ENVIRONMENTAL JUSTICE IN WEST EUGENE

Families, Health and Air Pollution

ENVIRONMENTAL HEALTH PROJECT

Funded by a grant from the US EPA Environmental Justice Program and the McKenzie River Gathering Foundation
The Partnership

One-third of Centro’s clients reside in West Eugene

Beyond Toxics has worked in West Eugene’s impacted neighborhoods for 9 years
Purpose:

To recognize the distinctive environmental health vulnerabilities of low-income and Latino residents in West Eugene.
West Eugene Industrial Corridor
1990-2000
Hispanic residents more than doubled

2000-2010
Hispanic residents increased by 75.9%

Source: 2010 US Census Bureau
Focus groups and survey results: Primary concern was children’s respiratory disease.
Health Survey

41% of residents surveyed believe that air quality affects them

60% households detected air pollution in their neighborhood

18% of the residents interviewed smoke
Asthma Rates in Our Community

Asthma Rates

30% of survey respondents reported having asthma

Survey: 1 out of 3 respondents said they developed a respiratory or heart problem since moving to the West Eugene Industrial Corridor

Source: Bethel School District 2011, Health Impact Assessment on Transportation Policies 2010, Oregon Department of Health
Illnesses Reported by All Household Surveyed

- Respiratory: 63%
- Cardiovascular: 13%
- Neither: 24%
Reported Symptoms of Total Households Surveyed

- Asthma: 37%
- Headache: 19%
- Coughing: 18%
- Other: 17%
- Fatigue: 14%
- Nausea: 8%
- Chest Pain: 6%
- Irreg. Heartbeat: 4%

2010 EJ Survey Results
Using GIS in an Environmental Justice Community

- Cross-reference information with GIS spatial data
- Identify point sources of air pollution
- Consider relationships between air toxics and health
Transportation Corridors in Bethel SD

- Major highways
- Railroads_2008
Major Sources of Air Pollutants in West Eugene
West Eugene – 1,008,500 pounds
East Eugene – 770 pounds

Toxic Emissions in Eugene

2005
West
1,008,500
East
770

2008
West
494,000
East
0

Source: City of Eugene Toxics Right to Know 2011
Schools in West Eugene - Bethel SD
Schools and Industries in West Eugene
### Latino Students in West Eugene

<table>
<thead>
<tr>
<th>School</th>
<th>Hispanic Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fairfield Elem.</td>
<td>36%</td>
</tr>
<tr>
<td>Danebo Elem.</td>
<td>25%</td>
</tr>
<tr>
<td>Prairie Mountain</td>
<td>23%</td>
</tr>
<tr>
<td>Cascade Middle</td>
<td>21%</td>
</tr>
<tr>
<td>Willamette HS</td>
<td>17%</td>
</tr>
<tr>
<td>Kalapuya HS</td>
<td>15%</td>
</tr>
<tr>
<td>Shasta Middle</td>
<td>14%</td>
</tr>
<tr>
<td>Clear Lake Elem.</td>
<td>13%</td>
</tr>
<tr>
<td>Irving Elem.</td>
<td>07%</td>
</tr>
<tr>
<td>South Eugene HS</td>
<td>4.2%</td>
</tr>
</tbody>
</table>

Source: Bethel School District
Percentage of Students with Asthma in the Bethel School District

- Willamette High School: 19.5%
- Cascade Middle School: 19.302%
- Kalapuya High School: 19.25%
- Shasta Middle School: 14%
- Prairie Mountain: 13.6%
- Fairfield Elementary School: 13.5%
- Malabon Elementary School: 10.9%
- Danebo Elementary School: 10.8%
- Meadow View: 9.8%
- Clear Lake Elementary School: 7.8%
- Irving Elementary School: 6.9%
Percentage of Asthma in all Bethel Schools Compared to the Number of Industries within 2 Miles

