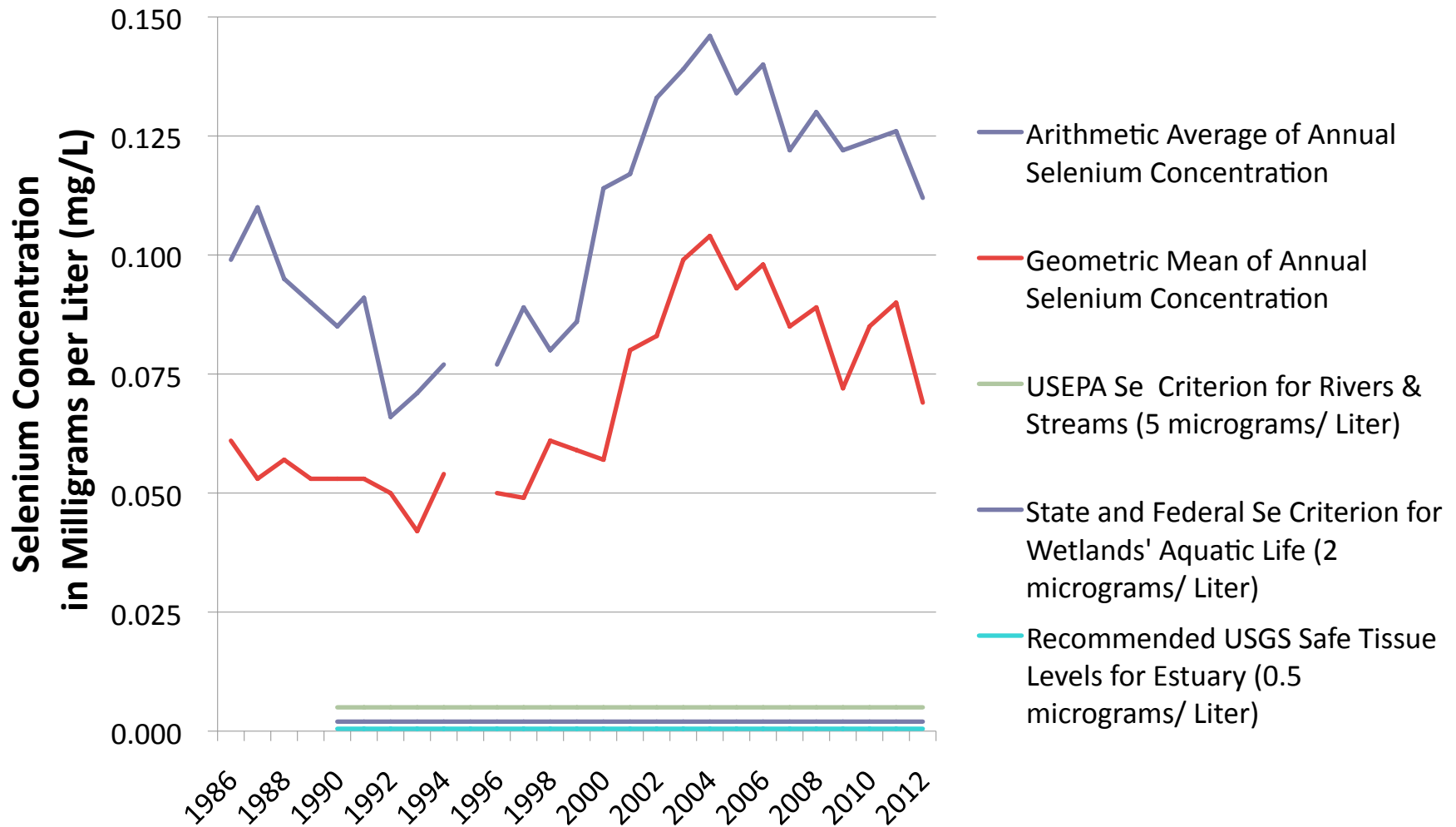


Selenium in Subsurface Drains in Central San Joaquin River Basin Far Exceeds Allowable Levels



