Appendix D: PRZM Output, Post-Processing Equations, and EECs - Risks of Metolachlor Use to Federally Listed Endangered Barton Springs Salamander

May 2007

Appendix D: PRZM Output, Post-Processing Equations, and EECs

Post Processing Equations

Edge of Field Runoff Concentration (μg ai/L)=
Pesticide in Field Runoff (RFLX=kg-ai/ha)/Runoff Water Volume (RUNF=100,000 L/ha-cm of water)*1E9 µg ai/kg ai

Estimated Spring Concentration (μg/L) =
Percent Barton Springs Area in Meadow (0.05)* Estimated Spring Concentration (ug/L)

Table 1 Edge-of-Field Concentration in Runoff from PRZM Modeling Output for Metolachlor (@ 1.67 lbs ai/A) on a Texas Meadow Scenario

Application Technique	Application Timing	Peak µg/L	21 days µg/L	60 days µg/L
Ground Spray	Prior to planting	359.040	20.180	8.220
Ground Spray	At Plant	305.380	15.200	7.140
Ground Spray	Before Crop Emergence	246.000	13.680	5.480
Aerial Spray	Prior to planting	344.560	19.360	7.880
Aerial Spray	At Plant	293.100	14.580	6.840
Aerial Spray	Before Crop Emergence	236.040	13.140	5.260

Table 2 Estimated Spring Concentration from PRZM Modeling Output for Metolachlor (@ 1.67 lbs ai/A) on a Texas Meadow Scenario

Application Technique	Application Timing	Peak µg/L	21 days µg/L	60 days µg/L
Ground Spray	Prior to planting	17.952	1.009	0.411
Ground Spray	At Plant	15.269	0.760	0.357
Ground Spray	Before Crop Emergence	12.300	0.684	0.274
Aerial Spray	Prior to planting	17.228	0.968	0.394
Aerial Spray	At Plant	14.655	0.729	0.342
Aerial Spray	Before Crop Emergence	11.802	0.657	0.263

Table 3 PRZM Estimated Edge of Field Concentrations of Metolachlor ESA and Metolachlor OA for the Texas Meadow Scenario

Application Timing	Peak		21 days		60 days	
	ug/L					
	ESA	OA	ESA	OA	ESA	OA
Prior to planting	87.360	195.080	4.600	10.200	1.600	3.560
At Plant	105.020	156.240	5.000	7.440	1.780	2.660
Before Crop Emergence	52.000	119.660	2.580	5.960	0.900	2.100

Table 4 Estimated Spring Concentrations of Metolachlor ESA and Metolachlor OA for the Texas Meadow Scenario

Application Timing	Peak		21 days		60 days	
	ug/L					
	ESA	OA	ESA	OA	ESA	OA
Prior to planting	4.368	9.754	0.230	0.510	0.080	0.178
At Plant	5.251	7.812	0.250	0.372	0.089	0.133
Before Crop Emergence	2.600	5.983	0.129	0.298	0.045	0.105

The Barton Springs Refined Modeling Approach

Background

The Barton Springs are supplied predominantly with water discharging from fractures and conduits formed in the Barton Springs Segment of the Edwards Aquifer (BSSEA) as a result of dissolution of the fractured limestone aquifer over time. Slade et al. (1986) estimated that approximately 85% of the water that recharges this aquifer infiltrates through the beds of six creeks that cross the recharge zone (Slade et al. 1985, Barrett and Charbeneau 1996), with the remaining approximately 15 % of the recharge derived from precipitation and recharge in interbed areas in the recharge zone. In the BSSEA, natural ground water discharge occurs primarily at Barton Springs (Lindgren et al., 2004). Recharge features in creek bottoms overlying the recharge zone allow only a limited flow of water during a storm event; therefore, water that is in excess of the flow capacities of recharge features leaves the recharge zone as creek flow. The Contributing Zone encompasses the watersheds of the upstream portions of the six major creeks that cross the Recharge Zone and therefore provides the source for most of the water that enters the BSSEA as recharge. These streams gain water, as they flow across the land surface in the Contributing Zone, from the lower-permeability Glen Rose limestone of the adjacent Trinity aquifer (Lindgren et al., 2004). Kuniansky (1989) estimated baseflow discharge from the Trinity aquifer to streams and creeks in this area ranging from 25% to 90% of total flow. In the portion of the Trinity aquifer nearest the contributing zone this was loosely estimated at 30%. The remainder of water in creeks in the Contributing Zone is derived from precipitation and runoff.

Model Outline

The refined conceptual model attempts to capture the most important aspects of this unique hydrology. In this regard, the nature of the contributing zone and the recharge zone are distinguished and treated separately. Runoff from the recharge zone is assumed to enter the karst environment directly, whereas runoff from the contributing zone is assumed to mix with stream water prior to entering the karst environment of the recharge zone. The long-term average flow volume in the streams in the contributing zone was assumed to be due 30% aquifer discharge and 70 % to runoff, as is consistent with Kuniansky (1989). Thus surface runoff in the contributing zone mixes with the aquifer discharge flow prior to flowing into the recharge zone.

Masses and volumes of runoff are determined for this assessment from modeling scenarios developed specifically for the various land uses (e.g., orchards, nurseries, vineyards, residential) found in the Barton Springs Salamander action area. Similar to the Agency's standard ecological risk assessment methodology described above, 30 years of meteorological data were linked to these specific scenarios to estimate 1-in-10-year edge of field exposure to potential diazinon uses.

A summary of the potential pesticide use areas is presented in **Table A1**. Only one orchard was determined through investigation to operate in the action area. Its area was reported online (http://barsanaorchards.com/news8article.html; Mar. 1, 2007). The area of nurseries in the action area was investigated using a variety of sources (see p. 11

of **Appendix B**). The area of vineyards in the action area was estimated with data obtained from the Texas Commission on Environmental Quality (TCEQ) land use data set (USGS 2003) that classifies 75 acres as orchard, vineyard or grove. Subtraction of the 7 acres known to be an orchard leaves 68 acres that may be cropped as vineyards.

Table A1. Extent of Potential Use Areas in the Action Area of the Barton Springs Segment of the Edwards Aquifer (BSSEA).

Use Scenario	Area (acres)	Area in Contributing Zone (acres)	Area in Recharge Zone (acres)
Non Cropped	226344	168769	57574
Vineyards	68	48	20
Orchard	7	7	0
Nurseries	3.25	0.5	2.75
Other Areas			

Determination of Runoff Concentrations and Volume.

As described previously, the contributing zone and the recharge zone are treated differently. Calculations for the contributing zone are described first and these are followed by calculations for the recharge zone.

Contributing Zone

This refined assessment uses the long term average stream flow information to calculate an approximate average daily stream flow in the contributing zone. Because the ratio of runoff flow to base stream flow was given by Kuniansky (1989) to be 70:30, knowing the long-term runoff flow enables an estimate of the long-term average streamflow. The long-term (30 year simulated) runoff volume was calculated for each of the scenarios in Table A-1 using PRZM and the respective areas within the contributing zone. The cumulative runoff volume for the contributing zone was calculated according to

$$V_{CZ} = \sum_{t=1}^{n}\left(\sum_{i=1}^{m}\left(V_{CZ,i,t}\right)\right) \qquad \textbf{(A.1)}$$

where V_{CZ} = 30-year simulated cumulative runoff [volume]
$V_{CZ,i,t}$ = runoff from area i on day t [volume]
n = number of days in simulation
m= number different areas (e.g., crop areas) in simulation

The estimated daily aquifer-driven base flow in the streams within the contributing zone is calculated from the 70:30 ratio as given by Kuniansky (1989):

$$V_{base} = \frac{V_{CZ}}{n}\left(\frac{0.30}{0.70}\right) \qquad \textbf{(A.2)}$$

where V_{base} = the long-term average daily aquifer-driven stream volume [volume]

Daily stream volume was calculated by adding the base stream flow to the daily runoff flows as follows:

$$V_{streams} = \sum_{i=1}^{m} \left(V_{CZ,i,t} \right) + V_{base} \qquad \textbf{(A.3)}$$

where $V_{stream,t}$ = the total stream volume on day t.

Daily stream concentrations were calculated directly from the PRZM out put, the area of the scenario, and the stream base flow as follows:

$$C_{stream,t} = \frac{\sum_{i=1}^{n} \left(M_{CZ,i,t} \right) + M_{base}}{V_{stream,t}} \qquad \textbf{(A.4)}$$

where $C_{stream,t}$ = the daily stream concentration
$M_{CZ,i,t}$ = mass of runoff for scenario i on day t in contributing zone [mass].
M_{base} = daily average mass in stream base flow

The above calculated stream volume ($V_{stream,t}$) in eqn **A.3** along with its associated concentration ($C_{stream,t}$) in eqn. 3.4 are assumed to be delivered to the recharge zone where they mix with recharge zone runoff as described next.

Recharge Zone

Runoff originating in the recharge zone was determined in a similar manner as for the contributing zone using PRZM output as follows:

$$V_{RZ,t} = \sum_{i=1}^{m} \left(V_{RZ,i,t} \right) \qquad \textbf{(A.5)}$$

where $V_{RZ,t}$ = total daily runoff in recharge zone [volume]
$V_{RZ,i,t}$ = runoff from area i on day t [volume]
m = number different areas (e.g., crop areas) in simulation

The concentration of runoff in the recharge zone was determined from the PRZM mass output (output as mass/area), the area represented by the scenario, and the volume of runoff in the recharge zone as follows:

$$C_{RZ,t} = \frac{\sum_{i=1}^{n} \left(M_{i,t} \right)}{V_{RZ,t}} \qquad \textbf{(A.6)}$$

where $C_{RZ,t}$ = daily recharge zone runoff concentration
$M_{RZ,i,t}$ = mass of runoff for scenario i on day t in recharge zone [mass].

M_{base} = daily average mass in stream base flow

Barton Springs Daily Concentrations

It is assumed that the stream flow from the contributing area and the runoff from the recharge area mix and flow through the Karst and into Barton Springs. The spring concentration is determined from:

$$C_{Barton,t} = \frac{C_{RZ,t}V_{RZ,t} + C_{stream,t}V_{stream,t}}{V_{RZ,t} + V_{stream,t}} \quad \textbf{(A.7)}$$

where $C_{Barton,t}$ = the daily concentration in Barton Spring [mass/volume]

The daily Springs EECs in the Barton Springs were processed in order to provide durations of exposure. Peak, 14-day, 21-day, 30-day, 60-day, and 90-day average concentrations were calculated across 30 years of daily EEC values. In order to match the standard PRZM/EXAMS output, the maximum values for each of the 30 years of daily and rolling averages were ranked and the 90th percentiles from the rankings were selected as the final 1-in-10-year EECs for use in risk estimation.

Special Case: use area hydrologically similar to nonuse area

In the case where a pesticide use area has the same hydrological characteristics the non use area, a simplification can be made that gives approximately identical results as the more complicated model described above. For example, in the Barton Springs area of interest, the non crop use area is modeled with a non residential PRZM scenario (predominantly characterized by a curve number of 85). If a sole use area is also modeled with the same nonresidential scenario, then runoff would occur from both the use area and the nonuse areas in an identical manner.

Consider now, the Barton Springs calculation (eqn 3.7 above):

This equation can be rewritten as

$$C_{Barton,t} = \frac{M_{RZ,nonuse,t} + M_{RZ,use,t} + M_{RZ,nonuse,t} + M_{RZ,use,t} + M_{base,t}}{V_{RZ,nonuse,t} + V_{RZ,use,t} + V_{CZ,nonuse,t} + V_{CZ,use,t} + V_{base,t}} \quad \textbf{(A.8)}$$

For the 30-year simulation of the watershed area, less than 9 of the 569 runoff events produced runoff from the area that had a volume of less than 10 times the calculated stream base flow. This means that the volume of the base stream flow is negligible in nearly every event in comparison to runoff volume. In the unlikely case that a high pesticide concentration would occur from one of these rare events (1.6% of runoff events) then such event would be screened out by the EPA practice of selecting the 90th percentile reoccurrence event. Therefore for practical purposes, the base volume can be eliminated from the above equation. Additionally, since all the runoff volumes are

generated from the same scenario with only area differing among them and if base stream concentrations can be assumed to be negligible, then **A.3** can be rewritten as

$$C_{Barton,t} = \frac{(M_A)(A_{CZ,use,t} + A_{RZ,use,t})}{D(A_{CZ,nonuse,t} + A_{CZ,use,t} + A_{RZ,nonuse,t} + A_{RZ,use,t})} \quad \textbf{(A.9)}$$

where M_A = PRZM output for pesticide mass [mass/area]
D = PRZM output for runoff depth [length]

Therefore, the Barton Springs concentration can be determined by the PRZM edge-of-field concentration times the ratio of use area to total area:

$$C_{Barton,t} = C_{edge} \frac{A_{use}}{A_{total}} \quad \textbf{(A.10)}$$

Where C_{edge} = PRZM edge of field concentration
A_{use} = total use area
A_{total} = total Barton Springs watershed area

The above simplified model equation (**A.10**) can be used where the use and non-use areas can be described by the same PRZM scenario and where background concentrations are not present.

Ground Spray – Prior to Planting

Standard PRZM/EXAMS Output

```
stored as MetBSGRDPPL.out
Chemical: Metolachlor
PRZM environment: TX_BSSMeadow.txt    modified Thuday, 4 May 2006 at 10:38:37
EXAMS environment: pond298.exv        modified Thuday, 29 August 2002 at 16:33:30
Metfile: w13958.dvf    modified Wedday, 3 July 2002 at 09:06:24
Water segment concentrations (ppb)

Year    Peak    96 hr   21 Day  60 Day  90 Day  Yearly
1961    15.65   13.49   7.781   3.338   2.254   0.5654
1962    0.9353  0.7986  0.4497  0.2294  0.174   0.0446
1963    23.91   20.57   11.72   5.348   3.72    0.9321
1964    1.265   1.073   0.588   0.41    0.2935  0.07635
1965    17.07   14.66   8.337   3.538   2.402   0.6028
1966    3.551   3.092   1.732   0.8451  0.6216  0.1581
1967    0.9348  0.805   0.4662  0.2358  0.2093  0.05387
1968    0.9347  0.8101  0.4756  0.3081  0.2147  0.05436
1969    3.883   3.359   1.924   0.9306  0.6457  0.162
1970    7.36    6.486   3.79    1.71    1.164   0.2926
1971    0.9349  0.7971  0.4424  0.1835  0.1437  0.03778
1972    4.945   4.264   2.507   1.099   0.7461  0.2182
1973    0.9354  0.8165  0.5567  0.2511  0.1721  0.04324
1974    0.9346  0.7961  0.4428  0.2738  0.2143  0.05814
1975    4.973   4.164   2.347   1.04    0.7044  0.2083
1976    1.821   1.541   0.8941  0.4075  0.3006  0.07604
1977    1.449   1.23    0.7063  0.4999  0.4665  0.121
1978    1.227   1.068   0.6877  0.3659  0.3478  0.09419
1979    6.991   6.069   3.464   1.58    1.079   0.2706
1980    6.592   5.605   3.137   1.397   1.06    0.2726
1981    6.475   5.572   3.212   1.512   1.044   0.2664
1982    0.935   0.8088  0.4707  0.2011  0.244   0.0666
1983    2.835   2.486   1.525   0.8089  0.557   0.1403
1984    0.9629  0.821   0.4684  0.3611  0.2491  0.06244
1985    1.71    1.501   1.003   0.5254  0.3608  0.0906
1986    2.656   2.276   1.555   0.7151  0.4866  0.1567
1987    1.912   1.673   1.017   0.5612  0.3853  0.0973
1988    3.393   2.891   1.619   0.82    0.5977  0.1526
1989    0.9348  0.8094  0.4739  0.235   0.1874  0.04838
1990    3.3     2.884   1.729   0.8639  0.6104  0.1542
```

Sorted results

Prob.	Peak	96 hr	21 Day	60 Day	90 Day	Yearly	
0.032258064516129		23.91	20.57	11.72	5.348	3.72	0.9321
0.0645161290322581		17.07	14.66	8.337	3.538	2.402	0.6028
0.0967741935483871		15.65	13.49	7.781	3.338	2.254	0.5654
0.129032258064516		7.36	6.486	3.79	1.71	1.164	0.2926
0.161290322580645		6.991	6.069	3.464	1.58	1.079	0.2726
0.193548387096774		6.592	5.605	3.212	1.512	1.06	0.2706
0.225806451612903		6.475	5.572	3.137	1.397	1.044	0.2664
0.258064516129032		4.973	4.264	2.507	1.099	0.7461	0.2182
0.290322580645161		4.945	4.164	2.347	1.04	0.7044	0.2083
0.32258064516129		3.883	3.359	1.924	0.9306	0.6457	0.162
0.354838709677419		3.551	3.092	1.732	0.8639	0.6216	0.1581
0.387096774193548		3.393	2.891	1.729	0.8451	0.6104	0.1567
0.419354838709677		3.3	2.884	1.619	0.82	0.5977	0.1542
0.451612903225806		2.835	2.486	1.555	0.8089	0.557	0.1526
0.483870967741936		2.656	2.276	1.525	0.7151	0.4866	0.1403
0.516129032258065		1.912	1.673	1.017	0.5612	0.4665	0.121
0.548387096774194		1.821	1.541	1.003	0.5254	0.3853	0.0973
0.580645161290323		1.71	1.501	0.8941	0.4999	0.3608	0.09419
0.612903225806452		1.449	1.23	0.7063	0.41	0.3478	0.0906
0.645161290322581		1.265	1.073	0.6877	0.4075	0.3006	0.07635
0.67741935483871		1.227	1.068	0.588	0.3659	0.2935	0.07604
0.709677419354839		0.9629	0.821	0.5567	0.3611	0.2491	0.0666
0.741935483870968		0.9354	0.8165	0.4756	0.3081	0.244	0.06244
0.774193548387097		0.9353	0.8101	0.4739	0.2738	0.2147	0.05814
0.806451612903226		0.935	0.8094	0.4707	0.2511	0.2143	0.05436
0.838709677419355		0.9349	0.8088	0.4684	0.2358	0.2093	0.05387
0.870967741935484		0.9348	0.805	0.4662	0.235	0.1874	0.04838
0.903225806451613		0.9348	0.7986	0.4497	0.2294	0.174	0.0446
0.935483870967742		0.9347	0.7971	0.4428	0.2011	0.1721	0.04324
0.967741935483871		0.9346	0.7961	0.4424	0.1835	0.1437	0.03778
0.1	14.821	12.7896	7.3819	3.1752	2.145	0.53812	

