April 2018

Turning the ship: a new direction for managing wood waste in the Salish Sea of Washington State

Russ McMillan  
Washington State Dept. of Ecology, United States, rmcm461@ecy.wa.gov

Chance Asher  
Washington State Dept. of Ecology, United States, cash461@ecy.wa.gov

John Evered  
Washington State Dept. of Ecology, United States, jeve461@ecy.wa.gov

Celina Abercrombie  
Washington State Dept. of Ecology, United States, ceab461@ecy.wa.gov

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Turning the Ship: A new direction for managing wood waste

Authors
Russ McMillan, John Evered, Chance Asher, Celina Abercrombie
Toxics Cleanup Program, WA St Department of Ecology

Salish Sea Ecosystem Conference
April 4-6, 2018
Washington Convention Center
Goals

Quick look at the extent of WW sites

Note some of the challenges addressing WW

Identify regulatory and guidance tools for managing WW

Turn attention to Source Control options
Wood Waste

We have multiple cleanup sites driven largely by wood waste

- Port Gamble
- Port Gardner
- Budd Inlet
- Oakland Bay
- Fidalgo Bay
- Port Angeles
- Others….
  - Bellingham Bay
  - Hylebos Wtrway
  - Thatcher Bay
  - Port Blakely
Wood Waste - Many Sources

- Legacy sources: Over 160 years of lumber and logging activities
  - Sawmills
  - Paper mills
  - Chip (Barge) loading/handling
  - Log rafting and storage
  - Transfer facilities (log dumps)
  - Log transport

- Current sources:
  - Chip/Barge loading facilities
  - Transfer facilities
  - Log rafting and storage
  - Log transport

1915 Mill at Port Gardner

2016 Port Gardner
Wood Waste Cleanup Guidance:

Sediment Cleanup Users Manual (SCUM) II:

Sediment Management Standards (SMS):
Source Control Measures

• Keep Timber out of the water
  ◦ Is log transfer, rafting and storage the best use of our nearshore aquatic environment?
  ◦ Dry transfer and transport, uplands storage
Source Control Measures

- Keep Bark out of the water
  - Require peeling or bark removal for any logs placed in the water
Source Control Measures

- Best Management Practices
  - Low energy transfer of bundles to and from water
Source Control Measures

- Best Management Practices – Controlling fugitive dust and chips
  - Filling and unloading barges
  - Conveyors and stockpiling
Questions?
Contact Info

Russ.McMillan@ecy.wa.gov
360-407-7536

Photos courtesy
Seaspan.com
Panaramio
Pt of Everett
Pt of Pt Angeles
Mechanisms for Source Control

• SMS Source Control Section 4 – Any waste discharge with potential to impact sediment needs
  ◦ All known & reasonable prevention, control and treatment (AKART)
  ◦ Best Management Practices (BMPs)

• Implemented in collaboration with Water Quality Program’s discharge permit program
  ◦ Conditions of Nat’l Pollution Discharge Elimination System Permit (NPDES)

• WA St Dept of Natural Resources (DNR) also embraces these BMPs in their Aquatic Land Leases
  ◦ Habitat Stewardship Measures
Woodard Bay Conventionals
Scoring Matrix

Legend

<table>
<thead>
<tr>
<th>Scoring for separate parameters</th>
<th>Yellow = 1pt</th>
<th>Blue = 2pt</th>
<th>Red = 2pt &amp; High Concern</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Conventionals</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Organic Carbon (% DW)</td>
<td>&gt;5&lt;10</td>
<td>&gt;10</td>
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</tr>
<tr>
<td>TVS (%DW)</td>
<td>&gt;10&lt;15</td>
<td>&gt;15</td>
<td></td>
</tr>
<tr>
<td>Total Solids (%WW)</td>
<td>&lt;50&gt;40</td>
<td>&lt;40</td>
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<tr>
<td>Ammonia (mg-N/kg DW)</td>
<td>&gt;30&lt;40</td>
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<tr>
<td>Total Sulfides (mg/kgDW)</td>
<td>&gt;200&lt;300</td>
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<tr>
<td><strong>Grain Size Fraction</strong></td>
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<tr>
<td>Gravel</td>
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<tr>
<td>Sand</td>
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<td></td>
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<tr>
<td>Silt</td>
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<td>Clay</td>
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<tr>
<td>Fines</td>
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<tr>
<td>OSI</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Phenol</td>
<td>SQS</td>
<td>CSL</td>
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<tr>
<td><strong>Total Score</strong></td>
<td>5 Low Med</td>
<td>6 Medium</td>
<td>7-10 High</td>
</tr>
<tr>
<td>Station Number</td>
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<td>WB-06-S</td>
<td>WB-09-S</td>
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<tr>
<td>Conventional</td>
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<td><strong>Sand</strong></td>
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<td>10.7</td>
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<tr>
<td><strong>Silt</strong></td>
<td>20.4</td>
<td>39.2</td>
<td>62.3</td>
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<td><strong>Clay</strong></td>
<td>10.9</td>
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<td>25.3</td>
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<td><strong>Fines</strong></td>
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<td>55</td>
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<tr>
<td><strong>Phenol</strong></td>
<td>530</td>
<td>780</td>
<td>1400</td>
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<tr>
<td><strong>Total Score</strong></td>
<td>2</td>
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</tbody>
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Types of Wood Waste

Sawdust
Types of Wood Waste
Dimensional Lumber, Mill Scraps
Types of Wood Waste
Bark from Rafting