Appendix D. Example Output from PRZM/EXAMS for Metolachlor/S-Metolachlor and their Degradates Metolachlor-ESA and Metolachlor-OA

METOLACHLOR OUTPUT FILE

stored as M25a.out
Chemical: Metolachlor
PRZM environment: CAWheatRLF_V2.txt modified Wedday, 26 March 2008 at 10:39:38
EXAMS environment: pond298.exv modified Tueday, 26 August 2008 at 06:14:08
Metfile: w93193.dvf modified Tueday, 26 August 2008 at 06:16:12
Water segment concentrations (ppb)

Year	Peak	96 hr	21 Day	60 Day	90 Day	Yearly
1961	15.2	15.06	14.74	14.03	13.41	8.05
1962	40.74	40.43	39.16	36.37	34.41	20.69
1963	60.63	60.05	58.2	55.05	52.56	32.71
1964	36.47	36.25	35.81	34.62	33.48	22.62
1965	27.52	27.32	26.82	25.94	24.98	16.87
1966	24.14	23.96	23.69	22.8	21.81	14.25
1967	26.36	26.15	25.49	24.21	23.43	14.99
1968	22.44	22.31	21.97	21.19	20.35	13.25
1969	22.29	22.14	21.71	20.49	19.69	12.75
1970	22.02	21.86	21.26	20.34	19.74	12.57
1971	24.48	24.28	23.97	22.96	22.08	14.34
1972	30.74	30.5	30.05	28.95	27.91	17.44
1973	29.67	29.44	28.54	26.82	25.54	16.09
1974	24.7	24.52	24.08	22.74	22.04	14.14
1975	17.62	17.5	17.06	16.37	15.98	10.65
1976	48.44	47.99	46.46	43.36	41.27	25.32
1977	32.85	32.62	32.28	31.09	29.9	19.41
1978	34.65	34.49	33.49	31.12	29.56	18.28
1979	23.17	23.05	22.45	21.22	20.56	13.06
1980	32.35	32.1	30.98	28.85	27.4	16.86
1981	26.72	26.61	25.91	25.29	24.22	14.88
1982	20.75	20.66	20.21	19.65	18.91	12.34
1983	48.82	48.34	47.28	44.01	41.76	24.85
1984	34.93	34.66	33.78	32.3	30.86	18.88
1985	29.53	29.31	28.7	27.37	26.24	16.09
1986	50.41	50.04	48.47	44.58	42.01	24.5
1987	30.84	30.61	29.98	28.56	27.28	17.4
1988	27.86	27.65	27.08	25.77	24.7	15.62
1989	22.46	22.28	21.82	21.33	20.48	12.9
1990	25.24	25.03	24.22	23.63	22.6	13.87
Sorted results						
Prob.	Peak	96 hr	21 Day	60 Day	90 Day	Yearly
0.032258064516129	60.63	60.05	58.2	55.05	52.56	32.71
0.0645161290322581	50.41	50.04	48.47	44.58	42.01	25.32
0.0967741935483871	48.82	48.34	47.28	44.01	41.76	24.85
0.129032258064516	48.44	47.99	46.46	43.36	41.27	24.5
0.161290322580645	40.74	40.43	39.16	36.37	34.41	22.62
0.193548387096774	36.47	36.25	35.81	34.62	33.48	20.69

