

Table 4. Annual stream discharge (mm) of intensively monitoring stations in the Lower Fox sub-basin. Relative SD is the relative standard deviation (Std Dev/mean). Note high variability between years at individual stations, and between sites during some years when precipitation likely varied substantially on a spatial basis (e.g., Plum vs nearby Plum West and others in 2021, which affects TSS and TP yields even more in following tables).

WYear	Ashwaub			East			Plum			Ashwaub Dutchman				
	Apple	Creamery	Baird	Duck	River	Mahon	Bower	Plum	West	Silver	East ZZ	Wequiock	Grant	Hansen
2004	322	276	364	344	339									
2005	144	114	114	140	173									
2006	121	102	173	116	209									
2007			119	75	156		95							
2008			260	241			280							
2009			191				76							
2010			262											
2011			337			355		333						
2012			118			188		133			134			
2013			237			298		282			271			
2014			231			319		262	210	188	198			
2015						231		148	116	160	120			
2016						375		311	267	342	265			
2017								304	248	174	313			
2018								272	253	250	259			
2019		459						524	450	545	509	574	503	470
2020		460						440	369	386	448	401	514	462
2021		240						288	165	156	216	130	241	187
2022		X						X		X	X	X	X	X
mean	196	275	219	183	219	295	150	300	260	275	273	368	419	373
max	322	460	364	344	339	375	280	524	450	545	509	574	514	470
min	121	102	114	75	156	188	76	133	116	156	120	130	241	187
max/min	2.7	4.5	3.2	4.6	2.2	2.0	3.7	3.9	3.9	3.5	4.2	4.4	2.1	2.5
relative SD	56%	58%	39%	59%	38%	25%	75%	37%	41%	51%	46%	61%	37%	43%

Table 5. Annual TSS yields (t/ha) of intensively monitoring stations in the Lower Fox sub-basin. Relative SD is the relative standard deviation (Std Dev/mean). Note high variability between years at individual stations, and between sites during some years when precipitation likely varied substantially on a spatial basis (e.g., Plum vs nearby Plum West and others in 2021). Relative standard deviations of TSS at longer term stations were greater than with discharge (Table 4).

WYear	Ashwaub			East			Plum			Ashwaub Dutchman				
	Apple	Creamery	Baird	Duck	River	Mahon	Bower	Plum	West	Silver	East ZZ	Wequiock	Grant	Hansen
2004	0.931	0.705	0.733	0.359	0.495									
2005	0.117	0.204	0.097	0.107	0.065									
2006	0.162	0.067	0.177	0.031	0.135									
2007			0.120	0.036	0.139		0.154							
2008			0.230	0.106			0.932							
2009			0.067				0.068							
2010			0.196											
2011			0.240			0.330		1.284						
2012			0.069			0.128		0.646			0.325			
2013			0.096			0.110		1.197			0.211			
2014			0.175			0.201		2.144	0.536	0.020	0.729			
2015						0.150		0.581	0.263	0.016	0.082			
2016						0.183		1.628	0.837	0.085	0.417			
2017								1.097	1.009	0.016	0.750			
2018								1.678	0.800	0.028	0.468			
2019								2.759	0.820	0.087	0.666	0.359	0.488	0.310
2020								2.682	1.365	0.097	0.866	0.312	0.638	0.486
2021								2.342	0.326	0.128	0.207	0.056	0.180	0.120
2022								X		X	X	X	X	X
mean	0.40	0.33	0.20	0.13	0.21	0.18	0.38	1.64	0.74	0.06	0.47	0.24	0.44	0.31
max	0.93	0.70	0.73	0.36	0.49	0.33	0.93	2.76	1.36	0.13	0.87	0.36	0.64	0.49
min	0.12	0.07	0.07	0.03	0.06	0.11	0.07	0.58	0.26	0.02	0.08	0.06	0.18	0.12
max/min	8.0	10.6	10.9	11.5	7.6	3.0	13.7	4.7	5.2	8.3	10.5	6.4	3.5	4.1
relative SD	113%	103%	94%	105%	93%	43%	124%	46%	49%	75%	57%	67%	54%	60%

Table 6. Annual total phosphorus yields of intensively monitored stations in the Lower Fox sub-basin. Relative SD is the relative standard deviation (Std Dev/mean). Note high variability between years at individual stations, and between sites during some years when precipitation likely varied substantially on a spatial basis (e.g., Plum vs nearby Plum West and others in 2021). Relative standard deviations of total phosphorus at longer term stations were greater than with discharge (Table 4).

