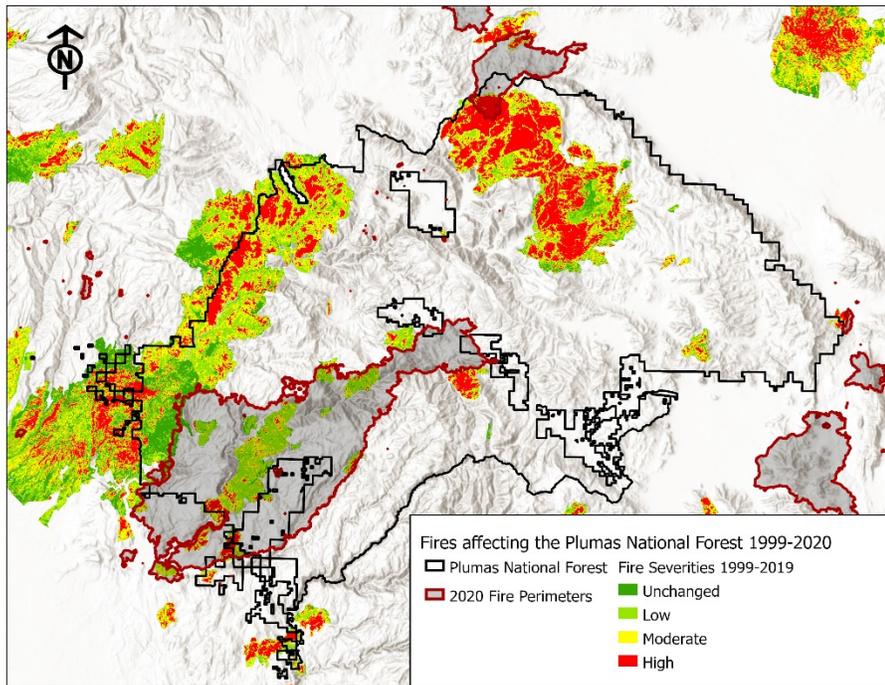


## Brief on California Wildfires and Forest Restoration Challenges: N. Sierra

**The Issue:** For the past two decades, land managers have been challenged by fires that have been increasing in frequency, scale, and severity. This results in direct impacts of fires burning “green” restoration projects prior to their planning and implementation, and indirect impacts wherein fire suppression response and fire recovery projects delay implementation of “green” restoration projects. The cumulative effect has resulted in a landscape level loss of old forest cover, increased vulnerability to re-burning, and an increase in the acres in need of restoration. **The rates of change on forest cover as a result of these fires far exceed our public land management agency’s capacity to respond reactively, let alone proactively. As a consequence we are ceding long-term strategic management of our public forests to myopic emergency response decision making.**



*Figure 1: Fires affecting the Plumas National Forest 1999-2020. In the 21 year period over 207,000 acres— an area equivalent to 324 square miles or 3 times the size of the city of Sacramento, CA – have burned and/or re-burned at high severity. This doesn’t account for the additional 200,000 acres of NFS lands that have burned in 2020.*

### The Challenges:

**Environmental legislation is dated.** Seminal environmental legislation which still guides environmental regulations (e.g. 1970 National Environmental Policy Act, 1973 Endangered species act, 1976 National Forest Management Act) were drafted in a time where the rate of change and the dynamics of risk management due to climate change were unimaginable. This legislation still reflects an older perception of conservation biology that risks to resources as the result of management are greater than the risks of no action.

**Information & consultation requirements for individual projects add time and cost to project planning & implementation.** Resource assessments and strategies, survey requirements, and collaborative efforts are all invaluable to project planning. However, these endeavors add cost and time to project planning which present opportunity costs. Anecdotally, survey requirements (Archeology and wildlife surveys for sensitive species) represent some of the bottlenecks for project planning and implementation. On many projects, implementation of limited operating periods and accretion of resource protection measures can limit operators to 2-3 months to operate each field season restricting efficiency of completion. Current project planning to project completion timelines are so long, efforts to monitor and manage are negated. These trends result in an opportunity cost of delayed restoration efforts and heightened risk of burning prior to restoration activities being completed.

