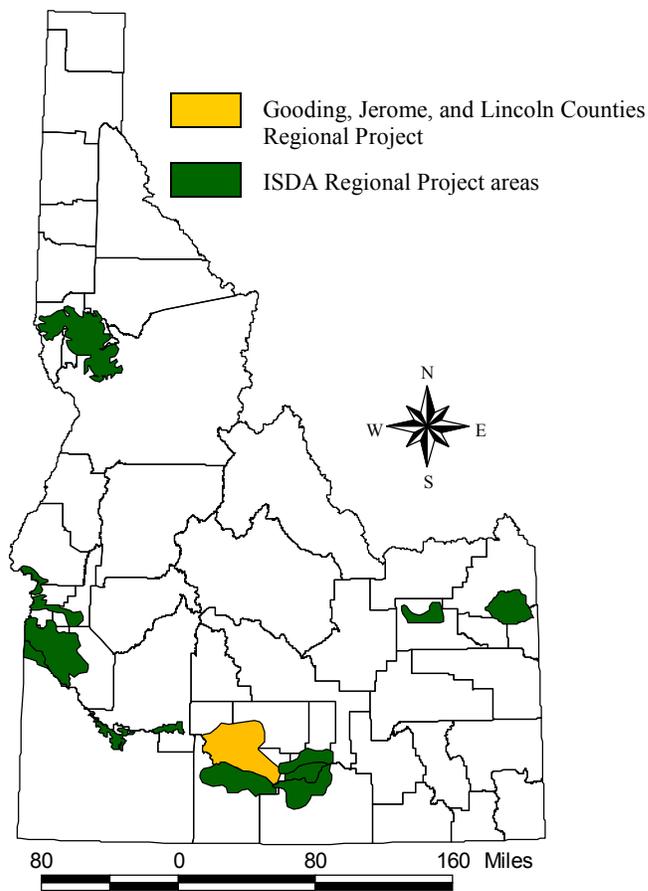


# Gooding, Jerome and Lincoln Counties Regional Project Pesticide Detections and Idaho's Pesticide Management Plan

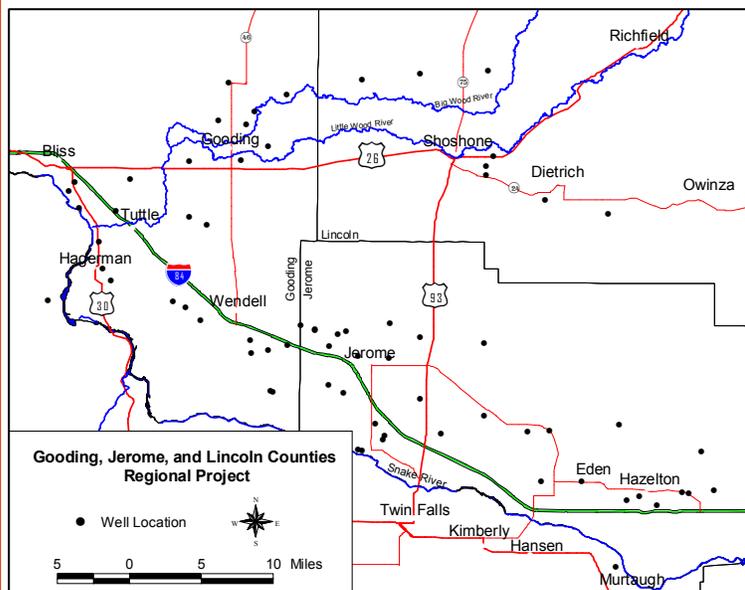
This fact sheet summarizes pesticide detections in ground water found by the Idaho State Department of Agriculture (ISDA) in the Gooding, Jerome, and Lincoln Counties regional project, which covers portions of Gooding, Jerome and Lincoln Counties in south central Idaho north of the Snake River (Figure 1). The Gooding, Jerome, and Lincoln Counties regional project began in 1997 as a result of completion of the Idaho Ground Water Quality Plan and Agriculture Ground Water Quality Protection Program for Idaho. In part these documents mandate regional-scale monitoring of aquifers in the state that may be vulnerable to agricultural activities.

The Gooding, Jerome, and Lincoln Counties regional project area encompasses approximately 1,200 square miles. The project is within the Eastern Snake River Plain Aquifer which has been designated a Sole Source Aquifer. Most of the wells in the project were completed in the Snake River Group basalts (Carlson and Atkinson, 2006). The general ground water flow direction is to the south southwest toward the Snake River; however, this may vary locally. Depth to ground water within the project area ranges from 39 to 835 feet below land surface (bls). Typical depths to ground water ranges between 100 and 250 bls (Carlson and Atkinson, 2006).

Local irrigation practices include both flood and sprinkler irrigation. Major crops in the three county area include alfalfa hay, barley, wheat, beans, potatoes, sugar beets, and corn (USDA National Agricultural Statistics Service, 2009).



