

# Highway 36 Exposure Investigation



## Public Health Assessment Finalized

The Oregon Health Authority (OHA) released the final version of the Highway 36 Exposure Investigation report, first issued for public comment in May 2013. This fact sheet summarizes the main differences between the public comment and final versions of the report, known as a public health assessment (PHA). Changes and responses in the report are based on comments received from the public, industry, and state and federal agencies.

## Background

This exposure investigation began when a well-respected researcher presented the results of a 2011 community-led urine sampling effort to the Oregon Board of Forestry. The results showed the participants were exposed to the pesticides 2,4-D and atrazine. These are two pesticides commonly used in forestry applications. Several area residents have expressed concerns for years about the seasonal use of pesticides, applied to tracts of forest lands near homes and schools. Concerns are focused on the health effects of the chemicals and their drift onto people, private property, gardens and animals.

### Original exposure investigation questions:

1. Are residents in the Highway 36 Corridor being exposed to pesticides from local application practices?
2. If residents are being exposed:
  - a. To what pesticides are they being exposed?
  - b. To what levels are they being exposed?
  - c. What are potential source(s) of pesticides to which they are exposed?
  - d. What are potential routes (pathways) of residents' exposures?
  - e. What health risks are associated with these exposures?



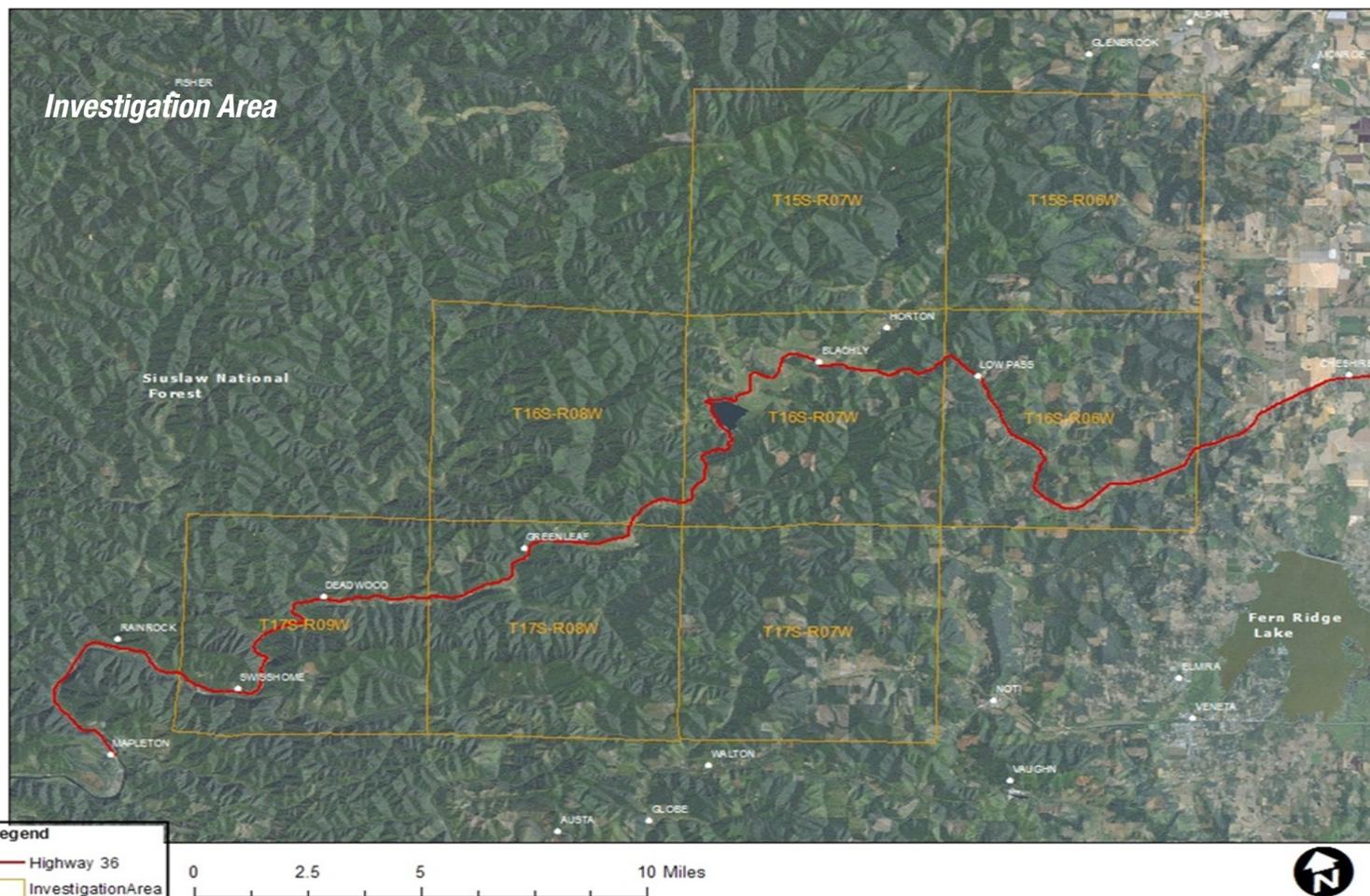
Clear-cut behind Triangle Lake Charter School (K-12).  
Source: Highway 36 Community members.

