

Appendix D. Example Output from PRZM/EXAMS, E-FAST, and AgDRIFT

PRZM/EXAMS

Urban Uses

At the present time, EFED considers the use of the CA impervious scenario as the most suitable available modeling approach for impervious runoff. The PRZM CA impervious scenario may be used in the tier 2 coupled aquatic models PRZM/EXAMS along with a CA residential or other appropriate scenario such as CA rights-of-way (ROW) to obtain EECs (refer to **Table 3-1** of the endangered species assessment (ESA)). The “residential” (and various other urban) use patterns require the PRZM scenarios CA residential and CA impervious. Both scenarios are run separately.

This approach assumes that no watershed is completely covered by either the ¼ acre lot (the basis for the residential scenario) or undeveloped land (the basis for the ROW scenario), for residential and ROW use patterns, respectively. Therefore, differential amounts of runoff will occur within the watershed. The impervious scenario was developed to represent the paved areas within a watershed not including roads, parking lots, sidewalks, and buildings outside the ¼ acre lot (the ¼-acre lot scenario accounts for impervious surfaces such as buildings within the represented area). By modeling a separate scenario for impervious surfaces, it is also possible to estimate that amount of exposure that could occur when the pesticide is over-sprayed onto this surface. Using two scenarios in tandem requires post-processing of the modeled output in order to derive a weighted EEC that represents the contribution of both the pervious (*i.e.*, residential and ROW scenarios) and the impervious surfaces. Exposure from both scenarios can also be weighted and aggregated. The daily time series from each model run are copied from the times series file (*i.e.*, “NAME_TS.out”) generated from the PRZM graphical user interface (PE5.pl) into a spreadsheet. The time series data are then weighted based on percentage of impervious surface, the percentage of the pervious surface treated, and an adjusted time series is created. Rolling averages for the relevant durations of exposure (*e.g.*, 21-day and 60-day averages) are calculated, and the relevant one-in-ten year return EEC is generated from these distributions. The intention is to couple the edge-of-field concentrations from the impervious scenario with the edge-of-field concentrations from the residential scenario to generate weighted concentrations for areas of a certain impervious cover.

The use of a ¼-acre residential lot was justified, based on data from the latest “American Housing Survey of the U.S.: 2009,” from the Census Bureau (AHS), which was accessed 01/31/2013 at the following site: <http://www.census.gov/housing/ahs/data/index.html>. The latter survey was issued in March 2011, and covers data for the year 2009. In order to test the assumption of the ¼-acre lot as the best representation for residential housing, the AHS data for suburban homes that list total number of houses by lot size and by square footage of house was evaluated (**Table 1-3** from the AHS website above, was provided as an Excel spreadsheet entitled “Size of Unit and Lot–All Housing Units”). With a total of 130,112,000 total units reported nationally for all suburban areas, 25,008,000 units (the largest class or 19%) were on lots between 1/8 acre and ¼ acre, while 17,825,000 units (the third largest class or 14%) were on lots between ¼ acre and ½ acre. Taken as a whole, these two lot size categories cover 33% of all

housing units. The second largest class was for units between 1 to 5 acres (15%) and the fourth largest class was for units less than 1/8 acre (11%). Overall, the median lot size was 0.26 acre. The vast majority of the houses were one unit structures, or 95,216,000 units (73%). Furthermore, another survey, the “American Housing Survey of Selected Metropolitan Areas: 2009” (issued in July 2011), was also evaluated. According to the survey, the median lot size out of several metropolitan areas is 0.18 acres (noted, however, that it did not include any location in California). The majority of the units were between 1/8 and 1/4 acres. This analysis suggests that the 1/4-acre lot is a reasonable approximation of suburban pesticide use.

The second critical assumption is that 50% of a 1/4 acre lot will be pervious and 50% impervious. This assumption was based partially on data from the AHS website data (see above) and partially from professional judgment about typical features and the percentage of a typical lot those features might require. For example, the AHS survey data reports that of a total of 91,241,000 reported single detached homes in suburban areas, 21,224,000 (the largest group at 23.3%) were between 1,000 and 1,500 square feet, while 20,636,000 (the second largest group at 22.6%) were between 1,500 and 2,000 square feet, and 14,361,000 (the third largest group at 15.7%) were between 2,000 and 2,500 square feet. The median lot size was 1700 square feet. From these data, it was assumed that a typical house is 2,000 square feet with a 1,000 square foot footprint. The lower sized houses less than 1,500 square feet are more likely to represent single floor structures; thus, the 1,000 square foot estimate for a house footprint is reasonable.

