

# Idaho State Department of Agriculture Payette and Gem Counties Pesticide Detections and Idaho's Pesticide Management Plan

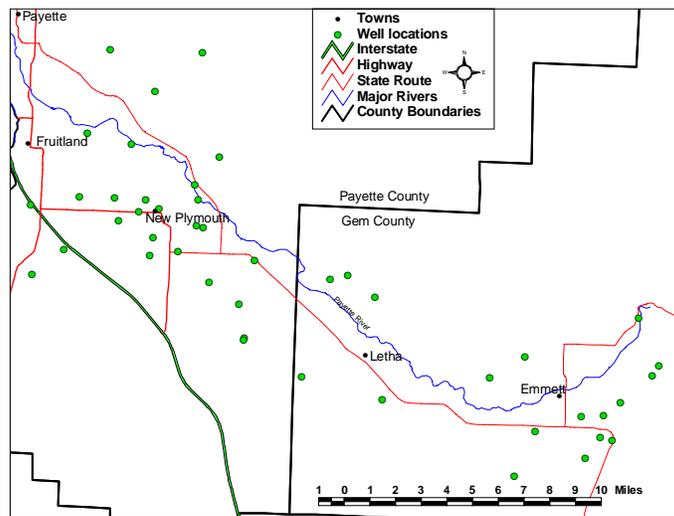
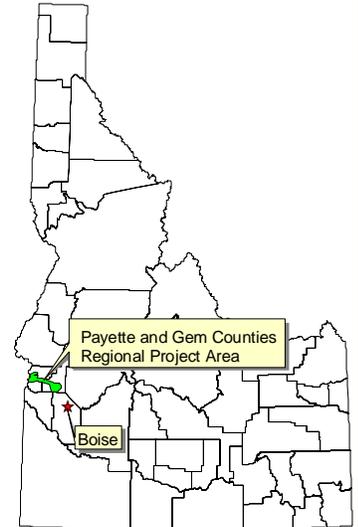
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The Idaho State Department of Agriculture (ISDA) has been sampling wells in the Payette and Gem Counties regional project since 1998. The location of the project area is shown on the state map to the right.

The study area is located within the Payette Valley on the western Snake River Plain. The upper surfaces of the area are composed of eroded sediments from the foothills and uplands, consisting of granite, basalt, and sedimentary rocks (Wicherski, 2000). The alluvial fill within the valley consists of materials from two depositional sources: 1) younger fluvial deposits consisting mainly of clay, silts, sand, and gravel, and 2) older lacustrine deposits consisting of interfingering beds and lenses of clay, silt, and sand (Wicherski, 2000). The general regional ground water flow direction is to the north, where it discharges into the Payette River (Baldwin & Wicherski, 1994) with some flow to the west towards the Snake River.

There are two sources of ground water in the project area, a shallow water table aquifer and a deeper Payette Valley blue clay aquifer. The shallow aquifer consist of fluvial deposits, which are clay and silt dominated in the Fruitland area (Wicherski, 2000). The main source of recharge to the shallow aquifer is from infiltration of irrigation water and leakage from the Payette River and tributaries (Wicherski, 2000). The deeper Payette Valley blue clay aquifer is composed of lacustrine deposits with sand lenses. The primary source of recharge to the deeper aquifer is from historic runoff from surrounding mountains, and a minor portion of the recharge from the Payette River and infiltration of irrigation water (Wicherski, 2000).



The map to the left presents ISDA domestic well sampling locations of the Payette and Gem Counties regional project. ISDA has sampled approximately 40 wells on a yearly basis since 1998 for various constituents including pesticides and nitrate. ISDA statistically determined that sampling 40 randomly selected domestic wells would provide adequate data to evaluate overall ground water quality underlying the area. All sampling was conducted after a project and quality assurance plan was established. Permission was gained from the land owners prior to sampling. All sample collections followed established ISDA protocols (on file at ISDA main office) for handling, storage, and shipping. Samples were sent to the University of Idaho Analytical Sciences Laboratory (UIASL) in Moscow, Idaho.

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, 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.

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**F**

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**R**  
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**F**  
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Baldwin, J., and B. Wicherski, 1994. Ground water and soils reconnaissance of the Lower Payette area, Payette County, Idaho. Idaho Department of Environmental Quality Technical Report No. 5.

Wicherski, B., 2000. Ground water quality investigation and wellhead protection study city of Fruitland, Idaho. Idaho Department of Environmental Quality Technical Report No. 17.

