TMDL Flows and Loadings-Year 2028

Summary Sheet

21-Jul-05

PROJECTED FLOW DATA-April through October

YEAR	Airway Heights Average Daily Flow, MGD	Spokane Average Daily Flow, MGD	Spokane County Average Daily Flow, MGD	Inland Empire Paper Average Daily Flow, MGD	Kaiser Aluminum Groundwater Remed. Average Daily Flow, MGD	Kaiser Aluminum Process Water Average Daily Flow, MGD	LLSD Average Daily Flow, MGD	Post Falls Average Daily Flow, MGD	HARSB Average Daily Flow, MGD	Coeur D'Alene Average Daily Flow, MGD	TOTAL PROJECTED FLOWS, MGD
2004	0.00	37.16	0.00	5.04	20.00	0.08	0.70	2.13	0.00	3.32	68.43
2008	0.00	40.21	0.00	3.50	20.00	0.14	1.15	3.20	0.00	3.70	71.90
2013	0.80	35.01	8.30	3.50	20.00	0.14	1.35	3.70	0.00	4.70	77.50
2018	1.00	40.23	8.50	3.50	20.00	0.14	1.42	4.30	0.00	5.30	84.39
2023	1.15	45.80	8.50	3.50	20.00	0.14	1.47	5.00	0.00	6.00	91.56
2028	1.25	47.53	12.50	3.50	20.00	0.14	1.49	5.70	0.00	7.00	99.11

Assumptions: Airway Heights new treatment plant on line in year 2010
Spokane County Regional treatment plant on line at end of year 2012 w/ 8.5 MGD capacity
Spokane County Regional treatment plant expanded to 12.5 MGD in year 2025
The projected flows do not account for future flow conservation measures, nor for potential reduction in per capita flows from CSO reductions

Projected P loading to the Spokane River in pounds per day

P Concent., ug/L 10

Year	Airway Heights	Spokane	Spokane County	Inland Empire Paper	Kaiser Aluminum Groundwater Remed.	Kaiser Aluminum Process Water	LLSD	Post Falls	HARSB	Coeur D'Alene	Total lbs/day
2004		3.10	0.00	0.42	Aquifer Background	0.01	0.06	0.18	0.00	0.28	4.03
2008		3.35	0.00	0.29	Aquifer Background	0.01	0.10	0.27	0.00	0.31	4.32
2013	Out of River	2.92	0.69	0.29	Aquifer Background	0.01	0.11	0.31	0.00	0.39	4.72
2018	Out of River	3.35	0.71	0.29	Aquifer Background	0.01	0.12	0.36	0.00	0.44	5.28
2023	Out of River	3.82	0.71	0.29	Aquifer Background	0.01	0.12	0.42	0.00	0.50	5.87
2028	Out of River	3.96	1.04	0.29	Aquifer Background	0.01	0.12	0.47	0.00	0.58	6.49

Note: All P concentration values unattenuated

Projected P loading to the Spokane River in pounds per day

P Concent., ug/L 30

Year	Airway Heights Average Daily Flow, MGD	Spokane Average Daily Flow, MGD	Spokane County Average Daily Flow, MGD	Inland Empire Paper Average Daily Flow, MGD	Kaiser Aluminum Groundwater Remed. Average Daily Flow, MGD	Kaiser Aluminum Process Water Average Daily Flow, MGD	LLSD Average Daily Flow, MGD	Post Falls Average Daily Flow, MGD	HARSB Average Daily Flow, MGD	Coeur D'Alene Average Daily Flow, MGD	Total lbs/day
2004		9.29	0.00	1.26	Aquifer Background	0.02	0.17	0.53	0.00	0.83	12.10
2008		10.05	0.00	0.87	Aquifer Background	0.03	0.29	0.80	0.00	0.92	12.97
2013	Out of River	8.75	2.07	0.87	Aquifer Background	0.03	0.34	0.92	0.00	1.17	14.17
2018	Out of River	10.05	2.12	0.87	Aquifer Background	0.03	0.35	1.07	0.00	1.32	15.84
2023	Out of River	11.45	2.12	0.87	Aquifer Background	0.03	0.37	1.25	0.00	1.50	17.60
2028	Out of River	11.88	0.00	0.87	Aquifer Background	0.03	0.37	1.42	0.00	1.75	16.33