In addition to the footprint of the typical house, it was assumed that a typical house would have a driveway of approximately 25 by 30 feet or 750 square feet and roughly 250 square feet of sidewalk. A typical suburban home was also assumed to have roughly 300 square feet of deck space and 900 square feet of garage. Finally, it was assumed that a substantial portion of the typical home would be planted in landscaping (e.g., residential lawn and/or ornamentals) with an estimate of 2,000 square feet. All of the previous estimates are based on professional judgment and are not derived from the AHS data. The sum of all these areas is 5,200 square feet. Taking a total 1/4-acre lot size of 10,890 square feet and subtracting the house square footage yields a total remaining area of 5,690, or roughly 50% of the total lot untreated area. Based upon these assumptions, the impervious area is 5,200 square feet, which is roughly 48% of the 1/4-acre lot. EFED’s approximation appears to be reasonable, given that the impervious surface cover coefficient (ISC) for residential land use in California (i.e., California specific) and a lot density of four dwelling units per acre, is 0.46 (or 46% impervious acres/acre). The “Impervious Surface Coefficients User’s Guide and Calculator” (dated 12/31/2010) are available at <http://www.oehha.ca.gov/ecotox/iscug123110.html>, accessed 01/31/2013).

The rights-of-way scenario is intended to represent areas including those associated with roads, power lines, and railroads in Central/Coastal California. Unlike most of EFED existing scenarios, the scenario is conceptually different in that it represents a linear surface that drains into an adjacent water body (drainage ditch). However, for this exercise, EFED assumes that while conceptually different, the scenario is for practicality purposes developed in a similar manner as a standard scenario that assumes a 10-hectare field draining into a 1-hectare static pond. Crop cover parameters for this scenario were based on typical plants found adjacent to state maintained highway right-of ways. In most cases rights-of-way areas are generally bare ground kept clear of vegetation. Rights-of-way occur throughout the state. For the rights-of-way

scenario, it was assumed that rights-of-way consist of 50% impervious and 50% pervious cover. In addition, it was assumed that no single watershed will be completely covered by a rights-of-way use. This assumption seems reasonable given that rights-of-way (roads, rail and utility lines) are typically long linear features that traverse a watershed. For the screening-level assessment, it was assumed that no more than 10% of the watershed is covered in rights-of-way.¹

Example Output File for California Melons (Cucurbits)

Water Column

stored as DELTAMET.out

Chemical: Deltamethrin

PRZM environment: CAMelonsRLF_V2.txt modified Wedday, 26 March 2008 at 09:33:26

EXAMS environment: pond298.exv modified Tuesday, 26 August 2008 at 05:14:07

Metfile: w93193.dvf modified Tuesday, 26 August 2008 at 05:16:12

Water segment concentrations (ppb)

Year	Peak	96 hr	21 Day	60 Day	90 Day	Yearly
1961	0.03187	0.0138	0.009394	0.004271	0.003182	0.000978
1962	0.03209	0.01403	0.00962	0.004473	0.003367	0.001226
1963	0.03213	0.01407	0.009658	0.004535	0.003433	0.00127
1964	0.03215	0.01408	0.009671	0.004517	0.003406	0.001272
1965	0.03214	0.01407	0.00966	0.004525	0.003419	0.001274
1966	0.0321	0.01404	0.009632	0.004499	0.003386	0.001261
1967	0.03213	0.01407	0.009654	0.004469	0.003336	0.001211
1968	0.03205	0.01399	0.009584	0.004429	0.003333	0.001207
1969	0.03215	0.01409	0.009673	0.00452	0.003407	0.001279
1970	0.0321	0.01404	0.009631	0.004455	0.00334	0.001237
1971	0.03212	0.01405	0.009644	0.00448	0.003363	0.001236
1972	0.03208	0.01402	0.009613	0.004458	0.003348	0.001238
1973	0.03208	0.01402	0.009617	0.004469	0.003365	0.001253
1974	0.03209	0.01403	0.009623	0.004469	0.00336	0.001232
1975	0.03211	0.01404	0.009636	0.004513	0.003419	0.001263
1976	0.03215	0.01409	0.009675	0.00454	0.003456	0.001324
1977	0.03211	0.01404	0.009644	0.004471	0.003352	0.001255
1978	0.03207	0.014	0.009597	0.004432	0.003323	0.001194
1979	0.03205	0.01399	0.009585	0.004427	0.003317	0.001181
1980	0.03209	0.01402	0.009608	0.004436	0.003319	0.001178
1981	0.03201	0.01394	0.00955	0.004365	0.003246	0.001152
1982	0.0321	0.01403	0.009616	0.004474	0.003364	0.001218

¹ More information about these scenarios is found at the following site accessed 10/03/2012:
http://www.epa.gov/oppefed1/models/water/pe5_rlf.htm.

