

Sensitivity of STA Performance to Settling Rate & Target Concentration
BMP Performance: 25% (ECP Design)
Restudy Alternative: ALT-D13R **Period: WY 1979-1988**

Inflows + Bypasses

	Flow <u>kac-ft/yr</u>	Load <u>mt/yr</u>	Conc <u>ppb</u>	Fw <u>%</u>	P <u>m/yr</u>	E <u>m/yr</u>
STA_1E	118.3	27.0	185	100.0%	1.51	1.15
STA_1W	165.9	42.8	209	100.0%	1.46	1.46
STA_2	193.7	38.9	163	100.0%	1.19	1.52
STA_3+4	685.3	70.5	83	100.0%	1.19	1.54
STA_5	134.0	35.6	215	100.0%	1.08	1.45
STA_6	22.2	4.9	180	94.5%	1.22	1.31
Total	1319.2	219.7	135			

Sensitivity to Phosphorus Settling Rate

	STA Design	Low Est.	WCA-2A Water Col.	<----- ENR Project ----->		ECP
Ke (m/yr)	10.2	8.0	12.0	15.0	20.0	

Outflow Concentrations for ECP Treatment Areas (ppb)

STA_1E	43	57	34	24	14	50
STA_1W	57	74	46	32	19	50
STA_2	56	71	47	35	22	50
STA_3+4	40	46	35	29	20	50
STA_5	80	100	68	51	32	50
STA_6	51	66	41	30	17	50
Total	49	60	41	32	21	50

Treatment Areas (acres) to Achieve

				30	ppb	
STA_1E	6811	8830	5738	4545	3376	5350
STA_1W	10188	13211	8582	6797	5048	6670
STA_2	10320	13362	8700	6896	5125	6430
STA_3+4	22853	29897	19160	15095	11152	16480
STA_5	8280	10704	6986	5542	4122	4118
STA_6	1231	1561	1050	842	634	870
Total	59682	77565	50215	39718	29457	39918

Treatment Areas (acres) to Achieve

				20	ppb	
STA_1E	8590	11252	7199	5670	4188	5350
STA_1W	12644	16546	10603	8357	6178	6670
STA_2	12933	16808	10883	8609	6386	6430
STA_3+4	32335	42491	27049	21259	15671	16480
STA_5	10070	13056	8483	6719	4991	4118
STA_6	1513	1920	1289	1034	778	870
Total	78084	102072	65505	51649	38192	39918

Treatment Areas (acres) to Achieve

				10	ppb	
STA_1E	12335	16811	10153	7854	5710	5350
STA_1W	17798	24207	14674	11374	8286	6670
STA_2	17963	23774	14989	11757	8656	6430
STA_3+4	50478	67751	41818	32547	23783	16480
STA_5	13466	17711	11269	8866	6545	4118
STA_6	2047	2630	1735	1384	1036	870
Total	114087	152884	94638	73782	54017	39918

Sensitivity of STA Performance to Settling Rate & Target Concentration
BMP Performance: 25% (ECP Design)
Restudy Alternative: 50Base **Period: WY 1979-1988**

Inflows + Bypasses

	Flow <u>kac-ft/yr</u>	Load <u>mt/yr</u>	Conc <u>ppb</u>	Fw <u>%</u>	P <u>m/yr</u>	E <u>m/yr</u>
STA_1E	118.8	27.2	185	100.0%	1.51	1.15
STA_1W	150.9	38.9	209	100.0%	1.46	1.45
STA_2	241.7	48.2	161	100.0%	1.19	1.52
STA_3+4	604.8	87.5	117	100.0%	1.19	1.54
STA_5	103.1	33.1	260	97.4%	1.08	1.42
STA_6	20.7	4.6	178	93.4%	1.22	1.30
Total	1240.0	239.5	156			

Sensitivity to Phosphorus Settling Rate

	STA Design	Low Est.	WCA-2A Water Col.	<----- ENR Project ----->		ECP
Ke (m/yr)	10.2	8.0	12.0	15.0	20.0	

Outflow Concentrations for ECP Treatment Areas (ppb)

STA_1E	43	58	35	24	14	50
STA_1W	50	67	40	27	16	50
STA_2	69	83	60	47	31	50
STA_3+4	50	60	43	34	23	50
STA_5	74	98	60	42	23	50
STA_6	47	62	38	27	15	50
Total	55	68	46	35	23	50

Treatment Areas (acres) to Achieve

				30	ppb	
STA_1E	6864	8907	5780	4576	3397	5350
STA_1W	9271	12024	7810	6185	4594	6670
STA_2	12826	16607	10812	8570	6369	6430
STA_3+4	26409	34355	22207	17553	13009	16480
STA_5	7142	9219	6030	4789	3565	4118
STA_6	1159	1471	988	793	596	870
Total	63672	82583	53627	42465	31530	39918

Treatment Areas (acres) to Achieve

				20	ppb	
STA_1E	8662	11359	7255	5710	4216	5350
STA_1W	11508	15062	9650	7605	5622	6670
STA_2	16081	20897	13532	10705	7942	6430
STA_3+4	34657	45265	29085	22941	16969	16480
STA_5	8556	11077	7214	5719	4251	4118
STA_6	1426	1810	1215	974	733	870
Total	80891	105471	67951	53655	39732	39918

Treatment Areas (acres) to Achieve

				10	ppb	
STA_1E	12452	16997	10241	7915	5750	5350
STA_1W	16203	22042	13357	10352	7541	6670
STA_2	22337	29551	18642	14626	10770	6430
STA_3+4	50481	67228	41989	32823	24085	16480
STA_5	11254	14783	9424	7420	5482	4118
STA_6	1932	2484	1636	1305	977	870
Total	114659	153085	95290	74442	54605	39918

