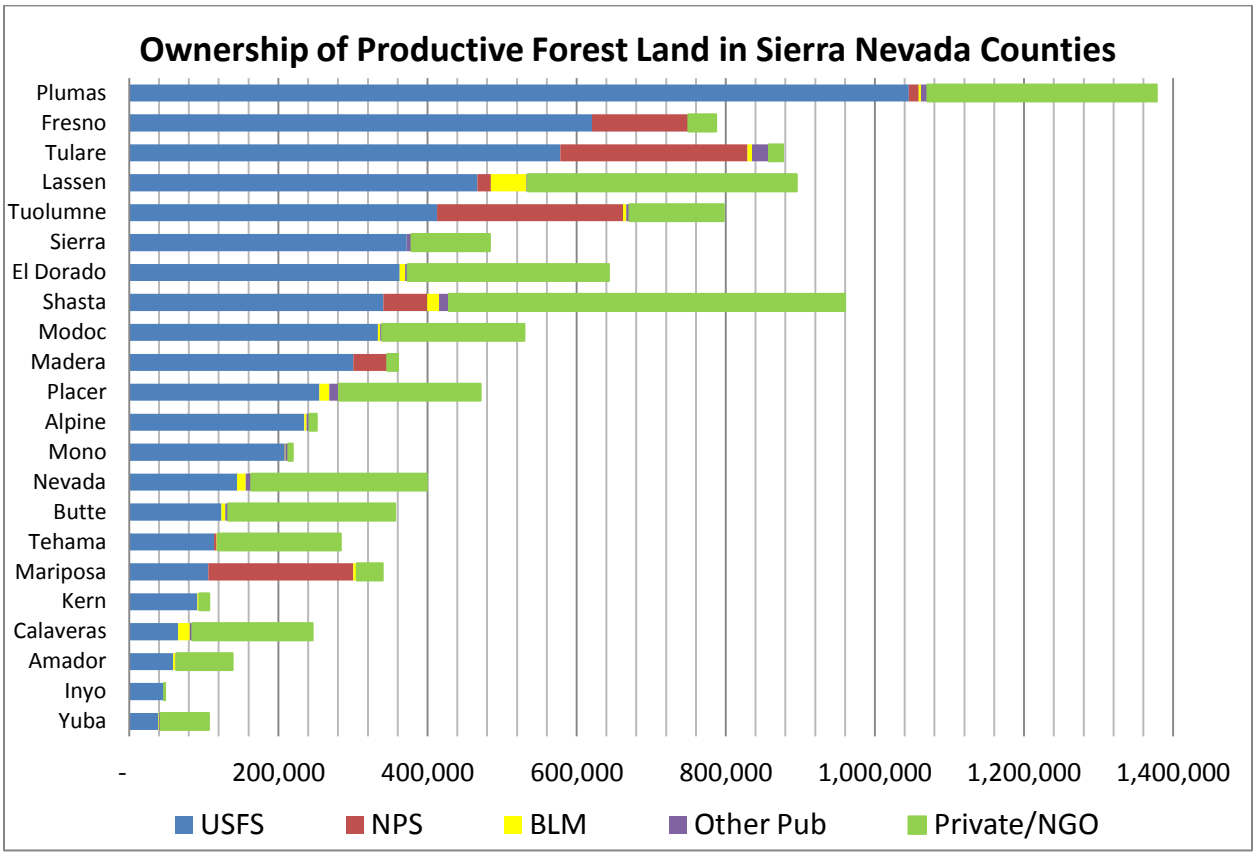

Figure 3. Ownership of productive forest land in the Sierra Nevada by county

Forest Indicators

The goal of this document is to report on the status and health of Sierra Nevada forests through a series of indicators developed from publicly available geospatial data. Indicator data presented here is collected regularly by state and federal agencies using established protocols and quality control procedures. Use of these data will allow for periodic review in the status of Sierra Nevada forests. Results from recent research on Sierra forests is included here to help inform and interpret the meaning of indicator data. Forest indicators presented here reflect different components of Sierra "forest health". Though forests are more than their individual trees, trees are the keystone species defining the forest and an examination of their health and conditions can offer much insight on the health of forested ecosystems overall.

Individual tree health can be measured by the current rate of mortality caused by wildfires, insects and disease. However, current levels of mortality may not be an indication of future levels of mortality during drought or fire. Currently healthy trees may be at risk from insects during droughts. A tree in overcrowded forests where fires have been suppressed for nearly a hundred years is at much higher risk of future mortality than a tree in a more open and resilient forest though both are currently "healthy". Lastly, climate is changing. Since current and future warming will cause new stresses on trees and forests in the Sierra, current patterns of forest health cannot be assumed to indicate future patterns.

Data presented here sheds light on insects and diseases in Sierra forests as well as the overall standing biomass contained therein. Information on the amount and type of wildfire experienced in Sierra forests is also included here as an indicator about the health of forest ecosystems.

Forest Health Indicators Related to Fire

The relationship between wildfire and forest health is a complicated one. In the recent past, fire was a profound sculptor of the entire California landscape. Frequent low intensity wildfire was the key "disturbance" mechanism shaping Sierra Nevada forests before fire suppression, mining, logging, and development started in the middle of the 19th century. Recent estimates of prehistoric fire are that between 4½ and 12 million acres burned in California every year, or about 5% to 12% of the states' lands (Stephens et al., 2007).

The exclusion of wildfire from western forests has had a number of profound ecological impacts, especially in the Sierra Nevada. Frequent fires used to consume dead wood and fuels on the forest floor and thin out the small trees in the understory. Without fire, fuels and small trees have proliferated, leading to increased stress on larger trees due to water competition, increases in tree species that are less tolerant of fire such as white fir, displacement and reduction of understory plants due to shade, displacement of deciduous vegetation by conifers, especially in riparian areas, reduction and loss of mountain meadows to conifer encroachment and reduction and loss of more open and non-forested habitats. There is also some evidence that fire suppression, by increasing moisture stress, increases a forest's susceptibility to insects and disease (Savage 1997).

Adding to the effects of fire suppression, large areas of Sierra forests were logged in rapid succession in the last century and a half, causing a new generation of forest to grow up that is of relatively uniform age and size in many areas. This combined history of impacts has led to a huge build up in forest fuels and small trees, which has in turn led to an increase in the size and frequency of high severity fires where most or all trees are killed. The average and maximum sizes of patches of high severity fire doubled in the Sierra Nevada between 1984 and 2006 from about 7 and 124 acres to 13 and 292 acres (Miller et al., 2008). Wildfires now routinely kill many large trees over larger areas than would have been the case before fire suppression. High-severity fire where all trees were killed did occur before settlement, however recent studies estimate the average size of high severity fire patches to have been only about four acres in the upper mixed conifer of the Sierra Nevada (Collins and Stevens 2010).

Fire Return Interval Departure

The change in time between fires in Sierra Nevada forests can be examined to shed light on the health of the Sierra forest ecosystem. The larger the departure from the frequency of fire under which forested ecosystems evolved, the less "healthy" the forest, because low severity fires have not been cleaning out the understory of brush and small trees. Forest managers have been conducting forest fuels treatments such as forest thinning, masticating brush, and creating fuel breaks over large areas to reduce these impacts. These treatments act as a surrogate to fire in that they mitigate a number of the ecological impacts of fire suppression. Research confirms that these treatments do indeed reduce the density of forests and so the health of individual trees without many negative side effects (Stephens et al., 2012). Fuels reduction projects have also been shown to reduce the severity of wildfires and so the likelihood of survival of trees in the burned areas (Safford et al., 2012).

Treatments have also been widely undertaken to reduce the ecological impacts described above including conifer removal from meadows and aspen stands. However, although these treatments are somewhat effective, they do not fully replace fire as the primary shaper of Sierra forests. For example, aspen restoration is most effective after fire stimulates new shoots to grow up where old trees have burned. The seeds of some rare plants need the chemical stimulus of fire to germinate and recolonize a site. Unfortunately, many of the ecological effects of low severity fire on forest ecosystem function are not well understood. Therefore, the length of absence of low severity fire from the forest can be seen as one indicator of its ecological health.

Fire return interval departure data is available for the state of California as a whole from the U.S. Forest Service and a subset was analyzed for the productive forest areas of the Sierra Nevada. The pre-settlement or "reference" fire return interval is an estimate of how often, on average, a given forest type likely burned in the three or four centuries prior to Euro-American settlement in the middle of the 19th century. Reference FRI has been determined by researchers through analysis of fire scars in tree rings in live and dead trees. Results show that forested areas previously burned every 11 years on average in the warmer and drier lower elevation forests such as ponderosa pine up to only every 133 years for sub-alpine forests where it takes much longer for fuels to accumulate and dry (Stephens et al 2007) (see Figure 4). The current fire

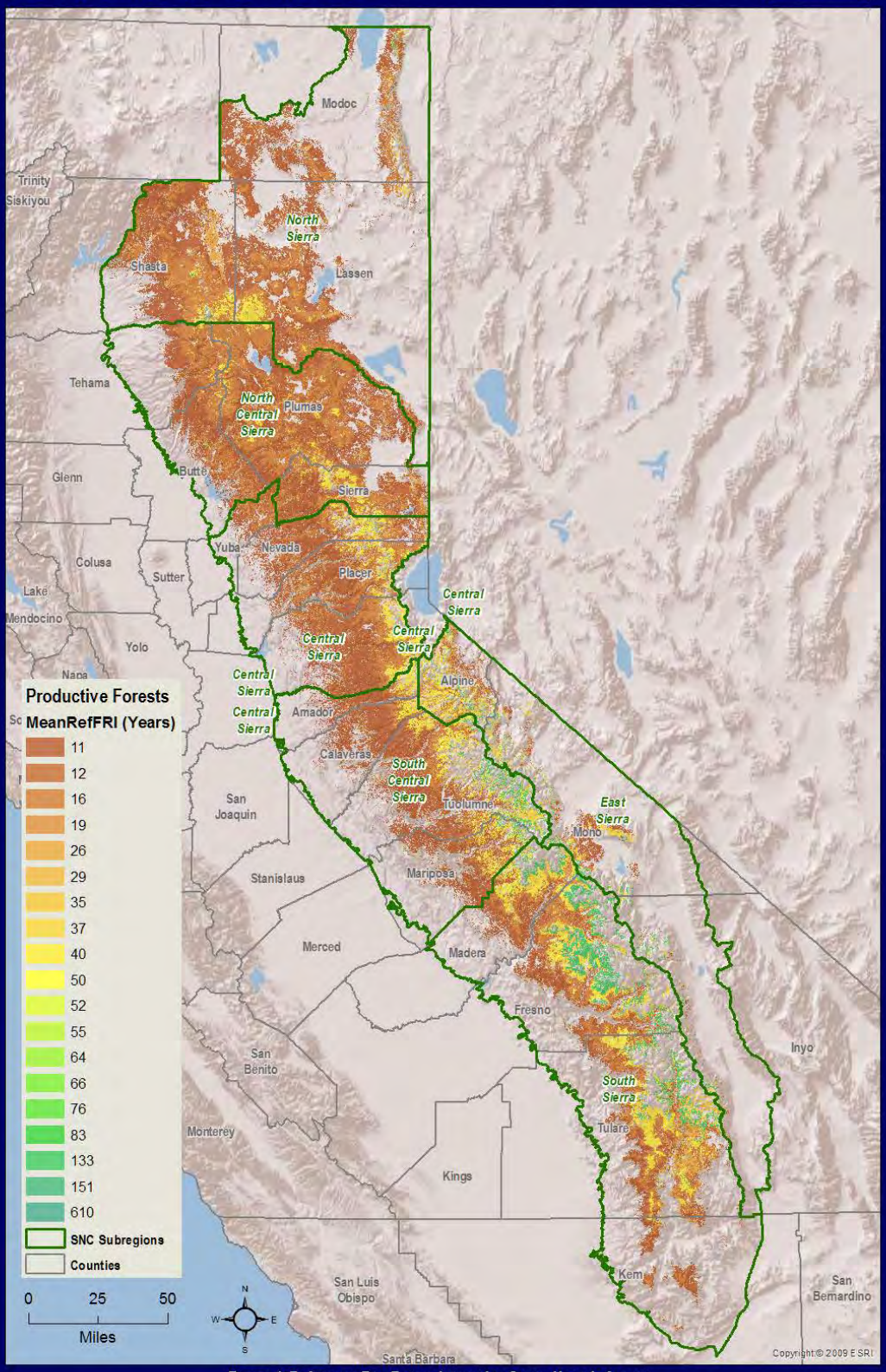

Figure 4. Reference Fire Return Interval in Sierra Nevada forests.
Average number of years between fires before fire suppression, logging and development started in the 1850's.

