

TECHNICAL MEMO: Supplemental Information

DATE: August 21, 2020

The Surface Water Expert Panel requested additional information to be included in Supplemental Information provided by the East San Joaquin Water Quality Coalition (ESJWQC). This supplemental document addresses that request accordingly.

1. Can Figure 3 be recast as percent exceedances?
 - a) Figure 3b has been created to include the percent exceedances and count of exceedances together in a graph.
2. Is it possible to break out the second part of Table 3 to show pesticide and toxicity exceedances separately rather than combined?
 - a) Table 3b separates the data for pesticides, water column toxicity, and sediment toxicity, per zone.
3. And pesticide chemistry exceedances shown by class of pesticide?
 - a) Table 4b shows the breakdown of pesticides by class of pesticide, per zone.

Notably, when reviewing the data to break out the pesticides and toxicity data, we discovered an error in the count and percent exceedances in Figure 3, Table 4 and Table 6. We have corrected the error and provided a corrected Figure 3, Table 4, and Table 6 with this Supplemental Information.

Submitted respectfully,



Parry Klassen
Executive Director
East San Joaquin Water Quality Coalition

Figure 1. (Corrected) Exceedances of the WQTL for pesticide and toxicity from 2004 - 2019 WY at Core sites.

From 2004 through September 2013 monitoring occurred during a calendar year. Starting in October 2013, the monitoring year shifted to a WY (October-September). The precipitation data includes total inches per month (2004-2013 data is from NOAA, 2014 WY- 2018 WY data is from Weather Underground).

Pesticide & Toxicity Exceedances

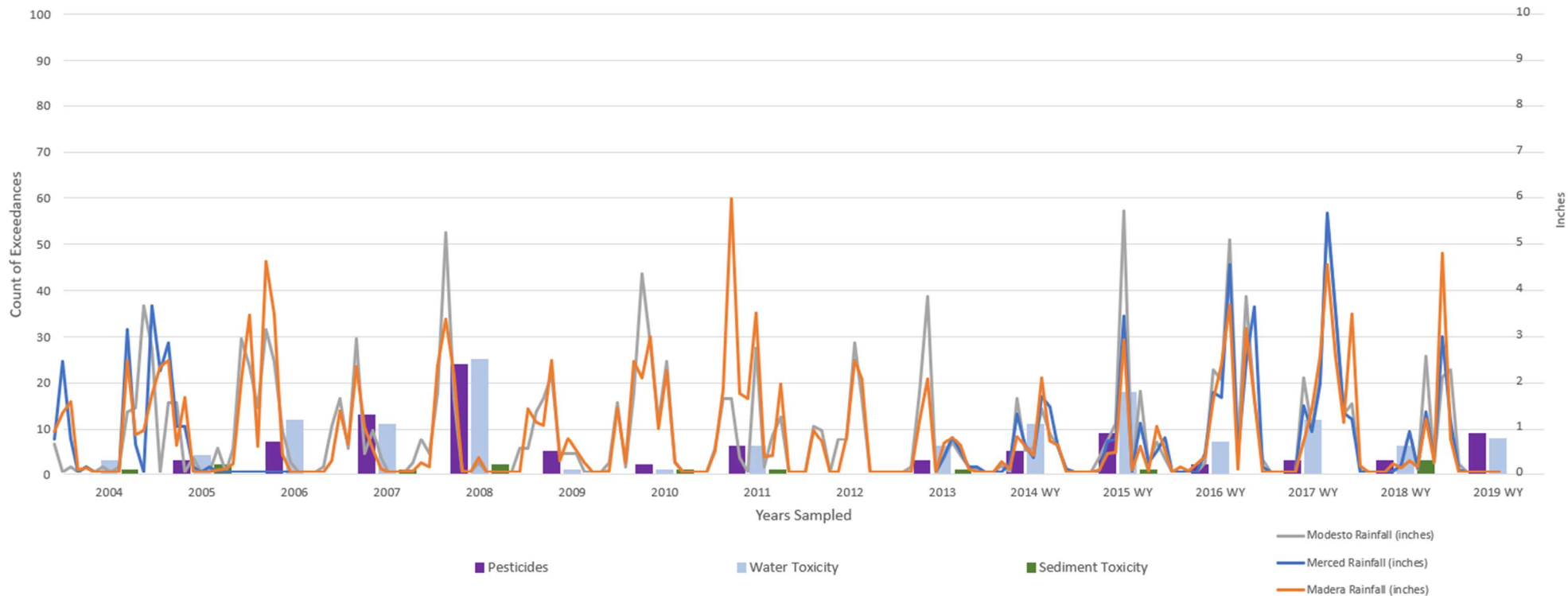


Figure 2b. Exceedances of the WQTL for pesticides and toxicity at Core sites.