	Arithmetic Average of Annual Selenium Concentration	Geometric Mean of Annual Selenium Concentration	USEPA Se Criterion for Rivers & Streams (5 micrograms/ Liter)	State and Federal Se Criterion for Wetlands' Aquatic Life (2 micrograms/ Liter)	Recommended USGS Safe Tissue Levels for Estuary (0.5 micrograms/ Liter)	Ratio of Arithmetic Mean Rivers & Streams Exceedance	Ratio of Geometric Mean Rivers & Streams Exceedance	Ratio of Arithmetic Mean Rivers & Streams Exceedance	Ratio of Geometric Mean Rivers & Streams Exceedance	Ratio of Arithmetic Mean Rivers & Streams Exceedance	Ratio of Geometric Mean Rivers & Streams Exceedance
1986	0.099	0.061									
1987	0.110	0.053									
1988	0.095	0.057									
1989	0.090	0.053									
1990	0.085	0.053	0.005	0.002	0.0005	17	10.6	42.5	26.5	170	106
1991	0.091	0.053	0.005	0.002	0.0005	18.2	10.6	45.5	26.5	182	106
1992	0.066	0.050	0.005	0.002	0.0005	13.2	10	33	25	132	100
1993	0.071	0.042	0.005	0.002	0.0005	14.2	8.4	35.5	21	142	84
1994	0.077	0.054	0.005	0.002	0.0005	15.4	10.8	38.5	27	154	108
1995			0.005	0.002	0.0005						
1996	0.077	0.050	0.005	0.002	0.0005	15.4	10	38.5	25	154	100
1997	0.089	0.049	0.005	0.002	0.0005	17.8	9.8	44.5	24.5	178	98
1998	0.080	0.061	0.005	0.002	0.0005	16	12.2	40	30.5	160	122
1999	0.086	0.059	0.005	0.002	0.0005	17.2	11.8	43	29.5	172	118
2000	0.114	0.057	0.005	0.002	0.0005	22.8	11.4	57	28.5	228	114
2001	0.117	0.080	0.005	0.002	0.0005	23.4	16	58.5	40	234	160
2002	0.133	0.083	0.005	0.002	0.0005	26.6	16.6	66.5	41.5	266	166
2003	0.139	0.099	0.005	0.002	0.0005	27.8	19.8	69.5	49.5	278	198
2004	0.146	0.104	0.005	0.002	0.0005	29.2	20.8	73	52	292	208
2005	0.134	0.093	0.005	0.002	0.0005	26.8	18.6	67	46.5	268	186
2006	0.140	0.098	0.005	0.002	0.0005	28	19.6	70	49	280	196
2007	0.122	0.085	0.005	0.002	0.0005	24.4	17	61	42.5	244	170
2008	0.130	0.089	0.005	0.002	0.0005	26	17.8	65	44.5	260	178
2009	0.122	0.072	0.005	0.002	0.0005	24.4	14.4	61	36	244	144
2010	0.124	0.085	0.005	0.002	0.0005	24.8	17	62	42.5	248	170
2011	0.126	0.090	0.005	0.002	0.0005	25.2	18	63	45	252	180
2012	0.112	0.069	0.005	0.002	0.0005	22.4	13.8	56	34.5	224	138
Average	0.107	0.069	0.005	0.002	0.001	21.645	14.318	54.114	35.795	216.455	143.182
Median	0.111	0.061	0.005	0.002	0.001	23.100	14.100	57.750	35.250	231.000	141.000
Maximum	0.146	0.104	0.005	0.002	0.001	29.200	20.800	73.000	52.000	292.000	208.000
Minimum	0.066	0.042	0.005	0.002	0.001	13.200	8.400	33.000	21.000	132.000	84.000

Sources: California Department of Water Resources 2010: Table 15, 29.; DWR 2015, Table 13, p. 27