Appendix A

Completeness and Field Water Quality

Table A1. Table of Completed Tasks

Date	Task 1	Task 2		Task 3		Notes
	Macroinvertebrate Community Survey	Laboratory Toxicity Tests		Habitat Sampler Exposures		
		H. azteca	Algae	Exposures	Extra Field Trips	
9/3/2013					X	Leaf Litter Bag Deployment - R&D
10/1/2013					X	Leaf Litter Bag Deployment - R&D
10/15/2013					X	Leaf Litter Bag Deployment - R&D
10/29/2013					X	Leaf Litter Bag Deployment - R&D
10/1/2013	X					Fall 2013 Collection
11/21/2013		X	X	X		Organza Bags
1/30/2014				X		48 hours
2/11/2014				X		96 hours
3/2/2014		X	X	X		
5/6/2014	X	X	X	X		
7/8/2014					X	Observation of dry sites
7/9/2014		X	X			F100, F5 dry. Tested F2, F3
12/5/2014	X					Fall 2014 Collection
2/5/2015				X		Bifenthrin Cage Test
2/8/2015					X	Observation of dry sites
2/9/2015		X	X			No field animals available for Task 3
4/8/2015					X	Observation of dry sites
4/9/2015		X	X			No field animals available for Task 3
5/8/2015	X					Spring 2015 Collection
6/6/2015				X		Cage efficacy test
6/10/2015		X	X			No field animals available for Task 3
11/3/2015		X	X			No field animals available for Task 3
12/17/16						False start - equipment failure
2/1/16	X					Delayed Fall 2015 Collection
2/19/16		X	X			2016 Storm Event

Table A2. Summary of water chemistry measured during bioassessment field trips

Site	Date	Discharge (cm^3/s)	Specific Conductivity (µs/cm)	Temp (C)	pH	DO (mg/L)
F100	11/18/2013	3782.3	-	-	-	-
F3	11/18/2013	15.2	236.5	15.3	6.59	1.8
F5	11/18/2013	1381.8	146.0	13.8	6.80	6.6
F2	11/18/2013	433.3	108.4	18.4	6.76	-
F100	11/21/2013	21380.0	-	-	-	-
F3	11/21/2013	700.0	293.0	18.6	7.08	6.1
F5	11/21/2013	5845.5	170.0	14.7	6.72	5.2
F2	11/21/2013	2555.6	152.6	18.1	6.64	8.9
F100	1/29/2014	5572.0	167.2	11.5	7.18	10.2
F3	1/29/2014	23.4	220.9	13.9	7.34	7.0
F5	1/29/2014	10929.6	119.9	13.1	6.86	7.0
F2	1/29/2014	6207.3	90.0	13.4	6.90	9.7
F100	2/7/2014	49375.0	165.1	-	7.28	9.9
F3	2/7/2014	21056.0	137.9	-	6.83	9.3
F5	2/7/2014	19136.6	96.3	-	6.81	7.5
F2	2/7/2014	7079.5	96.1	-	6.83	10.5
F100	2/26/2014	11736.0	197.8	12.4	7.02	8.6
F3	2/26/2014	0.0	493.1	12.6	6.61	2.8
F5	2/26/2014	6999.0	95.5	13.5	6.76	7.0
F2	2/26/2014	3689.2	110.0	14.5	6.88	10.1
F100	3/2/2014	30892.5	195.4	13.4	6.82	8.0
F3	3/2/2014	4530.8	297.1	15.8	7.19	6.8
F5	3/2/2014	8039.6	167.4	14.5	6.72	7.2
F2	3/2/2014	242.4	124.2	15.2	6.66	9.4
F100	5/6/2014	8490.0	168.8	15.9	7.12	6.6
F3	5/6/2014	172.5	292.6	20.1	8.17	8.0
F5	5/6/2014	2270.1	131.6	17.8	6.67	3.8
F2	5/6/2014	333.3	152.4	19.3	6.40	7.0
F100	5/10/2014	2918.5	235.9	15.8	7.23	6.7
F3	5/10/2014	108.0	211.0	17.9	6.88	2.8
F5	5/10/2014	380.0	163.0	16.6	6.47	2.0
F2	5/10/2014	71.4	111.1	19.6	7.21	9.4
F100	11/2/2014	38440.0	191.5	13.1	7.14	8.5
F3	11/2/2014	3523.9	279.9	16.2	7.08	7.2
F5	11/2/2014	16121.0	190.6	13.0	6.78	6.2
F2	11/2/2014	9039.6	123.1	14.0	6.70	9.4
F100	12/5/2014	38775.0	199.9	15.7	6.58	-
F3	12/5/2014	930.8	290.3	19.0	7.51	-

Site	Date	Discharge (cm^3/s)	Specific Conductivity (µs/cm)	Temp (C)	pH	DO (mg/L)
F5	12/5/2014	2052.6	262.5	15.8	6.88	-
F2	12/5/2014	51.3	297.3	19.3	6.48	-
F100	5/18/2015	too low to measure	255.8	16.7	6.91	6.3
F3	5/18/2015	too low to measure	298.9	18.1	7.20	6.1
F5	5/18/2015	462.7	329.2	15.2	6.82	5.0
F2	5/18/2015	0.0	377.6	18.1	7.15	5.3
F100	2/1/2016	12450.0	231.1	9.7	6.82	7.93
F3	2/1/2016	0.0	370.9	11.3	6.82	2.0
F5	2/1/2016	1151.5	228.9	10.6	6.87	5.95
F2	2/1/2016	0.0	222.7	14.2	6.84	5.38

Appendix B

Water Quality During *H. azteca* Toxicity Tests

Table B1. Summary of water chemistry during a 96-hour *H. azteca* toxicity test initiated on 11/20/13 of samples collected by the California Department of Pesticide Regulation on 11/19/13.

