OCs TMDL Calculations for Newport Bay

Site Identification	*Sediment Deposition** (m^3/year)	*Total Sediment Deposition* (m^3/year)	*DDT* µg/kg dw	*Existing**** Load* (g/year)	*Weighted Avg DDT Conc* µg/kg dw	*Chlordane* µg/kg dw	*Existing Load* (g/year)	*Wt Avg Conc Chlordane* µg/kg dw
Unit I basin (NB10)	31474.17		17.43	480.02	6.75	3.52	96.94	1.36
Unit II basin (NB9)	30327.34		14.97	397.25	5.59	6.41	170.10	2.39
South of Unit II (NB7)	11659.46		7.10	72.43	1.02	1.25	12.75	0.18
Downstream to PCH Bridge(NB6)	7772.97		19.18	130.45	1.84	1.6	10.88	0.15
	Upper Newport Bay	**81233.94**	**58.68**	**1080.15**	**15.20**	**12.78**	**290.67**	**4.09**
Lower Bay (NB1)	17444.29		1.91	29.15	1.11	0	0.00	0.00
Turning Basin (NB4)	6782.52		49.81	295.61	11.29	5.93	35.19	1.34
Newport channel (NB2)	5697.2		22.80	113.66	4.34	3.01	15.01	0.57
	Lower Newport Bay	**29924.01**	**74.52**	**438.42**	**16.74**	**8.94**	**50.20**	**1.92**
Rhine Channel (NB3)	859.23		7.45			0.44		
	Rhine Channel	**859.23**	**7.45**	**5.60**	**7.45**	**0.44**	**0.33**	**0.44**

Site Identification	*Sediment Deposition* (m^3/year)	*Total Sediment Deposition* (m^3/year)	*PCBs* µg/kg dw	*Existing Load* (g/year)	*Wtd Avg PCB Conc.* µg/kg dw	*Dieldrin* µg/kg dw	*Existing Load* (g/year)	*Wt Avg Conc Dieldrin* µg/kg dw
Unit I basin (NB10)	31474.17		18.00	495.72	6.97	0.00	0.00	0.00
Unit II basin (NB9)	30327.34		6.76	179.39	2.52	1.00	26.54	0.37
South of Unit II (NB7)	11659.46		18.00	183.64	2.58	0.00	0.00	0.00
Downstream to PCH Bridge(NB6)	7772.97		0.00	0.00	0.00	0.00	0.00	0.00
	Upper Newport Bay	**81233.94**	**42.76**	**858.74**	**12.08**	**1.00**	**26.54**	**0.37**
Lower Bay (NB1)	17444.29		18.00	274.75	10.49	0.00	0.00	0.00
Turning Basin (NB4)	6782.52		22.76	135.07	5.16	1.00	5.93	0.23
Newport channel (NB2)	5697.2		0.00	0.00	0.00	0.00	0.00	0.00
	Lower Newport Bay	**29924.01**	**40.76**	**409.82**	**15.65**	**1.00**	**5.93**	**0.23**
Rhine Channel (NB3)	859.23		93.13			5.00		
	Rhine Channel	**859.23**	**93.13**	**70.02**	**93.13**	**5.00**	**3.76**	**0.44**

	*Sediment** Target Concentrations* (µg/kg dw)	*Loading Capacity**** (g/year) *Upper Bay*	*Lower Bay*	*Rhine Channel*
Total PCBs	21.5	1528	562.9	16.16
Total DDT	3.89	277	101.9	2.92
Chlordane	2.26	161	59.2	1.70
Dieldrin	0.71	50	18.6	0.53

Highlighted values were reported as observed concentrations in Toxics TMDL. Should have used weighted average values.
Individual observed values were predominantly taken from SCCWRP sediment toxicity study - May 2001 sampling date.
Some PCB values were obtained from PFRD monitoring. Dieldrin values from 1994 study??
*Values determined from RMA model (1997)
**Target concentrations from NOAA SQuiRT (Buchman, 1999)
***Loading capacity = C_s (µg/kg dw)*D_s (m^3/yr) * ρs (kg/m^3) * (1- P_s) * 10^-6
where C_s=sediment targets, D_s=sediment deposition, ρs=particle density (2500 kg/m^3), P_s=porosity (0.65)
****Calculated same way as loading capacity, except C_s=observed values