



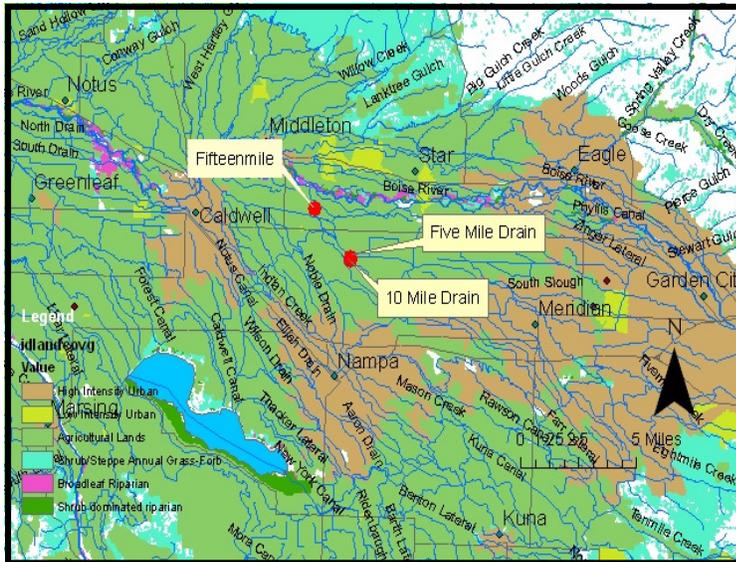
Idaho State Department of Agriculture Surface Water Pesticide Fact Sheet Fifteenmile Creek, Tenmile Creek, and Fivemile Creek



ISDA Surface Water Fact Sheet #4

January 2012

In 2011, the Idaho State Department of Agriculture (ISDA) conducted a water quality monitoring program for pesticide residues within Fifteenmile Creek, which drains to the Lower Boise River, and two of its major tributaries (Tenmile Creek, and Fivemile Creek). Tenmile Creek and Fivemile Creek supply the majority of water into Fifteenmile Creek (Figure 1). Both Tenmile and Fivemile Creeks flow in a northwesterly direction from the New York Canal in Ada County toward the Boise River before combining to form Fifteenmile Creek in Canyon County. Fifteenmile Creek continues for approximately four miles before it confluences with the Lower Boise River just upstream of the city of Middleton.



The three creeks monitored during this study had a total of 172 pesticide detections which consisted of 23 different pesticide compounds (Figure 2). Of the 172 detections 133 detections were herbicides, 28 were insecticides, and 11 were the degradate of atrazine (desethyl atrazine). The greatest number of detections were the herbicides terbacil (28), diuron (28), 2,4-D (20) and Bromacil (15). The greatest number of detections of an insecticide was chlorpyrifos (12), methomyl (7), ethoprop (5), and diazinon (2). Chlorpyrifos is an organophosphate insecticide which is highly toxic to fish and aquatic invertebrates while methomyl, ethoprop, and diazinon are moderately toxic to fish and can be highly toxic to aquatic invertebrates.

Figure 1. Pesticide sampling locations.

