

APPENDIX E

Summary of Tank Mix Risk Quotients - Bromacil

TABLE E-1

Summary of Risk Quotients for Direct Spray and Accidental Spill Scenarios – Terrestrial Animals

	Typical Application Rate ¹	Maximum Application Rate ¹
Direct Spray of Terrestrial Wildlife		
Small mammal - 100% absorption	5.32E-03	1.59E-02
Pollinating insect - 100% absorption	3.12E-01	9.35E-01
Small mammal - 1st order dermal adsorption	3.51E-04	1.05E-03
Indirect Contact With Foliage After Direct Spray		
Small mammal - 100% absorption	5.32E-04	1.59E-03
Pollinating insect - 100% absorption	3.12E-02	9.35E-02
Small mammal - 1st order dermal adsorption	3.51E-05	1.05E-04
Ingestion of Prey Items Contaminated by Direct Spray		
Small mammalian herbivore - acute exposure	1.21E-02	2.74E-01
Small mammalian herbivore - chronic exposure	1.84E-01	4.14E+00
Large mammalian herbivore - acute exposure	7.78E-02	1.28E+00
Large mammalian herbivore - chronic exposure	1.35E+00	2.22E+01
Small avian insectivore - acute exposure	2.87E-03	6.66E-02
Small avian insectivore - chronic exposure	2.71E-02	6.32E-01
Large avian herbivore - acute exposure	7.39E-03	1.86E-01
Large avian herbivore - chronic exposure	6.92E-02	1.75E+00
Large mammalian carnivore - acute exposure	9.34E-02	2.80E-01
Large mammalian carnivore - chronic exposure	1.79E-01	5.38E-01
¹ The typical application rate for bromacil is 4.0 lb active ingredient/acre; the maximum application rate is 12.0 lb a.i./acre. Sulfometuron methyl is tank mixed with bromacil at a typical rate of 0.141 lb a.i./acre and at a maximum rate of 0.375 lb a.i./acre. Shading and boldface indicates terrestrial animal acute scenario risk quotients (RQs) greater than 0.1 (level of concern (LOC) for acute risk to endangered species - most conservative). Shading and boldface indicates terrestrial animal chronic scenario RQs greater than 1.		

TABLE E-2

Summary of Risk Quotients for Direct Spray and Accidental Spill Scenarios - Terrestrial Plants

	Typical Species		Rare, Threatened, and Endangered Species	
	Typical Application Rate ¹	Maximum Application Rate ¹	Typical Application Rate	Maximum Application Rate
Direct Spray of Non-Target Terrestrial Plants				
Accidental direct spray	1.74E+03	5.22E+03	1.00E+04	2.84E+04

¹The typical application rate for bromacil is 4.0 lb active ingredient/acre; the maximum application rate is 12.0 lb a.i./acre. Sulfometuron methyl is tank mixed with bromacil at a typical rate of 0.141 lb a.i./acre and at a maximum rate of 0.375 lb a.i./acre. Shading and boldface indicates plant RQs greater than the plant LOC of 1.0.

TABLE E-3

Summary of Risk Quotients for Direct Spray and Accidental Spill Scenarios – Aquatic Species

	Fish		Aquatic Invertebrates		Non-Target Aquatic Plants	
	Typical Application ¹	Maximum Application ¹	Typical Application	Maximum Application	Typical Application	Maximum Application
Accidental Direct Spray Over Pond						
Acute	1.26E-02	3.76E-02	6.92E-03	2.07E-02	1.98E+02	5.48E+02
Chronic	1.38E+00	4.14E+00	2.30E-02	6.81E-02	5.90E+02	1.64E+03
Accidental Direct Spray Over Stream						
Acute	6.28E-02	1.88E-01	3.46E-02	1.04E-01	9.88E+02	2.74E+03
Chronic	6.91E+00	2.07E+01	1.15E-01	3.41E-01	2.95E+03	8.18E+03
Accidental spill						
Truck spill into pond	--	1.20E+00	--	6.64E-01	--	1.75E+04
¹ The typical application rate for bromacil is 4.0 lb active ingredient/acre; the maximum application rate is 12.0 lb a.i./acre. Sulfometuron methyl is tank mixed with bromacil at a typical rate of 0.141 lb a.i./acre and at a maximum rate of 0.375 lb a.i./acre. Shading and boldface indicates plant RQs greater than the plant LOC of 1.0. Shading and boldface indicates RQs greater than LOC of 0.05 for fish and invertebrates acute scenarios. Shading and boldface indicates RQs greater than LOC of 0.5 for fish and invertebrates chronic scenarios.						

TABLE E-4

Summary of Risk Quotients for Spray Drift to Off-Site Soil Scenario – Non-Target Terrestrial Plants

Mode of Application	Application Height or Type	Distance From Receptor (ft)	Typical Species		Rare, Threatened, and Endangered Species	
			Typical Application Rate ¹	Maximum Application Rate ¹	Typical Application Rate	Maximum Application Rate
Ground	Low Boom	25	2.19E+01	6.56E+01	1.28E+02	3.54E+02
Ground	Low Boom	100	7.70E+00	2.31E+01	4.37E+01	1.26E+02
Ground	Low Boom	900	1.17E+00	3.57E+00	6.83E+00	2.08E+01
Ground	High Boom	25	3.61E+01	1.08E+02	2.08E+02	5.86E+02
Ground	High Boom	100	1.21E+01	3.64E+01	7.08E+01	1.96E+02
Ground	High Boom	900	1.52E+00	4.57E+00	7.97E+00	2.37E+01

¹The typical application rate for bromacil is 4.0 lb active ingredient/acre; the maximum application rate is 12.0 lb a.i./acre. Sulfometuron methyl is tank mixed with bromacil at a typical rate of 0.141 lb a.i./acre and at a maximum rate of 0.375 lb a.i./acre.

All concentrations modeled using AgDRIFT.

Shading and boldface indicates plant RQs greater than the plant LOC of 1.0. (All terrestrial plants are potentially adversely affected by spray drift of bromacil/sulfometuron methyl tank mix).

TABLE E-5
Summary of Risk Quotients for Off-Site Drift to Pond Scenario – Aquatic Species

Mode of Application	Application Height or Type	Distance From Receptor (ft)	Fish		Aquatic Invertebrates		Non-Target Aquatic Plants	
			Typical Application ¹	Maximum Application ¹	Typical Application	Maximum Application	Typical Application	Maximum Application
Acute Toxicity								
Ground	Low Boom	25	7.65E-05	2.29E-04	4.21E-05	1.26E-04	1.21E+00	3.31E+00
Ground	Low Boom	100	4.17E-05	1.26E-04	2.30E-05	6.92E-05	6.61E-01	1.81E+00
Ground	Low Boom	900	8.10E-06	2.42E-05	4.46E-06	1.34E-05	1.28E-01	3.50E-01
Ground	High Boom	25	1.23E-04	3.67E-04	6.76E-05	2.02E-04	1.94E+00	5.31E+00
Ground	High Boom	100	6.47E-05	1.94E-04	3.56E-05	1.07E-04	1.02E+00	2.79E+00
Ground	High Boom	900	1.03E-05	3.08E-05	5.65E-06	1.70E-05	1.62E-01	4.44E-01
Chronic Toxicity								
Ground	Low Boom	25	8.41E-03	2.51E-02	1.40E-04	4.14E-04	3.61E+00	9.87E+00
Ground	Low Boom	100	4.59E-03	1.38E-02	7.66E-05	2.27E-04	1.97E+00	5.41E+00
Ground	Low Boom	900	8.90E-04	2.66E-03	1.48E-05	4.38E-05	3.82E-01	1.05E+00
Ground	High Boom	25	1.35E-02	4.03E-02	2.25E-04	6.63E-04	5.78E+00	1.58E+01
Ground	High Boom	100	7.12E-03	2.13E-02	1.19E-04	3.50E-04	3.05E+00	8.34E+00
Ground	High Boom	900	1.13E-03	3.38E-03	1.88E-05	5.56E-05	4.84E-01	1.32E+00
¹ The typical application rate for bromacil is 4.0 lb active ingredient/acre; the maximum application rate is 12.0 lb a.i./acre. Sulfometuron-methyl is tank mixed with bromacil at a typical rate of 0.141 lb a.i./acre and at a maximum rate of 0.375 lb a.i./acre. All concentrations modeled using AgDrift. Shading and boldface indicates plant RQs greater than the plant LOC of 1.0. Shading and boldface indicates RQs greater than LOC of 0.05 for fish and invertebrates acute scenarios. Shading and boldface indicates RQs greater than LOC of 0.5 for fish and invertebrates chronic scenarios.								

