SB 737 and BEYOND

It’s the little things that matter
SB 737 and BEYOND

Curtis Barton
- Source Control Coordinator
- Clackamas County

http://www.co.clackamas.or.us/wes/
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- **DEQ**: Develop A List of Priority Pollutants
  
  *Report to Legislature by June 1, 2009*

- **DEQ**: Report on Sources & Pathways of Priority Pollutants
  
  *Report to Legislature by June 1, 2010*

- **POTW**: Sample & Analyze Effluent
  
  *Develop Pollutant Reduction Plan*
  
  *Submit to DEQ by July 1, 2011*
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**TIER I POLLUTANTS**
*Persistent Pollutants (69)*
- Pesticides & Herbicides
  - Chlorpyrifos, Diazinon
- Consumer-Related Products
  - Diethylstilbestrol, Triclosan, Terphenyl
- Halogenated Flame Retardants
- Industrial Chemicals
- Poly Aromatic Hydrocarbons (PAH)
  - Pyrene
- Metals
- Perflourinated Surfactants

**TIER II POLLUTANTS**
*Legacy Pollutants (49)*
- Pesticides & Herbicides
  - DDT
- Polychlorinated Napthalenes
- Dioxins / Furans
- Polychlorinated Biphenyls (PCB)
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- Although 118 compounds in the P3 list, over 400 analyzed
- Of the 118 P3 compounds, only 33 detected
- All 52 Plants exceeded PIL for Cholesterol
- 49 plants exceeded PIL for Coprostanol
- Of the remaining 31 compounds, 5 facilities exceeded the PIL for:
  - Beta-Sitosterol (2)
  - Pyrene (1)
  - Arsenic (2)

The sampling and analysis is done -

What did we find ?????
<table>
<thead>
<tr>
<th></th>
<th>08/23/2010 Plant #1</th>
<th>11/29/2010 Plant #1</th>
<th>08/23/2010 Plant #2</th>
<th>11/29/2010 Plant #2</th>
<th>City #1</th>
<th>City #2</th>
<th>PIL</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cholesterol</td>
<td>34,799</td>
<td>27,400</td>
<td>9,458</td>
<td>38,500</td>
<td>1,894</td>
<td>19,204</td>
<td>60</td>
<td>ng/L</td>
</tr>
<tr>
<td>Coprostanol</td>
<td>31,976</td>
<td>46,900</td>
<td>9,556</td>
<td>43,300</td>
<td>1,872</td>
<td>28,952</td>
<td>40</td>
<td>ng/L</td>
</tr>
<tr>
<td>beta-Sitosterol</td>
<td>10,819</td>
<td>8,430</td>
<td>3,249</td>
<td>9,280</td>
<td>--</td>
<td>8,727</td>
<td>25,000</td>
<td>ng/L</td>
</tr>
<tr>
<td>Stigmastanol</td>
<td>2,221</td>
<td>3,740</td>
<td>595</td>
<td>2,050</td>
<td>--</td>
<td>--</td>
<td>75,000</td>
<td>ng/L</td>
</tr>
<tr>
<td>Arsenic</td>
<td>0.97</td>
<td>0.50</td>
<td>0.73</td>
<td>0.98</td>
<td>--</td>
<td>0.85</td>
<td>10</td>
<td>µg/L</td>
</tr>
<tr>
<td>Lead</td>
<td>0.23</td>
<td>--</td>
<td>0.33</td>
<td>--</td>
<td>--</td>
<td>0.36</td>
<td>15</td>
<td>µg/L</td>
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<tr>
<td>Methyl Mercury</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>0.077</td>
<td>--</td>
<td>0.025</td>
<td>4</td>
<td>µg/L</td>
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<tr>
<td>Flouranthene</td>
<td>22.0</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>15.0</td>
<td>40</td>
<td>ng/L</td>
</tr>
<tr>
<td>Pyrene</td>
<td>20.5</td>
<td>--</td>
<td>8.9</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>30</td>
<td>ng/L</td>
</tr>
<tr>
<td>2,4,6 Trichlorophenol</td>
<td>50.9</td>
<td>34.5</td>
<td>63.8</td>
<td>38.2</td>
<td>138</td>
<td>62.0</td>
<td>2000</td>
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<tr>
<td>PBDE-47</td>
<td>8.1</td>
<td>--</td>
<td>5.62</td>
<td>5.42</td>
<td>--</td>
<td>--</td>
<td>700</td>
<td>ng/L</td>
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<tr>
<td>PBDE-99</td>
<td>5.12</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>700</td>
<td>ng/L</td>
</tr>
</tbody>
</table>
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SB 737 Data Review

Pharmaceuticals & Personal Care Products

% of Facilities with Detection

- DEET
- Venlafaxine
- Sulfamethoxazole
- Ibuprofen
- Diphenhydramine
- Cotinine
- Codeine
- Carbamazepine
- Caffeine
- Acetaminophen

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
# SB 737 Data Review

## Pharmaceuticals

<table>
<thead>
<tr>
<th>Compound</th>
<th>Concentration range (ng/L)</th>
<th>Total # of detections (max N=102)</th>
<th># of Facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caffeine</td>
<td>1230 - 81500</td>
<td>15</td>
<td>8</td>
</tr>
<tr>
<td>Carbamazepine</td>
<td>113 - 577</td>
<td>84</td>
<td>47</td>
</tr>
<tr>
<td>Diphenhydramine</td>
<td>139 – 2610</td>
<td>78</td>
<td>39</td>
</tr>
<tr>
<td>Sulfamethoxazole</td>
<td>136 – 5280</td>
<td>94</td>
<td>48</td>
</tr>
<tr>
<td>Venlafaxine</td>
<td>123 – 749</td>
<td>87</td>
<td>44</td>
</tr>
</tbody>
</table>
Not Detected

- Legacy pesticides (chlorinated) – DDT, etc.
- Triclosan
  - Level of Quantitation based on PIL, higher than detected levels in other studies
- Dioxins / Furans
- Musks
- Polychlorinated naphthalenes
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Using Data from SB 737 Effluent Sampling

Results for ~400 parameters (includes 117 persistent pollutants)

~ 90 have water quality standards

~ 25 analyzed with 40 CFR Part 136 methods

Can use data for permitting purposes:
- RPA
- Reporting by permittees

~ 65 analyzed with other methods

Data used only for "knowledge of process"
- Identify whether pollutant parameters are present
- Potentially identify issues that would lead to monitoring requirements at permit renewal

~ 310 do not have water quality standards

Data used for informational purposes only
- E.g. Inform WET testing

4/25/11
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Next Up

Human Health Criteria Based Water Quality Standards
Fish Consumption Rate
Currently based on 6.5 grams of fish consumed daily
Proposal to change WQ Standards based on 175 grams of fish consumed daily

DEQ developing an overall Toxics Reduction Strategy
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**TAKE-BACK PROGRAM**
- Drug Take-Back
- Mercury Collection Event
- Household Pesticides

**RECYCLING PROGRAMS**
- E-Cycle
- Paint Recycle

**LABELING**
- Design for the Environment
- Eco-Certification
- Eco-Biz
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FOR MORE INFORMATION CHECK OUT
http://www.deq.state.or.us/wq/SB737/index.htm
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Join me at the breakout session after break and we'll figure this out.

How are we going to get out of this one??