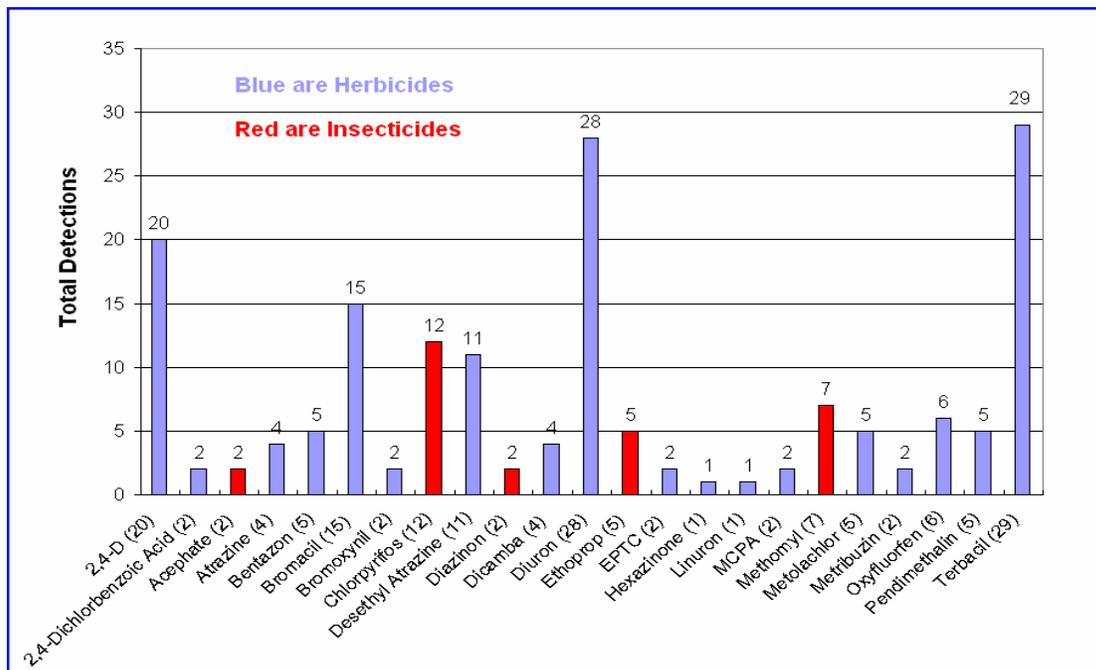


Figure 2. Total pesticides detected during this study.

Table 1. Detections per monitoring site.

Site	Total Detections	Herbicides	Insecticides	Desethyl Atrazine
Fivemile Creek	61	50	6	5
Tenmile Creek	49	31	12	6
Fifteenmile Creek	62	52	10	0

ISDA has set criteria for pesticides that are considered to be a pesticide of concern (POC) for fish, invertebrates, vascular, and nonvascular plants in aquatic environments. These criteria are based on the EPA Office of Pesticide Programs' Aquatic Life Benchmarks (http://www.epa.gov/oppefed1/ecorisk_ ders/aquatic_life_benchmark.htm). A POC is any pesticide that is greater than or equal to one-half the aquatic benchmark ($\geq 50\%$) for that compound. Table 2 lists the pesticides detected, type of pesticide, trade names, number of detections and ISDA's pesticides of concern.

Table 2. Fifteenmile and tributaries-Pesticides of Concern (POC).

Detected Pesticides	Pesticide Type	² Trade Name	No. of Detections	ISDA POC
2,4-D	Herbicide	Curtail	20	
2,4-Dichlorbenzoic Acid	Herbicide	—	2	
Acephate	Insecticide	Orthene	2	
Atrazine	Herbicide	Aatrex	4	
Bentazon	Herbicide	Basagran	5	
Bromacil	Herbicide	Krovar	15	
Bromoxynil	Herbicide	Buctril	2	
Chlorpyrifos	Insecticide	Dursban/Lorsban	12 (12)	X
Desethyl Atrazine	¹ Degradate	—	22	
Diazinon	Insecticide	Diazinon 50W	2 (1)	X
Dicamba	Herbicide	Brushmaster	4	
Diuron	Herbicide	Karmex	28	
EPTC	Herbicide	Eptam	2	
Ethoprop	Insecticide	Mocap	5 (1)	X
Hexazinone	Herbicide	Velpar	1	
Linuron	Herbicide	Lorox DF	1 (1)	X
MCPA	Herbicide	Banlene	2	
Methomyl	Insecticide	Lannate	7	
Metolachlor	Herbicide	Dual	5	
Metribuzin	Herbicide	Sencore	2	
Oxyfluorfen	Herbicide	Goal	6	
Pendimethalin	Herbicide	Prowl	5	
Terbacil	Herbicide	Sinbar	29	
¹ Degradate of Atrazine			Insecticides	
² Other tradenames may apply			() number exceeding aquatic benchmark	

Recommendations

- ◆ Read and Follow Label Directions-Always follow label directions for water quality protection.
- ◆ Follow Chemigation Law/Rules-applicators must be licensed and follow state chemigation laws.
- ◆ Conduct maintenance and calibration of application equipment.
- ◆ Implementation of management strategies-Field scouting, evaluation of pest control needs, selection of proper pesticide, irrigation management etc.
- ◆ Implement BMPs including conservation buffers, vegetative filter strips, sediment basins, and pump back systems.
- ◆ Avoid runoff due to weather events check the forecast prior to pesticide applications.
- ◆ Avoid overspray and drift
- ◆ Match application rates to pest problem
- ◆ Do not mix and load near water

For additional information about this program contact Kirk Campbell, Idaho State Department of Agriculture at 208-332-8598 or email kirk.campbell@agri.idaho.gov