TABLE E-6
Summary of Risk Quotients for Off-Site Drift to Stream Scenario – Aquatic Species

Mode of Application	Application Height or Type	Distance From Receptor (ft)	Fish		Aquatic Invertebrates		Non-Target Aquatic Plants	
			Typical Application ¹	Maximum Application ¹	Typical Application	Maximum Application	Typical Application	Maximum Application
Acute Toxicity								
Ground	Low Boom	25	1.37E-04	4.12E-04	7.57E-05	2.27E-04	2.17E+00	5.95E+00
Ground	Low Boom	100	4.03E-05	1.21E-04	2.22E-05	6.65E-05	6.37E-01	1.74E+00
Ground	Low Boom	900	4.17E-06	1.25E-05	2.30E-06	6.88E-06	6.59E-02	1.80E-01
Ground	High Boom	25	2.30E-04	6.90E-04	1.26E-04	3.80E-04	3.64E+00	9.96E+00
Ground	High Boom	100	6.48E-05	1.95E-04	3.58E-05	1.08E-04	5.82E-01	2.82E+00
Ground	High Boom	900	5.45E-06	1.65E-05	3.02E-06	9.10E-06	3.85E-02	2.38E-01
Chronic Toxicity								
Ground	Low Boom	25	1.51E-02	4.53E-02	2.52E-04	7.45E-04	6.49E+00	1.77E+01
Ground	Low Boom	100	4.43E-03	1.33E-02	7.38E-05	2.18E-04	1.90E+00	5.20E+00
Ground	Low Boom	900	4.58E-04	1.37E-03	7.64E-06	2.26E-05	1.97E-01	5.38E-01
Ground	High Boom	25	2.52E-02	7.58E-02	4.21E-04	1.25E-03	1.09E+01	2.97E+01
Ground	High Boom	100	7.09E-03	2.15E-02	1.11E-04	3.53E-04	1.73E+00	8.42E+00
Ground	High Boom	900	5.96E-04	1.81E-03	9.10E-06	2.99E-05	1.14E-01	7.12E-01
¹ The typical application rate for bromacil is 4.0 lb active ingredient/acre; the maximum application rate is 12.0 lb a.i./acre. Sulfometuron-methyl is tank mixed with bromacil at a typical rate of 0.141 lb a.i./acre and at a maximum rate of 0.375 lb a.i./acre. All concentrations modeled using AgDrift. Shading and boldface indicates plant RQs greater than the plant LOC of 1.0. Shading and boldface indicates RQs greater than LOC of 0.05 for fish and invertebrates acute scenarios. Shading and boldface indicates RQs greater than LOC of 0.5 for fish and invertebrates chronic scenarios.								

TABLE E-7

Summary of Risk Quotients for Off-Site Drift Scenarios – Piscivorous Birds

Potential Risk to Piscivorous Bird from Ingestion of Fish from Contaminated Pond				
Mode of Application	Application Height or Type	Distance From Receptor (ft)	Application Rate¹	
			Typical	Maximum
Ground	Low Boom	25	3.95E-06	1.18E-05
Ground	Low Boom	100	2.16E-06	6.48E-06
Ground	Low Boom	900	4.18E-07	1.25E-06
Ground	High Boom	25	6.34E-06	1.89E-05
Ground	High Boom	100	3.34E-06	9.99E-06
Ground	High Boom	900	5.29E-07	1.59E-06

¹The typical application rate for bromacil is 4.0 lb active ingredient/acre; the maximum application rate is 12.0 lb a.i./acre. Sulfometuron methyl is tank mixed with bromacil at a typical rate of 0.141 lb a.i./acre and at a maximum rate of 0.375 lb a.i./acre.
 All concentrations modeled using AgDrift.
 All concentrations modeled using GLEAMS.
 Shading and boldface indicates terrestrial animal chronic scenario RQs greater than 1 (all RQs were below the LOC).

TABLE E-8

Summary of Risk Quotients for Surface Runoff to Off-Site Soils Scenario – Non-Target Terrestrial Plants

Annual Precipitation Rate (in/yr)	Application Area	Hydraulic Slope	Surface Roughness	USLE Soil Erodibility Factor ¹	Vegetation Type	Soil Type	Typical Species		Rare, Threatened, and Endangered Species	
							Typical Application Rate ²	Maximum Application Rate ²	Typical Application Rate	Maximum Application Rate
5	10	0.05	0.015	0.401	Weeds (78)	Sand	0.00E+00	0.00E+00	0.00E+00	0.00E+00
5	10	0.05	0.015	0.401	Weeds (78)	Clay	0.00E+00	0.00E+00	0.00E+00	0.00E+00
5	10	0.05	0.015	0.401	Weeds (78)	Loam	0.00E+00	0.00E+00	0.00E+00	0.00E+00
10	10	0.05	0.015	0.401	Weeds (78)	Sand	0.00E+00	0.00E+00	0.00E+00	0.00E+00
10	10	0.05	0.015	0.401	Weeds (78)	Clay	1.02E-02	3.07E-02	1.19E+00	3.23E+00
10	10	0.05	0.015	0.401	Weeds (78)	Loam	5.41E-05	1.62E-04	1.03E-02	2.76E-02
25	10	0.05	0.015	0.401	Weeds (78)	Sand	0.00E+00	0.00E+00	0.00E+00	0.00E+00
25	10	0.05	0.015	0.401	Weeds (78)	Clay	5.78E-03	1.73E-02	1.06E+00	2.84E+00
25	10	0.05	0.015	0.401	Weeds (78)	Loam	9.89E-05	2.97E-04	2.50E-02	6.71E-02
50	10	0.05	0.015	0.401	Weeds (78)	Sand	0.00E+00	0.00E+00	0.00E+00	0.00E+00
50	10	0.05	0.015	0.401	Weeds (78)	Clay	1.01E-02	3.04E-02	4.35E+00	1.16E+01
50	10	0.05	0.015	0.401	Weeds (78)	Loam	4.00E-04	1.20E-03	1.28E-01	3.43E-01
100	10	0.05	0.015	0.401	Weeds (78)	Sand	0.00E+00	0.00E+00	0.00E+00	0.00E+00
100	10	0.05	0.015	0.401	Weeds (78)	Clay	6.20E-02	1.86E-01	1.83E+01	4.91E+01
100	10	0.05	0.015	0.401	Weeds (78)	Loam	6.02E-04	1.80E-03	9.00E-01	2.40E+00
150	10	0.05	0.015	0.401	Weeds (78)	Sand	8.02E-11	2.13E-10	3.21E-06	8.54E-06
150	10	0.05	0.015	0.401	Weeds (78)	Clay	9.59E-02	2.88E-01	2.65E+01	7.09E+01
150	10	0.05	0.015	0.401	Weeds (78)	Loam	1.61E-03	4.83E-03	1.10E+00	2.93E+00
200	10	0.05	0.015	0.401	Weeds (78)	Sand	3.21E-11	8.53E-11	1.28E-06	3.41E-06
200	10	0.05	0.015	0.401	Weeds (78)	Clay	1.07E-01	3.20E-01	3.03E+01	8.11E+01
200	10	0.05	0.015	0.401	Weeds (78)	Loam	1.43E-03	4.30E-03	8.72E-01	2.33E+00
250	10	0.05	0.015	0.401	Weeds (78)	Sand	0.00E+00	0.00E+00	0.00E+00	0.00E+00
250	10	0.05	0.015	0.401	Weeds (78)	Clay	1.12E-01	3.35E-01	3.17E+01	8.49E+01
250	10	0.05	0.015	0.401	Weeds (78)	Loam	1.09E-03	3.25E-03	8.51E-01	2.27E+00
50	1	0.05	0.015	0.401	Weeds (78)	Loam	3.94E-04	1.18E-03	1.26E-01	3.37E-01
50	100	0.05	0.015	0.401	Weeds (78)	Loam	3.95E-04	1.18E-03	1.26E-01	3.37E-01
50	1,000	0.05	0.015	0.401	Weeds (78)	Loam	3.94E-04	1.18E-03	1.26E-01	3.37E-01
50	10	0.05	0.015	0.05	Weeds (78)	Loam	3.93E-04	1.18E-03	1.26E-01	3.36E-01
50	10	0.05	0.015	0.2	Weeds (78)	Loam	3.95E-04	1.18E-03	1.26E-01	3.38E-01
50	10	0.05	0.015	0.5	Weeds (78)	Loam	3.99E-04	1.19E-03	1.28E-01	3.42E-01

