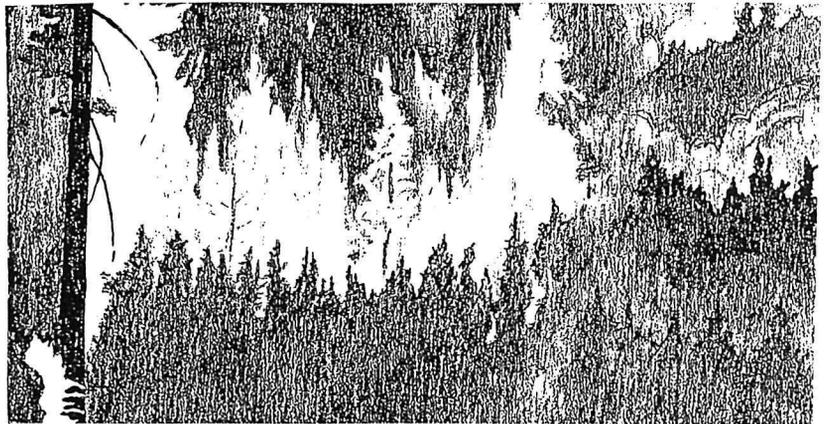


North Cascades

Ross Lake and Lake Chelan

North Cascades National Park
Ross Lake National Recreation Area
Lake Chelan National Recreation Area
U.S. Department of the Interior

WILDFIRE MANAGEMENT IN STEHEKIN VALLEY



Protecting property while mimicking the role of natural fire

MESHING MULTIPLE GOALS

Early this century, fire was viewed as a threat to life, property and timber. But recently, we have come to understand that some fire helps maintain forest health. Paradoxically, attempts to exclude fire can lead to unstable conditions and a greater threat due to fuels such as limbs and needles accumulated on the forest floor, a greater density of trees, and a change in the proportion of various tree species. Without periodic fires, the forest is at greater risk from disease, insect outbreaks and high-intensity crown fires.

The National Park Service plans to return the forest of the Stehekin Valley to a more stable condition, reducing the threat of uncontrollable fire. This will require both prescribed fires and manual tree thinning. Great care will be taken to protect residents in the valley and conserve the wildlife, scenery, and historic sites. Four goals guide the new *Forest Fuel Reduction / Firewood Management Plan*:

- Protection of human life and property.
- Restoration of the forest to a healthier late successional stage.
- Protection of natural and cultural resources.
- Long-term monitoring and evaluation to guide future management.

NATURAL ROLE OF FIRE

Complex variations in weather, fuels, and topography once created a vegetation “mosaic” in the Stehekin Valley. Weather and fire patterns at Stehekin represent a transition between dry eastern Washington and the wetter west slope of the Cascade Range. Before Europeans lived in the valley, natural fires could last for weeks during dry summer months, with a range of fire intensity. When winds were calm and the relative humidity was high, low intensity fire would creep around on the valley floor, burning “fuels” such as needles, twigs, branches and downed logs. During dry or windy periods, high intensity fires would also burn portions of the tree crowns. This created a patchiness over the landscape, and provided a diverse environment for wildlife and plant species.

Periodic fires reduced the amount of fuel on the forest floor and thinned some trees more than others. The thick insulating bark of ponderosa pine enables it to survive low intensity surface fire better than shrubs and small Douglas-fir. If fire is excluded for many years, the Douglas-fir forms a dense canopy and ponderosa pine begins to disappear. Accumulations of surface fuel plus a dense forest canopy set the stage for wide-spread crown fires. The mosaic forest pattern is then lost.

LIFE AND PROPERTY CONCERNS

About 80 persons live year-around in the Stehekin Valley, and an additional 175 reside there each summer. One hundred -thirty houses accommodate seasonal and permanent residents. The valley has no access roads to the outside, and it is difficult to get ground-based fire crews into the region. Settlement in the valley has contributed to the hazards of fuel accumulations, altered forest structures and encouraged disease.

WILDFIRE PROTECTION

The NPS will use prescribed fire treatments on the valley floor and manual thinning of the canopy to re-create a forest mosaic at six strategic areas within the valley. These areas, totaling 790 acres, were chosen to maximize protection of residences, reinforce natural barriers to fire (such as cliffs and regions of already sparse fuel), and restore an open forest canopy in dry areas that prehistorically would have experienced frequent natural fire.

- ***Igniting carefully controlled fires.*** Fire managers ignite surface fuels after preparing a written plan that includes measurable objectives, conditions and specific actions under which burns will be conducted. Fire control lines are constructed; pumps and fire hoses are pre-positioned to contain the fire; weather conditions are closely monitored; and then trained personnel ignite the unit when conditions are optimum. By removing accumulations of fuels using low intensity prescribed fire, fire managers reduce the chance that high intensity wildfires will develop on the forest floor and spread into the tree crowns.
- ***Manual thinning.*** Some of the trees (primarily Douglas-fir) that have invaded in the absence of fire will be removed manually. After a professional forester selects individual trees, they will be removed by NPS employees, private citizens in the community, and a contractor - depending on the location of the trees that need to be removed. In order to reduce soil compaction and other ecological damage, the contractor will thin forest stands while there is snow on the ground, and no skid trails or temporary roads will be built. The thinned canopy will be less likely to sustain a crown fire.
- ***A combination of prescribed fires and manual thinning.*** Of the 790 acres, 355 will receive both techniques. To minimize disturbance to wildlife, individual trees will be marked for removal by National Park Service employees. As a byproduct of thinning operations, some wood will be available for sale as firewood to local residents.

FOREST HEALTH IMPROVEMENT

A vegetation mosaic creates a diversity of vegetation, that in turn supports a diversity of wildlife. Thinning the canopy will enhance plant growth in the understory. The additional grasses and shrubs will benefit many small mammals, birds, and deer. Six to eight snags (standing dead trees), per acre will be left for woodpeckers, owls, hawks and many other forest animals. Treatment methods are designed to reduce disease and insect infestations and improve forest stand structure.

PUBLIC INVOLVEMENT AND EVALUATION

A long-term monitoring program will measure the changes in vegetative composition, fuel loading and wildlife habitat. The thinned and burned forest fuel reduction areas will be compared to control plots. This will enable the National Park Service to continually evaluate the results and refine the management plan for desired conditions. Public input and education will be encouraged as a part of this program.