Average of yearly averages: 0.185926333333333

Inputs generated by pe4.pl - 8-August-2003

Data used for this run:

Output File: MetBSGRDPPL				
Metfile:	w13958.dvf			
PRZM scenario: TX_BSSMeadow.txt				
EXAMS environment file:		pond298.exv		
Chemical Name: Metolachlor				
Description	Variable Name	Value	Units	Comments
Molecular weight	mwt	238.8	g/mol	
Henry's Law Const.	henry	3.75E-5	atm-m^3/mol	
Vapor Pressure	vapr	2.8E-5	torr	
Solubility	sol	4800	mg/L	
Kd	Kd		mg/L	
Koc	Koc	181	mg/L	
Photolysis half-life	kdp	70	days	Half-life
Aerobic Aquatic Metabolism	kbacw	48.9	days	Halfife
Anaerobic Aquatic Metabolism	kbacs	234	days	Halfife
Aerobic Soil Metabolism	asm	48.9	days	Halfife
Hydrolysis:	pH 7		days	Half-life
Method: CAM	1	integer	See PRZM manual	
Incorporation Depth:	DEPI	4.00	cm	
Application Rate:	TAPP	1.87	kg/ha	
Application Efficiency:		APPEFF	0.99	fraction
Spray Drift	DRFT	0.01	fraction of application rate applied to pond	
Application Date	Date	15-2	dd/mm or dd/mmm or dd-mm or dd-mmm	
Record 17:	FILTRA			
	IPSCND			
	UPTKF			
Record 18:	PLVKRT			
	PLDKRT			
	FEXTRC	0.5		
Flag for Index Res. Run		IR	Pond	
Flag for runoff calc.	RUNOFF	none	none, monthly or total(average of entire run)	

Post Processed Estimated Spring EECs

Estimated Spring						
Year	Max Peak	Max 14 day	Max 21 day	Max 30 day	Max 60 day	Max 90 day
1961	1.12E+01	7.98E-01	5.32E-01	3.72E-01	1.86E-01	1.24E-01
1962	5.63E+00	4.02E-01	2.68E-01	2.52E-01	1.29E-01	8.66E-02
1963	1.02E+01	7.31E-01	4.88E-01	3.41E-01	2.39E-01	1.60E-01
1964	5.17E+00	3.69E-01	2.46E-01	1.72E-01	1.06E-01	7.09E-02
1965	1.16E+01	8.27E-01	5.51E-01	3.86E-01	1.93E-01	1.34E-01
1966	7.09E+00	5.07E-01	3.38E-01	2.36E-01	1.55E-01	1.04E-01
1967	1.79E+01	1.28E+00	8.50E-01	5.95E-01	3.50E-01	2.40E-01
1968	2.08E+01	1.49E+00	9.92E-01	7.92E-01	4.06E-01	2.73E-01
1969	1.22E+01	8.74E-01	5.83E-01	4.77E-01	2.55E-01	1.70E-01
1970	9.49E+00	1.22E+00	8.13E-01	5.69E-01	2.85E-01	1.90E-01
1971	7.72E+00	5.52E-01	3.68E-01	2.57E-01	1.69E-01	1.19E-01
1972	4.99E+00	5.19E-01	3.48E-01	2.43E-01	1.22E-01	8.11E-02
1973	1.89E+01	2.20E+00	1.47E+00	1.12E+00	5.70E-01	3.80E-01
1974	6.02E+00	4.30E-01	4.07E-01	2.85E-01	1.54E-01	1.02E-01
1975	2.12E+00	2.56E-01	1.71E-01	1.21E-01	6.05E-02	4.04E-02
1976	1.58E+01	1.13E+00	7.53E-01	5.27E-01	2.75E-01	1.84E-01
1977	1.17E+01	8.37E-01	5.58E-01	5.23E-01	3.06E-01	2.04E-01
1978	1.68E+01	1.20E+00	8.02E-01	5.61E-01	3.13E-01	2.16E-01
1979	1.15E+01	8.19E-01	5.46E-01	5.42E-01	2.76E-01	1.84E-01
1980	1.89E+01	1.35E+00	9.00E-01	6.30E-01	3.66E-01	2.53E-01
1981	6.95E+00	4.96E-01	3.31E-01	2.32E-01	1.27E-01	8.68E-02
1982	1.72E+00	1.74E-01	1.20E-01	8.46E-02	4.24E-02	2.83E-02
1983	1.69E+01	1.21E+00	1.16E+00	9.26E-01	4.70E-01	3.14E-01
1984	3.96E+00	2.83E-01	1.89E-01	1.32E-01	6.60E-02	4.98E-02
1985	1.25E+01	1.40E+00	9.35E-01	7.11E-01	3.63E-01	2.42E-01
1986	3.97E+00	4.28E-01	2.96E-01	2.07E-01	1.04E-01	6.93E-02
1987	9.85E+00	1.31E+00	8.76E-01	6.13E-01	3.07E-01	2.05E-01
1988	3.92E+00	2.80E-01	1.87E-01	1.87E-01	1.08E-01	7.34E-02
1989	3.25E+00	2.32E-01	1.55E-01	1.25E-01	6.49E-02	4.33E-02
1990	1.70E+01	1.86E+00	1.24E+00	9.12E-01	4.56E-01	3.06E-01
90th % (ppb)	17.95244	1.411224	1.008839	0.804141	0.410607	0.276234

Ground Spray- At Plant

Standard PRZM/EXAMS Output

```
stored as MetBSGRDPL.out
Chemical: Metolachlor
PRZM environment: TX_BSSMeadow.txt    modified Thuday, 4 May 2006 at 10:38:37
EXAMS environment: pond298.exv        modified Thuday, 29 August 2002 at 16:33:30
Metfile: w13958.dvf    modified Wedday, 3 July 2002 at 09:06:24
Water segment concentrations (ppb)

Year    Peak    96 hr   21 Day  60 Day  90 Day  Yearly
1961    0.9346  0.7906  0.4414  0.1869  0.1261  0.04454
1962    0.9347  0.7981  0.4603  0.2734  0.2124  0.0544
1963    10.52   8.772   4.595   1.889   1.37    0.3476
1964    2.174   1.843   1.008   0.5628  0.4004  0.1057
1965    0.9347  0.8028  0.4414  0.1855  0.2109  0.05934
1966    7.584   6.603   3.696   1.618   1.198   0.3022
1967    1.12    0.936   0.5397  0.3362  0.2725  0.0697
1968    1.49    1.268   0.7312  0.4357  0.3101  0.07837
1969    0.9347  0.8085  0.477   0.3758  0.2791  0.0706
1970    2.619   2.222   1.227   0.6155  0.4567  0.1209
1971    0.9348  0.7969  0.4191  0.1958  0.1424  0.03779
1972    5.698   4.913   2.888   1.267   0.8597  0.2447
1973    0.9354  0.816   0.4652  0.2353  0.1653  0.04177
1974    0.9346  0.7961  0.4302  0.3319  0.278   0.07289
1975    5.784   4.842   2.73    1.21    0.8311  0.2358
1976    0.9352  0.7914  0.4706  0.3335  0.2732  0.06998
1977    1.926   1.634   0.9959  0.6483  0.5183  0.1319
1978    1.753   1.474   0.7929  0.5433  0.4676  0.1256
1979    0.9349  0.8116  0.4568  0.2626  0.1823  0.04603
1980    11.88   10.1    5.65    2.524   1.802   0.4565
1981    7.723   6.646   3.829   1.734   1.186   0.3002
1982    1.228   1.046   0.5821  0.2598  0.2871  0.07524
1983    1.242   1.084   0.8236  0.5422  0.3792  0.096
1984    1.445   1.231   0.6903  0.4282  0.2919  0.07301
1985    1.055   0.912   0.603   0.3519  0.2424  0.06115
1986    3.063   2.624   1.793   0.8246  0.5968  0.1753
1987    5.586   4.892   2.947   1.336   0.9091  0.231
1988    4.789   4.08    2.284   1.108   0.7806  0.1978
1989    0.9349  0.8094  0.4629  0.273   0.2142  0.0547
1990    0.9347  0.8166  0.5519  0.308   0.3326  0.08662
```

Sorted results

Prob.	Peak	96 hr	21 Day	60 Day	90 Day	Yearly	
0.032258064516129		11.88	10.1	5.65	2.524	1.802	0.4565
0.0645161290322581		10.52	8.772	4.595	1.889	1.37	0.3476
0.0967741935483871		7.723	6.646	3.829	1.734	1.198	0.3022
0.129032258064516		7.584	6.603	3.696	1.618	1.186	0.3002
0.161290322580645		5.784	4.913	2.947	1.336	0.9091	0.2447
0.193548387096774		5.698	4.892	2.888	1.267	0.8597	0.2358
0.225806451612903		5.586	4.842	2.73	1.21	0.8311	0.231
0.258064516129032		4.789	4.08	2.284	1.108	0.7806	0.1978
0.290322580645161		3.063	2.624	1.793	0.8246	0.5968	0.1753
0.32258064516129		2.619	2.222	1.227	0.6483	0.5183	0.1319
0.354838709677419		2.174	1.843	1.008	0.6155	0.4676	0.1256
0.387096774193548		1.926	1.634	0.9959	0.5628	0.4567	0.1209
0.419354838709677		1.753	1.474	0.8236	0.5433	0.4004	0.1057
0.451612903225806		1.49	1.268	0.7929	0.5422	0.3792	0.096
0.483870967741936		1.445	1.231	0.7312	0.4357	0.3326	0.08662
0.516129032258065		1.242	1.084	0.6903	0.4282	0.3101	0.07837
0.548387096774194		1.228	1.046	0.603	0.3758	0.2919	0.07524
0.580645161290323		1.12	0.936	0.5821	0.3519	0.2871	0.07301
0.612903225806452		1.055	0.912	0.5519	0.3362	0.2791	0.07289
0.645161290322581		0.9354	0.8166	0.5397	0.3335	0.278	0.0706
0.67741935483871		0.9352	0.816	0.477	0.3319	0.2732	0.06998
0.709677419354839		0.9349	0.8116	0.4706	0.308	0.2725	0.0697
0.741935483870968		0.9349	0.8094	0.4652	0.2734	0.2424	0.06115
0.774193548387097		0.9348	0.8085	0.4629	0.273	0.2142	0.05934
0.806451612903226		0.9347	0.8028	0.4603	0.2626	0.2124	0.0547
0.838709677419355		0.9347	0.7981	0.4568	0.2598	0.2109	0.0544
0.870967741935484		0.9347	0.7969	0.4414	0.2353	0.1823	0.04603
0.903225806451613		0.9347	0.7961	0.4414	0.1958	0.1653	0.04454
0.935483870967742		0.9346	0.7914	0.4302	0.1869	0.1424	0.04177
0.967741935483871		0.9346	0.7906	0.4191	0.1855	0.1261	0.03779
0.1	7.7091	6.6417	3.8157	1.7224	1.1968	0.302	

Average of yearly averages: 0.135577666666667

Inputs generated by pe4.pl - 8-August-2003

Data used for this run:

Output File: MetBSGRDPL				
Metfile:	w13958.dvf			
PRZM scenario: TX_BSSMeadow.txt				
EXAMS environment file:		pond298.exv		
Chemical Name: Metolachlor				
Description	Variable Name	Value	Units	Comments
Molecular weight	mwt	238.8	g/mol	
Henry's Law Const.	henry	3.75E-5	atm-m^3/mol	
Vapor Pressure	vapr	2.8E-5	torr	
Solubility	sol	4800	mg/L	
Kd	Kd		mg/L	
Koc	Koc	181	mg/L	
Photolysis half-life	kdp	70	days	Half-life
Aerobic Aquatic Metabolism	kbacw	48.9	days	Halfife
Anaerobic Aquatic Metabolism	kbacs	234	days	Halfife
Aerobic Soil Metabolism	asm	48.9	days	Halfife
Hydrolysis:	pH 7		days	Half-life
Method: CAM	1	integer	See PRZM manual	
Incorporation Depth:	DEPI	4.00	cm	
Application Rate:	TAPP	1.87	kg/ha	
Application Efficiency:		APPEFF	0.99	fraction
Spray Drift	DRFT	0.01	fraction of application rate applied to pond	
Application Date	Date	25-2	dd/mm or dd/mmm or dd-mm or dd-mmm	
Record 17:	FILTRA			
	IPSCND			
	UPTKF			
Record 18:	PLVKRT			
	PLDKRT			
	FEXTRC	0.5		
Flag for Index Res. Run		IR	Pond	
Flag for runoff calc.	RUNOFF	none	none, monthly or total(average of entire run)	

Post Processed Estimated Spring EECs

Estimated Spring						
Year	Max Peak	Max 14 day	Max 21 day	Max 30 day	Max 60 day	Max 90 day
1961	1.38E+00	2.00E-01	1.33E-01	9.33E-02	4.67E-02	3.11E-02
1962	9.43E+00	6.74E-01	4.49E-01	4.29E-01	2.21E-01	1.48E-01
1963	9.80E+00	9.57E-01	6.38E-01	4.47E-01	2.23E-01	1.52E-01
1964	8.77E+00	6.27E-01	4.18E-01	2.92E-01	1.82E-01	1.22E-01
1965	1.84E+00	1.32E-01	1.07E-01	7.55E-02	3.78E-02	2.52E-02
1966	1.53E+01	1.09E+00	7.27E-01	5.09E-01	3.41E-01	2.31E-01
1967	3.61E+00	4.79E-01	3.37E-01	2.36E-01	1.19E-01	7.92E-02
1968	6.54E+00	4.67E-01	3.12E-01	2.18E-01	1.43E-01	9.64E-02
1969	5.92E+00	5.78E-01	3.85E-01	3.06E-01	1.54E-01	1.03E-01
1970	9.15E+00	6.54E-01	4.36E-01	3.05E-01	1.53E-01	1.08E-01
1971	9.93E+00	7.10E-01	4.73E-01	3.31E-01	2.18E-01	1.53E-01
1972	5.75E+00	5.98E-01	4.01E-01	2.80E-01	1.40E-01	9.35E-02
1973	1.01E+01	9.22E-01	6.15E-01	4.30E-01	2.29E-01	1.53E-01
1974	9.08E+00	6.48E-01	6.19E-01	4.33E-01	2.35E-01	1.57E-01
1975	2.46E+00	2.98E-01	1.99E-01	1.41E-01	7.04E-02	4.69E-02
1976	1.38E+00	1.64E-01	1.11E-01	7.85E-02	3.93E-02	2.62E-02
1977	1.35E+01	9.64E-01	6.43E-01	6.02E-01	3.53E-01	2.35E-01
1978	3.97E+00	2.84E-01	1.89E-01	1.65E-01	9.14E-02	6.10E-02
1979	7.20E+00	1.08E+00	7.19E-01	5.03E-01	2.53E-01	1.68E-01
1980	5.52E+00	3.95E-01	2.63E-01	2.21E-01	1.19E-01	7.94E-02
1981	8.01E+00	5.72E-01	3.82E-01	2.67E-01	1.46E-01	1.00E-01
1982	2.20E+00	2.25E-01	1.56E-01	1.10E-01	5.50E-02	3.67E-02
1983	1.53E+01	1.65E+00	1.13E+00	8.05E-01	4.03E-01	2.69E-01
1984	5.60E+00	4.00E-01	2.67E-01	1.87E-01	9.33E-02	7.11E-02
1985	1.75E+01	1.25E+00	1.05E+00	7.37E-01	3.92E-01	2.61E-01
1986	4.57E+00	4.93E-01	3.41E-01	2.39E-01	1.20E-01	7.98E-02
1987	1.66E+01	2.00E+00	1.33E+00	9.34E-01	4.67E-01	3.15E-01
1988	5.47E+00	3.91E-01	2.61E-01	2.62E-01	1.52E-01	1.04E-01
1989	4.78E+00	3.41E-01	2.28E-01	1.85E-01	9.70E-02	6.47E-02
1990	5.53E+00	3.95E-01	2.63E-01	1.84E-01	1.07E-01	7.13E-02
90th % (ppb)	15.26935	1.10663	0.759671	0.615761	0.356567	0.237862