TABLE E-8 (Cont.)

Summary of Risk Quotients for Surface Runoff Scenarios – Non-Target Terrestrial Plants

Annual Precipitation Rate (in/yr)	Application Area	Hydraulic Slope	Surface Roughness	USLE Soil Erodibility Factor ¹	Vegetation Type	Soil Type	Typical Species		Rare, Threatened, and Endangered Species	
							Typical Application Rate ²	Maximum Application Rate ²	Typical Application Rate	Maximum Application Rate
50	10	0.05	0.023	0.401	Weeds (78)	Loam	3.95E-04	1.18E-03	1.26E-01	3.37E-01
50	10	0.05	0.046	0.401	Weeds (78)	Loam	3.95E-04	1.18E-03	1.26E-01	3.37E-01
50	10	0.05	0.15	0.401	Weeds (78)	Loam	3.93E-04	1.18E-03	1.25E-01	3.36E-01
50	10	0.005	0.015	0.401	Weeds (78)	Loam	3.93E-04	1.18E-03	1.25E-01	3.36E-01
50	10	0.01	0.015	0.401	Weeds (78)	Loam	3.93E-04	1.18E-03	1.25E-01	3.36E-01
50	10	0.1	0.015	0.401	Weeds (78)	Loam	3.98E-04	1.19E-03	1.27E-01	3.41E-01
50	10	0.05	0.015	0.401	Weeds (78)	Silt Loam	3.50E-03	1.05E-02	2.47E+00	6.58E+00
50	10	0.05	0.015	0.401	Weeds (78)	Silt	2.33E-03	6.97E-03	1.82E+00	4.86E+00
50	10	0.05	0.015	0.401	Weeds (78)	Clay Loam	1.71E-02	5.13E-02	6.25E+00	1.67E+01
50	10	0.05	0.015	0.401	Shrubs(79)	Loam	3.95E-04	1.18E-03	1.26E-01	3.37E-01
50	10	0.05	0.015	0.401	Rye Grass(54) Conifer +	Loam	3.95E-04	1.18E-03	1.26E-01	3.37E-01
50	10	0.05	0.015	0.401	Hardwood (71)	Loam	1.10E-04	3.29E-04	5.74E-02	1.53E-01

¹USLE = Universal Soil Loss Equation—predicts soil loss as a function of soil erodibility, topography, rainfall/runoff, cover, and support management factors.
²The typical application rate for bromacil is 4.0 lb active ingredient/acre; the maximum application rate is 12.0 lb a.i./acre. Sulfometuron methyl is tank mixed with bromacil at a typical rate of 0.141 lb a.i./acre and at a maximum rate of 0.375 lb a.i./acre.
 All concentrations modeled using GLEAMS.
 Shading and boldface indicates plant RQs greater than the plant LOC of 1.0.

TABLE E-9

Summary of Risk Quotients for Surface Runoff to Off-Site Pond Scenario – Aquatic Species