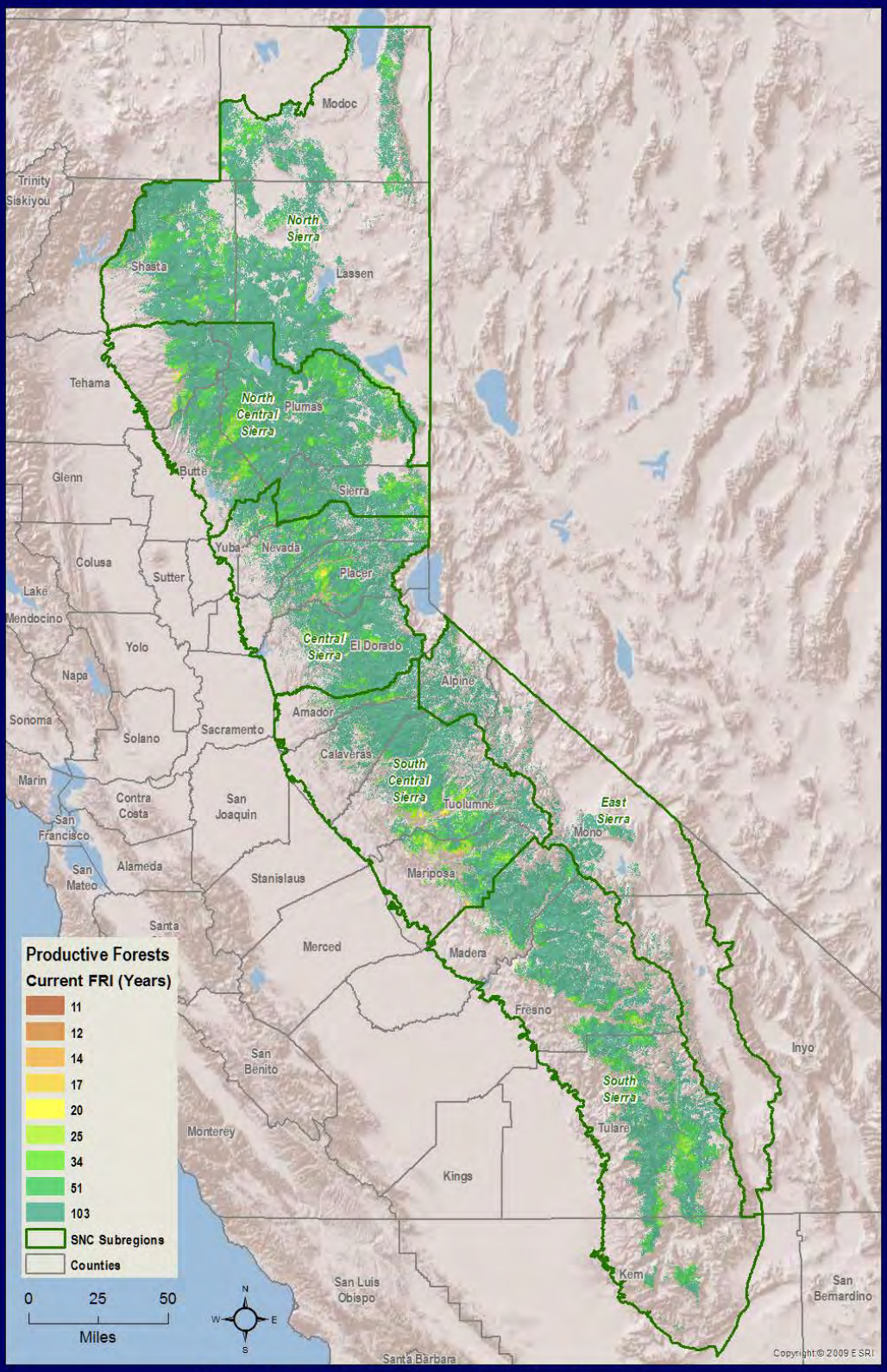

Figure 5. Current Fire Return Interval in the Sierra Nevada forests

return interval is calculated by dividing the number of years in the fire record (2010-1908=103 years) by the number of fires occurring between those dates in a given area.

Looking at Sierra forests as a whole, about 46% of the ten-and-a-half million acres would have burned at least every 12 years on average, and 76% would have burned at least every 20 years on average. This compares to less than 0.2 percent that currently burns at least every 20 years, most of which is in the National Parks, which more regularly use prescribed fire and managed wildfire (natural fires that are allowed to continue burning under suitable conditions and control) to achieve fuels reduction and forest management objectives (North et al 2012). A total of 74% of the Sierra landscape has not had a single wildfire or prescribed burn in the last 103 years (see Figure 5).

Condition Class is a measure of the extent to which fires since 1908 are burning at frequencies similar to before Euro-American settlement (a comparison between current and mean reference FRI). Classes include Class 1 where there has been up to a 33% departure; Class 2 with 33 to 67% departure; and Class 3 with more than a 66% departure from pre-settlement fire return interval. Condition classes are positive where fires are burning less often than under pre-settlement conditions, while negative classes are found where fires are burning more often. Both positive and negative Condition Class 1 are grouped together because they are both within 33% of the mean pre-settlement value.

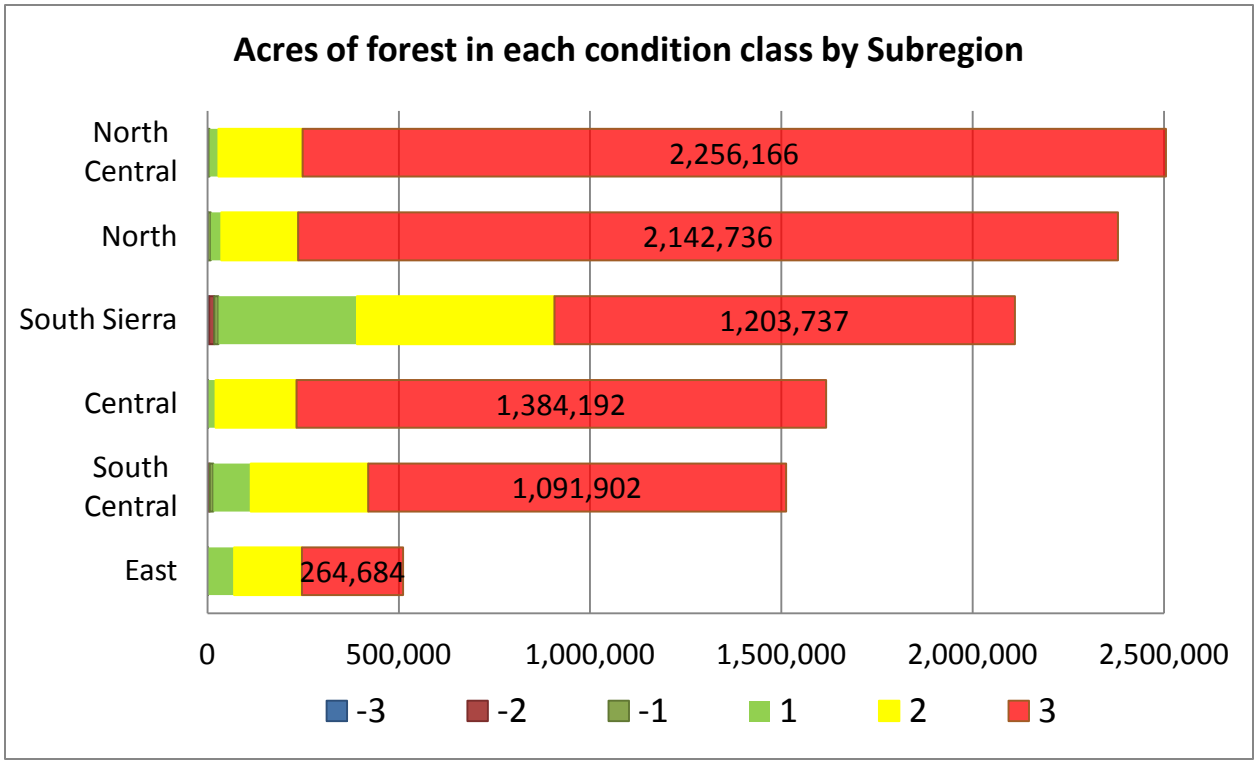

Figure 6. Acres in each fire condition class in Sierra Nevada Subregion, 2010. Class 1 has a 33% departure; Class 2 has a 33 to 67% departure; and Class 3 has more than a 66% departure from pre-settlement fire return interval. Fires burn less often in positive condition classes than under pre-settlement conditions, while fires burn more often in negative classes.

Seventy-eight percent of the productive forests in the Sierra are in Class 3, 15% are in Class 2 and 6% are in Class 1. The Subregions of the Sierra with the highest percentage of forests in Class 3 are the North and North Central Sierra, each with 90%. The Central and South Central Subregions have 85% and 72% in Class 3 respectively. The South and East Subregions have the smallest percentages of forest areas in Class 3 at 56% and 51% respectively (see Figure 6).

The ownership with the lowest percentage of acres in Class 3 is the National Park Service where many years of prescribed burning have re-introduced fire into forests. NPS lands are also more likely to be at higher elevations where fires were less frequent so they are not as far "behind" in years in which burns would have happened under a natural fire regime (North et al., 2012). The U.S. Forest Service is second with 75% of their Sierra forest acreage in Class 3. Private landowners have 98% of their forests in condition class 3 (see Figure 7).

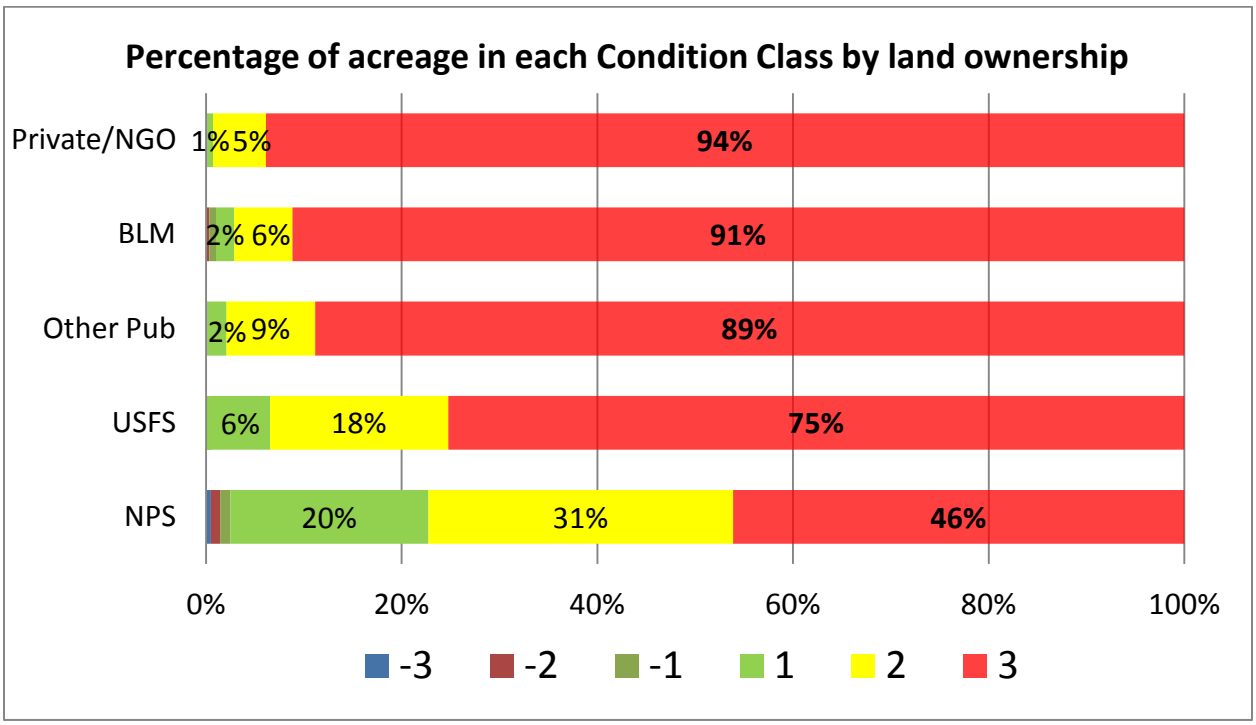

Figure 7. Ownership of Sierra Nevada forests by fire condition class.

Severe Wildfire Threats to Ecosystems

Although Sierra Nevada forests evolved under a regime of frequent low severity fire, wildfires today typically burn at higher severity over larger areas, meaning that most if not all, of the trees are killed (Miller et al., 2008). High severity fire, burning over a large area, threatens the ecosystem services provided by forests including drinking water, soil stabilization, wildlife habitat and recreation. So, although lack of fire can be seen as an indicator of lack of forest heath, too much high severity fire kills many trees and causes other dramatic negative impacts on forest ecosystems.

Data about severe wildfire threats to ecosystems in California was assembled by the CAL FIRE Fire and Resource Assessment Program (FRAP) in 2010 (CAL FIRE 2010). CAL FIRE identified ecosystems where the threat of high severity wildfire to ecosystem services is highest and classified them into low, medium, and high priority landscapes for addressing the threats. These areas were identified as locations where treatments to reduce fire impacts such as fuels reduction through prescribed fire, mechanical thinning, grazing and other approaches were needed. These types of treatments have been shown to effectively reduce the severity of fire and so, the impacts to forested ecosystems (Safford et al., 2012).