From 2004 through September 2013 monitoring occurred during a calendar year. Starting in October 2013, the monitoring year shifted to a water year (October- September). The list of monitoring parameters is included in Attachment A.

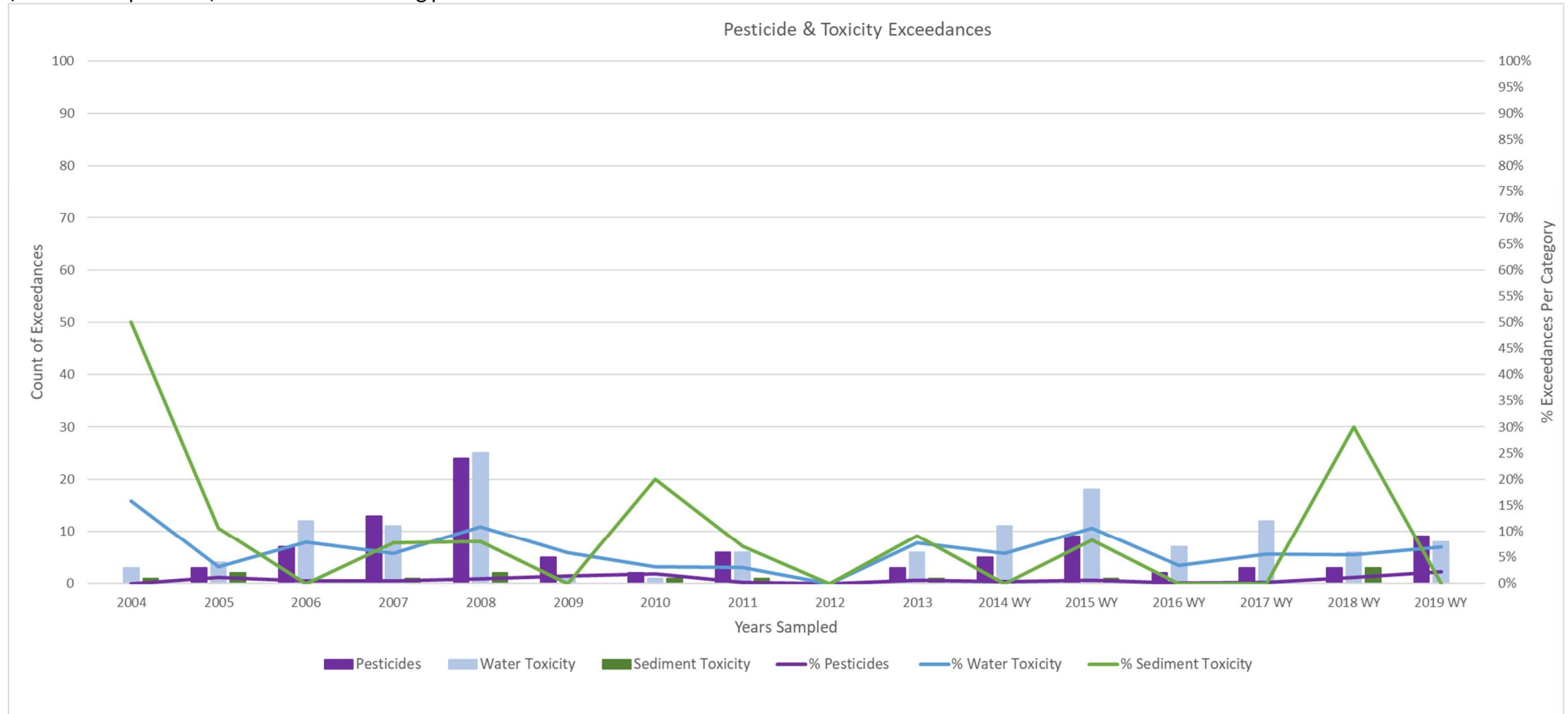


Table 3b. Core site exceedance counts per zone for pesticides and toxicity only.

Exceedance counts do not include field duplicate results. Total sample counts do not include if the site was dry or non-contiguous and could not be sampled. Percent exceedances are calculated from the number of exceedances per zone compared to the total samples collected.