1983	0.03211	0.01404	0.009637	0.004501	0.003382	0.001236
1984	0.03204	0.01397	0.009567	0.004358	0.003228	0.001124
1985	0.03199	0.01393	0.009528	0.004335	0.003224	0.00113
1986	0.03202	0.01396	0.009558	0.004399	0.003277	0.001161
1987	0.03204	0.01397	0.00957	0.004463	0.003364	0.001201
1988	0.03209	0.01402	0.009613	0.004413	0.00329	0.001175
1989	0.03205	0.01398	0.009577	0.004415	0.003308	0.001181
1990	0.03207	0.01401	0.009602	0.004421	0.003304	0.001187

Sorted results

Prob.	Peak	96 hr	21 Day	60 Day	90 Day	Yearly
0.032258065	0.03215	0.01409	0.009675	0.00454	0.003456	0.001324
0.064516129	0.03215	0.01409	0.009673	0.004535	0.003433	0.001279
0.096774194	0.03215	0.01408	0.009671	0.004525	0.003419	0.001274
0.129032258	0.03214	0.01407	0.00966	0.00452	0.003419	0.001272
0.161290323	0.03213	0.01407	0.009658	0.004517	0.003407	0.00127
0.193548387	0.03213	0.01407	0.009654	0.004513	0.003406	0.001263
0.225806452	0.03212	0.01405	0.009644	0.004501	0.003386	0.001261
0.258064516	0.03211	0.01404	0.009644	0.004499	0.003382	0.001255
0.290322581	0.03211	0.01404	0.009637	0.00448	0.003367	0.001253
0.322580645	0.03211	0.01404	0.009636	0.004474	0.003365	0.001238
0.35483871	0.0321	0.01404	0.009632	0.004473	0.003364	0.001237
0.387096774	0.0321	0.01404	0.009631	0.004471	0.003364	0.001236
0.419354839	0.0321	0.01403	0.009623	0.004469	0.003363	0.001236
0.451612903	0.03209	0.01403	0.00962	0.004469	0.00336	0.001232
0.483870968	0.03209	0.01403	0.009617	0.004469	0.003352	0.001226
0.516129032	0.03209	0.01402	0.009616	0.004463	0.003348	0.001218
0.548387097	0.03209	0.01402	0.009613	0.004458	0.00334	0.001211
0.580645161	0.03208	0.01402	0.009613	0.004455	0.003336	0.001207
0.612903226	0.03208	0.01402	0.009608	0.004436	0.003333	0.001201
0.64516129	0.03207	0.01401	0.009602	0.004432	0.003323	0.001194
0.677419355	0.03207	0.014	0.009597	0.004429	0.003319	0.001187
0.709677419	0.03205	0.01399	0.009585	0.004427	0.003317	0.001181
0.741935484	0.03205	0.01399	0.009584	0.004421	0.003308	0.001181
0.774193548	0.03205	0.01398	0.009577	0.004415	0.003304	0.001178
0.806451613	0.03204	0.01397	0.00957	0.004413	0.00329	0.001175
0.838709677	0.03204	0.01397	0.009567	0.004399	0.003277	0.001161
0.870967742	0.03202	0.01396	0.009558	0.004365	0.003246	0.001152
0.903225806	0.03201	0.01394	0.00955	0.004358	0.003228	0.00113
0.935483871	0.03199	0.01393	0.009528	0.004335	0.003224	0.001124
0.967741935	0.03187	0.0138	0.009394	0.004271	0.003182	0.000978
0.1	0.032149	0.014079	0.00967	0.004525	0.003419	0.001274

Average
of yearly
averages: 0.001211

Inputs generated by pe5.pl - Novemeber 2006

Data used for this run:

