Highway 36 | Triangle Lake Exposure Investigation Public Meeting

Pesticide Analytical Response Center (PARC)
US Environmental Protection Agency
(USEPA)
CDC Agency for Toxic Substances and Disease Registry
(ATSDR)

Tonight's Agenda

- **Welcome and Introductions**
- **Update on investigation**
- **Break**
- **Question and Answers**
- **Break**
- **Public Comment**

Update on the Exposure Investigation

ATSDR Exposure Investigation Report
Environmental Data
OHA Public Health Assessment

Purpose of the Investigation

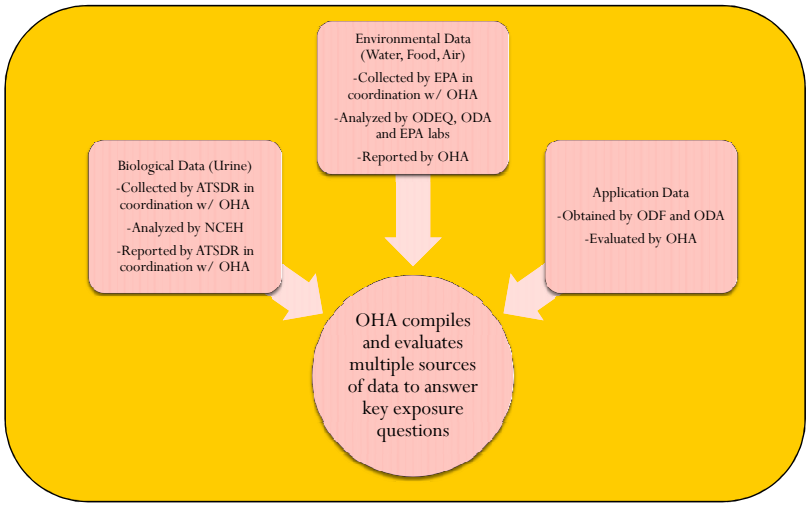
The purpose of this exposure investigation is to determine if residents of the Highway 36/Triangle Lake area are being exposed to pesticides from local application practices.

Key Questions of the Multi-Agency Exposure Investigation

Are residents in the Highway 36/Triangle Lake area being exposed to pesticides?

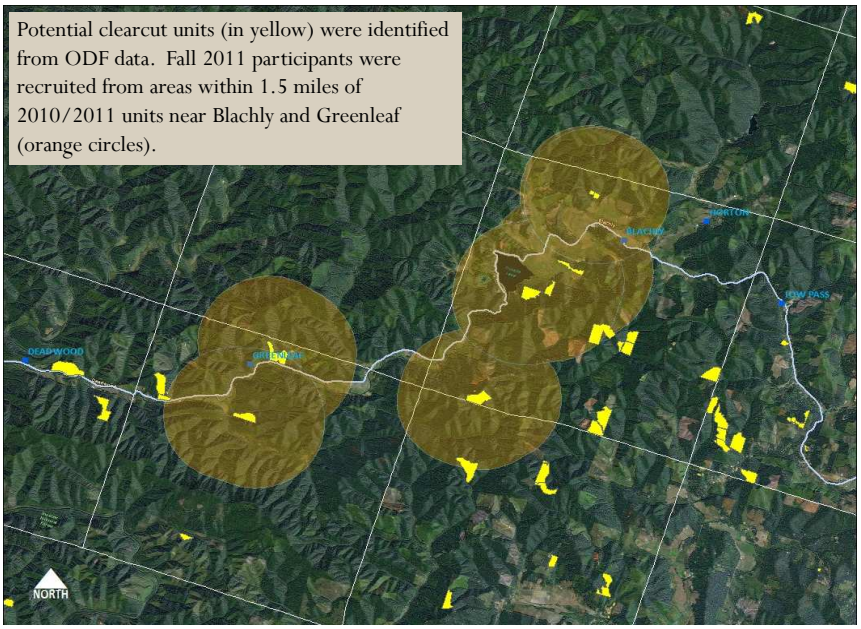
- If so, what pesticides are they being exposed to?
- To what extent are they being exposed?
- What are potential source(s) of the pesticides to which they are being exposed?
- Are these exposures coming from local application practices?
- What exposure pathways are responsible for these exposures?

