



Umpqua National Forest

Summary of monitoring results from 2021-2022

Are we meeting our goals?

In the last few years, the Umpqua National Forest has faced challenges from longer, more severe wildfires, including back-to-back intense fire seasons in 2020 and 2021. Wildfire is part of healthy Umpqua watersheds, but has also damaged habitats and human experiences of this unique volcanic landscape that includes the Wild and Scenic North Umpqua River, late-successional reserves set aside by the Northwest Forest Plan, and beautiful forests with abundant natural and cultural resources. Monitoring data helps us learn about the impacts of wildfire, as well as whether we are succeeding at ongoing work to restore stream and riparian ecosystems, protect wildlife habitat, promote sustainable recreation, and produce wood.

Key findings:

- Across the Forest, substrate composition and presence of large wood indicate **gradual improvement in stream habitat complexity**.
- **Tree mortality from insects** is increasing and affecting recreation as well as management treatments.
- **Water temperatures have been degrading** over the last 20 years, forcing fish to seek cooler reaches.
- In 2021 and 2022 combined, mostly post-fire harvest topped **11 million cubic feet of timber**, exceeding the regionally assigned targets.
- The mixed severity of large fire season of 2021 and the small, high-elevation fire of 2022 were at least qualitatively **consistent with historical fire regimes**.

Summary of monitoring results

Watershed and soil resources

41 percent of watersheds are functioning properly and 59 percent are functioning at risk. No watersheds are rated as impaired. Forest-wide stream survey data show a slight and gradual improvement in stream habitat complexity reflected in substrate and presence of wood.

However, both the South Umpqua and North Umpqua sub-basins are areas of concern due to habitat degradation associated with large wildfires.



Social and economic benefits

In 2021, 96 percent of visitors stated that they were either “very satisfied” or “somewhat satisfied” with their trip to the Umpqua NF. The total number of visits to Umpqua NF in 2022 was slightly more than 475,000, an increase of roughly 30 percent since 2017.

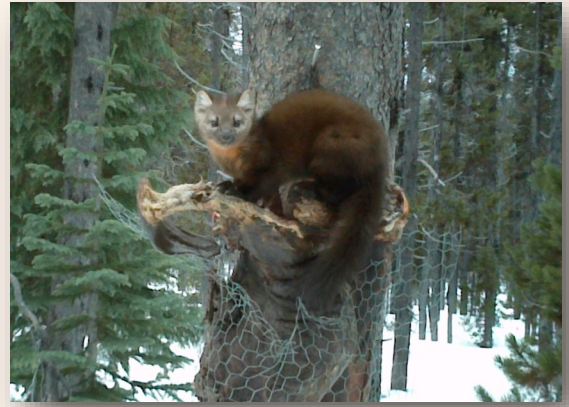
The forest products industry continues to be a key part of the Douglas County economy. In both 2021 and 2022, the Umpqua National Forest attained over 5 million cubic feet of timber harvest. As log and lumber markets have improved, Douglas County regained 204 forestry, logging, and wood products manufacturing jobs from a low in 2011.

In 2022, the logging, forestry, and wood products manufacturing sectors provided about 7.9 percent of Douglas County’s non-governmental employment, and paid higher annual wages than private industry average.

Species of concern

Modeling shows there is more mature and late successional mountain hemlock and lodgepole pine habitat for marten than was predicted in our 1990 forest plan.

There has been a substantial loss of northern spotted owl nesting, roosting, and foraging habitat and subsequent loss of historical owl nest sites due to large, severe wildfires across the Umpqua NF. From 2017 to 2023, over 186,000 acres of reserve have been lost to wildfire. Between 1993 and 2022, the proportion of forest exhibiting old-growth characteristics has declined in all Northwest Forest Plan land use allocations on the Umpqua National Forest, including reserves.



Across its entire range, the northern spotted owl population has decreased by an estimated 62 percent in the last 25 years. The dominant reason for the owl's continued decline is competition from the barred owl, from the eastern United States.

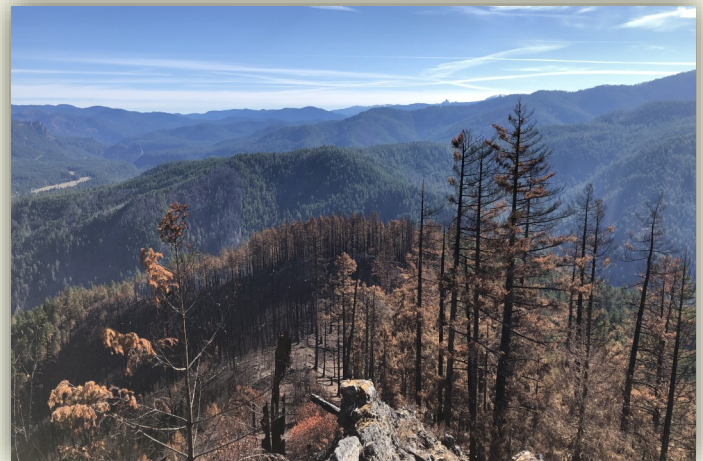
Population trends for elk are declining steadily. Early seral habitat (used by deer and elk for foraging) from timber harvest has been declining. However, extensive wildfire on the Umpqua NF since 2002 has created a patchwork of early seral habitat and improved forage production.

Climate change and other stressors

In 2021, the Umpqua National Forest experienced extensive fire with mixed severity, mainly driven by topography and fine-scale weather. The majority of high-severity fire occurred in late-successional reserves. In 2022, the area severely burned was small and outside late-successional reserves.

Water temperatures have been degrading over the last 20 years. The lower reaches of the South Umpqua tributary Boulder Creek have become too warm to provide habitat for salmonids.

In 2021-2022, trees in the Umpqua NF experienced dramatically increased damage from several native and introduced insects, relative to the preceding decades.



The compounding impacts of climate change-related drought, introduced insects and pathogens, and increased tree density as a result of fire exclusion may make it more difficult for forests to recover from contemporary insect outbreaks.

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Full Biennial Monitoring Report: https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd1166512.pdf