Ground Spray- Before Crop Emergence

Standard PRZM/EXAMS Output

```
stored as MetBSGdEMER.out
Chemical: Metolachlor
PRZM environment: TX_BSSMeadow.txt    modified Thuday, 4 May 2006 at 10:38:37
EXAMS environment: pond298.exv        modified Thuday, 29 August 2002 at 16:33:30
Metfile: w13958.dvf    modified Wedday, 3 July 2002 at 09:06:24
Water segment concentrations (ppb)

Year    Peak    96 hr   21 Day  60 Day  90 Day  Yearly
1961    0.9346  0.7768  0.4287  0.1811  0.1221  0.04431
1962    0.9347  0.7995  0.4708  0.2993  0.226   0.05788
1963    11.15   9.293   4.868   2.001   1.444   0.3651
1964    2.398   2.032   1.112   0.5956  0.4167  0.11
1965    0.9348  0.7887  0.428   0.1962  0.2198  0.06002
1966    2.218   1.899   1.073   0.4727  0.4243  0.1106
1967    1.254   1.049   0.6056  0.3709  0.2869  0.07299
1968    1.704   1.45    0.8874  0.4486  0.3197  0.08044
1969    0.9347  0.7934  0.489   0.3921  0.2844  0.07173
1970    3.477   2.95    1.633   0.7501  0.5776  0.1515
1971    0.9348  0.7715  0.4008  0.2103  0.1531  0.042
1972    6.12    5.277   3.102   1.361   0.9322  0.259
1973    0.9354  0.7977  0.4474  0.2325  0.1617  0.04087
1974    0.9439  0.793   0.4412  0.3405  0.2882  0.0746
1975    6.121   5.124   2.888   1.281   0.8995  0.2468
1976    0.9352  0.7891  0.5114  0.372   0.2857  0.07274
1977    2.2     1.866   1.072   0.7058  0.5379  0.1362
1978    1.862   1.566   0.842   0.5761  0.4914  0.1297
1979    0.9349  0.7942  0.4576  0.2609  0.1807  0.04557
1980    13.34   11.34   6.344   2.835   2.009   0.5063
1981    8.363   7.196   4.146   1.832   1.253   0.3159
1982    2.274   1.937   1.077   0.4833  0.4274  0.1118
1983    1.348   1.176   0.9025  0.5601  0.3899  0.09849
1984    2.243   1.911   1.069   0.5597  0.3805  0.0951
1985    0.9512  0.8126  0.5143  0.3516  0.243   0.06185
1986    3.244   2.779   1.899   0.8731  0.6505  0.1837
1987    0.9351  0.8167  0.4933  0.2234  0.1578  0.05767
1988    5.254   4.476   2.505   1.195   0.8333  0.2103
1989    0.9349  0.8003  0.4538  0.2841  0.2173  0.05524
1990    1.486   1.273   0.8454  0.491   0.4638  0.1205
```

Sorted results

Prob.	Peak	96 hr	21 Day	60 Day	90 Day	Yearly	
0.032258064516129		13.34	11.34	6.344	2.835	2.009	0.5063
0.0645161290322581		11.15	9.293	4.868	2.001	1.444	0.3651
0.0967741935483871		8.363	7.196	4.146	1.832	1.253	0.3159
0.129032258064516		6.121	5.277	3.102	1.361	0.9322	0.259
0.161290322580645		6.12	5.124	2.888	1.281	0.8995	0.2468
0.193548387096774		5.254	4.476	2.505	1.195	0.8333	0.2103
0.225806451612903		3.477	2.95	1.899	0.8731	0.6505	0.1837
0.258064516129032		3.244	2.779	1.633	0.7501	0.5776	0.1515
0.290322580645161		2.398	2.032	1.112	0.7058	0.5379	0.1362
0.32258064516129		2.274	1.937	1.077	0.5956	0.4914	0.1297
0.354838709677419		2.243	1.911	1.073	0.5761	0.4638	0.1205
0.387096774193548		2.218	1.899	1.072	0.5601	0.4274	0.1118
0.419354838709677		2.2	1.866	1.069	0.5597	0.4243	0.1106
0.451612903225806		1.862	1.566	0.9025	0.491	0.4167	0.11
0.483870967741936		1.704	1.45	0.8874	0.4833	0.3899	0.09849
0.516129032258065		1.486	1.273	0.8454	0.4727	0.3805	0.0951
0.548387096774194		1.348	1.176	0.842	0.4486	0.3197	0.08044
0.580645161290323		1.254	1.049	0.6056	0.3921	0.2882	0.0746
0.612903225806452		0.9512	0.8167	0.5143	0.372	0.2869	0.07299
0.645161290322581		0.9439	0.8126	0.5114	0.3709	0.2857	0.07274
0.67741935483871		0.9354	0.8003	0.4933	0.3516	0.2844	0.07173
0.709677419354839		0.9352	0.7995	0.489	0.3405	0.243	0.06185
0.741935483870968		0.9351	0.7977	0.4708	0.2993	0.226	0.06002
0.774193548387097		0.9349	0.7942	0.4576	0.2841	0.2198	0.05788
0.806451612903226		0.9349	0.7934	0.4538	0.2609	0.2173	0.05767
0.838709677419355		0.9348	0.793	0.4474	0.2325	0.1807	0.05524
0.870967741935484		0.9348	0.7891	0.4412	0.2234	0.1617	0.04557
0.903225806451613		0.9347	0.7887	0.4287	0.2103	0.1578	0.04431
0.935483870967742		0.9347	0.7768	0.428	0.1962	0.1531	0.042
0.967741935483871		0.9346	0.7715	0.4008	0.1811	0.1221	0.04087
0.1	8.1388	7.0041	4.0416	1.7849	1.22092	0.31021	

Average of yearly averages: 0.132963333333333

Inputs generated by pe4.pl - 8-August-2003

Data used for this run:
Output File: MetBSGdEMER
Metfile: w13958.dvf
PRZM scenario: TX_BSSMeadow.txt
EXAMS environment file: pond298.exv
Chemical Name: Metolachlor

Description	Variable Name	Value	Units	Comments
Molecular weight	mwt	238.8	g/mol	
Henry's Law Const.	henry	3.75E-5	atm-m^3/mol	
Vapor Pressure	vapr	2.8E-5	torr	
Solubility	sol	4800	mg/L	
Kd	Kd		mg/L	
Koc	Koc	181	mg/L	
Photolysis half-life	kdp	70	days	Half-life
Aerobic Aquatic Metabolism	kbacw	48.9	days	Halfife
Anaerobic Aquatic Metabolism	kbacs	234	days	Halfife
Aerobic Soil Metabolism	asm	48.9	days	Halfife
Hydrolysis:	pH 7		days	Half-life
Method: CAM	1	integer	See PRZM manual	
Incorporation Depth:	DEPI	4.00	cm	
Application Rate:	TAPP	1.87	kg/ha	
Application Efficiency:		APPEFF	0.99	fraction
Spray Drift	DRFT	0.01	fraction of application rate applied to pond	
Application Date	Date	1-3	dd/mm or dd/mmm or dd-mm or dd-mmm	
Record 17:	FILTRA			
	IPSCND			
	UPTKF			
Record 18:	PLVKRT			
	PLDKRT			
	FEXTRC	0.5		
Flag for Index Res. Run		IR	Pond	
Flag for runoff calc.	RUNOFF	none	none, monthly or total(average of entire run)	

Post Processed Estimated Spring EECs

Estimated Spring						
Year	Max Peak	Max 14 day	Max 21 day	Max 30 day	Max 60 day	Max 90 day
1961	1.46E+00	2.12E-01	1.41E-01	9.88E-02	4.94E-02	3.29E-02
1962	1.07E+01	7.65E-01	5.10E-01	4.88E-01	2.52E-01	1.69E-01
1963	1.04E+01	1.01E+00	6.76E-01	4.73E-01	2.36E-01	1.60E-01
1964	9.45E+00	6.75E-01	4.50E-01	3.15E-01	1.96E-01	1.31E-01
1965	1.95E+00	1.39E-01	1.13E-01	7.99E-02	4.00E-02	2.67E-02
1966	6.99E+00	7.80E-01	5.62E-01	3.93E-01	1.97E-01	1.31E-01
1967	4.04E+00	5.38E-01	3.78E-01	2.65E-01	1.34E-01	8.91E-02
1968	7.03E+00	5.02E-01	3.35E-01	2.34E-01	1.54E-01	1.04E-01
1969	6.26E+00	6.12E-01	4.08E-01	3.24E-01	1.63E-01	1.09E-01
1970	1.21E+01	8.63E-01	5.75E-01	4.03E-01	2.01E-01	1.43E-01
1971	1.52E+01	1.08E+00	7.22E-01	5.06E-01	3.34E-01	2.36E-01
1972	6.17E+00	6.42E-01	4.30E-01	3.01E-01	1.51E-01	1.00E-01
1973	1.07E+01	9.76E-01	6.50E-01	4.55E-01	2.42E-01	1.62E-01
1974	9.61E+00	6.86E-01	6.55E-01	4.59E-01	2.49E-01	1.66E-01
1975	2.61E+00	3.16E-01	2.10E-01	1.49E-01	7.45E-02	4.97E-02
1976	1.49E+00	1.76E-01	1.19E-01	8.43E-02	4.22E-02	2.82E-02
1977	1.43E+01	1.02E+00	6.80E-01	6.38E-01	3.73E-01	2.49E-01
1978	4.21E+00	3.00E-01	2.00E-01	1.75E-01	9.68E-02	6.45E-02
1979	7.62E+00	1.14E+00	7.60E-01	5.32E-01	2.67E-01	1.78E-01
1980	6.19E+00	4.42E-01	2.95E-01	2.48E-01	1.34E-01	8.94E-02
1981	8.51E+00	6.08E-01	4.05E-01	2.84E-01	1.55E-01	1.06E-01
1982	3.71E+00	3.93E-01	2.74E-01	1.94E-01	9.71E-02	6.47E-02
1983	1.62E+01	1.74E+00	1.20E+00	8.52E-01	4.26E-01	2.85E-01
1984	8.81E+00	6.30E-01	4.20E-01	2.94E-01	1.47E-01	1.13E-01
1985	8.02E+00	5.73E-01	3.82E-01	3.53E-01	1.77E-01	1.19E-01
1986	4.84E+00	5.22E-01	3.61E-01	2.53E-01	1.27E-01	8.45E-02
1987	1.21E+00	1.41E-01	9.67E-02	6.77E-02	3.38E-02	2.26E-02
1988	5.94E+00	4.24E-01	2.83E-01	2.84E-01	1.65E-01	1.13E-01
1989	5.06E+00	3.62E-01	2.41E-01	1.96E-01	1.03E-01	6.85E-02
1990	8.78E+00	6.27E-01	4.18E-01	2.93E-01	1.72E-01	1.15E-01
90th % (ppb)	12.29989	1.026476	0.684318	0.508264	0.273935	0.183981

Aerial Spray – Prior to Planting

Standard PRZM/EXAMS Output

```
stored as MetBSAirppl.out
Chemical: Metolachlor
PRZM environment: TX_BSSMeadow.txt    modified Thuday, 4 May 2006 at 10:38:37
EXAMS environment: pond298.exv        modified Thuday, 29 August 2002 at 16:33:30
Metfile: w13958.dvf    modified Wedday, 3 July 2002 at 09:06:24
Water segment concentrations (ppb)

Year    Peak    96 hr   21 Day  60 Day  90 Day  Yearly
1961    18.48   15.94   9.226   4       2.701   0.6769
1962    4.674   3.991   2.246   1.001   0.6951  0.1747
1963    25.94   22.32   12.71   5.907   4.103   1.028
1964    4.674   4.04    2.35    1.205   0.829   0.2095
1965    19.87   17.06   9.741   4.177   2.834   0.7106
1966    5.152   4.488   3.424   1.656   1.167   0.2943
1967    4.673   4.024   2.311   1.009   0.728   0.1832
1968    4.673   4.05    2.378   1.125   0.7668  0.1919
1969    6.141   5.314   3.698   1.709   1.171   0.2933
1970    9.089   7.969   4.958   2.434   1.653   0.4148
1971    4.673   3.984   2.211   0.9075  0.6308  0.1592
1972    4.76    4.105   2.418   1.065   1.116   0.341
1973    4.674   4.077   2.502   1.095   0.743   0.186
1974    4.673   3.981   2.214   1.011   0.71    0.1817
1975    4.792   4.013   2.28    1.008   1.145   0.3319
1976    4.925   4.411   2.606   1.125   0.7844  0.1967
1977    4.673   4.065   2.622   1.278   1.014   0.2577
1978    4.673   4.253   2.609   1.194   0.9036  0.2328
1979    8.823   7.661   4.838   2.348   1.598   0.4005
1980    6.496   5.526   3.1     2.072   1.591   0.4046
1981    7.441   6.406   3.701   2.324   1.593   0.4035
1982    4.673   4.042   2.352   1.005   0.7829  0.2011
1983    6.497   5.697   3.481   1.676   1.145   0.2875
1984    4.673   4.034   2.342   1.162   0.7902  0.1973
1985    4.673   4.099   2.974   1.383   0.9419  0.2361
1986    4.673   4.037   2.357   1.048   0.9968  0.2942
1987    4.674   4.055   2.918   1.417   0.9679  0.2434
1988    4.673   4.059   2.399   1.627   1.143   0.2887
1989    4.673   4.046   2.369   1.058   0.7437  0.1873
1990    5.66    4.947   3.624   1.714   1.186   0.2981
```

Sorted results

Prob.	Peak	96 hr	21 Day	60 Day	90 Day	Yearly	
0.032258064516129		25.94	22.32	12.71	5.907	4.103	1.028
0.0645161290322581		19.87	17.06	9.741	4.177	2.834	0.7106
0.0967741935483871		18.48	15.94	9.226	4	2.701	0.6769
0.129032258064516		9.089	7.969	4.958	2.434	1.653	0.4148
0.161290322580645		8.823	7.661	4.838	2.348	1.598	0.4046
0.193548387096774		7.441	6.406	3.701	2.324	1.593	0.4035
0.225806451612903		6.497	5.697	3.698	2.072	1.591	0.4005
0.258064516129032		6.496	5.526	3.624	1.714	1.186	0.341
0.290322580645161		6.141	5.314	3.481	1.709	1.171	0.3319
0.32258064516129		5.66	4.947	3.424	1.676	1.167	0.2981
0.354838709677419		5.152	4.488	3.1	1.656	1.145	0.2943
0.387096774193548		4.925	4.411	2.974	1.627	1.145	0.2942
0.419354838709677		4.792	4.253	2.918	1.417	1.143	0.2933
0.451612903225806		4.76	4.105	2.622	1.383	1.116	0.2887
0.483870967741936		4.674	4.099	2.609	1.278	1.014	0.2875
0.516129032258065		4.674	4.077	2.606	1.205	0.9968	0.2577
0.548387096774194		4.674	4.065	2.502	1.194	0.9679	0.2434
0.580645161290323		4.674	4.059	2.418	1.162	0.9419	0.2361
0.612903225806452		4.673	4.055	2.399	1.125	0.9036	0.2328
0.645161290322581		4.673	4.05	2.378	1.125	0.829	0.2095
0.67741935483871		4.673	4.046	2.369	1.095	0.7902	0.2011
0.709677419354839		4.673	4.042	2.357	1.065	0.7844	0.1973
0.741935483870968		4.673	4.04	2.352	1.058	0.7829	0.1967
0.774193548387097		4.673	4.037	2.35	1.048	0.7668	0.1919
0.806451612903226		4.673	4.034	2.342	1.011	0.7437	0.1873
0.838709677419355		4.673	4.024	2.311	1.009	0.743	0.186
0.870967741935484		4.673	4.013	2.28	1.008	0.728	0.1832
0.903225806451613		4.673	3.991	2.246	1.005	0.71	0.1817
0.935483870967742		4.673	3.984	2.214	1.001	0.6951	0.1747
0.967741935483871		4.673	3.981	2.211	0.9075	0.6308	0.1592
0.1	17.5409	15.1429	8.7992	3.8434	2.5962	0.65069	

Average of yearly averages: 0.316883333333333

Inputs generated by pe4.pl - 8-August-2003

Data used for this run:
Output File: MetBSAirppl
Metfile: w13958.dvf
PRZM scenario: TX_BSSMeadow.txt
EXAMS environment file: pond298.exv
Chemical Name: Metolachlor

Description	Variable Name	Value	Units	Comments
Molecular weight	mwt	238.8	g/mol	
Henry's Law Const.	henry	3.75E-5	atm-m^3/mol	
Vapor Pressure	vapr	2.8E-5	torr	
Solubility	sol	4800	mg/L	
Kd	Kd		mg/L	
Koc	Koc	181	mg/L	
Photolysis half-life	kdp	70	days	Half-life
Aerobic Aquatic Metabolism	kbacw	48.9	days	Halfife
Anaerobic Aquatic Metabolism	kbacs	234	days	Halfife
Aerobic Soil Metabolism	asm	48.9	days	Halfife
Hydrolysis:	pH 7		days	Half-life
Method: CAM	1	integer	See PRZM manual	
Incorporation Depth:	DEPI	4	cm	
Application Rate:	TAPP	1.87	kg/ha	
Application Efficiency:		APPEFF	0.95	fraction
Spray Drift	DRFT	0.05	fraction of application rate applied to pond	
Application Date	Date	15-2	dd/mm or dd/mmm or dd-mm or dd-mmm	
Record 17:	FILTRA			
	IPSCND			
	UPTKF			
Record 18:	PLVKRT			
	PLDKRT			
	FEXTRC	0.5		
Flag for Index Res. Run		IR	Pond	
Flag for runoff calc.	RUNOFF	none	none, monthly or total(average of entire run)	