Treatment		EC (µS/cm)		Temp (C)		DO (mg/L)		pH		Hardness (mg/L as $CaCO_3$)	Alkalinity (mg/L as $CaCO_3$)	Unionized Ammonia (mg/L)[1]
		Min	Max	Min	Max	Min	Max	Min	Max			
Control	DIEPAMHR	348	368	20.2	22.2	8.2	8.5	7.94	8.26	96	60	0.001
	Low SC DIEPAMHR @ 100 µS/cm	118	155	20.4	22.0	8.1	8.3	7.82	8.35	N/A	N/A	N/A
F2	100%	92	137	19.6	22.0	7.4	8.2	7.75	8.16	32	20	0.035
	50%	106	127	19.7	22.0	7.7	8.0	7.67	8.09	-	-	-
	25%	113	126	20.6	21.9	8.0	8.2	7.58	8.04	-	-	-
	12.5%	111	133	20.8	21.7	7.9	8.3	7.55	8.31	-	-	-
	6.25%	115	140	18.8	22.0	8.1	8.3	7.53	8.13	-	-	-
F3	100%	107	121	20.6	21.9	8.1	8.3	7.56	8.00	28	26	0.025
	50%	110	114	19.7	21.7	7.5	8.3	7.62	8.13	-	-	-
	25%	117	134	18.8	22.0	7.9	8.4	7.60	8.11	-	-	-
	12.5%	114	126	18.9	22.0	8.1	8.3	7.67	8.27	-	-	-
	6.25%	115	135	18.9	22.1	8.0	8.2	7.77	8.14	-	-	-
F5	100%	162	162	19.1	21.9	7.9	8.2	7.67	7.92	48	34	0.026
	50%	141	147	19.2	21.8	8.1	8.2	7.75	7.95	-	-	-
	25%	130	130	19.2	22.0	8.1	8.2	7.77	8.00	-	-	-
	12.5%	121	137	19.0	21.5	8.0	8.1	7.84	8.22	-	-	-
	6.25%	118	131	19.0	21.5	8.0	8.4	7.81	8.15	-	-	-
F100	100%	161	165	19.1	23.9	7.8	8.1	7.80	8.00	52	36	0.024
	50%	141	151	19.1	21.5	8.1	8.3	7.82	8.01	-	-	-
	25%	128	140	18.6	21.4	7.9	8.5	7.89	7.97	-	-	-
	12.5%	126	127	18.7	23.7	8.0	8.3	7.84	8.28	-	-	-
	6.25%	124	132	18.6	23.8	8.0	8.4	7.82	8.14	-	-	-

Table B2. Summary of water chemistry during a 96-hour *H. azteca* toxicity test initiated on 2/27/14 of samples collected by the California Department of Pesticide Regulation on 2/26/14.

Treatment		EC (µS/cm)		Temp (C)		DO (mg/L)		pH		Hardness (mg/L as $CaCO_3$)	Alkalinity (mg/L as $CaCO_3$)	Unionized Ammonia (mg/L)[1]
		Min	Max	Min	Max	Min	Max	Min	Max			
Control	DIEPAMHR	331	362	20.1	22.8	7.4	8.4	7.68	8.23	96	58	0.002
	Low SC DIEPAMHR @ 100 µS/cm	141	153	19.6	21.6	7.6	8.4	7.43	7.89	28	18	0.000
F2	100%	97	99	20.6	22.4	7.5	8.8	7.33	7.65	24	24	0.000
	50%	116	151	21.2	23.2	7.7	8.5	7.41	7.78	-	-	-
	25%	99	129	20.8	23.0	7.6	8.2	7.32	7.78	-	-	-
	12.5%	99	131	20.8	22.7	7.5	8.5	7.34	7.75	-	-	-
	6.25%	98	132	20.6	22.5	6.7	8.4	7.20	7.79	-	-	-
F3	100%	104	107	20.9	22.6	7.3	8.6	7.38	7.84	16	32	0.009
	50%	105	119	20.9	22.4	7.5	8.5	7.31	7.79	-	-	-
	25%	103	127	20.8	22.4	7.6	8.7	7.27	7.77	-	-	-
	12.5%	104	130	20.4	21.9	6.8	7.9	7.30	7.72	-	-	-
	6.25%	108	132	20.7	22.0	6.6	7.8	7.22	7.82	-	-	-
F5	100%	116	126	20.4	22.4	7.6	8.6	7.52	7.87	36	36	0.000
	50%	110	128	20.2	22.1	7.4	8.5	7.41	7.90	-	-	-
	25%	106	131	20.3	22.2	7.4	8.0	7.27	7.89	-	-	-
	12.5%	103	132	20.3	22.1	6.9	7.8	7.28	7.50	-	-	-
	6.25%	103	134	20.1	22.1	7.3	7.7	7.30	7.84	-	-	-
F100	100%	142	157	20.5	22.4	7.7	8.5	7.76	7.96	48	52	0.000
	50%	120	142	20.6	22.4	7.7	8.1	7.61	7.93	-	-	-
	25%	112	139	20.4	22.3	7.6	8.1	7.34	7.88	-	-	-
	12.5%	107	137	20.0	22.4	7.0	8.0	7.29	7.92	-	-	-
	6.25%	105	135	19.8	22.3	7.1	8.0	7.27	7.87	-	-	-

Table B3. Summary of water chemistry during a 96-hour *H. azteca* toxicity test initiated on 5/7/14 of samples collected by the California Department of Pesticide Regulation on 5/7/14.