CalFire identified Sierra mixed conifer forests as the ecosystem with the largest area of high priority landscape of any in California, with 3.7 million acres. Within Sierra Nevada forests, almost 5½ million acres, or half the total acreage, was classified as high priority for treatment to prevent severe wildfire threats to forest ecosystems (see Figure 9).

Within the Sierra Nevada, the North Central Subregion had the most high priority acres with 1.6 million, followed by the North Subregion with about 1.5 million. The South and South Central Subregions had about half that much. The East Subregion had very little forest area where ecosystems were prioritized for action to relieve the threat of severe wildfires (see Figure 8).

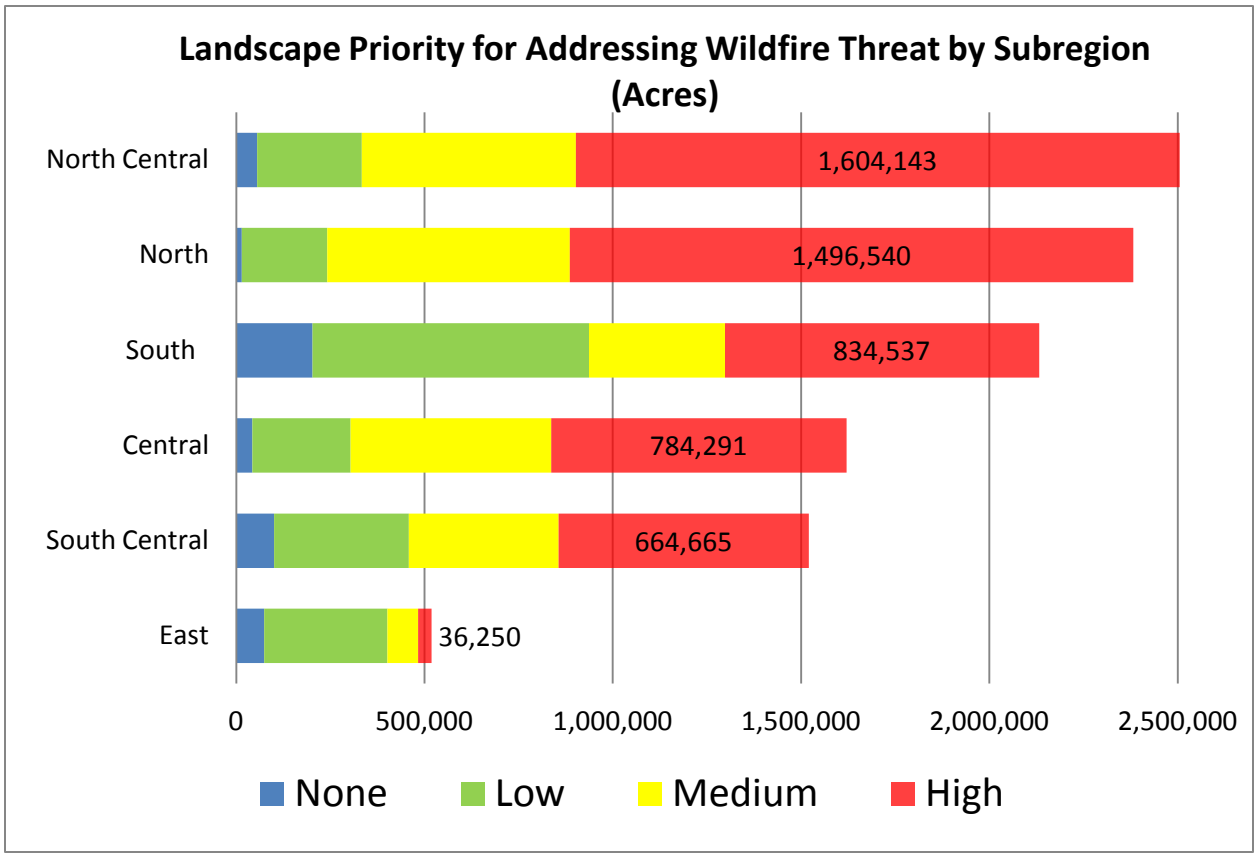

Figure 8. Landscape Priority for addressing severe wildfire threats to ecosystems for each Subregion

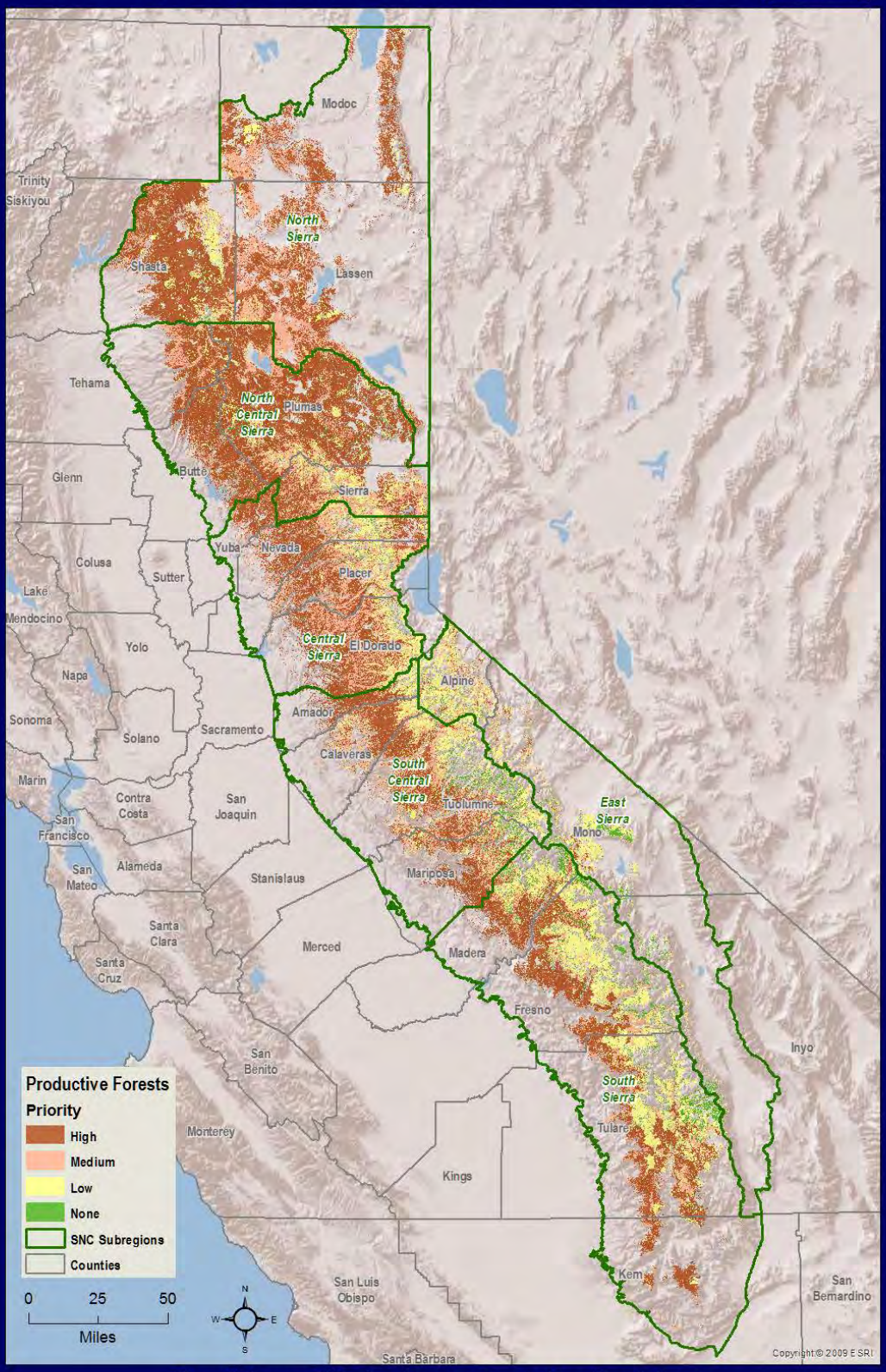

Figure 9. Severe wildfire threat to ecosystems in Sierra Nevada forests

The National Park Service, again, has the lowest percentage (25%) of its acres in high priority for addressing severe wildfire threat (see Figure 10). The U.S. Forest Service is second with 48% of its acres rated as high priority. Other public agencies including the Bureau of Land Management, private landowners and NGOs all have around two-thirds of their acres in High Priority status.

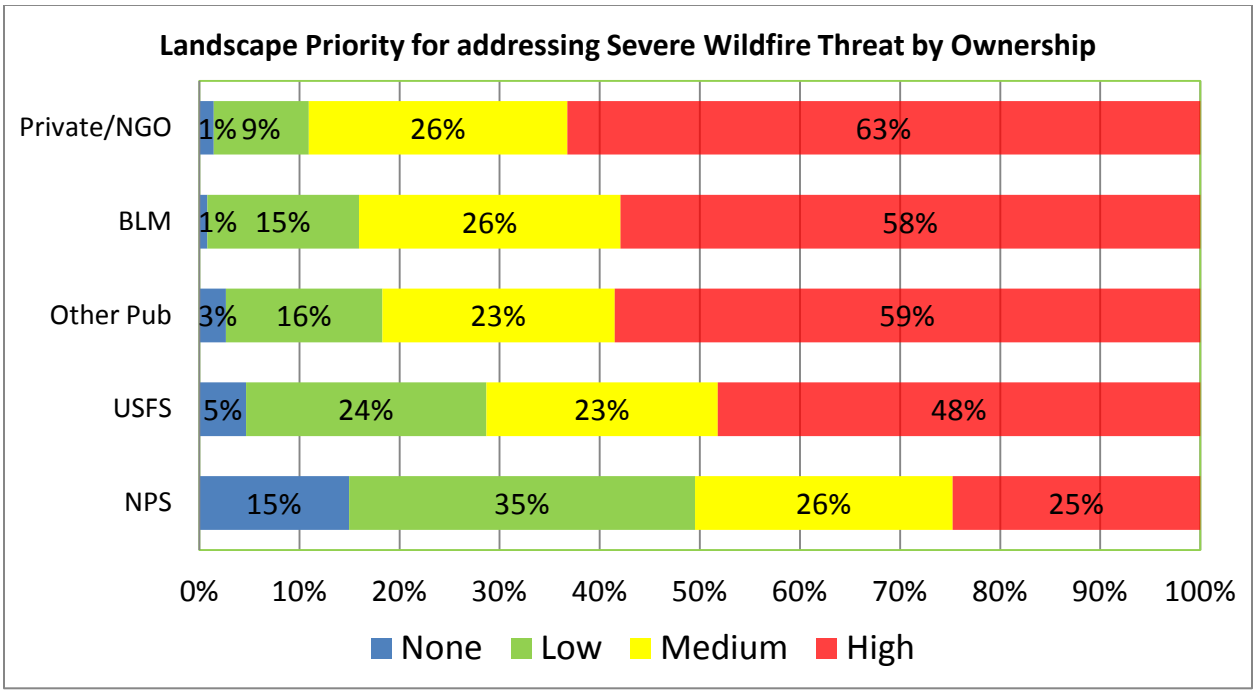

Figure 10. Landscape priority for addressing wildfire threats to ecosystems for different ownerships

CAL FIRE did an additional analysis to identify watersheds where a high percentage of the landscape is at risk for damage from severe wildfires. The Sierra Nevada Region data is shown in Figure 12. High severity fire can have dramatic impacts on watershed function, including increasing the volume and likelihood of increased sediment delivery. Fires consume the litter layer, exposing soils to erosive precipitation and killing plants whose roots give the soil strength to avoid slumps. The larger the area within a watershed that is threatened by high severity fire, the greater the concern.

The Subregions with the highest threat to watersheds are the North and North Central Subregions, with an average percentage of watersheds threatened of 63% and 64% respectively (see Figure 11).

