

Northwest Woodlands

A Publication of the Oregon Small Woodlands, Washington Farm Forestry, Idaho Forest Owners & Montana Forest Owners Associations

STREAMS AND RIPARIAN AREAS

Benefits and Challenges of Streams on Your Property

What Are We Studying and Why?

A Successful Fish Passage Project



Basic Road Maintenance Tips

Applying a Fixed-Width Buffer

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Managing Forests
for Extreme Events**

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TABLE OF CONTENTS

Winter 2016

DEPARTMENTS

3 PRESIDENTS' MESSAGES

6 DOWN ON THE TREE FARM

7 THE UNDERSTORY

28 TREESMARTS

30 TREEMAN TIPS

ON THE COVER:



A painting of the West Satsop River on Tree Fever Farm in Grays Harbor County, Washington. Oil on linen, 12 x 16 inches. Currently with Scottsdale Artist School, juried into their 2016 "Best and Brightest" show. Painting courtesy: Nancy Romanovsky

STAFF:

ANNE C. MALONEY, Editor
PO Box 1010
Chehalis, WA 98532
annewithnww@gmail.com

MINTEN GRAPHICS, Graphic Design

Northwest Woodlands Advisory Committee Members:

Dick Alescio
Mike Barsotti
Anne Hanschu
Chuck Higgins
Jim James
Anne Maloney
Vic Musselman
Tom Nygren
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FEATURES

8

AN OVERVIEW OF WATERSHED SCIENCE

Streams and riparian areas play key roles in the ecosystem and influence the entire food pyramid, as well as a forest manager's choices.

BY JON SOUDER

14

THE STUDY OF STREAM RESPONSES TO FOREST HARVEST

Interactions in streams and riparian areas are complex and studies of those interactions have become more sophisticated, resulting in more specific guidelines on protection.

BY SHERRI JOHNSON

18

CELEBRATION OF RETURNING SALMON IN CHEROKEE CREEK

The Washington DNR highlights a successful fish passage restoration project funded under their popular Family Forest Fish Passage Program.

BY TAMI MIKETA

20

ROAD MAINTENANCE TECHNIQUES TO PROTECT WATER QUALITY AND RIPARIAN AREAS

A forest manager can prevent loss of a road surface and degradation of water quality by maintaining drainage structures and stabilizing the road surface.

BY JENNIFER BEATHE

24

SOLVING A RIPARIAN PUZZLE: ONE TREE FARMER'S EXPERIENCE

A Washington owner provides an example of the hard work and creativity that forestland owners and managers often use to meet challenges.

BY ANDREJ A. ROMANOVSKY

A few of the more common acronyms in this issue...

ATFS American Tree Farm System
BMP Best management practices
CWA Clean Water Act
ESA Endangered Species Act
EPA Environmental Protection Agency

RMA . . . Riparian management area (OR)
RMZ . . . Riparian management zone (WA)
SPZ Stream protection zone (ID)
SMZ . . Streamside management zone (MT)

Solving a Riparian Puzzle: One Tree Farmer's Experience

By **ANDREJ A. ROMANOVSKY**

This article is about applying a fixed-width alternate plan to a no-harvest riparian zone. A small forest-land owner who purchases a tree farm from a large grower, like my wife and I did, has a wide riparian management zone (RMZ) established by the previous owner. The width of this old RMZ can often be reduced, thus allowing the small owner to expand his or her plantations. We recently did just that when we conducted a rehabilitation project in the old RMZ on our tree farm. We



established a new, narrower RMZ of a fixed-width and harvested old trees of various species growing between this new RMZ and our Douglas-fir reproduction stands. We then established a western redcedar (WRC) plantation on this strip of land.

No-man's land

Our 140-acre Tree Fever Farm is located near Montesano in western Washington. We purchased the property in 2011 from Weyerhaeuser Real Estate Development Company. Our well-stocked, young, primarily Douglas-fir stands occupy about 100 acres of highly productive sites, mostly site class II. We also have a sizable RMZ, which includes about 1 mile of

one bank of West Fork Satsop River (West Satsop) and both banks of a 900-foot stretch of a creek.