Data collection and Agency roles



Fall 2011 Investigation Area

Potential clearcut units (in yellow) were identified from ODF data. Fall 2011 participants were recruited from areas within 1.5 miles of 2010/2011 units near Blachly and Greenleaf (orange circles).

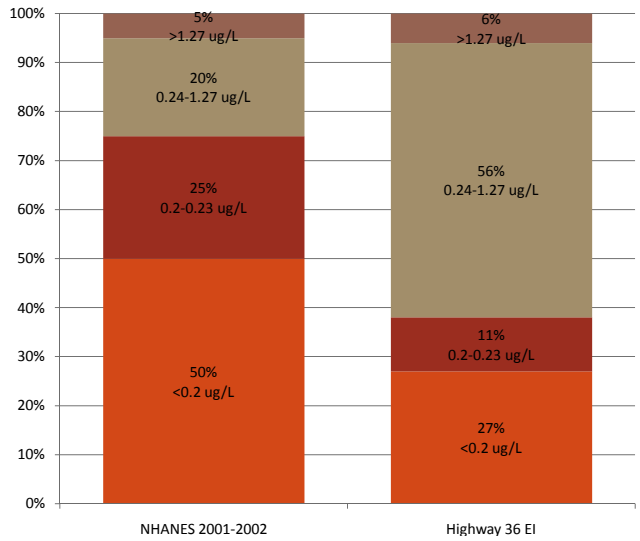


Fall Sampling Results - Urine

ATSDR and OHA collected 66 urine samples from 38 households between 8/ 30-31/ 2011

- None of the participants had atrazine or any of its breakdown products in their urine samples.
- Five of the participants did not have any 2,4,D detected in their urine samples.
- Six participants had levels of 2,4-D that ATSDR considers elevated, as compared to the levels found in the general U.S. population, as reported by NHANES.
- The results ranged from undetectable to 37.33 micrograms per gram (µg/g) of creatinine.

NHANES V. Hwy 36



Fall Environmental Sampling

- The USEPA collected drinking water, soil, vegetation, and/or food samples from 38 households
- Oregon DEQ lab analyzed water samples
  - tested each water sample for over 100 analytes
- ODA lab analyzed all other environmental samples
  - Tested samples for the 11 analytes of most concern for forest land applications.

Environmental Sampling Results

- Drinking Water Samples

Detection/Analyte	Concentration (ppb)	Health-Based Screening Value (ppb)	Source of Screening Value
DEET in domestic well	.0047	3,300	Derived using ATSDR methodology based on RfD developed by Minnesota Department of Health (0.33 mg/kg-day)
DEET in Little Lake (Surface Water)	.0058	3,300	Derived using ATSDR methodology based on RfD developed by Minnesota Department of Health (0.33 mg/kg-day)
Hexazinone in domestic spring	.183	1,200	EPA regional screening level
Fluridone in domestic well	.031	2,900	EPA regional screening level