Treatment		EC (µS/cm)		Temp (C)		DO (mg/L)		pH		Hardness (mg/L as $CaCO_3$)	Alkalinity (mg/L as $CaCO_3$)	Unionized Ammonia (mg/L)[1]
		Min	Max	Min	Max	Min	Max	Min	Max			
Control	DIEPAMHR	308	368	21	23.3	6.5	8.6	7.58	8.2	96	56	0
	Low SC DIEPAMHR @ 100 µS/cm	104	145	20.9	23.0	6.9	8.6	7.31	7.78	N/A	N/A	N/A
F2	100%	107	143	21.5	23.5	6.1	8.4	7.42	8.01	40	48	0.001
	50%	104	141	21.5	22.8	6.3	8.5	7.33	7.86	-	-	-
	25%	105	138	21.1	22.5	6.3	8.5	7.26	7.88	-	-	-
	12.5%	101	134	20.8	22.6	6.3	8.7	7.22	7.76	-	-	-
	6.25%	105	134	21.2	22.2	6.3	8.5	7.16	7.77	-	-	-
F3	100%	181	214	21.5	22.3	6.2	8.6	7.64	8.19	60	66	0.000
	50%	119	173	21.1	22.4	6.5	8.7	7.43	8.01	-	-	-
	25%	121	153	21.3	22.1	6.6	8.5	7.28	7.93	-	-	-
	12.5%	112	139	21.1	21.8	6.4	8.8	7.70	7.84	-	-	-
	6.25%	109	138	21.4	21.7	6.5	8.7	7.17	7.78	-	-	-
F5	100%	54	188	20.7	22.0	6.3	8.7	7.66	8.26	64	74	0.000
	50%	125	160	21.2	22.0	6.2	8.7	7.42	8.08	-	-	-
	25%	114	149	20.7	22.0	6.1	8.7	7.30	7.95	-	-	-
	12.5%	109	143	20.3	21.8	6.1	8.8	7.20	7.94	-	-	-
	6.25%	104	139	21.4	22.0	6.4	8.6	7.16	7.86	-	-	-
F100	100%	244	279	20.5	21.8	6.4	8.7	7.97	8.50	108	112	0.000
	50%	121	203	21.3	21.8	6.5	8.7	7.61	8.39	-	-	-
	25%	135	165	21.3	22.0	6.4	8.6	7.41	8.21	-	-	-
	12.5%	117	146	21.2	21.8	6.2	8.7	7.27	8.04	-	-	-
	6.25%	109	150	21.1	22.1	6.7	8.5	7.20	7.97	-	-	-

1. This unionized ammonia reading is based on the ammonia-nitrogen measured upon sample receipt and upon the water chemistry measured at test initiation.

Table B4. Summary of water chemistry measured during a 96-hour *H. azteca* toxicity test initiated on 7/9/14 of samples collected by the California Department of Pesticide Regulation on 7/9/14.

Treatment		EC (µS/cm)		Temp (C)		DO (mg/L)		pH		Hardness (mg/L as $CaCO_3$)	Alkalinity (mg/L as $CaCO_3$)	Unionized Ammonia (mg/L)[1]
		Min	Max	Min	Max	Min	Max	Min	Max			
Control	DIEPAMHR	322	340	21.0	23.6	7.4	8.2	7.78	8.22	104	58	0.000
F2	100%	144	172	21.8	23.2	7.1	8.1	7.66	7.90	60	50	0.002
	50%	242	253	21.6	23.1	7.0	7.9	7.71	7.96	-	-	-
	25%	282	293	21.6	23.0	7.2	8.3	7.82	8.11	-	-	-
	12.5%	309	324	21.2	23.1	7.4	8.4	7.95	8.10	-	-	-
	6.25%	319	336	21.2	23.1	7.3	8.5	7.77	8.19	-	-	-
F3	100%	186	199	21.5	23.2	6.6	8.2	7.75	8.08	56	56	0.022
	50%	261	274	21.5	23.2	7.2	8.4	7.85	8.04	-	-	-
	25%	295	308	21.2	23.0	7.4	8.4	7.78	8.13	-	-	-
	12.5%	310	324	20.9	23.0	7.3	8.5	7.86	8.10	-	-	-
	6.25%	319	336	20.8	23.2	7.4	8.5	7.84	8.12	-	-	-

1. This unionized ammonia reading is based on the ammonia-nitrogen measured upon sample receipt and upon the water chemistry measured at test initiation.

Table B5. Summary of water chemistry during a 96-hour *H. azteca* toxicity test initiated on 2/9/15 of samples collected by the California Department of Pesticide Regulation on 2/9/15.