Annual Precipitation Rate (in/yr)	Application Area	Hydraulic Slope	Surface Roughness	USLE Soil Erodibility Factor ¹	Vegetation Type	Soil Type	Fish		Aquatic Invertebrates		Non-Target Aquatic Plants	
							Typical Application ²	Maximum Application ²	Typical Application	Maximum Application	Typical Application	Maximum Application
Acute Toxicity												
5	10	0.05	0.015	0.401	Weeds (78)	Sand	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
5	10	0.05	0.015	0.401	Weeds (78)	Clay	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
5	10	0.05	0.015	0.401	Weeds (78)	Loam	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
10	10	0.05	0.015	0.401	Weeds (78)	Sand	1.72E-02	5.16E-02	9.53E-03	2.86E-02	9.13E+01	2.74E+02
10	10	0.05	0.015	0.401	Weeds (78)	Clay	1.64E-03	4.91E-03	9.05E-04	2.71E-03	1.59E+01	4.51E+01
10	10	0.05	0.015	0.401	Weeds (78)	Loam	1.12E-05	3.37E-05	6.20E-06	1.86E-05	1.22E-01	3.45E-01
25	10	0.05	0.015	0.401	Weeds (78)	Sand	1.88E-02	5.64E-02	1.04E-02	3.12E-02	1.24E+02	3.65E+02
25	10	0.05	0.015	0.401	Weeds (78)	Clay	1.36E-03	4.09E-03	7.54E-04	2.26E-03	1.39E+01	3.94E+01
25	10	0.05	0.015	0.401	Weeds (78)	Loam	5.85E-03	1.75E-02	3.24E-03	9.71E-03	3.10E+01	9.30E+01
50	10	0.05	0.015	0.401	Weeds (78)	Sand	1.41E-02	4.24E-02	7.82E-03	2.35E-02	1.19E+02	3.42E+02
50	10	0.05	0.015	0.401	Weeds (78)	Clay	4.62E-03	1.39E-02	2.55E-03	7.66E-03	4.87E+01	1.38E+02
50	10	0.05	0.015	0.401	Weeds (78)	Loam	6.05E-03	1.81E-02	3.35E-03	1.00E-02	3.32E+01	9.92E+01
100	10	0.05	0.015	0.401	Weeds (78)	Sand	1.55E-02	4.64E-02	8.54E-03	2.56E-02	1.44E+02	4.11E+02
100	10	0.05	0.015	0.401	Weeds (78)	Clay	1.03E-02	3.08E-02	5.67E-03	1.70E-02	1.27E+02	3.57E+02
100	10	0.05	0.015	0.401	Weeds (78)	Loam	4.80E-03	1.44E-02	2.65E-03	7.96E-03	3.18E+01	9.33E+01
150	10	0.05	0.015	0.401	Weeds (78)	Sand	1.53E-02	4.60E-02	8.47E-03	2.54E-02	1.45E+02	4.12E+02
150	10	0.05	0.015	0.401	Weeds (78)	Clay	9.11E-03	2.73E-02	5.03E-03	1.51E-02	1.03E+02	2.89E+02
150	10	0.05	0.015	0.401	Weeds (78)	Loam	4.61E-03	1.38E-02	2.55E-03	7.65E-03	3.49E+01	1.01E+02
200	10	0.05	0.015	0.401	Weeds (78)	Sand	1.53E-02	4.59E-02	8.45E-03	2.54E-02	1.50E+02	4.25E+02
200	10	0.05	0.015	0.401	Weeds (78)	Clay	1.08E-02	3.25E-02	5.98E-03	1.79E-02	1.23E+02	3.45E+02
200	10	0.05	0.015	0.401	Weeds (78)	Loam	4.53E-03	1.36E-02	2.50E-03	7.51E-03	3.57E+01	1.03E+02
250	10	0.05	0.015	0.401	Weeds (78)	Sand	1.53E-02	4.59E-02	8.46E-03	2.54E-02	1.47E+02	4.19E+02
250	10	0.05	0.015	0.401	Weeds (78)	Clay	1.72E-02	5.17E-02	9.51E-03	2.85E-02	1.98E+02	5.58E+02
250	10	0.05	0.015	0.401	Weeds (78)	Loam	4.45E-03	1.34E-02	2.46E-03	7.39E-03	3.66E+01	1.05E+02
50	1	0.05	0.015	0.401	Weeds (78)	Loam	4.46E-03	1.34E-02	2.47E-03	7.41E-03	2.41E+01	7.21E+01
50	100	0.05	0.015	0.401	Weeds (78)	Loam	6.08E-03	1.82E-02	3.37E-03	1.01E-02	3.35E+01	1.00E+02
50	1,000	0.05	0.015	0.401	Weeds (78)	Loam	6.08E-03	1.82E-02	3.37E-03	1.01E-02	3.35E+01	1.00E+02
50	10	0.05	0.015	0.05	Weeds (78)	Loam	6.05E-03	1.81E-02	3.35E-03	1.00E-02	3.32E+01	9.92E+01
50	10	0.05	0.015	0.2	Weeds (78)	Loam	6.05E-03	1.81E-02	3.35E-03	1.00E-02	3.32E+01	9.92E+01
50	10	0.05	0.015	0.5	Weeds (78)	Loam	6.05E-03	1.81E-02	3.35E-03	1.00E-02	3.32E+01	9.92E+01
50	10	0.05	0.023	0.401	Weeds (78)	Loam	6.05E-03	1.81E-02	3.35E-03	1.00E-02	3.32E+01	9.92E+01
50	10	0.05	0.046	0.401	Weeds (78)	Loam	6.05E-03	1.81E-02	3.35E-03	1.00E-02	3.32E+01	9.92E+01

TABLE E-9 (Cont.)

Summary of Risk Quotients for Surface Runoff to Off-Site Pond Scenario – Aquatic Species

Annual Precipitation Rate (in/yr)	Application Area	Hydraulic Slope	Surface Roughness	USLE Soil Erodibility Factor ¹	Vegetation Type	Soil Type	Fish		Aquatic Invertebrates		Non-Target Aquatic Plants	
							Typical Application ²	Maximum Application ²	Typical Application	Maximum Application	Typical Application	Maximum Application
50	10	0.05	0.15	0.401	Weeds (78)	Loam	6.05E-03	1.81E-02	3.35E-03	1.00E-02	3.32E+01	9.92E+01
50	10	0.005	0.015	0.401	Weeds (78)	Loam	6.05E-03	1.81E-02	3.35E-03	1.00E-02	3.32E+01	9.92E+01
50	10	0.01	0.015	0.401	Weeds (78)	Loam	6.05E-03	1.81E-02	3.35E-03	1.00E-02	3.32E+01	9.92E+01
50	10	0.1	0.015	0.401	Weeds (78)	Loam	6.05E-03	1.81E-02	3.35E-03	1.00E-02	3.32E+01	9.92E+01
50	10	0.05	0.015	0.401	Weeds (78)	Silt Loam	4.60E-03	1.38E-02	2.54E-03	7.63E-03	3.49E+01	1.01E+02
50	10	0.05	0.015	0.401	Weeds (78)	Silt	4.01E-03	1.20E-02	2.22E-03	6.66E-03	3.09E+01	8.93E+01
50	10	0.05	0.015	0.401	Weeds (78)	Clay Loam	5.48E-03	1.64E-02	3.03E-03	9.09E-03	5.28E+01	1.50E+02
50	10	0.05	0.015	0.401	Shrubs(79)	Loam	6.05E-03	1.81E-02	3.35E-03	1.00E-02	3.32E+01	9.92E+01
50	10	0.05	0.015	0.401	Rye Grass(54) Conifer +	Loam	6.05E-03	1.81E-02	3.35E-03	1.00E-02	3.32E+01	9.92E+01
50	10	0.05	0.015	0.401	Hardwood (71)	Loam	5.78E-03	1.73E-02	3.20E-03	9.60E-03	3.23E+01	9.62E+01
Chronic Toxicity												
5	10	0.05	0.015	0.401	Weeds (78)	Sand	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
5	10	0.05	0.015	0.401	Weeds (78)	Clay	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
5	10	0.05	0.015	0.401	Weeds (78)	Loam	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
10	10	0.05	0.015	0.401	Weeds (78)	Sand	1.32E+00	3.97E+00	1.99E-02	5.96E-02	1.90E+02	5.70E+02
10	10	0.05	0.015	0.401	Weeds (78)	Clay	2.45E-02	7.35E-02	3.73E-04	1.12E-03	4.50E+00	1.32E+01
10	10	0.05	0.015	0.401	Weeds (78)	Loam	4.55E-04	1.37E-03	6.92E-06	2.07E-05	8.13E-02	2.38E-01
25	10	0.05	0.015	0.401	Weeds (78)	Sand	1.69E+00	5.07E+00	2.55E-02	7.65E-02	2.68E+02	7.95E+02
25	10	0.05	0.015	0.401	Weeds (78)	Clay	1.05E-01	3.16E-01	1.59E-03	4.76E-03	1.63E+01	4.85E+01
25	10	0.05	0.015	0.401	Weeds (78)	Loam	5.16E-01	1.55E+00	7.75E-03	2.32E-02	7.41E+01	2.22E+02
50	10	0.05	0.015	0.401	Weeds (78)	Sand	5.10E-01	1.53E+00	7.89E-03	2.36E-02	2.68E+02	3.30E+02
50	10	0.05	0.015	0.401	Weeds (78)	Clay	3.08E-01	9.25E-01	4.64E-03	1.39E-02	4.76E+01	1.42E+02
50	10	0.05	0.015	0.401	Weeds (78)	Loam	5.74E-01	1.72E+00	8.62E-03	2.59E-02	8.41E+01	2.52E+02
100	10	0.05	0.015	0.401	Weeds (78)	Sand	2.77E-01	8.31E-01	4.33E-03	1.29E-02	6.85E+01	1.96E+02
100	10	0.05	0.015	0.401	Weeds (78)	Clay	3.01E-01	9.03E-01	4.54E-03	1.36E-02	4.72E+01	1.40E+02
100	10	0.05	0.015	0.401	Weeds (78)	Loam	3.96E-01	1.19E+00	5.99E-03	1.79E-02	6.57E+01	1.94E+02
150	10	0.05	0.015	0.401	Weeds (78)	Sand	2.98E-01	8.95E-01	4.62E-03	1.38E-02	6.67E+01	1.92E+02
150	10	0.05	0.015	0.401	Weeds (78)	Clay	3.07E-01	9.20E-01	4.63E-03	1.39E-02	4.92E+01	1.46E+02
150	10	0.05	0.015	0.401	Weeds (78)	Loam	2.53E-01	7.59E-01	3.86E-03	1.16E-02	4.83E+01	1.41E+02
200	10	0.05	0.015	0.401	Weeds (78)	Sand	3.18E-01	9.55E-01	4.89E-03	1.46E-02	6.54E+01	1.89E+02
200	10	0.05	0.015	0.401	Weeds (78)	Clay	3.33E-01	9.99E-01	5.04E-03	1.51E-02	5.63E+01	1.66E+02
200	10	0.05	0.015	0.401	Weeds (78)	Loam	1.75E-01	5.26E-01	2.70E-03	8.07E-03	3.74E+01	1.08E+02
250	10	0.05	0.015	0.401	Weeds (78)	Sand	2.93E-01	8.79E-01	4.49E-03	1.34E-02	5.84E+01	1.70E+02
250	10	0.05	0.015	0.401	Weeds (78)	Clay	3.66E-01	1.10E+00	5.55E-03	1.66E-02	6.40E+01	1.88E+02