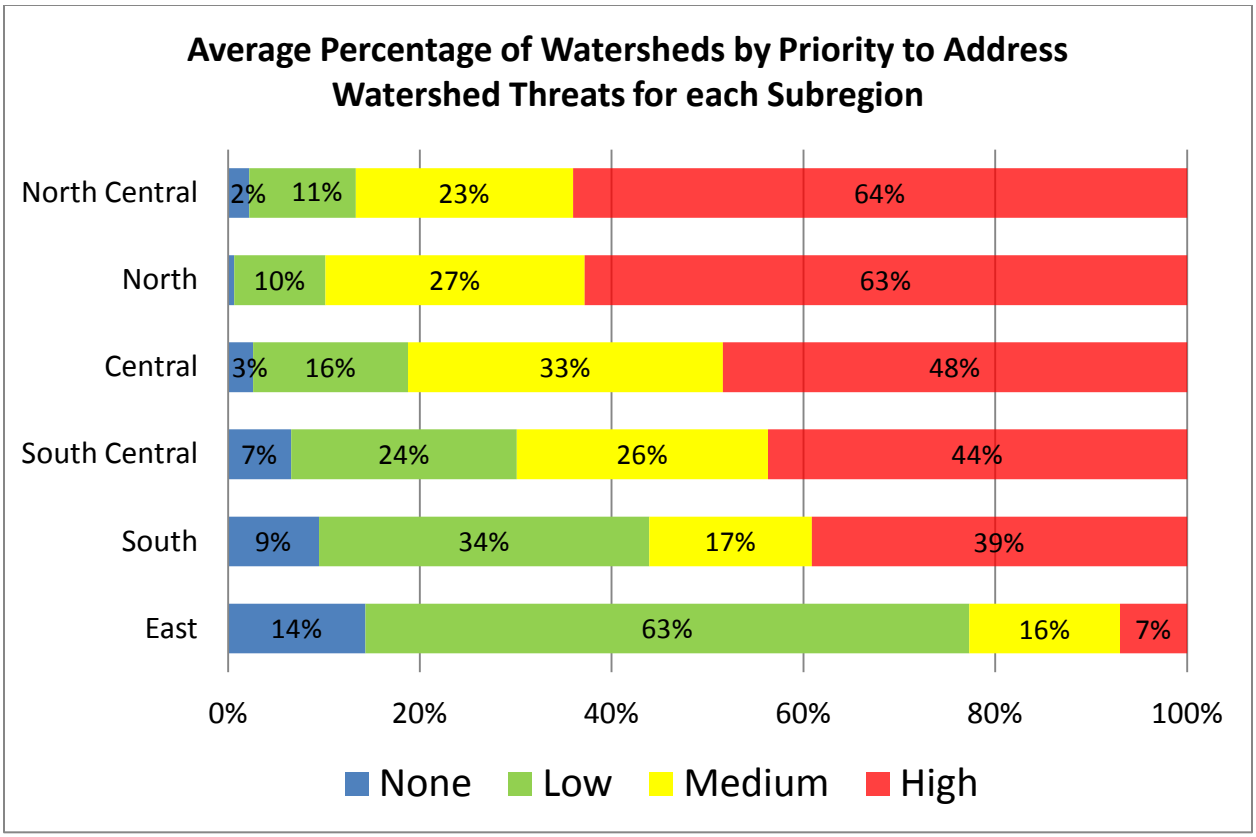

Figure 11. Average percentage of watershed by Subregion in each priority to address severe wildfire threat

Watershed areas which have already withstood wildfire damage to their ecosystems and so are at high priority for restoration of their forests were identified by CAL FIRE (see Figure 13.) The Sierra Nevada watersheds with the highest percent of forested areas to be restored are found in the North Central Subregion. The Butte Creek Watershed in Butte County and the East Branch of the North Fork Feather River in Plumas County had 10% and 9% of their area in high priority to restore damage from wildfire damaged ecosystems during the 2010 assessment. Significant areas of the Feather River Watershed have burned since this assessment was completed.

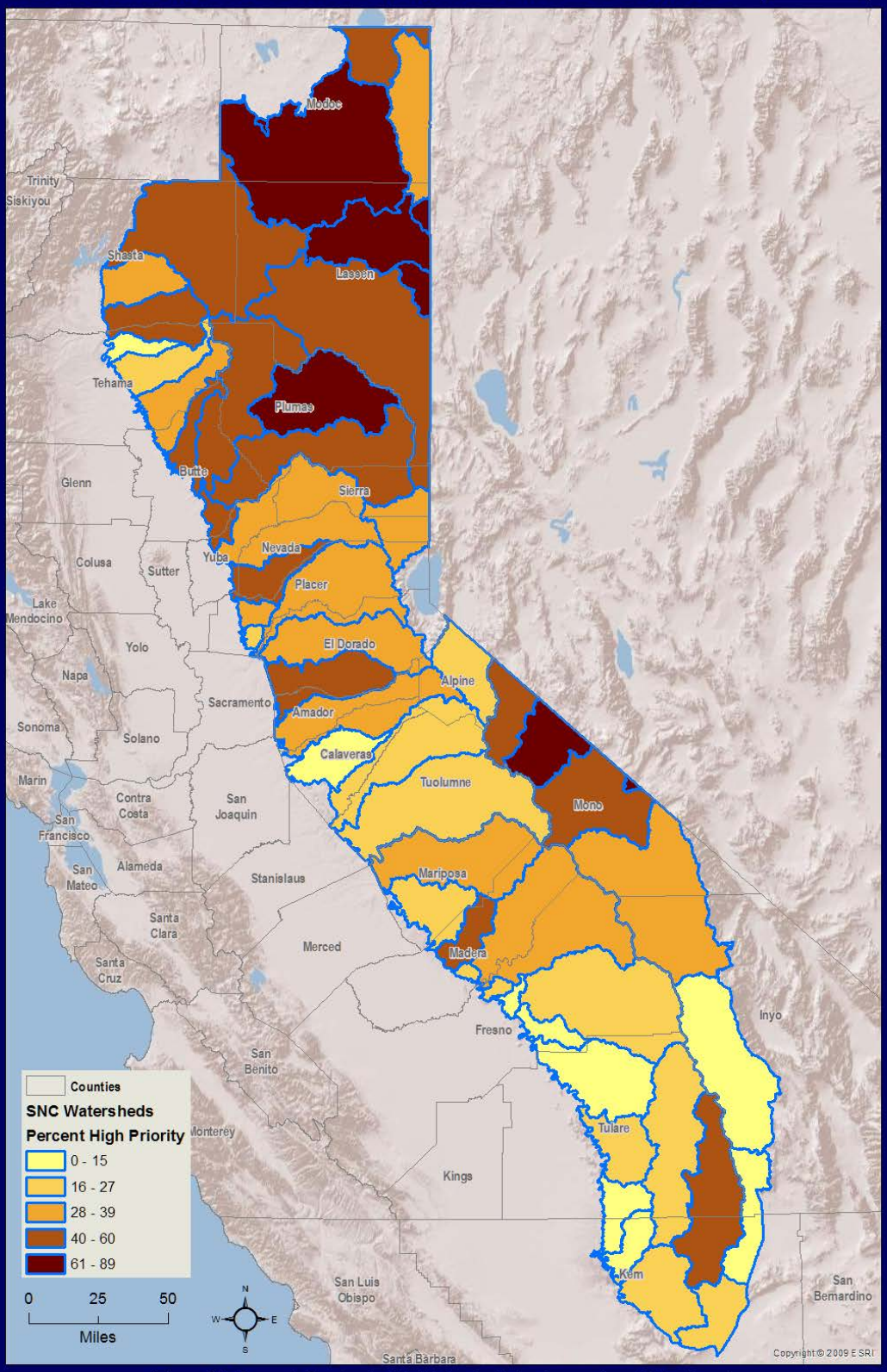

Figure 12. Percent of watershed in high priority landscape for wildfire threat

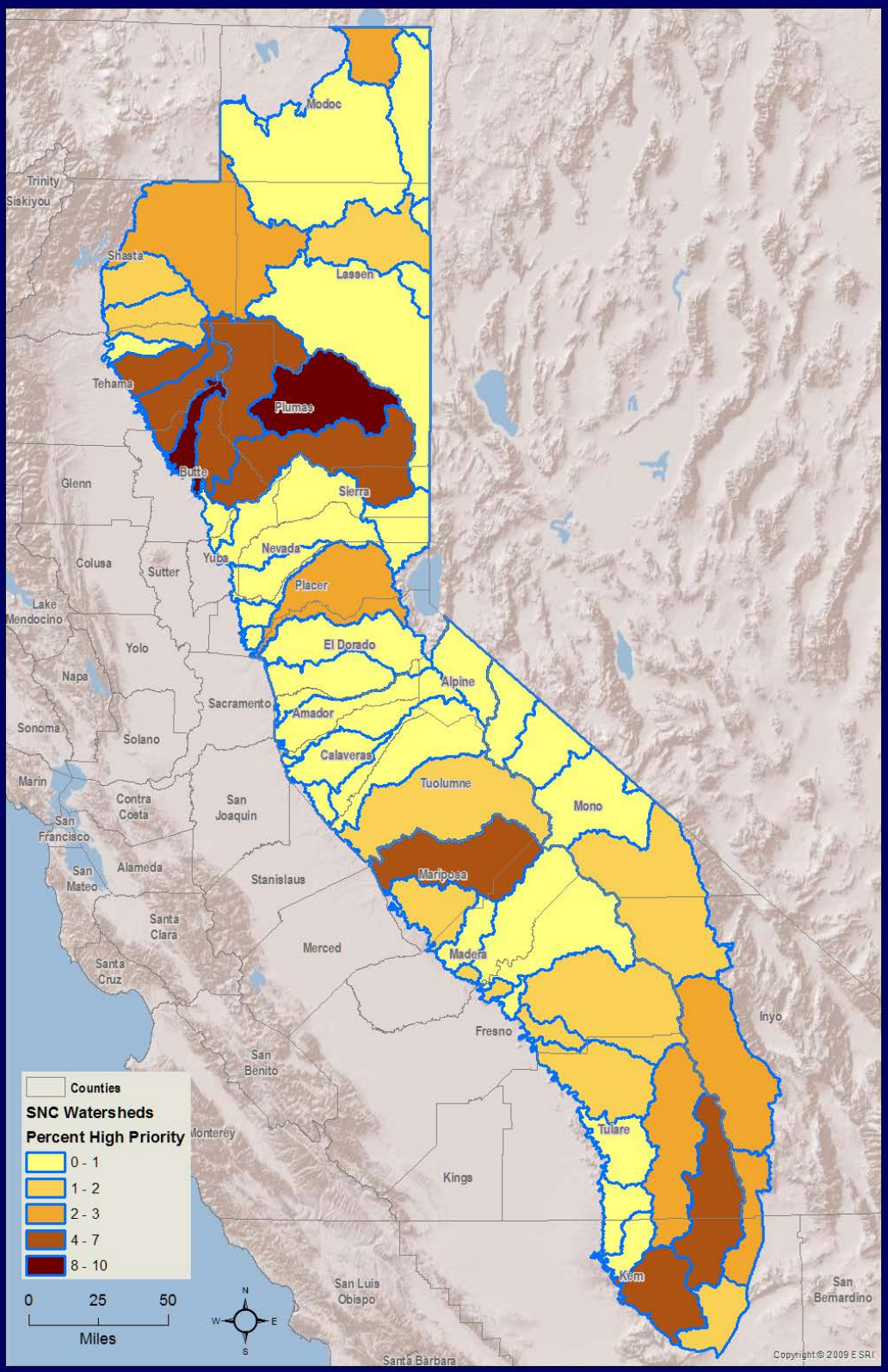

Figure 13. Percent of watershed in high priority landscape for restoration from wildfire

Forest Health Indicators Related to Pests

Like wildfire, insects and diseases are a natural and necessary part of Sierra forest ecosystems. Insects that kill trees also prey on other insects and provide food for wildlife. Tree diseases and rots speed decay of wood back into nutrients for the next generation of trees. Tree mortality from insects and disease (together known as forest pests) is usually localized, affecting only a few trees in a small area. However, epidemic levels of mortality occasionally occur as happened in the large numbers of Southern California trees killed by drought and insects in the late 1990s (Christensen et al., 2008).

Insects typically kill trees that are weakened by other stressors such as lack of moisture, sunlight, nutrients or growing space. Bark beetles gain entry to trees by boring through bark where females lay eggs in tunnels excavated beneath the bark. This disrupts the conductive tissue below the bark and eventually kills the tree once it is girdled. Trees respond to beetle attacks by sending pitch to the entry wounds to try to push the beetles out. Trees that are stressed are less able to respond and so more likely to succumb and die.

Forests typically experience background levels of tree mortality from pests until large scale stressing events such as drought or wildfire weakens large numbers of trees, enabling pests to cause epidemic levels of mortality over large areas. The background rate of tree mortality is generally considered to be about 1% a year (van Mantgem and Stephenson 2007).

However, there is evidence from research in the Sierra and across the West that the background rate of tree mortality has been increasing. One study conducted using a network of old-growth forest plots in the Sierra found that tree mortality due to forest pests and stress increased on average by 3% per year, meaning that the rate nearly doubled between 1983 and 2004, from about 1% a year to about 2% a year (van Mantgem and Stephenson 2007). Researchers found that both pine and fir trees had a similar increase in mortality. They suggested that the primary cause is increased drought stress due to increases in temperature as a result of climate change. Mortality increased regardless of elevation, tree density or competition.

Warming is thought to contribute to increasing mortality by increasing drought stress on trees while at the same time stimulating the growth and reproduction of insects and pathogens that attack trees. Warming is thought to have played a key role in recent large episodes of forest dieback elsewhere in Western North America (van Mantgem et al., 2009). Researchers suggest that Sierra and other water-limited forests “are sensitive to temperature-driven drought stress, and may be poised for die-back if future climates continue to feature rising temperatures without compensating increases in precipitation” (van Mantgem and Stephenson 2007, page 914).

