

Phosphorus Concentrations in Runoff from Individual Farms in the EAA

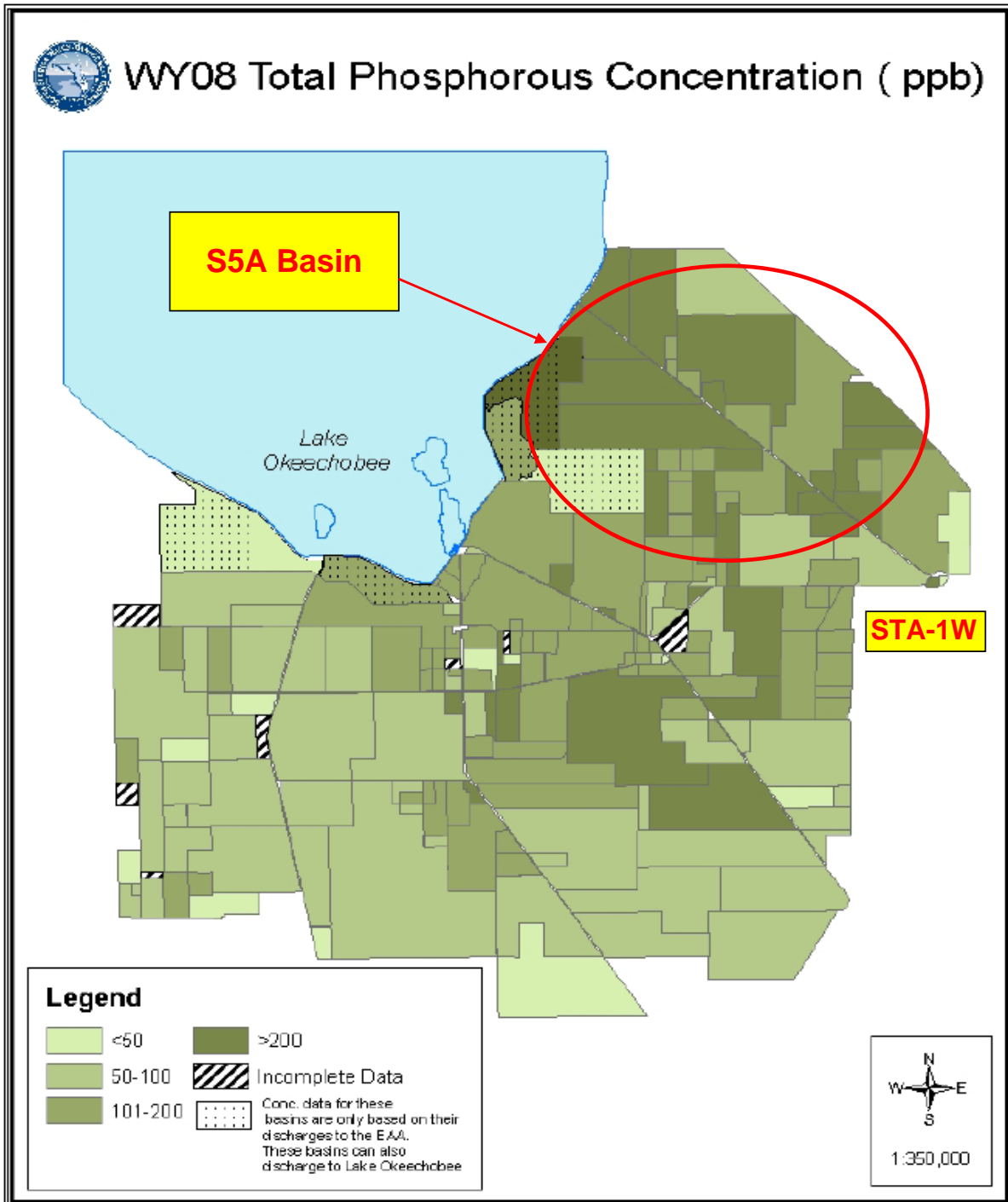


Figure 7. TP FWM concentrations (parts per billion, or ppb) in the EAA in WY2008.

Phosphorus Loads in Runoff from Individual Farms in the EAA

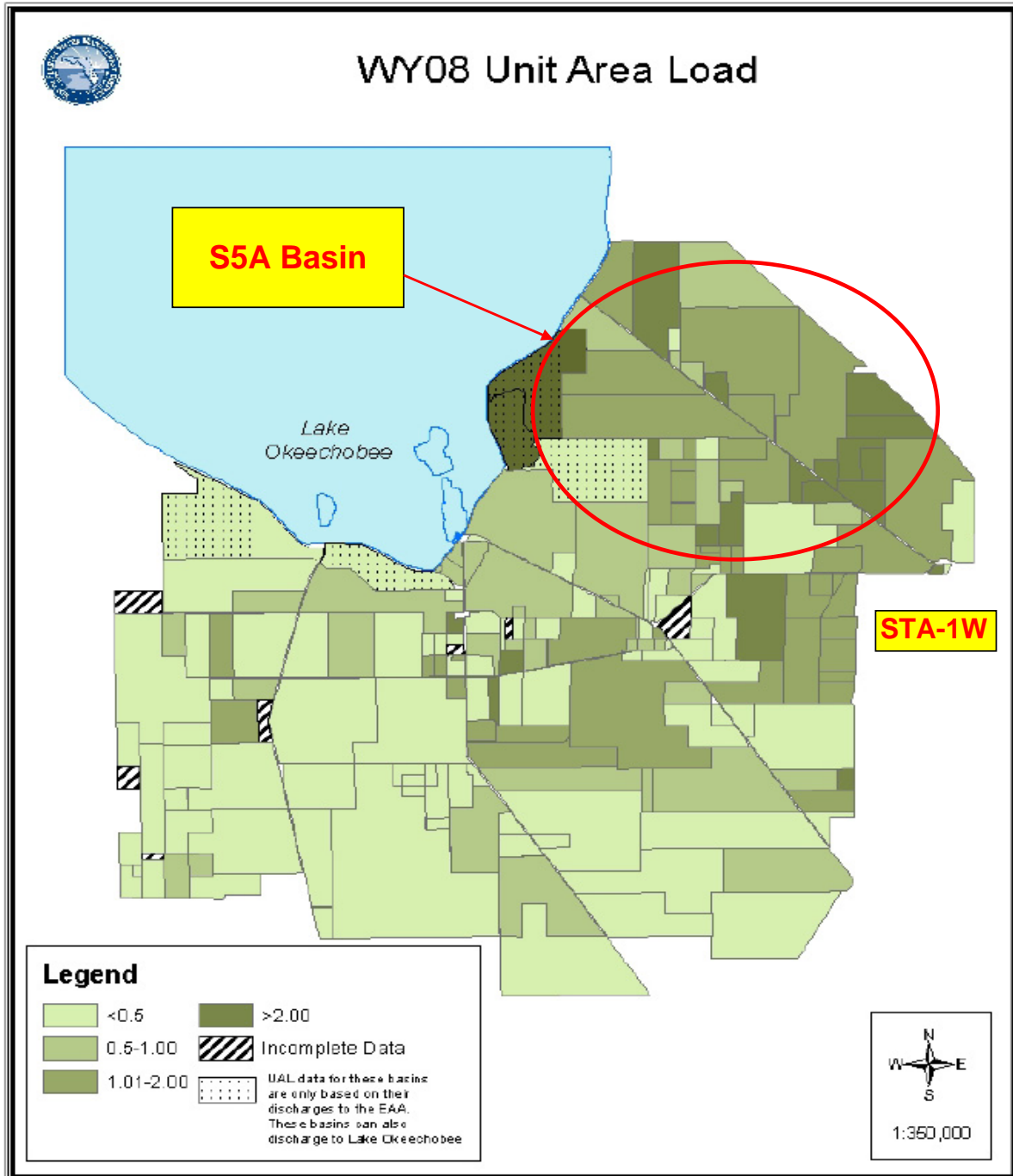
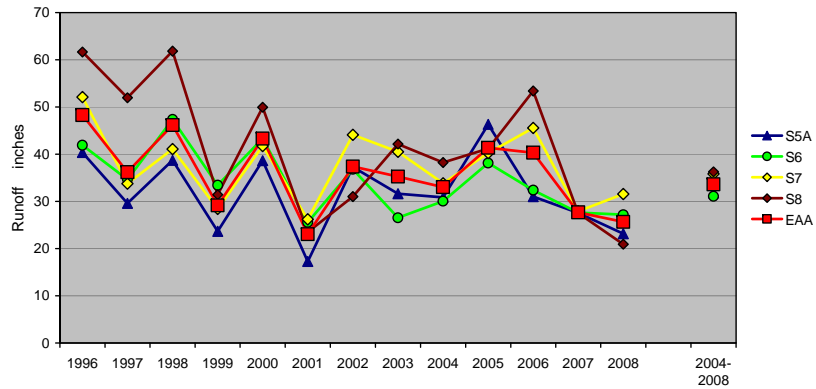
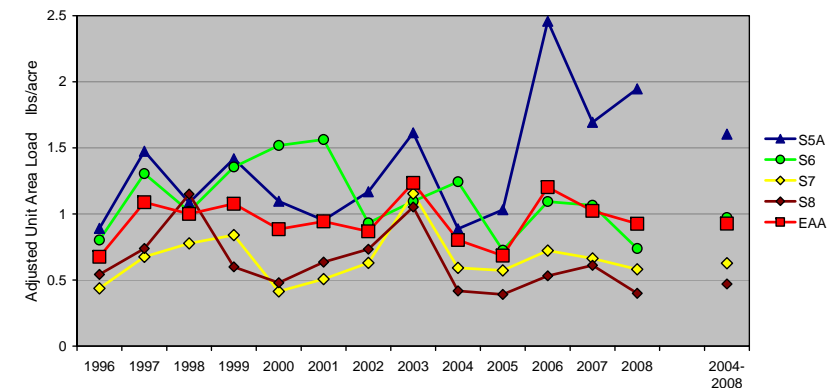
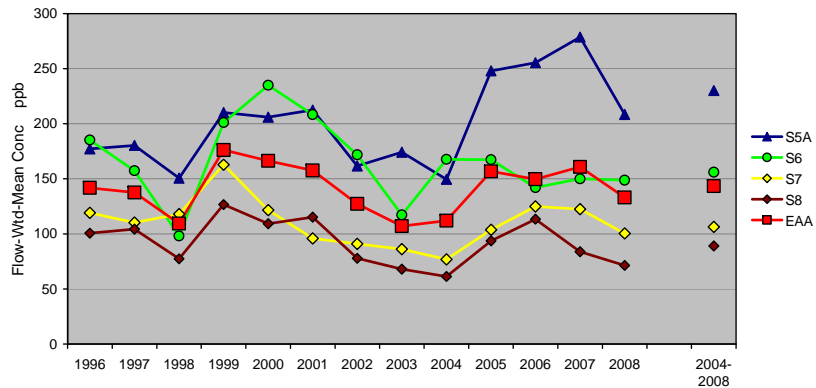
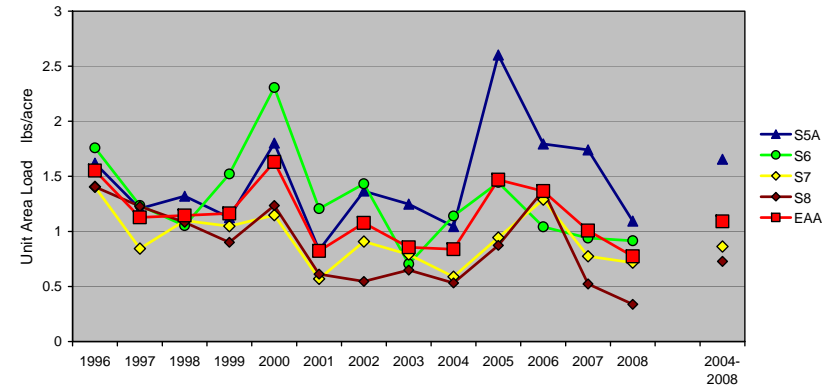


Figure 9. WY2008 observed unit area TP load (lbs/acre) in the EAA basin.

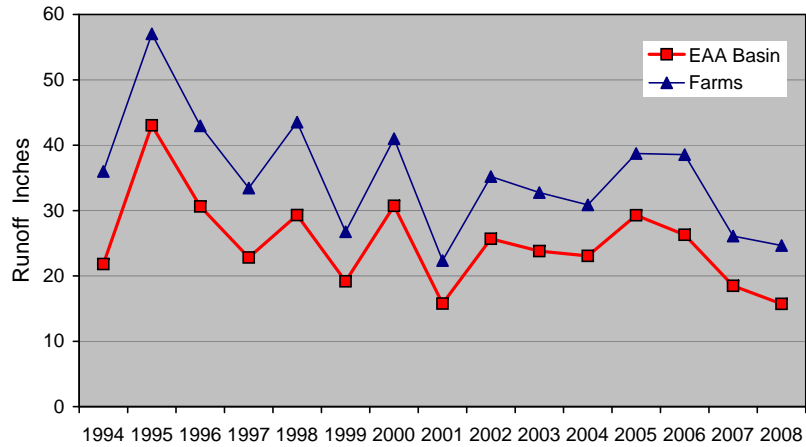
EAA Farm Monitoring Results by Basin



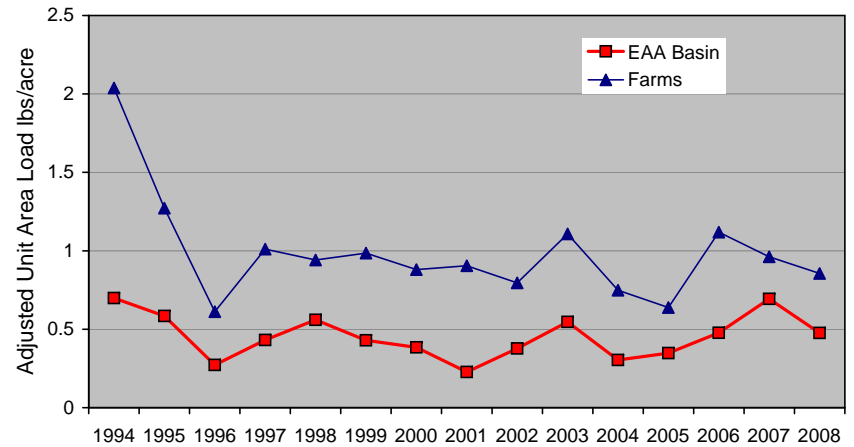
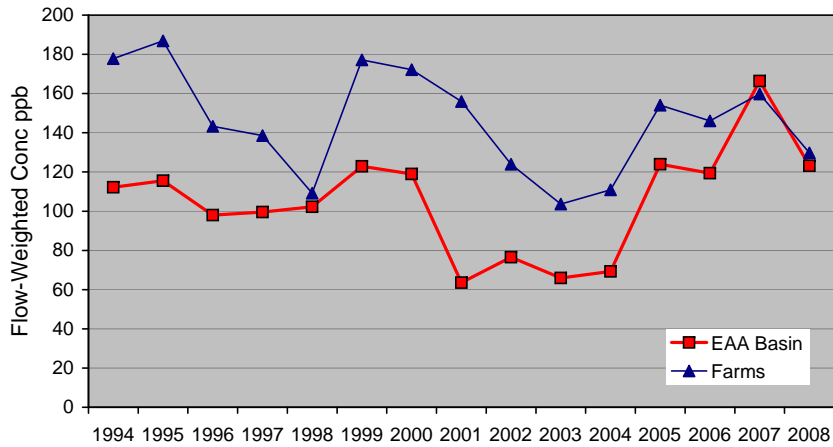
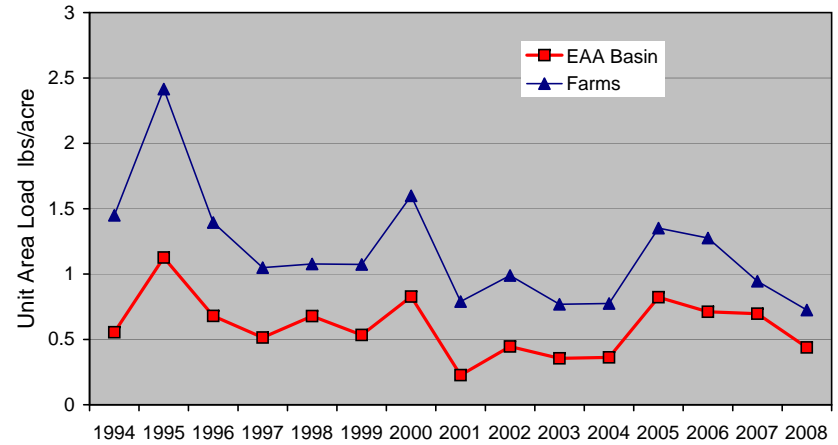
From EAA Regulatory Rule Database



EAA Farm & Basin Runoff Statistics



From EAA Regulatory Rule Database



Adjusted Unit Area Load = Unit Area Load adjusted for variations in rainfall.