- **Red Squares**: School in Bethel School District (Asthma Rate vs Proximity to Chemical-Emitting Industries)
- **Linear Fit**: $y = 0.6828x + 7.8756$
- **$R^2 = 0.4294$**

**Graph Details**
- **X-axis**: Number of Industries in 2-mile radius
- **Y-axis**: % of students with Asthma

The graph shows a positive correlation between the number of industries within a 2-mile radius and the percentage of students with asthma in all Bethel Schools.
Elementary Schools in Bethel S.D. (Asthma Rate vs Proximity to Toxins)

- Linear (Elementary Schools in Bethel S.D. (Asthma Rate vs Proximity to Toxins))

\[ y = 0.4851x + 6.1961 \]

\[ R^2 = 0.9096 \]
Percentage of Students w/Free or Reduced Free Lunch
Compared to Number of Chemical Emitting Industries w/in 2 Mile Radius

\[ y = 0.2157x - 4.7296 \]

\[ R^2 = 0.5361 \]
Schools and Industries
<table>
<thead>
<tr>
<th>School Name</th>
<th>Industries in a 1 mile radius</th>
<th>Industries in a 2 mile radius</th>
<th>Total Number of Industries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irving Elementary School</td>
<td>None</td>
<td>None</td>
<td>0</td>
</tr>
</tbody>
</table>

14% asthma rate
36% Hispanic

7% asthma rate
7% Hispanic
Fairfield School Cumulative Impact Case Study
Methodology

1. Gather most current industrial air toxics emissions data from the following sources:
   - Eugene Right To Know
   - EPA Toxics Release Inventory
   - Lane Regional Air Protection Agency

2. Rank top three chemicals per industry and health impacts for Fairfield Elementary School case study

3. Map the industries and health impacts around Fairfield Elementary School

4. Assess cumulative exposures
Examples of Health Impacts from Air Toxics

Increased sickness and premature death from:

- Respiratory (i.e. Asthma)
- Brain and Nervous System Damages
- Developmental Delays
- Cancer

Sources: EPA, CDC, ATSDR
Creosote 21%
Ammonia 15%
Diesel 11%
Field Burning 10%
Chemical 11%
Mills 4%
Compost 4%
Other 35%

1 in 5 people surveyed said they smelled creosote from the JH Baxter facility.
Total Air Toxics for Fairfield within one mile radius: 277,327 pounds/year
JH Baxter Chemical Releases:
- Sodium Hydroxide
- Aluminum Sulfate
- Ammonia
- Creosote
- PAH’s
- PM (.6 tons)
- Nox (25.2 tons)
- CO (21.6 tons)
- SO2 (.5 tons)
- VOC (38 tons)
- Primary HAPs (1.7 tons) (Methanol/Naphthalene)
Fairfield School Case Study – Brain Nervous System Toxic Exposures
Fairfield School Case Study – Cancer Toxic Exposures
Latinos and Air Toxics Impacts in West Eugene

TRI Facilities within 5 miles of "85 N. Baxter Road Eugene, OR 97402"
Latitude: 44.0618989, Longitude: -123.1516150

1. Cascade Planting & Machine
2. Flakeboard America Ltd - Eugene Mdf
3. Forbo Adhesives Llc
4. Forrest Paint Co.
5. Georgia-Pacific Chemicals Llc
6. Green Irrigation Works Inc
9. Minn Resources Eugene Concrete
10. Murphy Plywood Co Eugene Operations
11. Oregon Rubber Co
12. Peterson Pacific Corp
13. Pierce Fittings
14. Scientific Developments Inc
15. Vener Technologies Eugene Plant
16. Willamette Valley Co.

JH Baxter Wood Preservative/Creosote (2009)
34,000 lbs total air
33,240 lbs. fugitive

% Latino residents
Community Engagement

West Eugene Advisory Group asked for fence-line air monitoring.
Programs

Madres para la Salud

Toxics Tour in April

Green Cleaning Workshop

Asthma care workshops
Contact Information

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