**Prioritization of salvage, fire recovery, and fire restoration over the “green” program.** Naturally, catastrophic events require attention. However, these events are happening so frequently AND organizational capacity is so limited that this restricts the USFS to post-disaster management - thereby hindering efforts to pro-actively

restore forests *before* they burn. For example, regional prioritization of the 2013 Rim Fire AND expenditure of fire recovery funds incentivized post-fire programs over green forest restoration programs.

**These challenges lead to incorrectly balanced risk management across public lands.** It can take years of scoping, surveys, analysis, and contracting to plan and implement a USFS restoration project of meaningful landscape scale. However, within a matter of days, fire incident management teams make critical decisions and employ emergency tactics (e.g. dozer line, opening & prepping roads, burn outs etc.) that affect thousands of acres of national forest with little pre-planning or ability to conserve unique resources.

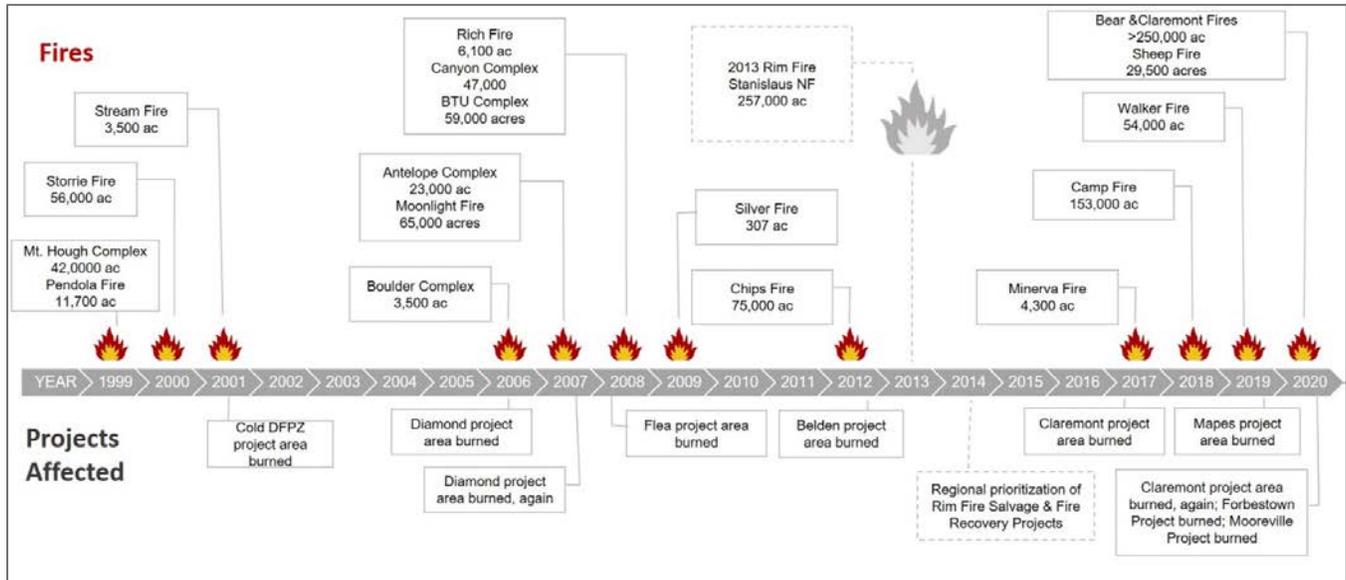


Figure 2: The past two decades on the Plumas National Forest serve as a relevant example of how fires have direct, indirect, and cumulative impacts on forest restoration projects. The direct effects of these fires include burning at least eight landscape level or community protection projects before they could be implemented.

**Potential Solutions:**

Forest Plans, resource surveys and analysis, and collaboration should be landscape level in scale, not project based. Forest planning efforts should become decision documents that are programmatic and conditional in nature, thereby minimizing the need for individual project planning. This would greatly increase the efficiency of project planning and implementation.

Prepared by:

Ryan Tompkins  
Forestry and Natural Resources Advisor,  
University of California Agriculture and Natural  
Resources, Cooperative Extension  
Plumas-Sierra-Lassen Counties  
[retompkins@ucanr.edu](mailto:retompkins@ucanr.edu); (530) 283-6125

Dr. Scott Stephens  
Professor of Fire Ecology,  
University of California at Berkeley  
[sstephens@berkeley.edu](mailto:sstephens@berkeley.edu); (510) 642-4934