TABLE E-9 (Cont.)

Summary of Risk Quotients for Surface Runoff to Off-Site Pond Scenario – Aquatic Species

Annual Precipitation Rate (in/yr)	Application Area	Hydraulic Slope	Surface Roughness	USLE Soil Erodibility Factor ¹	Vegetation Type	Soil Type	Fish		Aquatic Invertebrates		Non-Target Aquatic Plants	
							Typical Application ²	Maximum Application ²	Typical Application	Maximum Application	Typical Application	Maximum Application
250	10	0.05	0.015	0.401	Weeds (78)	Loam	1.42E-01	4.27E-01	2.21E-03	6.59E-03	3.27E+01	9.39E+01
50	1	0.05	0.015	0.401	Weeds (78)	Loam	4.06E-01	1.22E+00	6.10E-03	1.83E-02	5.89E+01	1.76E+02
50	100	0.05	0.015	0.401	Weeds (78)	Loam	6.05E-01	1.82E+00	9.09E-03	2.73E-02	8.88E+01	2.66E+02
50	1,000	0.05	0.015	0.401	Weeds (78)	Loam	6.08E-01	1.82E+00	9.13E-03	2.74E-02	8.92E+01	2.67E+02
50	10	0.05	0.015	0.05	Weeds (78)	Loam	5.74E-01	1.72E+00	8.62E-03	2.59E-02	8.41E+01	2.52E+02
50	10	0.05	0.015	0.2	Weeds (78)	Loam	5.74E-01	1.72E+00	8.62E-03	2.59E-02	8.41E+01	2.52E+02
50	10	0.05	0.015	0.5	Weeds (78)	Loam	5.74E-01	1.72E+00	8.62E-03	2.59E-02	8.41E+01	2.52E+02
50	10	0.05	0.023	0.401	Weeds (78)	Loam	5.74E-01	1.72E+00	8.62E-03	2.59E-02	8.41E+01	2.52E+02
50	10	0.05	0.046	0.401	Weeds (78)	Loam	5.74E-01	1.72E+00	8.62E-03	2.59E-02	8.41E+01	2.52E+02
50	10	0.05	0.15	0.401	Weeds (78)	Loam	5.74E-01	1.72E+00	8.62E-03	2.59E-02	8.41E+01	2.52E+02
50	10	0.005	0.015	0.401	Weeds (78)	Loam	5.74E-01	1.72E+00	8.62E-03	2.59E-02	8.41E+01	2.52E+02
50	10	0.01	0.015	0.401	Weeds (78)	Loam	5.74E-01	1.72E+00	8.62E-03	2.59E-02	8.41E+01	2.52E+02
50	10	0.1	0.015	0.401	Weeds (78)	Loam	5.74E-01	1.72E+00	8.62E-03	2.59E-02	8.41E+01	2.52E+02
50	10	0.05	0.015	0.401	Weeds (78)	Silt Loam	4.15E-01	1.25E+00	6.24E-03	1.87E-02	6.08E+01	1.82E+02
50	10	0.05	0.015	0.401	Weeds (78)	Silt	3.78E-01	1.13E+00	5.67E-03	1.70E-02	5.50E+01	1.65E+02
50	10	0.05	0.015	0.401	Weeds (78)	Clay Loam	3.18E-01	9.54E-01	4.79E-03	1.44E-02	4.93E+01	1.47E+02
50	10	0.05	0.015	0.401	Shrubs(79)	Loam	5.74E-01	1.72E+00	8.62E-03	2.59E-02	8.41E+01	2.52E+02
50	10	0.05	0.015	0.401	Rye Grass(54) Conifer +	Loam	5.74E-01	1.72E+00	8.62E-03	2.59E-02	8.41E+01	2.52E+02
50	10	0.05	0.015	0.401	Hardwood (71)	Loam	5.52E-01	1.66E+00	8.29E-03	2.49E-02	8.16E+01	2.44E+02

¹USLE = Universal Soil Loss Equation—predicts soil loss as a function of soil erodibility, topography, rainfall/runoff, cover, and support management factors.

²The typical application rate for bromacil is 4.0 lb active ingredient/acre; the maximum application rate is 12.0 lb a.i./acre. Sulfometuron methyl is tank mixed with bromacil at a typical rate of 0.141 lb a.i./acre and at a maximum rate of 0.375 lb a.i./acre.

All concentrations modeled using GLEAMS.

Shading and boldface indicates plant RQs greater than the plant LOC of 1.0.

Shading and boldface indicates RQs greater than LOC of 0.05 for fish and invertebrates acute scenarios.

Shading and boldface indicates RQs greater than LOC of 0.5 for fish and invertebrates chronic scenarios.

