



Three Steps to Address Climate, Fire, Forests, and Rural Community Challenges

May 5, 2018

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With thanks to Izzy Martin of the Sierra Fund for helpful comments.

Introduction

Ten and a half years ago the Moonlight Fire burned 65,000 acres in the northern Sierra destroying nesting habitat for spotted owls and goshawks and emitting the annual carbon equivalent of three-quarters of a million cars. The Forest Service recently reported that 44 percent of the area burned by the Moonlight Fire was converted from old forest habitat to chaparral. The loss of old forests and their carbon storage capacity will only increase across the Sierra and California with climate change, extended fire seasons, and mega fires.

The Moonlight Fire, located in the Feather River Watershed and the State Water Project, is but one example of where climate change hits California's critical forested headwaters. It is in these same source watersheds that there are millions of dead trees to fuel massive wildfires, an aging water infrastructure designed for a different century, and historic poverty and joblessness that persists today.

The good news is that real solutions are in hand and ready to be deployed across the landscape.

One of the signal efforts to tackle the challenges is Sierra Institute's Sierra to California All-Lands Enhancement (SCALE) program. SCALE groups are focused on landscape level restoration. Sierra Institute started the project with two Collaborative Forest Landscape Restoration groups (CFLRs) eight years ago. The effort, now supported by Region 5 of the Forest Service, includes over 18 collaborative groups from southern to northern California and from the coast to the high Sierra. The initial focus for most has been on forests, but groups are explicit in their focus on forest and watershed improvement, reducing catastrophic wildfire, and improving community socioeconomic conditions.

Another component of the solution lies with Integrated Regional Water Management (IRWM) Planning groups that cover entire watersheds; many of these groups recognize the importance of forest health and reduction of catastrophic wildfire risk. The Upper Feather River IRWM included a number of forest improvement and wildfire risk reduction projects in its collection of watershed improvement projects. They're not alone. Many of the headwater region IRWM's have collaborative and cutting-edge projects that recognize the relationship between fire, forest health and watersheds. The Sierra Institute is leading the Sierra Region, nine IRWMs in all, in a process of Disadvantage Community identification, capacity building, and technical assistance to help prepare communities for Proposition 1 and other funding, and to help lower capacity communities avoid being left behind.

Landscape-focused groups and IRWMs have increasingly overlapping missions and overlapping geographic areas. Most of these groups are collaborative in spirit and operation. It's one of the reasons the Sierra Institute assessment of 16 years of Department of Conservation's watershed grants is important. We're examining outcomes of coordination and facilitation grants to advance work that has largely been collaborative in watersheds, and involving small and large landscapes. The possibilities first envisioned in these projects continue, though many programs that first launched them have ceased.

New Opportunities

Recent policy reviews, whether completed by the Public Policy Institute of California, the little Hoover Commission and others, are making the connection between forest and landscape resilience, climate smart strategies, wildfire risk reduction and watershed health. In a report released in April of 2018, the Legislative Analyst Office called for maintaining the current level of funding of \$280 million annually for projects that improve forest health, an amount that was unheard of two years ago. The LAO report makes explicit the linkage with watershed health and resilience by calling for State Water Project Investment in the Upper Feather River, a measure that needs to be broadened to all of the headwaters serving the state. Again, this is not new but change is afoot in dollars and realization of the need for

investments that are climate smart and that address restoration needs at a landscape scale.

Proposition 1, Greenhouse Gas Reduction Fund dollars and now California Climate Initiative investments and proposed propositions suggest funding in climate smart, landscape-scale restoration will be maintained in the near term. But what is less clear to many working on improving forest resilience, watershed health and reducing catastrophic wildfire risk is whether these investments in the landscape will also include socioeconomic needs. Landscape level treatments must be accompanied by investment in manufacturing and the capacity to utilize forest waste. Investment must be made in disadvantaged communities and the groups working to advance landscape stewardship. There is now a unique rural development opportunity that offers opportunity to simultaneously rebuild communities and increase California's collective capacity to better steward the land.

Are our institutions up for it? The sheer dollar amounts challenge existing institutions. The integrative visions advanced by groups do not necessarily align well with state and federal agency programs. Coupling funding streams with non-siloed, integrative thinking and action is needed by California to match the challenge and the aspirations of its residents.

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Three Recommendations

1. Advance integrative work focused on reducing climate impacts, and building watershed and landscape resiliency and rebuilding community capacity.