Water Year	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Farms Monitored	88	138	171	182	182	185	182	178	180	185	184	180	180	175	175
Farm Area Monitored (acres)	227388	301310	431401	463119	464546	480984	485985	462521	465414	452832	466404	463087	452507	450639	450137
Basin Area (acres)	523721	523721	523721	523551	522703	521525	512013	507719	500401	500401	500401	487769	472339	472339	472339

Summary of EAA Farm & Basin Monitoring Results

Water Years 1994-2008

From EAA Regulatory Rule Calculations

<u>Variable</u>	<u>Units</u>	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2004-08
Basin Rainfall (SFWMD)	inches	50.45	67.01	56.86	52.02	56.12	43.42	57.51	37.28	49.14	45.55	46.76	50.98	50.08	37.23	46.95	46
Rainfall Adjustment Factor	-	1.26	0.52	0.40	0.84	0.83	0.81	0.46	1.00	0.85	1.54	0.84	0.42	0.67	1.00	1.09	0.80
Total Basin Area	acres	523721	523721	523721	523551	522703	521525	512013	507719	500401	500401	500401	487769	472339	472339	472339	481037
Basin Flow	kac-ft/yr	952	1878	1336	996	1276	833	1311	667	1071	992	961	1190	1034	727	619	906
Basin Load	mt/yr	131.9	268.0	161.8	122.4	161.2	126.4	192.7	52.3	101.2	80.8	82.3	182.3	152.6	149.5	94.1	132.2
Observed Basin Load	mt/yr	131.9	268.0	161.8	122.4	161.2	126.4	192.7	52.3	101.2	80.8	82.3	182.3	152.6	149.5	94.1	132.2
Basin Target Load	mt/yr	119.9	291.3	377.1	180.2	182.7	186.8	318.4	146.3	170.2	93.7	171.9	332.6	202.8	136.9	125.5	193.9
Basin Limit Load	mt/yr	182.6	439.5	543.7	240.7	259.7	260.5	444.4	211.4	227.0	128.6	232.1	495.0	275.8	200.2	172.3	275.1
Adjusted Basin Load	mt/yr	166.3	139.0	64.8	102.7	133.1	101.9	89.4	52.4	85.9	124.4	69.1	77.1	102.6	148.9	102.2	100.0
Basin Load Reduction	%	17%	31%	68%	49%	34%	49%	55%	73%	55%	35%	64%	59%	44%	18%	44%	46%
Basin Runoff	in/yr	21.8	43.0	30.6	22.8	29.3	19.2	30.7	15.8	25.7	23.8	23.1	29.3	26.3	18.5	15.7	22.6
Basin Unit Area Load	lbs/ac-yr	0.55	1.13	0.68	0.51	0.68	0.53	0.83	0.23	0.45	0.36	0.36	0.82	0.71	0.70	0.44	0.61
Basin Adjusted Unit Area Load	lbs-ac/yr	0.70	0.58	0.27	0.43	0.56	0.43	0.38	0.23	0.38	0.55	0.30	0.35	0.48	0.69	0.48	0.46
Basin Flow-Weighted-Mean Conc	ppb	112	116	98	100	102	123	119	64	77	66	69	124	119	166	123	118
Total Number of Farms	-	188	188	188	189	193	202	194	189	189	192	191	189	189	184	184	187
Total Farm Area	acres	502259	502246	502168	502777	502572	509889	501471	492351	489714	485084	482593	474143	460410	459786	459739	467334
Farms with Adequate Data	-	88	138	171	182	182	185	182	178	180	185	184	180	180	175	175	179
Area of Farms with Adequate Data	acres	227388	301310	431401	463119	464546	480984	485985	462521	465414	452832	466404	463087	452507	450639	450137	456555
Farm Flow	kac-ft/yr	681.8	1432.4	1544.4	1290.3	1684.7	1072.4	1660.3	861.8	1365.5	1235.6	1200.1	1494.7	1453.7	980.2	924.3	1210.6
Farm Load	mt/yr	149.8	330.7	273.4	220.8	227.3	234.7	353.2	166.0	209.2	158.1	164.4	284.6	262.3	193.5	148.1	210.6
Farm Adjusted Load	mt/yr	210.6	174.3	120.0	212.7	198.8	215.4	194.4	190.3	168.4	227.9	158.6	134.4	230.2	197.1	175.1	179.1
Farm Runoff	in/yr	36.0	57.0	43.0	33.4	43.5	26.8	41.0	22.4	35.2	32.7	30.9	38.7	38.5	26.1	24.6	31.8
Farm Unit Area Load	lbs/ac-yr	1.45	2.41	1.39	1.05	1.08	1.07	1.60	0.79	0.99	0.77	0.78	1.35	1.28	0.94	0.72	1.01
Farm Adjusted Unit Area Load	lbs-ac/yr	2.04	1.27	0.61	1.01	0.94	0.99	0.88	0.91	0.80	1.11	0.75	0.64	1.12	0.96	0.86	0.86
Farm Flow-Weighted-Mean Conc	ppb	178	187	143	139	109	177	172	156	124	104	111	154	146	160	130	140
Farm / Basin Runoff	-	1.65	1.33	1.40	1.47	1.49	1.40	1.33	1.42	1.37	1.38	1.34	1.32	1.47	1.41	1.57	1.41
Farm/ Basin Unit Area Load	-	2.61	2.14	2.05	2.04	1.59	2.01	1.93	3.48	2.22	2.16	2.14	1.64	1.79	1.36	1.65	1.67
Farm / FWM Concentration	-	1.58	1.62	1.46	1.39	1.07	1.44	1.45	2.45	1.62	1.57	1.60	1.24	1.22	0.96	1.05	1.19

Summary of S5A Farm Runoff

Water Years 2004-2008

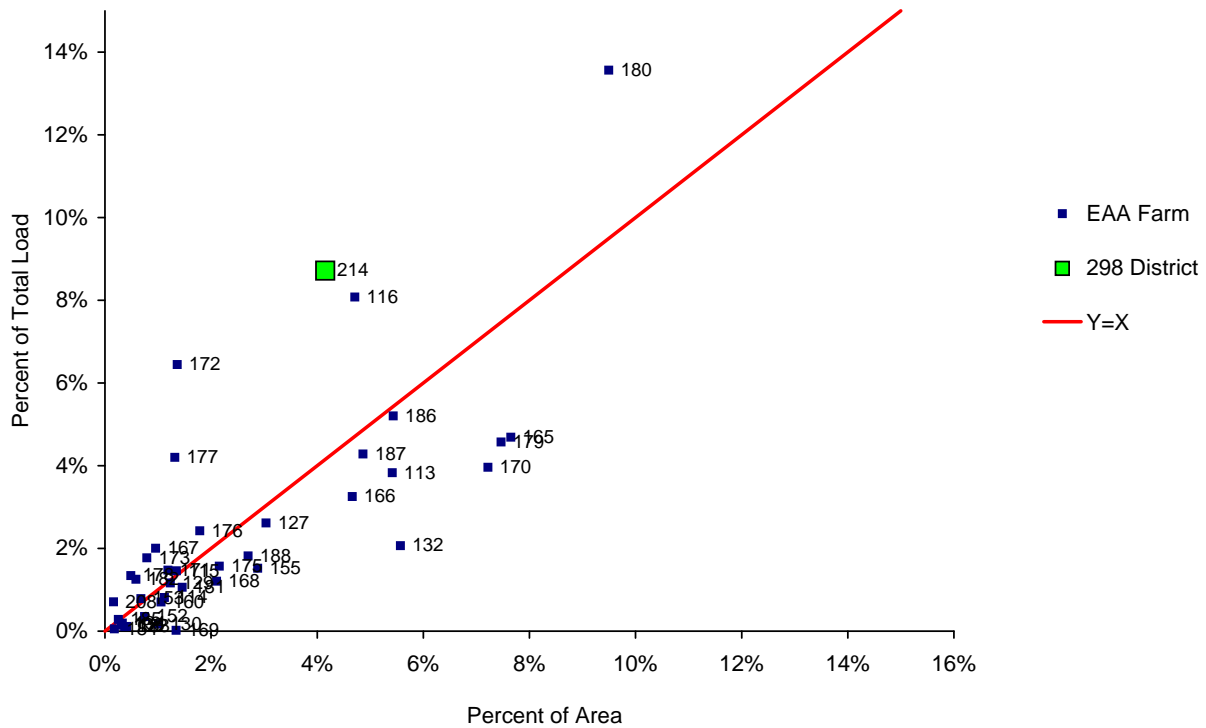
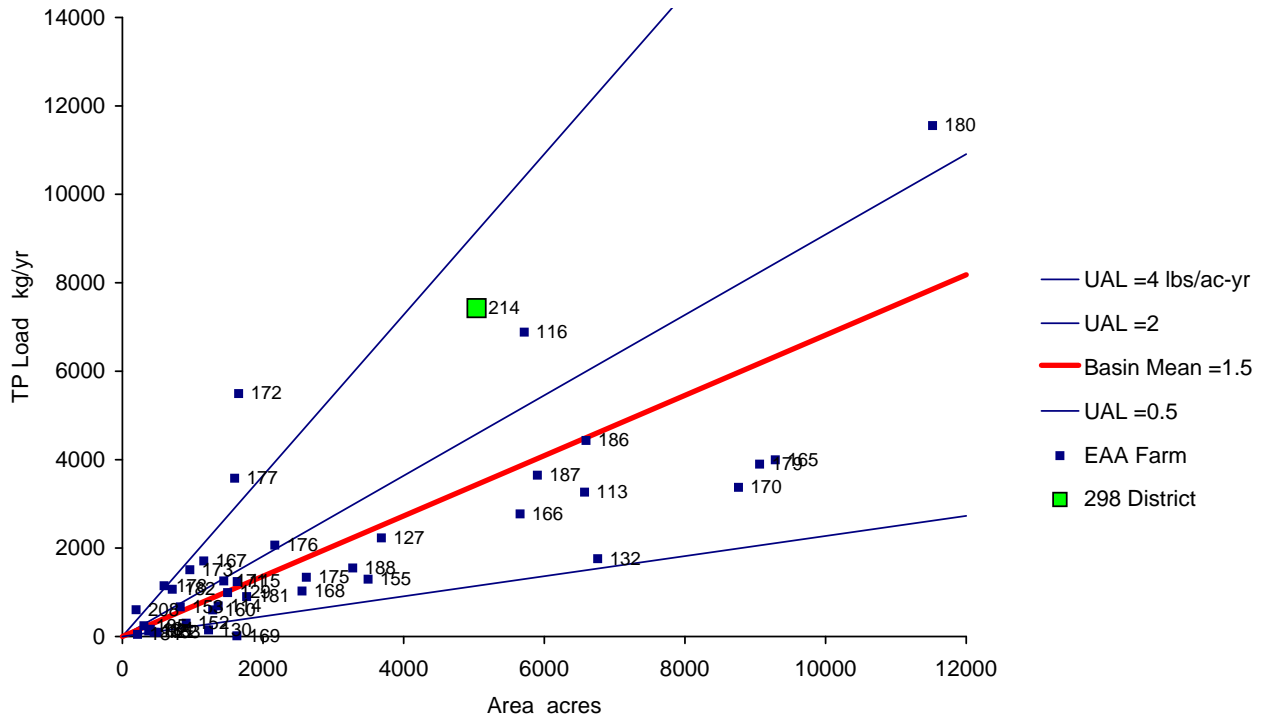
From EAA Regulatory Rule Database

