Public testimony from Dr. David Eisler, Walton, OR forestland owner, to the Oregon Board of Forestry, January 9, 2008

ODF has prepared a report to the Board which includes responses to a range of pesticide related comments addressed in the 2007 Issue Scan. ODF has identified the need for an interagency literature search in order to assess current research on pesticide toxicology and potential impacts on aquatic life. While we fully support this effort we feel that a literature search in and of itself should not be the sole action plan for a Chemical Monitoring program that has been on hold for more than a decade. Allowing the contribution of the status quo of "no action" during the indefinite timeline of the literature search will be a set back to ODF's obligation to protect water quality, endangered species, and human health. We would like to recommend to the Board a more inclusive literature search model, a set of action plans that would address the current Chemical Monitoring deficiencies at minimal cost to ODF. We would also like to respond to statements made by the ODF in their report, provide corrections and raise a number of questions.

Regarding the literature search
Quoting from the Issue Scan Analysis "A comprehensive review of forest chemicals research has not been conducted, but is identified as a top-priority question in the Monitoring Strategy."pg 35
ODF "recommended that the Board call for an independent literature review, conducted in collaboration with other agencies, on non-target effects of forest pesticides."
We fully support this effort but feel that a literature search be broadened from pesticide toxicology to include the questions that were not addressed in the 1997-99 research; long-term transport of chemicals during storm surges, the role of small, intermittent and non canopied streams in chemical transport, chemical impacts on macro invertebrates, and chemical drift off site through volitization, temperature inversion, air turbulence and other variables. Additionally, the literature on forestry chemical fertilizers should be included.
ODF indicates that the literature search requires funding. We understand that staff time would be required but we also feel that outside, other-funded or volunteer professionals are available for assistance.
We feel that a literature search should include not only public agencies but also individuals and organizations that have appropriate expertise and access to peer-reviewed literature.
We hope that the Board will establish appropriate timelines, appoint a lead person to direct the literature search, encourage a level of time and cost efficiency that relies on electronic meetings and data sharing. We would like to have a person of the public interest community be included in the process.

Responses to ODF Scan Analysis

Regarding the court-ordered buffer zones for Triclopyr; quoting from the scan analysis, "ODF concludes that it is not appropriate for the Board of Forestry to use the injunctive order as a directive or guide for protective measures."
In 2002 a federal court ordered EPA to require NSB's "No Spray Buffers" to protect Pacific salmon. EPA researched 54 pesticides, including triclopyr. From that list 37 chemicals, including triclopyr, made "likely to effect" threatened and endangered Coastal Coho and "may effect" Willamette Valley salmon runs list. The Endangered Species Act required NOAA to complete determination of new guidelines within 90 days. Because NOAA has failed to review EPA documents over the last 5 years a lawsuit was filed in November of 2007.
Should the Department of Forestry disregard the EPA's Triclopyr interim stream buffers established to protect salmon if a Forest Practices Act goal is to protect aquatic life from the impacts of forestry chemicals?

Regarding Levels of Significance
Data from the ODF 1997 aerial spray study found pesticide levels in an number of samples to be above 1 ppb within 24 hours of the applications and these were considered by ODF to be below "levels of significance". Levels of significance are based upon Lethal Dose 50, where 50% of the study population dies within 24 or 48 hours. These levels are based on short-term observable biological effects. Recent research now indicates that extremely low levels of some pesticides effect fish behavior and survival. Scholz' 2006 research (reported in Science,vol 171, #4, i/27/2007) of pesticide impacts on juvenile Coho olfaction indicates that 1 ppb can effect electro-olfaction and influence feeding behavior, predator defense mechanisms and ultimately survival rates. Tierney, et al (Changes in Juvenile Coho Salmon Electro-olfactogram during and after short-term exposure to current use Pesticides, in Environmental Toxicology and Chemistry, Vol 25, No 10 .. 2809-2817, 2006) examines the impacts of very low levels of glyphosate on juvenile Coho. Other researchers suggest chemical impacts on olfaction compromise adult salmon migrating and spawning behavior.
From ODF's recommendations in the 2002 report, pg 19, "The department, in partnership with the research community should continue to refine water quality criteria to address new pesticides (specifically clopyralids) and to incorporate new information derived from toxicological studies". Because ODF placed Chemical Monitoring in "low priority" there have been no updates over the last 10 years and research articles which we submitted describing new levels of significance to aquatic life "did not indicate (to the staff) the need for an urgent change in monitoring priorities" quoted from ODF Issue Scan Analysis pg 35.