Environmental Sampling Results

- Soil Samples

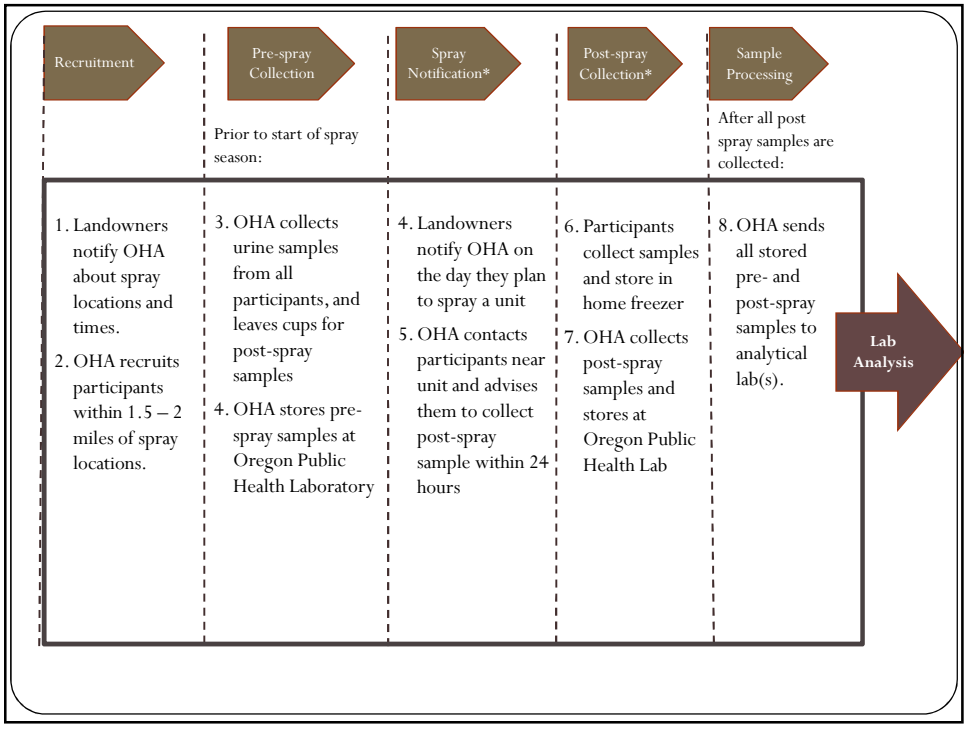
Detections in Soil	Analytes Detected	Analyte Concentration (ppm)	Health-based Screening Value (ppm)	Source of screening value
Household 1	Glyphosate	0.081	5,000	ATSDR
	2,4-D	0.046	500	ATSDR
Household 2	2,4-D	0.014	500	ATSDR
Household 3	Glyphosate	3.3	5,000	ATSDR

Environmental Sampling Results

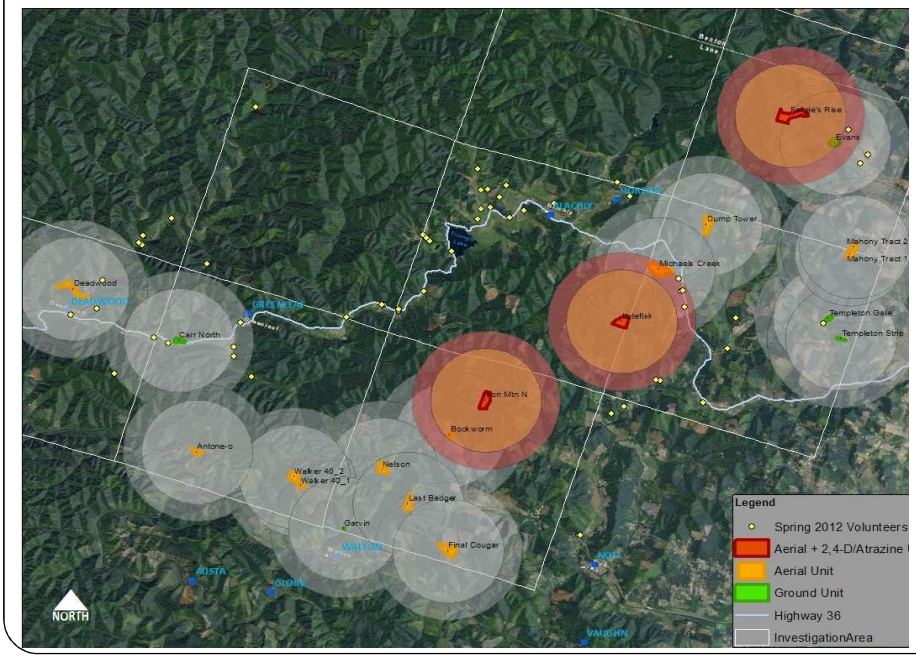
- Vegetation and Food Samples
  - Blackberries
  - Other berries
  - Garden vegetables
  - Eggs
  - Milk (cow)
  - Honey
  - Vegetation
- No analytes were detected in any of the food or vegetation samples