In response to the community's concerns, the Pesticide Analytical Response Center (PARC) developed an exposure investigation protocol. The first phase of the investigation included collecting baseline samples of urine, drinking water, soil and homegrown and wild foods. This was done in fall 2011 when pesticide use is typically at its lowest level and there were no reported pesticide applications of 2,4-D or atrazine. This report presents the results of the baseline data collected by state and federal agencies, as well as data collected by members of the Highway 36 community.

## This PHA reports on the analysis of the following data:

- Urine samples collected by community members in spring 2011;
- Urine samples collected by Agency for Toxic Substances and Disease Registry (ATSDR) and OHA staff in fall 2011;
- Environmental samples (drinking water, soil and homegrown and wild foods) collected by the U.S. Environmental Protection Agency (EPA) and the Oregon Department of Environmental Quality (DEQ) in fall 2011;
- 2011 pesticide application records from the Oregon Department of Forestry (ODF) and the Oregon Department of Agriculture (ODA);
- Community-collected air and water samples;
- Qualitative information collected by OHA during the course of the investigation.

Note: The investigation originally planned to conduct additional rounds of sampling immediately after the spring 2012 application season began to assess whether differences in exposure could be seen. However, the post-application sampling did not occur because of changes in spray locations and other logistical issues that could not be overcome.



## How is this version different than the public comment version?

- A new analysis compared pre-application, community-collected urine samples from spring 2011 to other samples collected after the application season started. This resulted in a new conclusion (conclusion 9), which states: **“There are additional sources of 2,4-D and atrazine in the investigation area that are not accounted for in the pesticide application records available to the investigation team.”**
- There is a new recommendation aimed at preventing human exposures to pesticides. It states, **“State agencies continue to collaborate on determining best practices that would protect human populations from pesticide exposures.”**
- OHA analyzed additional pesticide application records received from the Oregon Department of Forestry (ODF) after the release of the public comment version. This resulted in updates to Appendix B. However, none of the conclusions were affected because the applications did not occur at a time that would alter results. In addition, these additional applications did not include any of the pesticides tested for in urine.
- Conclusion 12 was amended to add the phrase “in the fall of 2011”. It now states, **“Drinking water was eliminated as an exposure pathway for 2,4-D and atrazine in the fall of 2011.”**
- There is a new conclusion (conclusion 15). Conclusions 12-14 state that we have data to rule out the soil, water and homegrown food exposure pathways for fall of 2011. The new conclusion 15 states: **“Concentrations of pesticides in drinking water, soil and homegrown foods in the spring of 2011 and other seasons and years are unknown.”**
- This version summarizes public comments and explains how OHA responded to and addressed those comments (contained in Appendix A).



Clear-cut above home off Highway 36, OR (2014).  
Source: OHA-EHAP.

## Report recommendations

### **Pertaining to the results of this EI, OHA recommends that:**

- The U.S. Environmental Protection Agency (EPA) work with the EI team on developing a sampling and analysis plan designed to evaluate exposures to pesticides in air and to address gaps in the data needed to answer EI questions. At the time of this report’s publication, passive air monitoring over several application seasons appears to be the best option to collect community-wide air data.

- ODA and ODF continue to provide pesticide application data as needed to interpret air sampling (or other) data collected as part of this investigation.
- State and federal agencies involved in the ongoing EI develop an implementation plan that includes identification of necessary resources to carry out activities appropriate for each agency's role in this effort.

***Pertaining to broader and/or longer-term issues identified by the EI, OHA recommends that:***

- State agencies continue to collaborate on determining best practices that would protect human populations from pesticide exposures.
- ODA and ODF work with pesticide applicators to develop consistent pesticide application record-keeping processes to ensure that application record data are accurately maintained and usable.
- State agencies explore the feasibility of implementing a system that would allow people to be notified of imminent pesticide applications in such time and with such specificity that they could take action to avoid exposure to those applications. Such policies could include adoption of systems developed by other jurisdictions, or modification of existing regulatory systems designed to monitor pesticide applications.
- State and federal agencies involved in the ongoing EI develop an implementation plan to address these recommendations, including the identification of resources to carry out activities appropriate for each agency's role in serving the communities of Oregon. That plan should include a recommendation on how the agencies should coordinate, collaborate and share resources.
- Community members, including local elected officials and other community leaders, consider seeking the assistance of a professional mediation group to address immediate and long-term conflict within the community and identify actions to move this conflict toward resolution.

## Next steps

***OHA will:***

- Work with state and federal partners, community members and other stakeholders to implement the recommendations in this report;
- Continue maintaining the Highway 36 website; and
- In coordination with the Pesticide Analytical Response Center (PARC), provide updates through the Highway 36 listserv about findings from any future investigation activities.



PUBLIC HEALTH DIVISION

Environmental Health Assessment Program

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