Idaho State Department of Agriculture

Pesticide Residue Evaluation

Lower Snake River Tributaries Fact Sheet

2014

In 2014, the Idaho State Department of Agriculture (ISDA) conducted a pesticide residue monitoring program on four major tributaries to the Lower Snake River. The four tributaries monitored were the Lower Boise River at Notus, Sand Hollow Drain at Fort Boise, Payette River at 6th Street, and Weiser River at Cove Road (Figure 1). Samples were collected on a bi-weekly schedule starting on May 1, 2014 thorough October 2, 2014 which generated a total of 48 samples (12 samples per location). Overall there were a total of 143 pesticide detections with 132 herbicide detections, four insecticide detections, and seven desethyl atrazine (degradate of atrazine) detections. The herbicide 2,4-D had the greatest number of detections (29), followed by the herbicides dacthal (18), pendimethalin (17), and metolachlor (16). The insecticide chlorpyrifos had two detections and the insecticides methomyl and permethrin each had one detection (Table 1).

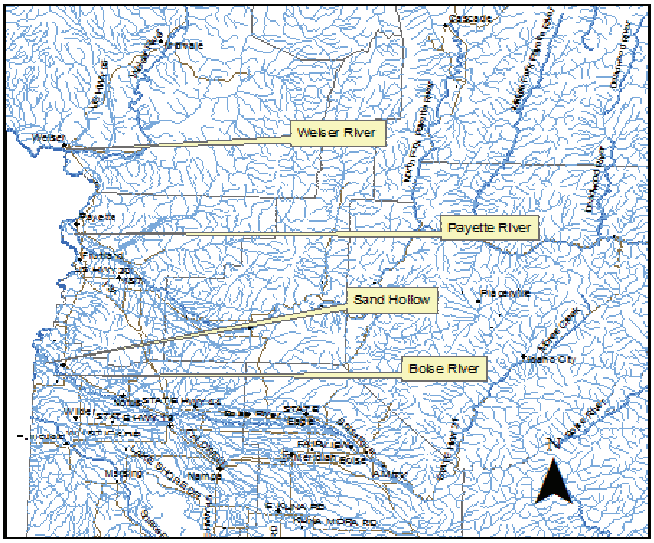

Figure 1. Monitoring sites Lower Snake River.

Table 1. Pesticide name, type, trade names, and detections. Red type indicates insecticide.

Pesticide	Type	*Trade Name	# Detects	Pesticide	Type	*Trade Name	# Detects
2,4-D	H	Weedar 64	29	diuron	H	Karmex	7
alachlor	H	Lasso	3	EPTC	H	Eptam	4
atrazine	H	Aatrex	2	hexazinone	H	Velpar	10
bromacil	H	Hyvar X	7	MCPA	H	Rhomene	1
bromoxynil	H	Buctril	7	methomyl	I	Lannate	1
chlorpyrifos	I	Lorsban	2	metribuzin	H	Sencor	2
dacthal	H	Dacthal W-75	18	metolachlor	H	Dual	16
desethyl atrazine	D		7	pendimethalin	H	Prowl	17
dicamba	H	Dicamba 4	1	permethrin	I	Permacap CS	1
H = herbicides I = insecticides D = degradate of atrazine (desethyl atrazine) * Trade Names may vary.				terbacil	H	Sinbar	8

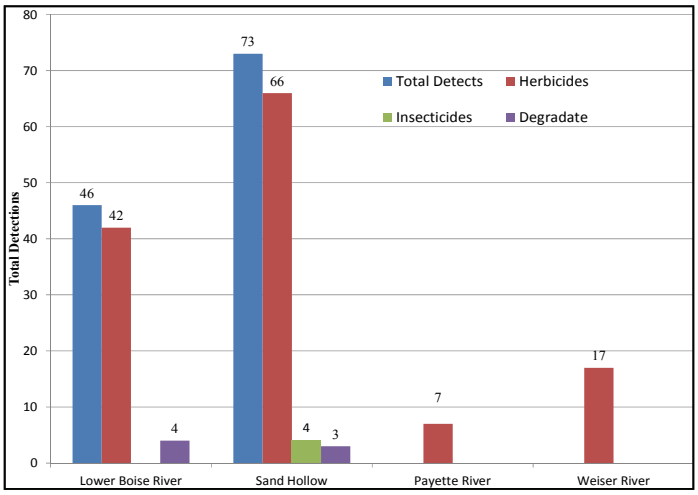

Figure 2. Total detections for Lower Snake River project.

Sand Hollow had the greatest number of detections with 73 followed by the Lower Boise River with 46 (Figure 2). Sand Hollow had two detections of the insecticide chlorpyrifos and one detection of the insecticide permethrin that are considered a pesticide of concern (POC) by ISDA. One chlorpyrifos detections exceeded both the acute and chronic invertebrate benchmark and the other was ≥50% of both the acute and chronic benchmark (Table 2).The permethrin detections was ≥50% of the acute fish benchmark and exceeded the fish chronic, invertebrate acute and invertebrate chronic (Table 2).

Table 2. Sand Hollow Pesticides of Concern.

Pesticide Detected	Pesticide Type	Number of Detections	Highest Detection ug/L	Fish Acute ug/L	Fish Chronic ug/L	Inverts. Acute ug/L	Inverts. Chronic ug/L
chlorpyrifos	I	1	0.059	0.9	0.57	0.05	0.04
chlorpyrifos	I	1	0.026	0.9	0.57	0.05	0.04
permethrin	I	1	0.20	0.395	0.0515	0.0106	0.0014

ISDA defines a POC as any pesticide that is detected at a concentration that is greater than or equal to fifty percent (≥50%) of an established Environmental Protection Agency (EPA) Aquatic Life benchmark. These benchmarks were developed based on concentrations of pesticides and their acute and chronic effects on fish, aquatic invertebrates, vascular and nonvascular plants.