YEAR	% EXCEEDANCE COMPARED TO TOTAL SAMPLED						COUNT OF EXCEEDANCES						TOTAL EXCEEDANCES	TOTAL SAMPLED	TOTAL % EXCEEDANCE
	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6			
Pesticides															
2004	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0	0	0	0	0	0	0	74	0.00%
2005	2.27%	4.55%	0.00%	0.00%	0.00%	0.00%	1	2	0	0	0	0	8	133	6.02%
2006	1.42%	0.00%	0.47%	0.00%	0.95%	0.25%	3	0	1	0	2	1	27	1273	2.12%
2007	1.23%	0.39%	0.73%	0.32%	0.38%	0.47%	4	2	2	1	2	2	35	2131	1.64%
2008	0.38%	0.69%	0.96%	0.38%	0.64%	2.18%	1	4	3	1	4	11	47	2389	1.97%
2009	50.00%	0.00%	100.0%	0.83%	1.14%	0.00%	1	0	1	2	1	0	11	344	3.20%
2010	25.00%	0.00%	0.00%	0.00%	0.00%	5.00%	1	0	0	0	0	1	10	113	8.85%
2011	0.00%	0.91%	0.31%	0.23%	0.00%	0.00%	0	4	1	1	0	0	11	2446	0.45%
2012	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0	0	0	0	0	0	0	9	0.00%
2013	33.33%	0.00%	0.00%	0.00%	0.34%	0.41%	1	0	0	0	1	1	3	544	0.55%
2014 WY	0.59%	0.29%	0.00%	0.00%	0.62%	0.00%	2	1	0	0	2	0	6	1553	0.39%
2015 WY	0.00%	2.25%	0.44%	0.00%	0.97%	0.00%	0	6	1	0	2	0	10	1317	0.76%
2016 WY	0.00%	0.00%	0.44%	0.32%	0.00%	0.00%	0	0	1	1	0	0	3	1524	0.20%
2017 WY	0.00%	0.32%	0.44%	0.00%	0.43%	0.00%	0	1	1	0	1	0	3	1589	0.19%
2018 WY	0.00%	0.00%	0.00%	1.82%	0.00%	4.44%	0	0	0	1	0	2	3	196	1.53%
2019 WY ¹	3.08%	0.00%	7.14%	1.28%	1.79%	1.59%	2	0	4	1	1	1	9	397	2.27%
TOTAL	0.61%	0.64%	0.70%	0.26%	0.48%	0.73%	16	20	15	8	16	19	94	16836	0.56%
Water Column Toxicity															
2004	0.00%	0.00%	0.00%	20.00%	11.11%	0.00%	0	0	0	2	1	0	3	19	15.79%
2005	4.76%	0.00%	12.50%	4.76%	0.00%	0.00%	1	0	2	1	0	0	4	127	3.15%
2006	4.55%	13.04%	12.50%	4.55%	13.04%	2.70%	1	3	3	1	3	1	12	151	7.95%
2007	14.81%	6.98%	0.00%	0.00%	7.14%	2.94%	4	3	0	0	3	1	11	192	5.73%
2008	3.85%	16.67%	10.34%	7.41%	8.00%	13.95%	1	9	3	2	4	6	25	229	10.92%
2009	0.00%	50.00%	0.00%	0.00%	0.00%	0.00%	0	1	0	0	0	0	1	17	5.88%
2010	0.00%	20.00%	0.00%	0.00%	0.00%	0.00%	0	1	0	0	0	0	1	31	3.23%
2011	0.00%	13.89%	0.00%	0.00%	3.03%	0.00%	0	5	0	0	1	0	6	201	2.99%