California needs to more effectively integrate the work of agencies and programs associated with Greenhouse Gas Reduction Funding and advance climate smart landscape resiliency. This can be effectively led by the Governor's Office. Consider:

- A proclamation or emergency order calling for a watershed/forest/landscape initiative that focuses on landscape-level issues paralleling the work of the Strategic Growth Council with its urban area emphasis.
- Development of a leadership forum (perhaps the Strategic Landscape Stewardship and Capacity Building Council) focused on landscapes involving key state agencies with invitations to the major federal land management agencies (e.g., U.S. Park Service, Forest Service and Bureau of Land Management, and Bureau of Reclamation) along with rural-based NGOs and rural county representatives, to sharpen the focus on building landscape resilience and restoring rural communities. The agencies themselves with partners should work collaboratively towards leveraging projects, funding and landscape level work.
- Continue and renew support for existing collaborative groups and partnerships. Provide support for projects that improve the resiliency of the Sierra Nevada and Cascade region's natural infrastructure with emphasis on multi-benefit projects that improve forests and the ability of meadows to sequester carbon while providing other benefits including improved water retention and storage, reduced erosion, improved water quality and improved habitat for fish and other wildlife. CALFIRE support is critical but support should target forest restoration and watershed resiliency to more effectively respond to anticipated climate change impacts.
- Landscape investment requires continued investment in disadvantaged communities and helping them address their needs through support for projects along with capacity building. Investment in community physical infrastructure (e.g., water systems) may be critical, but should not be done to the exclusion of "soft Infrastructure" (e.g., social and human capital). This

kind of capacity building can and does critically leverage other work and support. One obvious strategy is to build on the success of previous programs to deliver effective and efficient action.

- Support a new watershed coordinator program with Department of Conservation, with added emphasis on watershed work that includes a landscape and forest focus. Use what was learned in the first round of this program to fine-tune the program for even more impact. Highest priority should be given to water, forest and climate adaptation projects.
- Through the Department of Water Resources IRWM program, increase support for disadvantaged communities and Integrated Regional Water Management groups. Population-based funding may work well for urban areas but it does not match the challenge faced by sprawling rural areas in critical source watersheds of the state.
- Consider also projects that improve the capacity of the Sierra Nevada and Cascade region's built environment to adapt to changes in precipitation. These projects should be consistent with the IRWM plans developed for the region that incorporate the newly required "Global Climate Change" analysis and could include investments in water delivery infrastructure, reservoir capacity, water quality, flood control, roads, and bridges. Through Department of Water Resources programs, increase support for implementation of the mandated IRWM Global Climate Change plans and policies, especially those that target keystone and historic built infrastructure such as abandoned debris control dams and failing water systems that are significantly impacted by climate changes.

2. Increase the use of woody residuals from forest restoration in rural areas focusing on community scale projects.

One of the most significant challenges of moving dead and dying material out of the forest is not harvesting and transport, but it is determining what to do with the raw product. For landscape treatments to be successful at the pace and scale necessary to reduce risks and improve landscape health, investments in marketing and wood utilization technologies are needed. This will create local jobs, rebuild local economies, and avoid long-haul of material and associated energy expenditures. It also aids scaling utilization to capacity of local forests and the workforce. While some material can be chipped and used on site for forest health and reclamation projects, there is much more available that can be put to other uses and into value added products.

There are multiple ways to use this material, some in combination. For example, biomass energy production needs to be paired with community-scale manufacturing. Some ideas:

- Provide seed funding for five small-scale (BioMat Projects) in rural areas throughout the Sierra and Cascade regions and within IOU service areas. These are the facilities that will use waste from local forests and that can provide heat for co-located businesses.
- Provide seed funding to establish a pilot mass timber (cross laminated timber-CLT) production facility and three linked niche market operations (computer numerical controlled routers) that will cut cross laminated timber panels for residential and business construction. CLT can be made with small timber, along with stained and long dead material and is an excellent way to store carbon.
- Support research and studies of CLT products for seismic safety retrofits.

- Prioritize support for CLT production and other wood waste utilization facilities at old mill sites.
- To support re-use of old industrial sites, avoid creation of new industrial sites and permitting challenges, and increase the likelihood that production facilities will be in areas of available supply and where fire risks are greatest and jobs are needed most.
 - Designate Opportunity Zones in rural forest and watershed areas of California to stimulate investment. (The Indian Valley Wood Utilization Campus, for example, in the northern Sierra, utilizes an old abandoned mill site, is located in an opportunity zone, and is 20 miles from the first CLT building in the State of California.)
 - Provide a business and occupation tax deduction for manufacturing and sale of cross-laminated timber and a sales tax exemption for construction projects that use CLT.

3. Charting a future path

This recommendation is to advance a dialogue and work today that will carry into the next administration. The challenge now is not only identifying needed projects, but aligning agencies, collaboratives, investment, and targeting investments that will make real climate differences in forests and watersheds that need it most while simultaneously including rural forest communities and creating needed jobs.

- Consider development of a fall 2018 forum to discuss an integrative program of climate resilience in California's forests and watersheds. This would be a legacy and visioning gathering. Consider launching a California Forests and Waters Congress.
 - Establish a forest-watershed Leaders Dialogue focused on community/landscape climate resilience.
 - Establish a community-focused forested watershed/climate change resilience working group, possibly as a subgroup of the first.
- Advance development of new institutional and intergovernmental partnerships that also include rural group leaders. One component of this program will continue support for capacity building of disadvantaged communities based on diverse measures of disadvantaged with an eye on climate impacts and infrastructure development.