Chair Helm and Members of the Committee:

Thank you for the opportunity to testify today. My name is Maryanne Reiter and I have been a hydrologist with Weyerhaeuser Co since 1995. My primary work is on water quality and quantity issues on our forest lands in Oregon and Washington. From harvest activities to road building, all of our operations in Oregon fall under the Oregon Forest Practices Act. In my role, I work closely with state and federal agencies, research organizations, and other partners to assess the effects of forest practices on water quality in Oregon. Moreover, my water comes from McKenzie River where we have significant ownership in the basin and so I personally care about our practices since I drink the water every day.

You've already heard about the unintended consequences this bill would inflict on Oregon, so I'll focus on a different aspect – one in which I have considerable expertise: what the research says the impacts contemporary forest practices have on water quality. And I'll tell you the good news up front – an extensive body of literature exists on contemporary forest practices and their effectiveness at protecting water quality. As I scientist in this field, I would offer to you that the result of this concerted research effort has demonstrated that modern forest practices protect water quality making the additional restrictions outlined in HB 2656 not necessary.

Private forest landowners strongly support science, we work cooperatively with external agencies and research institutions and we want to understand our environmental effects and modify practices if needed. I'll take this time to address areas of research specific to two restrictions imposed by HB 2656: the effect on water quality from potential runoff and sedimentation from harvest and herbicide use.

One the most coordinated and intensive efforts to examine the effects of private forest practices on water quality and aquatic ecosystems is the Watersheds Research Cooperative which occurred in 3 watersheds in western Oregon. One of the studies in the WRC reported that for the Alsea watershed (it is important to note the original watershed study from late 1960s that was the impetus for FPA): "*We found no evidence that contemporary harvesting*

techniques affected suspended sediment concentrations or yields. Overall, suspended sediment concentrations and yields after contemporary harvesting were similar to historical pre-treatment levels." (Hatten et al., 2017). Similarly, a recent study in the Trask, another one of the WRC basins, found that "*The occurrence of harvest-related suspended sediment yield increases were more dependent upon site characteristics (underlying lithology and physiography) than the specifics of the type of activity (e.g., road building, presence/absence of riparian buffers)."* (Bywater-Reyes et al., 2017). The results of this study were similar to what the USGS found for all of western Oregon and northern California in that it was geology, wildfires, and rainfall that explained the suspended sediment concentrations in streams and rivers. Further, when examining specific practices such as road construction, upgrades and use the research in the Trask showed that best management practices work to control sediment (Arismendi et al., 2017). So, bottom line, according to effectiveness studies, modern forest practices are working to protect streams from sediment delivery.

Next, let's consider forest herbicide application and the effectiveness of current regulation and practices on protecting streams. I won't discuss the importance of these tools for protecting against invasive noxious weeds and other non-desirables, I'll leave that to others. Instead, I want to discuss the effectiveness of the protections on meeting water quality standards. In 2002 the Oregon Department of Forestry, through their effectiveness monitoring program, asked the question "Are forest practice rules protecting water quality from drift contamination during aerial application of pesticides?" The authors concluded that "forest practices rules are effective at protecting water quality." A gap in the earlier study was identified, and that was what happens during storm events. So again, demonstrating our commitment to understanding our effects, researchers in 2010 designed a robust Before After Control Impact (BACI) study to look at the effectiveness of protection measures during storms. Herbicide applications were performed under Oregon Forest Practices Act standards. Baseline samples were taken as well as samples after 5 subsequent storm events. There were "no detects" for three of the four herbicides used. The one herbicide that was detected, was detected after a significant storm event and that detection was at levels 6,000 times less than

EPA health standards for drinking water. The studies I mentioned are only a portion of the body of research on this subject but are indicative of the broader body of evidence which has found that forest practices standards are effective at protecting water quality.

I'd like to end by looking at monitoring work from MY watershed, the water that supplies my home in Lane County. Monitoring by Eugene Water and Electric as well as the USGS reports for the McKenzie indicate that forest chemicals, namely certain forestry herbicides, are of low concern for drinking water. The USGS study examined tributary and mainstem sites, including those dominated by forestry, urban, and agricultural activities. They tested for 175 compounds (72 herbicides, 43 insecticides, 10 fungicides, and 36 of their degradation products, as well as 14 pharmaceutical compounds). "*The largest number of pesticide detections occurred during spring storm surveys and primarily were associated with urban stormwater drains. Urban sites also were associated with the highest concentrations…. In contrast, forestry compounds were rarely detectable in the McKenzie River, even though forest land predominates in the basin and forestry pesticide use was detected in small tributaries draining forested lands following application*." The 2017 EWEB monitoring report found a similar pattern as the USGS study. It is not forest chemicals that are of most concern, but the various contaminants coming from stormwater runoff from the urban areas near the intake. While there were detections of forest chemicals further up the river during sampling, they are so extremely low as to not be a concern. And as someone who drinks the water from the McKenzie, I was glad to see the detected concentrations at the intake were several orders of magnitude less than the Human Health Benchmarks and that in the finished water there were no detections of any of the measured contaminants.

The science and monitoring of the forest practice effects on water quality in Oregon is clear; contemporary practices protect our water. Thank you.

End