YEAR	% EXCEEDANCE COMPARED TO TOTAL SAMPLED						COUNT OF EXCEEDANCES						TOTAL EXCEEDANCES	TOTAL SAMPLED	TOTAL % EXCEEDANCE
	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6			
2012	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0	0	0	0	0	0	0	10	0.00%
2013	0.00%	22.22%	14.29%	0.00%	6.45%	3.70%	0	2	1	0	2	1	6	78	7.69%
2014 WY	0.00%	12.96%	9.52%	0.00%	5.26%	0.00%	0	7	2	0	2	0	11	190	5.79%
2015 WY	0.00%	29.27%	3.70%	2.63%	16.00%	0.00%	0	12	1	1	4	0	18	169	10.65%
2016 WY	0.00%	13.73%	0.00%	0.00%	0.00%	0.00%	0	7	0	0	0	0	7	204	3.43%
2017 WY	0.00%	14.55%	0.00%	8.33%	2.94%	0.00%	0	8	0	3	1	0	12	212	5.66%
2018 WY	0.00%	20.00%	6.25%	0.00%	0.00%	0.00%	0	5	1	0	0	0	6	111	5.41%
2019 WY	0.00%	21.62%	0.00%	0.00%	0.00%	0.00%	0	8	0	0	0	0	8	115	6.96%
TOTAL	2.31%	15.47%	4.89%	2.93%	5.56%	2.91%	7	71	13	10	21	9	131	2056	6.37%
Sediment Toxicity															
2004	0.00%	0.00%	0.00%	0.00%	100.0%	0.00%	0	0	0	0	1	0	1	2	50.00%
2005	0.00%	0.00%	0.00%	0.00%	66.67%	0.00%	0	0	0	0	2	0	2	19	10.53%
2006	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0	0	0	0	0	0	0	15	0.00%
2007	0.00%	25.00%	0.00%	0.00%	0.00%	0.00%	0	1	0	0	0	0	1	13	7.69%
2008	25.00%	0.00%	0.00%	0.00%	16.67%	0.00%	1	0	0	0	1	0	2	25	8.00%
2009	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0	0	0	0	0	0	0	1	0.00%
2010	0.00%	0.00%	0.00%	0.00%	100.0%	0.00%	0	0	0	0	1	0	1	5	20.00%
2011	50.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1	0	0	0	0	0	1	14	7.14%
2012	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0	0	0	0	0	0	0	3	0.00%
2013	0.00%	0.00%	0.00%	0.00%	33.33%	0.00%	0	0	0	0	1	0	1	11	9.09%
2014 WY	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0	0	0	0	0	0	0	17	0.00%
2015 WY	0.00%	25.00%	0.00%	0.00%	0.00%	0.00%	0	1	0	0	0	0	1	12	8.33%
2016 WY	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0	0	0	0	0	0	0	14	0.00%
2017 WY	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0	0	0	0	0	0	0	15	0.00%
2018 WY	50.00%	50.00%	0.00%	50.00%	0.00%	0.00%	1	1	0	1	0	0	3	10	30.00%
2019 WY	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0	0	0	0	0	0	0	13	0.00%
Total	10.34%	6.98%	0.00%	4.76%	16.22%	0.00%	3	3	0	1	6	0	13	189	6.88%

¹The only pesticide exceedances identified during the 2019 WY were pyrethroid exceedances of the Chronic Goal Unit (CGU).

Table 1 (Corrected). Core site exceedance counts per year for pesticide group.

Exceedance counts do not include field duplicate results. Total sample counts do not include if the sites were dry or non-contiguous and could not be sampled.
See

Table 2 (Corrected). Core site toxicity counts per year for water column and sediment toxicity. Exceedance counts do not include field duplicate results. Total sample counts do not include if the sites were dry or non-contiguous and could not be sampled.

TEST SPECIES	YEAR	TOXIC COUNT	TOTAL SAMPLES COLLECTED	% TOXIC
WATER COLUMN TOXICITY				
<i>Ceriodaphnia dubia</i>	2004	2	7	28.57%
	2005	3	43	6.98%
	2006	9	55	16.36%
	2007	2	64	3.13%
	2008	4	76	5.26%
	2010	0	4	0.00%
	2011	1	66	1.52%
	2012	0	3	0.00%
	2013	2	30	6.67%
	2014 WY	1	63	1.59%
	2015 WY	8	56	14.29%
	2016 WY	0	70	0.00%
	2017 WY	4	72	5.56%
	2018 WY	2	54	3.70%
2019 WY	0	52	0.00%	
<i>Pimephales promelas</i>	2004	0	6	0.00%
	2005	0	42	0.00%
	2006	2	48	4.17%
	2007	0	61	0.00%
	2008	1	71	1.41%
	2009	0	6	0.00%
	2010	0	8	0.00%
	2011	2	66	3.03%
	2013	0	21	0.00%
	2014 WY	1	57	1.75%
	2015 WY	0	54	0.00%
	2016 WY	0	60	0.00%
	2017 WY	1	64	1.56%
	2018 WY	0	3	0.00%
2019 WY	0	0	0.00%	
<i>Selenastrum capricornutum</i>	2004	1	6	16.67%
	2005	1	42	2.38%
	2006	1	48	2.08%
	2007	9	67	13.43%
	2008	20	82	24.39%
	2009	1	11	9.09%
	2010	1	19	5.26%
	2011	3	69	4.35%
	2012	0	7	0.00%
	2013	4	27	14.81%
	2014 WY	9	70	12.86%
	2015 WY	10	59	16.95%
	2016 WY	7	74	9.46%
	2017 WY	7	76	9.21%
2018 WY	4	54	7.41%	
2019 WY	8	63	12.70%	
SEDIMENT TOXICITY				
<i>Hyalella azteca</i>	2004	1	2	50.00%
	2005	2	19	10.53%