Post Processed Estimated Spring EECs

Estimated Spring						
Year	Max Peak	Max 14 day	Max 21 day	Max 30 day	Max 60 day	Max 90 day
1961	1.07E+01	7.65E-01	5.10E-01	3.57E-01	1.79E-01	1.19E-01
1962	5.40E+00	3.86E-01	2.57E-01	2.42E-01	1.24E-01	8.31E-02
1963	9.83E+00	7.02E-01	4.68E-01	3.28E-01	2.30E-01	1.53E-01
1964	4.96E+00	3.54E-01	2.36E-01	1.65E-01	1.02E-01	6.80E-02
1965	1.11E+01	7.93E-01	5.29E-01	3.70E-01	1.85E-01	1.28E-01
1966	6.81E+00	4.86E-01	3.24E-01	2.27E-01	1.49E-01	1.00E-01
1967	1.71E+01	1.22E+00	8.16E-01	5.71E-01	3.36E-01	2.30E-01
1968	2.00E+01	1.43E+00	9.52E-01	7.60E-01	3.89E-01	2.62E-01
1969	1.17E+01	8.38E-01	5.59E-01	4.58E-01	2.45E-01	1.63E-01
1970	9.10E+00	1.17E+00	7.80E-01	5.46E-01	2.73E-01	1.83E-01
1971	7.41E+00	5.30E-01	3.53E-01	2.47E-01	1.62E-01	1.14E-01
1972	4.78E+00	4.98E-01	3.33E-01	2.33E-01	1.17E-01	7.78E-02
1973	1.81E+01	2.11E+00	1.41E+00	1.07E+00	5.47E-01	3.65E-01
1974	5.77E+00	4.12E-01	3.91E-01	2.74E-01	1.47E-01	9.83E-02
1975	2.03E+00	2.46E-01	1.64E-01	1.16E-01	5.81E-02	3.87E-02
1976	1.52E+01	1.08E+00	7.23E-01	5.06E-01	2.64E-01	1.76E-01
1977	1.12E+01	8.03E-01	5.35E-01	5.02E-01	2.94E-01	1.96E-01
1978	1.62E+01	1.15E+00	7.69E-01	5.39E-01	3.00E-01	2.07E-01
1979	1.10E+01	7.86E-01	5.24E-01	5.20E-01	2.65E-01	1.77E-01
1980	1.81E+01	1.30E+00	8.63E-01	6.04E-01	3.51E-01	2.43E-01
1981	6.67E+00	4.77E-01	3.18E-01	2.22E-01	1.22E-01	8.33E-02
1982	1.65E+00	1.67E-01	1.15E-01	8.12E-02	4.07E-02	2.71E-02
1983	1.62E+01	1.16E+00	1.11E+00	8.89E-01	4.51E-01	3.01E-01
1984	3.80E+00	2.71E-01	1.81E-01	1.27E-01	6.33E-02	4.78E-02
1985	1.20E+01	1.35E+00	8.97E-01	6.82E-01	3.48E-01	2.32E-01
1986	3.81E+00	4.11E-01	2.84E-01	1.99E-01	9.97E-02	6.65E-02
1987	9.45E+00	1.26E+00	8.41E-01	5.89E-01	2.94E-01	1.97E-01
1988	3.76E+00	2.69E-01	1.79E-01	1.79E-01	1.04E-01	7.04E-02
1989	3.12E+00	2.23E-01	1.49E-01	1.20E-01	6.23E-02	4.15E-02
1990	1.63E+01	1.78E+00	1.19E+00	8.76E-01	4.38E-01	2.94E-01
90th % (ppb)	17.22824	1.354151	0.968245	0.771736	0.394064	0.265104

Aerial Spray- At Plant

Standard PRZM/EXAMS Output

```
stored as MetBSAirpl.out
Chemical: Metolachlor
PRZM environment: TX_BSSMeadow.txt    modified Thuday, 4 May 2006 at 10:38:37
EXAMS environment: pond298.exv        modified Thuday, 29 August 2002 at 16:33:30
Metfile: w13958.dvf    modified Wedday, 3 July 2002 at 09:06:24
Water segment concentrations (ppb)

Year    Peak    96 hr   21 Day  60 Day  90 Day  Yearly
1961    4.673   3.983   2.226   0.9425  0.6356  0.1712
1962    4.673   3.99    2.263   1.046   0.7329  0.1844
1963    10.25   8.542   4.481   2.472   1.823   0.4605
1964    4.674   4.039   2.267   1.312   0.9044  0.2309
1965    4.673   4.013   2.207   0.9272  0.7085  0.1834
1966    10.8    9.401   5.381   2.339   1.681   0.4227
1967    4.673   4.024   2.188   1.054   0.7541  0.1898
1968    4.673   4.05    2.559   1.21    0.8329  0.2086
1969    4.673   4.042   2.288   1.137   0.7924  0.1988
1970    4.673   4.018   2.986   1.357   0.9563  0.2454
1971    4.673   3.984   2.08    0.8665  0.5938  0.1503
1972    5.49    4.735   2.788   1.228   1.305   0.3597
1973    4.674   4.077   2.323   1.029   0.7016  0.1758
1974    4.673   3.981   2.151   1.04    0.753   0.1914
1975    5.578   4.671   2.638   1.174   1.307   0.3535
1976    4.674   3.955   2.153   1.05    0.7558  0.1904
1977    4.673   4.066   2.801   1.407   1.029   0.2592
1978    4.673   4.067   2.307   1.218   0.9854  0.2546
1979    4.673   4.057   2.283   1.039   0.7074  0.1774
1980    11.72   9.963   5.582   3.076   2.27    0.5728
1981    9.854   8.481   5.264   2.501   1.705   0.4299
1982    4.673   4.042   2.25    1.017   0.7945  0.2019
1983    4.673   4.098   2.565   1.381   0.9469  0.2382
1984    4.673   4.034   2.508   1.199   0.8126  0.2028
1985    4.673   4.167   2.478   1.155   0.7866  0.1973
1986    4.673   4.037   2.377   1.056   1.151   0.3131
1987    9.137   7.971   4.796   2.174   1.479   0.3738
1988    5.307   4.524   2.54    1.866   1.293   0.3256
1989    4.673   4.046   2.313   1.069   0.7518  0.189
1990    4.673   4.083   2.472   1.149   0.8998  0.2283
```

Sorted results

Prob.	Peak	96 hr	21 Day	60 Day	90 Day	Yearly	
0.032258064516129		11.72	9.963	5.582	3.076	2.27	0.5728
0.0645161290322581		10.8	9.401	5.381	2.501	1.823	0.4605
0.0967741935483871		10.25	8.542	5.264	2.472	1.705	0.4299
0.129032258064516		9.854	8.481	4.796	2.339	1.681	0.4227
0.161290322580645		9.137	7.971	4.481	2.174	1.479	0.3738
0.193548387096774		5.578	4.735	2.986	1.866	1.307	0.3597
0.225806451612903		5.49	4.671	2.801	1.407	1.305	0.3535
0.258064516129032		5.307	4.524	2.788	1.381	1.293	0.3256
0.290322580645161		4.674	4.167	2.638	1.357	1.151	0.3131
0.32258064516129		4.674	4.098	2.565	1.312	1.029	0.2592
0.354838709677419		4.674	4.083	2.559	1.228	0.9854	0.2546
0.387096774193548		4.673	4.077	2.54	1.218	0.9563	0.2454
0.419354838709677		4.673	4.067	2.508	1.21	0.9469	0.2382
0.451612903225806		4.673	4.066	2.478	1.199	0.9044	0.2309
0.483870967741936		4.673	4.057	2.472	1.174	0.8998	0.2283
0.516129032258065		4.673	4.05	2.377	1.155	0.8329	0.2086
0.548387096774194		4.673	4.046	2.323	1.149	0.8126	0.2028
0.580645161290323		4.673	4.042	2.313	1.137	0.7945	0.2019
0.612903225806452		4.673	4.042	2.307	1.069	0.7924	0.1988
0.645161290322581		4.673	4.039	2.288	1.056	0.7866	0.1973
0.67741935483871		4.673	4.037	2.283	1.054	0.7558	0.1914
0.709677419354839		4.673	4.034	2.267	1.05	0.7541	0.1904
0.741935483870968		4.673	4.024	2.263	1.046	0.753	0.1898
0.774193548387097		4.673	4.018	2.25	1.04	0.7518	0.189
0.806451612903226		4.673	4.013	2.226	1.039	0.7329	0.1844
0.838709677419355		4.673	3.99	2.207	1.029	0.7085	0.1834
0.870967741935484		4.673	3.984	2.188	1.017	0.7074	0.1774
0.903225806451613		4.673	3.983	2.153	0.9425	0.7016	0.1758
0.935483870967742		4.673	3.981	2.151	0.9272	0.6356	0.1712
0.967741935483871		4.673	3.955	2.08	0.8665	0.5938	0.1503
0.1	10.2104	8.5359	5.2172	2.4587	1.7026	0.42918	

Average of yearly averages: 0.26269

Inputs generated by pe4.pl - 8-August-2003

Data used for this run:

Output File:	MetBSAirpl			
Metfile:	w13958.dvf			
PRZM scenario:	TX_BSSMeadow.txt			
EXAMS environment file:	pond298.exv			
Chemical Name:	Metolachlor			
Description	Variable Name	Value	Units	Comments
Molecular weight	mwt	238.8	g/mol	
Henry's Law Const.	henry	3.75E-5	atm-m^3/mol	
Vapor Pressure	vapr	2.8E-5	torr	
Solubility	sol	4800	mg/L	
Kd	Kd		mg/L	
Koc	Koc	181	mg/L	
Photolysis half-life	kdp	70	days	Half-life
Aerobic Aquatic Metabolism	kbacw	48.9	days	Halfife
Anaerobic Aquatic Metabolism	kbacs	234	days	Halfife
Aerobic Soil Metabolism	asm	48.9	days	Halfife
Hydrolysis:	pH 7		days	Half-life
Method: CAM	1	integer	See PRZM manual	
Incorporation Depth:	DEPI	4	cm	
Application Rate:	TAPP	1.87	kg/ha	
Application Efficiency:		APPEFF	0.95	fraction
Spray Drift	DRFT	0.05	fraction of application rate applied to pond	
Application Date	Date	25-2	dd/mm or dd/mmm or dd-mm or dd-mmm	
Record 17:	FILTRA			
	IPSCND			
	UPTKF			
Record 18:	PLVKRT			
	PLDKRT			
	FEXTRC	0.5		
Flag for Index Res. Run		IR	Pond	
Flag for runoff calc.	RUNOFF	none	none, monthly or total(average of entire run)	

Post Processed Estimated Spring EECs

Estimated Spring						
Year	Max Peak	Max 14 day	Max 21 day	Max 30 day	Max 60 day	Max 90 day
1961	1.32E+00	1.92E-01	1.28E-01	8.95E-02	4.48E-02	2.99E-02
1962	9.05E+00	6.47E-01	4.31E-01	4.12E-01	2.12E-01	1.42E-01
1963	9.41E+00	9.19E-01	6.13E-01	4.29E-01	2.14E-01	1.45E-01
1964	8.42E+00	6.01E-01	4.01E-01	2.81E-01	1.74E-01	1.17E-01
1965	1.77E+00	1.26E-01	1.03E-01	7.24E-02	3.63E-02	2.42E-02
1966	1.47E+01	1.05E+00	6.98E-01	4.88E-01	3.27E-01	2.22E-01
1967	3.47E+00	4.60E-01	3.23E-01	2.26E-01	1.14E-01	7.60E-02
1968	6.28E+00	4.49E-01	2.99E-01	2.09E-01	1.38E-01	9.25E-02
1969	5.68E+00	5.55E-01	3.70E-01	2.94E-01	1.48E-01	9.87E-02
1970	8.78E+00	6.27E-01	4.18E-01	2.93E-01	1.46E-01	1.03E-01
1971	9.53E+00	6.81E-01	4.54E-01	3.18E-01	2.09E-01	1.47E-01
1972	5.51E+00	5.74E-01	3.84E-01	2.69E-01	1.35E-01	8.97E-02
1973	9.69E+00	8.85E-01	5.90E-01	4.13E-01	2.20E-01	1.47E-01
1974	8.71E+00	6.22E-01	5.94E-01	4.16E-01	2.25E-01	1.50E-01
1975	2.36E+00	2.86E-01	1.91E-01	1.35E-01	6.75E-02	4.50E-02
1976	1.33E+00	1.57E-01	1.07E-01	7.53E-02	3.77E-02	2.52E-02
1977	1.30E+01	9.25E-01	6.17E-01	5.78E-01	3.39E-01	2.26E-01
1978	3.81E+00	2.72E-01	1.82E-01	1.58E-01	8.77E-02	5.85E-02
1979	6.91E+00	1.03E+00	6.89E-01	4.83E-01	2.42E-01	1.62E-01
1980	5.30E+00	3.79E-01	2.52E-01	2.12E-01	1.14E-01	7.62E-02
1981	7.69E+00	5.49E-01	3.66E-01	2.56E-01	1.40E-01	9.60E-02
1982	2.11E+00	2.16E-01	1.49E-01	1.05E-01	5.28E-02	3.52E-02
1983	1.47E+01	1.58E+00	1.09E+00	7.73E-01	3.86E-01	2.58E-01
1984	5.37E+00	3.84E-01	2.56E-01	1.79E-01	8.95E-02	6.82E-02
1985	1.68E+01	1.20E+00	1.01E+00	7.07E-01	3.76E-01	2.51E-01
1986	4.39E+00	4.73E-01	3.27E-01	2.29E-01	1.15E-01	7.66E-02
1987	1.59E+01	1.92E+00	1.28E+00	8.96E-01	4.48E-01	3.03E-01
1988	5.25E+00	3.75E-01	2.50E-01	2.51E-01	1.46E-01	9.95E-02
1989	4.59E+00	3.28E-01	2.18E-01	1.78E-01	9.31E-02	6.21E-02
1990	5.31E+00	3.79E-01	2.53E-01	1.77E-01	1.02E-01	6.84E-02
90th % (ppb)	14.65535	1.062118	0.729108	0.591067	0.342249	0.22831

Aerial Spray- Before Crop Emergence

Standard PRZM/EXAMS Output

```
stored as MetBSAiremer.out
Chemical: Metolachlor
PRZM environment: TX_BSSMeadow.txt    modified Thuday, 4 May 2006 at 10:38:37
EXAMS environment: pond298.exv        modified Thuday, 29 August 2002 at 16:33:30
Metfile: w13958.dvf    modified Wedday, 3 July 2002 at 09:06:24
Water segment concentrations (ppb)

Year    Peak    96 hr   21 Day  60 Day  90 Day  Yearly
1961    4.673   3.911   2.16    0.9122  0.615   0.1668
1962    4.673   3.997   2.278   1.072   0.7468  0.1879
1963    10.89   9.08    4.762   2.616   1.878   0.4732
1964    4.674   3.96    2.514   1.309   0.8966  0.2291
1965    4.673   3.943   2.14    0.9148  0.7017  0.1802
1966    4.673   3.969   2.197   1.116   0.9126  0.2325
1967    4.673   3.92    2.091   1.053   0.7447  0.1872
1968    4.673   3.975   2.638   1.191   0.8204  0.2051
1969    4.673   3.967   2.241   1.126   0.7797  0.1954
1970    5.806   4.927   3.334   1.468   1.06    0.2716
1971    4.673   3.857   1.971   0.8435  0.5791  0.1481
1972    5.896   5.085   2.994   1.319   1.371   0.3674
1973    4.674   3.986   2.234   0.9939  0.6759  0.1694
1974    4.673   3.923   2.097   1.029   0.7502  0.1898
1975    5.91    4.95    2.795   1.243   1.36    0.3611
1976    4.674   3.943   2.141   1.084   0.7657  0.1925
1977    5.296   4.587   2.795   1.428   1.024   0.2577
1978    4.673   3.98    2.222   1.217   0.9868  0.2531
1979    4.673   3.97    2.216   1.008   0.6862  0.172
1980    13.24   11.26   6.306   3.398   2.441   0.6137
1981    11.26   9.689   5.764   2.574   1.754   0.4413
1982    4.673   3.955   2.166   1.127   0.9095  0.2321
1983    4.673   4.069   2.63    1.373   0.9401  0.2363
1984    4.673   3.981   2.805   1.302   0.8816  0.22
1985    4.673   3.989   2.304   1.116   0.7609  0.1914
1986    4.673   4.053   2.394   1.061   1.205   0.3218
1987    4.674   4.081   2.465   1.116   0.7644  0.209
1988    6.054   5.16    3.16    1.916   1.321   0.3321
1989    4.673   4       2.268   1.063   0.7432  0.1866
1990    4.673   4.038   2.546   1.259   1.013   0.2576
```