Output File: DELTAMET

Metfile: w93193.dvf

PRZM scenario: CAMElonsRLF_V2.txt

EXAMS environment file: pond298.exv

Chemical Name: Deltamethrin

Description	Variable	Name	Value	Units	Comments
Molecular weight	mwt		505.2	g/mol	
Henry's Law Const.	henry		3.10E-07	atm-m ³ /mol	
Vapor Pressure	vapr		9.32E-11	torr	
Solubility	sol		0.0002	mg/L	
Kd	Kd			mg/L	
Koc	Koc		449000	mg/L	
Photolysis half-life	kdp		84	days	Half-life
Aerobic Aquatic Metabolism	kbacw		154	days	Halfife
Anaerobic Aquatic Metabolism	kbacs		68	days	Halfife
Aerobic Soil Metabolism	asm		50.5	days	Halfife
Hydrolysis:	pH 7		0	days	Half-life
Method:	CAM		2	integer	See PRZM manual
Incorporation Depth:	DEPI		0	cm	
Application Rate:	TAPP		0.0336	kg/ha	
Application Efficiency:	APPEFF		0.95	fraction	
Spray Drift	DRFT		0.036	fraction of application rate applied to pond	
Application Date	Date		15-06	dd/mm or dd/mm or dd-mm or dd-mmm	
Interval 1	interval		3	days	Set to 0 or delete line for single app.
app. rate 1	apprate		0.0336	kg/ha	
Interval 2	interval		3	days	Set to 0 or delete line for single app.
app. rate 2	apprate		0.0336	kg/ha	
Interval 3	interval		3	days	Set to 0 or delete line for single app.
app. rate 3	apprate		0.0336	kg/ha	
Interval 4	interval		3	days	Set to 0 or delete line for single app.
app. rate 4	apprate		0.0336	kg/ha	
Interval 5	interval		3	days	Set to 0 or delete line for single app.
app. rate 5	apprate		0.0336	kg/ha	
Record 17:	FILTRA				
	IPSCND		1		

Record 18:	UPTKF	0	
	PLVKRT	0	
	PLDKRT	0	
	FEXTRC	0.5	
		EPA	
Flag for Index Res. Run	IR	Pond	
Flag for runoff calc.	RUNOFF	none	none, monthly or total(average of entire run)

Pore Water

stored as DELTAMETben.out

Chemical: Deltamethrin

PRZM environment:

CAMelonsRLF_V2.txt

modified Wedday, 26 March 2008 at 09:33:26

EXAMS environment: pond298.exv

modified Tuesday, 26 August 2008 at 05:14:07

Metfile: w93193.dvf

modified Tuesday, 26 August 2008 at 05:16:12

Benthic segment concentrations (ppb)

Year	Peak	96 hr	21 Day	60 Day	90 Day	Yearly
1961	0.000525	0.000521	0.000479	0.000397	0.000347	0.000135
1962	0.000583	0.000579	0.000535	0.000448	0.000395	0.000202
1963	0.000596	0.000592	0.000551	0.000467	0.000413	0.000213
1964	0.000598	0.000593	0.000548	0.000459	0.000405	0.000214
1965	0.000597	0.000593	0.00055	0.000463	0.000409	0.000215
1966	0.000587	0.000582	0.000541	0.000455	0.0004	0.000211
1967	0.000593	0.000588	0.000539	0.000443	0.000384	0.000198
1968	0.000572	0.000568	0.000523	0.000436	0.000386	0.000197
1969	0.000599	0.000595	0.00055	0.00046	0.000405	0.000215
1970	0.000585	0.00058	0.000533	0.000441	0.000387	0.000204
1971	0.00059	0.000586	0.00054	0.000448	0.000393	0.000205
1972	0.00058	0.000576	0.000532	0.000443	0.000389	0.000205
1973	0.000581	0.000576	0.000533	0.000447	0.000394	0.000209
1974	0.000583	0.000578	0.000534	0.000446	0.000392	0.000203
1975	0.000589	0.000584	0.000543	0.000461	0.000409	0.000212
1976	0.0006	0.000595	0.000552	0.000468	0.00042	0.000227
1977	0.000585	0.000581	0.000535	0.000444	0.000389	0.000209
1978	0.000577	0.000572	0.000526	0.000435	0.000381	0.000192
1979	0.000573	0.000568	0.000523	0.000435	0.00038	0.00019
1980	0.000582	0.000577	0.000529	0.000436	0.000381	0.000189
1981	0.00056	0.000555	0.000508	0.000416	0.000361	0.000182
1982	0.000585	0.000581	0.000537	0.000448	0.000394	0.000198
1983	0.000588	0.000584	0.000542	0.000455	0.000398	0.000204

1984	0.000568	0.000562	0.000511	0.000412	0.000355	0.000175
1985	0.000554	0.000549	0.000501	0.000408	0.000356	0.000176
1986	0.000565	0.00056	0.000516	0.000426	0.00037	0.000184
1987	0.00057	0.000566	0.000528	0.000448	0.000395	0.000195
1988	0.000581	0.000575	0.000525	0.000428	0.000372	0.000188
1989	0.000571	0.000567	0.000521	0.000431	0.000379	0.00019
1990	0.000578	0.000572	0.000525	0.000431	0.000376	0.000191