0.225806451612903	34.93	34.66	33.78	32.3	30.86	19.41
0.258064516129032	34.65	34.49	33.49	31.12	29.9	18.88
0.290322580645161	32.85	32.62	32.28	31.09	29.56	18.28
0.32258064516129	32.35	32.1	30.98	28.95	27.91	17.44
0.354838709677419	30.84	30.61	30.05	28.85	27.4	17.4
0.387096774193548	30.74	30.5	29.98	28.56	27.28	16.87
0.419354838709677	29.67	29.44	28.7	27.37	26.24	16.86
0.451612903225806	29.53	29.31	28.54	26.82	25.54	16.09
0.483870967741936	27.86	27.65	27.08	25.94	24.98	16.09
0.516129032258065	27.52	27.32	26.82	25.77	24.7	15.62
0.548387096774194	26.72	26.61	25.91	25.29	24.22	14.99
0.580645161290323	26.36	26.15	25.49	24.21	23.43	14.88
0.612903225806452	25.24	25.03	24.22	23.63	22.6	14.34
0.645161290322581	24.7	24.52	24.08	22.96	22.08	14.25
0.67741935483871	24.48	24.28	23.97	22.8	22.04	14.14
0.709677419354839	24.14	23.96	23.69	22.74	21.81	13.87
0.741935483870968	23.17	23.05	22.45	21.33	20.56	13.25
0.774193548387097	22.46	22.31	21.97	21.22	20.48	13.06
0.806451612903226	22.44	22.28	21.82	21.19	20.35	12.9
0.838709677419355	22.29	22.14	21.71	20.49	19.74	12.75
0.870967741935484	22.02	21.86	21.26	20.34	19.69	12.57
0.903225806451613	20.75	20.66	20.21	19.65	18.91	12.34
0.935483870967742	17.62	17.5	17.06	16.37	15.98	10.65
0.967741935483871	15.2	15.06	14.74	14.03	13.41	8.05
0.1	48.782	48.305	47.198	43.945	41.711	24.815

Average of yearly averages: 16.8556666666667

Inputs generated by pe5.pl - Novemeber 2006

Data used for this run:
Output File: M25a
Metfile: w93193.dvf
PRZM scenario: CAWheatRLF_V2.txt
EXAMS environment file: pond298.exv
Chemical Name: Metolachlor

Description	Variable	Name	Value	Units	Comments
Molecular weight		mwt	283.8	g/mol	
Henry's Law Const.		henry	2.2e-8	atm-m^3/mol	
Vapor Pressure	vapr	2.8e-5	torr		
Solubility	sol	480	mg/L		
Kd	Kd		mg/L		
Koc	Koc	181	mg/L		
Photolysis half-life		kdp	70	days	Half-life
Aerobic Aquatic Metabolism		kbacw	141	days	Halfife
Anaerobic Aquatic Metabolism		kbacs	234	days	Halfife
Aerobic Soil Metabolism	asm	48.9	days	Halfife	
Hydrolysis:	pH 7	0	days	Half-life	
Method: CAM	1	integer	See PRZM manual		
Incorporation Depth:		DEPI	0	cm	
Application Rate:	TAPP	3.584	kg/ha		
Application Efficiency:		APPEFF	0.95	fraction	
Spray Drift	DRFT	0.05	fraction of application rate applied to pond		
Application Date	Date	01-02	dd/mm or dd/mmm or dd-mm or dd-mmm		
Record 17:	FILTRA				

IPSCND1
UPTKF
Record 18: PLVKRT
PLDKRT
FEXTRC 0.5
Flag for Index Res. Run IR EPA Pond
Flag for runoff calc. RUNOFF none none, monthly or total(average of entire run)

Metolachlor-ESA OUTPUT FILE

stored as M25esa.out
Chemical: Metolachlor ESA
PRZM environment: CAWheatRLF_V2.txt modified Wedday, 26 March 2008 at 10:39:38
EXAMS environment: pond298.exv modified Tueday, 26 August 2008 at 06:14:08
Metfile: w93193.dvf modified Tueday, 26 August 2008 at 06:16:12
Water segment concentrations (ppb)