Sorted results

Prob.	Peak	96 hr	21 Day	60 Day	90 Day	Yearly	
0.032258064516129		13.24	11.26	6.306	3.398	2.441	0.6137
0.0645161290322581		11.26	9.689	5.764	2.616	1.878	0.4732
0.0967741935483871		10.89	9.08	4.762	2.574	1.754	0.4413
0.129032258064516		6.054	5.16	3.334	1.916	1.371	0.3674
0.161290322580645		5.91	5.085	3.16	1.468	1.36	0.3611
0.193548387096774		5.896	4.95	2.994	1.428	1.321	0.3321
0.225806451612903		5.806	4.927	2.805	1.373	1.205	0.3218
0.258064516129032		5.296	4.587	2.795	1.319	1.06	0.2716
0.290322580645161		4.674	4.081	2.795	1.309	1.024	0.2577
0.32258064516129		4.674	4.069	2.638	1.302	1.013	0.2576
0.354838709677419		4.674	4.053	2.63	1.259	0.9868	0.2531
0.387096774193548		4.674	4.038	2.546	1.243	0.9401	0.2363
0.419354838709677		4.673	4	2.514	1.217	0.9126	0.2325
0.451612903225806		4.673	3.997	2.465	1.191	0.9095	0.2321
0.483870967741936		4.673	3.989	2.394	1.127	0.8966	0.2291
0.516129032258065		4.673	3.986	2.304	1.126	0.8816	0.22
0.548387096774194		4.673	3.981	2.278	1.116	0.8204	0.209
0.580645161290323		4.673	3.98	2.268	1.116	0.7797	0.2051
0.612903225806452		4.673	3.975	2.241	1.116	0.7657	0.1954
0.645161290322581		4.673	3.97	2.234	1.084	0.7644	0.1925
0.67741935483871		4.673	3.969	2.222	1.072	0.7609	0.1914
0.709677419354839		4.673	3.967	2.216	1.063	0.7502	0.1898
0.741935483870968		4.673	3.96	2.197	1.061	0.7468	0.1879
0.774193548387097		4.673	3.955	2.166	1.053	0.7447	0.1872
0.806451612903226		4.673	3.943	2.16	1.029	0.7432	0.1866
0.838709677419355		4.673	3.943	2.141	1.008	0.7017	0.1802
0.870967741935484		4.673	3.923	2.14	0.9939	0.6862	0.172
0.903225806451613		4.673	3.92	2.097	0.9148	0.6759	0.1694
0.935483870967742		4.673	3.911	2.091	0.9122	0.615	0.1668
0.967741935483871		4.673	3.857	1.971	0.8435	0.5791	0.1481
0.1	10.4064	8.688	4.6192	2.5082	1.7157	0.43391	

Average of yearly averages: 0.256066666666667

Inputs generated by pe4.pl - 8-August-2003

Data used for this run:
Output File: MetBSAiremer
Metfile: w13958.dvf
PRZM scenario: TX_BSSMeadow.txt
EXAMS environment file: pond298.exv
Chemical Name: Metolachlor

Description	Variable Name	Value	Units	Comments
Molecular weight	mwt	238.8	g/mol	
Henry's Law Const.	henry	3.75E-5	atm-m^3/mol	
Vapor Pressure	vapr	2.8E-5	torr	
Solubility	sol	4800	mg/L	
Kd	Kd		mg/L	
Koc	Koc	181	mg/L	
Photolysis half-life	kdp	70	days	Half-life
Aerobic Aquatic Metabolism	kbacw	48.9	days	Halfife
Anaerobic Aquatic Metabolism	kbacs	234	days	Halfife
Aerobic Soil Metabolism	asm	48.9	days	Halfife
Hydrolysis:	pH 7		days	Half-life
Method: CAM	1	integer	See PRZM manual	
Incorporation Depth:	DEPI	4	cm	
Application Rate:	TAPP	1.87	kg/ha	
Application Efficiency:		APPEFF	0.95	fraction
Spray Drift	DRFT	0.05	fraction of application rate applied to pond	
Application Date	Date	1-3	dd/mm or dd/mmm or dd-mm or dd-mmm	
Record 17:	FILTRA			
	IPSCND			
	UPTKF			
Record 18:	PLVKRT			
	PLDKRT			
	FEXTRC	0.5		
Flag for Index Res. Run		IR	Pond	
Flag for runoff calc.	RUNOFF	none	none, monthly or total(average of entire run)	

Post Processed Estimated Spring EECs

Estimated Spring						
Year	Max Peak	Max 14 day	Max 21 day	Max 30 day	Max 60 day	Max 90 day
1961	1.40E+00	2.03E-01	1.35E-01	9.48E-02	4.74E-02	3.16E-02
1962	1.03E+01	7.35E-01	4.90E-01	4.69E-01	2.42E-01	1.62E-01
1963	9.96E+00	9.73E-01	6.48E-01	4.54E-01	2.27E-01	1.54E-01
1964	9.07E+00	6.48E-01	4.32E-01	3.02E-01	1.88E-01	1.26E-01
1965	1.87E+00	1.34E-01	1.09E-01	7.66E-02	3.84E-02	2.56E-02
1966	6.71E+00	7.48E-01	5.39E-01	3.77E-01	1.89E-01	1.26E-01
1967	3.88E+00	5.16E-01	3.63E-01	2.54E-01	1.28E-01	8.55E-02
1968	6.75E+00	4.82E-01	3.21E-01	2.25E-01	1.48E-01	9.94E-02
1969	6.01E+00	5.87E-01	3.91E-01	3.11E-01	1.57E-01	1.05E-01
1970	1.16E+01	8.28E-01	5.52E-01	3.86E-01	1.93E-01	1.37E-01
1971	1.46E+01	1.04E+00	6.93E-01	4.85E-01	3.21E-01	2.27E-01
1972	5.92E+00	6.16E-01	4.13E-01	2.89E-01	1.44E-01	9.63E-02
1973	1.03E+01	9.36E-01	6.24E-01	4.37E-01	2.33E-01	1.55E-01
1974	9.22E+00	6.58E-01	6.28E-01	4.40E-01	2.39E-01	1.59E-01
1975	2.50E+00	3.03E-01	2.02E-01	1.43E-01	7.15E-02	4.77E-02
1976	1.43E+00	1.69E-01	1.15E-01	8.09E-02	4.05E-02	2.70E-02
1977	1.37E+01	9.79E-01	6.53E-01	6.12E-01	3.58E-01	2.39E-01
1978	4.04E+00	2.88E-01	1.92E-01	1.68E-01	9.29E-02	6.19E-02
1979	7.31E+00	1.09E+00	7.30E-01	5.11E-01	2.56E-01	1.71E-01
1980	5.94E+00	4.24E-01	2.83E-01	2.38E-01	1.29E-01	8.58E-02
1981	8.17E+00	5.84E-01	3.89E-01	2.72E-01	1.49E-01	1.02E-01
1982	3.56E+00	3.77E-01	2.63E-01	1.86E-01	9.32E-02	6.21E-02
1983	1.55E+01	1.67E+00	1.15E+00	8.18E-01	4.09E-01	2.73E-01
1984	8.46E+00	6.04E-01	4.03E-01	2.82E-01	1.41E-01	1.09E-01
1985	7.70E+00	5.50E-01	3.66E-01	3.39E-01	1.70E-01	1.14E-01
1986	4.65E+00	5.01E-01	3.46E-01	2.42E-01	1.22E-01	8.11E-02
1987	1.17E+00	1.35E-01	9.28E-02	6.50E-02	3.25E-02	2.17E-02
1988	5.70E+00	4.07E-01	2.71E-01	2.72E-01	1.59E-01	1.08E-01
1989	4.86E+00	3.47E-01	2.31E-01	1.88E-01	9.86E-02	6.58E-02
1990	8.42E+00	6.02E-01	4.01E-01	2.81E-01	1.65E-01	1.10E-01
90th % (ppb)	11.80227	0.985012	0.656674	0.487686	0.26288	0.176556

OA-Metolachlor Degradation Product

Ground Spray – Prior to Planting

Standard PRZM/EXAMS Output

```
stored as OABSGRDPPL.out
Chemical: OA
PRZM environment: TX_BSSMeadow.txt    modified Thuday, 4 May 2006 at 10:38:37
EXAMS environment: pond298.exv        modified Thuday, 29 August 2002 at 16:33:30
Metfile: w13958.dvf    modified Wedday, 3 July 2002 at 09:06:24
Water segment concentrations (ppb)
```

Year	Peak	96 hr	21 Day	60 Day	90 Day	Yearly
1961	6.15	6.146	6.136	6.119	6.109	5.312
1962	6.059	6.059	6.059	6.059	6.059	6.059
1963	12.96	12.96	12.95	12.94	12.93	12.01
1964	12.96	12.96	12.96	12.96	12.96	12.94
1965	19.66	19.66	19.65	19.63	19.62	18.75
1966	19.64	19.64	19.64	19.64	19.64	19.63
1967	19.65	19.65	19.65	19.65	19.65	19.65
1968	19.65	19.65	19.65	19.65	19.65	19.65
1969	20.26	20.26	20.26	20.26	20.26	20.17
1970	21.46	21.46	21.46	21.45	21.45	21.27
1971	21.45	21.45	21.45	21.45	21.45	21.45
1972	21.62	21.62	21.62	21.62	21.62	21.56
1973	21.65	21.65	21.65	21.65	21.65	21.64
1974	21.69	21.69	21.69	21.69	21.69	21.68
1975	22.17	22.17	22.17	22.17	22.16	22.01
1976	22.69	22.69	22.69	22.68	22.68	22.61
1977	23.32	23.32	23.32	23.32	23.32	23.21
1978	23.48	23.48	23.48	23.48	23.48	23.45
1979	26.18	26.17	26.17	26.16	26.16	25.76
1980	26.45	26.45	26.45	26.45	26.45	26.38
1981	27.24	27.24	27.24	27.24	27.24	27.1
1982	27.23	27.23	27.23	27.23	27.23	27.23
1983	28.27	28.27	28.27	28.27	28.27	28.14
1984	28.27	28.27	28.27	28.27	28.27	28.27
1985	28.53	28.53	28.53	28.53	28.53	28.49
1986	28.59	28.59	28.59	28.59	28.59	28.57
1987	28.6	28.6	28.6	28.6	28.6	28.6
1988	28.71	28.71	28.71	28.71	28.71	28.68
1989	28.71	28.71	28.71	28.71	28.71	28.71
1990	29.12	29.12	29.11	29.11	29.11	29.06

Sorted results

Prob.	Peak	96 hr	21 Day	60 Day	90 Day	Yearly	
0.032258064516129		29.12	29.12	29.11	29.11	29.11	29.06
0.0645161290322581		28.71	28.71	28.71	28.71	28.71	28.71
0.0967741935483871		28.71	28.71	28.71	28.71	28.71	28.68
0.129032258064516		28.6	28.6	28.6	28.6	28.6	28.6
0.161290322580645		28.59	28.59	28.59	28.59	28.59	28.57
0.193548387096774		28.53	28.53	28.53	28.53	28.53	28.49
0.225806451612903		28.27	28.27	28.27	28.27	28.27	28.27
0.258064516129032		28.27	28.27	28.27	28.27	28.27	28.14
0.290322580645161		27.24	27.24	27.24	27.24	27.24	27.23
0.32258064516129		27.23	27.23	27.23	27.23	27.23	27.1
0.354838709677419		26.45	26.45	26.45	26.45	26.45	26.38
0.387096774193548		26.18	26.17	26.17	26.16	26.16	25.76
0.419354838709677		23.48	23.48	23.48	23.48	23.48	23.45
0.451612903225806		23.32	23.32	23.32	23.32	23.32	23.21
0.483870967741936		22.69	22.69	22.69	22.68	22.68	22.61
0.516129032258065		22.17	22.17	22.17	22.17	22.16	22.01
0.548387096774194		21.69	21.69	21.69	21.69	21.69	21.68
0.580645161290323		21.65	21.65	21.65	21.65	21.65	21.64
0.612903225806452		21.62	21.62	21.62	21.62	21.62	21.56
0.645161290322581		21.46	21.46	21.46	21.45	21.45	21.45
0.67741935483871		21.45	21.45	21.45	21.45	21.45	21.27
0.709677419354839		20.26	20.26	20.26	20.26	20.26	20.17
0.741935483870968		19.66	19.66	19.65	19.65	19.65	19.65
0.774193548387097		19.65	19.65	19.65	19.65	19.65	19.65
0.806451612903226		19.65	19.65	19.65	19.64	19.64	19.63
0.838709677419355		19.64	19.64	19.64	19.63	19.62	18.75
0.870967741935484		12.96	12.96	12.96	12.96	12.96	12.94
0.903225806451613		12.96	12.96	12.95	12.94	12.93	12.01
0.935483870967742		6.15	6.146	6.136	6.119	6.109	6.059
0.967741935483871		6.059	6.059	6.059	6.059	6.059	5.312
0.1	28.699	28.699	28.699	28.699	28.699	28.672	

Average of yearly averages: 22.2680333333333

Inputs generated by pe4.pl - 8-August-2003

Data used for this run:
Output File: OABSGRDPPL
Metfile: w13958.dvf
PRZM scenario: TX_BSSMeadow.txt
EXAMS environment file: pond298.exv
Chemical Name: OA

Description	Variable Name		Value	Units	Comments
Molecular weight		mwt	279.35	g/mol	
Henry's Law Const.		henry		atm-m^3/mol	
Vapor Pressure	vapr			torr	
Solubility	sol		4800	mg/L	
Kd	Kd		0.079	mg/L	
Koc	Koc			mg/L	
Photolysis half-life		kdp		days	Half-life
Aerobic Aquatic Metabolism		kbacw		days	Halfife
Anaerobic Aquatic Metabolism		kbacs		days	Halfife
Aerobic Soil Metabolism		asm	127.5	days	Halfife
Hydrolysis:	pH 7			days	Half-life
Method: CAM	1	integer	See PRZM manual		
Incorporation Depth:		DEPI	4.00	cm	
Application Rate:		TAPP	0.5236	kg/ha	
Application Efficiency:			APPEFF	1.00	fraction
Spray Drift	DRFT	0.0	fraction of application rate applied to pond		
Application Date		Date	15-2	dd/mm or dd/mmm or dd-mm or dd-mmm	
Record 17:	FILTRA				
	IPSCND				
	UPTKF				
Record 18:	PLVKRT				
	PLDKRT				
	FEXTRC	0.5			
Flag for Index Res. Run		IR	Pond		
Flag for runoff calc.	RUNOFF	none	none, monthly or total(average of entire run)		

Post Processed Estimated Spring EECs

Estimated Spring						
Year	Max Peak	Max 14 day	Max 21 day	Max 30 day	Max 60 day	Max 90 day
1961	4.64E+00	3.31E-01	2.21E-01	1.55E-01	7.73E-02	5.15E-02
1962	3.70E-02	2.64E-03	1.76E-03	1.29E-03	6.47E-04	4.31E-04
1963	3.05E+00	2.18E-01	1.45E-01	1.02E-01	5.49E-02	3.66E-02
1964	3.00E-01	2.14E-02	1.43E-02	9.99E-03	5.04E-03	3.36E-03
1965	4.79E+00	3.42E-01	2.28E-01	1.60E-01	7.98E-02	5.32E-02
1966	1.74E-01	1.25E-02	8.30E-03	5.81E-03	2.94E-03	1.96E-03
1967	1.13E+01	8.09E-01	5.39E-01	3.77E-01	1.89E-01	1.26E-01
1968	1.61E+01	1.15E+00	7.66E-01	5.36E-01	2.68E-01	1.79E-01
1969	2.30E+00	1.64E-01	1.09E-01	7.65E-02	3.83E-02	2.55E-02
1970	1.65E+00	1.33E-01	8.88E-02	6.21E-02	3.11E-02	2.07E-02
1971	7.56E-01	5.40E-02	3.60E-02	2.52E-02	1.34E-02	8.97E-03
1972	1.81E+00	1.32E-01	8.83E-02	6.18E-02	3.09E-02	2.06E-02
1973	1.24E+01	1.04E+00	6.92E-01	4.85E-01	2.42E-01	1.62E-01
1974	5.47E-01	3.90E-02	2.81E-02	1.97E-02	9.84E-03	6.56E-03
1975	2.02E-01	1.66E-02	1.11E-02	7.75E-03	3.88E-03	2.58E-03
1976	8.04E+00	5.74E-01	3.83E-01	2.68E-01	1.34E-01	8.94E-02
1977	6.48E+00	4.63E-01	3.09E-01	2.23E-01	1.12E-01	7.44E-02
1978	6.33E+00	4.52E-01	3.01E-01	2.11E-01	1.06E-01	7.05E-02
1979	4.79E+00	3.42E-01	2.28E-01	1.60E-01	7.99E-02	5.33E-02
1980	9.55E+00	6.82E-01	4.55E-01	3.18E-01	1.61E-01	1.08E-01
1981	8.91E-01	6.37E-02	4.24E-02	2.97E-02	1.49E-02	9.90E-03
1982	7.84E-04	5.64E-05	3.76E-05	2.63E-05	1.32E-05	8.78E-06
1983	9.25E+00	6.61E-01	4.84E-01	3.39E-01	1.70E-01	1.13E-01
1984	5.17E-02	3.69E-03	2.46E-03	1.72E-03	8.62E-04	5.75E-04
1985	2.70E+00	2.12E-01	1.42E-01	9.91E-02	4.96E-02	3.30E-02
1986	5.14E-01	3.85E-02	2.57E-02	1.80E-02	8.98E-03	5.99E-03
1987	2.83E-01	2.20E-02	1.46E-02	1.03E-02	5.13E-03	3.42E-03
1988	1.28E-01	9.13E-03	6.09E-03	4.65E-03	2.34E-03	1.56E-03
1989	8.07E-03	5.76E-04	3.84E-04	2.69E-04	1.35E-04	8.97E-05
1990	9.58E+00	7.60E-01	5.06E-01	3.55E-01	1.77E-01	1.18E-01
90th % (ppb)	9.753972	0.764563	0.509709	0.356813	0.178421	0.118947