Note: All P concentration values unattenuated

Projected P loading to the Spokane River in pounds per day

P Concent., ug/L 50

Year	Airway Heights Average Daily Flow, MGD	Spokane Average Daily Flow, MGD	Spokane County Average Daily Flow, MGD	Inland Empire Paper Average Daily Flow, MGD	Kaiser Aluminum Groundwater Remed. Average Daily Flow, MGD	Kaiser Aluminum Process Water Average Daily Flow, MGD	LLSD Average Daily Flow, MGD	Post Falls Average Daily Flow, MGD	HARSB Average Daily Flow, MGD	Coeur D'Alene Average Daily Flow, MGD	Total lbs/day
2004		15.48	0.00	2.10	Aquifer Background	0.03	0.29	0.89	0.00	1.38	20.17
2008		16.75	0.00	1.46	Aquifer Background	0.06	0.48	1.33	0.00	1.54	21.62
2013	Out of River	14.58	3.46	1.46	Aquifer Background	0.06	0.56	1.54	0.00	1.96	23.62
2018	Out of River	16.76	3.54	1.46	Aquifer Background	0.06	0.59	1.79	0.00	2.21	26.40
2023	Out of River	19.08	3.54	1.46	Aquifer Background	0.06	0.61	2.08	0.00	2.50	29.33
2028	Out of River	19.80	5.21	1.46	Aquifer Background	0.06	0.62	2.37	0.00	2.92	32.43

Note: All P concentration values unattenuated

Projected P loading to the Spokane River in pounds per day

P Concent., ug/L 70

Year	Airway Heights Average Daily Flow, MGD	Spokane Average Daily Flow, MGD	Spokane County Average Daily Flow, MGD	Inland Empire Paper Average Daily Flow, MGD	Kaiser Aluminum Groundwater Remed. Average Daily Flow, MGD	Kaiser Aluminum Process Water Average Daily Flow, MGD	LLSD Average Daily Flow, MGD	Post Falls Average Daily Flow, MGD	HARSB Average Daily Flow, MGD	Coeur D'Alene Average Daily Flow, MGD	Total lbs/day
2004		21.67	0.00	2.94	Aquifer Background	0.05	0.41	1.24	0.00	1.94	28.24
2008		23.45	0.00	2.04	Aquifer Background	0.08	0.67	1.87	0.00	2.16	30.26
2013	Out of River	20.41	4.84	2.04	Aquifer Background	0.08	0.79	2.16	0.00	2.74	33.06
2018	Out of River	23.46	4.96	2.04	Aquifer Background	0.08	0.83	2.51	0.00	3.09	36.96
2023	Out of River	26.71	4.96	2.04	Aquifer Background	0.08	0.86	2.92	0.00	3.50	41.06
2028	Out of River	27.71	7.29	2.04	Aquifer Background	0.08	0.87	3.32	0.00	4.08	45.40

Note: All P concentration values unattenuated

Projected P loading to the Spokane River in pounds per day

P Concent., ug/L 100

Year	Airway Heights Average Daily Flow, MGD	Spokane Average Daily Flow, MGD	Spokane County Average Daily Flow, MGD	Inland Empire Paper Average Daily Flow, MGD	Kaiser Aluminum Groundwater Remed. Average Daily Flow, MGD	Kaiser Aluminum Process Water Average Daily Flow, MGD	LLSD Average Daily Flow, MGD	Post Falls Average Daily Flow, MGD	HARSB Average Daily Flow, MGD	Coeur D'Alene Average Daily Flow, MGD	Total lbs/day
0		30.96	0.00	4.20	Aquifer Background	0.07	0.58	1.77	0.00	2.76	40.34
0		33.49	0.00	2.92	Aquifer Background	0.12	0.96	2.67	0.00	3.08	43.23
0	Out of River	29.16	6.91	2.92	Aquifer Background	0.12	1.12	3.08	0.00	3.92	47.23
Year	Out of River	33.51	7.08	2.92	Aquifer Background	0.12	1.18	3.58	0.00	4.41	52.80
2004	Out of River	38.15	7.08	2.92	Aquifer Background	0.12	1.22	4.17	0.00	5.00	58.65
2008	Out of River	39.59	10.41	2.92	Aquifer Background	0.12	1.24	4.75	0.00	5.83	64.86

