

This brief background summary compares/contrasts the sediment quality issues exhibited within the Federal Navigation Channel relative (see attached SDM) to the recent characterization conducted at the Harbor Village Marina for maintenance dredging, which identified elevated concentrations of dioxins and PCBs.

Sources of Contamination:

- Based on discussions with Ecology's Toxics Cleanup Program, we believe the principal sediment loading source for the Kenmore Navigation Channel is from the Samammish River.
- In contrast, the most likely source for the sediments to the Harbor Village Marina is a small creek (listed as River 0056) that flows directly into the marina. This creek may be the source of contaminants observed in the marina sediments (e.g., dioxins, PCBs). Another likely source of contaminants to the marina is a historical plywood site located north of the Lakepoint/Kenmore site, and east of the marina.
- If the historic plywood site is the source of the contamination observed in Harbor Village sediments, it's influence may be limited to the north shore and not extend to the Kenmore navigation channel and the Lakepoint/Kenmore Industrial Park site. However, we have no test data to confirm/refute this hypothesis at this time.

Contaminants of Concern in Sediments:

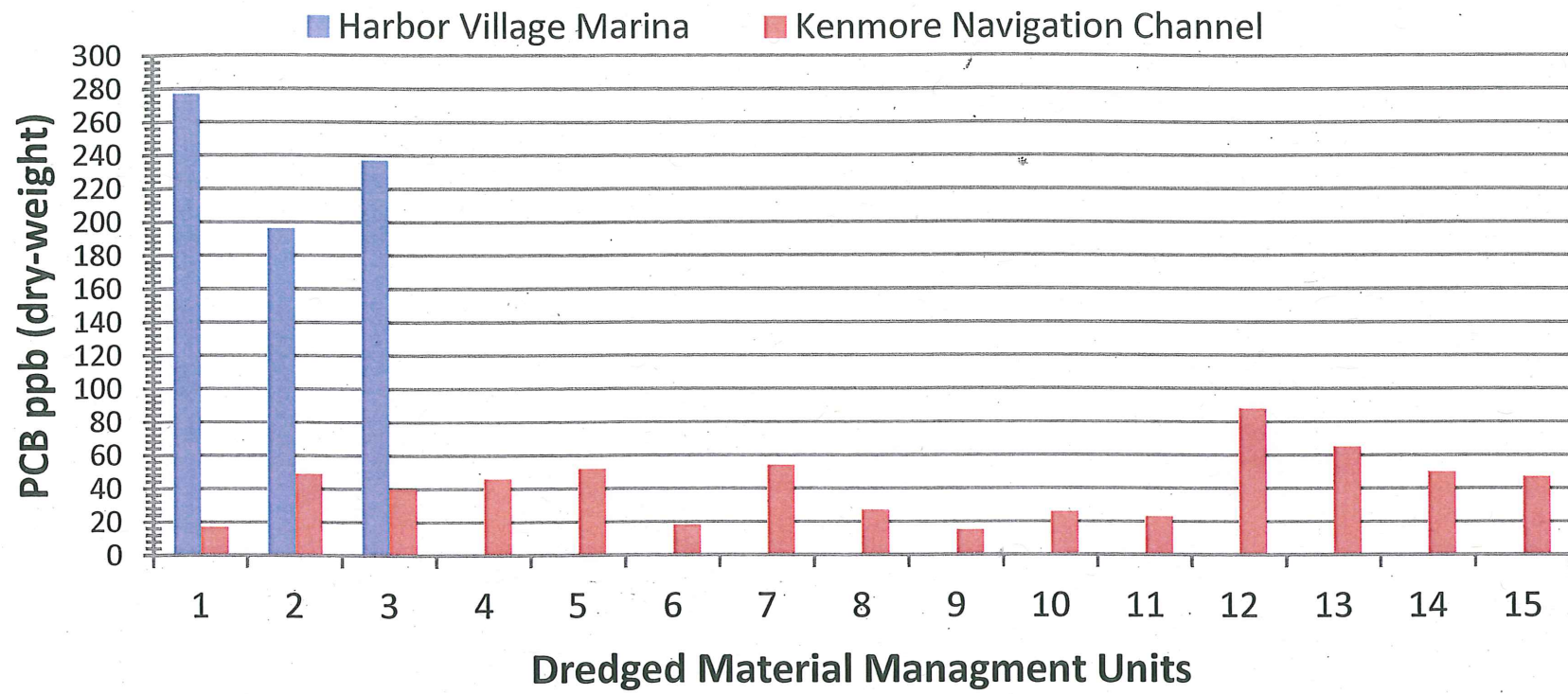
- Sediments from the Federal Channel were last characterized in 1996 (see Enclosure 1: 1996 suitability determination), and exhibited relatively low concentrations of PCB (17 - 88 ppb) as compared to the PCB Screening guideline (130 ppb).
- In contrast, sediments from Harbor Village Marina had PCB levels which ranged from 190 - 280 ppb (see Enclosure 2: 2011 suitability determination).
- In the 1996 testing, some sediments from the Federal Channel exceeded screening guidelines for PAHs, TBT and DDT. Some of these sediments passed biological testing based on PAH exceedances, and were determined to be suitable for open-water disposal. Other sediments with TBT and DDT exceedances failed biological testing guidelines and were unsuitable for open-water

disposal. The unsuitable material was not dredged. No dioxin testing was performed on Federal Channel sediments at that time.

- The Harbor Village Marina maintenance dredging project exhibited elevated Dioxin concentrations with total TEQ's ranging from 43.2 to 92.1 pptr-TEQ within the potential dredged material prism, and concentrations from 0.9 to 64.3 pptr-TEQ within the underlying sediment surface that would be exposed after dredging is completed. To address the elevated dioxins and PCBs in the sediment that would be exposed by dredging, the DMMP agencies will require the placement of a one-foot clean sand cover as a special condition to the Corps permit.

Future Planned Maintenance Dredging of the Navigation Channel will require testing at a High Concern rank, and will include testing of the full DMMP chemical-of-concern (COC) list, including TBT, and Dioxin/Furans.

Comparative PCB concentrations



SEF (PCB -FW Guidelines)		Harbor Village Marina (2011)				Kenmore Navigation Channel (1996)														
		PCB Data Summary (ug/kg-DW)				PCB Data Summary (ug/kg-DW)														
SL1	SL2	Sample ID	C1	C2	C3	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14	S15
60	120	DMMU	277	196	237	17	49u	40u	46u	52u	18	54u	27	15	26	23	88u	65u	50u	47u
		Z-Sample ID	C1Z	C2Z	C3Z															
			126	104	237															
No exceedance																				
SL1 exceedance																				
SL2 exceedance																				

U = Undetected at the reporting limit