Taking the Initiative:
Climate Change and National Forest Planning in Northwest California

The Need

Northwest California contains the largest concentration of wild lands along the west coast of the Lower 48 states. About half of these wild lands are protected as national forest wilderness. Unprotected roadless lands link most of these wilderness areas and provide critical low elevation old forest habitat.



The Orleans Mountain Roadless Area links three wilderness areas and contains rare low-elevation Old Growth

The core of NW California is within the Klamath Mountain Province. Well known as the *Klamath Knot*, the Klamath Mountains contain remarkable biodiversity including a suite of endemic plant and animal species, many species at the extremes of their ranges and the US stronghold of rate forest species like the Pacific fisher. The area also retains several salmonid species including one of two remaining viable populations of Spring Chinook salmon in California. Anchored by refugial watersheds that rise in protected and unprotected wilderness, the potential for restoration of the area's rivers and forests is outstanding. About three-fourths of the Klamath Province is located in California; the remainder is in Oregon.

Northwest California's biodiversity is at risk from development and climate change impacts. Endemic species and those at the extremes of their ranges are particularly at risk. A recent peer review study (Van Kirk and Neman, JAWRA, 2008) found that climate change is already reducing snow pack and precipitation. This in turn is reducing critical late summer and fall baseflow in the regions streams.

Streamflow is already a pervasive problem for Spring Chinook and other salmonids; further streamflow reduction will render those problems more critical.

Development pressures on private forestland and water supplies are also increasing. Private forestland is ripe for dispersed residential development – particularly those found near to the region's cities and towns. Agricultural developments including expanding alfalfa, marijuana and wine grape production are dewatering the region's streams and further threatening salmon and other aquatic species.

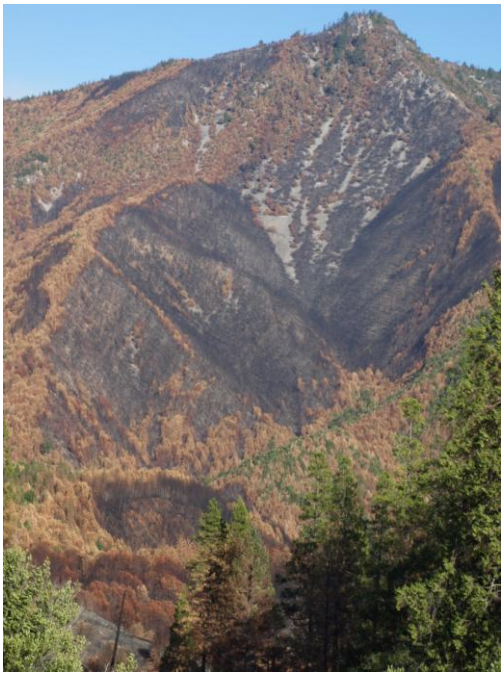
Another major threat to NW California biodiversity is wildfire. Natural wildfires in the backcountry still typically burn in a mosaic dominated by low intensity fire as can be seen in the Orleans Mountain Roadless Area photo above. Fire suppression has never been effective in the rugged Klamath backcountry. Nevertheless, the Forest Service and timber interests have sought to use fear of wildfire as justification for logging our unprotected roadless forests. Fire risk reduction is also used as justification for logging within riparian and late successional reserves. We expect the Forest Service, timber industry and local anti-environmental groups to use the new round of forest plans to push for opening old forest reserves, riparian areas and the remaining unprotected roadless lands to logging in the name of fire risk reduction and biomass development.

The manner in which wildfire is fought within the region's extensive federal lands has also become a threat to biodiversity. Firefighters back far off natural fires and then torch large areas at high intensity in futile attempts at suppression. Since 1977, not one of the many large wildfires which burned in the Klamath Mountains has been successfully suppressed; only the coming of fall rain and snow puts the large wildfires out in this rugged landscape. During the extensive fires in 2008, for example, we estimate that half the area burned was discretionary firefighter-ignited burnouts and backfires. These discretionary suppression fires are intentionally burned at high intensity – sometimes causing huge landslides and extensive erosion during the following wet season.



Large landslide in Forest Service burn-out, Trinity Alps Wilderness

The negative impacts on water quality and habitat from discretionary fire suppression actions is now the number one factor degrading wilderness values and a major threat to water quality.