Forest Pest Impact and Threat to Ecosystems

Data from forest pest threats to ecosystems in California has been assembled and published by CAL FIRE (CAL FIRE 2010). They identified ecosystems where the current impact and future threat from forest pests to ecosystem services is highest and classified them into low, medium,

and high priority landscapes for addressing the threats. CAL FIRE found over 6 million acres impacted by forest pests in California. Sierra mixed conifer forests were identified as the most impacted forest type in the state with over 1.7 million acres, or 36% of the forest identified for restoration to mitigate impacts of past damage. In the Sierra Nevada, almost 1.2 million acres were identified as high priority areas for restoring lands impacted by pests (see Figure 15). Seventy-six percent of priority landscapes are on lands managed by the U.S. Forest Service (USFS) and 17 percent are on privately owned lands.

CAL FIRE also prioritized the forested areas where action to reduce future forest pest impacts is needed (see Figure 16). Actions could include removal of dead and dying trees near community infrastructure, removal of live vegetation at risk due to being next to dead or dying trees, and removal of soil harboring pathogens. Other actions could include education and outreach to land owners and forestry assistance programs. Over one million acres of Sierra forest not yet significantly impacted by pests are identified for some level of need to prevent future pest infestation, with over 227,000 acres identified as high priority. Of the forest land identified as high priority for preventing pest outbreaks, 75% was USFS and 14% was private (see Figure 14).

Altogether, Forest Service land contains almost 1.1 million acres of high priority areas to treat for pest impacts or pest prevention, over 10% of its ownership. Privately owned land has 236,000 acres of high priority area identified for impact or prevention treatment.

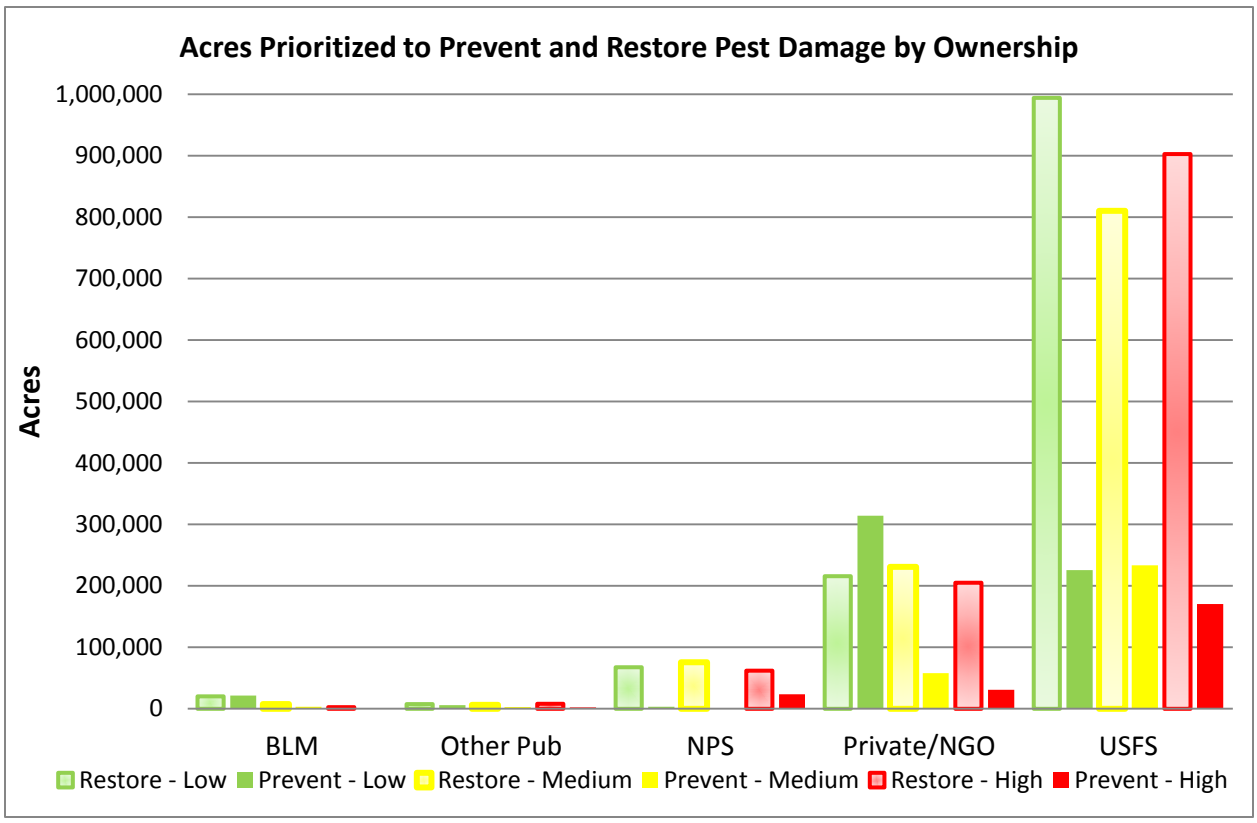

Figure 14. Acres prioritized for prevention and restoration of pest damage by landowner

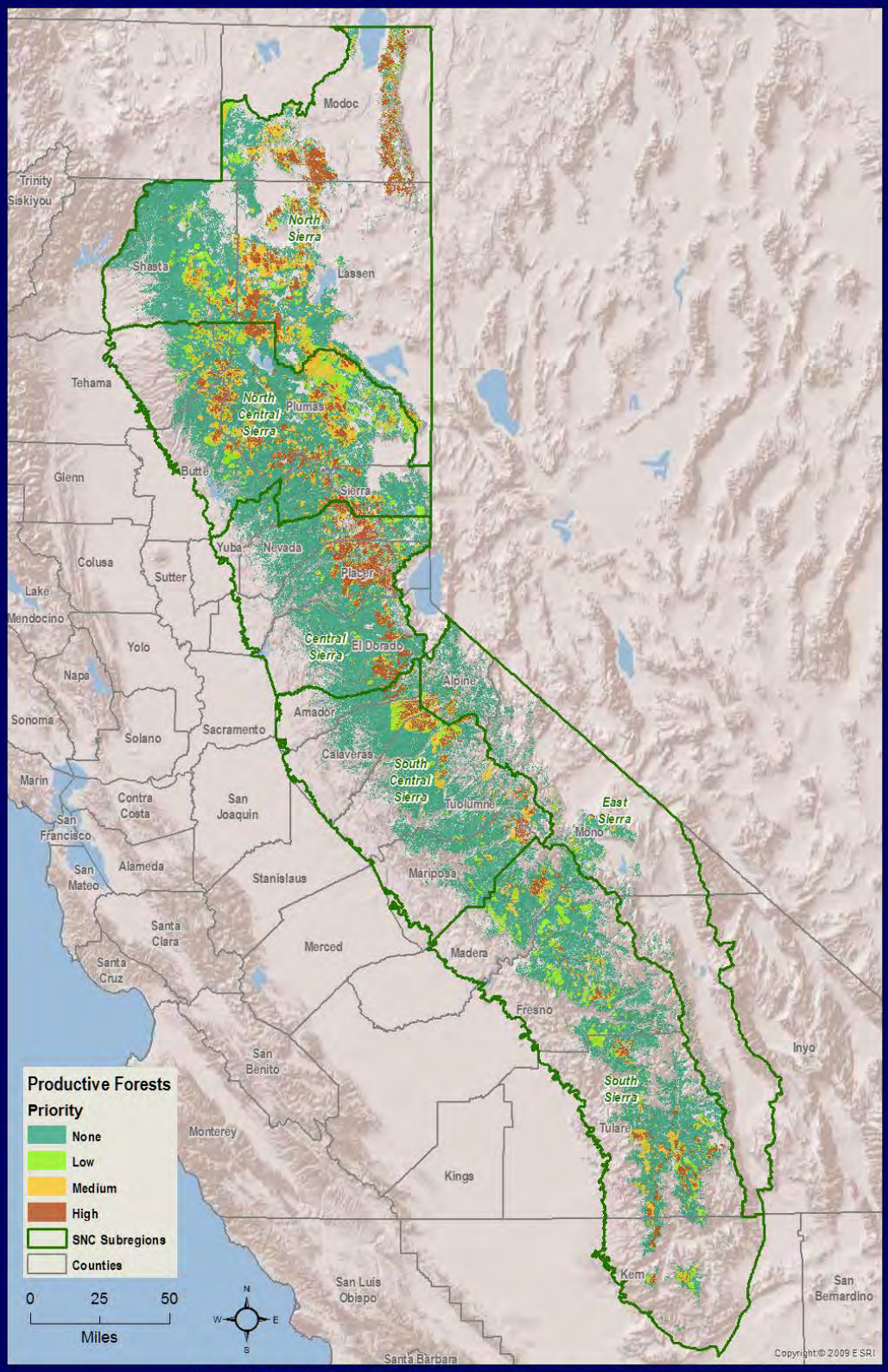

Figure 15. Priority forest lands for treatment to restore pest impacts

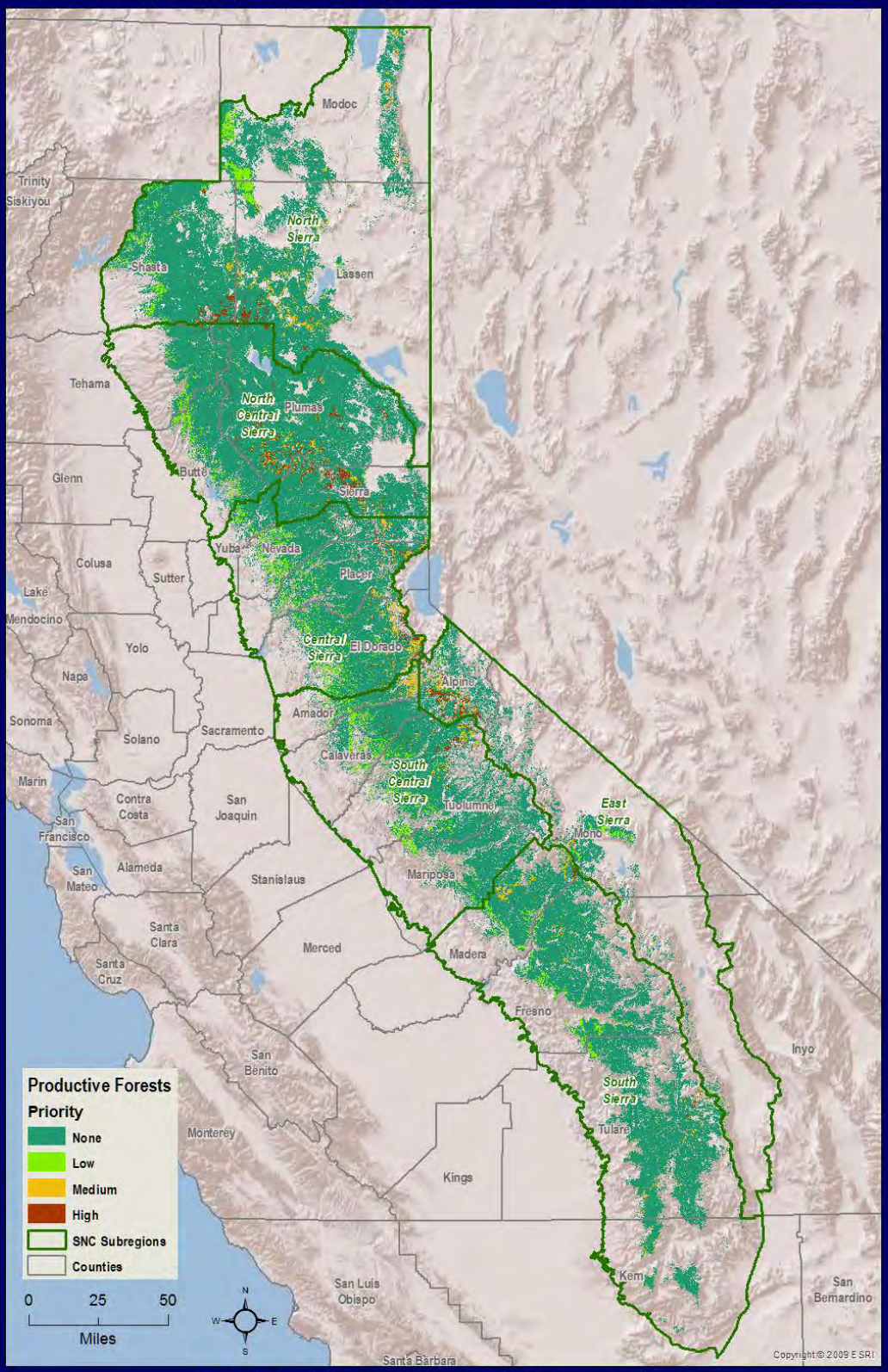

Figure 16. Priority forest lands for preventing future pest outbreaks

Forest Pest Impact and Threat to People

When they cause epidemic levels of mortality, forest pests have a disruptive influence on human communities. Dead and dying trees can fall and block major transportation routes, hit power lines (sometimes starting fires), or crush structures. An estimated 3.5 million trees died due to the combined effects of drought and insects between 1998 and 2003 on forest land in the counties of San Bernardino, Riverside, San Diego, and Los Angeles. The overall mortality rate for conifers over this period was 13% (Christensen et al., 2008). This mass die off spurred coordinated efforts from land management and regulatory agencies to remove over 1.5 million dead trees. This effort cost $225 million over three years (CAL FIRE 2010). CAL FIRE has the authority, with the approval of the California Board of Forestry and Fire Protection (BOF) to declare a Zone of Infestation for native and exotic insect and disease pests. This enables them to go on private lands to attempt pest eradication or control. In 2010 there were Zones of Infestation declared for bark beetles in the Lake Tahoe basin and the Southern California Mountains.