Year	Peak	96 hr	21 Day	60 Day	90 Day	Yearly
1961	0.6018	0.6006	0.5984	0.5878	0.5777	0.4204
1962	2.943	2.939	2.919	2.871	2.823	2.143
1963	10.2	10.17	10.1	9.936	9.796	7.524
1964	7.877	7.866	7.846	7.737	7.645	6.423
1965	5.296	5.288	5.267	5.19	5.113	4.386
1966	3.696	3.689	3.679	3.625	3.56	3.007
1967	4.427	4.421	4.396	4.344	4.293	3.386
1968	3.187	3.181	3.162	3.114	3.065	2.571
1969	2.664	2.66	2.653	2.623	2.588	2.14
1970	2.828	2.823	2.81	2.775	2.738	2.203
1971	3.341	3.334	3.322	3.272	3.223	2.613
1972	4.386	4.378	4.359	4.284	4.232	3.372
1973	3.037	3.032	3.012	2.973	2.933	2.45
1974	3.162	3.158	3.136	3.077	3.033	2.457
1975	1.956	1.954	1.945	1.925	1.912	1.608
1976	4.985	4.977	4.944	4.863	4.796	3.759
1977	4.873	4.864	4.848	4.778	4.696	3.811
1978	3.578	3.573	3.549	3.483	3.431	2.835
1979	2.753	2.75	2.732	2.703	2.669	2.182
1980	3.018	3.013	2.995	2.942	2.898	2.319
1981	4.019	4.012	3.986	3.929	3.868	2.996
1982	3.504	3.498	3.481	3.432	3.384	2.77
1983	7.201	7.187	7.142	7.013	6.907	5.334
1984	6.311	6.3	6.258	6.145	6.045	4.806
1985	5.187	5.178	5.155	5.084	5.01	4.026
1986	5.193	5.185	5.143	5.033	4.943	3.91
1987	4.025	4.018	3.991	3.929	3.863	3.155
1988	4.124	4.117	4.096	4.028	3.963	3.184
1989	3.192	3.187	3.168	3.119	3.067	2.51
1990	3.208	3.203	3.183	3.132	3.08	2.461
Sorted results						
Prob.	Peak	96 hr	21 Day	60 Day	90 Day	Yearly
0.032258064516129	10.2	10.17	10.1	9.936	9.796	7.524
0.0645161290322581	7.877	7.866	7.846	7.737	7.645	6.423

0.0967741935483871	7.201	7.187	7.142	7.013	6.907	5.334
0.129032258064516	6.311	6.3	6.258	6.145	6.045	4.806
0.161290322580645	5.296	5.288	5.267	5.19	5.113	4.386
0.193548387096774	5.193	5.185	5.155	5.084	5.01	4.026
0.225806451612903	5.187	5.178	5.143	5.033	4.943	3.91
0.258064516129032	4.985	4.977	4.944	4.863	4.796	3.811
0.290322580645161	4.873	4.864	4.848	4.778	4.696	3.759
0.32258064516129	4.427	4.421	4.396	4.344	4.293	3.386
0.354838709677419	4.386	4.378	4.359	4.284	4.232	3.372
0.387096774193548	4.124	4.117	4.096	4.028	3.963	3.184
0.419354838709677	4.025	4.018	3.991	3.929	3.868	3.155
0.451612903225806	4.019	4.012	3.986	3.929	3.863	3.007
0.483870967741936	3.696	3.689	3.679	3.625	3.56	2.996
0.516129032258065	3.578	3.573	3.549	3.483	3.431	2.835
0.548387096774194	3.504	3.498	3.481	3.432	3.384	2.77
0.580645161290323	3.341	3.334	3.322	3.272	3.223	2.613
0.612903225806452	3.208	3.203	3.183	3.132	3.08	2.571
0.645161290322581	3.192	3.187	3.168	3.119	3.067	2.51
0.67741935483871	3.187	3.181	3.162	3.114	3.065	2.461
0.709677419354839	3.162	3.158	3.136	3.077	3.033	2.457
0.741935483870968	3.037	3.032	3.012	2.973	2.933	2.45
0.774193548387097	3.018	3.013	2.995	2.942	2.898	2.319
0.806451612903226	2.943	2.939	2.919	2.871	2.823	2.203
0.838709677419355	2.828	2.823	2.81	2.775	2.738	2.182
0.870967741935484	2.753	2.75	2.732	2.703	2.669	2.143
0.903225806451613	2.664	2.66	2.653	2.623	2.588	2.14
0.935483870967742	1.956	1.954	1.945	1.925	1.912	1.608
0.967741935483871	0.6018	0.6006	0.5984	0.5878	0.5777	0.4204
0.1	7.112	7.0983	7.0536	6.9262	6.8208	5.2812

Average of yearly averages: 3.22538

Inputs generated by pe5.pl - Novemeber 2006

Data used for this run:
Output File: M25esa
Metfile: w93193.dvf
PRZM scenario: CAWheatRLF_V2.txt
EXAMS environment file: pond298.exv
Chemical Name: Metolachlor ESA