Ground Spray- At Plant

Standard PRZM/EXAMS Output

```
stored as OABSGRDPL.out
Chemical: OA
PRZM environment: TX_BSSMeadow.txt    modified Thuday, 4 May 2006 at 10:38:37
EXAMS environment: pond298.exv        modified Thuday, 29 August 2002 at 16:33:30
Metfile: w13958.dvf    modified Wedday, 3 July 2002 at 09:06:24
Water segment concentrations (ppb)

Year    Peak    96 hr   21 Day  60 Day  90 Day  Yearly
1961    0.002552        0.002551        0.002548        0.002542        0.002538
        0.001434
1962    0.00978 0.009777        0.009767        0.009751        0.009741        0.008074
1963    0.9437  0.9433  0.9418  0.9392  0.9376  0.6956
1964    1.513   1.513   1.512   1.511   1.511   1.387
1965    1.507   1.507   1.507   1.507   1.507   1.507
1966    4.912   4.91    4.905   4.896   4.894   4.363
1967    4.893   4.893   4.893   4.893   4.893   4.887
1968    4.916   4.916   4.916   4.916   4.916   4.911
1969    4.919   4.919   4.919   4.919   4.919   4.919
1970    5.164   5.164   5.164   5.163   5.163   5.119
1971    5.173   5.173   5.173   5.173   5.173   5.17
1972    5.357   5.357   5.357   5.356   5.356   5.295
1973    5.355   5.355   5.355   5.355   5.355   5.354
1974    5.575   5.575   5.574   5.574   5.574   5.524
1975    6.103   6.103   6.102   6.101   6.1     5.929
1976    6.096   6.096   6.096   6.096   6.096   6.095
1977    6.772   6.772   6.771   6.771   6.771   6.656
1978    6.912   6.912   6.912   6.912   6.912   6.871
1979    6.913   6.913   6.913   6.913   6.913   6.912
1980    9.459   9.458   9.454   9.448   9.444   8.841
1981    10.26   10.26   10.26   10.26   10.25   10.11
1982    10.25   10.25   10.25   10.25   10.25   10.25
1983    10.35   10.35   10.35   10.35   10.35   10.33
1984    10.39   10.39   10.39   10.39   10.39   10.38
1985    10.54   10.54   10.54   10.54   10.54   10.51
1986    10.6    10.6    10.6    10.6    10.6    10.58
1987    13.1    13.1    13.1    13.09   13.08   12.7
1988    13.43   13.43   13.42   13.42   13.42   13.35
1989    13.42   13.42   13.42   13.42   13.42   13.42
1990    13.43   13.43   13.43   13.43   13.43   13.43
```

Sorted results

Prob.	Peak	96 hr	21 Day	60 Day	90 Day	Yearly
0.032258064516129	13.43	13.43	13.43	13.43	13.43	13.43
0.0645161290322581	13.43	13.43	13.42	13.42	13.42	13.42
0.0967741935483871	13.42	13.42	13.42	13.42	13.42	13.35
0.129032258064516	13.1	13.1	13.1	13.09	13.08	12.7
0.161290322580645	10.6	10.6	10.6	10.6	10.6	10.58
0.193548387096774	10.54	10.54	10.54	10.54	10.54	10.51
0.225806451612903	10.39	10.39	10.39	10.39	10.39	10.38
0.258064516129032	10.35	10.35	10.35	10.35	10.35	10.33
0.290322580645161	10.26	10.26	10.26	10.26	10.25	10.25
0.32258064516129	10.25	10.25	10.25	10.25	10.25	10.11
0.354838709677419	9.459	9.458	9.454	9.448	9.444	8.841
0.387096774193548	6.913	6.913	6.913	6.913	6.913	6.912
0.419354838709677	6.912	6.912	6.912	6.912	6.912	6.871
0.451612903225806	6.772	6.772	6.771	6.771	6.771	6.656
0.483870967741936	6.103	6.103	6.102	6.101	6.1	6.095
0.516129032258065	6.096	6.096	6.096	6.096	6.096	5.929
0.548387096774194	5.575	5.575	5.574	5.574	5.574	5.524
0.580645161290323	5.357	5.357	5.357	5.356	5.356	5.354
0.612903225806452	5.355	5.355	5.355	5.355	5.355	5.295
0.645161290322581	5.173	5.173	5.173	5.173	5.173	5.17
0.67741935483871	5.164	5.164	5.164	5.163	5.163	5.119
0.709677419354839	4.919	4.919	4.919	4.919	4.919	4.919
0.741935483870968	4.916	4.916	4.916	4.916	4.916	4.911
0.774193548387097	4.912	4.91	4.905	4.896	4.894	4.887
0.806451612903226	4.893	4.893	4.893	4.893	4.893	4.363
0.838709677419355	1.513	1.513	1.512	1.511	1.511	1.507
0.870967741935484	1.507	1.507	1.507	1.507	1.507	1.387
0.903225806451613	0.9437	0.9433	0.9418	0.9392	0.9376	0.6956
0.935483870967742	0.00978	0.009777		0.009767		0.009751		0.009741		0.008074
0.967741935483871	0.002552		0.002551		0.002548		0.002542		0.002538	0.001434

0.1	13.388	13.388	13.388	13.387	13.386	13.285

Average of yearly averages: 6.85017026666667

Inputs generated by pe4.pl - 8-August-2003
Data used for this run:
Output File: OABSGRDPL
Metfile: w13958.dvf
PRZM scenario: TX_BSSMeadow.txt
EXAMS environment file: pond298.exv
Chemical Name: OA

Description	Variable Name	Value	Units	Comments
Molecular weight	mwt	279.35	g/mol	
Henry's Law Const.	henry		atm-m^3/mol	
Vapor Pressure	vapr		torr	
Solubility	sol	4800	mg/L	
Kd	Kd	0.079	mg/L	
Koc	Koc		mg/L	
Photolysis half-life	kdp		days	Half-life
Aerobic Aquatic Metabolism	kbacw		days	Halfife
Anaerobic Aquatic Metabolism	kbacs		days	Halfife
Aerobic Soil Metabolism	asm	127.5	days	Halfife
Hydrolysis:	pH 7		days	Half-life
Method: CAM	1	integer	See PRZM manual	
Incorporation Depth:	DEPI	4.00	cm	
Application Rate:	TAPP	0.5236	kg/ha	
Application Efficiency:	APPEFF	1.00	fraction	
Spray Drift	DRFT	0.0	fraction of application rate applied to pond	
Application Date	Date	25-2	dd/mm or dd/mmm or dd-mm or dd-mmm	
Record 17:	FILTRA			
	IPSCND			
	UPTKF			
Record 18:	PLVKRT			
	PLDKRT			
	FEXTRC	0.5		
Flag for Index Res. Run	IR	Pond		
Flag for runoff calc.	RUNOFF	none	none, monthly or total(average of entire run)	

Post Processed Estimated Spring EECs

Estimated Spring						
Year	Max Peak	Max 14 day	Max 21 day	Max 30 day	Max 60 day	Max 90 day
1961	3.24E-02	2.60E-03	1.73E-03	1.21E-03	6.06E-04	4.04E-04
1962	5.47E-01	3.91E-02	2.61E-02	1.93E-02	9.67E-03	6.44E-03
1963	5.74E+00	4.32E-01	2.88E-01	2.02E-01	1.01E-01	6.72E-02
1964	2.53E+00	1.81E-01	1.21E-01	8.44E-02	4.29E-02	2.86E-02
1965	2.71E-03	1.94E-04	1.30E-04	9.09E-05	4.54E-05	3.03E-05
1966	7.74E+00	5.53E-01	3.69E-01	2.58E-01	1.32E-01	8.79E-02
1967	6.97E-02	5.56E-03	3.71E-03	2.60E-03	1.30E-03	8.65E-04
1968	1.29E-01	9.21E-03	6.14E-03	4.30E-03	2.15E-03	1.44E-03
1969	9.41E-02	6.92E-03	4.61E-03	3.23E-03	1.62E-03	1.08E-03
1970	1.03E+00	7.38E-02	4.92E-02	3.44E-02	1.72E-02	1.15E-02
1971	1.77E+00	1.26E-01	8.43E-02	5.90E-02	3.17E-02	2.12E-02
1972	1.92E+00	1.40E-01	9.32E-02	6.52E-02	3.26E-02	2.17E-02
1973	1.72E+00	1.23E-01	8.22E-02	5.76E-02	2.88E-02	1.92E-02
1974	2.49E+00	1.78E-01	1.30E-01	9.08E-02	4.54E-02	3.03E-02
1975	2.26E-01	1.86E-02	1.24E-02	8.70E-03	4.35E-03	2.90E-03
1976	1.36E-04	1.05E-05	7.03E-06	4.92E-06	2.46E-06	1.64E-06
1977	6.85E+00	4.89E-01	3.26E-01	2.35E-01	1.18E-01	7.86E-02
1978	3.07E-01	2.19E-02	1.46E-02	1.06E-02	5.33E-03	3.55E-03
1979	1.37E-01	1.07E-02	7.16E-03	5.01E-03	2.50E-03	1.67E-03
1980	1.19E+00	8.51E-02	5.67E-02	3.99E-02	2.00E-02	1.33E-02
1981	9.41E-01	6.72E-02	4.48E-02	3.14E-02	1.57E-02	1.05E-02
1982	2.16E-03	1.56E-04	1.04E-04	7.26E-05	3.63E-05	2.42E-05
1983	8.85E+00	6.47E-01	4.31E-01	3.02E-01	1.51E-01	1.01E-01
1984	2.23E-01	1.59E-02	1.06E-02	7.42E-03	3.71E-03	2.47E-03
1985	8.45E+00	6.04E-01	4.05E-01	2.83E-01	1.42E-01	9.45E-02
1986	5.42E-01	4.06E-02	2.71E-02	1.90E-02	9.49E-03	6.32E-03
1987	8.88E+00	7.54E-01	5.03E-01	3.52E-01	1.76E-01	1.17E-01
1988	4.28E-01	3.06E-02	2.04E-02	1.57E-02	7.91E-03	5.27E-03
1989	5.43E-02	3.88E-03	2.59E-03	1.81E-03	9.07E-04	6.04E-04
1990	9.75E-02	6.96E-03	4.64E-03	3.25E-03	1.63E-03	1.09E-03
90th % (ppb)	7.812076	0.558005	0.372254	0.260578	0.132831	0.088555

Ground Spray- Before Crop Emergence

Standard PRZM/EXAMS Output

```
stored as OABSGRDEMG.out
Chemical: OA
PRZM environment: TX_BSSMeadow.txt    modified Thuday, 4 May 2006 at 10:38:37
EXAMS environment: pond298.exv        modified Thuday, 29 August 2002 at 16:33:30
Metfile: w13958.dvf    modified Wedday, 3 July 2002 at 09:06:24
Water segment concentrations (ppb)

Year    Peak    96 hr   21 Day  60 Day  90 Day  Yearly
1961    0.002608        0.002607        0.002604        0.002597        0.002593
        0.001465
1962    0.01832 0.01831 0.01829 0.01826 0.01823 0.01459
1963    0.9725  0.9722  0.9706  0.9679  0.9663  0.719
1964    1.566   1.566   1.565   1.564   1.564   1.435
1965    1.56    1.56    1.56    1.56    1.56    1.56
1966    1.694   1.694   1.693   1.693   1.693   1.653
1967    1.729   1.729   1.729   1.729   1.729   1.718
1968    1.753   1.753   1.753   1.753   1.753   1.748
1969    1.756   1.756   1.756   1.756   1.756   1.756
1970    2.623   2.622   2.621   2.619   2.617   2.463
1971    2.686   2.686   2.686   2.686   2.686   2.666
1972    2.874   2.874   2.874   2.873   2.873   2.811
1973    2.872   2.872   2.872   2.872   2.872   2.872
1974    3.097   3.097   3.097   3.096   3.096   3.045
1975    3.637   3.637   3.636   3.635   3.634   3.459
1976    3.629   3.629   3.629   3.629   3.629   3.629
1977    4.321   4.321   4.32    4.32    4.319   4.202
1978    4.464   4.464   4.464   4.464   4.464   4.422
1979    4.465   4.465   4.465   4.465   4.465   4.464
1980    7.8     7.798   7.793   7.785   7.78    6.99
1981    8.637   8.637   8.636   8.633   8.632   8.481
1982    8.625   8.625   8.625   8.625   8.625   8.625
1983    8.727   8.727   8.726   8.726   8.726   8.708
1984    9.015   9.015   9.015   9.014   9.013   8.956
1985    9.072   9.072   9.072   9.072   9.072   9.059
1986    9.143   9.143   9.143   9.142   9.142   9.119
1987    9.142   9.142   9.142   9.142   9.142   9.142
1988    9.545   9.544   9.544   9.543   9.542   9.457
1989    9.542   9.542   9.542   9.542   9.542   9.541
1990    9.599   9.599   9.598   9.598   9.598   9.587
```

Sorted results

Prob.	Peak	96 hr	21 Day	60 Day	90 Day	Yearly	
0.032258064516129		9.599	9.599	9.598	9.598	9.598	9.587
0.0645161290322581		9.545	9.544	9.544	9.543	9.542	9.541
0.0967741935483871		9.542	9.542	9.542	9.542	9.542	9.457
0.129032258064516		9.143	9.143	9.143	9.142	9.142	9.142
0.161290322580645		9.142	9.142	9.142	9.142	9.142	9.119
0.193548387096774		9.072	9.072	9.072	9.072	9.072	9.059
0.225806451612903		9.015	9.015	9.015	9.014	9.013	8.956
0.258064516129032		8.727	8.727	8.726	8.726	8.726	8.708
0.290322580645161		8.637	8.637	8.636	8.633	8.632	8.625
0.32258064516129		8.625	8.625	8.625	8.625	8.625	8.481
0.354838709677419		7.8	7.798	7.793	7.785	7.78	6.99
0.387096774193548		4.465	4.465	4.465	4.465	4.465	4.464
0.419354838709677		4.464	4.464	4.464	4.464	4.464	4.422
0.451612903225806		4.321	4.321	4.32	4.32	4.319	4.202
0.483870967741936		3.637	3.637	3.636	3.635	3.634	3.629
0.516129032258065		3.629	3.629	3.629	3.629	3.629	3.459
0.548387096774194		3.097	3.097	3.097	3.096	3.096	3.045
0.580645161290323		2.874	2.874	2.874	2.873	2.873	2.872
0.612903225806452		2.872	2.872	2.872	2.872	2.872	2.811
0.645161290322581		2.686	2.686	2.686	2.686	2.686	2.666
0.67741935483871		2.623	2.622	2.621	2.619	2.617	2.463
0.709677419354839		1.756	1.756	1.756	1.756	1.756	1.756
0.741935483870968		1.753	1.753	1.753	1.753	1.753	1.748
0.774193548387097		1.729	1.729	1.729	1.729	1.729	1.718
0.806451612903226		1.694	1.694	1.693	1.693	1.693	1.653
0.838709677419355		1.566	1.566	1.565	1.564	1.564	1.56
0.870967741935484		1.56	1.56	1.56	1.56	1.56	1.435
0.903225806451613		0.9725	0.9722	0.9706	0.9679	0.9663	0.719
0.935483870967742		0.01832	0.01831	0.01829	0.01826	0.01823	0.01459
0.967741935483871		0.002608		0.002607		0.002604	0.002597
	0.002593	0.001465					
0.1	9.5021	9.5021	9.5021	9.502	9.502	9.4255	

Average of yearly averages: 4.74343516666667

Inputs generated by pe4.pl - 8-August-2003
Data used for this run:
Output File: OABSGRDEMG
Metfile: w13958.dvf
PRZM scenario: TX_BSSMeadow.txt
EXAMS environment file: pond298.exv
Chemical Name: OA

Description	Variable Name	Value	Units	Comments
Molecular weight	mwt	279.35	g/mol	
Henry's Law Const.	henry		atm-m^3/mol	
Vapor Pressure	vapr		torr	
Solubility	sol	4800	mg/L	
Kd	Kd	0.079	mg/L	
Koc	Koc		mg/L	
Photolysis half-life	kdp		days	Half-life
Aerobic Aquatic Metabolism	kbacw		days	Halfife
Anaerobic Aquatic Metabolism	kbacs		days	Halfife
Aerobic Soil Metabolism	asm	127.5	days	Halfife
Hydrolysis:	pH 7		days	Half-life
Method: CAM	1	integer	See PRZM manual	
Incorporation Depth:	DEPI	4.00	cm	
Application Rate:	TAPP	0.5236	kg/ha	
Application Efficiency:	APPEFF	1.00	fraction	
Spray Drift	DRFT	0.0	fraction of application rate applied to pond	
Application Date	Date	1-3	dd/mm or dd/mmm or dd-mm or dd-mmm	
Record 17:	FILTRA			
	IPSCND			
	UPTKF			
Record 18:	PLVKRT			
	PLDKRT			
	FEXTRC	0.5		
Flag for Index Res. Run	IR	Pond		
Flag for runoff calc.	RUNOFF	none	none, monthly or total(average of entire run)	