Sorted results

Prob.	Peak	96 hr	21 Day	60 Day	90 Day	Yearly
0.032258065	0.0006	0.000595	0.000552	0.000468	0.00042	0.000227
0.064516129	0.000599	0.000595	0.000551	0.000467	0.000413	0.000215
0.096774194	0.000598	0.000593	0.00055	0.000463	0.000409	0.000215
0.129032258	0.000597	0.000593	0.00055	0.000461	0.000409	0.000214
0.161290323	0.000596	0.000592	0.000548	0.00046	0.000405	0.000213
0.193548387	0.000593	0.000588	0.000543	0.000459	0.000405	0.000212
0.225806452	0.00059	0.000586	0.000542	0.000455	0.0004	0.000211
0.258064516	0.000589	0.000584	0.000541	0.000455	0.000398	0.000209
0.290322581	0.000588	0.000584	0.00054	0.000448	0.000395	0.000209
0.322580645	0.000587	0.000582	0.000539	0.000448	0.000395	0.000205
0.35483871	0.000585	0.000581	0.000537	0.000448	0.000394	0.000205
0.387096774	0.000585	0.000581	0.000535	0.000448	0.000394	0.000204
0.419354839	0.000585	0.00058	0.000535	0.000447	0.000393	0.000204
0.451612903	0.000583	0.000579	0.000534	0.000446	0.000392	0.000203
0.483870968	0.000583	0.000578	0.000533	0.000444	0.000389	0.000202
0.516129032	0.000582	0.000577	0.000533	0.000443	0.000389	0.000198
0.548387097	0.000581	0.000576	0.000532	0.000443	0.000387	0.000198
0.580645161	0.000581	0.000576	0.000529	0.000441	0.000386	0.000197
0.612903226	0.00058	0.000575	0.000528	0.000436	0.000384	0.000195
0.64516129	0.000578	0.000572	0.000526	0.000436	0.000381	0.000192
0.677419355	0.000577	0.000572	0.000525	0.000435	0.000381	0.000191
0.709677419	0.000573	0.000568	0.000525	0.000435	0.00038	0.00019
0.741935484	0.000572	0.000568	0.000523	0.000431	0.000379	0.00019
0.774193548	0.000571	0.000567	0.000523	0.000431	0.000376	0.000189
0.806451613	0.00057	0.000566	0.000521	0.000428	0.000372	0.000188
0.838709677	0.000568	0.000562	0.000516	0.000426	0.00037	0.000184
0.870967742	0.000565	0.00056	0.000511	0.000416	0.000361	0.000182
0.903225806	0.00056	0.000555	0.000508	0.000412	0.000356	0.000176
0.935483871	0.000554	0.000549	0.000501	0.000408	0.000355	0.000175
0.967741935	0.000525	0.000521	0.000479	0.000397	0.000347	0.000135
0.1	0.000598	0.000593	0.00055	0.000462	0.000409	0.000214
					Average of	0.000197

yearly
averages:

Inputs generated by pe5.pl - Novemeber 2006

Data used for this run:

Output File: DELTAMET

Metfile: w93193.dvf

PRZM scenario: CAMelonsRLF_V2.txt

EXAMS environment file: pond298.exv

Chemical Name: Deltamethrin

Description	Variable	Name	Value	Units	Comments
Molecular weight	mwt		505.2	g/mol	
Henry's Law Const.	henry		3.10E-07	atm-m ³ /mol	
Vapor Pressure	vapr		9.32E-11	torr	
Solubility	sol		0.0002	mg/L	
Kd	Kd			mg/L	
Koc	Koc		449000	mg/L	
Photolysis half-life	kdp		84	days	Half-life
Aerobic Aquatic Metabolism	kbacw		154	days	Halfife
Anaerobic Aquatic Metabolism	kbacs		68	days	Halfife
Aerobic Soil Metabolism	asm		50.5	days	Halfife
Hydrolysis:	pH 7		0	days	Half-life
Method:	CAM		2	integer	See PRZM manual
Incorporation Depth:	DEPI		0	cm	
Application Rate:	TAPP		0.0336	kg/ha	
Application Efficiency:	APPEFF		0.95	fraction	
Spray Drift	DRFT		0.036	fraction of application rate applied to pond	
Application Date	Date		15-06	dd/mm or dd/mmm or dd-mm or dd-mmm	
Interval 1	interval		3	days	Set to 0 or delete line for single app.
app. rate 1	apprate		0.0336	kg/ha	
Interval 2	interval		3	days	Set to 0 or delete line for single app.
app. rate 2	apprate		0.0336	kg/ha	
Interval 3	interval		3	days	Set to 0 or delete line for single app.
app. rate 3	apprate		0.0336	kg/ha	
Interval 4	interval		3	days	Set to 0 or delete line for single app.
app. rate 4	apprate		0.0336	kg/ha	
Interval 5	interval		3	days	Set to 0 or delete line for single app.
app. rate 5	apprate		0.0336	kg/ha	
Record 17:	FILTRA				
	IPSCND		1		
	UPTKF		0		