Description	Variable Name	Value	Units	Comments
Molecular weight	mwt	329.7	g/mol	
Henry's Law Const.	henry		atm-m^3/mol	
Vapor Pressure	vapr		torr	
Solubility	sol	480	mg/L	
Kd Kd	0.041	mg/L		
Koc Koc		mg/L		
Photolysis half-life	kdp	0	days	Half-life
Aerobic Aquatic Metabolism	kbacw	325	days	Halfife
Anaerobic Aquatic Metabolism	kbacs	0	days	Halfife
Aerobic Soil Metabolism	asm	162.5	days	Halfife
Hydrolysis: pH 7	0	days	Half-life	
Method: CAM	1	integer	See PRZM manual	
Incorporation Depth:	DEPI	0	cm	
Application Rate:	TAPP	0.4989	kg/ha	

Application Efficiency: APPEFF1 fraction
Spray Drift DRFT 0 fraction of application rate applied to pond
Application Date Date 01-02 dd/mm or dd/mmm or dd-mm or dd-mmm
Record 17: FILTRA
IPSCND1
UPTKF
Record 18: PLVKRT
PLDKRT
FEXTRC 0.5
Flag for Index Res. Run IR EPA Pond
Flag for runoff calc. RUNOFF none none, monthly or total(average of entire run)

Metolachlor-OA OUTPUT FILE

stored as M25oa.out
Chemical: Metolachlor OA
PRZM environment: CAWheatRLF_V2.txt modified Wedday, 26 March 2008 at 10:39:38
EXAMS environment: pond298.exv modified Tueday, 26 August 2008 at 06:14:08
Metfile: w93193.dvf modified Tueday, 26 August 2008 at 06:16:12
Water segment concentrations (ppb)

Year	Peak	96 hr	21 Day	60 Day	90 Day	Yearly
1961	1.308	1.305	1.299	1.271	1.244	0.8648
1962	5.838	5.83	5.782	5.661	5.545	4.022
1963	19.27	19.22	19.05	18.66	18.33	13.47
1964	13.58	13.56	13.51	13.28	13.07	10.54
1965	8.357	8.341	8.288	8.145	7.989	6.582
1966	5.531	5.518	5.479	5.393	5.273	4.244
1967	7.107	7.094	7.043	6.926	6.827	5.079
1968	4.904	4.892	4.858	4.777	4.684	3.734
1969	4.009	4.002	3.973	3.924	3.86	3.039
1970	4.426	4.416	4.389	4.331	4.26	3.244
1971	5.547	5.533	5.501	5.402	5.299	4.079
1972	7.713	7.695	7.659	7.49	7.377	5.569
1973	4.956	4.946	4.903	4.82	4.739	3.775
1974	5.23	5.22	5.176	5.054	4.951	3.812
1975	2.839	2.835	2.819	2.785	2.769	2.242
1976	9.184	9.168	9.093	8.906	8.752	6.509
1977	8.506	8.487	8.448	8.297	8.119	6.281
1978	5.864	5.855	5.805	5.666	5.557	4.37
1979	4.264	4.257	4.217	4.151	4.088	3.18
1980	4.983	4.971	4.932	4.823	4.723	3.572
1981	6.814	6.799	6.745	6.633	6.504	4.755
1982	5.634	5.622	5.59	5.497	5.401	4.21
1983	13.31	13.27	13.18	12.88	12.63	9.223
1984	10.91	10.89	10.8	10.55	10.34	7.786
1985	8.647	8.628	8.587	8.428	8.277	6.291
1986	9.37	9.353	9.257	9.004	8.798	6.525
1987	6.785	6.77	6.711	6.579	6.44	4.999
1988	6.916	6.901	6.85	6.712	6.574	5.009
1989	5.085	5.075	5.038	4.944	4.84	3.762
1990	5.381	5.371	5.327	5.225	5.116	3.855
Sorted results						
Prob.	Peak	96 hr	21 Day	60 Day	90 Day	Yearly