Treatment		EC (µS/cm)		Temp (C)		DO (mg/L)		pH		Hardness (mg/L as $CaCO_3$)	Alkalinity (mg/L as $CaCO_3$)	Unionized Ammonia (mg/L)[1]
		Min	Max	Min	Max	Min	Max	Min	Max			
Control	DIEPAMHR	311	360	19.8	22.4	7.8	8.5	7.57	8.02	108	58	0
	Low SC DIEPAMHR @ 86 µS/cm	83	95	19.9	21.8	7.6	8.5	4.98	7.40	NR	NR	NR
F2	100%	133	166	19.7	21.9	7.8	8.6	7.68	7.93	76	44	0.004
	50%	102	139	20.4	21.9	7.8	8.4	6.95	7.65	-	-	-
	25%	89	122	20.5	21.8	8.1	8.5	7.05	7.57	-	-	-
	12.5%	77	112	20.6	21.6	8.0	8.6	6.94	7.66	-	-	-
	6.25%	73	107	20.8	21.7	8.2	8.6	6.96	7.49	-	-	-
F3	100%	98	127	20.5	22.2	8.1	8.4	7.01	7.59	48	38	0.005
	50%	80	113	21.0	22.7	8.1	8.5	7.22	7.61	-	-	-
	25%	73	107	21.0	22.1	7.8	8.6	6.89	7.51	-	-	-
	12.5%	70	106	21.0	22.0	8.1	8.8	6.68	7.44	-	-	-
	6.25%	67	106	21.2	22.1	7.8	8.7	6.93	7.43	-	-	-
F5	100%	105	139	20.8	22.0	8.1	8.4	7.22	7.69	44	36	0.004
	50%	90	119	21.1	22.5	8.1	8.4	7.15	7.58	-	-	-
	25%	75	113	21.1	22.4	8.0	8.8	6.86	7.45	-	-	-
	12.5%	69	112	21.2	22.2	8.2	8.7	7.06	7.41	-	-	-
	6.25%	71	113	21.2	22.2	8.1	8.4	6.75	7.40	-	-	-
F100	100%	124	159	20.9	21.8	8.1	8.3	7.19	7.62	36	34	0.003
	50%	107	130	20.7	21.7	7.9	8.3	5.93	7.54	-	-	-
	25%	93	115	20.6	21.7	7.9	8.5	5.62	7.42	-	-	-
	12.5%	74	114	21.4	21.8	8.1	8.6	6.81	7.43	-	-	-
	6.25%	68	115	21.4	21.9	8.0	8.8	6.84	7.36	-	-	-

1. This unionized ammonia reading is based on the ammonia-nitrogen measured upon sample receipt and upon the water chemistry measured at test initiation.

NR: Not recorded

Table B6. Summary of water chemistry during a 96-hour *H. azteca* toxicity test initiated on 4/9/15 of samples collected by the California Department of Pesticide Regulation on 4/8/15.

		Min	**Max**	**Min**	**Max**	**Min**	**Max**	**Min**	**Max**		
	DIEPAMHR	329	345	22.5	24.8	7.7	8.4	7.93	8.15	100	60
	Low SC DIEPAMHR @ 71 µS/cm	73	100	22.5	24.2	7.8	9.0	7.32	7.69	NR	NR
	100%	92	122	21.6	24.3	7.7	8.8	7.55	7.92	36	38
	50%	89	112	22.5	24.5	7.8	8.4	7.56	7.82		
	25%	85	105	22.5	24.7	7.8	8.4	7.51	7.71		
	12.5%	85	103	22.5	24.5	7.7	8.5	7.42	7.69		
	6.25%	77	102	22.6	24.5	7.7	8.4	7.41	7.65		
	100%	105	129	21.9	24.5	7.7	8.7	7.60	7.90	44	38
	50%	95	115	22.0	24.7	7.9	8.4	7.57	7.77		
	25%	80	109	21.8	24.5	7.8	8.4	7.52	7.71		
	12.5%	83	105	21.8	24.1	7.9	8.5	7.44	7.66		
	6.25%	84	104	21.8	24.3	7.8	8.5	7.42	7.62		
	100%	68	90	22.0	24.1	7.5	8.8	7.47	7.78	28	30
	50%	76	93	22.6	24.3	7.6	8.4	7.48	7.72		
	25%	78	96	22.6	24.3	7.7	8.5	7.41	7.66		
	12.5%	80	97	22.5	24.2	7.8	8.5	7.38	7.61		
	6.25%	80	98	22.6	24.1	7.9	8.5	7.35	7.63		
	100%	129	152	22.1	24.2	7.8	8.7	7.56	7.95	48	52
	50%	108	127	22.5	24.2	7.9	8.5	7.61	7.89		
	25%	96	111	22.4	24.4	7.8	8.4	7.54	7.78		
	12.5%	88	104	22.4	24.4	7.8	8.6	7.45	7.69		
	6.25%	84	104	22.5	24.2	7.9	8.5	7.40	7.63		

1. This unionized ammonia reading is based on the water chemistry measured at test initiation and the ammonia-nitrogen readings measured at sample receipt.

NR: Not recorded

Table B7. Summary of water chemistry during a 96-hour *H. azteca* toxicity test initiated on 6/10/15 of samples collected by the California Department of Pesticide Regulation on 6/9/15.

Treatment		EC (µS/cm)		Temp (C)		DO (mg/L)		pH		Hardness (mg/L as $CaCO_3$)	Alkalinity (mg/L as $CaCO_3$)	Unionized Ammonia (mg/L)[1]
		Min	Max	Min	Max	Min	Max	Min	Max			
Control	DIEPAMHR	303.6	338.0	21.4	25.6	7.8	8.4	7.92	8.23	78	54	0.000
F2	100%	120.3	142.1	21.4	25.5	7.8	8.6	7.72	7.91	40	38	0.001
	50%	220.5	275.4	21.3	25.6	7.8	8.8	7.84	8.05			
	25%	274.9	285.2	21.3	25.5	7.9	8.6	7.92	8.08			
	12.5%	296.8	300.3	21.4	25.5	7.9	8.7	7.89	8.18			
	6.25%	307.3	376.7	21.3	25.4	8.0	8.8	7.59	8.19			
F5	100%	349.9	389.1	21.2	25.3	7.9	8.8	7.79	8.53	232	233	0.002
	50%	338.7	376.3	21.3	25.2	7.8	8.9	7.67	8.36			
	25%	316.0	351.4	21.3	25.3	7.8	8.8	7.88	8.23			
	12.5%	307.2	330.6	21.3	25.4	7.9	8.8	7.95	8.22			
	6.25%	308.3	327.6	21.3	25.4	7.9	8.7	8.02	8.22			

1. This unionized ammonia reading is based on the ammonia-nitrogen measured upon sample receipt and upon the water chemistry measured at test initiation.