UAID	IS298	Acres	Flow ac-ft/yr	Load kg/yr	Runoff in/yr	UAL lbs/ac/yr	Conc ppb	Acres %	Flow %	Load %	Runoff Rank	UAL Rank	Conc Rank
113	EAA	6574	18686	3264	34.1	1.09	142	5.4%	6.3%	3.8%	11	23	29
114	EAA	1363	2270	692	20.0	1.12	247	1.1%	0.8%	0.8%	31	22	15
115	EAA	1634	3485	1242	25.6	1.67	289	1.3%	1.2%	1.5%	26	15	11
116	EAA	5717	20361	6882	42.7	2.65	274	4.7%	6.8%	8.1%	6	9	14
122	EAA	454	374	93	9.9	0.45	202	0.4%	0.1%	0.1%	38	37	20
127	EAA	3684	15727	2229	51.2	1.33	115	3.0%	5.3%	2.6%	4	19	37
129	EAA	1497	4013	991	32.2	1.46	200	1.2%	1.3%	1.2%	15	17	21
130	EAA	1227	702	148	6.9	0.27	171	1.0%	0.2%	0.2%	39	39	28
132	EAA	6760	11393	1760	20.2	0.57	125	5.6%	3.8%	2.1%	30	35	35
134	EAA	397	997	165	30.1	0.91	134	0.3%	0.3%	0.2%	17	29	31
135	EAA	375	793	123	25.4	0.72	126	0.3%	0.3%	0.1%	27	34	34
152	EAA	909	1331	301	17.6	0.73	183	0.7%	0.4%	0.4%	33	33	23
153	EAA	824	998	670	14.5	1.79	544	0.7%	0.3%	0.8%	37	13	2
155	EAA	3494	8164	1295	28.0	0.82	128	2.9%	2.7%	1.5%	22	32	33
160	EAA	1285	1594	600	14.9	1.03	305	1.1%	0.5%	0.7%	36	26	10
165	EAA	9285	17976	3994	23.2	0.95	180	7.7%	6.0%	4.7%	29	27	25
166	EAA	5656	11950	2771	25.4	1.08	188	4.7%	4.0%	3.3%	28	24	22
167	EAA	1159	3364	1708	34.8	3.24	411	1.0%	1.1%	2.0%	10	8	6
168	EAA	2554	3653	1028	17.2	0.89	228	2.1%	1.2%	1.2%	35	30	16
169	EAA	1628	97	16	0.7	0.02	130	1.3%	0.0%	0.0%	40	40	32
170	EAA	8762	12803	3374	17.5	0.85	213	7.2%	4.3%	4.0%	34	31	18
171	EAA	1442	3542	1254	29.5	1.91	287	1.2%	1.2%	1.5%	18	12	12
172	EAA	1655	7885	5492	57.2	7.30	564	1.4%	2.6%	6.4%	2	1	1
173	EAA	960	2337	1510	29.2	3.46	523	0.8%	0.8%	1.8%	19	5	3
175	EAA	2616	6156	1338	28.2	1.13	176	2.2%	2.1%	1.6%	21	20	27
176	EAA	2169	5991	2068	33.1	2.10	280	1.8%	2.0%	2.4%	14	11	13
177	EAA	1598	7428	3580	55.8	4.93	390	1.3%	2.5%	4.2%	3	3	8
178	EAA	594	2362	1145	47.7	4.24	393	0.5%	0.8%	1.3%	5	4	7
179	EAA	9062	25611	3896	33.9	0.95	123	7.5%	8.6%	4.6%	12	28	36
180	EAA	11523	25679	11555	26.7	2.21	365	9.5%	8.6%	13.6%	24	10	9
181	EAA	1768	5450	903	37.0	1.12	134	1.5%	1.8%	1.1%	7	21	30
182	EAA	710	1889	1068	32.0	3.31	458	0.6%	0.6%	1.3%	16	6	4
183	EAA	499	764	94	18.4	0.42	100	0.4%	0.3%	0.1%	32	38	39
184	EAA	216	484	47	26.9	0.48	78	0.2%	0.2%	0.1%	23	36	40
185	EAA	306	865	242	33.9	1.74	226	0.3%	0.3%	0.3%	13	14	17
186	EAA	6594	19906	4432	36.2	1.48	180	5.4%	6.7%	5.2%	8	16	24
187	EAA	5902	14363	3647	29.2	1.36	206	4.9%	4.8%	4.3%	20	18	19
188	EAA	3276	7039	1548	25.8	1.04	178	2.7%	2.4%	1.8%	25	25	26
208	EAA	196	4782	603	292.8	6.77	102	0.2%	1.6%	0.7%	1	2	38
214	298	5038	14627	7426	34.8	3.24	411	4.2%	4.9%	8.7%	9	7	5
All		121363	297892	85191	29.45	1.54	232	100.0%	100.0%	100.0%			

Farms With Unit Area P Loads above Basin Average

Farm Phosphorus Load vs. Area

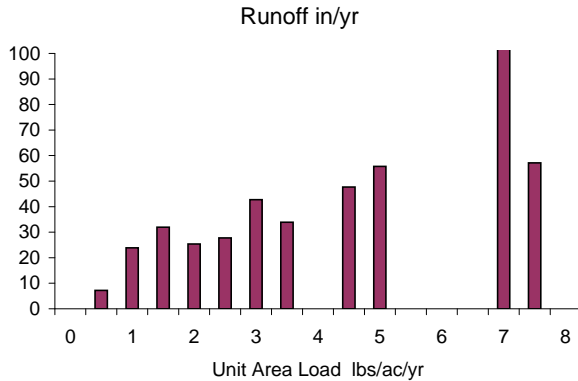
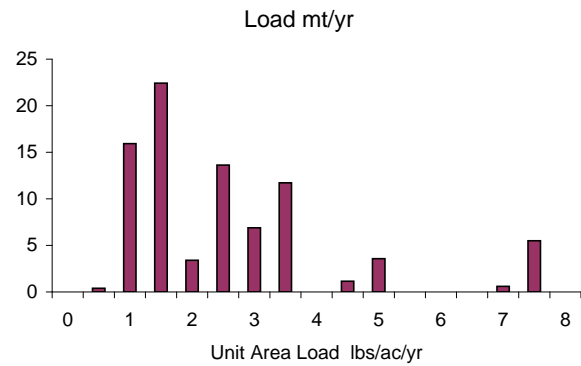
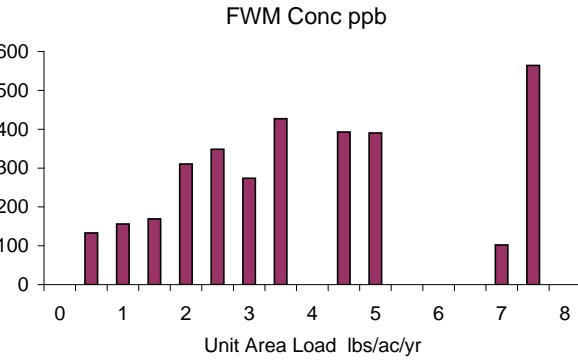
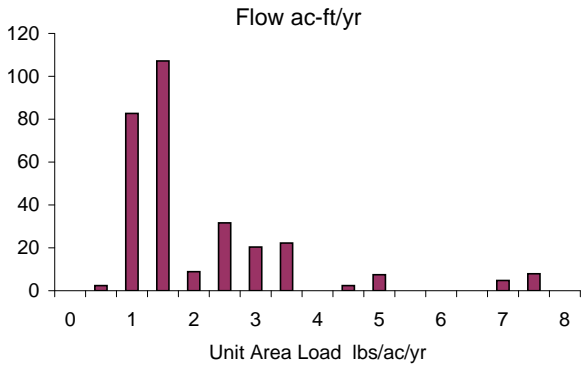
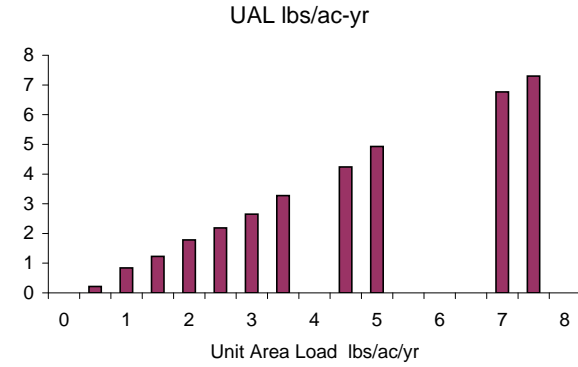
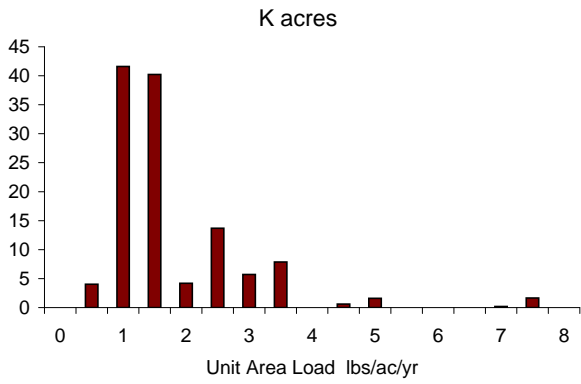
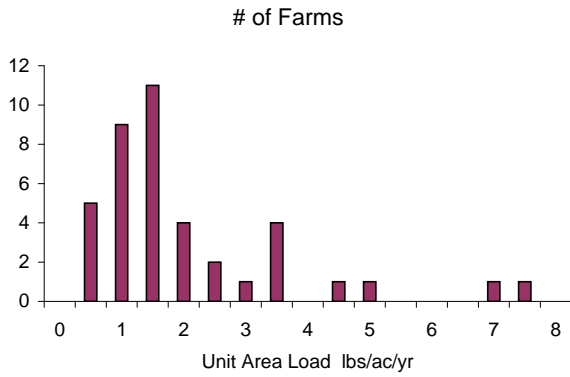
Water Years 2004-2008

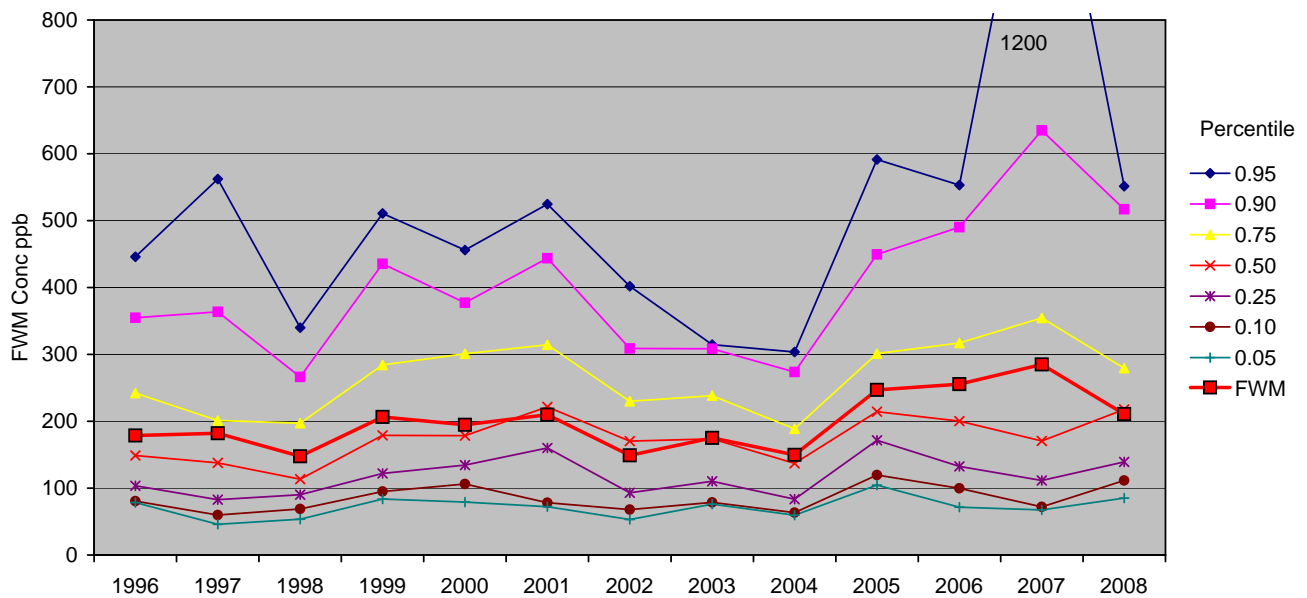
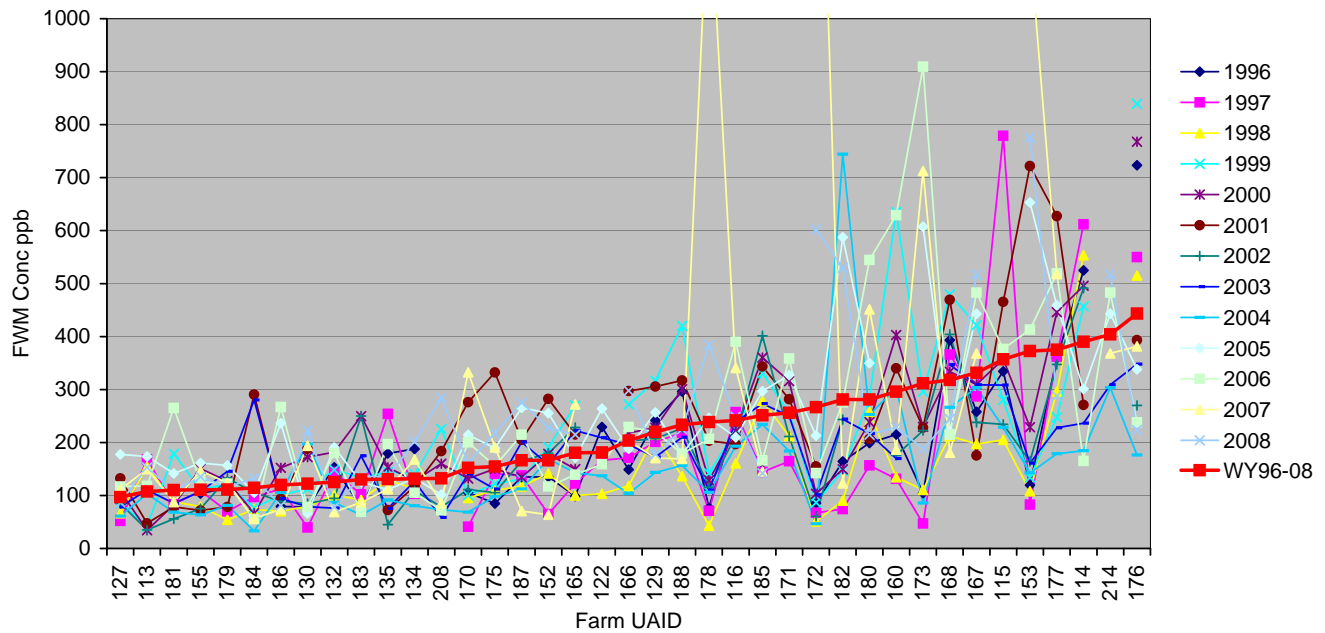


Frequency Distributions of S5A Farm Runoff Variables

Water Years 2004-2008

Sorted by Unit Area Load





Top Chart - Spatial Variations in Runoff FWM Concentrations Across Farms in S5A Basin

Farms sorted in order of increasing FWM in WY 1996-2008.

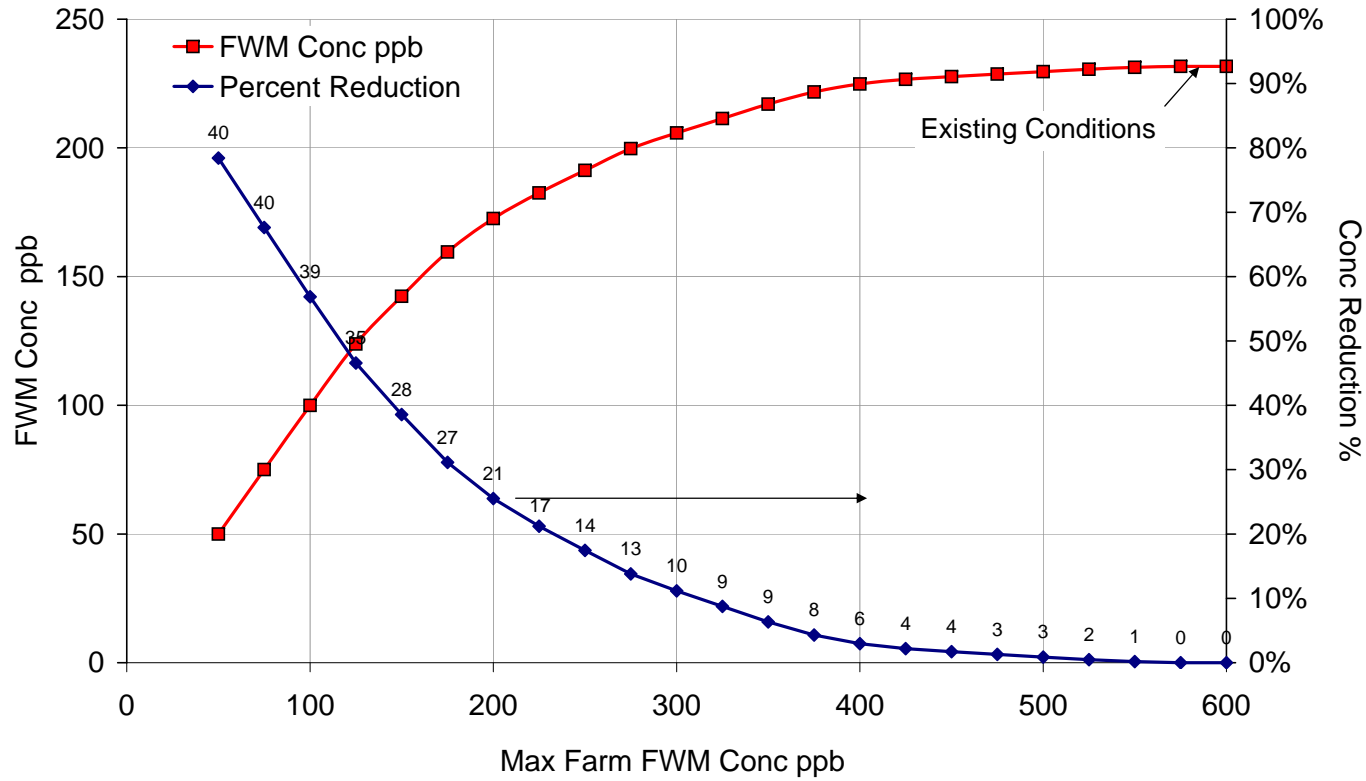
Long-term FWM conc varies from ~100 to ~400 ppb across farms in WY 1996-2008.