Note: All P concentration values unattenuated

Data for Spokane River DO TMDL Implementation Strategy							
Flows and Loadings Workgroup							
21-Jul-05							
Wastewater Agency: Airway Heights							
YEAR 2004 FLOW DATA							
	Avg Daily Flow	**Influent P**	**Effluent P**	**Influent BOD**	**Effluent BOD**	**Influent NH3**	**Effluent NH3**
Month	**MGD**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**
April							
May							
June							
July							
August							
September							
October							
Average	0.31						
PROJECTED FLOW DATA-April through October							
	Average Daily	**Influent P**		**Influent BOD**		**Influent NH3**	
YEAR	**Flow, MGD**	**mg/l**		**mg/L**		**mg/L**	
2008	0.54						
2013	0.80						
2018	1.00						
2023	1.15						
2028	1.25						

Data for Spokane River DO TMDL Implementation Strategy							
Flows and Loadings Workgroup							
21-Jul-05							
Wastewater Agency: Spokane County-New Regional WWTP							
YEAR 2004 FLOW DATA							
	Avg Daily Flow	**Influent P**	**Effluent P**	**Influent BOD**	**Effluent BOD**	**Influent NH3**	**Effluent NH3**
Month	**MGD**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**
April	6.95						
May	6.98						
June	7.39						
July	7.54						
August	7.17						
September	7.13						
October	7.27						
Average	7.20						
PROJECTED FLOW DATA-April through October							**Flows to**
	Average Daily	**Influent P**		**Influent BOD**		**Influent NH3**	**City**
YEAR	**Flow, MGD**	**mg/l**		**mg/L**		**mg/L**	**Plant, MGD**
2008	0						8.4
2013	8.3						1.7
2018	8.5						4.7
2023	8.5						7.9
2028	12.5						7.1

Data for Spokane River DO TMDL Implementation Strategy

Flows and Loadings Workgroup

21-Jul-05

Wastewater Agency: City of Coeur d'Alene, Idaho

Note: BOD is the CBOD times 1.2 as used by the EPA.

YEAR 2004 FLOW DATA

	Avg Daily Flow	Influent P	Effluent P	Influent BOD	Effluent BOD	Influent NH3	Effluent NH3
Month	**MGD**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**
April	3.33	7.24	1.6	246.8	4.6	27.78	10.3
May	3.28	7.47	0.75	249.2	3.5	28.53	9.85
June	3.41	7.37	0.87	247.8	3.7	28.22	7
July	3.36	7.57	0.95	266.8	3.5	27.76	7.38
August	3.45	7.04	0.89	244.4	4.1	28.17	8.37
September	3.26	7.38	0.8	239.3	3.7	28.88	8.05
October	3.14	6.79	2	231.6	5.3	28.9	8.28
Average	3.32	7.27	1.12	246.56	4.06	28.32	8.46

PROJECTED FLOW DATA-April through October

	Average Daily	Influent P		Influent BOD		Influent NH3	
YEAR	**Flow, MGD**	**mg/l**		**mg/L**		**mg/L**	
2008	3.7	7.3		250		29	
2013	4.7	7.3		255		31	
2018	5.3	7.3		260		33	
2023	6	7.3		265		35	
2028	7	7.3		270		37	

Note: Basis for flows are from our 9/01 facility plan by HDR Engineering. The above assumes the low density development that we have historically undergone.

Data for Spokane River DO TMDL Implementation Strategy

Flows and Loadings Workgroup

21-Jul-05

Wastewater Agency: HARSB

YEAR 2004 FLOW DATA

Month	Avg Daily F MGD	Influent P mg/L	Effluent P mg/L	Influent BOD mg/L	Effluent BOD mg/L	Influent NH3 mg/L	Effluent NH3 mg/L
April							
May							
June							
July							
August							
September							
October							
Average							

PROJECTED FLOW DATA-April through October

YEAR	Average Dai Flow, MGD	Influent P mg/l		Influent BOD mg/L		Influent NH3 mg/L	
2008							
2013							
2018							
2023							
2028							

