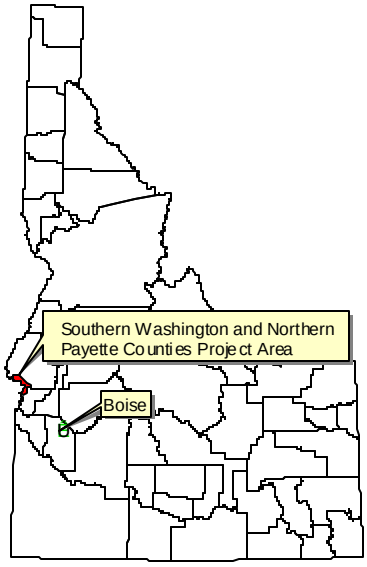
Idaho State Department of Agriculture

Southern Washington and Northern Payette Counties Aquifers Pesticide Detections and Idaho's Pesticide Management Plan

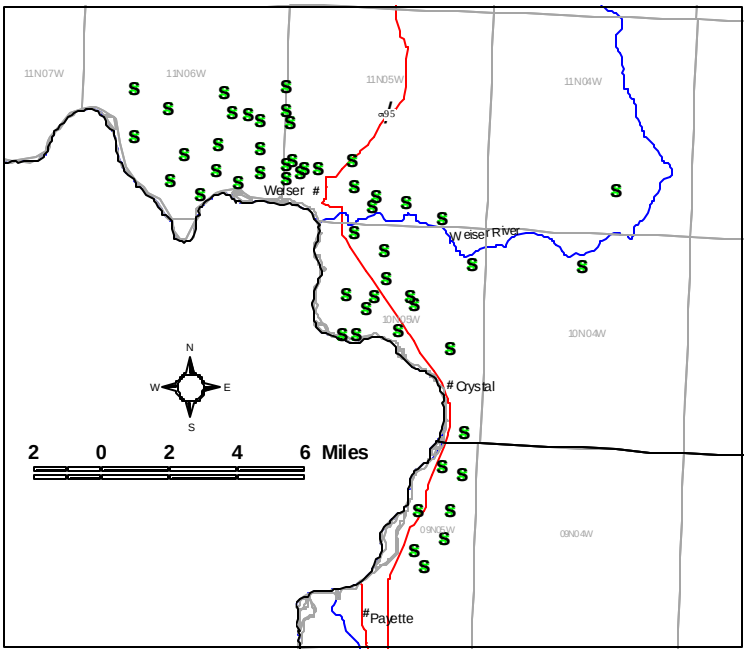
Jessica Fox-Atlakson
Rick Carlson

This fact sheet summarizes pesticide detections in the ground water found by the Idaho State Department of Agriculture (ISDA) in the Weiser area. The monitoring project is located in the southern Washington and northern Payette counties (refer to map on right). ISDA began sampling this project in 1996.

The project area lies within the western Snake River Plain, which is a basin filled with sedimentary and volcanic rocks. The sedimentary rocks make up the major portion of the shallow aquifer in the project area. The shallow aquifer is composed of mainly fluvial unconsolidated to poorly consolidated clay, silt, sand, volcanic ash, diatomite, freshwater limestone and conglomerates (Newton, 1991). A thick layer of blue clay underlies the shallow aquifer in the project area, which separates the shallow alluvial aquifer from the deeper sedimentary aquifer (Newton, 1991).



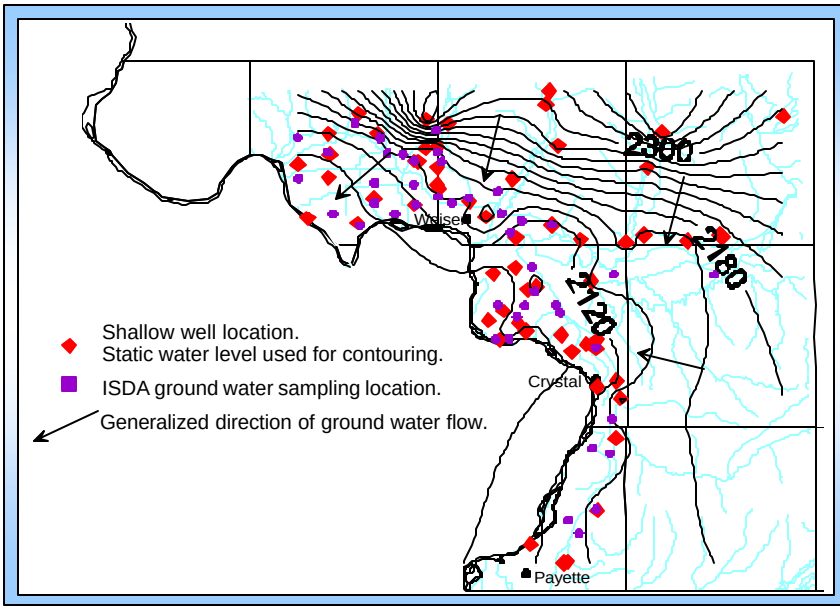
The map to the right shows ISDA well sampling locations of the Southern Washington and Northern Payette Counties regional project. ISDA has sampled approximately 54 wells on a yearly basis since 1996 for various constituents including pesticides and nitrate.



