Marc Eisma, Port of Rotterdam Authority
Session: Cooperation – a question of common sense. Can legal steps help to enforce?
Dredged material classification
Sediments originating from sea and river
From source to sink

- Source identification and load assessment
- Contaminant balances
- Legal research
- Information campaigns
- Dialogues and agreements
## Results agreement VCI – Rotterdam

<table>
<thead>
<tr>
<th>Compound</th>
<th>Discharges 1984 (t)</th>
<th>2000</th>
<th>2005*</th>
<th>Red.% ‘84-'05</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc</td>
<td>450</td>
<td>100</td>
<td>65</td>
<td>86%</td>
</tr>
<tr>
<td>Chromium</td>
<td>150</td>
<td>20</td>
<td>10</td>
<td>93%</td>
</tr>
<tr>
<td>Copper</td>
<td>80</td>
<td>25</td>
<td>16</td>
<td>80%</td>
</tr>
<tr>
<td>Cadmium</td>
<td>1.2</td>
<td>0.5</td>
<td>0.15</td>
<td>88%</td>
</tr>
<tr>
<td>Mercury</td>
<td>0.6</td>
<td>0.14</td>
<td>0.10</td>
<td>83%</td>
</tr>
<tr>
<td>AOX</td>
<td>1500</td>
<td>300</td>
<td>150</td>
<td>90%</td>
</tr>
</tbody>
</table>

* in 2006 agreement extended until 2027
Rhine Research Project part 2 (1997-2007)

Diagram showing the pollution sources and their contributions to the Rhine river system.
Historic contaminated sediments

Inventory of historical contaminated sediment in Rhine Basin and its tributaries

October 2004

Technical University Hamburg-Harburg
in Cooperation with the University Stuttgart

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Areas of risk

classification of
• substances of concern (WFD)
• areas of concern
• areas of risk
under uncertainty consideration

- evidence for high risk
- evidence for risk
On the agenda of International Commission for the Protection of the Rhine

- In 2005, dredging of sediments at the last barrage of the river Rhine at Iffezheim and relocation in the backwater of this impoundment to guarantee the safety of the dams and the flood discharge.

- Questions: due to historical contamination,
  1) how are contaminated sediments effecting the water and suspended sediment quality during high flood events and/or during dredging and relocation activities and
  2) are contaminated sediments of the Upper Rhine also a risk for sediment quality in regions far downstream like the Netherlands?
Decision making for the identification of areas of risk in the Rhine

1. Checking pollution
   - ICPR target value:
     - ≤ ICPR target value
     - ≥ 2 x ICPR target
     - ≥ 4 x ICPR target
     - ≥ 8 x ICPR target
     - > 8 x ICPR target value

2. Checking quantity
   - Quantity > 1000 m³

3. Risk of remobilisation
   - no
   - yes

   "Areas of concern"

   Risk areas

4. Comparison with national / international Legal requirements
   - Not met
   - met

5. Check and implement possible measures
   - Eg. landfill, subaquat. disposal, restoration

Report to ICPR
Conclusions and results Rhine Research Project

- Significant quality improvement since 1984 (successful emission control industrial sources)
- Balanced action in level of protection (sea – river)
- Sediment Management Plan incorporated at river basin scale (International Commission for the Protection of the Rhine)
- Sediments more in focus of EU (SedNet)