

Sensitivity of STA Performance to Settling Rate & Target Concentration
BMP Performance: 51% (1995-1997)
Restudy Alternative: 50Base **Period: WY 1979-1988**

Inflows + Bypasses

	<u>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
STA_1E	118.8	27.1	185	100.0%	1.51	1.15
STA_1W	150.9	30.2	162	100.0%	1.46	1.45
STA_2	241.7	30.8	103	100.0%	1.19	1.52
STA_3+4	604.8	61.3	82	100.0%	1.19	1.54
STA_5	103.1	30.1	237	97.4%	1.08	1.42
STA_6	20.7	2.4	95	93.4%	1.22	1.30
Total	1240.0	181.9	119			

Sensitivity to Phosphorus Settling Rate

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

Outflow Concentrations for ECP Treatment Areas (ppb)

STA_1E	43	58	35	24	14	50
STA_1W	40	52	32	22	13	50
STA_2	45	53	39	31	21	50
STA_3+4	36	42	31	25	17	50
STA_5	68	89	54	38	21	50
STA_6	26	34	22	16	10	50
Total	41	51	35	26	17	50

Treatment Areas (acres) to Achieve

30 ppb

STA_1E	6853	8893	5771	4569	3391	5350
STA_1W	8104	10529	6820	5396	4003	6670
STA_2	9617	12532	8079	6380	4724	6430
STA_3+4	19892	26031	16675	13135	9703	16480
STA_5	6847	8847	5779	4586	3412	4118
STA_6	785	1008	664	529	394	870
Total	52098	67839	43788	34594	25628	39918

Treatment Areas (acres) to Achieve

20 ppb

STA_1E	8651	11345	7246	5703	4210	5350
STA_1W	10338	13562	8658	6814	5031	6670
STA_2	12938	16934	10845	8544	6312	6430
STA_3+4	28283	37186	23653	18585	13696	16480
STA_5	8266	10714	6965	5519	4100	4118
STA_6	1067	1374	902	717	535	870
Total	69542	91113	58269	45882	33883	39918

Treatment Areas (acres) to Achieve

10 ppb

STA_1E	12440	16982	10231	7908	5744	5350
STA_1W	15027	20530	12361	9559	6948	6670
STA_2	19320	25815	16042	12517	9169	6430
STA_3+4	44380	59642	36744	28580	20872	16480
STA_5	10973	14436	9182	7224	5333	4118
STA_6	1602	2098	1344	1061	786	870
Total	103741	139504	85905	66848	48852	39918

Sensitivity of STA Performance to Settling Rate & Target Concentration
BMP Performance: 51% (1995-1997)
Alternative D13 - 50Base **Period: WY 1979-1988**

Sensitivity to Phosphorus Settling Rate

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

Outflow Concentrations for ECP Treatment Areas (ppb)

STA_1E	0	0	0	0	0
STA_1W	5	5	5	4	3
STA_2	-8	-8	-8	-8	-6
STA_3+4	-1	-3	-1	0	1
STA_5	6	2	8	9	8
STA_6	2	2	2	2	1
Total	-1	-1	0	0	1

Treatment Areas (acres) to Achieve

30 ppb

STA_1E	-50	-73	-39	-29	-20
STA_1W	802	1041	675	534	397
STA_2	-1889	-2462	-1587	-1253	-928
STA_3+4	-484	-563	-429	-358	-279
STA_5	1084	1416	909	717	530
STA_6	48	61	41	33	24
Total	-489	-580	-430	-356	-275

Treatment Areas (acres) to Achieve

20 ppb

STA_1E	-69	-103	-53	-38	-26
STA_1W	1021	1338	856	674	498
STA_2	-2545	-3330	-2134	-1681	-1242
STA_3+4	685	1011	536	390	265
STA_5	1461	1912	1225	965	712
STA_6	64	82	54	43	33
Total	617	909	484	352	240

Treatment Areas (acres) to Achieve

10 ppb

STA_1E	-113	-182	-85	-59	-38
STA_1W	1481	2020	1220	944	687
STA_2	-3798	-5066	-3156	-2465	-1807
STA_3+4	2881	4086	2317	1744	1233
STA_5	2162	2864	1802	1411	1036
STA_6	94	122	80	63	47
Total	2706	3845	2176	1639	1159

07/16/98