

Testimony for the Oregon Board of Forestry

Arne Skaugset – June 3, 2015

Good afternoon Mr. Chairman and Ladies and Gentlemen of the Board. My name is Arne Skaugset. I am an Associate Professor in the Forest Engineering, Resources, and Management Department (FERM) of the College of Forestry at Oregon State University. Since 2003 I have also been the Director of the Watersheds Research Cooperative (WRC) at OSU. The WRC is a research cooperative housed in the College of Forestry that is the administrative umbrella for the three paired watershed studies that bear that moniker. These studies are: Hinkle Creek Paired Watershed Study, the Alsea Watershed Study Revisited, and the Trask Paired Watershed Study. All three of these studies have as an overarching goal to investigate the environmental impacts of contemporary forest practices.

There were several specific scientific objectives that guided the development of the studies. However, at the start of the new millennium during the FPAC (Forest Practices Advisory Committee) process the dominant image of forestry and timber harvest was derived mostly from the seminal paired watershed studies in the late '60s and early '70s. That image was dominated by a vision of timber harvesting that resulted in short-term, acute, negative impacts to aquatic resources. With that image as the backdrop the studies also became a contemporary data point regarding forest practices and aquatic resources.

While the quantification of physical parameters was a given for these studies, the final goal was not to detect changes in physical parameters but to connect that change to aquatic resources. A considerable portion of the budgets was spent on biology namely fish, aquatic invertebrate, and salamanders. Thus, the impact on aquatic resources was not implied but rather quantified by correlating changes in physical parameters with actual changes in the biology of the system, whether fish-bearing or not.

As contemporary data points an overarching finding that has come out of the studies is that contemporary forest practices (Oregon Forest Practice Rules) have eliminated short-term, acute, negative impacts to aquatic ecosystems associated with intensive forest management. This does not mean that changes to aquatic resources that result from timber harvest have been eliminated. In fact in all three of the studies detectable changes were detected as a consequence of timber harvest for virtually every parameter studied. However, the changes in the aquatic resources are small, chronic, and equivocal.

Also, the changes that are detected are all within natural variability. This means they were within the variability in that parameter as measured across the watershed at the time of interest. This is not within a measurement of historical variability but rather variability in space across the watershed in time. For example, we observe a change attributed to timber harvest in maximum daily stream temperature of 0.6°C. This is in contrast to a change in maximum daily stream temperature across the watershed of 4.5°C.

The take home message should be that Forest Practices Rules have eliminated short-term, acute, negative impacts of timber harvest on aquatic resources. Impacts have been detected but they are small, chronic, and equivocal. Further, all impacts detected are within the natural variability of the parameter in the watershed at the time of the study.