When we purchased the property our RMZ was nearly 30 acres. Along the West Satsop it was represented by a strip of land between the river's bank and young Douglas-fir plantations. The width of this strip was supposed to be 200 feet, but in reality it varied between 100 and 300 feet. The RMZ harbored mostly brush and low-quality hardwoods. The thorny thickets of devil's club were the gloomiest parts of our riparian forest. They were intermixed with overcrowded patches of vine maple and "jungles" of Himalayan and evergreen blackberry and salmonberry. Dispersed among occasional old (> 100 years) trees of different species were primarily bigleaf maple, Sitka spruce and western hemlock, but also WRC and Douglas-fir. In a large portion of the RMZ the predominant species was red alder. Many of the old trees were rotten, missing tops, and crippled from lightning strikes. There was also a lot of windfall.

I suspected that, as small forest-land owners, we could have a narrower riparian buffer and use some of the RMZ that we inherited from Weyerhaeuser to grow timber. I named this potentially usable but unused land "the no-man's land." No one knew what exactly was hidden in the no-man's land: the area was practically impassible, especially during summer, and most trees could be seen neither from the river nor from the Douglas-fir plantations. We wanted to harvest whatever we could from this area, clear the devil's club, and then establish a WRC plantation, thus rehabilitating the unproductive no-man's land into a working forest.

The catch-22 of a near-riparian harvest

In order to apply for a harvesting permit the owner needs to have the proposed area of harvest marked, a timber inventory compiled, and sensible access for harvesting equipment.

American Tree Farm System (ATFS) 75th Anniversary Celebration in 2016



The first Tree Farm dedication in the United States was on June 12, 1941. Tree Farm Number One was a 120,000-acre forest owned by Weyerhaeuser Timber Company in Washington's Grays Harbor County. Chaplin Collins, editor of the local *Montesano Vidette*, suggested naming the forest the "Clemons Tree Farm" in honor of pioneer logger Charles H. Clemons. The name Tree Farm caught on. At the dedication, Washington State Governor Arthur B. Langie said, "The Clemons Tree Farm may set the pace for millions of acres of such lands throughout the state."

Today, ATFS has over 3000 members in Washington, Oregon, Idaho and Montana. Five percent of those members have been in ATFS for over 50 years, and another 20 percent have been in ATFS for over 25 years. Nationally, there are 94,764 ATFS participants.

Unfortunately, one needs to mark the area and make an inventory before knowing whether a harvest is feasible. Studying aerial photos would not help much: if trees have crowns spreading 50 feet and more (as in our RMZ), it is impossible to determine precisely the distance between the trunk of a tree and the edge of the riparian stream because both the trunk and the edge are hidden under the crowns. Work on the ground is unavoidable and cannot be done in summer, when the area is impassible. Even in winter, walking through the riparian jungles and climbing over the large windfall takes time, especially when it rains or the fallen trees are covered with ice. And the days are short in winter. Properly identifying and marking the no-man's land and measuring all trees in it could take several days. Such work could easily bring you a four-figure bill from your forester.

What would the owner get in return for this bill? The compiled inventory may show that there is not enough timber to bring in the harvesting equipment. Or it may reveal that the quality of the timber is too low to warrant a harvest. Or it may determine that the timber is concentrated in those areas that cannot be accessed without cutting long roads through the current stands. Furthermore, the proposed harvest area between the new RMZ and the current plantations may end up being too narrow (not enough light) for planting new trees. Finally, the Department of Natural Resources (DNR) may not even approve your application!

Not many owners are willing to incur such an expense just to

learn that the proposed harvest is not feasible. Not many foresters are willing to conduct this work just to earn the landowner's disappointment. The owner and the forester would be eager to pay and to work, respectively, if they knew that they had a harvest. To determine whether a harvest is feasible requires substantial upfront expenses and a lot of work. This is the catch-22.

Where there's a will, there's a way!