**Figure 1.** Location of Gooding, Jerome, and Lincoln Counties regional project and other ISDA regional project areas.



**Figure 2.** Location of project wells.

To establish this regional monitoring project, the ISDA randomly selected domestic wells in the area. ISDA statistically determined that sampling 77 randomly selected domestic wells would provide adequate data to evaluate overall ground water quality (Figure 2). All sampling was conducted after a quality assurance project plan (QAPP) was established and followed established ISDA protocols for handling, storage and shipping. Permission was gained from the land owners prior to sampling.

Nutrients, and common ions were evaluated 12 years out of the 13 years (1997 through 2009) of ISDA's testing of the Gooding, Jerome, and Lincoln Counties regional project. Pesticides testing was conducted every three to four years. Pesticides analysis was conducted by the University of Idaho Analytical Sciences Laboratory (UIASL), in Moscow, Idaho.



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## 2007 ISDA Pesticide Detections

Figure 3 shows the pesticide detections for the Gooding, Jerome, and Lincoln Counties regional Project. A total of 71 wells were sampled for pesticides in 2007; 10 wells had one or more pesticides detected within the ground water. Desethyl atrazine (DEA), a breakdown product of atrazine, was detected in six wells. Atrazine was detected in three wells. The following pesticides were detected in one well each: bromacil, dacthal, and diuron. All detections were below any health standards set by the EPA or the state of Idaho and were within the Level 1 category established by the Idaho PMP Rule.

This project was also sampled for pesticides in 1997, 1999 and 2003. The following pesticides were detected (all Level 1 detections) in 2003: atrazine, bromacil, dacthal, DEA, diuron, and fluometron. The results from the 2003 sampling event are summarized in the ISDA Technical Results Summary #30, written by Rick Carlson and Jessica Atkason titled *Ground Water Quality Monitoring Results for Gooding-Jerome-Lincoln Counties, Idaho*, which can be accessed at:

[http://www.agri.idaho.gov/Categories/Environment/water/waterPDF/gwreports/Gooding\\_Jerome\\_Lincoln\\_Summary.pdf](http://www.agri.idaho.gov/Categories/Environment/water/waterPDF/gwreports/Gooding_Jerome_Lincoln_Summary.pdf)

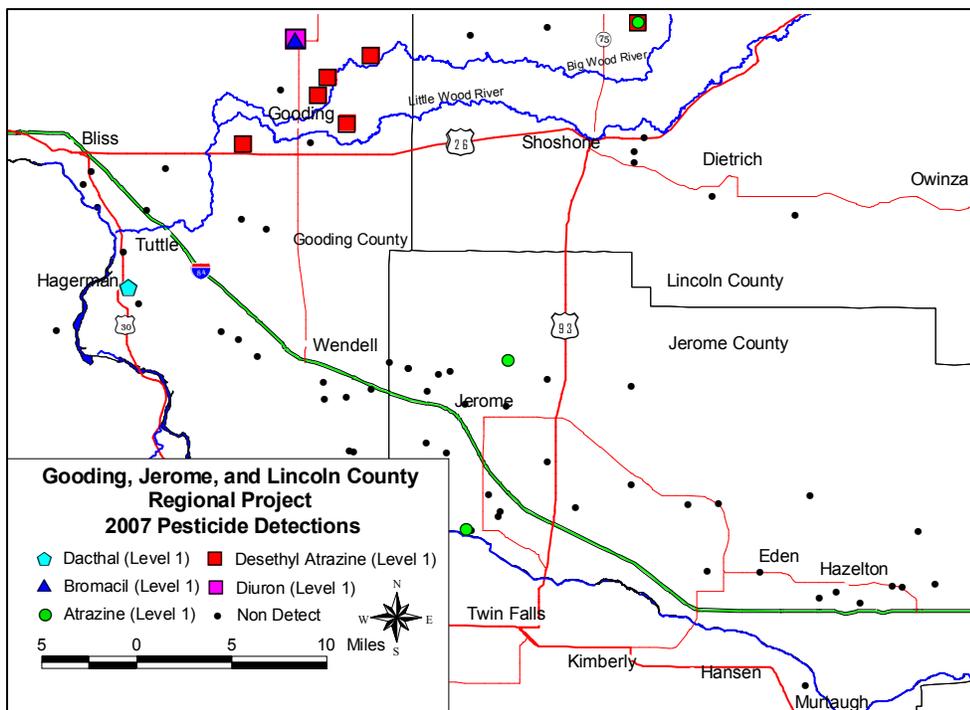


Figure 3. Pesticide detections from 2007 sampling.

Before using any pesticide,



**READ, AND FOLLOW THE LABEL!**

### Idaho Pesticide Management Plan (PMP)

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 EPA's Maximum Contaminant Levels (MCLs) in the Idaho Ground Water Quality Rule (1997). Where no MCL exists, ISDA will use EPA Lifetime Health Advisories (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 equal to or greater than 100% of Reference Point.

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**REFERENCES:**

Carlson, R. and Atkason, J., 2006. Ground Water Quality Monitoring Results for Gooding-Jerome-Lincoln Counties, Idaho, ISDA Technical Results Summary #30.  
United States Department of Agriculture (USDA), National Agricultural Statistics Service, Idaho Field Office, 2009. 2009 Idaho Agricultural Statistics...including Idaho State Department of Agriculture's Annual Report, pp. 36-59.