Table B8. Summary of water chemistry during a 96-hour *H. azteca* toxicity test initiated on 11/3/15 of samples collected by the California Department of Pesticide Regulation on 11/1/15 and 11/2/15.

Treatment		EC (µS/cm)		Temp (C)		DO (mg/L)		pH		Hardness (mg/L as $CaCO_3$)	Alkalinity (mg/L as $CaCO_3$)	
		Min	Max	Min	Max	Min	Max	Min	Max			
Control	DIEPAMHR	320.9	368.2	21.0	24.2	7.7	8.9	7.66	8.09	100	56	
	Low SC DIEPAMHR @ 86 µS/cm	88.3	113.3	20.5	24.2	7.8	8.9	7.45	7.75	20	18	
F2	100%	85.4	108.0	21.1	24.5	7.7	8.1	7.41	7.81	28	20	
	50%	85.9	121.1	20.7	23.2	7.7	8.4	7.40	7.64			
	25%	86.3	108.5	20.5	22.9	7.9	8.5	7.49	7.69			
	12.5%	87.1	107.8	21.4	22.9	8.0	8.7	7.49	7.75			
	6.25%	83.9	106.0	21.4	23.1	7.9	8.5	7.45	7.82			
F3	100%	104.0	109.6	23.4	24.4	8.2	8.2	7.70	7.77	40	62	
	50%	98.3	127.2	23.3	23.8	7.7	8.4	7.58	7.76			
	25%	92.9	119.7	21.0	23.5	7.8	8.7	7.49	7.72			
	12.5%	88.1	110.6	20.5	23.3	8.0	8.8	7.37	7.68			
	6.25%	87.1	107.3	20.3	23.3	7.9	8.9	7.39	7.80			

1. This unionized ammonia reading is based on the ammonia-nitrogen measured upon sample receipt and upon the water chemistry measured at test initiation.

Table B9. Summary of water chemistry during a 96-hour *H. azteca* toxicity test initiated on 2/25/16 of samples collected by the California Department of Pesticide Regulation on 2/19/16.

Treatment		EC (µS/cm)		Temp (C)		DO (mg/L)		pH		Hardness (mg/L as $CaCO_3$)	Alkalinity (mg/L as $CaCO_3$)	
		Min	Max	Min	Max	Min	Max	Min	Max			
Control	DIEPAMHR	343.3	364	23.1	24.2	8.25	8.42	7.82	8.20	112	52	
	Low SC DIEPAMHR @ 87 µS/cm	85.8	105.7	22.4	24.2	8.31	8.68	7.46	7.84	24	10	
F2	100%	109.7	118.8	23.1	24.1	7.98	8.65	7.54	7.70	40	32	
	50%	96.3	111.5	22.8	23.5	8.00	8.92	7.50	7.76			
	25%	89.0	110.5	22.4	23.5	8.04	8.89	7.50	8.02			
	12.5%	85.1	100.1	21.8	23.4	8.15	8.89	7.52	7.85			
	6.25%	81.7	105.7	22.3	23.3	8.21	8.83	7.54	7.85			
F5	100%	81.5	96.8	22.9	23.4	8.11	8.58	7.54	7.64	44	26	
	50%	83.7	96.2	22.9	23.3	8.18	8.82	7.59	7.71			
	25%	83.0	97.0	22.6	23.2	8.25	8.85	7.55	7.79			
	12.5%	88.3	99.9	22.5	23.2	8.28	8.88	7.53	7.95			
F100	100%	127.9	140.7	23.2	24.0	8.22	8.75	7.48	7.81	24	34	
	50%	103.4	110.0	23.2	23.4	8.35	8.78	7.62	7.71			
	25%	93.2	117.8	22.5	23.4	8.31	8.81	7.54	7.80			

1. This unionized ammonia reading is based on the water chemistry measured at test initiation and the ammonia-nitrogen readings measured at sample receipt.

Appendix C

Water Quality During Algae Toxicity Tests

Table C1. Summary of water chemistry during a 96-hour *S. capricornutum* tests initiated on 11/21/13 of samples collected by the California Department of Pesticide Regulation on 11/19/13.

Treatment	EC (µS/cm)		Temp (C)		DO (mg/L)		pH		Unionized Ammonia (mg/L) [1]
	Min	Max	Min	Max	Min	Max	Min	Max	
Glass Distilled	102	120	21.5	21.5	8.0	8.1	7.95	8.61	0.000
F2	162	172	21.7	21.7	8.3	8.4	8.00	8.39	0.024
F3	165	176	21.3	21.6	7.9	8.6	7.98	8.69	0.038
F5	212	238	21.3	21.7	8.4	8.5	7.88	8.74	0.023
F100	224	247	21.0	21.6	8.3	8.8	7.92	8.76	0.022

1. This unionized ammonia reading is based on the ammonia-nitrogen measured upon sample receipt and upon the water chemistry measured at test initiation.