TEST SPECIES	YEAR	TOXIC COUNT	TOTAL SAMPLES COLLECTED	% TOXIC
	2006	0	15	0.00%
	2007	1	13	7.69%
	2008	2	25	8.00%
	2009	0	1	0.00%
	2010	1	5	20.00%
	2011	1	14	7.14%
	2012	0	3	0.00%
	2013	1	11	9.09%
	2014 WY	0	17	0.00%
	2015 WY	1	12	8.33%
	2016 WY	0	14	0.00%
	2017 WY	0	15	0.00%
	2018 WY	3	10	30.00%
	2019 WY	0	13	0.00%

for a list of pesticides in each group.

PESTICIDE GROUP	YEAR	EXCEEDANCE COUNT	TOTAL SAMPLES COLLECTED	% EXCEEDANCE
CARBAMATES	2006	0	210	0.00%
	2007	1	360	0.28%
	2008	1	420	0.24%
	2009	0	7	0.00%
	2010	0	11	0.00%
	2011	1	396	0.25%
	2013	0	114	0.00%
	2014 WY	0	324	0.00%
	2015 WY	0	306	0.00%
	2016 WY	0	354	0.00%
	2017 WY	1	372	0.27%
	2018 WY	0	1	0.00%
	2019 WY	0	5	0.00%
HERBICIDES	2004	0	2	0.00%
	2006	0	245	0.00%
	2007	3	420	0.71%
	2008	7	490	1.43%
	2009	0	10	0.00%
	2010	0	20	0.00%
	2011	0	468	0.00%
	2012	0	5	0.00%
	2013	1	120	0.83%
	2014 WY	1	344	0.29%
	2015 WY	0	332	0.00%
	2016 WY	0	377	0.00%
	2017 WY	0	396	0.00%

PESTICIDE GROUP	YEAR	EXCEEDANCE COUNT	TOTAL SAMPLES COLLECTED	% EXCEEDANCE
	2018 WY	0	29	0.00%
	2019 WY	0	31	0.00%
ORGANOCHLORINES	2006	0	245	0.00%
	2007	0	420	0.00%
	2008	0	490	0.00%
	2009	0	49	0.00%
	2011	3	280	1.07%
	2013	0	21	0.00%
	2014 WY	0	63	0.00%
ORGANOPHOSPHATES	2004	0	26	0.00%
	2005	3	84	3.57%
	2006	4	409	0.98%
	2007	9	683	1.32%
	2008	16	771	2.08%
	2009	4	190	2.11%
	2010	2	16	12.50%
	2011	2	862	0.23%
	2012	0	4	0.00%
	2013	2	256	0.78%
	2014 WY	3	723	0.41%
	2015 WY	9	679	1.33%
	2016 WY	2	793	0.25%
	2017 WY	2	821	0.24%
2018 WY	3	22	13.64%	
2019 WY	0	30	0.00%	
OTHER	2004	0	40	0.00%
	2005	3	70	4.29%
	2006	0	126	0.00%
	2007	0	140	0.00%
	2008	1	88	1.14%
	2009	0	66	0.00%
	2010	0	440	0.00%
	2011	0	33	0.00%
	2013	1	99	1.01%
	2014 WY	0	107	0.00%
	2018 WY	0	102	0.00%
2019 WY	0	40	0.00%	
PYRETHROIDS	2004	0	24	0.00%
	2005	0	182	0.00%

PESTICIDE GROUP	YEAR	EXCEEDANCE COUNT	TOTAL SAMPLES COLLECTED	% EXCEEDANCE
	2006	0	282	0.00%
	2007	0	368	0.00%
	2008	0	234	0.00%
	2018 WY	0	100	0.00%
	2019 WY	9	229	3.93%
	TOTAL	94	16836	0.56%

Table 4b. Core site exceedance counts per year for pesticide group.