Forest Service burn-out, Lower Salmon River, Klamath National Forest, 2008

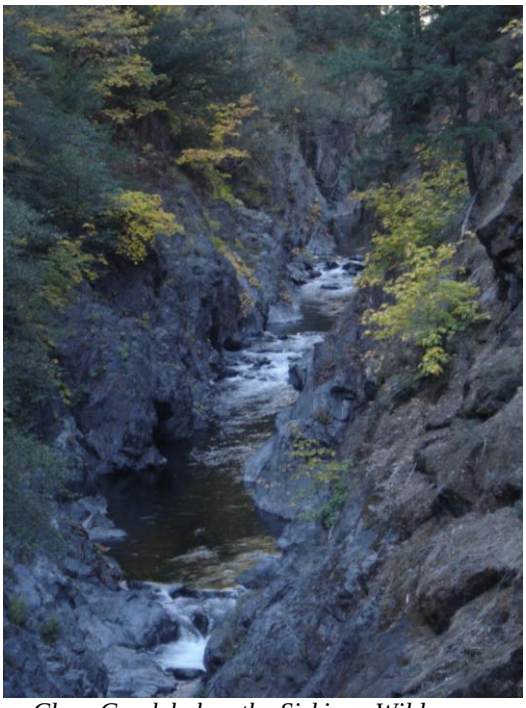
To summarize, Northwest California is a biodiversity and backcountry treasure trove but those treasures are at risk from a combination of development and climate change impacts. Good planning is needed and should result in more prudent use of fire, better road maintenance, restrictions on logging and smarter development. Failure to adequately plan for and restrain development will result in major climate change impacts and biodiversity losses. Loss of biodiversity will in turn translate into significant reduction in ecosystem services including water quality and supply.

Northwest California is dominated by public lands; national forests alone cover well over half the region. On those national forest lands, the Northwest Forest Plan and its Aquatic Conservation Strategy have proven to be excellent tools for preventing irresponsible logging and road building. As noted above, we can expect challenges to those provisions in the new round of forest plans. In addition, there were omissions from the Northwest Forest Plan Aquatic Conservation Strategy in Northwest California which should be remedied in the new round of forest plans. Two aspects in particular need to be strengthened:

- Forest Service managers identified Tier 2 (cold water supply) key watersheds for NW California but failed to designate them as part of the Northwest Forest Plan. The cold water from these streams create refugia where they discharge into larger streams and rivers. Leaving these cold water sources without key watershed protection puts salmon and aquatic biodiversity at risk and must be remedied.
- The Aquatic Conservation Strategy requires that "unstable and potentially unstable" land on national forests must be designated and protected as riparian reserves. But Forest Service managers have excluded from these reserves all but the small "toe zones" of unstable earthflow-type landslides. This, however, is the terrain that contributes by far the most sediment to streams via episodic mass landsliding. In the new round of forest plans unstable earthflow terrain must be protected from disturbance and development.

These omissions have played a large role in the failure of FS managers to recover key watersheds as anticipated in the Northwest Forest Plan. Since recovery of these watersheds is critical to the survival and recovery of wild salmon and aquatic ecosystems, the new round of forest plans must make changes to assure the recovery of key watersheds and other aquatic refugia.

In addition to providing an opportunity to correct deficiencies in the Northwest Forest Plan, the new round of forest plans will be critical to preventing backcountry logging justified as fire risk reduction.



Clear Creek below the Siskiyou Wilderness
Streams which rise in wilderness offer cold water refugia for salmon & other aquatic species

Protection on national forest lands alone, however, will not be sufficient to prevent, avoid or minimize major climate change impacts. Aquatic ecosystems in particular need protection from climate change impacts irrespective of ownership boundaries. Salmon are a good example of species which require management coordination across ownerships if they are to survive the twin risks posed by development and climate change. Fortunately, the new national forest planning regulations stress coordinated planning across boundaries and ownerships.

The Goal

We will utilize the new round of national forest planning to advance protection and restoration of biodiversity in Northwest California including:

- Protecting the remaining unprotected, public roadless lands as low elevation old forest habitat, key watersheds and landscape linkages;
- Designating and protecting Tier 2 key watersheds and other aquatic refugia including, where necessary, on private land;
- Proactively defining management strategies and prescriptions for fire suppression, fire risk reduction and climate adaptation.