Table C2. Summary of water chemistry during a 96-hour *S. capricornutum* tests initiated on 2/27/14 of samples collected by the California Department of Pesticide Regulation on 2/26/16.

Treatment	EC (µS/cm)		Temp (C)		DO (mg/L)		pH		Unionized Ammonia (mg/L) [1]
	Min	Max	Min	Max	Min	Max	Min	Max	
Glass Distilled	124	176	21.8	22.9	7.8	8.2	7.67	8.76	0.000
F2	186	197	22.0	23.8	8.0	8.4	7.89	8.10	0.000
F3	200	210	22.2	23.0	8.2	8.3	8.10	9.09	0.015
F5	222	225	21.9	23.0	7.5	8.3	8.06	9.44	0.001
F100	144	254	21.6	23.0	7.7	8.4	8.16	9.26	0.000

1. This unionized ammonia reading is based on the ammonia-nitrogen measured upon sample receipt and upon the water chemistry measured at test initiation.

Table C3. Summary of water chemistry during a 96-hour *S. capricornutum* tests initiated on 5/7/14 of samples collected by the California Department of Pesticide Regulation on 5/7/14.

Treatment	EC (µS/cm)		Temp (C)		DO (mg/L)		pH		Unionized Ammonia (mg/L) [1]
	Min	Max	Min	Max	Min	Max	Min	Max	
Glass Distilled	400	406	23.8	24.7	7.8	8.2	8.22	8.67	0.000
F2	195	200	24.0	24.3	7.8	8.3	8.10	9.03	0.002
F3	269	274	24.0	24.3	7.7	8.2	8.31	9.24	0.000
F5	242	243	23.9	24.3	7.7	8.4	8.29	9.16	0.000
F100	324	336	23.9	24.3	7.8	8.4	8.47	9.34	0.000

1. This unionized ammonia reading is based on the ammonia-nitrogen measured upon sample receipt and upon the water chemistry measured at test initiation.

Table C4. Summary of water chemistry during a 96-hour *S. capricornutum* tests initiated on 7/9/14 of samples collected by the California Department of Pesticide Regulation on 7/9/14.

Treatment	EC (µS/cm)		Temp (C)		DO (mg/L)		pH		Unionized Ammonia (mg/L) [1]
	Min	Max	Min	Max	Min	Max	Min	Max	
Glass Distilled	96	311	22.7	24.7	7.6	8.4	7.72	8.82	0.000
F2	162	266	NR	24.7	7.6	8.9	7.66	9.02	1.055
F3	196	241	NR	24.7	8.0	8.0	7.80	8.93	6.797

1. This unionized ammonia reading is based on the ammonia-nitrogen measured upon sample receipt and upon the water chemistry measured at test initiation.

Table C5. Summary of water chemistry during a 96-hour *S. capricornutum* tests initiated on 2/10/15 of samples collected by the California Department of Pesticide Regulation on 2/9/15.

Treatment	EC (µS/cm)		Temp (C)		DO (mg/L)		pH		Unionized Ammonia (mg/L) [1]
	Min	Max	Min	Max	Min	Max	Min	Max	
Glass Distilled	88	NR	22.4	21.4	7.7	7.7	7.06	8.07	0.000
F2	223	NR	22.5	21.6	8.3	8.3	7.84	8.82	0.004
F3	190	NR	22.6	21.6	8.4	8.4	7.79	8.65	0.005
F5	200	NR	22.5	21.5	8.5	8.5	7.85	8.94	0.004
F100	211	NR	22.4	21.5	8.7	8.7	7.85	8.42	0.003

1. This unionized ammonia reading is based on the ammonia-nitrogen measured upon sample receipt and upon the water chemistry measured at test initiation.

Table C6. Summary of water chemistry during a 96-hour *S. capricornutum* tests initiated on 4/9/15 of samples collected by the California Department of Pesticide Regulation on 4/8/15.

	EC (µS/cm)		Temp (C)		DO (mg/L)		pH		Unionized Ammonia (mg/L) [1]
	Min	Max	Min	Max	Min	Max	Min	Max	
	93	90	23.9	22.3	8.1	8.9	7.55	8.03	0.000
	180	174	24.2	22.5	8.3	9.7	7.75	8.90	0.006
	195	182	24.2	22.6	8.3	9.6	7.83	8.83	0.006
	159	148	24.1	22.7	8.3	9.6	7.65	8.85	0.003
	221	212	24.2	22.6	8.4	9.7	7.71	9.09	

1. This unionized ammonia reading is based on the ammonia-nitrogen measured upon sample receipt and upon the water chemistry measured at test initiation.

Table C7. Summary of water chemistry during a 96-hour *S. capricornutum* tests initiated on 6/10/15 of samples collected by the California Department of Pesticide Regulation on 6/9/15.

Treatment	EC (µS/cm)		Temp (C)		DO (mg/L)		pH		Unionized Ammonia (mg/L) [1]
	Min	Max	Min	Max	Min	Max	Min	Max	
Glass Distilled	84	89	22.5	24.6	7.8	8.4	7.58	7.86	0.000
F2	195	202	22.9	24.7	7.9	8.3	7.90	8.85	0.002
F5	431	463	22.8	24.8	8.0	8.5	8.35	9.09	0.010

1. This unionized ammonia reading is based on the ammonia-nitrogen measured upon sample receipt and upon the water chemistry measured at test initiation.

Table C8. Summary of water chemistry during a 96-hour *S. capricornutum* tests initiated on 11/3/15 of samples collected by the California Department of Pesticide Regulation on 11/1/15 and 11/2/15.