Record 18:	PLVKRT	0	
	PLDKRT	0	
	FEXTRC	0.5	
		EPA	
Flag for Index Res. Run	IR	Pond	
Flag for runoff calc.	RUNOFF	none	none, monthly or total(average of entire run)

AgDRIFT

Example for sweet corn (aerial):

Material: water
Wind speed: 15 mph
Boom height: 10 ft
DSD: Medium

AgDRIFT® Input Data Summary

--General--

Tier: III

Title: Deltamethrin

Notes:

Calculations Done: Yes

Run ID: AgDRIFT® Deltamethrin Corn.agd 2.1.1 02-21-2013 14:41:50

Default values appear when they differ from the Current values.

--Aircraft--		-----Current-----	-----Default-----
Name		Air Tractor AT-401	
Type		Basic	
Boom Height (ft)		10	
Flight Lines		20	
Wing Type		Fixed-Wing	
Semispan (ft)		24.5	
Typical Speed (mph)		119.99	
Biplane Separation (ft)		0	
Weight (lbs)		6000	6000
Planform Area (ft²)		294	
Propeller RPM		2000	
Propeller Radius (ft)		4.5	
Engine Vert Distance (ft)		-1.2	
Engine Fwd Distance (ft)		11.9	

-Drop Size Distribution 1-		-----Current-----	-----Default-----
Name		ASAE Medium	ASAE Fine to Medium
Type		Basic	
Drop Categories	#	Diam (um) Frac	Diam (um) Frac
	1	10.77 0.0005	10.77 0.0010
	2	16.73 0.0002	16.73 0.0003
	3	19.39 0.0003	19.39 0.0007
	4	22.49 0.0002	22.49 0.0003
	5	26.05 0.0003	26.05 0.0007
	6	30.21 0.0005	30.21 0.0010
	7	35.01 0.0007	35.01 0.0010
	8	40.57 0.0012	40.57 0.0020
	9	47.03 0.0022	47.03 0.0033
	10	54.50 0.0040	54.50 0.0053
	11	63.16 0.0058	63.16 0.0067
	12	73.23 0.0077	73.23 0.0090
	13	84.85 0.0095	84.85 0.0133

14	98.12	0.0147	98.12	0.0223
15	113.71	0.0227	113.71	0.0330
16	131.73	0.0305	131.73	0.0393
17	152.79	0.0403	152.79	0.0480
18	177.84	0.0513	177.84	0.0647
19	205.84	0.0630	205.84	0.0830
20	238.45	0.0890	238.45	0.1147
21	276.48	0.1077	276.48	0.1283
22	320.60	0.1308	320.60	0.1380
23	372.18	0.1262	372.18	0.1127
24	430.74	0.0993	430.74	0.0640
25	498.91	0.0795	498.91	0.0440
26	578.54	0.0567	578.54	0.0317
27	670.72	0.0278	670.72	0.0203
28	777.39	0.0110	777.39	0.0093
29	900.61	0.0055	900.61	0.0010
30	1044.42	0.0045	1044.42	0.0007
31	1210.66	0.0035	1210.66	0.0003
32	1403.04	0.0030	0.00	0.0000

