Oregon's Industrial Forests and Herbicide Use:
A Case Study of Risk to People, Drinking Water and Salmon

Executive Summary

Oregon's Industrial Forests and Herbicide Use: A Case Study of Risk to People, Drinking Water and Salmon is the first in-depth analysis of industrial forestry pesticide application records for the State of Oregon. This report provides GIS mapping and quantitative measurements derived from herbicide forestry spray records from Lane County, Oregon to document and discuss three primary concerns:

1) The Oregon Forest Practices Act lacks adequate protections for human health, surface and ground water, and the future survival of protected fish species.
2) Chemical application rules of the Oregon Forest Practices Act fail to fulfill legal responsibilities compared to regulations in the neighboring states of Washington and Idaho, states with similar forest ecosystems.
3) The Oregon Forest Practices Act prohibits other state agencies, researchers, medical professionals and the public from getting accurate information about what types and quantities of herbicides are sprayed. Lack of information increases the potential for health and environmental risks due to the absence of regulations for buffer zones around homes, schools, towns, drinking water, and the headwaters of rivers.

Recommendations

The report concludes with recommendations for modernizing the Oregon Forest Practices Act.

- The State should make the Oregon Forest Practices Act equal to or more effective than the Washington Forest Practices Act.
- Make all forest operations, including chemical application documents, available through a publicly accessible website similar to Washington's Forest Practices Application Review System (FPARS).
- Provide the Oregon Department of Forestry, in consultation with the Oregon Department of Environmental Quality, the authority to review, comment, and require modifications of forest vegetation management written plans based on an environmental and human health assessment and proof of compliance with state and federal laws. Require written plans to be made available for public review and comment.
- Comply with ORS 629-035-0030 subsection 3(B), to protect all surface waters.

Background

The *Case Study of Risk to People, Drinking Water and Salmon* provides information regarding the use of herbicides on 184,320 acres of private industrial and state forestlands surrounding Triangle Lake, a rural area in western Lane County, Oregon.

In 2011, following complaints from rural residents about health problems that coincided with forestry aerial herbicide sprays, state and federal agencies launched the Highway 36 Corridor Public Health Exposure Investigation. The investigation resulted in the Oregon State Forester requiring pesticide applicators to turn over three years of forestry pesticide spray records from private and state timber operations (2009-2011).

Studying the spray records gathered during the Health Exposure Investigation provided new data, and a first-time review and analysis of industrial forestry herbicide practices.

This report raises public awareness and informs policy decisions about the associated risks of a common industrial forestry practice – aerially spraying herbicides over hundreds of thousands of forest and riparian acres.

Findings

- The chemical regulations of the Oregon Forest Practices Act are weaker than regulations in Washington and Idaho. Unlike these neighboring states, in Oregon there are:
    - no spray buffers around homes, schools and farms
    - smaller spray buffers along fish-bearing streams
    - no protections for non-fish surface waters, including headwaters of streams
    - minimal protection of drinking water
    - no protection of ground water, including where ground water filters through to drinking water sources
    - no restrictions of pesticides known to contaminate ground water or prone to drift in air

- Pesticide applicators mix their own "chemical soups," or tank mixes, of herbicides that contain two to five active ingredients and adjuvant products, despite a lack of understanding about synergistic effects of multiple chemicals combined and released into the environment.

- The data show increasing acres of aerial sprays applications and increasing pounds of pesticides applied per acre over the three-year period.

- Atrazine and 2,4-D were detected in urine samples of rural residents in 2011, in the same year that:
    - the pounds of 2,4-D applied by aerial spray increased by 80%
    - the pounds of atrazine applied by aerial spray increased by 73%

- Types of herbicides widely used in forestry were detected in threatened coastal Coho salmon habitat streams and in the Triangle Lake School's drinking water.

- Aerial herbicide sprays occur:
    - directly over headwaters of protected salmon streams
    - within 60 feet of threatened Coho salmon streams

Comparing the chemical regulations between Washington and Oregon revealed glaring differences in agency jurisdiction:

- Oregon state agencies have no authority to critique and require modifications of forestry herbicide applications.
- In Oregon, there is no public process to know about or make comment on timing, location and types of herbicides used; there are considerable financial and procedural barriers to public involvement.
- The Oregon Forest Practices Act prohibits doctors, the public or researchers from obtaining timely access to herbicide spray records.

Conclusion

Based on the assessment of herbicide application data, the report concludes the Oregon Forest Practices Act is inadequate to protect human health, drinking water and all surface water. It fails to assure agency oversight, fails to make environmental compliance transparent, and fails to require best management practices based on current science.