TABLE E-10
Summary of Risk Quotients for Surface Runoff to Off-Site Stream Scenario – Aquatic Species

Annual Precipitation Rate (in/yr)	Application Area	Hydraulic Slope	Surface Roughness	USLE Soil Erodibility Factor ¹	Vegetation Type	Soil Type	Fish		Aquatic Invertebrates		Non-Target Aquatic Plants	
							Typical Application ²	Maximum Application ²	Typical Application	Maximum Application	Typical Application	Maximum Application
Acute Toxicity												
5	10	0.05	0.015	0.401	Weeds (78)	Sand	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
5	10	0.05	0.015	0.401	Weeds (78)	Clay	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
5	10	0.05	0.015	0.401	Weeds (78)	Loam	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
10	10	0.05	0.015	0.401	Weeds (78)	Sand	6.88E-04	2.06E-03	3.81E-04	1.14E-03	3.65E+00	1.09E+01
10	10	0.05	0.015	0.401	Weeds (78)	Clay	5.30E-05	1.59E-04	2.93E-05	8.78E-05	5.17E-01	1.47E+00
10	10	0.05	0.015	0.401	Weeds (78)	Loam	3.69E-07	1.11E-06	2.04E-07	6.11E-07	4.05E-03	1.14E-02
25	10	0.05	0.015	0.401	Weeds (78)	Sand	1.59E-03	4.76E-03	8.79E-04	2.64E-03	1.01E+01	2.97E+01
25	10	0.05	0.015	0.401	Weeds (78)	Clay	3.04E-05	9.12E-05	1.68E-05	5.03E-05	3.85E-01	1.08E+00
25	10	0.05	0.015	0.401	Weeds (78)	Loam	4.28E-04	1.28E-03	2.37E-04	7.11E-04	2.27E+00	6.81E+00
50	10	0.05	0.015	0.401	Weeds (78)	Sand	1.91E-03	5.74E-03	1.06E-03	3.17E-03	1.69E+01	4.85E+01
50	10	0.05	0.015	0.401	Weeds (78)	Clay	7.27E-05	2.18E-04	4.01E-05	1.20E-04	9.72E-01	2.72E+00
50	10	0.05	0.015	0.401	Weeds (78)	Loam	5.72E-04	1.72E-03	3.17E-04	9.50E-04	3.10E+00	9.27E+00
100	10	0.05	0.015	0.401	Weeds (78)	Sand	1.87E-03	5.61E-03	1.03E-03	3.10E-03	1.75E+01	4.98E+01
100	10	0.05	0.015	0.401	Weeds (78)	Clay	3.20E-04	9.60E-04	1.77E-04	5.29E-04	4.33E+00	1.21E+01
100	10	0.05	0.015	0.401	Weeds (78)	Loam	4.10E-04	1.23E-03	2.27E-04	6.81E-04	2.67E+00	7.85E+00
150	10	0.05	0.015	0.401	Weeds (78)	Sand	1.81E-03	5.43E-03	1.00E-03	3.00E-03	1.98E+01	5.59E+01
150	10	0.05	0.015	0.401	Weeds (78)	Clay	4.70E-04	1.41E-03	2.59E-04	7.77E-04	6.27E+00	1.75E+01
150	10	0.05	0.015	0.401	Weeds (78)	Loam	5.86E-04	1.76E-03	3.24E-04	9.73E-04	4.17E+00	1.21E+01
200	10	0.05	0.015	0.401	Weeds (78)	Sand	1.51E-03	4.53E-03	8.35E-04	2.50E-03	1.77E+01	4.97E+01
200	10	0.05	0.015	0.401	Weeds (78)	Clay	4.89E-04	1.47E-03	2.70E-04	8.09E-04	6.88E+00	1.92E+01
200	10	0.05	0.015	0.401	Weeds (78)	Loam	7.04E-04	2.11E-03	3.89E-04	1.17E-03	5.29E+00	1.53E+01
250	10	0.05	0.015	0.401	Weeds (78)	Sand	1.71E-03	5.11E-03	9.41E-04	2.82E-03	2.14E+01	6.00E+01
250	10	0.05	0.015	0.401	Weeds (78)	Clay	4.92E-04	1.47E-03	2.71E-04	8.13E-04	7.09E+00	1.97E+01
250	10	0.05	0.015	0.401	Weeds (78)	Loam	6.74E-04	2.02E-03	3.73E-04	1.12E-03	5.70E+00	1.64E+01
50	1	0.05	0.015	0.401	Weeds (78)	Loam	8.08E-05	2.42E-04	4.47E-05	1.34E-04	4.37E-01	1.31E+00
50	100	0.05	0.015	0.401	Weeds (78)	Loam	2.04E-03	6.12E-03	1.13E-03	3.39E-03	1.11E+01	3.33E+01
50	1,000	0.05	0.015	0.401	Weeds (78)	Loam	4.73E-03	1.42E-02	2.62E-03	7.85E-03	2.57E+01	7.69E+01
50	10	0.05	0.015	0.05	Weeds (78)	Loam	5.72E-04	1.72E-03	3.17E-04	9.50E-04	3.10E+00	9.27E+00
50	10	0.05	0.015	0.2	Weeds (78)	Loam	5.72E-04	1.72E-03	3.17E-04	9.50E-04	3.10E+00	9.27E+00
50	10	0.05	0.015	0.5	Weeds (78)	Loam	5.72E-04	1.72E-03	3.17E-04	9.50E-04	3.10E+00	9.27E+00

TABLE E-10 (Cont.)

Summary of Risk Quotients for Surface Runoff to Off-Site Stream Scenario – Aquatic Species

Annual Precipitation Rate (in/yr)	Application Area	Hydraulic Slope	Surface Roughness	USLE Soil Erodibility Factor ¹	Vegetation Type	Soil Type	Fish		Aquatic Invertebrates		Non-Target Aquatic Plants	
							Typical Application ²	Maximum Application ²	Typical Application	Maximum Application	Typical Application	Maximum Application
50	10	0.05	0.023	0.401	Weeds (78)	Loam	5.72E-04	1.72E-03	3.17E-04	9.50E-04	3.10E+00	9.27E+00
50	10	0.05	0.046	0.401	Weeds (78)	Loam	5.72E-04	1.72E-03	3.17E-04	9.50E-04	3.10E+00	9.27E+00
50	10	0.05	0.15	0.401	Weeds (78)	Loam	5.72E-04	1.72E-03	3.17E-04	9.50E-04	3.10E+00	9.27E+00
50	10	0.005	0.015	0.401	Weeds (78)	Loam	5.72E-04	1.72E-03	3.17E-04	9.50E-04	3.10E+00	9.27E+00
50	10	0.01	0.015	0.401	Weeds (78)	Loam	5.72E-04	1.72E-03	3.17E-04	9.50E-04	3.10E+00	9.27E+00
50	10	0.1	0.015	0.401	Weeds (78)	Loam	5.72E-04	1.72E-03	3.17E-04	9.50E-04	3.10E+00	9.27E+00
50	10	0.05	0.015	0.401	Weeds (78)	Silt Loam	3.12E-04	9.34E-04	1.72E-04	5.17E-04	2.00E+00	5.87E+00
50	10	0.05	0.015	0.401	Weeds (78)	Silt	3.04E-04	9.13E-04	1.69E-04	5.06E-04	1.92E+00	5.66E+00
50	10	0.05	0.015	0.401	Weeds (78)	Clay Loam	1.81E-04	5.43E-04	1.00E-04	3.00E-04	1.70E+00	4.86E+00
50	10	0.05	0.015	0.401	Shrubs(79)	Loam	5.72E-04	1.72E-03	3.17E-04	9.50E-04	3.10E+00	9.27E+00
50	10	0.05	0.015	0.401	Rye Grass(54) Conifer +	Loam	5.72E-04	1.72E-03	3.17E-04	9.50E-04	3.10E+00	9.27E+00
50	10	0.05	0.015	0.401	Hardwood (71)	Loam	5.39E-04	1.62E-03	2.99E-04	8.96E-04	2.94E+00	8.80E+00
Chronic Toxicity												
5	10	0.05	0.015	0.401	Weeds (78)	Sand	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
5	10	0.05	0.015	0.401	Weeds (78)	Clay	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
5	10	0.05	0.015	0.401	Weeds (78)	Loam	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
10	10	0.05	0.015	0.401	Weeds (78)	Sand	1.07E-03	3.20E-03	1.60E-05	4.81E-05	1.54E-01	4.60E-01
10	10	0.05	0.015	0.401	Weeds (78)	Clay	4.80E-05	1.44E-04	7.54E-07	2.25E-06	1.27E-02	3.62E-02
10	10	0.05	0.015	0.401	Weeds (78)	Loam	3.65E-07	1.10E-06	5.78E-09	1.72E-08	1.04E-04	2.94E-04
25	10	0.05	0.015	0.401	Weeds (78)	Sand	6.13E-03	1.84E-02	9.29E-05	2.78E-04	1.04E+00	3.06E+00
25	10	0.05	0.015	0.401	Weeds (78)	Clay	3.92E-04	1.18E-03	5.96E-06	1.78E-05	6.96E-02	2.04E-01
25	10	0.05	0.015	0.401	Weeds (78)	Loam	1.71E-03	5.14E-03	2.57E-05	7.71E-05	2.46E-01	7.38E-01
50	10	0.05	0.015	0.401	Weeds (78)	Sand	6.99E-03	2.10E-02	1.09E-04	3.24E-04	1.66E+00	4.75E+00
50	10	0.05	0.015	0.401	Weeds (78)	Clay	2.34E-03	7.02E-03	3.54E-05	1.06E-04	3.86E-01	1.14E+00
50	10	0.05	0.015	0.401	Weeds (78)	Loam	4.60E-03	1.38E-02	6.92E-05	2.07E-04	6.79E-01	2.03E+00
100	10	0.05	0.015	0.401	Weeds (78)	Sand	7.11E-03	2.13E-02	1.12E-04	3.34E-04	1.93E+00	5.48E+00
100	10	0.05	0.015	0.401	Weeds (78)	Clay	4.07E-03	1.22E-02	6.17E-05	1.85E-04	7.04E-01	2.07E+00
100	10	0.05	0.015	0.401	Weeds (78)	Loam	6.19E-03	1.86E-02	9.39E-05	2.81E-04	1.06E+00	3.13E+00
150	10	0.05	0.015	0.401	Weeds (78)	Sand	7.21E-03	2.16E-02	1.14E-04	3.40E-04	2.02E+00	5.73E+00
150	10	0.05	0.015	0.401	Weeds (78)	Clay	4.69E-03	1.41E-02	7.12E-05	2.13E-04	8.29E-01	2.43E+00
150	10	0.05	0.015	0.401	Weeds (78)	Loam	6.42E-03	1.92E-02	9.83E-05	2.94E-04	1.26E+00	3.67E+00

