

# What's the best way to clean up the river?

Based on EPA's 2012 Feasibility Study



Method	What is it?	Things to Consider
<b>Enhanced Natural Recovery</b>	Clean sediment naturally flows from upriver covers and contains contaminated sediment. Adding sand speeds it up. Use activated carbon in some areas to tie up toxins.	<ul style="list-style-type: none"> <li>• Strong scientific support</li> <li>• Strict monitoring</li> <li>• Dredging is an option if it isn't working.</li> <li>• Won't be used in areas where success isn't likely (ship scouring areas).</li> <li>• Activated carbon treatment to further reduce human health risks.</li> </ul>
<b>Capping</b>	Covering contaminated areas with clean sand and other materials to make sure toxins don't escape.	<ul style="list-style-type: none"> <li>• Strong scientific support</li> <li>• Strict monitoring</li> <li>• Lowers the levels of harmful chemicals in fish and seafood faster than other methods.</li> </ul>
<b>Dredging</b>	Digging up and removing contaminated sediment for disposal at a landfill.	<ul style="list-style-type: none"> <li>• Dredging is best in targeted areas with highest chemical levels.</li> <li>• It doesn't always work (<i>National Academy of Sciences, 2007</i>).</li> <li>• Truck/train traffic, air pollution, waste disposal</li> <li>• Stirs up toxins, increasing harmful levels in fish</li> <li>• Impacts last years</li> </ul>

## CLEAN-UP ACTIONS (Used in combination)

King Co. Preferred Alternative	EPA Proposed Alternative	Mostly Dredging Alternative-5R	
<p><b>King Co. Preferred Alternative</b></p> <p>Note: Actions cover 137 acres of river bed</p>	<p><b>EPA Proposed Alternative</b></p> <p><b>PLANNED CLEANUP ACTIONS</b></p> <p>Note: Actions cover 156 acres of river bed</p>	<p><b>Mostly Dredging Alternative-5R</b></p> <p>Note: Actions cover 157 acres of river bed</p>	
<p><b>EDIBLE FISH/CRAB</b></p> <p>2015-2023: 10 years of limited edible fish/crab (yellow icons)</p> <p>2024-2032: 9 years of limited edible fish/crab (yellow icons)</p>	<p><b>EDIBLE FISH/CRAB</b></p> <p>2015-2023: 9 years of no edible fish/crab (red icons), 1 year of limited (yellow)</p> <p>2024-2032: 9 years of limited edible fish/crab (yellow icons)</p>	<p><b>EDIBLE FISH/CRAB</b></p> <p>2015-2023: 10 years of no edible fish/crab (red icons)</p> <p>2024-2032: 9 years of limited edible fish/crab (yellow icons)</p>	
<p><b>TRANSPORTATION IMPACTS</b></p> <p>2015-2023: 9 years of additional impacts (orange icons), 4 years of no impact (green)</p> <p>2024-2032: 9 years of additional impacts (orange icons), 4 years of no impact (green)</p> <p><b>Volume:</b> 620,000 cubic yards removed <b>Duration:</b> 5 years</p>	<p><b>TRANSPORTATION IMPACTS</b></p> <p>2015-2023: 9 years of additional impacts (orange icons), 4 years of no impact (green)</p> <p>2024-2032: 9 years of additional impacts (orange icons), 4 years of no impact (green)</p> <p><b>Volume:</b> 790,000 cubic yards removed <b>Duration:</b> 7 years</p>	<p><b>TRANSPORTATION IMPACTS</b></p> <p>2015-2023: 10 years of additional impacts (orange icons)</p> <p>2024-2032: 9 years of additional impacts (orange icons), 1 year of no impact (green)</p> <p><b>Volume:</b> 1,600,000 cubic yards removed <b>Duration:</b> 17 years</p>	
<p><b>COST</b></p> <p>3 money bag icons = <b>\$290 million</b></p>	<p><b>COST</b></p> <p>4 money bag icons = <b>\$350 million</b></p>	<p><b>COST</b></p> <p>6 money bag icons = <b>\$580 million</b></p>	
<p><b>HABITAT IMPACTS</b></p> <p><b>72 acres</b> of damaged habitat (16% of river), of which <b>27 acres</b> is ecologically sensitive</p>	<p><b>HABITAT IMPACTS</b></p> <p><b>108 acres</b> of damaged habitat (25% of river), of which <b>43 acres</b> is ecologically sensitive</p>	<p><b>HABITAT IMPACTS</b></p> <p><b>157 acres</b> of damaged habitat (36% of river), of which <b>59 acres</b> is ecologically sensitive</p>	<p><b>Note:</b> Removed or covered habitat takes 5-15 years to regain all ecological functions and diversity.</p>