Treatment	EC (µS/cm)		Temp (C)		DO (mg/L)		pH		Unionized Ammonia (mg/L)[1]
	Min	Max	Min	Max	Min	Max	Min	Max	
Glass Distilled	94	104	24.0	25.6	7.93	8.09	7.64	7.93	0.000
F2	174	175	23.9	26.1	7.95	8.30	7.72	9.25	0.001
F3	193	195	24.0	25.9	7.98	8.37	7.94	9.41	0.005

1. This unionized ammonia reading is based on the ammonia-nitrogen measured upon sample receipt and upon the water chemistry measured at test initiation.

Table C9. Summary of water chemistry during a 96-hour *S. capricornutum* tests initiated on 2/19/16 of samples collected by the California Department of Pesticide Regulation on 2/18/16.

Treatment	EC (µS/cm)		Temp (C)		DO (mg/L)		pH		Unionized Ammonia (mg/L)
	Min	Max	Min	Max	Min	Max	Min	Max	
Glass Distilled	100	110	23.9	25.4	8.14	8.16	7.57	8.19	0.000
F2	193	197	23.9	25.2	8.24	8.25	7.72	9.13	0.007
F5	170	181	23.9	25.4	8.28	8.50	7.77	9.45	0.005
F100	214	220	23.9	25.1	8.23	8.61	7.81	9.39	0.001

1. This unionized ammonia reading is based on the ammonia-nitrogen measured upon sample receipt and upon the water chemistry measured at test initiation.

Appendix D

Analytical Chemistry

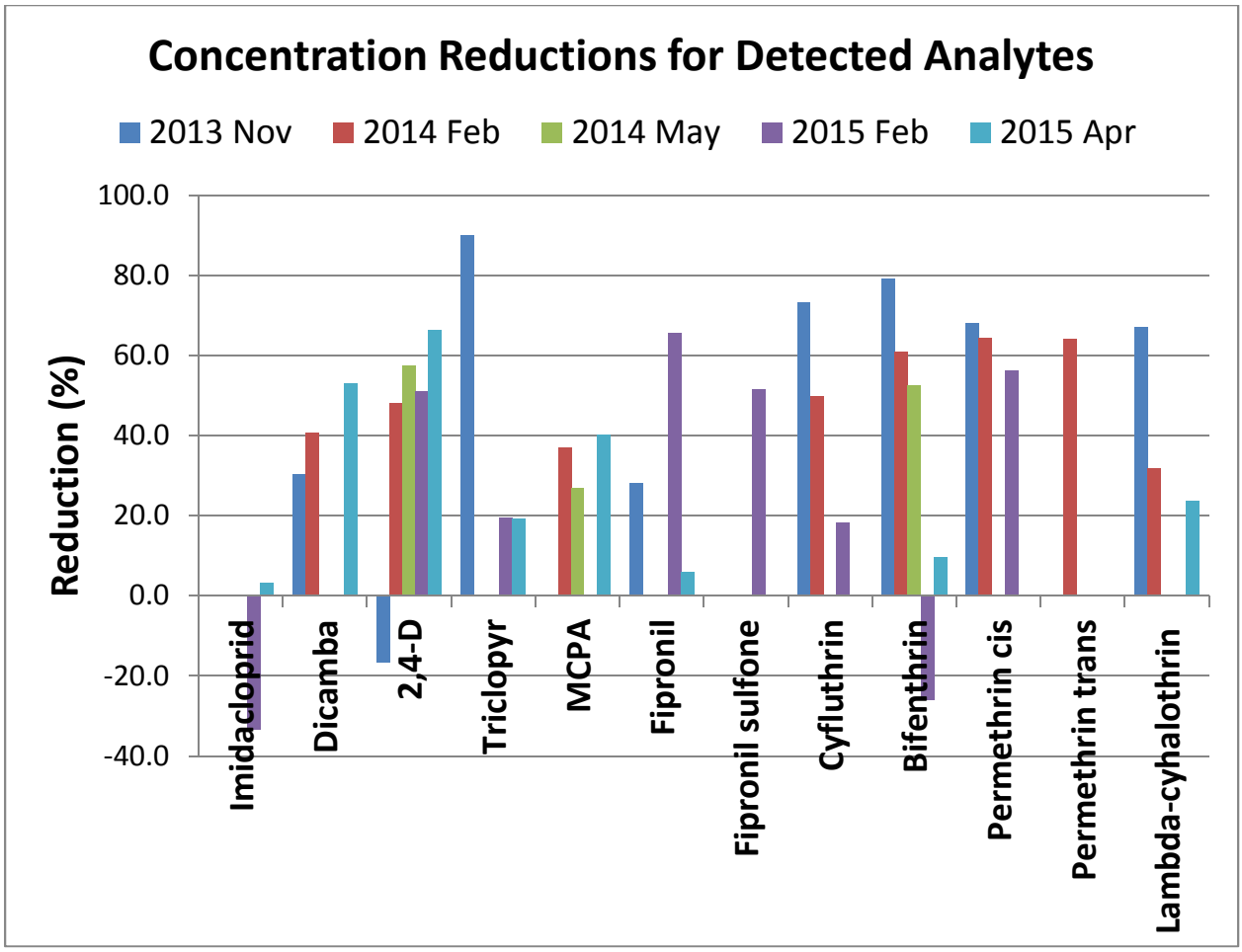
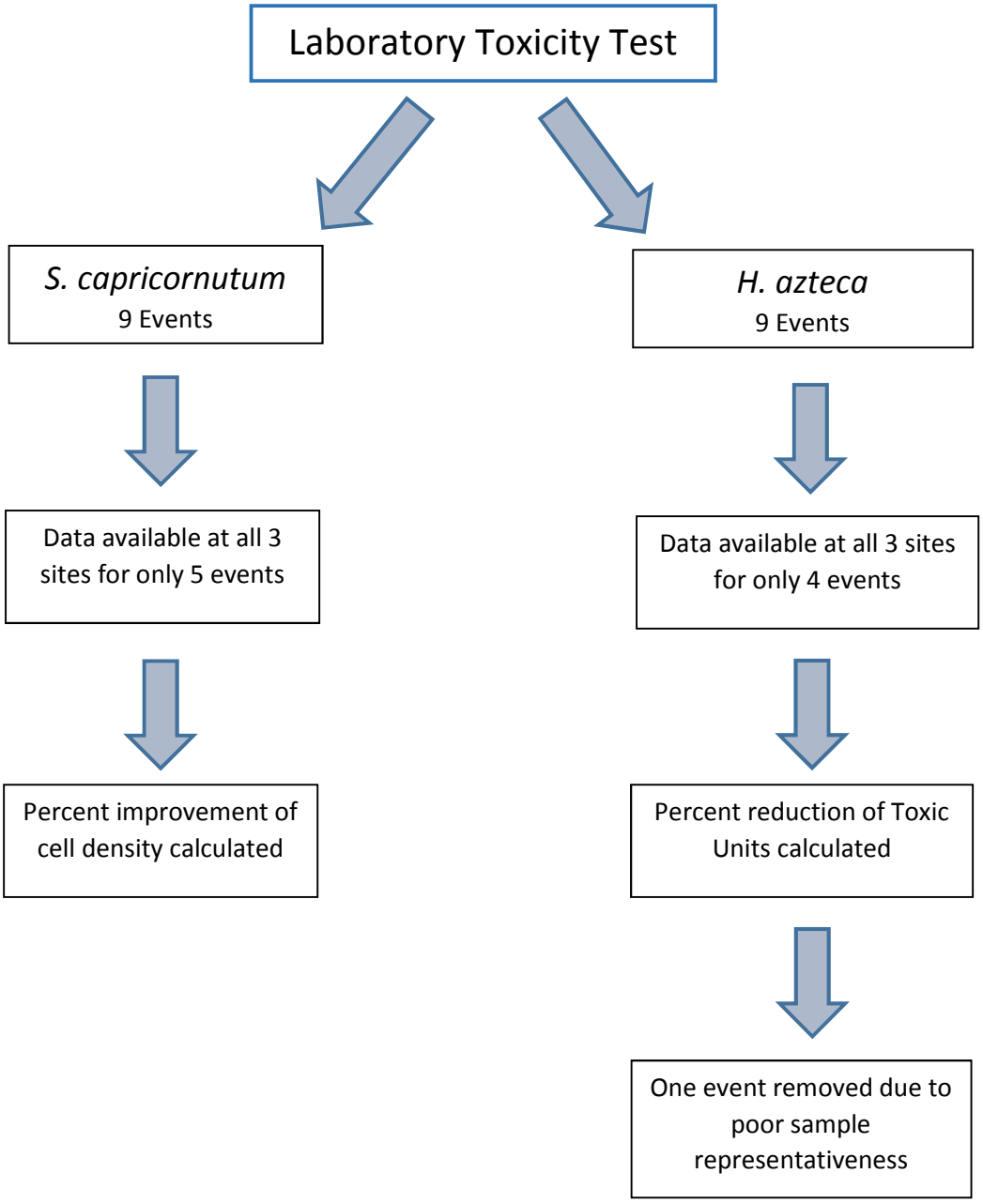