Data are inconsistent with hypothesis that farms with highest runoff concentrations vary from year to year with no consistent pattern.

Bottom Chart - Trends in the Frequency Distribution of Farm FWM Concentrations

Increasing trends are indicated for farms in the upper concentration range and for the combined FWM.

Combined Farm Runoff FWM Conc vs. Max Farm Runoff Conc



Effect of limiting farm runoff concentration on the FWM concentration in the combined runoff from all farms.

Based upon runoff data from 40 farms in the S5A Basin (including EB 298 District), Water Years 2004-2008.

Digits indicate number of farms with 5-yr FWM concentration above limit value.

For example, if the 5-year FWM conc in runoff from each farm were limited to 200 ppb (vs. >500 ppb current), the FWM Conc in the combined farm runoff would decrease by ~25% (from 230 to 173 ppb).

Sum of Acres

S5A Basin Farm Data

From EAA Regulatory Rule Database

Basin	S-5A
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Sum of Acres		Water Yr														2004-2008	Rank	% of Total	
UAID	IS298	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008				
113	EAA				8919	7986	7986	7986	7986	7986	6574	6574	6574	6574	6574	6574	6574	7	5.5%
114	EAA	1397	1397	1397	1395	1395	1395	1395	1395	1363	1363	1363	1363					25	1.1%
115	EAA	1666	1666	1666	1634	1634	1634	1634	1634	1634	1634	1634	1634					20	1.4%
116	EAA	5760	5760	5760	5717	5717	5717	5717	5717	5717	5717	5717	5717	5717	5717	5717		9	4.8%
122	EAA	1280	1280	1280	2354					454	454	454	454					35	0.4%
123	EAA	463	463	463	464	464													
124	EAA	270	270	270	269	269													
125	EAA	598	520	520	312														
127	EAA		1482	1482	3676	5871	5871	5871	5871	3684	3684	3684	3684	3684	3684	3684		12	3.1%
128	EAA		2194	2194	2195														
129	EAA	1507	1507	1507	1508	1508	1500	1500	1500	1497	1497	1497	1497	1497	1497	1497		23	1.3%
130	EAA		1227	1227	1227	1227	1227	1227	1227	1227	1227	1227	1227	1227	1227	1227		27	1.0%
131	EAA	2726	2726	2726	2726	2726													
132	EAA	2037	2037	2037	1246	1246	6578		6578	6760	6760	6760	6760	6760	6760	6760		5	5.7%
133	EAA	2051	2051	2051	2842	2842													
134	EAA	401	401	401	399	399	380	380	380	397	397	397	397	397	397	397		36	0.3%
135	EAA	393	393	393	393	393	393	393	393	375	375	375	375	375	375	375		37	0.3%
152	EAA	939	939	939	909	909	909	909	909	909	909	909	909	909	909	909		30	0.8%
153	EAA	822	822	822	824	824	824	824	824	824	824	824	824	824	824	824		31	0.7%
154	EAA			1222															
155	EAA		2271	2271	3493	4715	4715	4715	4715	3494	3494	3494	3494	3494	3494	3494		13	2.9%
160	EAA	1285	1285	1285	1285	1285	1285	1285	1285	1285	1285	1285	1285	1285	1285	1285		26	1.1%
165	EAA	9276	9276	9276	9273	9273	9273	9273	9273	9285	9285	9285	9285	9285	9285	9285		2	7.8%
166	EAA	5629	5629	5629	5629	5629	5629	5629	5629	5656	5656	5656	5656	5656	5656	5656		10	4.8%
167	EAA		1183	1183	1159	1159	1159	1159	1159	1159	1159	1159	1159	1159	1159	1159		28	1.0%
168	EAA	2593	2593	2593	2555	2555	2555	2555	2555	2554	2554	2554	2554	2554	2554	2554		16	2.1%
169	EAA	2308	2308	2308	1773	1773	1773	1773	1773	1773	1755	1663	1584	1568	1568	1568		21	1.4%
170	EAA		7512	7512	7511	7511	7511	7511	7511	7490	7508	7600	9338	9683	9683	9683		4	7.4%
171	EAA			1871	1883	1883	1883	1883	1883	1883	1998	1998	1998	328				24	1.2%
172	EAA	1633	1633	1633	1655	1655	1655	1655	1655	1655	1655	1655	1655	1655	1655	1655		19	1.4%
173	EAA		960	960	960	960	960	960	960	960	960	960	960	960	960	960		29	0.8%
174	EAA			907	907	907				907	699								
175	EAA		2616	2616	2616	2616	2616	2616	2616	2616	2616	2616	2616	2616	2616	2616		15	2.2%
176	EAA		1280	1280	1262	1262	1262	1262	1262	1470	2169	2169	2169	2169	2169	2169		17	1.8%
177	EAA	1571	1571	1571	1571	1571	1571	1571	1571	1598	1598	1598	1598	1598	1598	1598		22	1.3%
178	EAA	594	594	594	594	594	594	594	594	594	594	594	594	594	594	594		33	0.5%
179	EAA	8775	8775	8775	9062	9062	9062	9062	9062	9062	9062	9062	9062	9062	9062	9062		3	7.6%
180	EAA		11775	11775	11521	11521	11521	11521	11521	11523	11523	11523	11523	11523	11523	11523		1	9.7%
181	EAA			1728	1743	1743	1743	1743	1743	1768	1768	1768	1768	1768	1768	1768		18	1.5%
182	EAA		720	720	710	710	710	710	710	710	710	710	710	710	710	710		32	0.6%
183	EAA	507	507	507	499	499	499	499	499	499	499	499	499	499	499	499		34	0.4%
184	EAA	216		216	216	216	216	216	216	216	216	216	216	216	216	216		39	0.2%
185	EAA		306	306	306	306	306	306	306	306	306	306	306	306	306	306		38	0.3%
186	EAA	6594	6594	6594	6594	6594	6594	6594	6594	6594	6594	6594	6594	6594	6594	6594		6	5.5%
187	EAA	5894	5894	5894	5883	5883	5883	5883	5883	5902	5902	5902	5902	5902	5902	5902		8	5.0%
188	EAA	3400	3400	3400	3276	3276	3276	3276	3276	3276	3276	3276	3276	3276	3276	3276		14	2.8%
192	EAA						81												
208	EAA					120	120	145	205		205	205	205	205	205	158		40	0.2%
214	298									5038	5038	5038	5038	5038	5038	5038		11	4.2%
Grand Total		72585	105816	120680	122011	120687	118865	111022	108256	119842	120802	117882	120792	117341	117293	118822			100.0%

Sum of Flow ac-ft

S5A Basin Farm Data

From EAA Regulatory Rule Database

Basin	S-5A
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Sum of Flow ac-ft		Water Yr														2004-2008	Rank	% of Total	
UAID	IS298	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008				
113	EAA				20576	27202	9707	22778	13298	23222	16286	14609	25604	23627	17754	11834	18686	5	6.4%
114	EAA	15173	7859	9047	11509	5704	5636	1680	4091	1641	1407	3895	1506				2270	28	0.8%
115	EAA	8195	4164	5856	6135	4162	6626	3878	4677	4140	4151		2819				3485	24	1.2%
116	EAA	33165	19222	17156	16850	16491	15634	17802	31360	22325	18568	29546	20390	19978	13323		20361	3	6.9%
122	EAA	6384	3579	2382	5244					809	465	553	104				374	39	0.1%
123	EAA	2495	1462	1689	1027	0													
124	EAA	3764	1130	1373	0	0													
125	EAA	5683	4476	4489	7676														
127	EAA		4901	4454	5299	10051	15128	8956	15084	11723	13042	18092	16270	16486	14744		15727	7	5.4%
128	EAA		7450	5979	11162														
129	EAA	10834	6588	4763	7998	5313	6357	3903	6255	4680	3231	5985	2896	5540	2413		4013	21	1.4%
130	EAA		1965	2007	2743	589	1632	898	2878	148	233	571	337	1345	1023		702	37	0.2%
131	EAA	9565	6196	5408	6606	3772													
132	EAA	6377	2751	2027	4726	4284	16748		9328	8952	8385	15550	9655	14552	8826		11393	12	3.9%
133	EAA	8936	4687	4617	5061	3194													
134	EAA	2066	1348	1662	1398	856	1620	665	930	657	1035	1512	789	1018	633		997	33	0.3%
135	EAA	1686	485	599	834	741	250	343	1057	703	725	1669	642	217	714		793	35	0.3%
152	EAA	3327	1446	1805	1721	1074	1744	575	1726	1910	1163	1777	1002	1023	1688		1331	31	0.5%
153	EAA	3190	1567	2685	2012	1269	1919	456	2053	1559	1288	1922	802	504	475		998	32	0.3%
154	EAA			2367															
155	EAA		4567	5407	8914	5735	8591	3758	11337	10127	7993	11206	8589	7313	5721		8164	13	2.8%
160	EAA	3716	1793	1389	1218	2065	2604	744	2352	1497	2143		994	1740	1500		1594	30	0.5%
165	EAA	35511	25051	17436	24752	14723	21207	10194	17644	17565	21255	28416	16216	14688	9308		17976	6	6.1%
166	EAA	19484	13588	9213	10848	7972	14699	10687	13306	14541	13715	19196	12151	10379	4307		11950	11	4.1%
167	EAA	4683	4573	5899	1722	3878	848	2458	3728	4454	4980	3399	2344	1645			3364	25	1.1%
168	EAA	6353	5695	3747	7979	3021	6318	1780	1953	3021	4419	6101	3270	2531	1944		3653	23	1.2%
169	EAA	7008	4820	9000	7950	6885	8506	2697	1434	1431	523	0	0	0	0		105	40	0.0%
170	EAA		21190	19860	23617	10471	18703	12508	19420	9182	7926	12328	11164	19523	13711		12930	10	4.4%
171	EAA			4173	5447	3579	3815	1688	3248	3032	4989	6007	614				3870	22	1.3%
172	EAA	13815	9553	7827	8589	5743	6007	2967	8198	5255	5949	10002	7486	7948	8038		7885	14	2.7%
173	EAA		1617	1511	1935	817	1800	814	1116		1644	2806	2251	2442	2543		2337	27	0.8%
174	EAA			2443	151	503			689	667									
175	EAA		12393	7316	6149	3837	6227	1004	6900	4931	5135	7314	5372	4748	8211		6156	17	2.1%
176	EAA		3152	4765	2579	1927	4576	1908	4391	3655	5785	7982	4189	6126	5871		5991	18	2.0%
177	EAA	16352	14771	9664	11762	6174	11913	4682	9354	8370	6837	11065	4667	6835	7735		7428	15	2.5%
178	EAA	2841	1321	1916	2847	2941	3191	934	3298	2561	2401	2853	2271	1771	2514		2362	26	0.8%
179	EAA	56316	37734	31169	38406	22237	40031	10526	36135	27265	23255	34864	24300	19147	26490		25611	2	8.7%
180	EAA		49271	19120	29130	19923	35802	10683		24358	23949	49254	24305	15305	15582		25679	1	8.8%
181	EAA			3563	4746	4077	6181	3143	6777	5814	6324	8970	4621	3360	3973		5450	19	1.9%
182	EAA		2567	995	1494	1490	2732		3243	2381	1790	2770	2407	1508	970		1889	29	0.6%
183	EAA	4964	2584	796	1887	1445	2585		2405	1825	745	1220	430	849	576		764	36	0.3%
184	EAA	896		223	505	314	627	1506	1405	1091	567	908	286	377	284		484	38	0.2%
185	EAA		838	296	486	554	1044	135	831	746	605	1840	861	860	156		865	34	0.3%
186	EAA	28346	24887	12024	30608	12123	26432	10695	20457	20686	18847	31886	24462	12531	11806		19906	4	6.8%
187	EAA	23264	19597	6687	18448	9966	16981	6980	11056	15270	12396	24948	16991	8357	9124		14363	9	4.9%
188	EAA	9409	9239	3526	6060	4450	9378	3401	4934	7524	6542	12754	8283	4027	3588		7039	16	2.4%
192	EAA						75												
208	EAA					718	2941	6131	20727	14154	8914	5257	3579	4845	1902		4899	20	1.7%
214	298									16206	19365	21653	14779	10189	7151		14627	8	5.0%
Grand Total		349115	352186	289580	387610	222621	362913	162868	317726	302414	286772	433257	288776	248156	210322		293457		100.0%