No data was provided by Jim Kimball for HARSB

Data for Spokane River DO TMDL Implementation Strategy
Flows and Loadings Workgroup
21-Jul-05

Wastewater Agency: Post Falls

YEAR 2004 FLOW DATA

Month	Avg Daily Flow MGD	Influent P mg/L	Effluent P mg/L	Influent BOD mg/L	Effluent BOD mg/L	Influent NH3 mg/L	Effluent NH3 mg/L
April	2.1	7.8	0.4	269	7	37	0.09
May	2.1	7.3	2.2	246	8	31	0.21
June	2.1	7.9	1.5	271	7	32	0.09
July	2.0	7.5	1.4	254	8	36	1.4
August	2.1	8.0	0.3	242	4	30	0.09
September	2.2	7.5	0.6	242	4	30	1.3
October	2.2	7.1	0.4	256	4	31	0.1
Average	2.13	7.58	0.97	254	6	32	0.47

PROJECTED FLOW DATA-April through October

YEAR	Average Daily Flow, MGD	Influent P mg/l	Influent BOD mg/L	Influent NH3 mg/L
2008	3.2			
2013	3.7			
2018	4.3			
2023	5.0			
2028	5.7			

Data for Spokane River DO TMDL Implementation Strategy

Flows and Loadings Workgroup

21-Jul-05

Wastewater Agency: Kaiser Aluminum Trentwood

YEAR 2004 FLOW DATA--Process Water

Month	Avg Daily Flow MGD	Influent P mg/L	Effluent P mg/L	Influent BOD mg/L	Effluent BOD mg/L	Influent NH3 mg/L	Effluent NH3 mg/L
April	**0.07**						
May	**0.08**						
June	**0.07**						
July	**0.06**						
August	**0.1**						
September	**0.1**						
October	**0.08**						
Average	0.08		0.3				

PROJECTED FLOW DATA-April through October--Process Water

YEAR	Average Daily Flow, MGD	Influent P mg/l		Influent BOD mg/L		Influent NH3 mg/L	
2008	0.14						
2013	0.14						
2018	0.14						
2023	0.14						
2028	0.14						

YEAR 2004 FLOW DATA--Groundwater Remediation

Month	Avg Daily Flow MGD	Influent P mg/L	Effluent P mg/L	Influent BOD mg/L	Effluent BOD mg/L	Influent NH3 mg/L	Effluent NH3 mg/L
April							
May							
June							
July							
August							
September							
October							
Average	20	(1)	(1)				

PROJECTED FLOW DATA-April through October--Groundwater Remediation

YEAR	Average Daily Flow, MGD	Influent P mg/l		Influent BOD mg/L		Influent NH3 mg/L	
2008	20						
2013	20						
2018	20						
2023	20						
2028	20						

(1) Influent and effluent P for Groundwater Remediation assumed equal to aquifer background

Data for Spokane River DO TMDL Implementation Strategy

Flows and Loadings Workgroup

21-Jul-05

Wastewater Agency: Inland Empire Paper Co.

YEAR 2004 FLOW DATA

Month	Avg Daily Flow MGD	Influent P mg/L	Effluent P mg/L	Influent BOD mg/L	Effluent BOD mg/L	Influent NH3 mg/L	Effluent NH3 mg/L
April	4.732	4.06	0.49	475	11		0.01
May	4.817	3.48	0.41	515	13		0.01
June	4.963	2.25	0.39	494	13		0.01
July	4.852	2.53	0.55	523	15		0.01
August	5.348	2.27	0.38	476	14		0.01
September	5.379	3.24	0.4	488	12		0.01
October	5.189	2.25	0.34	594	8		0.01
Average	5.04	2.87	0.42	509	12		0.01

PROJECTED FLOW DATA-April through October

YEAR	Average Daily Flow, MGD	Influent P mg/l		Influent BOD mg/L		Influent NH3 mg/L	
2008	3.5	3		600			
2013	3.5	3		600			
2018	3.5	3		600			
2023	3.5	3		600			
2028	3.5	3		600			

Aqua ammonia is added to the aeration basin at a dosage such that there is a .01 mg/l residual in the 2nd effluent