The amount of forest pest damage in the Sierra, though notable, has not reached the scale of impacts found elsewhere such as the Southern California Mountains. Areas of high priority are small and localized. The five communities in the Sierra Nevada with the most acres needing mitigation to restore pest damaged forests are all found at elevations above 4,900 feet (see Table 2). Truckee in Nevada County has the most acres of high priority for action to protect public safety with 550, comprising 3% of the acres within the community. Bear Valley in Alpine County has fewer high priority acres to treat at 263, but this makes up 8% of the community's acres (see Figure 17).

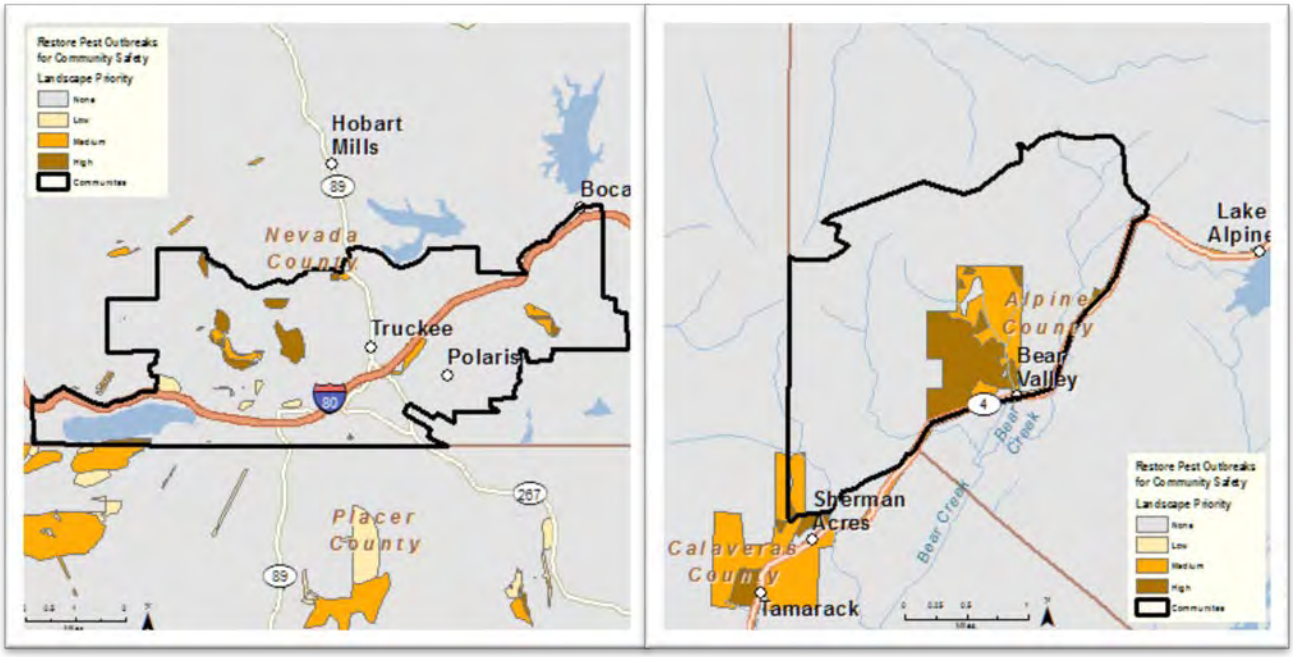

Figure 17. Community acres prioritized for restoration of pest damage for community safety

Table 2. Top five communities with high priority landscape area for restoring forest pest impacts for public safety

Community – County Population Elevation (feet)	Priority Landscape Acres Percentage				Total Community Acres
	None	Low	Moderate	High	
Truckee – Nevada 16,000 5817’	20,510 95%	172 1%	317 1%	550 3%	21,550
Bear Valley – Alpine 120 7100’	2,768 84%	7 0%	272 8%	263 8%	3,310
Plumas Eureka – Plumas 320 6014’	2,327 92%	45 2%	103 4%	50 2%	2,526
Mineral – Tehama 120 4918’	27,976 98%	397 1%	69 0%	29 0%	28,470
Shaver Lake – Fresno 630 5627’	21,459 97%	493 2%	206 1%	22 0%	22,180
Grand Total	878,258	3,768	2,253	1,019	885,297

Forest Biomass and Carbon Storage

Carbon is a major constituent of life on Earth, forming an essential component of fossil fuels, vegetation and complex molecules in animals. Forest ecosystems actively participate in the 'carbon cycle' in many ways. Trees take in carbon dioxide, use the carbon molecules to form their woody structure and release the oxygen to the atmosphere where it is breathed in by animals. Trees die, decay and release carbon dioxide back into the atmosphere. Carbon is stored in dead wood on the forest floor and also leaches into the soil, as rain and snow soak dead leaves on the forest floor and then soak into the ground. Carbon dioxide is emitted when forests burn and later when trees killed by pests and fire start to decay. Carbon based fossil fuels are expended to power heavy equipment used to harvest and transport wood products. Those wood products in turn store carbon for decades or centuries in some cases. Woody byproducts from forests are burned to generate electricity which substitutes for carbon in fossil fuels that would have otherwise been used.

The storage of carbon by forests has received increased attention in recent years because of the realization that forests play a critical role in stabilizing large amounts of carbon in the global carbon cycle. There is a growing scientific consensus that the amount of carbon dioxide in the atmosphere has drastically increased since the industrial revolution, changing climate patterns and leading to warming in the Sierra Nevada and California as a whole. As a result, many people are now interested in developing methods to maintain and increase the amount of carbon stored in forests to slow down the increase in carbon in the atmosphere.

The amount of carbon stored in forests is estimated from actual tree measurements. The total living weight of trees in a forest is about half water. The other half is called biomass. Biomass is generally considered to be an indicator of the productivity of the ecosystem. The more productive the forest ecosystem, the higher the biomass that can be found there. Forest biomass is about half carbon. The other half is made up of other elements necessary for tree health and function. Current estimates of forest biomass are based on the weight of above ground living tree matter (minus the half that is water) calculated by using forest inventory data. Carbon is then estimated by halving the amount of biomass per unit area, and is usually expressed in short tons per acre.

The current methods of estimating carbon in forests are not very precise, in part because information on the amount of carbon stored by forest soils is not widely available. Forest soils store carbon as one of a number of 'pools' which also include live and dead trees, forest litter and fuels. More carbon is actually stored in soils in Northern Canadian forests than in the standing live and dead trees. This is because cold causes vegetation to decompose very slowly leading to large areas of carbon rich soil and peat bogs. Conversely, tropical forests store very little carbon in the soil because warm and moist conditions cause organic matter to decompose very quickly. In these tropical systems, most carbon is stored as standing biomass. Carbon stored in Sierra soils is in between these two extremes.

A recent estimate made by looking at data from trees, snags, soils and litter in over 1,100 forest stands (Stewart et al., 2011) suggested California mixed conifer forests store about 107 total

tons of carbon per acre. Only half the stored carbon is found in trees while 21% is contained in the soil (see Table 3).

Table 3. Average distribution of forest carbon in tons per acre for mixed conifer forest

Forest Component	Live tree	Soil	Forest floor	Dead/ Down	Dead tree	Under story	Total
Tons of carbon per acre	55	22	17	8	5	1	107
Percent of total carbon per acre	51%	21%	16%	7%	4%	1%	100%

The U.S. Forest Service Forest Inventory and Analysis (FIA) program has developed a spatially explicit dataset of above ground live forest biomass made from measured forest inventory plots for the United States (Blackard et al., 2008). The data was developed by combining FIA plot data and Moderate Resolution Imaging Spectrometer (MODIS) derived image composites and other information into ecologically similar mapping zones for forests of the United States. A subset of data on forest biomass (about half of which is carbon) for the Sierra Nevada was analyzed here. Measurement of below ground biomass was not done, meaning that these estimates are incomplete.

The total above ground biomass accumulation of all productive forests in the Sierra Nevada was almost 840 million tons (see Table 4). About 62% of this forest biomass was owned by the U.S. Forest Service, which is only slightly more than their percentage of Sierra forest land ownership (60%). Concentrations of biomass ranged from very low to over 700 tons per acre in a few isolated giant Sequoia groves in the South Central and South Subregion (see Figure 18).

Table 4. Above ground biomass in the Sierra by ownership

Ownership	Biomass tons (American short tons)	Percent of Total Biomass	Percent of Total Acres
USFS	519,427,710	62%	60%
Private	225,744,095	27%	28%
Other public	93,341,550	11%	11%
Total	838,513,355		

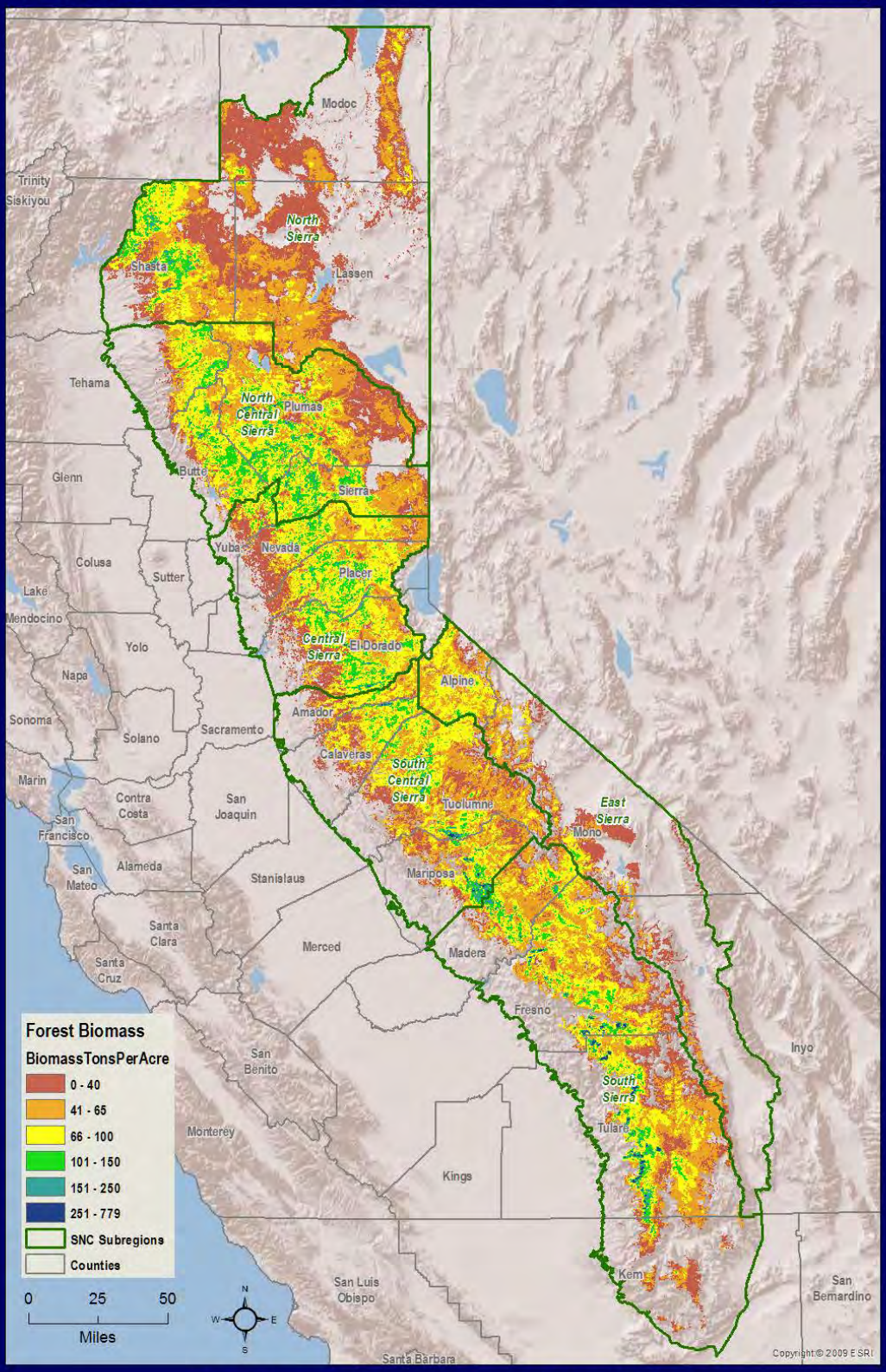

Figure 18. Tons of standing forest biomass within the SNC Region

The highest concentration of forest biomass was found in the North Central Subregion where over a quarter of the biomass in the Sierra Nevada is found, with about two thirds of that being publicly owned (see Figure 19). The lowest concentration of biomass was in the East Subregion with only about 4% of the Sierra total, of which 97% was publicly owned.