Sum of Load kg

S5A Basin Farm Data

From EAA Regulatory Rule Database

Basin	S-5A
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Sum of Load kg		Water Yr														2004-2008	Rank	% of Total	
UAID	IS298	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008				
113	EAA				4274	5192	508	971	780	1007	2223	1864	5492	3442	3285	2237	3264	11	3.9%
114	EAA	11773	5097	6836	7869	3219	3453	562	2484	479	321	1449	307				692	28	0.8%
115	EAA	3167	1720	5635	1554	1442	2925	2230	1355	1576	1173		1311				1242	22	1.5%
116	EAA	11305	5859	5453	3345	4545	4281	4330	8237	6587	4428	7661	9825	8407	4090		6882	3	8.2%
122	EAA	2742	1014	489	668					209	79	180	21				93	38	0.1%
123	EAA	757	1298	964	471	0													
124	EAA	3611	516	799	0	0													
125	EAA	1293	579	576	3136														
127	EAA		602	286	434	1061	2022	1465	1580	1132	985	3970	2348	2262	1580		2229	13	2.7%
128	EAA		627	322	1061														
129	EAA	2905	1969	1184	2125	2077	1790	1473	1600	997	572	1898	788	1167	530		991	26	1.2%
130	EAA		190	98	269	82	348	209	301	14	57	47	33	322	281		148	35	0.2%
131	EAA	2617	1197	697	925	659													
132	EAA	1582	521	361	586	787	3763		1088	843	901	3658	2150	1240	853		1760	15	2.1%
133	EAA	2458	943	1051	803	628													
134	EAA	215	313	211	196	149	256	96	125	103	103	248	102	211	158		165	34	0.2%
135	EAA	423	108	188	133	132	47	31	59	66	82	229	156	30	120		123	36	0.1%
152	EAA	695	242	145	301	254	384	200	383	374	243	561	145	81	476		301	32	0.4%
153	EAA	493	232	274	269	210	543	407	417	310	227	1550	409	709	455		670	29	0.8%
154	EAA			222															
155	EAA		584	726	873	788	1600	334	1053	1344	627	2231	1336	1326	956		1295	20	1.5%
160	EAA	1331	476	225	202	1619	1296	313	511	314	801	773	401	424			600	30	0.7%
165	EAA	5693	3054	2642	3053	4912	3928	2708	4975	4831	3754	6024	2787	4934	2469		3994	6	4.8%
166	EAA	4722	2499	1948	1584	2676	3958	3921	3337	3521	1753	4466	3443	2607	1584		2771	12	3.3%
167	EAA		1492	1621	1437	896	1482	184	723	1422	1670	2727	2027	1066	1050		1708	16	2.0%
168	EAA	3283	2767	1694	2093	1790	2604	1032	974	1295	1455	1664	867	566	587		1028	25	1.2%
169	EAA	1431	1116	1894	2199	1353	3753	1043	459	331	84	0	0	0	0		17	40	0.0%
170	EAA		2761	1006	2781	1302	3046	4264	2665	1595	673	3266	2760	8016	2734		3490	10	4.2%
171	EAA			848	1429	1128	1489	588	848	937	1133	2429	272				1278	21	1.5%
172	EAA	830	1008	651	543	614	767	568	614	657	343	2630	1317	17194	5975		5492	4	6.6%
173	EAA		209	88	264	299	510	229	307		174	2105	2528	2150	591		1510	18	1.8%
174	EAA			1098	122	400			459	288									
175	EAA		1301	1274	835	578	1156	412	898	682	624	1710	1033	1119	2207		1338	19	1.6%
176	EAA		2815	3237	1641	1997	4340	927	1465	1570	1261	3336	1232	2887	1624		2068	14	2.5%
177	EAA	10326	6564	4322	4303	1887	6563	3628	4013	2355	1510	6274	2992	4373	2750		3580	9	4.3%
178	EAA	260	126	168	151	516	507	235	472	349	315	869	581	2769	1193		1145	23	1.4%
179	EAA	3476	5338	2699	2565	3339	6285	1016	5924	4905	2336	6750	3672	2921	3799		3896	7	4.7%
180	EAA		12120	3702	9277	6995	10545	2724		6521	7480	21277	16351	8531	4135		11555	1	13.8%
181	EAA			367	514	901	629	304	468	611	535	1570	1514	363	531		903	27	1.1%
182	EAA		521	91	167	271	504		975	718	1646	2010	819	229	635		1068	24	1.3%
183	EAA	984	252	100	214	238	798		743	395	58	189	37	91	97		94	37	0.1%
184	EAA	163		27	46	30	52	541	183	378	23	118	20	26	46		47	39	0.1%
185	EAA		153	53	167	227	465	57	412	252	175	675	177	154	27		242	33	0.3%
186	EAA	2145	2445	1675	2663	1513	4971	1242	2253	2401	2451	9313	8067	1144	1183		4432	5	5.3%
187	EAA	2692	3260	1138	2669	1612	2822	1769	2252	3790	1719	8181	4507	730	3100		3647	8	4.4%
188	EAA	2366	3382	952	1023	2309	3485	1332	1384	1950	1266	2802	1829	842	999		1548	17	1.9%
192	EAA						33												
208	EAA					200	581	1390	2009	1022	804	660	318	512	667		592	31	0.7%
214	298									6182	7261	11854	8815	4635	4567		7426	2	8.9%
Grand Total		85737	77269	64309	72151	56141	88950	42545	59010	65528	52964	132071	91109	87300	54712		83631		100.0%

Average of Conc ppb

S5A Basin Farm Data

From EAA Regulatory Rule Database

Basin S-5A

Average of Conc ppb		Water Yr														2004-2008	Rank	
UAID	IS298	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008			
113	EAA			168	155	42	34	47	35	110	103	174	118	150	153	140	29	
114	EAA	628	525	612	554	457	496	271	492	236	184	301	165			217	16	
115	EAA	313	334	779	205	280	357	465	235	308	229		377			303	11	
116	EAA	276	247	257	161	223	222	197	213	239	193	210	390	341	249	276	13	
122	EAA	348	229	166	103					209	137	264	159			187	23	
123	EAA	245	719	462	372													
124	EAA	777	370	471														
125	EAA	184	105	104	331													
127	EAA		99	52	66	85	108	132	85	78	61	178	117	111	87	111	38	
128	EAA		68	44	77													
129	EAA	217	242	201	215	316	228	306	207	172	143	257	220	171	178	194	20	
130	EAA		78	40	80	112	172	188	85	79	197	66	78	194	223	152	28	
131	EAA	221	156	104	113	142												
132	EAA	201	153	144	100	149	182		94	76	87	190	180	69	78	121	36	
133	EAA	223	163	184	128	159												
134	EAA	84	188	103	113	141	128	117	109	127	81	133	105	168	202	138	30	
135	EAA	203	180	254	129	144	153	72	45	76	91	111	197	112	136	129	33	
152	EAA	169	135	65	142	191	178	282	180	158	169	255	117	64	228	167	26	
153	EAA	125	120	83	108	134	229	722	164	161	143	653	413	1139	776	625	1	
154	EAA			76														
155	EAA		104	109	79	111	151	72	75	107	63	161	126	147	135	127	34	
160	EAA	290	215	131	134	635	403	340	176	170	303		629	187	229	337	10	
165	EAA	130	99	123	100	270	150	215	228	223	143	172	139	272	215	188	21	
166	EAA	196	149	171	118	272	218	297	203	196	103	188	229	203	298	204	17	
167	EAA		258	287	197	421	309	176	238	309	304	443	483	368	517	423	6	
168	EAA	418	393	366	212	480	334	469	404	347	267	221	215	181	245	226	15	
169	EAA	165	188	170	224	159	357	313	259	187	130					130	32	
170	EAA		105	41	95	101	132	276	111	141	69	214	200	332	161	195	19	
171	EAA			165	212	255	316	282	211	250	184	327	359			290	12	
172	EAA	49	85	67	51	87	103	155	61	101	47	213	142	1751	602	551	2	
173	EAA		104	47	111	296	230	228	223		86	607	909	713	188	501	3	
174	EAA			364	654	644			540	350								
175	EAA		85	141	110	122	150	332	105	112	98	189	156	191	218	170	25	
176	EAA		723	550	515	839	768	393	270	348	176	338	238	382	224	272	14	
177	EAA	511	360	362	296	247	446	627	347	228	179	459	519	518	288	393	8	
178	EAA	74	77	71	43	142	129	203	116	110	106	247	207	1266	384	442	5	
179	EAA	50	115	70	54	122	127	78	133	146	81	157	122	123	116	120	37	
180	EAA		199	157	258	284	238	206	217	253	350	545	451	215		363	9	
181	EAA			83	88	179	82	78	56	85	68	142	265	87	108	134	31	
182	EAA		164	74	90	147	149		243	244	744	587	276	123	530	452	4	
183	EAA	160	79	102	92	134	250		250	175	63	125	69	87	136	96	39	
184	EAA	147		97	74	77	67	291	106	280	33	105	55	56	132	77	40	
185	EAA		148	144	279	331	360	343	401	273	234	297	166	145	142	197	18	
186	EAA	61	80	113	70	101	152	94	89	94	105	236	267	74	81	153	27	
187	EAA	94	135	138	117	131	135	205	165	201	112	265	215	71	275	188	22	
188	EAA	204	296	218	137	420	301	317	227	210	157	178	179	169	225	182	24	
192	EAA						359											
208	EAA					225	160	184	78	58	73	102	72	86	284	123	35	
214	298										309	304	443	483	368	517	423	6
Grand Total		233	204	183	170	202	207	225	170	181	155	252	241	294	241	237	#N/A	

Average of Runoff In

S5A Basin Farm Data

From EAA Regulatory Rule Database

Basin	S-5A
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Average of Runoff In		Water Yr														2004-2008	Rank
UAID	IS298	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008		
113	EAA			28	41	15	34	20	35	30	27	47	43	32	22	34	11
114	EAA	130	68	78	99	49	48	14	35	14	12	34	13			20	31
115	EAA	59	30	42	45	31	49	28	34	30	30		21			26	26
116	EAA	69	40	36	35	35	33	37	66	47	39	62	43	42	28	43	6
122	EAA	60	34	22	27					21	12	15	3			10	38
123	EAA	65	38	44	27	0											
124	EAA	168	50	61	0	0											
125	EAA	114	103	104	295												
127	EAA		40	36	17	21	31	18	31	38	42	59	53	54	48	51	4
128	EAA		41	33	61												
129	EAA	86	52	38	64	42	51	31	50	38	26	48	23	44	19	32	15
130	EAA		19	20	27	6	16	9	28	1	2	6	3	13	10	7	39
131	EAA	42	27	24	29	17											
132	EAA	38	16	12	46	41	31		17	16	15	28	17	26	16	20	30
133	EAA	52	27	27	21	13											
134	EAA	62	40	50	42	26	51	21	29	20	31	46	24	31	19	30	17
135	EAA	51	15	18	25	23	8	10	32	22	23	53	21	7	23	25	27
152	EAA	43	18	23	23	14	23	8	23	25	15	23	13	14	22	18	33
153	EAA	47	23	39	29	18	28	7	30	23	19	28	12	7	7	15	37
154	EAA			23													
155	EAA		24	29	31	15	22	10	29	35	27	38	29	25	20	28	22
160	EAA	35	17	13	11	19	24	7	22	14	20		9	16	14	15	36
165	EAA	46	32	23	32	19	27	13	23	23	27	37	21	19	12	23	29
166	EAA	42	29	20	23	17	31	23	28	31	29	41	26	22	9	25	28
167	EAA		48	46	61	18	40	9	25	39	46	52	35	24	17	35	10
168	EAA	29	26	17	37	14	30	8	9	14	21	29	15	12	9	17	35
169	EAA	36	25	47	54	47	58	18	10	10	4	0	0	0	0	1	40
170	EAA		34	32	38	17	30	20	31	15	13	19	14	24	17	18	34
171	EAA			27	35	23	24	11	21	18	30	36	22			29	18
172	EAA	102	70	58	62	42	44	22	59	38	43	73	54	58	58	57	2
173	EAA		20	19	24	10	23	10	14		21	35	28	31	32	29	19
174	EAA			32	2	7			9	11							
175	EAA		57	34	28	18	29	5	32	23	24	34	25	22	38	28	21
176	EAA		30	45	25	18	44	18	42	30	32	44	23	34	32	33	14
177	EAA	125	113	74	90	47	91	36	71	63	51	83	35	51	58	56	3
178	EAA	57	27	39	57	59	64	19	67	52	48	58	46	36	51	48	5
179	EAA	77	52	43	51	29	53	14	48	36	31	46	32	25	35	34	12
180	EAA		50	19	30	21	37	11		25	25	51	25	16	16	27	24
181	EAA			25	33	28	43	22	47	39	43	61	31	23	27	37	7
182	EAA		43	17	25	25	46		55	40	30	47	41	26	16	32	16
183	EAA	117	61	19	45	35	62		58	44	18	29	10	20	14	18	32
184	EAA	50		12	28	17	35	84	78	61	31	50	16	21	16	27	23
185	EAA		33	12	19	22	41	5	33	29	24	72	34	34	6	34	13
186	EAA	52	45	22	56	22	48	19	37	38	34	58	45	23	21	36	8
187	EAA	47	40	14	38	20	35	14	23	31	25	51	35	17	19	29	20
188	EAA	33	33	12	22	16	34	12	18	28	24	47	30	15	13	26	25
192	EAA						11										
208	EAA					72	294	506	1211	827	521	307	209	283	144	293	1
214	298									39	46	52	35	24	17	35	9
Grand Total		67	40	31	42	22	43	30	62	47	38	50	32	32	25	35	