Post Processed Estimated Spring EECs

Estimated Spring						
Year	Max Peak	Max 14 day	Max 21 day	Max 30 day	Max 60 day	Max 90 day
1961	3.31E-02	2.66E-03	1.77E-03	1.24E-03	6.20E-04	4.13E-04
1962	1.11E+00	7.92E-02	5.28E-02	3.95E-02	1.97E-02	1.32E-02
1963	5.87E+00	4.42E-01	2.95E-01	2.06E-01	1.03E-01	6.87E-02
1964	2.64E+00	1.88E-01	1.26E-01	8.80E-02	4.47E-02	2.98E-02
1965	2.77E-03	1.98E-04	1.33E-04	9.29E-05	4.64E-05	3.10E-05
1966	1.87E+00	1.42E-01	9.47E-02	6.63E-02	3.32E-02	2.21E-02
1967	1.21E-01	9.70E-03	6.47E-03	4.53E-03	2.26E-03	1.51E-03
1968	1.35E-01	9.61E-03	6.41E-03	4.49E-03	2.25E-03	1.50E-03
1969	9.62E-02	7.07E-03	4.71E-03	3.30E-03	1.65E-03	1.10E-03
1970	3.65E+00	2.61E-01	1.74E-01	1.22E-01	6.09E-02	4.06E-02
1971	9.61E+00	6.86E-01	4.58E-01	3.20E-01	1.74E-01	1.16E-01
1972	1.97E+00	1.44E-01	9.58E-02	6.70E-02	3.35E-02	2.23E-02
1973	1.76E+00	1.26E-01	8.40E-02	5.88E-02	2.94E-02	1.96E-02
1974	2.55E+00	1.82E-01	1.32E-01	9.27E-02	4.64E-02	3.09E-02
1975	2.31E-01	1.91E-02	1.27E-02	8.89E-03	4.45E-03	2.96E-03
1976	1.40E-04	1.08E-05	7.23E-06	5.06E-06	2.53E-06	1.69E-06
1977	7.00E+00	5.00E-01	3.33E-01	2.40E-01	1.20E-01	8.03E-02
1978	3.13E-01	2.24E-02	1.49E-02	1.09E-02	5.44E-03	3.63E-03
1979	1.40E-01	1.10E-02	7.31E-03	5.12E-03	2.56E-03	1.71E-03
1980	1.56E+00	1.11E-01	7.43E-02	5.23E-02	2.62E-02	1.74E-02
1981	9.94E-01	7.10E-02	4.73E-02	3.31E-02	1.66E-02	1.10E-02
1982	4.11E-02	2.97E-03	1.98E-03	1.38E-03	6.92E-04	4.61E-04
1983	9.05E+00	6.61E-01	4.41E-01	3.08E-01	1.54E-01	1.03E-01
1984	1.37E+00	9.79E-02	6.52E-02	4.57E-02	2.28E-02	1.52E-02
1985	6.54E-01	4.67E-02	3.11E-02	2.22E-02	1.11E-02	7.39E-03
1986	5.54E-01	4.15E-02	2.77E-02	1.94E-02	9.69E-03	6.46E-03
1987	3.04E-04	2.32E-05	1.55E-05	1.08E-05	5.42E-06	3.61E-06
1988	4.78E-01	3.41E-02	2.28E-02	1.76E-02	8.85E-03	5.90E-03
1989	5.65E-02	4.04E-03	2.69E-03	1.89E-03	9.43E-04	6.29E-04
1990	6.83E-01	4.88E-02	3.25E-02	2.28E-02	1.14E-02	7.62E-03
90th % (ppb)	5.983154	0.447635	0.298423	0.209595	0.104831	0.069887

ESA-Metolachlor Degradation Product

Ground Spray – Prior to Planting

Standard PRZM/EXAMS Output

stored as ESABSGDPPL.out
Chemical: ESA
PRZM environment: TX_BSSMeadow.txt modified Thuday, 4 May 2006 at 10:38:37
EXAMS environment: pond298.exv modified Thuday, 29 August 2002 at 16:33:30
Metfile: w13958.dvf modified Wedday, 3 July 2002 at 09:06:24
Water segment concentrations (ppb)

Year	Peak	96 hr	21 Day	60 Day	90 Day	Yearly
1961	2.661	2.659	2.655	2.648	2.644	2.3
1962	2.624	2.624	2.624	2.624	2.624	2.624
1963	5.471	5.47	5.465	5.46	5.458	5.077
1964	5.465	5.465	5.465	5.465	5.464	5.459
1965	8.355	8.354	8.35	8.342	8.338	7.964
1966	8.34	8.34	8.34	8.34	8.34	8.336
1967	8.343	8.343	8.343	8.343	8.343	8.342
1968	8.343	8.343	8.343	8.343	8.343	8.343
1969	8.579	8.579	8.578	8.578	8.577	8.544
1970	9.035	9.035	9.034	9.033	9.033	8.964
1971	9.031	9.031	9.031	9.031	9.031	9.03
1972	9.092	9.092	9.092	9.092	9.092	9.072
1973	9.102	9.102	9.102	9.102	9.102	9.101
1974	9.119	9.119	9.119	9.119	9.119	9.115
1975	9.296	9.296	9.295	9.295	9.295	9.238
1976	9.521	9.521	9.52	9.52	9.519	9.489
1977	9.801	9.801	9.8	9.8	9.8	9.752
1978	9.864	9.864	9.864	9.864	9.864	9.855
1979	11.02	11.02	11.02	11.02	11.02	10.84
1980	11.12	11.12	11.12	11.12	11.12	11.09
1981	11.42	11.42	11.42	11.42	11.42	11.37
1982	11.42	11.42	11.42	11.42	11.42	11.42
1983	11.87	11.87	11.87	11.87	11.87	11.81
1984	11.87	11.87	11.87	11.87	11.87	11.87
1985	11.97	11.97	11.97	11.97	11.97	11.96
1986	11.99	11.99	11.99	11.99	11.99	11.98
1987	11.99	11.99	11.99	11.99	11.99	11.99
1988	12.03	12.03	12.03	12.03	12.03	12.02
1989	12.03	12.03	12.03	12.03	12.03	12.03
1990	12.19	12.19	12.19	12.19	12.19	12.17

Sorted results

Prob.	Peak	96 hr	21 Day	60 Day	90 Day	Yearly	
0.032258064516129		12.19	12.19	12.19	12.19	12.19	12.17
0.0645161290322581		12.03	12.03	12.03	12.03	12.03	12.03
0.0967741935483871		12.03	12.03	12.03	12.03	12.03	12.02
0.129032258064516		11.99	11.99	11.99	11.99	11.99	11.99
0.161290322580645		11.99	11.99	11.99	11.99	11.99	11.98
0.193548387096774		11.97	11.97	11.97	11.97	11.97	11.96
0.225806451612903		11.87	11.87	11.87	11.87	11.87	11.87
0.258064516129032		11.87	11.87	11.87	11.87	11.87	11.81
0.290322580645161		11.42	11.42	11.42	11.42	11.42	11.42
0.32258064516129		11.42	11.42	11.42	11.42	11.42	11.37
0.354838709677419		11.12	11.12	11.12	11.12	11.12	11.09
0.387096774193548		11.02	11.02	11.02	11.02	11.02	10.84
0.419354838709677		9.864	9.864	9.864	9.864	9.864	9.855
0.451612903225806		9.801	9.801	9.8	9.8	9.8	9.752
0.483870967741936		9.521	9.521	9.52	9.52	9.519	9.489
0.516129032258065		9.296	9.296	9.295	9.295	9.295	9.238
0.548387096774194		9.119	9.119	9.119	9.119	9.119	9.115
0.580645161290323		9.102	9.102	9.102	9.102	9.102	9.101
0.612903225806452		9.092	9.092	9.092	9.092	9.092	9.072
0.645161290322581		9.035	9.035	9.034	9.033	9.033	9.03
0.67741935483871		9.031	9.031	9.031	9.031	9.031	8.964
0.709677419354839		8.579	8.579	8.578	8.578	8.577	8.544
0.741935483870968		8.355	8.354	8.35	8.343	8.343	8.343
0.774193548387097		8.343	8.343	8.343	8.343	8.343	8.342
0.806451612903226		8.343	8.343	8.343	8.342	8.34	8.336
0.838709677419355		8.34	8.34	8.34	8.34	8.338	7.964
0.870967741935484		5.471	5.47	5.465	5.465	5.464	5.459
0.903225806451613		5.465	5.465	5.465	5.46	5.458	5.077
0.935483870967742		2.661	2.659	2.655	2.648	2.644	2.624
0.967741935483871		2.624	2.624	2.624	2.624	2.624	2.3
0.1	12.026	12.026	12.026	12.026	12.026	12.017	

Average of yearly averages: 9.37183333333334

Inputs generated by pe4.pl - 8-August-2003

Data used for this run:
Output File: ESABSGDPPL
Metfile: w13958.dvf
PRZM scenario: TX_BSSMeadow.txt
EXAMS environment file: pond298.exv
Chemical Name: 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	4800	mg/L	
Kd	Kd	0.041	mg/L	
Koc	Koc		mg/L	
Photolysis half-life	kdp		days	Half-life
Aerobic Aquatic Metabolism	kbacw		days	Halfife
Anaerobic Aquatic Metabolism	kbacs		days	Halfife
Aerobic Soil Metabolism	asm	162.5	days	Halfife
Hydrolysis:	pH 7		days	Half-life
Method: CAM	1	integer	See PRZM manual	
Incorporation Depth:	DEPI	4.00	cm	
Application Rate:	TAPP	0.2244	kg/ha	
Application Efficiency:	APPEFF	1.00	fraction	
Spray Drift	DRFT	0.00	fraction of application rate applied to pond	
Application Date	Date	15-2	dd/mm or dd/mmm or dd-mm or dd-mmm	
Record 17:	FILTRA			
	IPSCND			
	UPTKF			
Record 18:	PLVKRT			
	PLDKRT			
	FEXTRC	0.5		
Flag for Index Res. Run	IR	Pond		
Flag for runoff calc.	RUNOFF	none	none, monthly or total(average of entire run)	

Post Processed Estimated Spring EECs

Estimated Spring						
Year	Max Peak	Max 14 day	Max 21 day	Max 30 day	Max 60 day	Max 90 day
1961	2.25E+00	1.61E-01	1.07E-01	7.51E-02	3.75E-02	2.51E-02
1962	7.57E-03	5.40E-04	3.60E-04	2.63E-04	1.31E-04	8.76E-05
1963	1.46E+00	1.04E-01	6.95E-02	4.86E-02	2.55E-02	1.70E-02
1964	7.01E-02	5.01E-03	3.34E-03	2.34E-03	1.17E-03	7.80E-04
1965	2.34E+00	2.05E-01	1.37E-01	9.58E-02	4.79E-02	3.19E-02
1966	6.04E-02	4.31E-03	2.87E-03	2.01E-03	1.01E-03	6.73E-04
1967	5.05E+00	3.61E-01	2.40E-01	1.68E-01	8.41E-02	5.61E-02
1968	7.22E+00	6.26E-01	4.17E-01	2.92E-01	1.46E-01	9.73E-02
1969	9.58E-01	6.85E-02	4.56E-02	3.20E-02	1.60E-02	1.07E-02
1970	7.03E-01	5.60E-02	3.73E-02	2.61E-02	1.31E-02	8.71E-03
1971	2.82E+00	2.02E-01	1.47E-01	1.03E-01	5.18E-02	3.45E-02
1972	4.52E-01	3.27E-02	2.18E-02	1.53E-02	7.63E-03	5.09E-03
1973	5.55E+00	4.68E-01	3.12E-01	2.18E-01	1.09E-01	7.28E-02
1974	1.17E-01	8.37E-03	5.94E-03	4.16E-03	2.08E-03	1.39E-03
1975	7.82E-03	6.14E-04	4.09E-04	2.86E-04	1.43E-04	9.55E-05
1976	3.65E+00	2.61E-01	1.75E-01	1.23E-01	6.13E-02	4.09E-02
1977	2.98E+00	2.13E-01	1.42E-01	1.01E-01	5.06E-02	3.37E-02
1978	2.69E+00	1.92E-01	1.44E-01	1.01E-01	5.04E-02	3.36E-02
1979	2.26E+00	1.62E-01	1.08E-01	7.61E-02	3.81E-02	2.54E-02
1980	4.12E+00	2.94E-01	1.96E-01	1.37E-01	6.90E-02	4.60E-02
1981	3.77E-01	2.70E-02	1.80E-02	1.26E-02	6.29E-03	4.19E-03
1982	4.30E-02	3.07E-03	2.05E-03	1.43E-03	7.17E-04	4.78E-04
1983	4.29E+00	3.06E-01	2.22E-01	1.56E-01	7.79E-02	5.19E-02
1984	1.78E+00	1.27E-01	8.56E-02	5.99E-02	3.00E-02	2.00E-02
1985	1.13E+00	8.77E-02	5.85E-02	4.10E-02	2.05E-02	1.37E-02
1986	5.92E-02	4.42E-03	2.94E-03	2.06E-03	1.03E-03	6.87E-04
1987	8.77E-02	6.77E-03	4.52E-03	3.16E-03	1.58E-03	1.05E-03
1988	4.28E-02	3.06E-03	2.04E-03	1.45E-03	7.25E-04	4.83E-04
1989	2.17E-02	1.64E-03	1.09E-03	7.66E-04	3.83E-04	2.55E-04
1990	4.29E+00	3.43E-01	2.29E-01	1.60E-01	8.01E-02	5.34E-02
90th % (ppb)	4.367598	0.344862	0.229908	0.160939	0.08047	0.053647

Ground Spray- At Plant

Standard PRZM/EXAMS Output

```
stored as ESABSGRDPL.out
Chemical: ESA
PRZM environment: TX_BSSMeadow.txt    modified Thuday, 4 May 2006 at 10:38:37
EXAMS environment: pond298.exv        modified Thuday, 29 August 2002 at 16:33:30
Metfile: w13958.dvf    modified Wedday, 3 July 2002 at 09:06:24
Water segment concentrations (ppb)

Year    Peak    96 hr   21 Day  60 Day  90 Day  Yearly
1961    0.0008341       0.0008339       0.0008331       0.000831        0.0008299
        0.000469
1962    0.003016        0.003015        0.003012        0.003007        0.003005
        0.002506
1963    0.3544  0.3543  0.3537  0.3528  0.3523  0.2613
1964    0.5891  0.589   0.5886  0.5882  0.5881  0.5372
1965    0.5866  0.5866  0.5866  0.5866  0.5866  0.5866
1966    2.068   2.067   2.065   2.061   2.06    1.829
1967    2.057   2.057   2.057   2.057   2.057   2.055
1968    2.064   2.064   2.064   2.064   2.064   2.063
1969    2.065   2.065   2.065   2.065   2.065   2.065
1970    2.154   2.154   2.154   2.154   2.154   2.138
1971    2.158   2.158   2.158   2.158   2.158   2.157
1972    2.222   2.222   2.222   2.222   2.222   2.2
1973    2.221   2.221   2.221   2.221   2.221   2.221
1974    2.309   2.309   2.308   2.308   2.308   2.288
1975    2.504   2.504   2.504   2.504   2.503   2.44
1976    2.502   2.502   2.502   2.502   2.502   2.502
1977    2.797   2.797   2.797   2.797   2.797   2.746
1978    2.847   2.847   2.847   2.847   2.847   2.833
1979    2.847   2.847   2.847   2.847   2.847   2.847
1980    3.859   3.859   3.857   3.855   3.854   3.614
1981    4.166   4.166   4.165   4.164   4.164   4.109
1982    4.161   4.161   4.161   4.161   4.161   4.161
1983    4.202   4.202   4.202   4.202   4.202   4.195
1984    4.218   4.218   4.218   4.218   4.218   4.215
1985    4.278   4.278   4.278   4.278   4.278   4.268
1986    4.3     4.3     4.3     4.3     4.3     4.292
1987    5.387   5.386   5.385   5.382   5.38    5.213
1988    5.502   5.502   5.502   5.501   5.501   5.474
1989    5.501   5.501   5.501   5.501   5.501   5.501
1990    5.503   5.503   5.503   5.503   5.503   5.503
```