Data for Spokane River DO TMDL Implementation Strategy

Flows and Loadings Workgroup

21-Jul-05

Wastewater Agency: Liberty Lake Wastewater Treatment Facility

YEAR 2004 FLOW DATA

	Avg Daily Flow	Influent P	Effluent P	Influent BOD	Effluent BOD	Influent NH3	Effluent NH3
Month	**MGD**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**
April	0.726	7.78	5.57	199	6.6	*	4.69
May	0.715	6.99	4.35	252	3.7		0.34
June	0.708	6.85	4.21	234	2.4		0.26
July	0.663	8.84	4.5	307	2.8		0.18
August	0.683	11.22	5.21	327	3.3		0.14
September	0.69	8.24	5.08	337	3.8		0.41
October	0.697	9.59	3.9	392	5.5		0.07
Average	0.697	8.5	4.69	293	4.01		0.87

PROJECTED FLOW DATA-April through October

	Average Daily	Influent P		Influent BOD		Influent NH3
YEAR	**Flow, MGD**	**mg/l**	**#/day**	**mg/L**	**#/day**	**mg/L**
2008	1.15	5.9	56	264	2532	*
2013	1.35	5.9	66	264	2972	
2018	1.42	5.9	70	264	3126	
2023	1.47	5.9	72	264	3236	
(2025)2028	1.49	5.9	73	264	3281	

*No Influent NH3 data available

Information from Final Facilities Plan as prepared by Century West Engineering Corporation

Data for Spokane River DO TMDL Implementation Strategy
Flows and Loadings Workgroup
17-Jun-05

Wastewater Agency: City of Spokane

YEAR 2004 FLOW DATA

Month	Avg Daily Flow MGD	Avg Daily Flow ML	Influent P mg/L	Effluent P mg/L	Influent BOD mg/L	Effluent BOD mg/L	Influent NH3 mg/L	Effluent NH3 mg/L	Inf NO2&3 mg/L	Eff NO2&3 mg/L
April	35.91	135.9	5.80	1.15	185	9	18.75	0.19	0.86	23.57
May	39.08	147.9	5.74	0.44	178	7	18.42	0.21	1.85	26.07
June	37.79	143.0	5.49	0.58	196	9	18.78	0.26	0.02	22.61
July	35.62	134.8	5.31	0.63	191	10	17.29	0.22	0.59	21.25
August	38.13	144.3	5.58	0.49	199	8	17.80	0.20	0.44	17.39
September	36.82	139.4	5.51	0.40	220	7	19.58	0.21	0.83	18.28
October	36.80	139.3	5.78	0.87	198	8	20.77	0.15	0.24	17.46
Average	37.16	140.7	5.60	0.65	196	8	18.77	0.21	0.69	20.95

FLOW DATA-April through October (5)

YEAR	Average Daily Flow MGD	Average Daily Flow ML	Influent P mg/l	Influent BOD mg/L	Influent NH3 mg/L	Spokane Facilities Plan (1) 1999	Spokane Conceptual Design (2) 2001 Table 3-17	Shrope (3) 2005	Ecology Richard Koch (4) 2005
Actual									
1980	**34.9**	132	6.3	175	8.9				
1990	34	129	4.4	151	12				
1995	37			**165**		37.4	37.4		
2000	41	154	5.0	153	15				
2001	37	140	5.0	178	17				
2002	40	151	4.8	175	17				
2003	38	145	5.6	191	19	44			37.1
2004	**37**	140	**5.6**	**196**	**19**				36.6
nual 90% RStdD	7.8		12.9	16.8	18.8				
Projected									
2007	41	155	5.1	195	19	48		40.04	39.4
2008	**42**	**159**	**5.1**	**201**	**19**		49	41.49	40.3
2010	44	167	5.2	212	20			44.19	42.2
2013	**46**	**174**	**5.2**	**228**	**22**		54	46.39	45
2015	48	182	5.2	238	23	54.4	54.4	47.89	46.8
2018	**51**	**193**	**5.3**	**252**	**24**		58	50.66	49
2020	52	197	5.3	262	25			52.67	50.4
2023	**54**	**204**	**5.3**	**275**	**27**		62	54.46	52.6
2028	**57**	**216**	**5.4**	**297**	**29**		65		56.2
2030	59	223	5.4	305	30				57.7
2040	65	246	5.5	343	33				64.9
2045	68	257	5.5	361	35		76.1		68.5