Exceedance counts do not include field duplicate results. Total sample counts do not include if the sites were dry or non-contiguous and could not be sampled.
See

Table 2 (Corrected). Core site toxicity counts per year for water column and sediment toxicity. Exceedance counts do not include field duplicate results. Total sample counts do not include if the sites were dry or non-contiguous and could not be sampled.

TEST SPECIES	YEAR	TOXIC COUNT	TOTAL SAMPLES COLLECTED	% TOXIC
WATER COLUMN TOXICITY				
<i>Ceriodaphnia dubia</i>	2004	2	7	28.57%
	2005	3	43	6.98%
	2006	9	55	16.36%
	2007	2	64	3.13%
	2008	4	76	5.26%
	2010	0	4	0.00%
	2011	1	66	1.52%
	2012	0	3	0.00%
	2013	2	30	6.67%
	2014 WY	1	63	1.59%
	2015 WY	8	56	14.29%
	2016 WY	0	70	0.00%
	2017 WY	4	72	5.56%
	2018 WY	2	54	3.70%
2019 WY	0	52	0.00%	
<i>Pimephales promelas</i>	2004	0	6	0.00%
	2005	0	42	0.00%
	2006	2	48	4.17%
	2007	0	61	0.00%
	2008	1	71	1.41%
	2009	0	6	0.00%
	2010	0	8	0.00%
	2011	2	66	3.03%
	2013	0	21	0.00%
	2014 WY	1	57	1.75%
	2015 WY	0	54	0.00%
	2016 WY	0	60	0.00%
	2017 WY	1	64	1.56%
	2018 WY	0	3	0.00%
2019 WY	0	0	0.00%	
<i>Selenastrum capricornutum</i>	2004	1	6	16.67%
	2005	1	42	2.38%
	2006	1	48	2.08%
	2007	9	67	13.43%
	2008	20	82	24.39%
	2009	1	11	9.09%

TEST SPECIES	YEAR	TOXIC COUNT	TOTAL SAMPLES COLLECTED	% TOXIC
	2010	1	19	5.26%
	2011	3	69	4.35%
	2012	0	7	0.00%
	2013	4	27	14.81%
	2014 WY	9	70	12.86%
	2015 WY	10	59	16.95%
	2016 WY	7	74	9.46%
	2017 WY	7	76	9.21%
	2018 WY	4	54	7.41%
2019 WY	8	63	12.70%	
SEDIMENT TOXICITY				
<i>Hyalella azteca</i>	2004	1	2	50.00%
	2005	2	19	10.53%
	2006	0	15	0.00%
	2007	1	13	7.69%
	2008	2	25	8.00%
	2009	0	1	0.00%
	2010	1	5	20.00%
	2011	1	14	7.14%
	2012	0	3	0.00%
	2013	1	11	9.09%
	2014 WY	0	17	0.00%
	2015 WY	1	12	8.33%
	2016 WY	0	14	0.00%
	2017 WY	0	15	0.00%
	2018 WY	3	10	30.00%
2019 WY	0	13	0.00%	

for a list of pesticides in each group.

WATER YEAR	COUNT OF EXCEEDANCES						COUNT OF SAMPLED COLLECTED						TOTAL EXCEEDANCE	TOTAL SAMPLED	% EXCEEDANCE
	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6			
Carbamates															
2006	0	0	0	0	0	0	30	30	30	30	30	60	0	210	0.00%
2007	0	0	0	0	1	0	48	78	42	48	78	66	1	360	0.28%
2008	0	0	0	0	1	0	48	96	48	48	96	84	1	420	0.24%
2009	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0.00%