After reading everything I could find about managing the RMZ and talking to every forest professional I knew, I became convinced that an alternate plan for a fixed-width buffer was likely to work in our case. The greatest advantage of the alternate plan is that it is so easy: you determine the site class from a DNR map, find the corresponding width from a DNR table and then just measure this distance from the edge of the bank and mark a line. You do not need to measure multiple zones within the

RMZ or decide which trees you can or cannot harvest within each zone. Everything outside your marked line can be cut; everything inside must be left. Along the West Satsop, we have two site classes: II and V. Based on the DNR table, we could reduce the width of our RMZ to 118 feet (where it runs through site class II) and 75 feet (on class V sites).

In January 2014, my son Stephan (age 17) and I spent our winter break marking the fixed-width RMZ along the river and compiling an inventory of the no-man's land. We were lucky with the weather: we had three days in a row without rainfall, and then a fourth day with relatively innocuous, on-and-off rain. This gave us just enough time to thump through the entire RMZ along the zigzagging river, measure and mark it every 25 feet or so, and then inventory all trees between the new RMZ and the current stands. We thought our activity was similar to a combat operation. I played the role of a heavy tank, specializing in bushwhacking

and carrying the tape through the thickets towards the edge of the bank. Stephan was a helicopter: he specialized in climbing up the more passible slopes. When the work was completed the entire front surface of my rain suit looked like it was shot with shrapnel! We also had casualties in our battle: we spent at least an hour at the end of each day removing irritating spines from our faces and learning how devil's club got its name.

The number of trees in our inventory was relatively low (about 100), but the trees were humongous. Two spruces had diameters at breast height (DBH) exceeding 100

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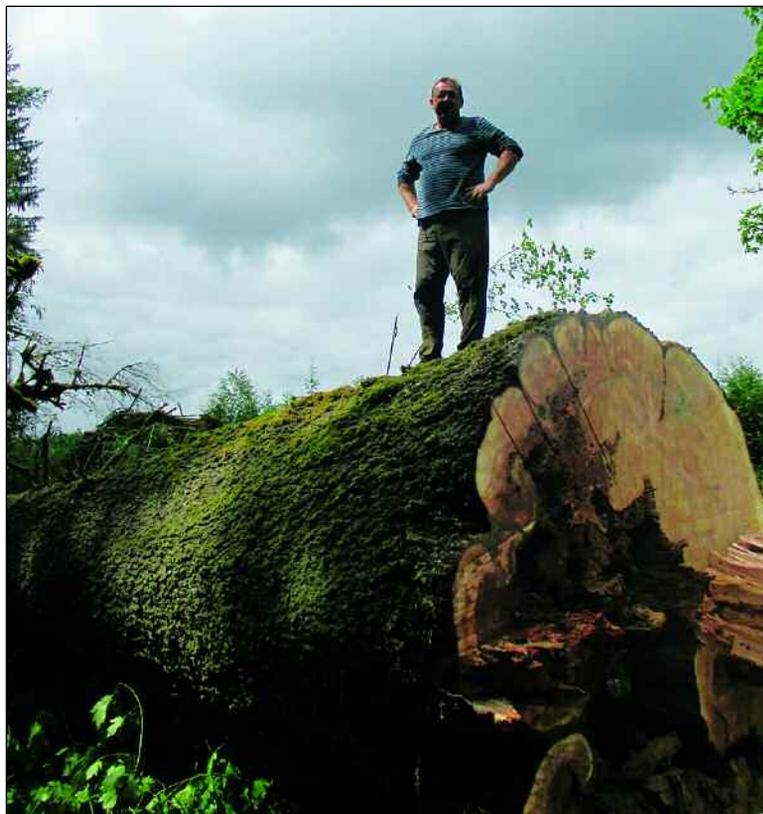


PHOTO COURTESY: DAVID HOURK

The author is standing on the trunk of a rotten Sitka spruce, cut on the no-man's land during the July 2014 rehab harvest. The tree had a 107-inch DBH.

inches. When I e-mailed the numbers to our consulting forester, Chuck Chambers, he asked, "Did you measure the circumference or DBH?" Of course we measured the DBH! We also had beginner's luck with our measurements. When Chuck ran our numbers through his program, he came up with an estimated harvest volume of 132.5 thousand board feet (MBF), which differed by only one percent from the actual volume we harvested a few months later! Now we knew that we had enough trees to warrant bringing in the equipment, so we hired Chuck.