Month	AWTP	SV	NV	AWH	AWH-2	FAFB	NS	GHTS	SPRAG	CITY		spk county	Airway H.	Fairchild
April	35.91	4.521	1.130	0.445	0.0015	0.798	1.261	0.111	0.041	27.60	27.6015	6.953	0.4465	0.909
May	39.08	3.735	0.964	0.451	0.0012	0.752	1.013	0.074	0.033	32.05	32.0568	5.745	0.4522	0.826
June	37.79	4.855	1.599	0.462	0.0055	0.763	1.122	0.045	0.042	28.89	28.8965	7.618	0.4675	0.808
July	35.62	5.485	1.533	0.618	0.0058	0.694	1.202	0.032	0.044	26.04	26.0062	8.264	0.6238	0.726
August	38.13	4.496	1.064	0.674	0.0021	0.701	1.132	0.027	0.055	29.97	29.9789	6.747	0.6761	0.728
September	36.82	6.266	1.529	0.542	0.0012	0.669	1.646	0.031	0.046	26.18	26.0898	9.487	0.5432	0.7
October	36.80	4.730	1.222	0.458	0.0077	0.569	1.268	0.032	0.047	28.46	28.4663	7.267	0.4657	0.601

158; 147; 142; 137 — Per Capita Loading Factors-Facility Plan

YEAR	Spokane	AH	Millwood	SpokaneUt	SpokaneVa	Assumed Population Served	PopProj Fixed Rate 1.3%/year	Flow Factors calculated based on estimated population served Gal/c/day	P Pounds per Capita Day	BOD	NH4				
Washington State OFM Population Statistics															
1980	171,300	1,755	1,714	152,164	62,387	171,300		204	0.011	0.298	0.015				
1990	177,165	1,971	1,559	165,443	67,832	177,165		192	0.007	0.242	0.019				
1995	187,576	2,245	1,680	192,660	78,991	0		199	0.000	0.275	0.000				
2000	195,629	4,500	1,649	199,019	81,598	226,257		179	0.007	0.229	0.022	0.3			
2001	195,700	4,490	1,650	202,710	83,111	220,531		157	0.007	0.234	0.022	0.4			
2002	195,500	4,565	1,655	201,453	82,596	228,875		165	0.007	0.240	0.023	0.5			
2003	197,400	4,590	1,655	119,844	82,005	255,072		151	0.007	0.241	0.024	0.6			
2004	197,400	4,590	1,645	120,726	83,950	254,005		146	0.007	0.238	0.023	0.6			
2007						249,259	263,913	42	5.3	174	17				
2008						255,339	267,215	**42**	**5.3**	**174**	**17**				
2010						272,743	273,820	43	5.3	174	17				
2013						285,140	283,728	**42**	**5.7**	**188**	**18**				
2015						297,538	290,333	43	5.7	188	18				
2018						322,213	300,241	**44**	**5.7**	**188**	**18**				
2020	246,500					328,531	306,846	44	5.9	194	19				
2023						341,167	316,753	**45**	**5.9**	**194**	**19**				
2028						366,916	333,266	**47**	**5.9**	**194**	**19**				
2030						379,790	339,871	48	5.9	194	19				
2040						426,161	372,897	51	6.1	201	19				
2045						445,830	389,410	53	6.1	201	19				

Average Daily Flow MGD	Influent P mg/l	Influent BOD mg/L	Influent NH3 mg/L

Loading and Population Estimates based on Above Flow & Concentration Projections

P	Flow Pop. (6)	Pounds P	P Pop.	Pounds BOD	BOD Pop.	Pounds NH4	NH4 Pop.
	3.580966247	0.669328					
2007							
2008	265,823	1,787	255,339	70,444	306,276	6,659	302,675
2010	278,481	1,909	272,743	77,837	338,420	7,343	333,776
2013	312,925	1,996	285,140	87,516	380,505	8,445	383,843
2015							
2018	346,939	2,255	322,213	107,242	466,271	10,214	464,253
2020	353,741	2,300	328,531	113,684	494,279	10,848	493,079
2023	380,282	2,388	341,167	123,915	538,759	12,166	553,007
2028	401,408	2,568	366,916	141,263	614,185	13,793	626,969
2030	415,493	2,659	379,790	150,158	652,859	14,770	671,346
2040	474,453	2,983	426,161	186,039	808,864	17,899	813,580
2045							

(1) See Tables ES-2 & 5-3: Projected plant influent design average day flow
Does not include precipitation induced excess flow.