Regarding ODF's confidence in the incomplete 1997-99 research

Quote from the Issue Scan Analysis "Current regulations adequately protect fish-use streams from drift contamination that would harm humans, fish, or aquatic

invertebrates. Drift contamination of surface waters is therefore a low monitoring priority."

To claim that the ODF 1997-99 aerial spray research provides a basis for the above assumption is unfounded. Firstly, the research design was very specific and limited to short-term effects on a spray unit's buffer vegetation and open water. The study was not designed to examine long–term transport of chemicals during storm surges. Nor did it examine the role of small, intermittent non-canopied streams or impacts on macro invertebrates. The recommendations within the 2002 Monitoring report include the need to understand all of these variables. Secondly, the aerial spray research design examined the study area only. It was not designed to document long distance drift beyond the study unit from chemical volitization, temperature inversion or air turbulence. This was not a study that could draw a conclusion that current rules and regulations protect water quality, fish and other aquatic life as well as human health. Quoting from the Scan Analysis, "The remaining moderate priority questions focus on potential impacts to human health and aquatic life, particularly relating to storm run off events and small non fish-bearing streams. Although cost was not considered during priority- setting, , these particular monitoring questions have remained unaddressed due to lack of resources." ODF acknowledges that research necessary to determine if water quality, fish and wildlife and human health are compromised, continues to be lacking, yet they express confidence in the current rules and regulations.

Regarding Additional Action Plans:

Because chemical monitoring was dropped to low priority despite the recommendations in the 2002 Monitoring Report to complete needed research, we feel that extending the "no action" or "status quo" of chemical monitoring until a literature search has been completed is unwise and unjustified. There is a range of needs that can be addressed coincident with the literature search.

1) There is a need for a landscape-level watershed modeling that projects forestry chemical use in various landscapes and situations. Chemical road maintenance, aerial applications within varying topographies, stream order configurations including small, intermittent streams, are among a wide range of variables that can be combined to understand the complex nature of landscape/chemical use interaction. This model will be a necessary component of any future research designs. This work could be headed up by a watershed council or other organization that could facilitate partnering and funding for such a GIS project.

2) Quote from ODF Issue Scan Analysis, The staff is "aware of several initial contacts between ODF and other agencies which may address pesticide questions."

   The potential for these cooperative projects will, in all likelihood, be lost because of the current ranking of Chemical Monitoring as "low priority" and the lack of time available for staff to remain involved .We feel there is a role for a community representatives, organizations, to maintain the momentum of this effort, to assist in this process, helping to partner agencies and organizations that

can fund and otherwise assist in these efforts. Throughout the ODF Issue Scan Analysis there are references to limited funds and limited time for staff to engage in chemical monitoring related efforts. We feel that there are opportunities for these efforts to proceed without significant cost to ODF and without a significant drain on ODF staff time.

3) Currently there is a large and growing population of rural landowners who interface with industrial timberland . Many of these people have brought their concerns to ODF regarding their exposure to aerially sprayed pesticides. Many feel that ODF field staff simply "wrote them off". It is important for the Board to understand that there is no recourse for landowners who have experienced chemical trespass and exposure to sprays. ODF may cite the applicator and possibly administer a fine. The Dept of Agriculture may investigate and find an infraction of the label laws and issue a warning or a fine to the applicator. But citations and fines after the drift event are of little consolation to exposed landowners. Civil litigation is impractical because damage is hard to establish. Communities are filled with chemically sensitive individuals, people with already compromised breathing such as asthma or cystic fibrosis. Pregnant women and children as well fall outside the exposure "levels of significance". The board should be aware of the frustration of the public who feel they have neither redress nor the ear of the Dept of Forestry. We would suggest that there is a need for some form of facilitated dialogue between those concerned citizens and ODF staff.