WATER YEAR	COUNT OF EXCEEDANCES						COUNT OF SAMPLED COLLECTED						TOTAL EXCEEDANCE	TOTAL SAMPLED	% EXCEEDANCE
	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6			
2010	0	0	0	0	0	0	0	0	0	0	11	0	0	11	0.00%
2011	0	1	0	0	0	0	72	72	54	72	66	60	1	396	0.25%
2013	0	0	0	0	0	0	0	0	0	0	60	54	0	114	0.00%
2014 WY	0	0	0	0	0	0	72	72	42	72	66	0	0	324	0.00%
2015 WY	0	0	0	0	0	0	72	60	54	72	48	0	0	306	0.00%
2016 WY	0	0	0	0	0	0	66	66	54	72	48	48	0	354	0.00%
2017 WY	0	0	1	0	0	0	66	72	54	72	54	54	1	372	0.27%
2018 WY	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0.00%
2019 WY	0	0	0	0	0	0	0	1	0	0	1	3	0	5	0.00%
Herbicides															
2004	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0.00%
2006	0	0	0	0	0	0	35	35	35	35	35	70	0	245	0.00%
2007	2	0	1	0	0	0	56	91	49	56	91	77	3	420	0.71%
2008	0	0	1	0	0	6	56	112	56	56	112	98	7	490	1.43%
2009	0	0	0	0	0	0	0	0	0	0	0	10	0	10	0.00%
2010	0	0	0	0	0	0	1	0	2	0	0	17	0	20	0.00%
2011	0	0	0	0	0	0	84	84	64	84	78	74	0	468	0.00%
2012	0	0	0	0	0	0	1	0	2	0	0	2	0	5	0.00%
2013	0	0	0	0	0	1	0	0	0	0	64	56	1	120	0.83%
2014 WY	0	1	0	0	0	0	76	76	44	76	70	2	1	344	0.29%
2015 WY	0	0	0	0	0	0	76	68	58	76	52	2	0	332	0.00%
2016 WY	0	0	0	0	0	0	70	71	58	76	52	50	0	377	0.00%
2017 WY	0	0	0	0	0	0	70	76	58	76	58	58	0	396	0.00%
2018 WY	0	0	0	0	0	0	5	4	4	4	4	8	0	29	0.00%
2019 WY	0	0	0	0	0	0	6	4	6	7	2	6	0	31	0.00%
Organochlorines															
2006	0	0	0	0	0	0	35	35	35	35	35	70	0	245	0.00%
2007	0	0	0	0	0	0	56	91	49	56	91	77	0	420	0.00%

WATER YEAR	COUNT OF EXCEEDANCES						COUNT OF SAMPLED COLLECTED						TOTAL EXCEEDANCE	TOTAL SAMPLED	% EXCEEDANCE
	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6			
2008	0	0	0	0	0	0	56	112	56	56	112	98	0	490	0.00%
2009	0	0	0	0	0	0	0	0	0	49	0	0	0	49	0.00%
2011	0	1	1	1	0	0	49	49	35	49	49	49	3	280	1.07%
2013	0	0	0	0	0	0	0	0	0	0	14	7	0	21	0.00%
2014 WY	0	0	0	0	0	0	14	14	7	14	14	0	0	63	0.00%
Organophosphates															
2004	0	0	0	0	0	0	0	0	0	13	13	0	0	26	0.00%
2005	1	2	0	0	0	0	14	14	10	14	14	18	3	84	3.57%
2006	2	0	1	0	0	1	59	59	59	59	59	114	4	409	0.98%
2007	2	2	1	1	1	2	99	145	77	88	153	121	9	683	1.32%
2008	1	4	2	1	3	5	88	176	89	88	176	154	16	771	2.08%
2009	1	0	1	1	1	0	2	1	1	105	81	0	4	190	2.11%
2010	1	0	0	0	0	1	3	2	5	1	2	3	2	16	12.50%
2011	0	2	0	0	0	0	156	156	117	156	143	134	2	862	0.23%
2012	0	0	0	0	0	0	0	0	2	0	0	2	0	4	0.00%
2013	1	0	0	0	1	0	3	3	0	2	130	118	2	256	0.78%
2014 WY	1	0	0	0	2	0	156	163	91	160	150	3	3	723	0.41%
2015 WY	0	6	1	0	2	0	156	139	117	158	106	3	9	679	1.33%
2016 WY	0	0	1	1	0	0	143	159	117	161	109	104	2	793	0.25%
2017 WY	0	1	0	0	1	0	143	164	117	158	122	117	2	821	0.24%
2018 WY	0	0	0	1	0	2	0	5	0	2	8	7	3	22	13.64%
2019 WY	0	0	0	0	0	0	2	10	0	8	2	8	0	30	0.00%
Other															
2004	0	0	0	0	0	0	0	0	0	20	20	0	0	40	0.00%
2006	1	0	0	0	2	0	10	10	10	10	10	20	3	70	4.29%
2007	0	0	0	0	0	0	18	26	14	16	30	22	0	126	0.00%
2008	0	0	0	0	0	0	16	32	16	16	32	28	0	140	0.00%
2009	0	0	0	1	0	0	0	0	0	88	0	0	1	88	1.14%