TABLE E-10 (Cont.)

Summary of Risk Quotients for Surface Runoff to Off-Site Stream Scenario – Aquatic Species

Annual Precipitation Rate (in/yr)	Application Area	Hydraulic Slope	Surface Roughness	USLE Soil Erodibility Factor ¹	Vegetation Type	Soil Type	Fish		Aquatic Invertebrates		Non-Target Aquatic Plants	
							Typical Application ²	Maximum Application ²	Typical Application	Maximum Application	Typical Application	Maximum Application
200	10	0.05	0.015	0.401	Weeds (78)	Sand	7.20E-03	2.16E-02	1.14E-04	3.40E-04	2.05E+00	5.80E+00
200	10	0.05	0.015	0.401	Weeds (78)	Clay	5.04E-03	1.51E-02	7.68E-05	2.30E-04	9.09E-01	2.66E+00
200	10	0.05	0.015	0.401	Weeds (78)	Loam	6.31E-03	1.89E-02	9.73E-05	2.91E-04	1.36E+00	3.93E+00
250	10	0.05	0.015	0.401	Weeds (78)	Sand	7.14E-03	2.14E-02	1.13E-04	3.37E-04	2.04E+00	5.77E+00
250	10	0.05	0.015	0.401	Weeds (78)	Clay	5.27E-03	1.58E-02	8.03E-05	2.40E-04	9.63E-01	2.82E+00
250	10	0.05	0.015	0.401	Weeds (78)	Loam	6.16E-03	1.85E-02	9.55E-05	2.85E-04	1.41E+00	4.06E+00
50	1	0.05	0.015	0.401	Weeds (78)	Loam	5.18E-04	1.55E-03	7.78E-06	2.33E-05	7.63E-02	2.28E-01
50	100	0.05	0.015	0.401	Weeds (78)	Loam	2.69E-02	8.08E-02	4.05E-04	1.21E-03	3.97E+00	1.19E+01
50	1,000	0.05	0.015	0.401	Weeds (78)	Loam	7.24E-02	2.17E-01	1.09E-03	3.26E-03	1.07E+01	3.19E+01
50	10	0.05	0.015	0.05	Weeds (78)	Loam	4.60E-03	1.38E-02	6.92E-05	2.07E-04	6.79E-01	2.03E+00
50	10	0.05	0.015	0.2	Weeds (78)	Loam	4.60E-03	1.38E-02	6.92E-05	2.07E-04	6.79E-01	2.03E+00
50	10	0.05	0.015	0.5	Weeds (78)	Loam	4.60E-03	1.38E-02	6.92E-05	2.07E-04	6.79E-01	2.03E+00
50	10	0.05	0.023	0.401	Weeds (78)	Loam	4.60E-03	1.38E-02	6.92E-05	2.07E-04	6.79E-01	2.03E+00
50	10	0.05	0.046	0.401	Weeds (78)	Loam	4.60E-03	1.38E-02	6.92E-05	2.07E-04	6.79E-01	2.03E+00
50	10	0.05	0.15	0.401	Weeds (78)	Loam	4.60E-03	1.38E-02	6.92E-05	2.07E-04	6.79E-01	2.03E+00
50	10	0.005	0.015	0.401	Weeds (78)	Loam	4.60E-03	1.38E-02	6.92E-05	2.07E-04	6.79E-01	2.03E+00
50	10	0.01	0.015	0.401	Weeds (78)	Loam	4.60E-03	1.38E-02	6.92E-05	2.07E-04	6.79E-01	2.03E+00
50	10	0.1	0.015	0.401	Weeds (78)	Loam	4.60E-03	1.38E-02	6.92E-05	2.07E-04	6.79E-01	2.03E+00
50	10	0.05	0.015	0.401	Weeds (78)	Silt Loam	3.15E-03	9.45E-03	4.74E-05	1.42E-04	4.74E-01	1.41E+00
50	10	0.05	0.015	0.401	Weeds (78)	Silt	2.94E-03	8.82E-03	4.42E-05	1.33E-04	4.37E-01	1.31E+00
50	10	0.05	0.015	0.401	Weeds (78)	Clay Loam	2.28E-03	6.84E-03	3.46E-05	1.04E-04	3.91E-01	1.15E+00
50	10	0.05	0.015	0.401	Shrubs(79)	Loam	4.60E-03	1.38E-02	6.92E-05	2.07E-04	6.79E-01	2.03E+00
50	10	0.05	0.015	0.401	Rye Grass(54)	Loam	4.60E-03	1.38E-02	6.92E-05	2.07E-04	6.79E-01	2.03E+00
50	10	0.05	0.015	0.401	Conifer + Hardwood (71)	Loam	5.02E-03	1.51E-02	7.55E-05	2.26E-04	7.48E-01	2.23E+00

¹USLE = Universal Soil Loss Equation—predicts soil loss as a function of soil erodibility, topography, rainfall/runoff, cover, and support management factors.
²The typical application rate for bromacil is 4.0 lb active ingredient/acre; the maximum application rate is 12.0 lb a.i./acre. Sulfometuron methyl is tank mixed with bromacil at a typical rate of 0.141 lb a.i./acre and at a maximum rate of 0.375 lb a.i./acre.
All concentrations modeled using GLEAMS.
Shading and boldface indicates plant RQs greater than the plant LOC of 1.0.
Shading and boldface indicates RQs greater than LOC of 0.05 for fish and invertebrates acute scenarios.
Shading and boldface indicates RQs greater than LOC of 0.5 for fish and invertebrates chronic scenarios.