Average of UAL lb/ac

S5A Basin Farm Data

From EAA Regulatory Rule Database

Basin	S-5A
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Average of UAL lb/ac		Water Yr														2004-2008	Rank
UAID	IS298	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008		
113	EAA			1.05	1.43	0.14	0.27	0.21	0.28	0.74	0.62	1.84	1.15	1.10	0.75	1.09	23
114	EAA	18.54	8.03	10.77	12.41	5.08	5.45	0.89	3.92	0.77	0.52	2.34	0.50			1.12	22
115	EAA	4.18	2.27	7.44	2.09	1.94	3.94	3.00	1.82	2.12	1.58		1.76			1.67	15
116	EAA	4.32	2.24	2.08	1.29	1.75	1.65	1.67	3.17	2.54	1.70	2.95	3.78	3.24	1.57	2.65	9
122	EAA	4.71	1.74	0.84	0.62					1.01	0.38	0.87	0.10			0.45	37
123	EAA	3.59	6.17	4.58	2.23	0.00											
124	EAA	29.48	4.21	6.52	0.00	0.00											
125	EAA	4.76	2.45	2.44	22.08												
127	EAA		0.89	0.42	0.26	0.40	0.76	0.55	0.59	0.68	0.59	2.37	1.40	1.35	0.94	1.33	19
128	EAA		0.63	0.32	1.06												
129	EAA	4.24	2.87	1.73	3.10	3.03	2.62	2.16	2.35	1.46	0.84	2.79	1.16	1.71	0.78	1.46	17
130	EAA		0.34	0.18	0.48	0.15	0.62	0.37	0.54	0.03	0.10	0.08	0.06	0.58	0.50	0.27	39
131	EAA	2.11	0.97	0.56	0.75	0.53											
132	EAA	1.71	0.56	0.39	1.04	1.39	1.26		0.36	0.27	0.29	1.19	0.70	0.40	0.28	0.57	35
133	EAA	2.64	1.01	1.13	0.62	0.49											
134	EAA	1.18	1.71	1.16	1.08	0.82	1.48	0.56	0.73	0.57	0.57	1.37	0.57	1.17	0.87	0.91	29
135	EAA	2.37	0.60	1.05	0.74	0.74	0.26	0.17	0.33	0.38	0.48	1.34	0.92	0.18	0.70	0.72	34
152	EAA	1.63	0.57	0.34	0.73	0.61	0.93	0.49	0.93	0.90	0.59	1.36	0.35	0.20	1.15	0.73	33
153	EAA	1.32	0.62	0.73	0.72	0.56	1.45	1.09	1.11	0.83	0.61	4.14	1.09	1.89	1.21	1.79	13
154	EAA			0.40													
155	EAA		0.57	0.70	0.55	0.37	0.75	0.16	0.49	0.85	0.39	1.40	0.84	0.83	0.60	0.82	32
160	EAA	2.28	0.82	0.39	0.35	2.77	2.22	0.54	0.87	0.54	1.37		1.32	0.69	0.73	1.03	26
165	EAA	1.35	0.72	0.63	0.72	1.17	0.93	0.64	1.18	1.14	0.89	1.43	0.66	1.17	0.58	0.95	27
166	EAA	1.85	0.98	0.76	0.62	1.05	1.55	1.53	1.30	1.37	0.68	1.74	1.34	1.01	0.62	1.08	24
167	EAA		2.77	3.01	2.73	1.70	2.81	0.35	1.37	2.70	3.17	5.18	3.85	2.02	1.99	3.24	8
168	EAA	2.79	2.35	1.44	1.80	1.54	2.24	0.89	0.84	1.12	1.25	1.43	0.75	0.49	0.51	0.89	30
169	EAA	1.36	1.06	1.80	2.73	1.68	4.66	1.29	0.57	0.41	0.11	0.00	0.00	0.00	0.00	0.02	40
170	EAA		0.81	0.29	0.81	0.38	0.89	1.25	0.78	0.47	0.20	0.95	0.65	1.82	0.62	0.85	31
171	EAA			1.00	1.67	1.32	1.74	0.69	0.99	1.03	1.25	2.67	1.82			1.91	12
172	EAA	1.12	1.36	0.88	0.72	0.82	1.02	0.75	0.82	0.87	0.46	3.50	1.75	22.85	7.94	7.30	1
173	EAA		0.48	0.20	0.61	0.68	1.17	0.53	0.70		0.40	4.82	5.79	4.93	1.35	3.46	5
174	EAA			2.66	0.30	0.97			1.11	0.91							
175	EAA		1.09	1.07	0.70	0.49	0.97	0.35	0.75	0.57	0.52	1.44	0.87	0.94	1.86	1.13	20
176	EAA		4.84	5.56	2.86	3.48	7.57	1.62	2.55	2.35	1.28	3.38	1.25	2.93	1.65	2.10	11
177	EAA	14.46	9.19	6.05	6.03	2.64	9.19	5.08	5.62	3.24	2.08	8.64	4.12	6.02	3.79	4.93	3
178	EAA	0.96	0.47	0.62	0.56	1.91	1.88	0.87	1.75	1.29	1.16	3.22	2.15	10.25	4.42	4.24	4
179	EAA	0.87	1.34	0.68	0.62	0.81	1.53	0.25	1.44	1.19	0.57	1.64	0.89	0.71	0.92	0.95	28
180	EAA		2.26	0.69	1.77	1.34	2.01	0.52		1.25	1.43	4.06	3.12	1.63	0.79	2.21	10
181	EAA			0.47	0.65	1.14	0.79	0.38	0.59	0.76	0.67	1.95	1.88	0.45	0.66	1.12	21
182	EAA		1.59	0.28	0.52	0.84	1.56		3.02	2.23	5.10	6.23	2.54	0.71	1.97	3.31	6
183	EAA	4.27	1.09	0.44	0.95	1.05	3.52		3.28	1.74	0.26	0.83	0.16	0.40	0.43	0.42	38
184	EAA	1.66		0.27	0.47	0.30	0.52	5.50	1.86	3.85	0.24	1.20	0.20	0.27	0.47	0.48	36
185	EAA		1.10	0.38	1.20	1.63	3.34	0.41	2.96	1.81	1.26	4.85	1.27	1.11	0.20	1.74	14
186	EAA	0.72	0.82	0.56	0.89	0.50	1.66	0.41	0.75	0.80	0.82	3.11	2.69	0.38	0.39	1.48	16
187	EAA	1.00	1.22	0.42	1.00	0.60	1.06	0.66	0.84	1.41	0.64	3.05	1.68	0.27	1.16	1.36	18
188	EAA	1.53	2.19	0.62	0.69	1.55	2.34	0.89	0.93	1.31	0.85	1.88	1.23	0.57	0.67	1.04	25
192	EAA						0.90										
208	EAA					3.67	10.65	21.05	21.52	10.94	8.61	7.06	3.40	5.48	9.28	6.77	2
214	298									2.70	3.17	5.18	3.85	2.02	1.99	3.24	7
Grand Total		4.24	1.90	1.51	1.81	1.05	2.04	1.42	1.74	1.45	1.15	2.67	1.55	2.15	1.43	1.79	

Average of AUAL lb/ac

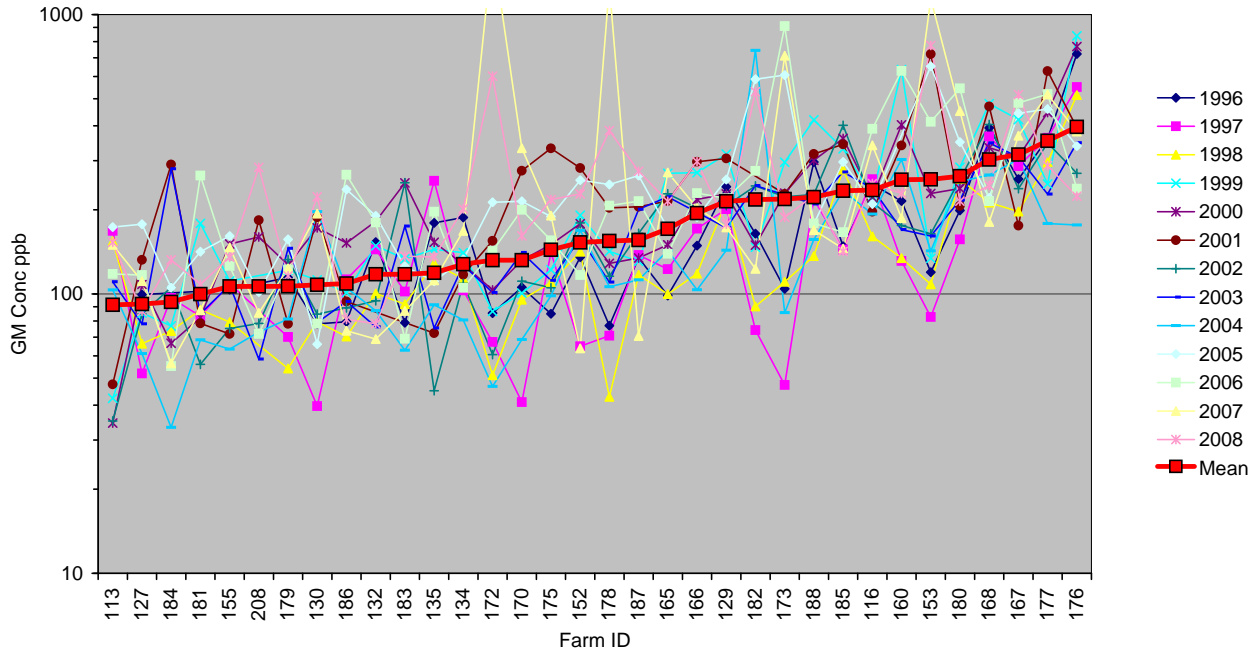
S5A Basin Farm Data

From EAA Regulatory Rule Database

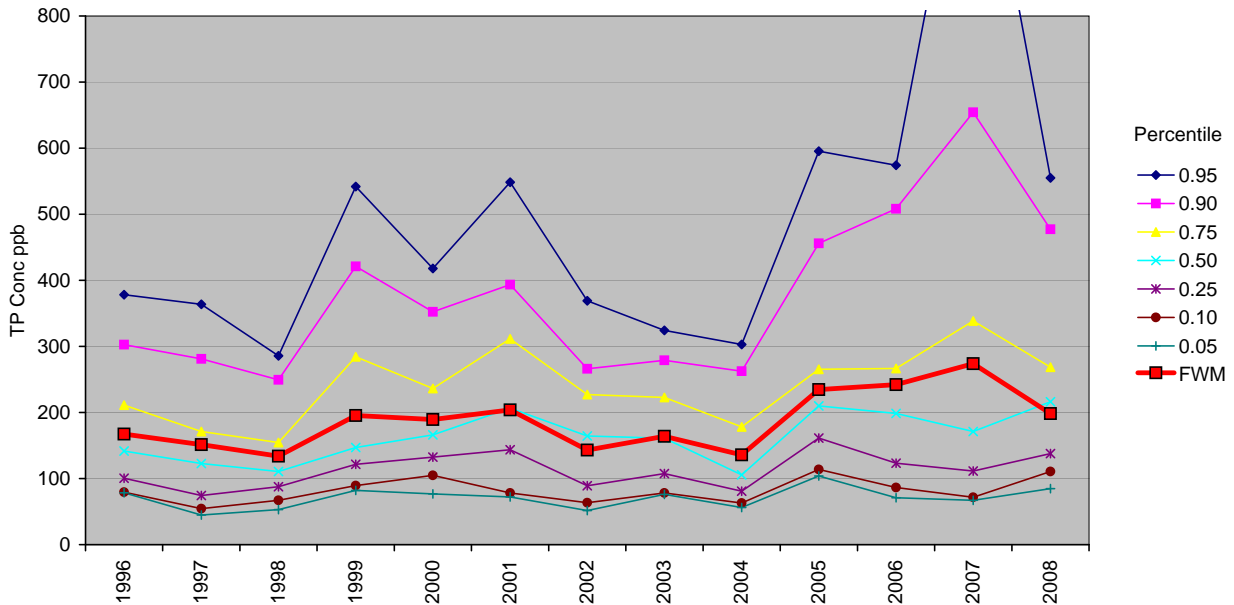
Basin S-5A

Average of AUAL lb/ac		Water Yr														2004-2008	Rank
UAID	IS298	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008		
113	EAA			1.29	1.18	0.18	0.16	0.25	0.24	0.96	0.53	0.73	1.58	1.07	1.33	1.05	23
114	EAA	8.31	4.41	13.13	10.21	6.39	3.31	1.02	3.35	1.00	0.44	0.93	0.68			0.68	34
115	EAA	1.87	1.25	9.08	1.72	2.44	2.40	3.44	1.56	2.74	1.34		2.42			1.88	12
116	EAA	1.93	1.23	2.54	1.06	2.20	1.00	1.91	2.71	3.28	1.45	1.17	5.18	3.15	2.80	2.75	9
122	EAA	2.11	0.96	1.03	0.51					1.31	0.32	0.35	0.14			0.27	39
123	EAA	1.61	3.39	5.59	1.84	0.00											
124	EAA	13.21	2.32	7.96	0.00	0.00											
125	EAA	2.13	1.35	2.97	18.15												
127	EAA		0.49	0.52	0.21	0.50	0.46	0.63	0.51	0.87	0.50	0.94	1.92	1.31	1.68	1.27	19
128	EAA		0.35	0.39	0.87												
129	EAA	1.90	1.58	2.11	2.55	3.81	1.60	2.48	2.00	1.89	0.71	1.11	1.59	1.67	1.39	1.29	16
130	EAA		0.19	0.22	0.40	0.18	0.38	0.43	0.46	0.03	0.09	0.03	0.08	0.56	0.90	0.33	38
131	EAA	0.95	0.53	0.69	0.61	0.67											
132	EAA	0.77	0.31	0.48	0.85	1.75	1.08		0.36	0.27	0.28	1.19	0.70	0.40	0.28	0.57	35
133	EAA	1.18	0.56	1.38	0.51	0.61											
134	EAA	0.53	0.94	1.41	0.89	1.03	0.90	0.64	0.62	0.74	0.48	0.55	0.78	1.14	1.55	0.90	27
135	EAA	1.06	0.33	1.28	0.61	0.93	0.16	0.20	0.28	0.50	0.41	0.53	1.26	0.17	1.25	0.72	33
152	EAA	0.73	0.31	0.41	0.60	0.77	0.57	0.56	0.79	1.17	0.50	0.54	0.48	0.19	2.05	0.75	32
153	EAA	0.59	0.34	0.90	0.59	0.71	0.88	1.25	0.95	1.07	0.51	1.64	1.50	1.84	2.16	1.53	14
154	EAA			0.49													
155	EAA		0.31	0.86	0.45	0.46	0.45	0.18	0.42	1.09	0.33	0.56	1.15	0.81	1.07	0.79	31
160	EAA	1.02	0.45	0.47	0.28	3.49	1.35	0.61	0.75	0.70	1.16		1.81	0.67	1.29	1.23	20
165	EAA	0.60	0.40	0.76	0.60	1.47	0.57	0.74	1.01	1.48	0.75	0.57	0.90	1.14	1.04	0.88	28
166	EAA	0.83	0.54	0.93	0.51	1.32	0.94	1.76	1.11	1.77	0.58	0.69	1.83	0.99	1.10	1.04	24
167	EAA		1.53	3.68	2.24	2.14	1.71	0.40	1.17	3.49	2.69	2.05	5.27	1.97	3.55	3.11	7
168	EAA	1.25	1.29	1.75	1.48	1.94	1.36	1.02	0.72	1.44	1.06	0.57	1.02	0.47	0.90	0.81	30
169	EAA	0.61	0.58	2.20	2.24	2.11	2.83	1.48	0.49	0.53	0.09	0.00	0.00	0.00	0.00	0.02	40
170	EAA		0.44	0.36	0.67	0.48	0.54	1.43	0.67	0.61	0.17	0.38	0.89	1.77	1.11	0.86	29
171	EAA			1.22	1.37	1.66	1.06	0.79	0.85	1.33	1.06	1.06	2.49			1.54	13
172	EAA	0.50	0.75	1.07	0.59	1.03	0.62	0.87	0.70	1.13	0.39	1.39	2.40	22.24	14.14	8.11	1
173	EAA		0.26	0.25	0.50	0.86	0.71	0.60	0.60		0.34	1.91	7.94	4.80	2.41	3.48	5
174	EAA			3.25	0.24	1.22			0.95	1.17							
175	EAA		0.60	1.31	0.58	0.61	0.59	0.40	0.64	0.74	0.45	0.57	1.19	0.92	3.30	1.29	17
176	EAA		2.66	6.79	2.35	4.38	4.61	1.85	2.18	3.04	1.09	1.34	1.71	2.85	2.93	1.98	11
177	EAA	6.48	5.05	7.38	4.95	3.32	5.59	5.83	4.80	4.19	1.76	3.43	5.64	5.86	6.74	4.69	3
178	EAA	0.43	0.26	0.76	0.46	2.40	1.14	1.00	1.49	1.67	0.99	1.28	2.95	9.98	7.86	4.61	4
179	EAA	0.39	0.74	0.83	0.51	1.02	0.93	0.28	1.23	1.54	0.48	0.65	1.22	0.69	1.64	0.94	26
180	EAA		1.24	0.84	1.46	1.68	1.23	0.60		1.61	1.21	1.61	4.28	1.59	1.41	2.02	10
181	EAA			0.57	0.53	1.43	0.48	0.44	0.51	0.98	0.56	0.78	2.58	0.44	1.18	1.11	22
182	EAA		0.88	0.34	0.42	1.06	0.95		2.58	2.88	4.33	2.47	3.48	0.69	3.51	2.90	8
183	EAA	1.91	0.60	0.53	0.78	1.32	2.14		2.80	2.25	0.22	0.33	0.22	0.39	0.76	0.38	37
184	EAA	0.74		0.33	0.38	0.38	0.32	6.31	1.59	4.97	0.20	0.48	0.27	0.26	0.84	0.41	36
185	EAA		0.61	0.46	0.99	2.05	2.03	0.47	2.53	2.34	1.07	1.93	1.74	1.08	0.35	1.23	21
186	EAA	0.32	0.45	0.68	0.73	0.64	1.01	0.48	0.64	1.04	0.69	1.23	3.69	0.37	0.70	1.34	15
187	EAA	0.45	0.67	0.52	0.82	0.76	0.64	0.76	0.72	1.83	0.54	1.21	2.30	0.26	2.06	1.28	18
188	EAA	0.69	1.20	0.75	0.56	1.95	1.42	1.03	0.79	1.69	0.72	0.75	1.68	0.55	1.19	0.98	25
192	EAA						0.55										
208	EAA					4.61	6.48	24.14	18.38	14.15	7.31	2.80	4.66	5.34	16.53	7.33	2
214	298									3.49	2.69	2.05	5.27	1.97	3.55	3.11	6
Grand Total		1.90	1.04	1.84	1.49	1.32	1.25	1.63	1.49	1.88	0.97	1.08	2.12	2.10	2.55	1.76	