(2) Summary of design flows for SAWTP; Flow to Primary & Secondary Treatment Processes;
minimum annual average from Table ES-2 of 1999 Bovey Facilities Plan.
Several interpolated flows added by Lloyd Brewer.

(3) Recalculation of Flow estimates by Gerry Shrope taking into account more recent data.
Estimating average flow.

(4) Recalculation of Flow estimates by Richard Koch taking into account 2003 & 2004 DMR data.
Dry season flows shown. (Note dry season was May-October)

(5) Projected flows are minimum annual averages which do not take into account most increases caused by
groundwater infiltration, river backflow, and stormwater impacts.
Under certain conditions this can make as much as a 13 MGD difference.
Concentrations are based on the difference and rate of change between 2000 and 2004 loadings.

(6) Extended Facility Plan Flow Loading Factor reductions to 2028 & 2030 (142 gpcd) and 2040 (137gpcd)

Year	Spokane City	Spokane County	Airway Heights	RPWRF Total
2004	29.65	7.20	0.31	37.16
2005	30.04	7.51	0.37	37.92
2006	30.43	7.82	0.43	38.68
2007	30.82	8.13	0.49	39.44
2008	31.22	8.44	0.55	40.21
2009	31.63	8.75	0.61	40.99
2010	32.04	9.06	0.67	41.77
2011	32.46	9.37	0	41.83
2012	32.88	9.68	0	42.56
2013	33.31	1.70	0	35.01
2014	33.74	2.30	0	36.04
2015	34.18	2.90	0	37.08
2016	34.62	3.50	0	38.12
2017	35.07	4.10	0	39.17
2018	35.53	4.70	0	40.23
2019	35.99	5.34	0	41.33
2020	36.46	5.98	0	42.44
2021	36.93	6.62	0	43.55
2022	37.41	7.26	0	44.67
2023	37.90	7.90	0	45.80
2024	38.39	8.54	0	46.93
2025	38.89	5.18	0	44.07
2026	39.39	5.82	0	45.21
2027	39.91	6.46	0	46.37
2028	40.43	7.10	0	47.53
City Growth at 1.3 % per year				
Reduction in per capita daily flows not reflected in this.				
This worksheet prepared by Spokane County.				

Data for Spokane River DO TMDL Implementation Strategy

Flows and Loadings Workgroup

21-Jul-05

Wastewater Agency: City of Spokane

YEAR 2004 FLOW DATA

Month	Avg Daily Flow MGD	Influent P mg/L	Effluent P mg/L	Influent BOD mg/L	Effluent BOD mg/L	Influent NH3 mg/L	Effluent NH3 mg/L
April	35.91	5.8	1.15	185	9	18.75	0.19
May	39.08	5.74	0.44	178	7	18.42	0.21
June	37.79	5.49	0.58	196	9	18.78	0.26
July	35.62	5.31	0.63	191	10	17.29	0.22
August	38.13	5.58	0.49	199	8	17.8	0.2
September	36.82	5.51	0.4	220	7	19.58	0.21
October	36.80	5.78	0.87	198	8	20.77	0.15
Average	37.16	5.60	0.65	195	8	18.77	0.21

PROJECTED FLOW DATA-April through October

YEAR	Average Daily Flow, MGD	Influent P mg/l	Influent BOD mg/L	Influent NH3 mg/L
2008	40.21	5	197	19
2013	35.01	5.1	225	22
2018	40.23	5.2	249	24
2023	45.80	5.2	273	26
2028	47.53	5.3	295	28

The projected average flows above are extracted from the separate breakdown sheet prepared by Spokane County that reflects the Airway Hts treatment plant (2010) and new regional treatment plant (2012) coming on line.

Projected flows for the City areas do not include the anticipated reduction in per capita flows from CSO remediation