Sensitivity of STA Performance to Settling Rate & Target Concentration

BMP Performance: 51% (1995-1997)

Restudy Alternative: ALT-D13R **Period: 1965-1995**

Inflows + Bypasses

	Flow	Load	Conc	Fw	P	E
	kac-ft/yr	mt/yr	ppb	%	m/yr	m/yr
STA_1E	122.4	27.9	184	100.0%	1.50	1.14
STA_1W	178.5	35.7	162	99.8%	1.43	1.43
STA_2	214.6	27.4	103	100.0%	1.30	1.49
STA_3+4	724.9	66.9	75	100.0%	1.29	1.51
STA_5	159.9	40.8	206	100.0%	1.22	1.42
STA_6	26.3	3.1	96	98.2%	1.32	1.29
Total	1426.7	201.8	115			

Sensitivity to Phosphorus Settling Rate

			WCA-2A			
	STA Design	Low Est.	Water Col.	<------- ENR Project ----->		
Ke (m/yr)	10.2	8.0	12.0	15.0	20.0	ECP
Outflow Concentrations for ECP Treatment Areas (ppb)						
STA_1E	45	59	36	25	15	50
STA_1W	49	62	40	29	18	50
STA_2	40	49	35	27	18	50
STA_3+4	37	43	33	28	20	50
STA_5	90	108	78	61	42	50
STA_6	33	41	28	21	14	50
Total	46	55	40	31	21	50
Treatment Areas (acres) to Achieve				**30**	**ppb**	
STA_1E	7038	9125	5929	4696	3488	5350
STA_1W	9594	12458	8076	6391	4743	6670
STA_2	8562	11163	7191	5677	4203	6430
STA_3+4	21739	28493	18208	14330	10576	16480
STA_5	9753	12639	8218	6511	4836	4118
STA_6	955	1226	808	644	481	870
Total	57640	75103	48431	38249	28326	39918
Treatment Areas (acres) to Achieve				**20**	**ppb**	
STA_1E	8882	11636	7443	5862	4330	5350
STA_1W	12230	16031	10246	8068	5959	6670
STA_2	11579	15193	9695	7628	5628	6430
STA_3+4	31986	42200	26703	20942	15405	16480
STA_5	11977	15600	10067	7954	5893	4118
STA_6	1302	1677	1100	875	652	870
Total	77956	102337	65255	51328	37867	39918
Treatment Areas (acres) to Achieve				**10**	**ppb**	
STA_1E	12762	17394	10504	8125	5906	5350
STA_1W	17735	24173	14603	11303	8223	6670
STA_2	17534	23645	14499	11266	8222	6430
STA_3+4	52056	70634	42906	33221	24161	16480
STA_5	16326	21715	13589	10632	7809	4118
STA_6	1974	2599	1652	1300	961	870
Total	118386	160160	97754	75847	55282	39918

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Sensitivity of STA Performance to Settling Rate & Target Concentration

BMP Performance: 51% (1995-1997)

Restudy Alternative: 50Base **Period: 1965-1995**

Inflows + Bypasses

	Flow	Load	Conc	Fw	P	E
	kac-ft/yr	mt/yr	ppb	%	m/yr	m/yr
STA_1E	116.9	26.6	184	100.0%	1.50	1.14
STA_1W	160.8	32.2	162	99.2%	1.43	1.42
STA_2	258.9	33.0	103	100.0%	1.30	1.49
STA_3+4	664.8	68.3	83	100.0%	1.29	1.51
STA_5	131.9	38.6	237	97.4%	1.22	1.39
STA_6	23.9	2.8	96	89.8%	1.32	1.27
Total	1357.2	201.5	120			

Sensitivity to Phosphorus Settling Rate

	STA Design	Low Est.	WCA-2A Water Col.	<------- ENR Project ----->		
Ke (m/yr)	10.2	8.0	12.0	15.0	20.0	ECP
Outflow Concentrations for ECP Treatment Areas (ppb)						
STA_1E	42	56	34	23	13	50
STA_1W	43	56	35	25	15	50
STA_2	47	55	42	34	24	50
STA_3+4	39	45	34	28	20	50
STA_5	89	109	75	56	36	50
STA_6	33	41	28	22	15	50
Total	46	56	39	31	21	50
Treatment Areas (acres) to Achieve				**30 ppb**		
STA_1E	6733	8735	5670	4489	3333	5350
STA_1W	8700	11300	7323	5794	4299	6670
STA_2	10326	13462	8673	6847	5069	6430
STA_3+4	22134	28959	18557	14619	10801	16480
STA_5	8826	11431	7440	5897	4382	4118
STA_6	961	1237	813	647	482	870
Total	57680	75124	48475	38293	28366	39918
Treatment Areas (acres) to Achieve				**20 ppb**		
STA_1E	8500	11146	7120	5605	4138	5350
STA_1W	11096	14550	9294	7317	5403	6670
STA_2	13963	18318	11691	9199	6788	6430
STA_3+4	31514	41499	26335	20676	15225	16480
STA_5	10720	13956	9012	7123	5279	4118
STA_6	1314	1700	1109	879	654	870
Total	77107	101169	64562	50799	37488	39918
Treatment Areas (acres) to Achieve				**10 ppb**		
STA_1E	12223	16676	10054	7772	5647	5350
STA_1W	16109	21980	13258	10257	7459	6670
STA_2	21133	28487	17478	13583	9915	6430
STA_3+4	49931	67609	41200	31938	23255	16480
STA_5	14446	19221	12024	9408	6910	4118
STA_6	2015	2681	1678	1315	968	870
Total	115857	156654	95694	74274	54154	39918

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Sensitivity of STA Performance to Settling Rate & Target Concentration

BMP Performance: 51% (1995-1997)

Alternative D13 - 50Base **Period: 1965-1995**

Sensitivity to Phosphorus Settling Rate

	STA Design	Low Est.	WCA-2A Water Col.	<------- ENR Project ----->	
Ke (m/yr)	**10.2**	**8.0**	**12.0**	**15.0**	**20.0**
Outflow Concentrations for ECP Treatment Areas (ppb)					
STA_1E	3	3	2	2	1
STA_1W	5	6	5	4	3
STA_2	-7	-7	-7	-7	-6
STA_3+4	-1	-2	-1	0	0
STA_5	1	-2	3	5	6
STA_6	0	0	0	0	0
Total	0	-1	0	0	1
Treatment Areas (acres) to Achieve				**30 ppb**	
STA_1E	305	389	259	207	155
STA_1W	894	1158	753	597	443
STA_2	-1764	-2299	-1482	-1170	-866
STA_3+4	-395	-466	-349	-290	-225
STA_5	927	1208	778	614	454
STA_6	-7	-11	-5	-3	-1
Total	-40	-21	-45	-44	-39
Treatment Areas (acres) to Achieve				**20 ppb**	
STA_1E	381	490	323	257	192
STA_1W	1134	1481	952	751	556
STA_2	-2384	-3125	-1996	-1571	-1160
STA_3+4	472	700	368	267	180
STA_5	1257	1644	1054	831	614
STA_6	-13	-22	-8	-5	-2
Total	849	1168	693	529	380
Treatment Areas (acres) to Achieve				**10 ppb**	
STA_1E	540	718	450	353	260
STA_1W	1625	2192	1345	1046	764
STA_2	-3599	-4842	-2979	-2317	-1693
STA_3+4	2125	3025	1706	1282	905
STA_5	1880	2494	1566	1225	899
STA_6	-41	-82	-27	-15	-7
Total	2529	3505	2060	1573	1128

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