TABLE E-11

Summary of Risk Quotients for Surface Runoff Scenarios – Consumption of Fish from Contaminated Pond by Piscivorous Bird

Annual Precipitation Rate (in/yr)	Application Area	Hydraulic Slope	Surface Roughness	USLE Soil Erodibility Factor ¹	Vegetation Type	Soil Type	Application Rate ²	
							Typical	Maximum
5	10	0.05	0.015	0.401	Weeds (78)	Sand	0.00E+00	0.00E+00
5	10	0.05	0.015	0.401	Weeds (78)	Clay	0.00E+00	0.00E+00
5	10	0.05	0.015	0.401	Weeds (78)	Loam	0.00E+00	0.00E+00
10	10	0.05	0.015	0.401	Weeds (78)	Sand	6.24E-04	1.87E-03
10	10	0.05	0.015	0.401	Weeds (78)	Clay	1.15E-05	3.46E-05
10	10	0.05	0.015	0.401	Weeds (78)	Loam	2.14E-07	6.43E-07
25	10	0.05	0.015	0.401	Weeds (78)	Sand	7.97E-04	2.39E-03
25	10	0.05	0.015	0.401	Weeds (78)	Clay	4.96E-05	1.49E-04
25	10	0.05	0.015	0.401	Weeds (78)	Loam	2.43E-04	7.30E-04
50	10	0.05	0.015	0.401	Weeds (78)	Sand	2.40E-04	7.19E-04
50	10	0.05	0.015	0.401	Weeds (78)	Clay	1.45E-04	4.36E-04
50	10	0.05	0.015	0.401	Weeds (78)	Loam	2.71E-04	8.12E-04
100	10	0.05	0.015	0.401	Weeds (78)	Sand	1.30E-04	3.91E-04
100	10	0.05	0.015	0.401	Weeds (78)	Clay	1.42E-04	4.25E-04
100	10	0.05	0.015	0.401	Weeds (78)	Loam	1.86E-04	5.59E-04
150	10	0.05	0.015	0.401	Weeds (78)	Sand	1.41E-04	4.21E-04
150	10	0.05	0.015	0.401	Weeds (78)	Clay	1.44E-04	4.33E-04
150	10	0.05	0.015	0.401	Weeds (78)	Loam	1.19E-04	3.57E-04
200	10	0.05	0.015	0.401	Weeds (78)	Sand	1.50E-04	4.50E-04
200	10	0.05	0.015	0.401	Weeds (78)	Clay	1.57E-04	4.71E-04
200	10	0.05	0.015	0.401	Weeds (78)	Loam	8.25E-05	2.47E-04
250	10	0.05	0.015	0.401	Weeds (78)	Sand	1.38E-04	4.14E-04
250	10	0.05	0.015	0.401	Weeds (78)	Clay	1.72E-04	5.17E-04
250	10	0.05	0.015	0.401	Weeds (78)	Loam	6.70E-05	2.01E-04
50	1	0.05	0.015	0.401	Weeds (78)	Loam	1.91E-04	5.74E-04
50	100	0.05	0.015	0.401	Weeds (78)	Loam	2.85E-04	8.56E-04
50	1,000	0.05	0.015	0.401	Weeds (78)	Loam	2.86E-04	8.59E-04
50	10	0.05	0.015	0.05	Weeds (78)	Loam	2.71E-04	8.12E-04
50	10	0.05	0.015	0.2	Weeds (78)	Loam	2.71E-04	8.12E-04
50	10	0.05	0.015	0.5	Weeds (78)	Loam	2.71E-04	8.12E-04
50	10	0.05	0.023	0.401	Weeds (78)	Loam	2.71E-04	8.12E-04
50	10	0.05	0.046	0.401	Weeds (78)	Loam	2.71E-04	8.12E-04
50	10	0.05	0.15	0.401	Weeds (78)	Loam	2.71E-04	8.12E-04
50	10	0.005	0.015	0.401	Weeds (78)	Loam	2.71E-04	8.12E-04
50	10	0.01	0.015	0.401	Weeds (78)	Loam	2.71E-04	8.12E-04
50	10	0.1	0.015	0.401	Weeds (78)	Loam	2.71E-04	8.12E-04
50	10	0.05	0.015	0.401	Weeds (78)	Silt Loam	1.96E-04	5.87E-04
50	10	0.05	0.015	0.401	Weeds (78)	Silt	1.78E-04	5.34E-04
50	10	0.05	0.015	0.401	Weeds (78)	Clay Loam	1.50E-04	4.50E-04
50	10	0.05	0.015	0.401	Shrubs(79)	Loam	2.71E-04	8.12E-04
50	10	0.05	0.015	0.401	Rye Grass(54) Conifer +	Loam	2.71E-04	8.12E-04
50	10	0.05	0.015	0.401	Hardwood (71)	Loam	2.60E-04	7.80E-04

¹USLE = Universal Soil Loss Equation, which predicts soil loss as a function of soil erodibility, topography, rainfall/runoff, cover, and support management factors.
²The typical application rate for bromacil is 4.0 lb active ingredient/acre; the maximum application rate is 12.0 lb a.i./acre. Sulfometuron methyl is tank mixed with bromacil at a typical rate of 0.141 lb a.i./acre and at a maximum rate of 0.375 lb a.i./acre.
All concentrations modeled using GLEAMS.
Shading and boldface indicates terrestrial animal chronic scenario RQs greater than 1 (all RQs were below the LOC).

TABLE E-12

**Summary of Risk Quotients for Transport of Wind-Blown Dust to Off-Site Soil Scenario –
Non-Target Terrestrial Plants**

Watershed Location	Distance from Receptor (km)	Typical Species		Rare, Threatened, and Endangered Species	
		Typical Application Rate ¹	Maximum Application Rate ¹	Typical Application Rate	Maximum Application Rate
Montana	1.5	9.35E-03	2.80E-02	5.39E-02	1.53E-01
Montana	10	5.30E-03	1.59E-02	3.06E-02	8.64E-02
Montana	100	6.34E-07	2.14E-06	3.66E-06	1.17E-05
Oregon	1.5	5.35E-03	1.61E-02	3.09E-02	8.74E-02
Oregon	10	2.04E-03	6.12E-03	1.18E-02	3.33E-02
Oregon	100	7.19E-07	2.16E-06	4.15E-06	1.17E-05
Wyoming	1.5	1.06E-03	3.17E-03	6.10E-03	1.73E-02
Wyoming	10	7.30E-04	2.19E-03	4.21E-03	1.19E-02
Wyoming	100	1.80E-07	5.39E-07	1.04E-06	2.93E-06

¹The typical application rate for bromacil is 4.0 lb active ingredient/acre; the maximum application rate is 12.0 lb a.i./acre. Sulfometuron methyl is tank mixed with bromacil at a typical rate of 0.141 lb a.i./acre and at a maximum rate of 0.375 lb a.i./acre.
The typical application rate for bromacil is 4.0 lb active ingredient/acre; the maximum application rate is 12.0 lb a.i./acre.
All concentrations modeled using CALPUFF
Shading and boldface indicates plant RQs greater than the plant LOC of 1.0 (all RQs were below the LOC).