Before using any pesticide,

STOP

READ, AND FOLLOW THE LABEL!



Horizontal ground water flow directions in the project area were determined by contouring static water level measurements, as seen in the water table map to the left. Static water level measurements were obtained from well drillers' reports for wells in the project area. The accuracy of contouring may be variable due to the time variations in which the measurements were taken. However, the water table surface does correspond with known ground water movement characteristics and theory. General ground water movement appears to be toward the Snake River, an area of probable ground water discharge. In addition, ground water flow direction appears to correspond to topographic slope, another characteristic common to shallow ground water. In general, the map indicates the regional direction of ground water movement is to the southwest near Weiser, and to the west near Crystal.

Idaho State Department of Agriculture

Southern Washington and Northern Payette Counties Pesticide Detections and Idaho's Pesticide Management Plan

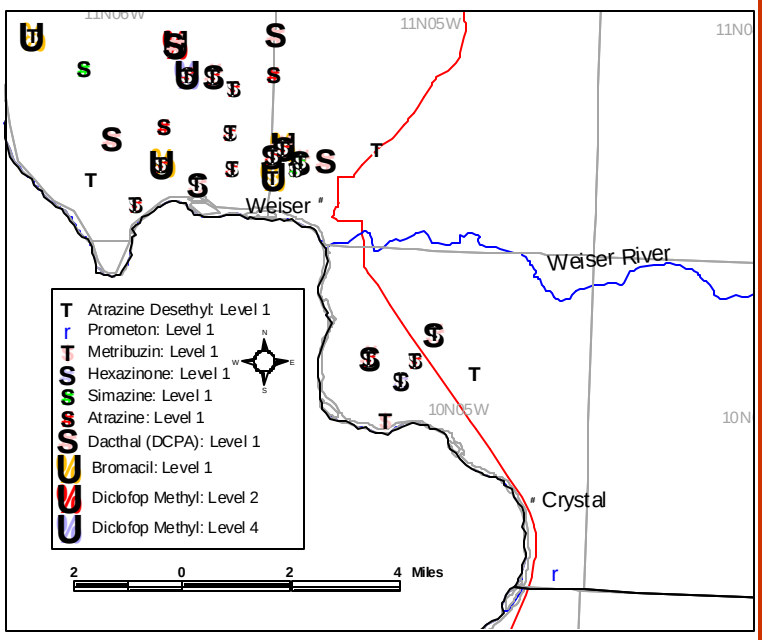
The Idaho State Department of Agriculture (ISDA) is the lead agency in developing the *Idaho Pesticide Management Plan (PMP) for Ground Water Protection*. ISDA has the authority to implement pesticide programs through a cooperative working agreement with the Environmental Protection Agency (EPA), Idaho state laws and department rules. The Idaho PMP outlines processes to protect ground water from pesticides and defines pesticide detections based on the concentration of the detection compared to a Reference Point. The Reference Point refers to health based concentrations. Idaho has adopted the Environmental Protection Agency's Maximum Contaminant Levels (MCLs) in the Idaho Ground Water Quality Rule (1997). Where no MCL exists, the ISDA will use EPA Health Advisories Levels (HAL) first if they exist, and then an EPA Reference Dose (RfD) number.

