Oregon State University
College of Forestry

April 2, 2019

WRITTEN TESTIMONY OF STEPHEN A. FITZGERALD,
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BEFORE THE OREGON STATE SENATE
COMMITTEE ON THE ENVIRONMENT AND NATURAL RESOURCES

CONCERNING SENATE BILL 926

Chairman, Dembrow, and Committee Members, thank you for allowing me to provided written and oral testimony to you today on Senate Bill 926. My name is Stephen Fitzgerald. I'm a silviculture professor at the Oregon State University College of Forestry, the statewide Extension Silviculture & Fire Specialist, and the Director of our College Research Forests which comprise nearly 15,000 acres in Oregon. I have worked in Oregon's forests for over 36 years.

My understanding is that Senate Bill 926 would ban aerial applications of pesticides on state-owned land. Review by OSU's legal counsel has advised us that forests owned by our University and managed by the College of Forestry would fall under this ban based on a review of the bill by OSU's Office of General Counsel.

Our College is neither supporting nor opposing the proposed legislation, as we endeavor to support policy discussions in this building without advocating for particular outcomes. That said, I am here today to explain the potential impacts to our forest operations and research, and answer any questions you may have about the utility of aerial herbicide application in forest management. A ban on aerial herbicide applications, which we use to suppress competing and invasive vegetation, would impact our operations and land management by increasing costs, reducing worker safety, and limiting current and future research opportunities.

How Herbicides are Generally Used.

In Oregon, the application of forestry pesticides comprises 4.2% of all pesticides applied within the state based on Pesticide Use Reporting system from 2008. On our Research Forests, we apply herbicides by helicopter on some of our timber harvest units that are generally above 12 acres in size because it is the most cost effective, efficient, and an environmentally safe method of application.

We apply herbicides in the fall after timber harvests have been completed. We then plant the site in the winter. In the spring we apply another herbicide over the top of newly planted seedlings. These two herbicide applications temporary suppress competing and invasive vegetation so seedlings get a head start and are free-to-grow. This time-tested approach insures that we will meet Oregon's reforestation

laws. Thus, over a 60-year rotation on our forests, we spray only twice, but the use of aerial applications to accomplish this is very important.

From the perspective of a silviculturist, aerial pesticide applications are very accurate. Aerial applications utilize spray nozzles that create very large droplets which fall rapidly to the target vegetation and create very little drift. In fact, the AccuFlo nozzles used produce less than 0.2% fine, driftable droplets. Figure 1 attached to this testimony is a photo depicting a rapid fall rate that leaves little opportunity for drift.

Helicopters also go through a calibration process to ensure they are spraying the proper amount of product per acre, and that the droplet sizes are accurate, and that the measured drift is below a set threshold. Figure 2 is a photo depicting the accuracy of a spray line, which is also enhanced by standard practice of utilizing GPS coordinates (see Figure 3).

Cost Effectiveness.

The cost for aerially application of herbicides on the University forest generally runs about $75/acre (including chemical costs), but goes down on a per acre basis as the size of the area being sprayed increases. The cost for manual backpack spraying is double that at $150/acre, and remains at about that level regardless of the size of a treatment area. The number of acres of University forests treated varies from year-to-year. In all cases the cost of treatment is carried as a cost for the newly treated forest tract for the full 60-year harvest rotation, making the net present value of a 100% increase in cost significant over that time horizon.

Worker Safety:

Aerial application is the safest method of applying herbicides on steep and rugged terrain that often characterize our forestlands in western Oregon. Approximately two to three people are needed to conduct an aerial spray application. Ground crews however, normally require a dozen people (or more) depending on the size of the treatment area, and are outfitted with backpack sprayers containing 4 gallons of water/herbicide mix weighing well over 30 pounds. This weight (which is also unsteady as the liquid moves from side to side in the backpack container) creates very real safety concerns for workers who frequently must apply the herbicide on steep, uneven ground while walking over and through logging slash in harsh conditions. There is also anecdotal evidence that obtaining a uniform application of herbicide is compromised in such conditions.

Limitations on Research. As a research forest we often test the efficacy of various herbicides and application methods. We do this to help establish best management practices for private and public timberlands, and to better understand ecological implications of pesticide use in relation to non-economic public values. For instance, on the horizon now for our research programs is efficacy of drones for pin-point aerial application of herbicides in certain circumstances. There is no question that outright prohibition of aerial pesticide applications will carry implications for existing and future research initiatives at our College.

Again, thank you for allowing me to testify today, and I will do my best to answer any questions you may have.

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Figure 1 – Nozzle technology creates large droplet size which produce little drift.

Figure 2 – This is an operational aerial herbicide application showing little drift from treated into untreated areas.

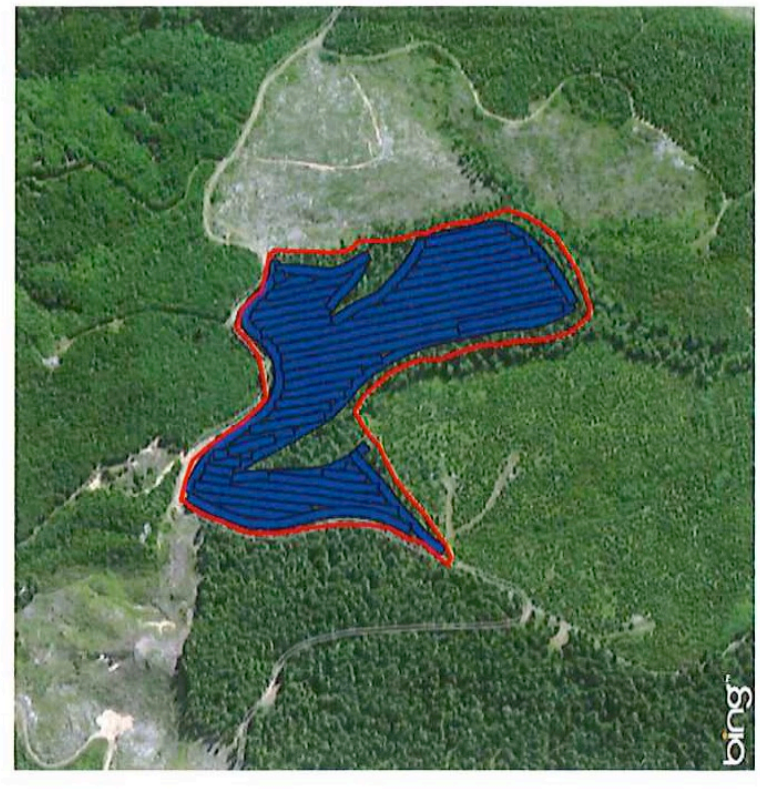

Figure 3 – GPS of flight lines for aerial pesticide applications on the OSU Research Forests Blodgett tract.