0.032258064516129	19.27	19.22	19.05	18.66	18.33	13.47
0.0645161290322581	13.58	13.56	13.51	13.28	13.07	10.54
0.0967741935483871	13.31	13.27	13.18	12.88	12.63	9.223
0.129032258064516	10.91	10.89	10.8	10.55	10.34	7.786
0.161290322580645	9.37	9.353	9.257	9.004	8.798	6.582
0.193548387096774	9.184	9.168	9.093	8.906	8.752	6.525
0.225806451612903	8.647	8.628	8.587	8.428	8.277	6.509
0.258064516129032	8.506	8.487	8.448	8.297	8.119	6.291
0.290322580645161	8.357	8.341	8.288	8.145	7.989	6.281
0.32258064516129	7.713	7.695	7.659	7.49	7.377	5.569
0.354838709677419	7.107	7.094	7.043	6.926	6.827	5.079
0.387096774193548	6.916	6.901	6.85	6.712	6.574	5.009
0.419354838709677	6.814	6.799	6.745	6.633	6.504	4.999
0.451612903225806	6.785	6.77	6.711	6.579	6.44	4.755
0.483870967741936	5.864	5.855	5.805	5.666	5.557	4.37
0.516129032258065	5.838	5.83	5.782	5.661	5.545	4.244
0.548387096774194	5.634	5.622	5.59	5.497	5.401	4.21
0.580645161290323	5.547	5.533	5.501	5.402	5.299	4.079
0.612903225806452	5.531	5.518	5.479	5.393	5.273	4.022
0.645161290322581	5.381	5.371	5.327	5.225	5.116	3.855
0.67741935483871	5.23	5.22	5.176	5.054	4.951	3.812
0.709677419354839	5.085	5.075	5.038	4.944	4.84	3.775
0.741935483870968	4.983	4.971	4.932	4.823	4.739	3.762
0.774193548387097	4.956	4.946	4.903	4.82	4.723	3.734
0.806451612903226	4.904	4.892	4.858	4.777	4.684	3.572
0.838709677419355	4.426	4.416	4.389	4.331	4.26	3.244
0.870967741935484	4.264	4.257	4.217	4.151	4.088	3.18
0.903225806451613	4.009	4.002	3.973	3.924	3.86	3.039
0.935483870967742	2.839	2.835	2.819	2.785	2.769	2.242
0.967741935483871	1.308	1.305	1.299	1.271	1.244	0.8648
0.1	13.07	13.032	12.942	12.647	12.401	9.0793

Average of yearly averages: 5.15409333333333

Inputs generated by pe5.pl - Novemeber 2006

Data used for this run:
Output File: M25oa
Metfile: w93193.dvf
PRZM scenario: CAWheatRLF_V2.txt
EXAMS environment file: pond298.exv
Chemical Name: Metolachlor OA

Description	Variable Name	Value	Units	Comments
Molecular weight	mwt	279.4	g/mol	
Henry's Law Const.	henry		atm-m^3/mol	
Vapor Pressure	vapr		torr	
Solubility	sol	480	mg/L	
Kd Kd	Kd	0.079	mg/L	
Koc Koc			mg/L	
Photolysis half-life	kdp	0	days	Half-life
Aerobic Aquatic Metabolism	kbacw	255	days	Halfife
Anaerobic Aquatic Metabolism	kbacs	0	days	Halfife
Aerobic Soil Metabolism	asm	127.5	days	Halfife
Hydrolysis:	pH 7	0	days	Half-life

Method: CAM	1	integer	See PRZM manual	
Incorporation Depth:	DEPI	0	cm	
Application Rate:	TAPP	0.9835	kg/ha	
Application Efficiency:	APPEFF	1	fraction	
Spray Drift	DRFT	0	fraction of application rate applied to pond	
Application Date	Date	01-02	dd/mm or dd/mmm or dd-mm or dd-mmm	
Record 17:	FILTRA			
IPSCND	1			
UPTKF				
Record 18:	PLVKRT			
PLDKRT				
FEXTRC		0.5		
Flag for Index Res. Run	IR	EPA Pond		
Flag for runoff calc.	RUNOFF		none	none, monthly or total(average of entire run)