WATER YEAR	COUNT OF EXCEEDANCES						COUNT OF SAMPLED COLLECTED						TOTAL EXCEEDANCE	TOTAL SAMPLED	% EXCEEDANCE
	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6			
2010	0	0	0	0	0	0	0	0	0	66	0	0	0	66	0.00%
2011	0	0	0	0	0	0	77	77	55	77	77	77	0	440	0.00%
2013	0	0	0	0	0	0	0	0	0	0	22	11	0	33	0.00%
2014 WY	1	0	0	0	0	0	22	22	11	22	22	0	1	99	1.01%
2018 WY	0	0	0	0	0	0	17	7	17	32	20	14	0	107	0.00%
2019 WY	0	0	0	0	0	0	23	13	19	21	14	12	0	102	0.00%
Pyrethroids															
2004	0	0	0	0	0	0	0	0	0	12	12	0	0	24	0.00%
2005	0	0	0	0	0	0	30	30	22	30	30	40	0	182	0.00%
2006	0	0	0	0	0	0	42	42	42	42	42	72	0	282	0.00%
2007	0	0	0	0	0	0	48	78	42	48	86	66	0	368	0.00%
2008	0	0	0	0	0	0	0	48	48	0	96	42	0	234	0.00%
2018 WY	0	0	0	0	0	0	23	8	13	17	24	15	0	100	0.00%
2019 WY	2	0	4	1	1	1	34	51	31	42	37	34	9	229	3.93%
TOTAL	17	22	18	12	21	25	2604	3109	2138	3024	3341	2620	94	16836	0.56%

Table 2 (Corrected). Core site toxicity counts per year for water column and sediment toxicity.

Exceedance counts do not include field duplicate results. Total sample counts do not include if the sites were dry or non-contiguous and could not be sampled.

TEST SPECIES	YEAR	TOXIC COUNT	TOTAL SAMPLES COLLECTED	% TOXIC
WATER COLUMN TOXICITY				
<i>Ceriodaphnia dubia</i>	2004	2	7	28.57%
	2005	3	43	6.98%
	2006	9	55	16.36%
	2007	2	64	3.13%
	2008	4	76	5.26%
	2010	0	4	0.00%
	2011	1	66	1.52%
	2012	0	3	0.00%
	2013	2	30	6.67%
	2014 WY	1	63	1.59%
	2015 WY	8	56	14.29%
	2016 WY	0	70	0.00%
	2017 WY	4	72	5.56%
	2018 WY	2	54	3.70%
2019 WY	0	52	0.00%	
<i>Pimephales promelas</i>	2004	0	6	0.00%
	2005	0	42	0.00%
	2006	2	48	4.17%
	2007	0	61	0.00%
	2008	1	71	1.41%
	2009	0	6	0.00%
	2010	0	8	0.00%
	2011	2	66	3.03%
	2013	0	21	0.00%
	2014 WY	1	57	1.75%
	2015 WY	0	54	0.00%
	2016 WY	0	60	0.00%
	2017 WY	1	64	1.56%
	2018 WY	0	3	0.00%
2019 WY	0	0	0.00%	
<i>Selenastrum capricornutum</i>	2004	1	6	16.67%
	2005	1	42	2.38%
	2006	1	48	2.08%
	2007	9	67	13.43%
	2008	20	82	24.39%
	2009	1	11	9.09%
	2010	1	19	5.26%
	2011	3	69	4.35%
	2012	0	7	0.00%
	2013	4	27	14.81%
	2014 WY	9	70	12.86%
	2015 WY	10	59	16.95%
	2016 WY	7	74	9.46%
	2017 WY	7	76	9.21%
2018 WY	4	54	7.41%	
2019 WY	8	63	12.70%	
SEDIMENT TOXICITY				
<i>Hyalella azteca</i>	2004	1	2	50.00%
	2005	2	19	10.53%

TEST SPECIES	YEAR	TOXIC COUNT	TOTAL SAMPLES COLLECTED	% TOXIC
	2006	0	15	0.00%
	2007	1	13	7.69%
	2008	2	25	8.00%
	2009	0	1	0.00%
	2010	1	5	20.00%
	2011	1	14	7.14%
	2012	0	3	0.00%
	2013	1	11	9.09%
	2014 WY	0	17	0.00%
	2015 WY	1	12	8.33%
	2016 WY	0	14	0.00%
	2017 WY	0	15	0.00%
	2018 WY	3	10	30.00%
	2019 WY	0	13	0.00%