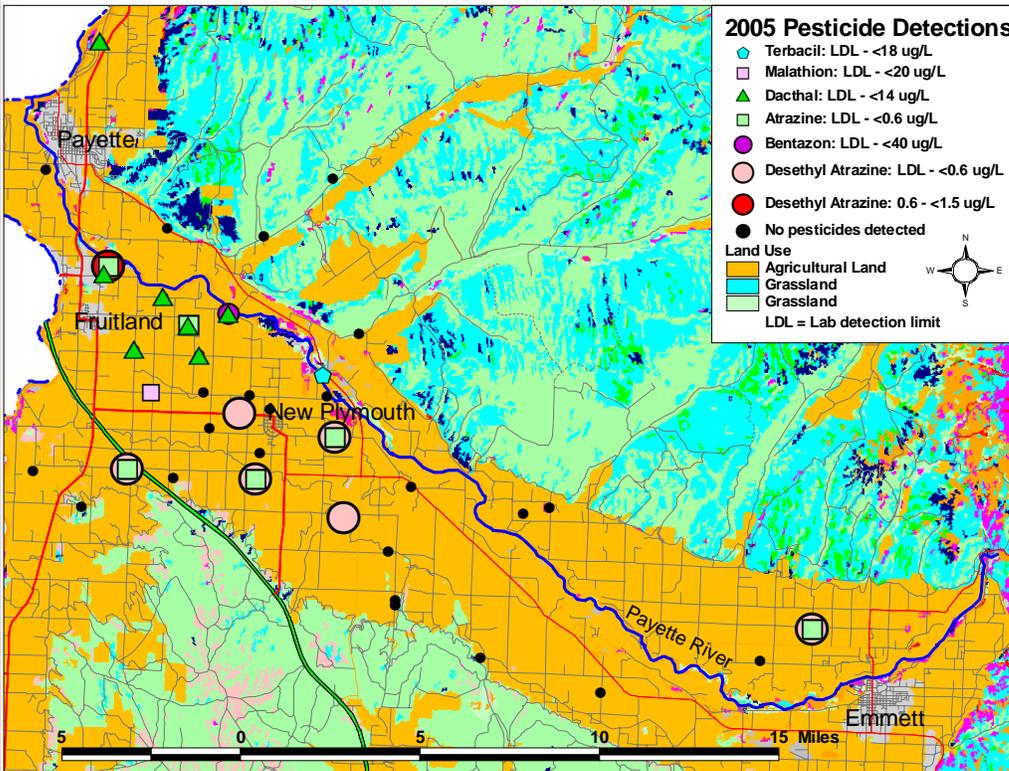
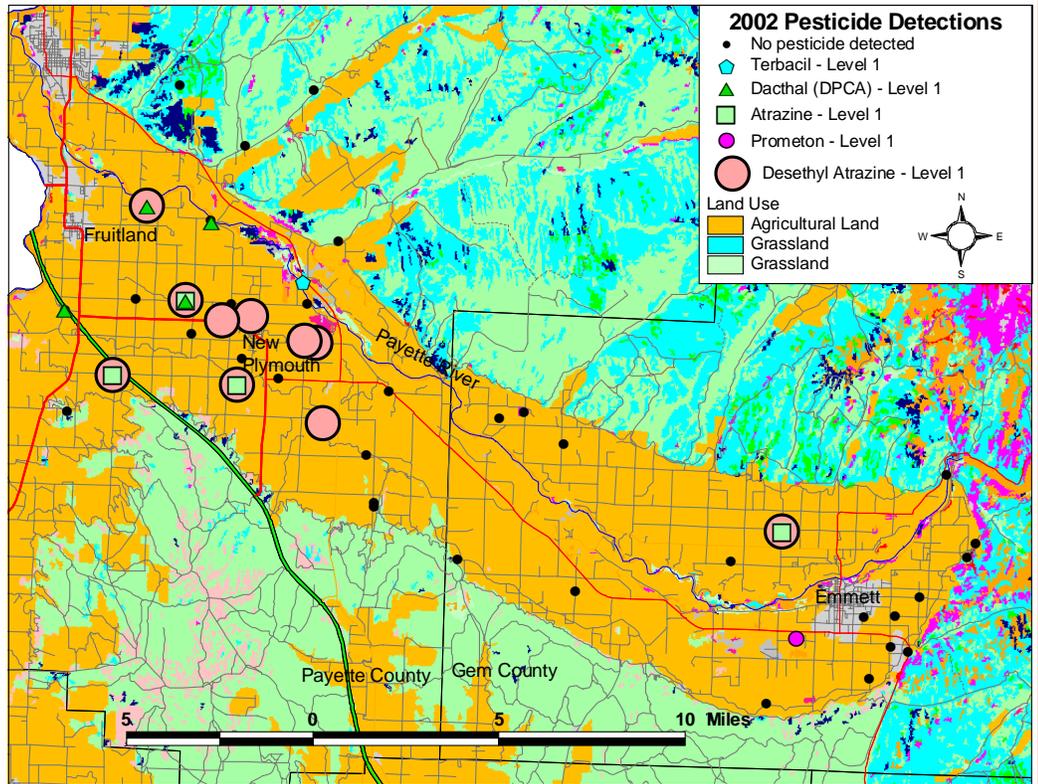


# Payette and Gem Counties Pesticide Detections and Idaho's Pesticide Management Plan

## 2002 ISDA Pesticide Detections

In 2002, 45 wells in the Payette and Gem 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 10 wells. Atrazine was detected in 4 wells, dacthal (DPCA) was detected in 4 wells, prometon was detected in 1 well, and terbacil was detected in 1 well. All pesticide detections were below any health standards as 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.



## 2005 ISDA Pesticide Detections

In 2005, 40 wells in the Payette and Gem Counties Regional Project were sampled for pesticides. The map to the left shows pesticide detections from the 2005 sampling. Desethyl atrazine, a breakdown product of the pesticide atrazine, was detected in 7 wells. Atrazine was detected in 6 wells, dacthal (DPCA) was detected in 7 wells, bentazon was detected in 1 well, malathion was detected in 1 well, and terbacil was detected in 1 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 except for a Level 2 detection of desethyl atrazine located north of Fruitland.

For the PMP Level 2 detections, ISDA will consider establishing an area of pesticide concern through rule making. ISDA has developed a monitoring plan and sampled additional wells around the Level 2 detection to help determine likely sources. Analytical results from the follow up monitoring are currently pending from the laboratory. ISDA will work with local applicators to encourage voluntary best management practices (BMPs), potentially develop a chemical specific PMP through rule making, and conduct chemical use inspections.

Before using any pesticide,



**READ AND FOLLOW THE LABEL!**