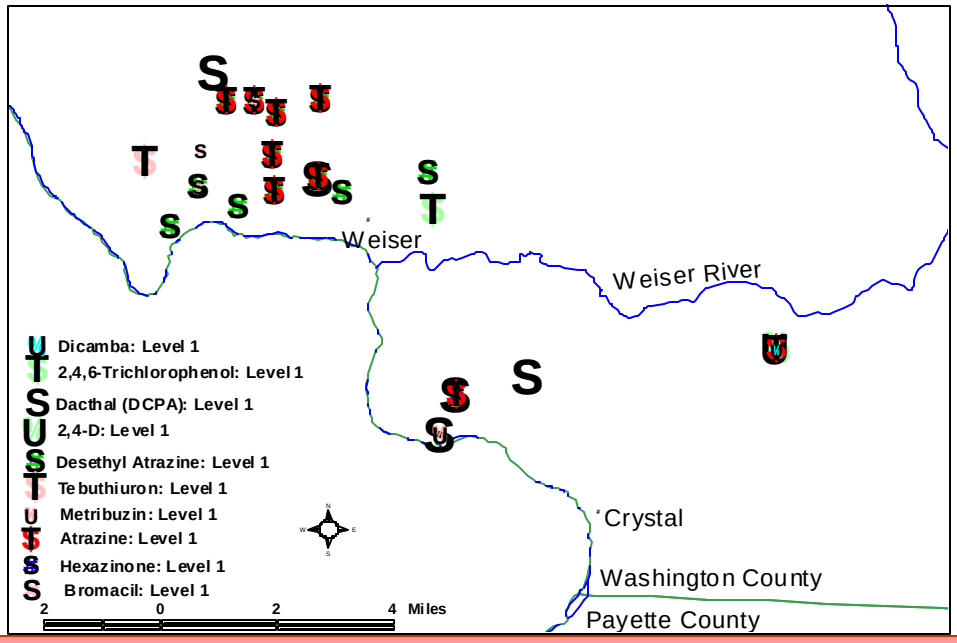
The PMP categorizes detection levels into the following levels:

Level 1: Detection above the detection limit to less than 20% of Reference Point.
Level 2: Detection at 20% to less than 50% of Reference Point.
Level 3: Detection at 50% to less than 100% of Reference Point.
Level 4: Detection greater than 100% of Reference Point.

2004 ISDA Pesticide Detections

In 2002, 52 wells in the Southern Washington and Northern Payette Counties Regional Project were sampled for pesticides. The map to the right shows pesticide detections from the 2002 sampling. Desethyl Atrazine, a breakdown product of the pesticide Atrazine, was detected in 21 wells. Atrazine was detected in 13 wells, Dacthal (DCPA) was detected in 11 wells, Bromacil was detected in 4 wells, Simazine was detected in 3 wells, and Diclofop Methyl was detected in 2 wells. The remaining pesticides detected were found in one well. All pesticide detections were below any health standards as set by the EPA or the state of Idaho, except for one detection of Diclofop Methyl. One well had ground water concentrations of 2.5 micrograms per liter (µg/L) of Diclofop Methyl, which exceeds the EPA Reference Dose (RfD) of 1.5 µg/L. Diclofop Methyl has not been detected in subsequent monitoring. This pesticide is registered in Idaho for use on barley and wheat.





2004 ISDA Pesticide Detections

In 2004, 50 wells in the Southern Washington and Northern Payette Counties Regional Project were sampled for pesticides. The map to the left shows pesticide detections from the 2004 sampling. Desethyl Atrazine, a breakdown product of the pesticide Atrazine, was detected in 12 wells. Atrazine was detected in 9 wells, Dacthal (DCPA) was detected in 5 wells, and Bromacil was detected in 3 wells. The remaining pesticides detected were found in one well. All detections were below any health standards set by the EPA or the state of Idaho. All detections were within the Level 1 category established by the Idaho PMP.

It is important for applicators to follow the pesticide label and for ISDA to continue to work with applicators to protect ground water.

CONTACT

Idaho State Department of Agriculture
Water Program
2270 Old Penitentiary Boise, ID 83712
208-332-8500

STAFF

Rick Carlson—Ground Water Program Manager
Lance Holloway—Ground Water Quality Specialist
Craig Tesch—Hydrogeologist
Jessica Fox-Atlakson—Hydrogeologist
Gary Bahr—Agricultural Bureau Chief

REFERENCE

Newton, G. D., 1991. Geohydrology of the regional aquifer system, western Snake River Plain, southwestern Idaho: U.S. Geological Survey Professional Paper 1408-G, 52 p.

Printing of this fact sheet was funded by the US Environmental Protection Agency through a FIFRA discretionary grant. Costs associated with this publication are available from the Idaho State Department of Agriculture in accordance with Section 60-202. Idaho Code. HB366: 05/05/1/207/33402-EPAGWT53