Runoff FWM Concentrations by Farm & Year - S5A Basin - WY 1996-2008



Distribution of FWM Concs Across Farms in Each Water Year



Top Chart - Spatial Variations in Runoff FWM Concentrations Across Farms

Farms sorted in order of increasing long-term geomean of yearly FWM (1996-2008)

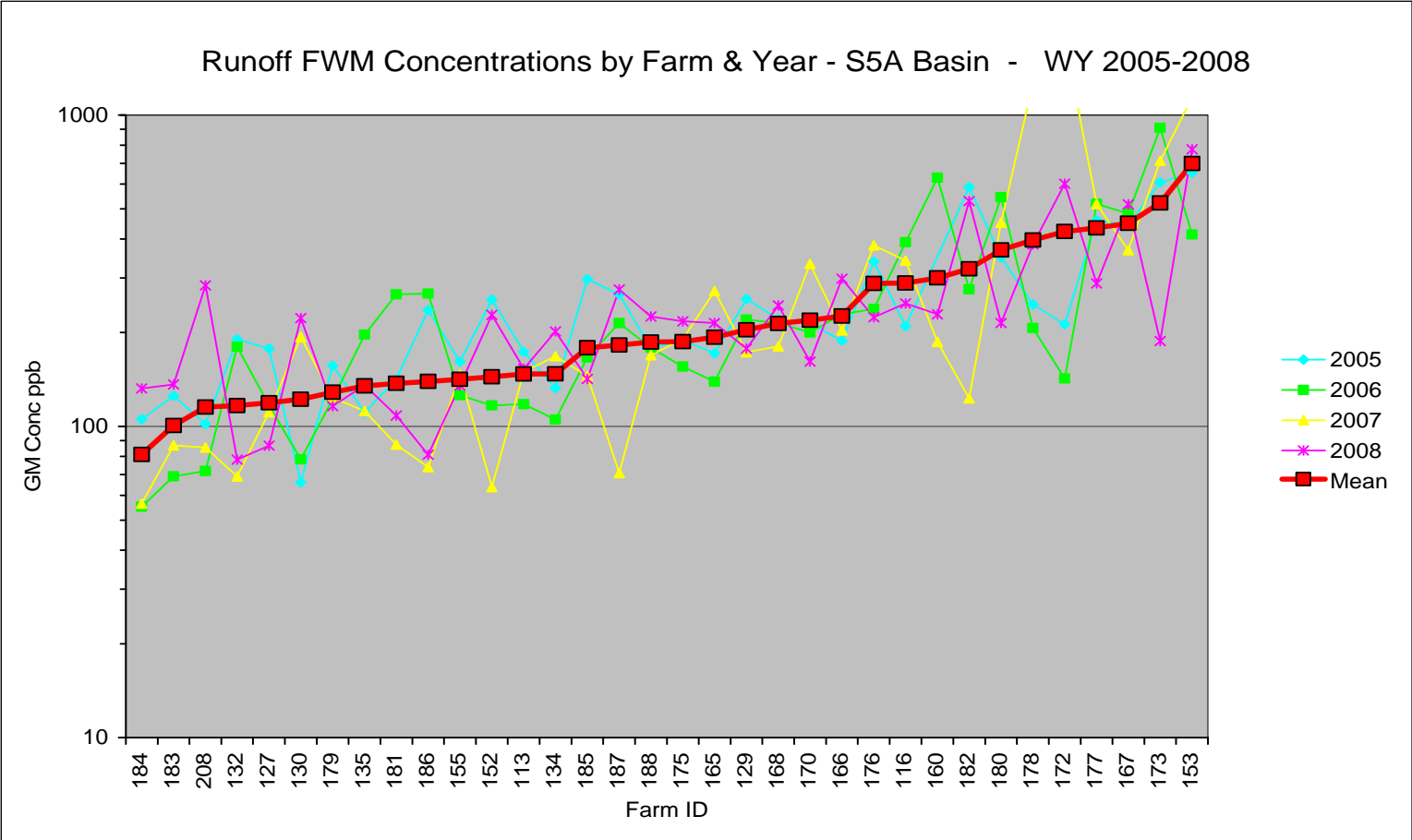
Long-term FWM conc varies from ~90 to ~400 ppb across farms.

Data are inconsistent with hypothesis that farms with highest runoff concentrations vary from year to year with no consistent pattern.

Bottom Chart - Year-to-Year variations in the distribution of FWM runoff concs across farms.

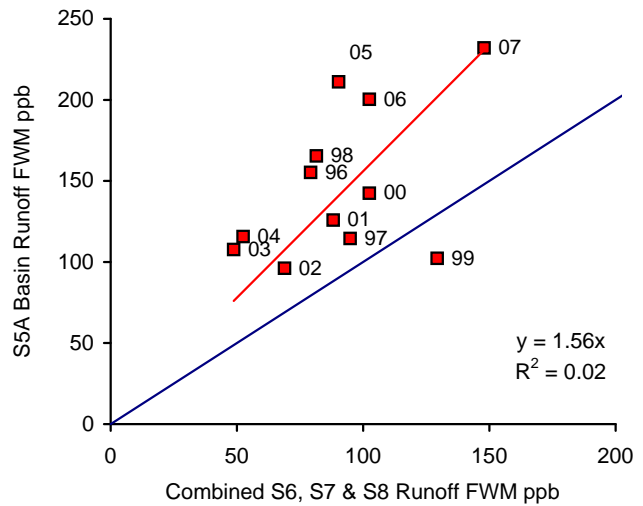
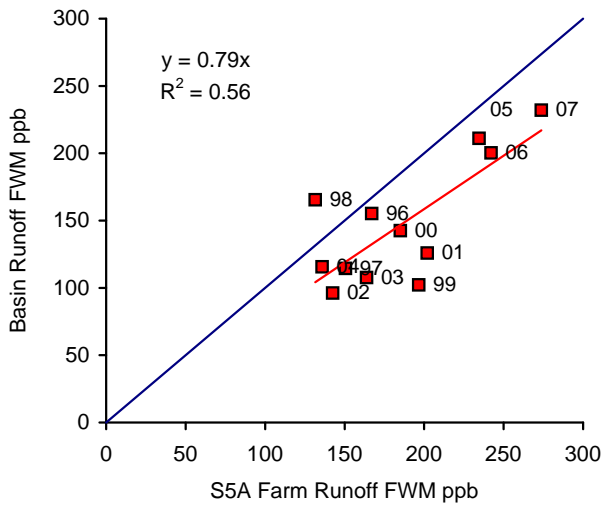
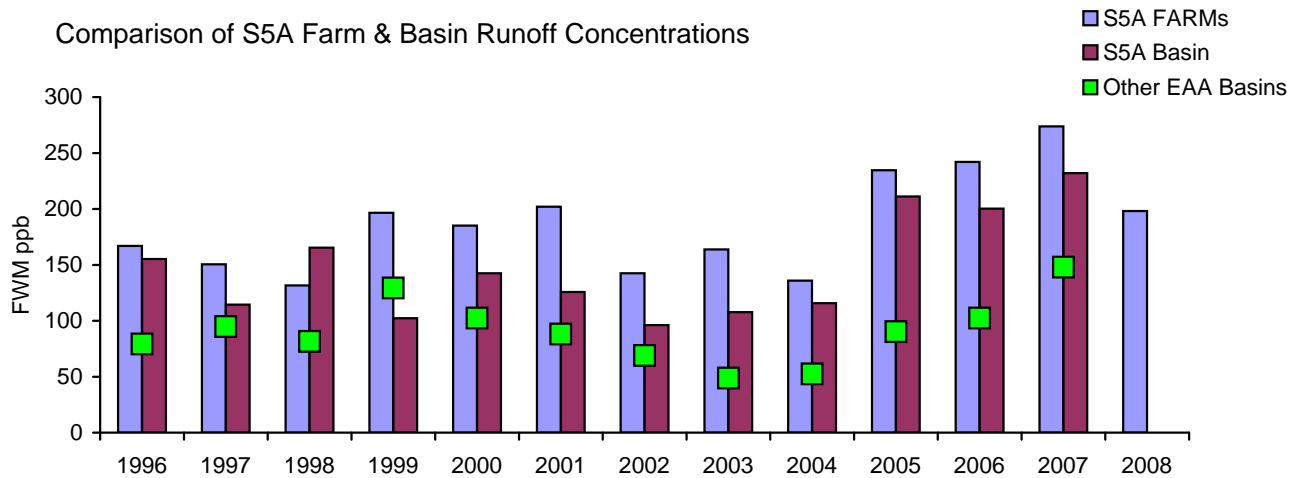
FWM = Yealy flow-weighted mean across farms = total farm load / total farm runoff.

Apparent increasing trends in the overall FWM, particularly in the farms with the highest average runoff concentrations.



Top Chart - Spatial Variations in Runoff FWM Concentrations Across Farms in S5A Basin
 Farms sorted in order of increasing long-term geomean of yearly FWM in WY 2005-2008.
 Long-term FWM conc varies from ~90 to ~700 ppb across farms in WY 2005-2008, vs. range of ~90 to ~400 ppb in WY 1996-2008.
 Data are inconsistent with hypothesis that farms with highest runoff concentrations vary from year to year with no consistent pattern.

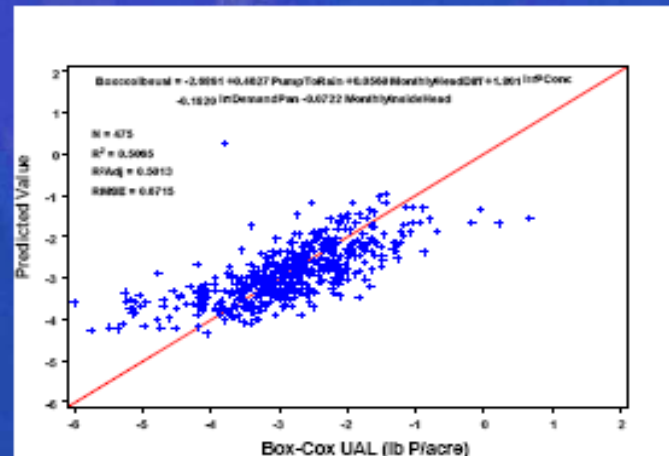
Comparison of S5A Farm & Basin Runoff Concentrations



Conc in S5A basin runoff averages ~156% of the combined runoff from other EAA basins.
 S5A basin runoff concentration averages about 79% of the combined runoff from all S5A farms.
 The difference may reflect net effects of irrigation and seepage cycling between farms and major canals.

FACTORS IMPACTING P LOADS

- I. Water Management
 1. Pump to rainfall ratio
 2. Canal levels
 3. % flooding (mixed crop farms)
 4. Irrigation P concentration (sugarcane farms)
- II. Soil depth – location
- III. Percent sugarcane acreage: reduced P loads



UF/ IFAS DATABASE

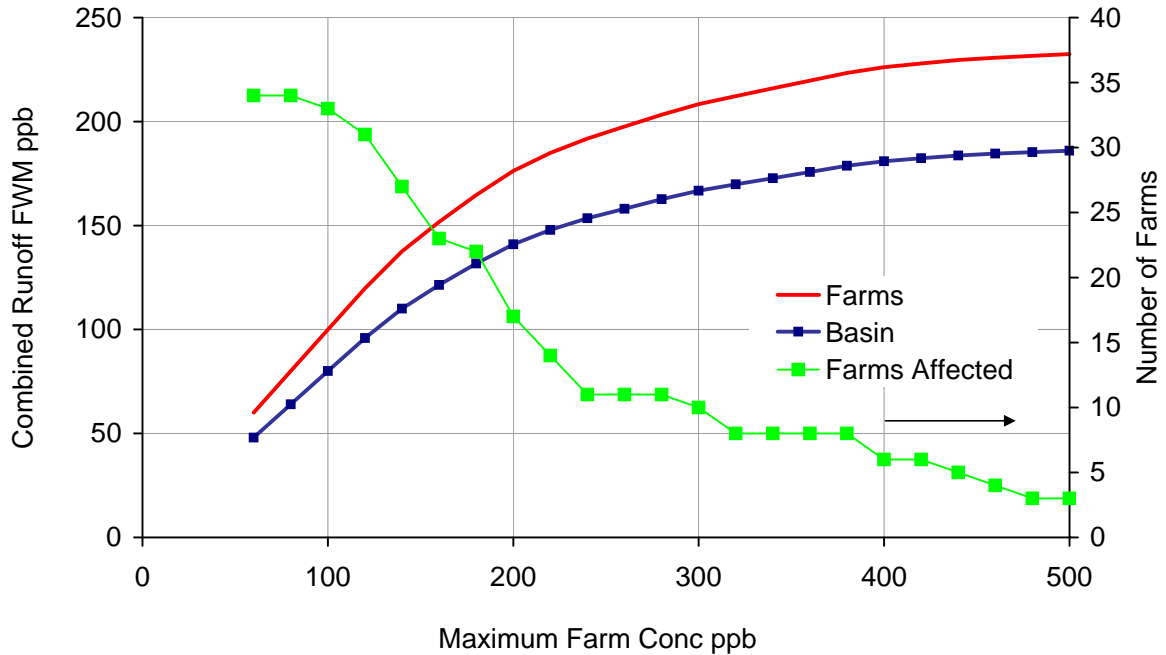
The University of Florida IFAS has identified factors controlling P loads from individual EAA farms. This information can be used to develop plans for enhancing BMP performance. From Daroub, et al, GEER Conference, 2008.