Figure D1. Graph of concentration reductions for detected analytes for five events. Chemical analysis data provided by the California Department of Pesticide Regulation and analyzed by the California Department of Food and Agriculture.

Table D2. Concentrations of detected analytes at the Folsom sites for the first eight events. Chemical analysis data provided by the California Department of Pesticide Regulation and analyzed by the California Department of Food and Agriculture.

		11/19/2013			2/26/2014			5/7/2014			7/9/2014		2/7/2015			4/8/2015			6/10/2015	11/1/2015	
	0.05	0.328	0.47	0.432	0.462	1.96	0.469	0.073				0.103	0.321	0.129	0.142	0.304	3.03	0.312	0.237	0.155	0.128
	0.001	0.0816	0.0627	0.0159	0.0253	0.0386	0.0114	0.00318		0.00113	0.0243	0.0147	0.0098	0.0227	0.015	0.0082	0.0096	0.0077	0.0015	0.011	0.0344
	0.002	0.002	0.0078			0.0044					0.0042			0.0024							
	0.05	0.055	0.131	0.054	0.073	0.179	0.062										0.148			0.088	0.076
	0.02	0.032	0.0293	0.0224							0.031	0.038	0.092		0.027	0.026		0.021	0.029	0.018	0.078
	0.03												0.034								0.042
	0.05												0.092	0.07	0.118	0.061		0.051			
	0.002	0.0031	0.0029			0.0026					0.0028						0.0024				
	0.05				0.461		0.209		0.056								0.098				
	0.002	0.004			0.0179		0.0046					0.0084	0.0025								
	0.005				0.0198		0.0053					0.0076									
	0.05		0.783											0.063			0.051			0.084	0.064



Total:	5 Events	3 Events

Figure D2. Flowchart of sample reductions for *S. capricornutum* and *H. azteca*.