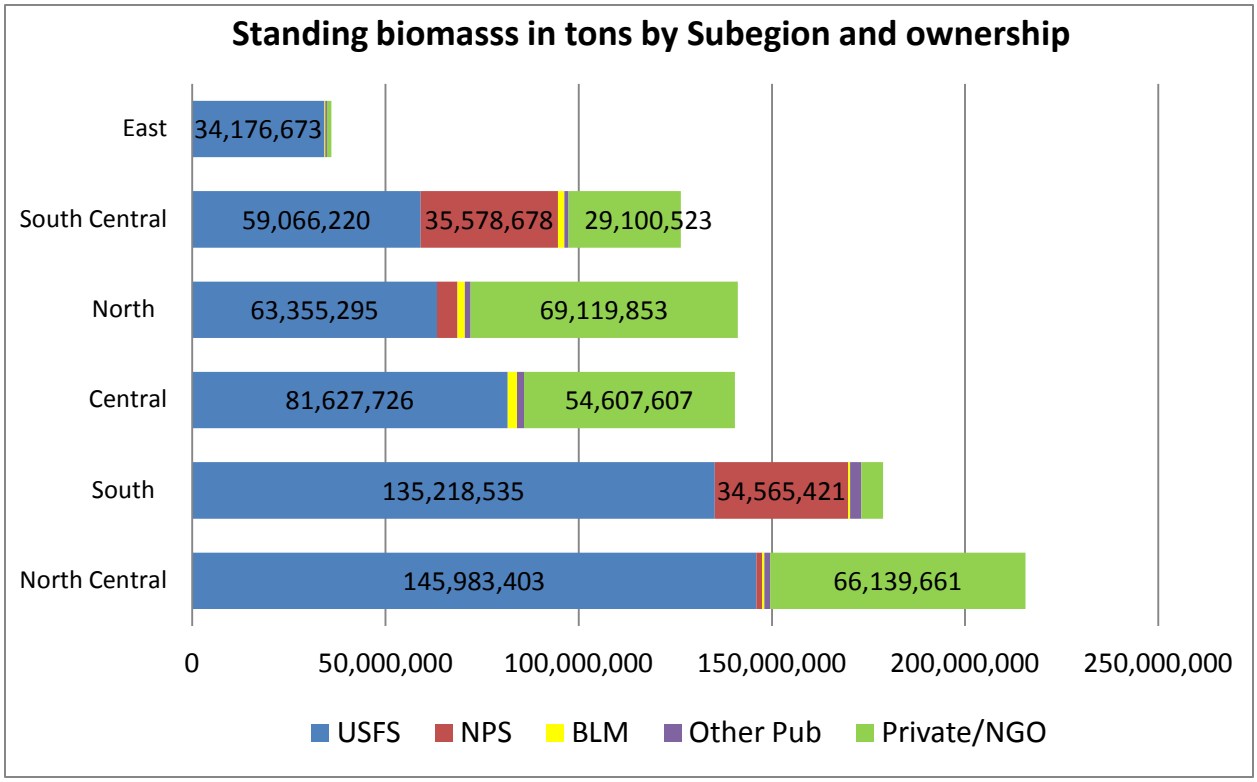

Figure 19. Standing biomass in Sierra Nevada forests

Biomass averaged about 80 tons per acre across all forest types though this included a wide range of values from about 30 tons per acre for pinyon-juniper forests to an average of 94 tons per acre in mixed conifer forests. Just over half of the standing biomass was found in the mixed conifer forest type (see Figure 20).

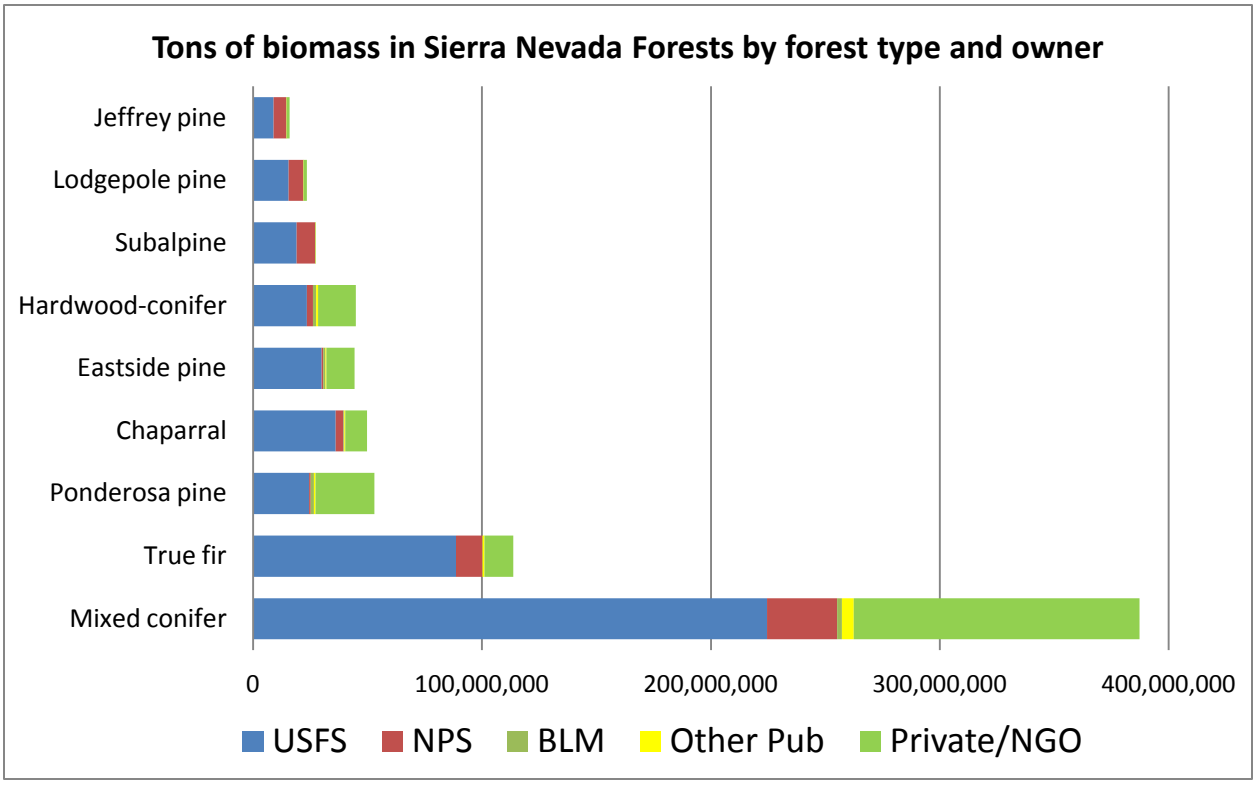

Figure 20. Tons of Biomass in Sierra Nevada forests by forest type and owner

Since the calculation of standing forest biomass has only been done once to date using FIA data, there is no data available on the trends in biomass storage in Sierra Nevada forests. However, recent statewide trends may be extrapolated to the Sierra. CAL FIRE's 2010 assessment found that, in general, trees are growing more quickly than they are currently being removed by harvesting so that standing forest biomass in the state continues to build. However, if current wildfire trends continue, it is possible that will start to decrease. They found that forest disturbance from harvesting peaked between 1986 and 1992, while disturbances caused by fire have been most common between 1992 and 2000 (CAL FIRE 2010). Another recent analysis by the U.S. Forest Service predicts that standing biomass and associated carbon storage is at risk from wildfire and pest damage in the long-term and so will be determined by how the forest is managed for those risks over the next 100 years (Goines and Nechodom, 2009).

Sierra Nevada forests are currently storing over 840 million tons of biomass. This is probably an increase from historic levels due in part to fire suppression and the reduction in harvesting on public lands. Increasing carbon storage in this way is a benefit to moderating the causes of climate change in the short term. However, in the longer term, it elevates the risk because dense forests are more likely to experience stand-replacing fires that kill many trees and so lead to a large release of carbon when fire killed trees decay.

Another recent analysis by the U.S. Forest Service predicts that standing biomass and associated carbon storage is at risk in the long-term. The analysis predicts California national

forests will become net emitters of carbon by the end of the century because by mid-century forests will accumulate carbon at a slower rate than they lose it through wildfire, pest mortality and inter-tree competition. Carbon storage will be determined by how the forest is managed for those risks over the next 100 years (Goines and Nechodom, 2009).

Though most studies agree that active management to reduce wildfire and forest pest threats reduces carbon storage in the short term, there is less agreement about how and whether thinning improves the stability of carbon storage in the long term. Several recent studies found that consideration of the fate of removed woody material is very important when calculating whether forest fuels reduction reduces long term carbon storage. Using a carbon life cycle analysis, one study found that treated forests in the Sierra "sequester more carbon dioxide than a baseline no-action scenario after 50 years when the woody biomass removed is used for energy generation and the system has frequent fires" (Winford and Gaither 2012, page 7). Another study found that forest fuels treatments reduced loss of carbon to wildfire by 57% but that when carbon removed from the site is added to carbon loss to wildfire, total carbon loss is about 15% greater in treated forests than untreated. However, authors added that "If thinned trees were milled into lumber or the chips used as biofuel, a treatment's carbon loss could be reduced" (North and Hurteau 2011, page 1118).

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Appendix

Table 5. Acres of Sierra Nevada forest land by county and land owner

Owner	Alpine	Amador	Butte	Cala-veras	El Dorado	Fresno	Inyo	Kern*	Lassen	Madera	Mari-posa	Modoc
BIA	114	205	210	74	1	19		1	564	77	207	1,959
BLM	3,262	3,430	5,035	15,491	7,006	3	202	2,629	47,507	173	4,165	3,092
NGO					106						941	
NPS						129,046			17,774	45,391	194,342	
Other Fed					270							111
Other Pub	3,451	252	3,698	3,423	3,123	141	89	146	1,471	23	166	557
Private	9,933	75,541	224,024	161,058	270,171	37,275	1,319	13,232	360,789	14,317	33,793	190,829
USFS	234,725	59,060	123,843	65,761	362,845	620,573	46,591	91,322	467,157	300,356	106,118	333,505
County Total	251,484	138,488	356,810	245,806	643,523	787,057	48,201	107,330	895,262	360,337	339,732	530,053
%Public	96%	45%	37%	34%	58%	95%	97%	88%	60%	96%	90%	64%
%Private	4%	55%	63%	66%	42%	5%	3%	12%	40%	4%	10%	36%

Owner	Mono	Nevada	Placer	Plumas	Shasta*	Sierra	Tehama	Tulare	Tuolumne	Yuba	Total
BIA			18	781	1,511	640	2	16,649	149	11	23,193
BLM	770	11,584	13,339	2,731	16,094		882	6,055	4,253	845	148,547
NGO		63	954	415		498	952		30		3,959
NPS	5			13,607	58,666		3,383	250,972	249,403		962,589
Other Fed		192	5,865					290	51	60	6,839
Other Pub	3,915	7,395	6,747	8,175	11,889	5,588	984	5,751	4,268	2,130	73,382
Private	5,956	235,221	189,180	306,950	531,022	104,870	163,578	18,996	126,228	65,035	3,139,317
USFS	208,695	144,595	255,141	1,045,249	340,714	372,144	113,844	578,145	412,880	38,927	6,322,190
County Total	219,341	399,050	471,244	1,377,908	959,896	483,740	283,625	876,858	797,262	107,008	10,680,015
%Public	97%	41%	60%	78%	45%	78%	42%	98%	84%	39%	71%
%Private	3%	59%	40%	22%	55%	22%	58%	2%	16%	61%	29%

*Shasta and Kern Counties have additional productive forest lands situated outside the Sierra Nevada Conservancy boundary.

Background

In November 2006, California voters passed Proposition 84, the Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006, which included $54 million for the Sierra Nevada Conservancy (SNC), with approximately $50 million to be granted to eligible projects throughout the Region. Including the September 2012 grant awards, the SNC has awarded 225 projects worth approximately $45 million through several competitive rounds. In March 2013 the Board is scheduled to consider approximately $5 million in grant awards for the Preservation of Ranches and Agricultural Lands. After awards are made in March, the SNC will have granted almost all of its allocated Proposition 84 funds. Staff has calculated to date that there will be approximately $1.3 million remaining as the result of previous grant project savings and grant projects that were not implemented. This amount may increase if additional projects are not implemented or current projects have funds remaining after their completion. This report will discuss options for the use of those remaining funds.

At the direction of the Board, the most recent two grant rounds have been focused on Healthy Forests, and Preservation of Ranches and Agricultural Lands, respectively. To the extent allowed in Proposition 84 Bond legislation, all other grant rounds have been designed to address the full complement of SNC Programs.