Spring 2012 Sampling Plan

- Participant Recruitment
  - Identification of harvested areas planned to be treated
    - 2,4-D and Atrazine – required for urine sampling
    - 1.5 mile distance from application
    - Use of aerial application method
- Urine Sampling
  - Pre-Post Aerial application
- Air Sampling
  - Pre-Post Aerial application using high volume air samplers

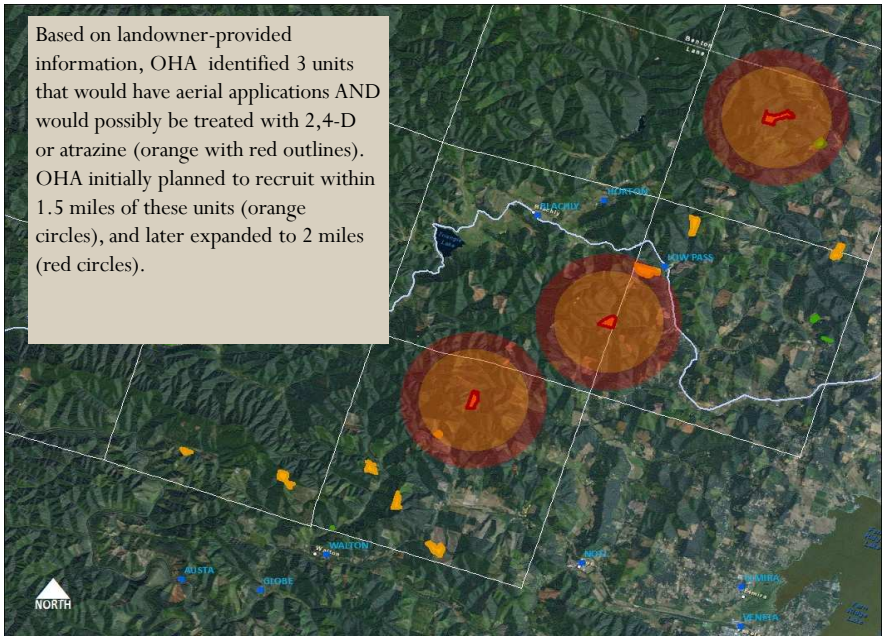


Spring 2012: Recruitment Area



Spring 2012: Recruitment Area

Based on landowner-provided information, OHA identified 3 units that would have aerial applications AND would possibly be treated with 2,4-D or atrazine (orange with red outlines). OHA initially planned to recruit within 1.5 miles of these units (orange circles), and later expanded to 2 miles (red circles).



Air Testing

- Technical Options
  - Active Sampling v. Passive Sampling
- Timing and Location
  - Active Sampling
  - Passive Sampling

Herbicide Vapor Concentrations

	MW	Vapor Pressure mm Hg	Conc ppm	Conc $\mu g/m^3$
Atrazine	215.69	3.0E-07	0.0004	3
Hexazinone	252.3	1.9E-09	0.000003	0.03
Imazapyr	261.3	8.0E-11	0.0000001	0.001
Clopyralid	192	1.2E-05	0.02	124
Aminopyrlid	207	7.1E-07	0.0009	8
Picloram	241.5	1.2E-07	0.0002	2
Triclopyr	356.7	3.6E-06	0.005	69
2.4-D	221	1.0E-07	0.0001	1
Sulfometuron methyl	364.4	5.0E-16	0.0000000000007	0.00000001
Metsulfuron methyl	381.4	2.5E-12	0.000000003	0.00005

Next Steps

- Plan future air sampling
- Analyze pesticide application records
- Finalize analysis of Fall sample data
- Complete and release Public Health Assessment Report

OHA Public Health Assessment

- Planned for release in Summer 2012
- Data to be included in PHA
  - Fall 2011 biological and environmental data
  - Pesticide Application record data
  - Review of data contributed by local residents
- Public comment

Questions?