--Nozzle Distribution--
 Boom Length (%)
 Nozzle DSD & Locations

	-----Current-----				-----Default-----			
				76.3				
#	DSD	H(ft)	V(ft)	F(ft)	DSD	H(ft)	V(ft)	F(ft)
1	1	-18.7	0	0				
2	1	-17.79	0	0				
3	1	-16.87	0	0				
4	1	-15.96	0	0				
5	1	-15.05	0	0				
6	1	-14.14	0	0				
7	1	-13.22	0	0				
8	1	-12.31	0	0				
9	1	-11.4	0	0				
10	1	-10.49	0	0				
11	1	-9.58	0	0				
12	1	-8.66	0	0				
13	1	-7.75	0	0				
14	1	-6.84	0	0				
15	1	-5.93	0	0				
16	1	-5.02	0	0				
17	1	-4.1	0	0				
18	1	-3.19	0	0				
19	1	-2.28	0	0				
20	1	-1.37	0	0				
21	1	-0.456	0	0				
22	1	0.456	0	0				
23	1	1.37	0	0				
24	1	2.28	0	0				
25	1	3.19	0	0				
26	1	4.1	0	0				
27	1	5.02	0	0				
28	1	5.93	0	0				
29	1	6.84	0	0				
30	1	7.75	0	0				
31	1	8.66	0	0				
32	1	9.58	0	0				
33	1	10.49	0	0				
34	1	11.4	0	0				
35	1	12.31	0	0				
36	1	13.22	0	0				
37	1	14.14	0	0				
38	1	15.05	0	0				
39	1	15.96	0	0				
40	1	16.87	0	0				
41	1	17.79	0	0				
42	1	18.7	0	0				

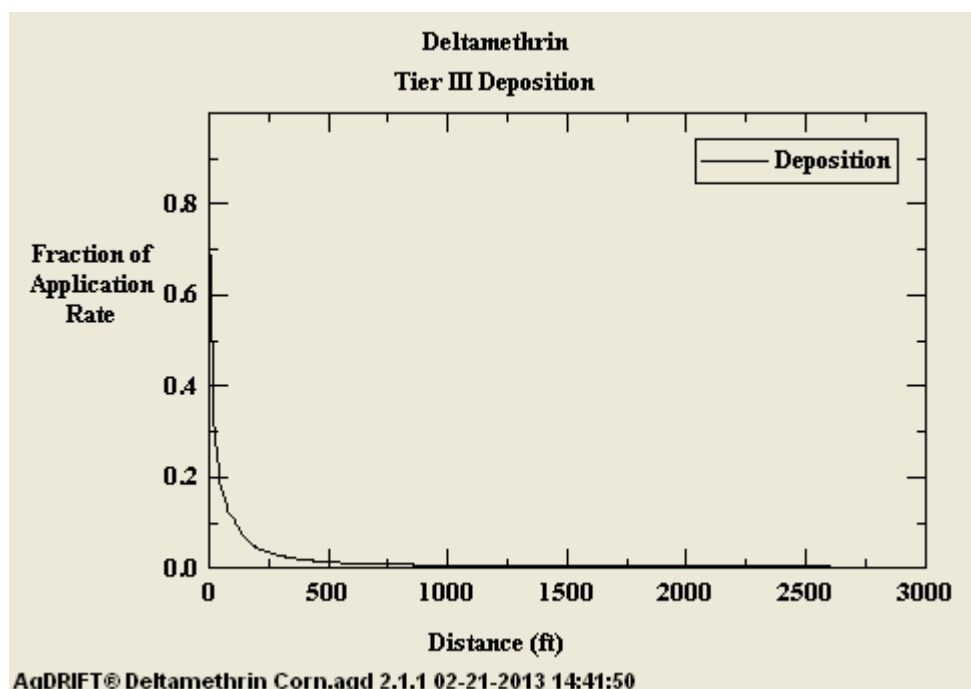
--Swath--
 Swath Width
 Swath Displacement
 Half Boom

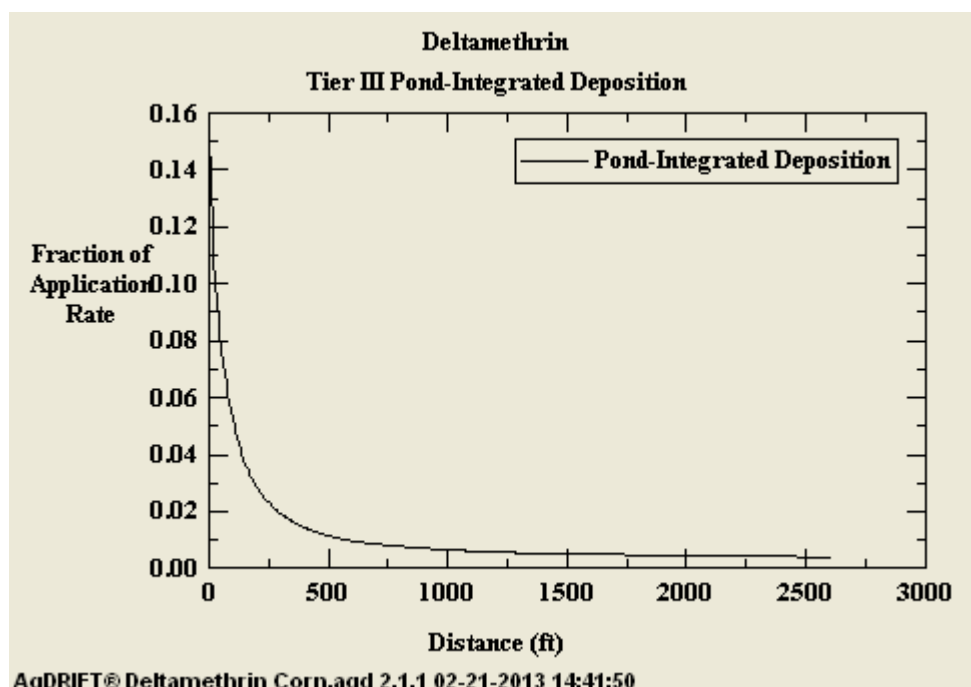
	-----Current-----		-----Default-----	
		60 ft		
	0.3722 x Swath Width			
		No		