Current Status

SNC Staff has completed an analysis of several different ideas about how to most effectively invest the remaining $ 1.3 million of Proposition 84 funds. The ideas included the following basic themes:

1. Augment the current $5 million allocation for Preservation of Ranches and Agricultural Lands grant awards.
2. Make grants that will complete the necessary planning, collaboration, and conceptual work for future projects that would then be ready to implement using funds from a range of possible sources.
3. Augment past grants supported by the SNC to ensure successful completion.
4. Administer a very small competitive grant round to target underrepresented grantee types in the Region.

The analysis considered factors such as: alignment with the current Strategic Plan and program focus areas, staff resources needed and available, ability to leverage additional funds and overall benefit to the Region.

Staff is recommending the theme in alternative 2, with a consideration of past SNC funding and involvement, be further refined to strategically target the funding, using a process which:

- Focuses on specific subject matter such as forest health and restoration activities that improve community well-being;

- Emphasizes projects with a clear path to on-the-ground implementation (for example, completing environmental documentation for projects with identified implementation funding);
- Leverages resources of other agencies and funding sources, to maximize benefits and outcomes; and,
- Builds on existing partnerships where SNC has a history of involvement.

Next Steps

Staff will confirm the total amount of funds currently remaining and further develop a proposal to bring to the Board at the March 2013 meeting, with the intent to bring guidelines to the Board for approval in June 2013. Staff is recommending that a committee of the Board be appointed to work with staff to further define and focus the plan.

Recommendation

Staff recommends that the Board a) share their thoughts and comments as it relates to the approach for expending existing Proposition 84 funds; b) appoint a committee to work with staff to further refine and focus the plan to expend remaining Proposition 84 funds; and c) direct staff to prepare a more detailed proposal for the March 2013 meeting.

Background

The Sierra Nevada Conservancy (SNC) launched the Sierra Nevada Forest and Community Initiative (SNFCI) over two years ago. This Initiative fosters local and Regional collaboration to support a cohesive, economically viable, and sustainable approach to reducing fire risk, creating jobs, and protecting our valuable forest and watershed resources. SNC Staff work closely with the diverse participants of regional, statewide, and local collaboratives, including local governments, environmentalists, community and economic development representatives, industry, and Tribal entities to help achieve these goals.

The SNFCI Regional Coordinating Council focuses on regional and statewide issues that can influence the achievement of the objectives of the Initiative. The Coordinating Council also serves as a forum for issues arising in local forest collaborative efforts to be discussed and addressed. Members include representatives from the woods products industry, local government, environmental and conservation organizations, community groups, and water interests. The primary federal land managers, the U.S. Forest Service (USFS) and Bureau of Land Management (BLM) participate in an advisory role.

Current Status

SNFCI Regional Coordinating Council meets quarterly. The primary focus of the most recent meetings have been identifying major barriers to forest treatment project implementation and addressing these as a group. The Coordinating Council has also been coordinating with the USFS to develop information to support the forest plan updates which recently began on the three most southern forests in the Sierra Nevada and supporting USFS to draft the implementation plan for the Region's "Leadership Intent for Ecological Restoration" and starting to outline projects that can demonstrate the implementation plan on-the-ground.

More recently, the Coordinating Council reviewed a list of issues and impediments to forest projects and prioritized them by identifying specific actions to further evaluate addressing the issues. The issue that surfaced to the top is the lack of funding for forest treatment projects. A solution is identifying new investors and funding sources similar to the objective of the SNC lead Mokelumne Watershed Avoided Cost Analysis. Another approach is accounting for all costs associated with the forests such as fire suppression and liability costs incurred by igniting fires. Another approach is continuing to track the increasing costs of fire suppression in comparison to fuel reduction costs.

The triple bottom line approach is high priority; however local forest collaborative groups have tended to focus on economics and the environment, less so on social issues, in part because it's more difficult to define actions that will have social benefits. Coordinating Council members are drafting a white paper on how to measure the social benefits, developing recommendations for collaborative groups, and specific practical ideas for creating social benefits or attracting investment from social sources. Some of this information will also be used to support the USFS forest plan updates.

The SNC continues to be involved with a number of collaborative efforts throughout the Region. The Department of Agriculture has now awarded three federal Collaborative Forest Landscape Restoration Program (CFLRP) grants in the Sierra Nevada. The Amador-Calaveras Consensus Group (ACCG) and the Burney-Hat Creek Basins Project in Lassen County were awarded this year and the Dinkey Creek Collaborative on the Sierra National Forest was awarded last year. The purpose of the grants are to support collaborative efforts to develop landscape scale restoration projects that will improve forest health, reduce the risk of catastrophic fire and provide significant economic and social benefits for the local communities. The SNC is working with the collaborative and the USFS Region 5 to assist in successful implementation of these efforts.

The Healthy Forests Grant award cycle supported a number of the collaborative with grant awards, including National Environmental Policy Act (NEPA) and woody biomass utilization product planning related to the ACCG and meadow restoration for the Burney- Hat Creek collaborative, as well as a number of other projects in the Region.

SNC Staff is also engaged in efforts with the USFS and various stakeholders to assist in addressing issues relating to the Pacific Fisher, a southern Sierra species that is proposed for listing under the federal Endangered Species Act. The SNC is facilitating discussions between interested parties and discussing a role in assisting with the development of a conservation plan for the Fisher.

In addition, the SNC continues to be involved in discussions about playing a role in a proposed Master Stewardship Agreement with the USFS and the ACCG. There have been numerous meetings and research conducted to determine the best way to establish this relationship. In the case an appropriate role for SNC is identified, staff will bring the issue back to the Board for necessary authorizations.

Next Steps

The Coordinating Council will continue to work with the USFS to identify ways to increase the pace and scale of forest treatment within the Region, including providing input on the Leadership Intent for Ecological Restoration Implementation Plan. SNC Staff will continue to work with a number of local collaborative efforts, focusing on the CFLR projects and efforts supported by SNC grants.

Recommendation

This is an informational item only; no formal action is needed by the Board at this time, although Boardmembers are encouraged to share their thoughts and comments.

Background

Travel and tourism is critically important to the Sierra Nevada Regional economy, and supports a broad range of businesses. Most of the tourism attractions and businesses in the Region are directly dependent upon the sustained health of the natural environment and are actively involved in managing and stewarding these resources. In many Sierra Nevada counties (Sierra, Plumas, Mariposa, Alpine, Mono, Inyo), travel and tourism is one of the largest economic contributors.

Recent information indicates total direct travel spending in California was $102.3 billion in 2011, a 7.6 percent increase from 2010 spending. Travel spending in the Sierra Nevada Region (Gold Country, High Sierra, Shasta Cascade) in 2011 accounted for approximately 7 percent of the total direct travel spending in California, or $6.93 billion. More detailed information about travel impacts to the Sierra Nevada Region can be found in the *California Travel Impacts by County, 1992-2011.* Dean Runyan Associates, April 2012

The Sierra Nevada Geotourism (SNGT) MapGuide Project is a multi-faceted tourism promotion effort managed through a partnership of the Sierra Nevada Conservancy (SNC), National Geographic, and the Sierra Business Council (SBC).

Through the use of an interactive website, a printed MapGuide, mobile phone applications, and social media tools the project highlights and promotes California's Sierra Nevada Region as a world class tourism destination. The project supports the SNC's mandate to enhance tourism in the Sierra Nevada Region while also promoting the preservation of cultural and heritage resources.

Funding and in-kind support for the project has come from several sources including: The National Scenic Highways and Byways Administration, Sierra Nevada Conservancy, Sierra Business Council, Morgan Family Foundation, U.S. Forest Service, National Park Service, Bureau of Land Management, California State Parks, Nevada Commission on Tourism, multiple Sierra counties, several Tribal organizations, Northern Sierra Partnership, and many more local businesses and service groups. The project has grown a list of more than 70 supporters that have formally endorsed the project, including all 22 Sierra Nevada counties.

Current Status:

The SNGT website continues to be the foundational element of the project. The site currently has more than 1,500 published destination pages and has more than 117,000 page views from 103 countries every month. Staff continues to assist local contributors establish new destination pages and events every month. The site can be accessed at www.sierranevadageotourism.org.

The project recently launched mobile phone applications (apps) for iPhone and Droid users providing access to the entire website content while traveling in the Region.

Users have the option of enabling GPS technology to enhance functionality of the apps for real-time updates based on their current location in the Sierra. Software developers are currently working to enable "alert" tools for the apps allowing travelers to be notified of business special alerts, travel packages, itinerary suggestions, traffic conditions, and current events. More than 1,450 people have downloaded apps, which are available for free to the public.

During the 2011 calendar year 100,000 printed MapGuides, highlighting 250 destinations in the Region, were distributed throughout the state. The MapGuides were strategically distributed by visitor centers, California Welcome Centers, corporate locations, rental car agencies, sports events, museums, and businesses to encourage more travel to the region.

Marketing of the project's services and products has been a primary focus during the last year. Significant achievements been made to build brand identity and reach target markets of travelers most inclined to visit the Region. Marketing accomplishments include earned-media attention in more than 140 printed publications, television and radio interviews, and references in online and social media. The project is also pursuing paid advertising placement in Visit California Annual Travel Planner (circulation: 500,000) and other related publications. The SNGT Project been represented at multiple travel trade shows, conferences, and events throughout the state. Recently, SBC staff traveled to National Geographic headquarters in Washington D.C. to meet with corporate executives and other Geotourism projects from across the country to strengthen cross-marketing opportunities. At their last meeting, the Western Governors Association adopted language to support the efforts of Geotourism projects throughout their 17 state membership area.

Next Steps

SNC Staff and project partners will continue to assist in the development and addition of fresh content to the website and will also be working with existing destination page-owners to strengthen their support and use of the site as a marketing tool.

We will be publishing a GeoExplorer Newsletter on a monthly basis and distributing to a growing subscriber database. The newsletter will feature aspects of the website, as well as featured businesses, destinations, and additional opportunities for involvement.

Estimates are currently being solicited for a second print run of the MapGuide, to be distributed throughout the state during the 2013 calendar year. Second run print numbers are currently estimated to be between 75,000 – 125,000 pieces, dependent upon quotes received.

A broad range of marketing efforts will continue for all aspects of the project, including distribution of regular press releases, attendance at shows, events, and conferences, and placement of paid advertising.

Project partners are also continually pursuing grant opportunities to further develop the project. An application is currently being considered by the Federal Highways Administration to expand the travel advisory capabilities of the project.

Recommendation

This is an informational item only; no formal action is needed by the Board at this time, although Boardmembers are encouraged to share their thoughts and comments.

Background

As mentioned in Agenda Item VII, the Governing Board has now met in all 22 counties comprising the Sierra Nevada Region. Prior to holding meetings in the Region, the Board met five times in Sacramento and held one meeting there in 2011.

Current Status

The logistics behind carrying out these meetings in the Region have been no small feat. Finding suitable locations has had its challenges, but we have been successful in each county. We have met in fairgrounds, Supervisors' and City Council Chambers, community centers, senior citizens' facilities, veterans halls, hotels, historic buildings, breweries, wineries, church halls, recreational vehicle parks and State facilities. The list of Regional meeting sites is as follows:

2006

Auburn (Placer)

Visalia (Tulare)

Bishop (Inyo)

Chester (Plumas)

2007

Jackson (Amador)

Susanville (Lassen)

Truckee (Nevada)

Nevada City (Nevada)

2008

Bass Lake (Madera)

McArthur (Shasta)

Mammoth Lakes (Mono)

Murphys (Calaveras)

2009

Chico (Butte)

Olympic Valley (Placer)

Lake Isabella (Kern)

2010

Anderson (Shasta)

Markleeville (Alpine)

Sierra City (Sierra)

Columbia (Tuolumne)

2011

Placerville (El Dorado)

Alturas (Modoc)

Fresno (Fresno)

2012

Red Bluff (Tehama)

Lone Pine (Inyo)

Mariposa (Mariposa)

Marysville (Yuba)

A note of appreciation is in order to all SNC staff for their hard work in arranging and carrying out each of these meetings. The Mt. Lassen and Mt. Whitney Area staff have played an important role in assisting with meeting site selection, set up and the field tours. SNC administration staff has provided support in securing contract agreements and providing other support. A special thanks to Theresa Burgess, Board Liaison, and David Madrigal, IT Analyst, for their outstanding work in ensuring that our meetings have went off smoothly.

We would also like to acknowledge our many partners who have assisted with the field tours and receptions that have become such an important part of our meeting schedule. Their support and assistance has truly captured the Sierra spirit of partnership, and we are greatly appreciative.

And of course, you can't have Board meetings without Boardmembers. Traveling throughout this Region is not easy, and the SNC is fortunate to have committed Boardmembers who have ensured that a quorum has never been a problem, no matter how remote the location. Thanks to Chairs Mike Chrisman and B.J. Kirwan, as well as the occasional pinch hitting Vice Chairs, for getting us through our agendas in an efficient and productive manner.

A very special acknowledgement to Boardmember Bob Kirkwood, who has a perfect attendance record, not only attending meetings in all 22 counties, but all Board meetings since the organization's inception.

Next Steps
In June of 2013, the road tour will continue.

Recommendation
This is an informational item only; no formal action is needed by the Board at this time, although Boardmembers are encouraged to share their thoughts and comments.