WYear	Ashwaub			Duck	East		Bower	Plum			East ZZ	Ashwaub Dutchman		
	Apple	Creamery	Baird		River	Mahon		Plum	West	Silver		Wequiock	Grant	Hansen
2004	1.89	2.02	2.34	1.29	1.63									
2005	0.59	0.82	0.53	0.57	0.46									
2006	0.51	0.53	0.73	0.35	0.68									
2007			0.51	0.19	0.53		0.75							
2008			1.16	0.54			2.50							
2009			0.68				0.35							
2010			1.31											
2011			1.01			1.02		2.54						
2012			0.39			0.26		1.13			0.75			
2013			0.72			0.43		2.37			1.10			
2014			1.10			0.53		3.44	1.09	0.27	1.46			
2015						0.58		1.33	0.87	0.25	0.50			
2016						0.58		2.97	2.20	0.48	1.54			
2017								2.48	2.48	0.27	2.07			
2018								3.14	2.42	0.55	1.68			
2019								4.69	3.58	1.31	2.69	1.52	1.95	1.38
2020								5.01	3.68	0.78	3.12	1.33	2.17	1.65
2021								3.65	1.51	0.41	1.18	0.33	1.03	0.61
2022								X		X	X	X	X	X
mean	1.00	1.12	0.95	0.59	0.83	0.57	1.20	2.98	2.23	0.54	1.61	1.06	1.72	1.21
max	1.89	2.02	2.34	1.29	1.63	1.02	2.50	5.01	3.68	1.31	3.12	1.52	2.17	1.65
min	0.51	0.53	0.39	0.19	0.46	0.26	0.35	1.13	0.87	0.25	0.50	0.33	1.03	0.61
max/min	3.7	3.8	6.0	6.8	3.5	3.9	7.1	4.4	4.2	5.3	6.2	4.7	2.1	2.7
relative SD	78%	70%	58%	72%	66%	45%	95%	41%	47%	66%	51%	61%	35%	45%

Table 7. Annual dissolved phosphorus yields of intensively monitored stations in the Lower Fox sub-basin. Relative SD is the relative standard deviation (Std Dev/mean). Daily dissolved phosphorus loads were calculated by the USGS for East River at ZZ, Ashwaubenon Creek at Grant, and Dutchman Creek at Hansen where extensive sample records of discrete dissolved phosphorus concentrations were available; whereas, the UWGB using regression analysis to estimate dissolved phosphorus loads at the remaining sites where dissolved phosphorus samples were more limited.

WYear	Ashwaub			East			Plum			Ashwaub Dutchman				
	Apple	Creamery	Baird	Duck	River	Mahon	Bower	Plum	West	Silver	East ZZ	Wequiock	Grant	Hansen
2004	0.62	0.89	0.93	0.61	0.66									
2005	0.34	0.47	0.26	0.30	0.22									
2006	0.24	0.34	0.36	0.21	0.31									
2007			0.23	0.10	0.22									
2008			0.57	0.31										
2009			0.41											
2010			0.71											
2011			0.58					0.73						
2012			0.21					0.35			0.27			
2013			0.45					0.72			0.59			
2014			0.60					0.73	0.52	0.18	0.48			
2015								0.47	0.46	0.18	0.29			
2016								0.86	1.02	0.31	0.75			
2017								0.82	1.06	0.19	1.00			
2018								0.83	1.13	0.37	0.89			
2019								1.36	2.11	0.90	1.59		1.25	0.92
2020								1.34	1.64	0.51	0.93		1.23	0.94
2021								0.80	0.90	0.22	0.72		0.77	0.45
2022								X		X	X		X	X
mean	0.40	0.56	0.48	0.31	0.35			0.82	1.10	0.36	0.75		1.08	0.77
max	0.62	0.89	0.93	0.61	0.66			1.36	2.11	0.90	1.59		1.25	0.94
min	0.24	0.34	0.21	0.10	0.22			0.35	0.46	0.18	0.27		0.77	0.45
max/min	2.5	2.6	4.3	5.9	3.0			3.9	4.6	5.1	5.9		1.6	2.1
relative SD	48%	51%	46%	62%	59%			37%	50%	70%	52%		25%	36%