

City of Redmond: Surface Water Quality Concerns

Problem Identification

Redmond's surface water quality monitoring program started in 1995 and initially focused on obvious, local flow and contamination problems, as well as construction site issues. This provided only a cursory understanding of concerns, but the program grew in both complexity and rigor as State and Federal standards were ratcheted up. By 2003, sufficient high-quality data had been accumulated to warrant a more comprehensive analysis of surface water quality trends across the City.

Applying specific State-prescribed statistical procedures to the City's 1995-2002 data sets, we found that Redmond violated State surface water quality standards as follows:

<u>Variable</u>	<u>Concern</u>	<u>Total Sampling Locations</u>	<u>Locations Violating Standards</u>	<u>Percent</u>
Dissolved Oxygen	Too Low	26	11	42%
Temp.	Too High	26	6	23%
Fecal Coliform	Too High	23	16	69%
Metals (Cu,Zn,Pb)	Too High	5	3	60%
Hydrocarbons	Too High	5	2	40%
Other*	Too High	5	--Still Researching Limits--	.

* Other organics still being reviewed. Redmond Way and 85th Street Outfalls into the Sammamish River both contain very high levels of birth control hormones, indicating either an illicit sewer connection to the stormwater system, or sewage contamination of stormwater.

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Finding Solutions

Finding practical, cost-effective solutions to Redmond's surface water quality problems requires actions on two parallel fronts:

(1) Ecology has offered to assist Natural Resources in preparing and implementing a City-wide 'Watershed Management Plan' as their strongly preferred approach to identifying longterm solutions to Redmond's water quality problems (as required under new NPDES II and TMDL regulations).

RECOMMENDATIONS

Implement WSDOE-recommended, user-friendly, 'Water Quality Index'.

(2) The monitoring program itself needs to be streamlined and refocused so that it accurately and efficiently continues to captures City-wide water quality trends.

RECOMMENDATIONS

- (1) Increase efficiency by replacing cumbersome 'Hydrolabs' and associated data recorders with simpler to use, self-contained 'YSI'.
- (2) Implement WSDOE-recommended, user-friendly, 'Water Quality Index'.
- (3) Move to monthly grab sampling to enhance data analysis and reporting accuracy (quarterly grabs barely meet State data quality standards).