1. How does the sediment mass released compare with sediment input from the watershed?
2. Where does it go in the estuary?

Measuring sediment in impoundments

- Three tidal marsh and catchment systems
- Range of geology, land use, and relief characteristics
- Estimate watershed yields and dam sediment trapping
- Evaluate sediment needs of tidal marshes

**Stockport site characteristics**

<table>
<thead>
<tr>
<th>No.</th>
<th>Site</th>
<th>Sediment Bulk ρ (g/cm³)</th>
<th>Sed CH4 (%</th>
<th>Sed LOI (%)</th>
<th>Watershed Area (km²)</th>
<th>Slope</th>
<th>% forest</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Stock River</td>
<td>1.19</td>
<td>25.6</td>
<td>15.5</td>
<td>124</td>
<td>95</td>
<td></td>
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<tr>
<td>2</td>
<td>Hand Hollow</td>
<td>1.20</td>
<td>25.6</td>
<td>15.5</td>
<td>124</td>
<td></td>
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<tr>
<td>3</td>
<td>McClain Pond</td>
<td>1.36</td>
<td>30.9</td>
<td>23.2</td>
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<td>4</td>
<td>Stottle Woods</td>
<td>1.54</td>
<td>54.3</td>
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<td>64.3</td>
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<td>5</td>
<td>Summit Lake</td>
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<td>75.6</td>
<td>56</td>
<td>198</td>
<td>76.2</td>
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<td>6</td>
<td>Red Mills</td>
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<td>87.7</td>
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</tr>
</tbody>
</table>

**Summit Lake** (example impoundment)

**Goals:**
- Map sediment volume
- Characterize sediment
- Evaluate changes in deposition rate

**Observed Yields** (impoundment trapping)

**Stockport Marsh deposition**

**Modeling sediment in the estuary**

- 3-D hydrodynamic and sediment transport model
- Tributary inputs increased to simulate dam removal
- Model tracks deposition of different size classes