S5A Basin Runoff Concentration vs. Hypothetical Maximum Farm Runoff Concentration

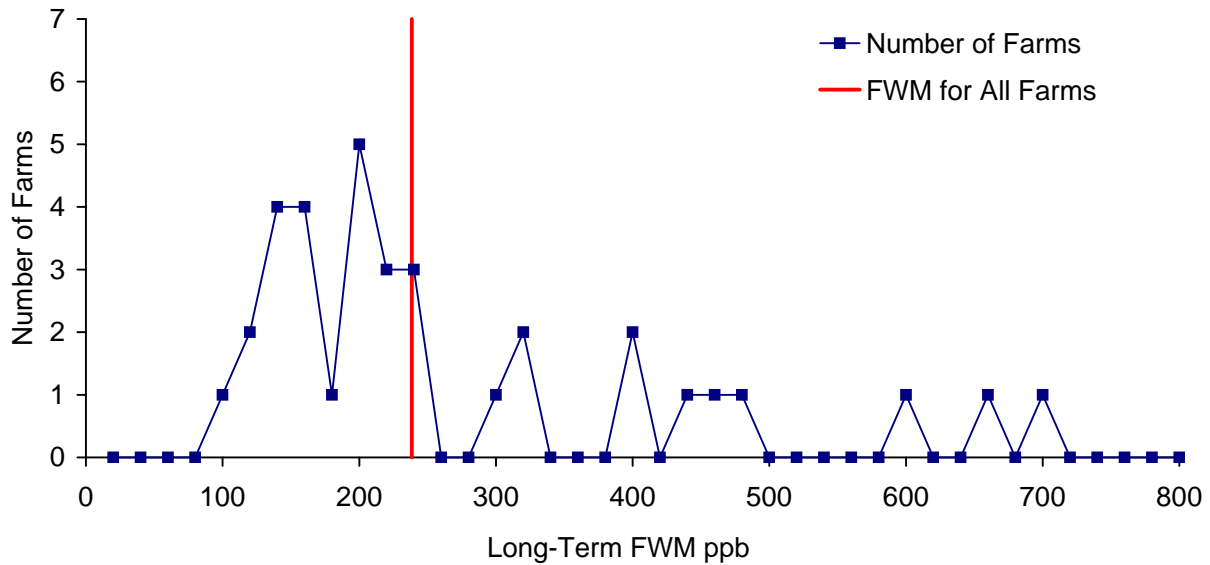
Water Years: 2005 thru 2008

Number of Farms = 34

S5A Basin Runoff Conc vs. Hypothetical Max Farm Conc



Frequency Distribution of Farm Runoff Concs

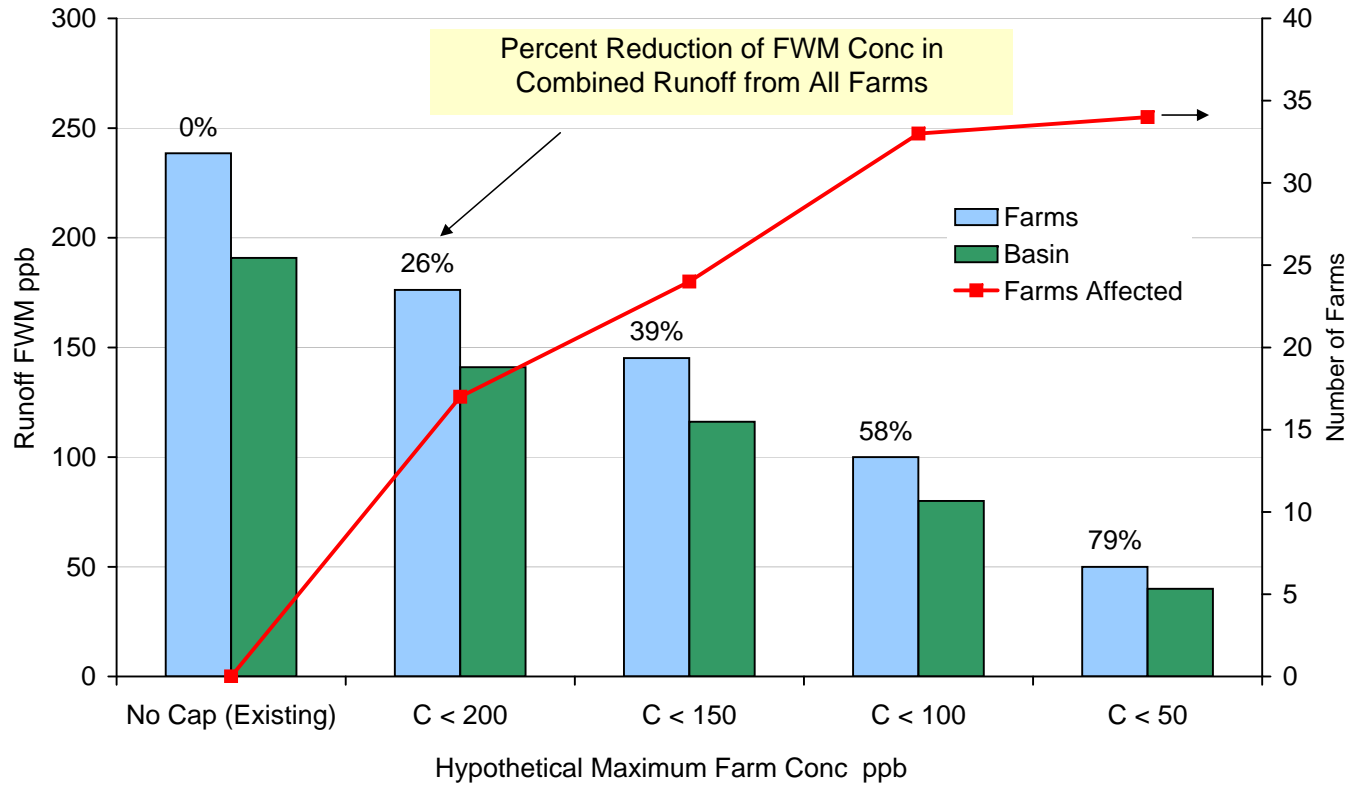


Long-Term FWM Farm Runoff Constrained to Maximum Values Ranging from 50 to 700 ppb.

Basin runoff concentration assumed to = 80% of the combined farm runoff concentration.

S5A Basin Runoff Concentration vs. Hypothetical Maximum Farm Runoff Concentration

Water Years: 2005 thru 2008 Number of Farms = 34



Long-Term Average Farm Runoff Concentration Constrained to Maximum Values Ranging from 50 to 200 ppb.

Labels show percent reduction in FWM of Combined Farm Runoff & Basin Runoff.

Basin runoff concentration assumed = 80% of the combined farm runoff concentration.

For example, if the LTFWM concentration in runoff from each farm were limited to 150 ppb (vs. historical > 700 ppb), the LTFWM in combined runoff from all farms would decrease by 39% (from 240 to 145 ppb)

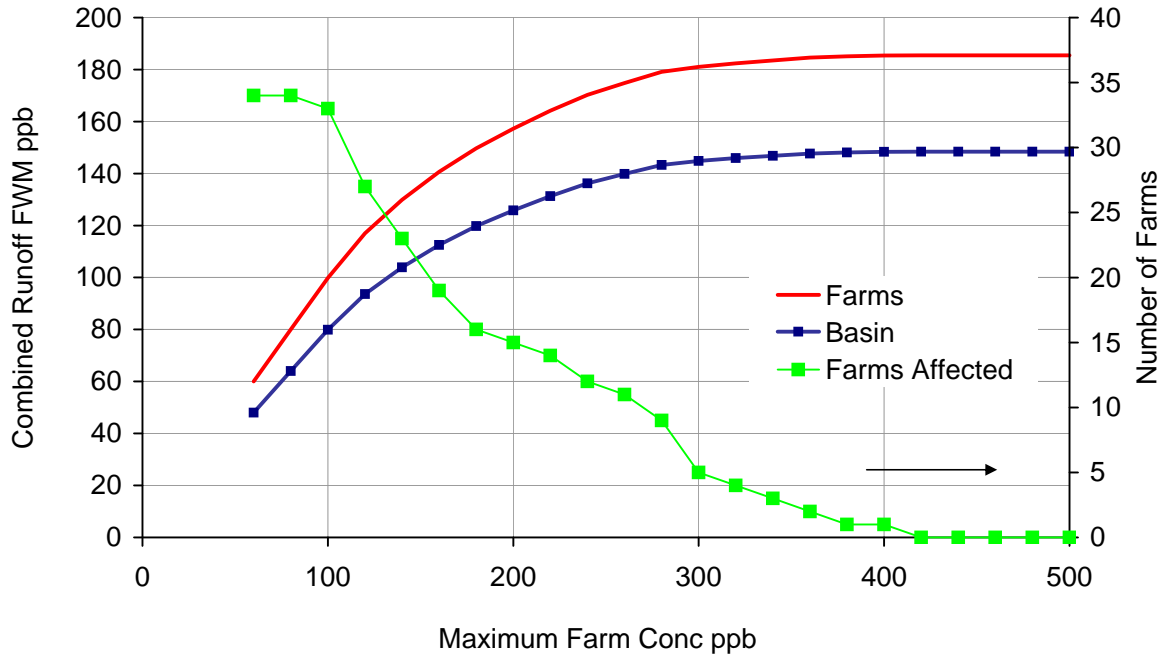
S5A Basin Runoff Concentration vs. Hypothetical Maximum Farm Runoff Concentration

Water Years:

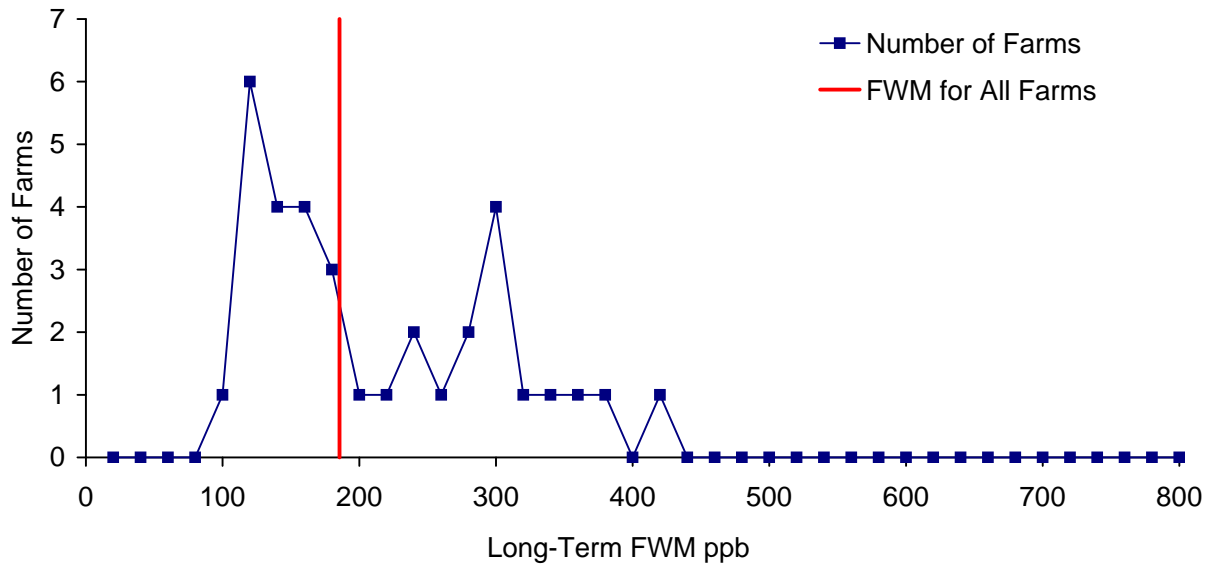
1996 thru 2008

Number of Farms = 34

S5A Basin Runoff Conc vs. Hypothetical Max Farm Conc



Frequency Distribution of Farm Runoff Concs

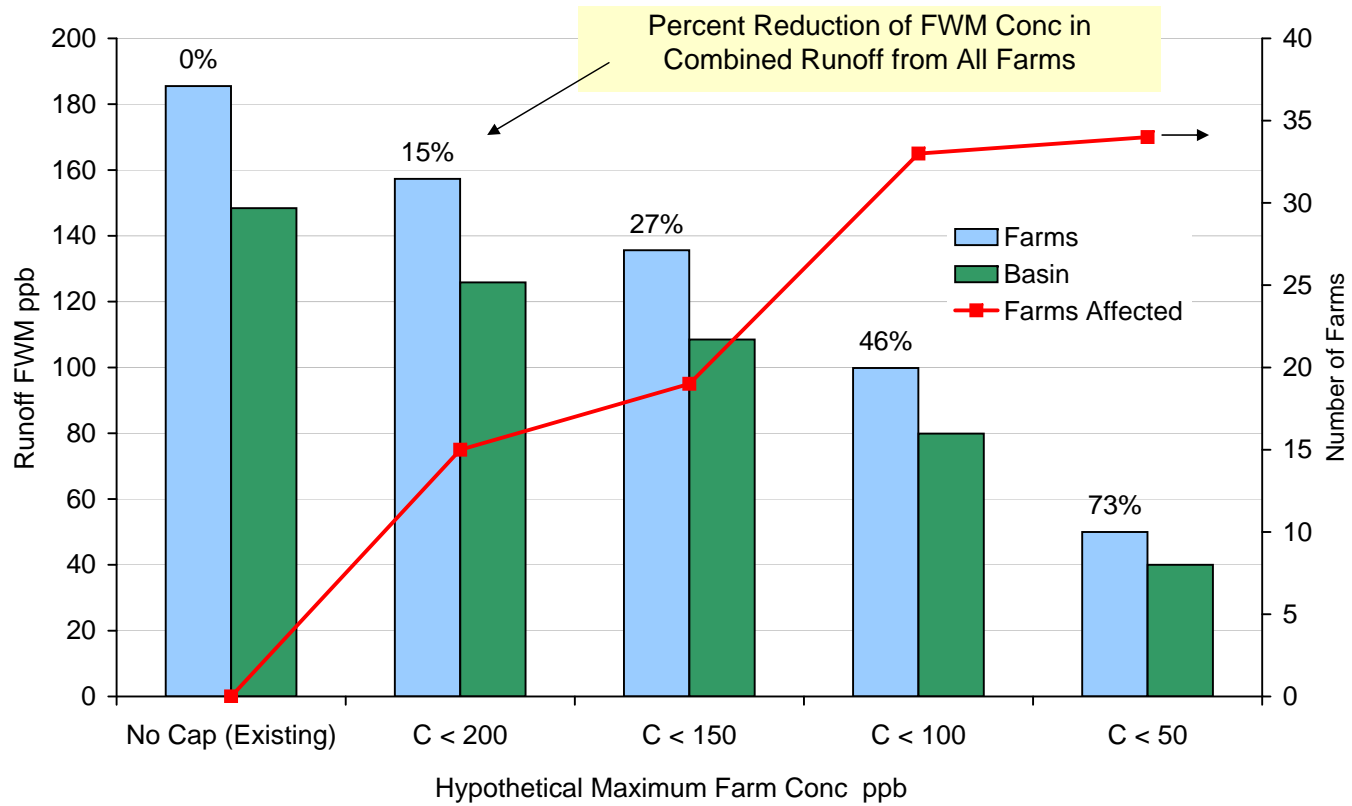


Long-Term FWM Farm Runoff Constrained to Maximum Values Ranging from 50 to 700 ppb.

Basin runoff concentration assumed to = 80% of the combined farm runoff concentration.

S5A Basin Runoff Concentration vs. Hypothetical Maximum Farm Runoff Concentration

Water Years: 1996 thru 2008 Number of Farms = 34



Long-Term Average Farm Runoff Concentration Constrained to Maximum Values Ranging from 50 to 200 ppb.

Labels show percent reduction in FWM of Combined Farm Runoff & Basin Runoff.

Basin runoff concentration assumed = 80% of the combined farm runoff concentration.

For example, if the LTFWM concentration in runoff from each farm were limited to 150 ppb (vs. historical > 400 ppb), the LTFWM in combined runoff from all farms would decrease by 39% (from 185 to 136 ppb)