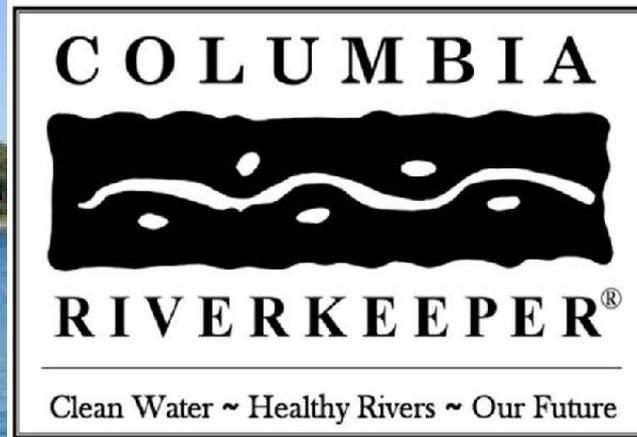


*Mission: To Restore and protect the
water quality of the Columbia River
from the headwaters to the Pacific
Ocean*



*Carolyn Boaz - Volunteer & Chemical Oceanographer
Rachael Pecore - Water Quality & Outreach Director
Gregg Morris - Volunteer & Aquatic Toxicologist*

Lake Roosevelt Monitors



Volunteer Monitoring

Wenatchee Monitors



Gorge Monitors



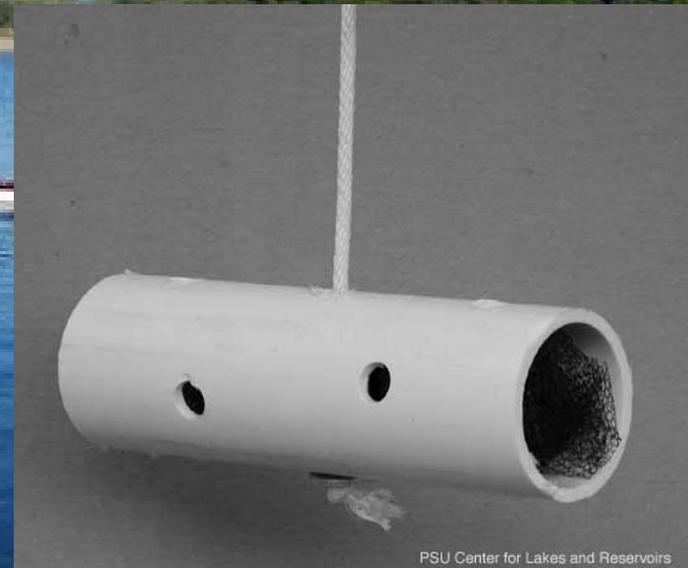
Portland/Vancouver Monitors



Kelso/Longview Monitors



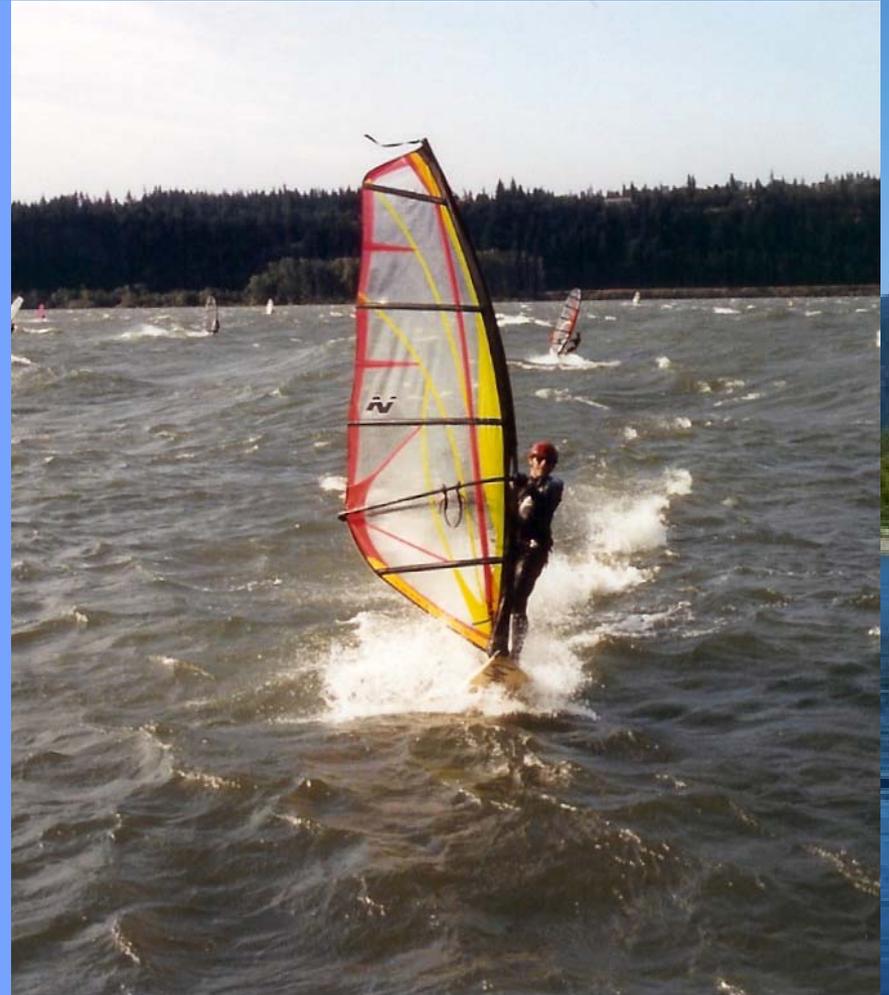
Toxics Monitoring & Emergency Response



“Rivernose”

1993 Surveys (n=101)

- 79% chronic sinus congestion
- 45% sore throats
- 45% infected cuts
- 23% flu-like symptoms
- 21% ear infections
- 16% diarrhea
- 14% skin rashes
- 4% eye infections
- 6% no symptoms



Surface Microlayer

- *Uppermost 1-1000th μm layer*
- *Varies with wind speed/wave conditions/ temperature/ pH and biological and chemical constituents*
- *Concentrates hydrophobic compounds*
- *Wurl & Obbard 2004*
 - *PAHs 1,576 $\mu\text{g/l}$ (total)*
 - *DDT 80-12.710 $\mu\text{g/l}$*
 - *PCBs 0.45 to 4.2 $\mu\text{g/l}$ (total)*

Sampling the Microlayer





This picture was taken at the Union Fisherman's Dock in Astoria, Oregon in about 1910.
Left to right - Salmon weights 116 lbs and 121 lbs.
They were salted down in 100 lb barrels and sent to Europe on sailing ships.