- Securing provisions in Forest Plans which function to restore fire to a more natural role in national forest ecosystems including restraining fire suppression.
- Forcing the Forest Service and industrial timber companies to take responsibility for all their roads including requirements for maintenance, identification of high risk roads which should be decommissioned, reducing road density and miles of road per forest unit to the number that can be maintained to standard.
- Forcing physical closure of all roads that are not maintained to standard to prevent administrative and other unauthorized use and to prevent the Forest Service from reopening decommissioned roads during wildfire suppression actions.
- Developing and implementing management strategies across the landscape – i.e. across ownerships and including wild and developed, rural and urban lands – which protect biodiversity and ecosystem services including water quality and water supply.

The Strategy

The new National Forest Planning rule stresses planning and management coordination across boundaries and ownerships. The Sierra Club Resilient Habitats campaign takes the same, cross-ownership planning approach and encourages communities and regions to undertake planning efforts to mitigate climate change impacts. The Resilient Habitats Campaign also has a focus on the California Coast which includes Northwest California. Our strategy takes advantage of these two landscape level planning approaches. We seek to proactively implement regional planning rather than waiting for plans and initiatives from government or other interests.

We will create, publish and promote a detailed, spatially explicit land management proposal for NW California. This plan will be used to educate and mobilize the public and will be positioned to dominate the debate in the new round of forest planning. Our proposal will also be used to positively impact state forest and stream protection policies and regulations and county land use plans. We will inspire and involve citizens in a push for regional and local cross-ownership climate change planning and adaptation. If we do this correctly, the Forest Service, timber corporations, state, county and local governments will be forced to address this proposal as representing the best available science on how to respond to climate change. As the Forest Service develops the next generation of forest plans for the Klamath, Six Rivers, Shasta, Trinity and Mendocino National Forests they will need to measure up to our regional plan. Likewise our regional plan will raise the bar for county land use and development planning efforts and inspire citizen conservationists to get involved in these local planning processes.

To accomplish this vision we will recruit support and participation from the Sierra Club Resilient Habitats Campaign, The Wilderness Society's SF office, other grassroots forest and Sierra Club groups and local smart growth organizations. The coalition we form will then seek funding to create and promote a regional plan which meets the goals described above. Our regional plan will include the following components:

- Klamath Strongholds and Landscape Linkages: a science-based, spatially explicit plans to address climate-change induced threats to biodiversity including:
    - Linking existing protected lands in order to achieve a functional, climate-secure 3+ million acre old forest reserve within the Klamath Mountains of NW California and SW Oregon.

- Local land-use plans that utilize multi-purpose reserves, habitat linkages and other appropriate strategies to address specific threats to species and water quality at the community scale.

- Comprehensive Fire Restoration Plan: This will include controls on fire suppression activities, prescriptions for readying forest landscapes for fire and a spatially explicit strategy for protecting communities from wildfire.

- Aquatic Conservation Strategy: A spatially explicit proposal to achieve the objectives of the Northwest Forest Plan's Aquatic Conservation Strategy including:
  - Identifying Tier 2 key watersheds and other refugial areas,
  - Changing how riparian reserves are defined so that all "unstable and potentially unstable" lands are designated as riparian reserves.
  - Identifying and prioritizing restoration needs including priority (high risk) roads in key watersheds which need to be decommissioned.

- Water Supply Protection: Science-based forest management prescriptions which are designed to minimize flood flows and maximize dry-season base flow in rivers and other streams.

- Road Management: A spatially explicit proposal for a socially and environmentally responsible transportation system including reducing total road miles to the amount which the Forest Service, timber companies and counties can afford to maintain. Also included would be road maintenance requirements and plans to upgrade specific high recreation value roads and trails.

Next Steps

In order to make this vision a reality we need to take specific sequential steps:

Step 1: Finalize this proposal; then distribute it to grassroots forest and salmon protection groups, other environmental groups and watershed restoration organizations based in the region and likely to be supportive, as well as to progressive land use planning organizations. Convene a meeting of these groups at which a coalition is formed for the purpose of supporting and advancing the strategy, approach and planning efforts described in this paper.

Step 2: Take the proposal to the Sierra Club Resilient Habitats Campaign and the TWS SF regional office, secure their support and form a grassroots-national partnership to advance proactive, state-of-the-art climate change and national forest planning in our region.

Step 3: Request foundation and major donor funding to implement the strategy and associated planning processes.

Unresolved

Focus this effort in Northwest California or include the Oregon portion of the Klamath Province?