--Spray Material--
 Name
 Type
 Nonvolatile Rate (lb/ac)
 Active Rate (lb/ac)
 Spray Volume
 Rate (gal/ac)
 Specific Gravity
 Evaporation
 Rate (µm²/deg C/sec)

	-----Current-----		-----Default-----	
		Water		
	User-defined			
	0.501		Basic	
	0.03		0.2505	
		2		2
		1		
		84.76		

--Meteorology--	-----Current-----	-----Default-----
Wind Speed (mph)	15	10
Wind Direction (deg)	-90	
Temperature (deg F)	86	
Relative Humidity (%)	50	
--Transport--	-----Current-----	-----Default-----
Flux Plane (ft)	0	
--Terrain--	-----Current-----	-----Default-----
Surface Roughness (ft)	0.0246	
--Advanced--	-----Current-----	-----Default-----
Wind Speed Height (ft)	6.56	
Max Compute Time (sec)	600	
Max Downwind Dist (ft)	2608.24	
Vortex Decay Rate (mph)	1.25	
Aircraft Drag Coeff	0.1	
Propeller Efficiency	0.8	
Ambient Pressure (in hg)	29.91	





Aquatic Body Definition

☒ EPA-Defined Pond

☐ EPA-Defined Wetland

☐ User-defined Water Body

Downwind Water Body Width: ft

Average Depth: ft

Tier I Settings

Active Rate: lb/ac

Calculations

Distance To Water Body From Edge of Application Area: ft

Initial Average Deposition: Fraction of Applied
 g/ha lb/ac

Initial Average Concentration: ng/L (ppt)

Terrestrial Field Definition

☒ Point Deposition

☐ User-defined Area Average

Downwind Width of Area Average: 208.7 ft

Tier I Settings

Active Rate: lb/ac

Calculations

Distance To Point or Area
Average From Edge of
Application Area: out of range! ft

Initial Average
Deposition: 0.0004 Fraction of Applied

0.0151 g/ha 1.35E-05 lb/ac

1.51E-07 mg/cm²

E-FAST's Down-the-Drain

Partial output file, input and output values of importance are bolded and underlined:

INITIAL REVIEW EXPOSURE REPORT

CHEMICAL ID: tmpcas

ENVIRONMENTAL RELEASES OF CHEMICALS IN HOUSEHOLD PRODUCTS

SCENARIO #: 1

EXPOSED POPULATION: Adult

WWT REMOVAL (%)	PRODUCTION VOLUME (kg/yr)	HOUSEHOLD RELEASE DAYS	PRETREATMENT RELEASE (g/person/day)	POST-TREATMENT RELEASE (g/person/day)	BODY WEIGHT (kg)	BCF (L/kg)
<u>65.</u>	<u>1000.00</u>	365.00	9.42E-06	3.30E-06	71.80	<u>698.00</u>

50 th PERCENTILE AQUATIC EXPOSURE ESTIMATES - SURFACE WATER
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DESCRIPTOR	Harmonic Mean	30Q5	7Q10	1Q10
STREAM DILUTION FACTOR	134.85	39.66	24.22	20.08
CONCENTRATION (µg/L)	6.30E-05	2.14E-04	3.51E-04	4.23E-04

10 th PERCENTILE AQUATIC EXPOSURE ESTIMATES - SURFACE WATER
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DESCRIPTOR	Harmonic Mean	30Q5	<u>7Q10</u>	<u>1Q10</u>
STREAM DILUTION FACTOR	7.95	1.80	1.00	1.00
CONCENTRATION (µg/L)	1.07E-03	4.72E-03	<u>8.50E-03</u>	<u>8.50E-03</u>