Using professional help was a game-changer

The next steps were not easy either, but the pieces of the puzzle started taking their places because we had a great forester! Chuck is a pioneer of tree farming and one of the most knowledgeable foresters in the Northwest. At 79, Chuck is as busy as ever consulting on multiple forestry projects and attending to his family's tree farms. His advice is based on several decades of experience. Chuck took care of our harvest permit and a

site visit by the DNR forest practice forester. After Chuck showed him the vast jungles of brush and devil's club, and told him that the owners wanted to plant conifers instead, the state forester became a proponent of the rehabilitation harvest.

Upon approval of our application, Chuck brought several loggers to the property and tried to show them the proposed harvest. Not a single logger had time to look at all the different areas included in the harvest, and some gave us their bids without even visiting the property! Chuck then helped me select a logger and write a contract.

The contract deserves a few extra words because the job was rather unusual. Stephan and I were the only ones who had seen all the trees to be harvested, and everyone was skeptical about it. The loggers looked at our expected volume numbers as if we had produced them by reading tea leaves. The financial outcome of the harvest was doubted by everyone, and most loggers expected us to lose money on it. The harvest area was separated into several narrow patches,

and figuring out optimal access to each patch required some brainwork. In view of these factors, Chuck and I thought it was very important to make detailed maps and include a complete inventory and site measurements in the contract.

Finding the mills was another riddle. Because our trees were very large, represented many species, and had various profound defects, from lightning strikes to rot, it was important to understand where to send different loads. Chuck's experience, and an experienced logger, helped us to solve this riddle and to do OK on selling our diverse mixture of gigantic trees. Hiring an experienced forester was the best decision we made.

A new WRC plantation

In July 2014, we performed a rehabilitation harvest on 6 acres of no-man's land. We removed the gigantic trees and sold 96.6 MBF of softwoods and 37.3 MBF of hardwoods. While all bigleaf maples and many spruces and hemlocks went for pulp, most of the WRC, fir, and alder were sold for logs. We made money on this sale. We also enhanced our new RMZ with large woody debris by placing a lot of trunks and large branches into it that we could not sell. In addition, we cleared a 1-acre opening in the near-riparian area. Thus, the total area available for a new plantation



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became 7 acres.

In March 2015, we planted WRC and Sitka spruce on these 7 acres. The WRC is our favorite tree and we were looking for a way to have it on our tree farm. Furthermore, I received a grant from the Western Sustainable Agriculture Research and Education program (WSARE; supported by the National Institute of Food and Agriculture and U.S. Department of Agriculture) to study different ways of protecting a young WRC plantation from deer browsing. Hence, our new plantation features 1,800 WRC seedlings planted without any protection (control group), 1,800 WRC seedlings co-planted (in the same hole) with 1,800 Sitka spruce seedlings, and 1,500 WRC seedlings protected with traditional Vexar tubes. This is 6,900 conifers to replace the 100 harvested trees! The new plantation looks rather colorful, as different types of WRC protection are marked with flags of different colors.

While solving our riparian puzzle was not easy, having it solved fills us with satisfaction. It is nice to look at our new WRC plantation, a baby stand of a working forest, and know that just a year ago there were impassible brush jungles here. I am deeply grateful to Chuck Chambers (West Mason Consulting) for his help with the rehab harvest project and for mentoring me in tree farming. ■

ANDREJ A. ROMANOVSKY, MD, PHD, is a medical researcher. He works as full professor at St. Joseph's Hospital and Medical Center in



PHOTO COURTESY: NANCY ROMANOVSKY

WRC protected with Vexar on the newly established research plantation. In the background, you can see the fixed-width RMZ on the right and Douglas-fir reproduction (with red alder) on the left. The entire cleared area shown used to be the no-man's land.

Phoenix, Ariz., where his laboratory studies body temperature regulation and fever. In partnership with his wife, Nancy, he owns and operates Tree Fever: Forestland Conservation and Development. Their ATFS-certified tree farm has been awarded EQIP

and CSP contracts. He can be reached at TreeFeverFarm@gmail.com. If you would like to preserve your tree farm in an oil painting for generations to come, you can commission one from Nancy, nancy@nancyromanovsky.com.

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