Sorted results

Prob.	Peak	96 hr	21 Day	60 Day	90 Day	Yearly
0.032258064516129	5.503	5.503	5.503	5.503	5.503	5.503
0.0645161290322581	5.502	5.502	5.502	5.501	5.501	5.501
0.0967741935483871	5.501	5.501	5.501	5.501	5.501	5.474
0.129032258064516	5.387	5.386	5.385	5.382	5.38	5.213
0.161290322580645	4.3	4.3	4.3	4.3	4.3	4.292
0.193548387096774	4.278	4.278	4.278	4.278	4.278	4.268
0.225806451612903	4.218	4.218	4.218	4.218	4.218	4.215
0.258064516129032	4.202	4.202	4.202	4.202	4.202	4.195
0.290322580645161	4.166	4.166	4.165	4.164	4.164	4.161
0.32258064516129	4.161	4.161	4.161	4.161	4.161	4.109
0.354838709677419	3.859	3.859	3.857	3.855	3.854	3.614
0.387096774193548	2.847	2.847	2.847	2.847	2.847	2.847
0.419354838709677	2.847	2.847	2.847	2.847	2.847	2.833
0.451612903225806	2.797	2.797	2.797	2.797	2.797	2.746
0.483870967741936	2.504	2.504	2.504	2.504	2.503	2.502
0.516129032258065	2.502	2.502	2.502	2.502	2.502	2.44
0.548387096774194	2.309	2.309	2.308	2.308	2.308	2.288
0.580645161290323	2.222	2.222	2.222	2.222	2.222	2.221
0.612903225806452	2.221	2.221	2.221	2.221	2.221	2.2
0.645161290322581	2.158	2.158	2.158	2.158	2.158	2.157
0.67741935483871	2.154	2.154	2.154	2.154	2.154	2.138
0.709677419354839	2.068	2.067	2.065	2.065	2.065	2.065
0.741935483870968	2.065	2.065	2.065	2.064	2.064	2.063
0.774193548387097	2.064	2.064	2.064	2.061	2.06	2.055
0.806451612903226	2.057	2.057	2.057	2.057	2.057	1.829
0.838709677419355	0.5891	0.589	0.5886	0.5882	0.5881	0.5866
0.870967741935484	0.5866	0.5866	0.5866	0.5866	0.5866	0.5372
0.903225806451613	0.3544	0.3543	0.3537	0.3528	0.3523	0.2613
0.935483870967742	0.003016		0.003015		0.003012	0.003007
	0.003005		0.002506			
0.967741935483871	0.0008341		0.0008339		0.0008331	0.000831
	0.0008299		0.000469			
0.1	5.4896	5.4895	5.4894	5.4891	5.4889	5.4479

Average of yearly averages: 2.81056916666667

Inputs generated by pe4.pl - 8-August-2003
Data used for this run:
Output File: ESABSGRDPL
Metfile: w13958.dvf
PRZM scenario: TX_BSSMeadow.txt
EXAMS environment file: pond298.exv
Chemical Name: 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	4800	mg/L	
Kd	Kd	0.041	mg/L	
Koc	Koc		mg/L	
Photolysis half-life	kdp		days	Half-life
Aerobic Aquatic Metabolism	kbacw		days	Halfife
Anaerobic Aquatic Metabolism	kbacs		days	Halfife
Aerobic Soil Metabolism	asm	162.5	days	Halfife
Hydrolysis:	pH 7		days	Half-life
Method: CAM	1	integer	See PRZM manual	
Incorporation Depth:	DEPI	4.00	cm	
Application Rate:	TAPP	0.2244	kg/ha	
Application Efficiency:	APPEFF	1.00	fraction	
Spray Drift	DRFT	0.00	fraction of application rate applied to pond	
Application Date	Date	25-2	dd/mm or dd/mmm or dd-mm or dd-mmm	
Record 17:	FILTRA			
	IPSCND			
	UPTKF			
Record 18:	PLVKRT			
	PLDKRT			
	FEXTRC	0.5		
Flag for Index Res. Run	IR	Pond		
Flag for runoff calc.	RUNOFF	none	none, monthly or total(average of entire run)	

Post Processed Estimated Spring EECs

Estimated Spring						
Year	Max Peak	Max 14 day	Max 21 day	Max 30 day	Max 60 day	Max 90 day
1961	3.96E-01	2.83E-02	1.89E-02	1.32E-02	6.67E-03	4.45E-03
1962	1.45E-01	1.03E-02	6.89E-03	5.07E-03	2.54E-03	1.69E-03
1963	1.79E+00	1.34E-01	8.94E-02	6.26E-02	3.14E-02	2.09E-02
1964	7.87E-01	5.62E-02	3.75E-02	2.62E-02	1.32E-02	8.77E-03
1965	4.72E-03	3.37E-04	2.34E-04	1.64E-04	8.18E-05	5.45E-05
1966	3.70E+00	2.64E-01	1.76E-01	1.23E-01	6.21E-02	4.14E-02
1967	1.49E-03	1.14E-04	7.62E-05	5.33E-05	2.67E-05	1.78E-05
1968	2.39E-02	1.71E-03	1.14E-03	7.98E-04	3.99E-04	2.66E-04
1969	2.17E-02	1.57E-03	1.05E-03	7.34E-04	3.67E-04	2.45E-04
1970	3.86E-01	2.76E-02	1.84E-02	1.29E-02	6.43E-03	4.29E-03
1971	6.36E+00	4.54E-01	3.35E-01	2.35E-01	1.18E-01	7.87E-02
1972	4.72E-01	3.41E-02	2.28E-02	1.59E-02	7.97E-03	5.31E-03
1973	4.75E-01	3.87E-02	2.58E-02	1.81E-02	9.04E-03	6.03E-03
1974	6.33E-01	4.52E-02	3.24E-02	2.27E-02	1.13E-02	7.55E-03
1975	9.17E-03	7.21E-04	4.81E-04	3.37E-04	1.68E-04	1.12E-04
1976	1.34E+00	9.59E-02	6.39E-02	4.47E-02	2.24E-02	1.49E-02
1977	3.11E+00	2.22E-01	1.48E-01	1.06E-01	5.28E-02	3.52E-02
1978	5.18E+00	3.70E-01	2.47E-01	1.73E-01	8.78E-02	5.85E-02
1979	4.15E-01	3.08E-02	2.05E-02	1.44E-02	7.18E-03	4.78E-03
1980	2.03E-01	1.45E-02	9.67E-03	6.78E-03	3.39E-03	2.26E-03
1981	3.94E-01	2.81E-02	1.88E-02	1.31E-02	6.56E-03	4.38E-03
1982	1.06E-01	7.60E-03	5.07E-03	3.55E-03	1.77E-03	1.18E-03
1983	3.93E+00	2.85E-01	1.90E-01	1.33E-01	6.65E-02	4.43E-02
1984	6.32E+00	4.52E-01	3.05E-01	2.13E-01	1.07E-01	7.11E-02
1985	3.69E+00	2.64E-01	1.76E-01	1.23E-01	6.17E-02	4.11E-02
1986	6.18E-02	4.61E-03	3.07E-03	2.15E-03	1.08E-03	7.17E-04
1987	4.20E+00	3.52E-01	2.35E-01	1.64E-01	8.21E-02	5.47E-02
1988	1.55E-01	1.11E-02	7.40E-03	5.28E-03	2.64E-03	1.76E-03
1989	1.51E-01	1.15E-02	7.69E-03	5.38E-03	2.69E-03	1.79E-03
1990	5.87E+00	4.19E-01	2.81E-01	1.96E-01	9.82E-02	6.55E-02
90th % (ppb)	5.250686	0.375049	0.250147	0.175103	0.08885	0.059235

Ground Spray- Before Crop Emergence

Standard PRZM/EXAMS Output

```
stored as ESABSGDEMG.out
Chemical: ESA
PRZM environment: TX_BSSMeadow.txt    modified Thuday, 4 May 2006 at 10:38:37
EXAMS environment: pond298.exv        modified Thuday, 29 August 2002 at 16:33:30
Metfile: w13958.dvf    modified Wedday, 3 July 2002 at 09:06:24
Water segment concentrations (ppb)

Year    Peak    96 hr   21 Day  60 Day  90 Day  Yearly
1961    0.0008483       0.000848        0.0008472       0.0008452       0.000844
        0.000477
1962    0.00608 0.006079        0.006072        0.006061        0.006054        0.004852
1963    0.3635  0.3633  0.3628  0.3619  0.3613  0.2688
1964    0.6066  0.6065  0.6061  0.6057  0.6055  0.5529
1965    0.604   0.604   0.604   0.604   0.604   0.604
1966    0.6528  0.6528  0.6527  0.6526  0.6525  0.6379
1967    0.664   0.664   0.664   0.664   0.664   0.6607
1968    0.6714  0.6714  0.6714  0.6714  0.6714  0.6699
1969    0.6724  0.6724  0.6724  0.6724  0.6724  0.6722
1970    1.025   1.025   1.025   1.024   1.023   0.9604
1971    1.052   1.052   1.052   1.052   1.052   1.043
1972    1.117   1.117   1.117   1.117   1.117   1.095
1973    1.116   1.116   1.116   1.116   1.116   1.116
1974    1.205   1.205   1.205   1.205   1.205   1.185
1975    1.404   1.404   1.404   1.404   1.403   1.339
1976    1.402   1.402   1.402   1.402   1.402   1.402
1977    1.702   1.702   1.702   1.702   1.702   1.651
1978    1.753   1.753   1.753   1.753   1.753   1.738
1979    1.753   1.753   1.753   1.753   1.753   1.753
1980    3.105   3.104   3.102   3.099   3.097   2.777
1981    3.425   3.425   3.424   3.423   3.423   3.365
1982    3.42    3.42    3.42    3.42    3.42    3.42
1983    3.462   3.462   3.462   3.462   3.462   3.454
1984    3.574   3.574   3.574   3.574   3.574   3.552
1985    3.594   3.594   3.594   3.594   3.594   3.59
1986    3.617   3.617   3.617   3.617   3.617   3.609
1987    3.617   3.617   3.617   3.617   3.617   3.617
1988    3.762   3.762   3.762   3.762   3.762   3.731
1989    3.761   3.761   3.761   3.761   3.761   3.761
1990    3.781   3.781   3.781   3.781   3.781   3.777
```

Sorted results

Prob.	Peak	96 hr	21 Day	60 Day	90 Day	Yearly	
0.032258064516129	3.781	3.781	3.781	3.781	3.781	3.777	
0.0645161290322581	3.762	3.762	3.762	3.762	3.762	3.761	
0.0967741935483871	3.761	3.761	3.761	3.761	3.761	3.731	
0.129032258064516	3.617	3.617	3.617	3.617	3.617	3.617	
0.161290322580645	3.617	3.617	3.617	3.617	3.617	3.609	
0.193548387096774	3.594	3.594	3.594	3.594	3.594	3.59	
0.225806451612903	3.574	3.574	3.574	3.574	3.574	3.552	
0.258064516129032	3.462	3.462	3.462	3.462	3.462	3.454	
0.290322580645161	3.425	3.425	3.424	3.423	3.423	3.42	
0.32258064516129	3.42	3.42	3.42	3.42	3.42	3.365	
0.354838709677419	3.105	3.104	3.102	3.099	3.097	2.777	
0.387096774193548	1.753	1.753	1.753	1.753	1.753	1.753	
0.419354838709677	1.753	1.753	1.753	1.753	1.753	1.738	
0.451612903225806	1.702	1.702	1.702	1.702	1.702	1.651	
0.483870967741936	1.404	1.404	1.404	1.404	1.403	1.402	
0.516129032258065	1.402	1.402	1.402	1.402	1.402	1.339	
0.548387096774194	1.205	1.205	1.205	1.205	1.205	1.185	
0.580645161290323	1.117	1.117	1.117	1.117	1.117	1.116	
0.612903225806452	1.116	1.116	1.116	1.116	1.116	1.095	
0.645161290322581	1.052	1.052	1.052	1.052	1.052	1.043	
0.67741935483871	1.025	1.025	1.025	1.024	1.023	0.9604	
0.709677419354839	0.6724	0.6724	0.6724	0.6724	0.6724	0.6722	
0.741935483870968	0.6714	0.6714	0.6714	0.6714	0.6714	0.6699	
0.774193548387097	0.664	0.664	0.664	0.664	0.664	0.6607	
0.806451612903226	0.6528	0.6528	0.6527	0.6526	0.6525	0.6379	
0.838709677419355	0.6066	0.6065	0.6061	0.6057	0.6055	0.604	
0.870967741935484	0.604	0.604	0.604	0.604	0.604	0.5529	
0.903225806451613	0.3635	0.3633	0.3628	0.3619	0.3613	0.2688	
0.935483870967742	0.00608	0.006079	0.006072	0.006061	0.006054	0.004852	
0.967741935483871	0.0008483	0.000848	0.0008472	0.0008452	0.000844	0.000477	
0.1	3.7466	3.7466	3.7466	3.7466	3.7466	3.7196	

Average of yearly averages: 1.8669043

Inputs generated by pe4.pl - 8-August-2003
Data used for this run:
Output File: ESABSGDEMG
Metfile: w13958.dvf
PRZM scenario: TX_BSSMeadow.txt
EXAMS environment file: pond298.exv
Chemical Name: 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	4800	mg/L	
Kd	Kd	0.041	mg/L	
Koc	Koc		mg/L	
Photolysis half-life	kdp		days	Half-life
Aerobic Aquatic Metabolism	kbacw		days	Halfife
Anaerobic Aquatic Metabolism	kbacs		days	Halfife
Aerobic Soil Metabolism	asm	162.5	days	Halfife
Hydrolysis:	pH 7		days	Half-life
Method: CAM	1	integer	See PRZM manual	
Incorporation Depth:	DEPI	4.00	cm	
Application Rate:	TAPP	0.2244	kg/ha	
Application Efficiency:	APPEFF	1.00	fraction	
Spray Drift	DRFT	0.00	fraction of application rate applied to pond	
Application Date	Date	1-3	dd/mm or dd/mmm or dd-mm or dd-mmm	
Record 17:	FILTRA			
	IPSCND			
	UPTKF			
Record 18:	PLVKRT			
	PLDKRT			
	FEXTRC	0.5		
Flag for Index Res. Run	IR	Pond		
Flag for runoff calc.	RUNOFF	none	none, monthly or total(average of entire run)	

Post Processed Estimated Spring EECs

Estimated Spring						
Year	Max Peak	Max 14 day	Max 21 day	Max 30 day	Max 60 day	Max 90 day
1961	1.09E-02	8.61E-04	5.74E-04	4.02E-04	2.01E-04	1.34E-04
1962	3.95E-01	2.82E-02	1.88E-02	1.40E-02	6.98E-03	4.65E-03
1963	2.55E+00	1.91E-01	1.27E-01	8.89E-02	4.45E-02	2.96E-02
1964	1.08E+00	7.69E-02	5.12E-02	3.59E-02	1.82E-02	1.21E-02
1965	6.53E-04	4.66E-05	3.12E-05	2.18E-05	1.09E-05	7.28E-06
1966	7.43E-01	5.58E-02	3.72E-02	2.61E-02	1.30E-02	8.69E-03
1967	3.88E-02	3.07E-03	2.05E-03	1.43E-03	7.16E-04	4.77E-04
1968	4.09E-02	2.92E-03	1.95E-03	1.36E-03	6.82E-04	4.55E-04
1969	2.91E-02	2.13E-03	1.42E-03	9.94E-04	4.97E-04	3.31E-04
1970	1.49E+00	1.06E-01	7.08E-02	4.96E-02	2.48E-02	1.65E-02
1971	4.25E+00	3.03E-01	2.02E-01	1.42E-01	7.63E-02	5.09E-02
1972	8.15E-01	5.92E-02	3.95E-02	2.76E-02	1.38E-02	9.21E-03
1973	6.69E-01	4.79E-02	3.19E-02	2.23E-02	1.12E-02	7.45E-03
1974	1.01E+00	7.21E-02	5.20E-02	3.64E-02	1.82E-02	1.21E-02
1975	8.53E-02	6.89E-03	4.60E-03	3.22E-03	1.61E-03	1.07E-03
1976	2.54E-05	1.94E-06	1.29E-06	9.06E-07	4.53E-07	3.02E-07
1977	3.04E+00	2.17E-01	1.45E-01	1.04E-01	5.20E-02	3.47E-02
1978	1.14E-01	8.12E-03	5.41E-03	3.92E-03	1.96E-03	1.31E-03
1979	3.97E-02	3.07E-03	2.04E-03	1.43E-03	7.16E-04	4.77E-04
1980	6.32E-01	4.52E-02	3.01E-02	2.12E-02	1.06E-02	7.06E-03
1981	3.80E-01	2.71E-02	1.81E-02	1.27E-02	6.33E-03	4.22E-03
1982	1.12E-02	8.06E-04	5.37E-04	3.76E-04	1.88E-04	1.25E-04
1983	3.95E+00	2.87E-01	1.92E-01	1.34E-01	6.71E-02	4.47E-02
1984	5.33E-01	3.81E-02	2.54E-02	1.78E-02	8.88E-03	5.92E-03
1985	2.30E-01	1.65E-02	1.10E-02	7.78E-03	3.89E-03	2.59E-03
1986	1.96E-01	1.46E-02	9.72E-03	6.81E-03	3.40E-03	2.27E-03
1987	5.76E-05	4.35E-06	2.90E-06	2.03E-06	1.01E-06	6.76E-07
1988	1.73E-01	1.23E-02	8.23E-03	6.29E-03	3.16E-03	2.11E-03
1989	1.61E-02	1.15E-03	7.67E-04	5.38E-04	2.69E-04	1.79E-04
1990	2.37E-01	1.69E-02	1.13E-02	7.90E-03	3.96E-03	2.64E-03
90th % (ppb)	2.59984	0.193238	0.128825	0.09042	0.04522	0.030147