



## **New old growth**

### **Mill Creek restoration under way**

May 2, 2009

Written by [Kurt Madar, The Triplicate](#)



Those who have hiked, biked or spent time in the Mill Creek Addition know that it is someplace special.

But they may not know how special.

Redwood National and State Parks and the Save the Redwoods League have devoted a portion of the addition to a restoration program that seeks to create old-growth forest out of previously harvested and replanted tracks.

The 25,000-acre Mill Creek Addition was acquired in 2002 by the Save the Redwoods League with a coalition of conservation partners.

Dan Porter, the league's director of science and planning, has been working with parks biologists, local restoration companies and even Stimson Lumber Co., the previous owner of the land, to implement restoration on 1,600 acres of second-growth forest.

“The idea is to transform what is a simple row of trees, like corn, to something that resembles old growth,” Porter said. “The challenge is that old-growth forest is incredibly complex; we don’t understand how it became old growth, so the process must be very interdisciplinary.”

When timber companies log and re-plant an area, they treat it like a tree farm instead of a forest, Porter said.

“A typical healthy old-growth forest has 30 to 50 trees per acre,” Porter said. “That section there has between 500 and a 1,000 trees per acre,” he said, pointing to where redwoods and Douglas firs lined the edge of a road so thickly that nothing could grow underneath.

Porter, tall and animated, walked into one of the spots where it was possible to penetrate the thick growth and said, “You can see that they planted the trees very close together, which can create a couple problems.”

“When trees are growing too close together, two things can happen,” Porter said. “Tree suppression is when the growth rate slows dramatically, and if a stand is packed too tight, you can even get tree stagnation where they don’t grow at all.”

Porter said that this plot of dense trees has been left alone — just as it was replanted — for the purpose of comparison. Across the road is one of the areas where the parks have begun the experiment to create, in essence, new old-growth forest.

The first and most important aspect of turning a logged forest back into old growth is selective thinning to allow specific trees more access to nutrients and light.

“We are taking out a majority of the trees to make a forest,” said Porter. “But we are not taking any timber, it stays on the ground to create more soil. Essentially we are picking the old-growth trees of the future. We leave more trees standing than the ultimate target per acre.”

Jeff Bomke, acting state parks superintendent for the Redwood Coast sector, said, “We’ve just barely started,” despite the restorative effort beginning in 2003.

“This is going to be a long sustained effort through generations,” Bomke said.

While the plots were planted at the same time, the trees in the selectively thinned areas are now nearly twice the diameter of those in the unthinned section.

“The degree of selective thinning affects the growth rate,” said Doug Piirto, head of the Natural Resource Management Department at California Polytechnic State University, San Luis Obispo, Calif. “Trees in less dense stands grow faster.”

Added to this significant difference in growth rate, was another key feature of a healthy old growth forest, the beginnings of a strong understory of secondary plants that can only exist in

areas of low tree density.

Salmon berries, ferns and even smaller secondary redwoods are in abundance in the thinned area.

“Just the increase in diversity is a sign of progress,” Porter said.



Dan Porter checks on young trees for the restoration program in a greenhouse at the Mill Creek Addition. (The Daily Triplicate/Bryant Anderson)

“Old forests have unique characteristics that are dependent on species diversity and the size of the trees,” said Piirto. “The first objective is to promote the health of the tree.”

The second major objective of this restoration project is to deal with the erosion of hillside sediment that logging roads can cause, Porter said.

“So far the parks have removed 36 miles of unstable and abandoned logging roads,” Porter said. “All total, in the 25,000 acres of property, there are 355 miles of logging roads.”

Turning logging roads back into forest is important because the roads redirect water, which causes a number of problems, Porter said.

“We looked for the most critical roads in the property, ‘critical’ meaning they diverted the most water and caused the most removal of sediment into streams through erosion, and then we removed them,” Porter said.

They didn’t just remove the roads. They planted trees, removed all the drainage structures to improve run-off and felled trees across the road to add to the soil.

All 36 miles of removed road directly impacted both the soil and water distribution in the 1,600-acre area where restoration work is occurring, impacting both the forest, and watersheds.

The third major part of restoring logged forest to a state that resembles old growth as closely as possible involves streams, Porter said.

“What makes good salmon habitat is a healthy riparian area,” Porter said. “Old-growth

watersheds are the healthiest salmon spawning grounds imaginable.”

A key feature of old-growth forest watersheds is that streams are shaded by understory, and fallen logs create natural dams that support gravel bars.

Both the shading and gravel bars are important because the shade creates cool areas, and the gravel bars are both spawning habitat and a place to get out of the force of winter runoff.

“Without these down logs, immature salmon could get washed straight out to sea because they don’t have a place to get out of the current,” Porter said. “They die if they are exposed to saltwater before they have reached the right age.”

He noted that some of the best coho salmon habitat on the West Coast is protected due to the addition of the Mill Creek drainage because it completes water protection for a significant portion of the Smith River drainage.

“Riparian work is not only important for the health of the forest, but it also improves spawning habitat for salmon,” Porter said.

Standing aside the east fork of Mill Creek, Porter pointed past a large redwood and soon-to-be-flowering rhododendron toward three large logs that were dropped into the stream.

“In an old-growth forest streams have a myriad of obstacles, most of them from large fallen trees,” Porter said. “These are important because they create pools and halt the travel of sediment, both of which help the life cycle of the salmon.”

There are a number of reasons why figuring out how to create old growth from previously logged tree plantations is important, Porter said.

“In a time of changing climate and decreased fisheries, it becomes important to protect forests,” Porter said. “Healthy forests will promote healthy watersheds, which in turn will have a positive impact on salmon fisheries. Added to this is that the groves of old-growth redwoods are isolated from each other.”

Porter said that the Mill Creek Addition, if restored correctly so that it could eventually all be old growth (there are currently only about 200 acres of old growth within the 25,000-acre area), it could provide that connecting corridor between major stands of protected forests.

This does not mean that recreational use would be restricted more than in other old growth groves; like the other stands of isolated old growth, recreational use generates the type of attention that supports conservation, Porter said.

“If you consider that according to climate-change models, much of the Pacific Northwest could end up as a sort of an arc for species diversity, it becomes imperative that we figure out how to save our redwood forests and promote conservation efforts,” Porter said.

[http://www.triplicate.com/index.php?option=com\\_content&task=view&id=105796&Itemid=238](http://www.triplicate.com/index.php?option=com_content&task=view&id=105796&Itemid=238)