

# Northwest Gooding County Regional Project Pesticide Detections and Idaho's Pesticide Management Plan

This fact sheet summarizes pesticide detections in ground water from sampling conducted by the Idaho State Department of Agriculture (ISDA) in northwest Gooding County near Bliss, Idaho (Figure 1). The Northwest Gooding County regional project (formally referred to as the Bliss Local Project) area encompasses an approximately two mile wide and four mile long area of irrigated agricultural and residential land in Gooding County, near the Snake River (Figure 1). ISDA began sampling this project in 1999, with monthly monitoring of two springs (Figure 1) for nitrate. Also in 1999, ISDA began monitoring 15 domestic wells annually for nitrate and every three to four years for pesticides.

Land use in the project study area consists of irrigated agriculture, confined animal operations, and rural housing. There are over 2000 acres of irrigated agriculture land within three and half miles upgradient of the springs. Crops include alfalfa, wheat, corn, beets, beans, and potatoes (Tesch and Dallas, 2007).

The project study area lies within the eastern Snake River Plain and is mainly Quaternary basalts and sediments of the Idaho Group geologic formation. Underlying the Quaternary basalt are Tertiary sedimentary rocks of the Glens Ferry Formation and Tertiary Banbury Basalt, both of which are part of the Idaho Group (Garabedian, 1992). Ground water used for domestic purposes in the project area originates from two sources. The shallow wells, ranging from 15 to 85 below ground surface, appear to be completed in Quaternary basalts, while the deeper wells appear to be completed in the lower Banbury basalts (Tesch and Dallas, 2007).

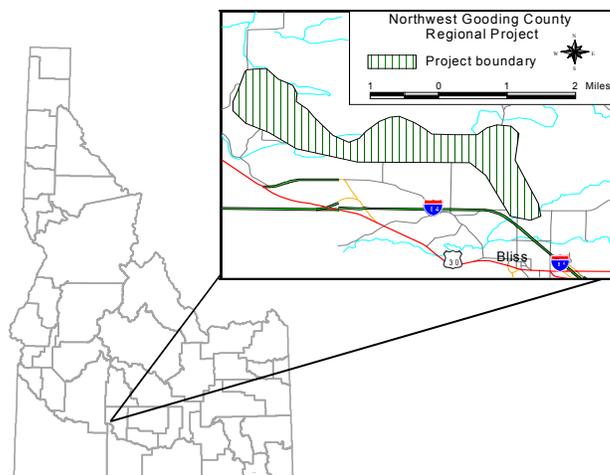


Figure 1. Location of Northwest Gooding County regional project.

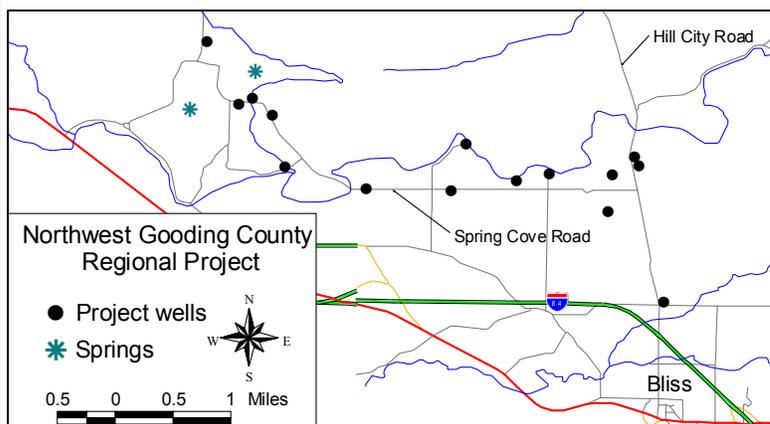


Figure 2. Location of project wells and springs.

Approximately 15 wells and two springs have been sampled annually since 1999 (Figure 2). Nitrate, sulfate, and chloride have been tested annually. Pesticide monitoring has been conducted every three to four years with follow up testing for wells with detections greater than 20% of the reference point or a drinking water standard.

All laboratory analysis was conducted at the University of Idaho Analytical Sciences Laboratory in Moscow, Idaho. Pesticide screens for the 12 wells included four methods and 85 pesticide compounds. The number and types of pesticides tested in the four methods includes: 18 Chlorinated Acids, 10 Organochlorine, 47 Organophosphate and Nitrogen, and 10 Phenylurea pesticides.

## 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.



# Northwest Gooding County Regional Project Pesticide Detections and Idaho's Pesticide Management Plan

## 2005 ISDA Pesticide Detections

In 2005, all 15 wells and both springs from the Northwest Gooding County regional project were tested for pesticides. Atrazine and desethyl atrazine, a breakdown product of atrazine, were found together in both springs. Diuron and DCPA (dacthal) were each detected once (Figure 3). All detections were below any health-based standards set by the U.S. Environmental Protection Agency (EPA) or the State of Idaho and are defined as Level 1 detections based on the Idaho Pesticide Management Plan (PMP) Rule.

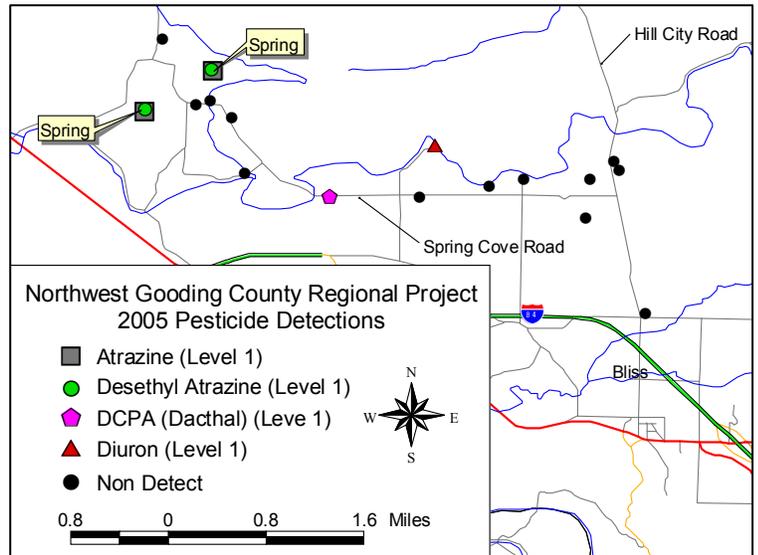


Figure 3. Pesticide detections from 2005 sampling efforts.

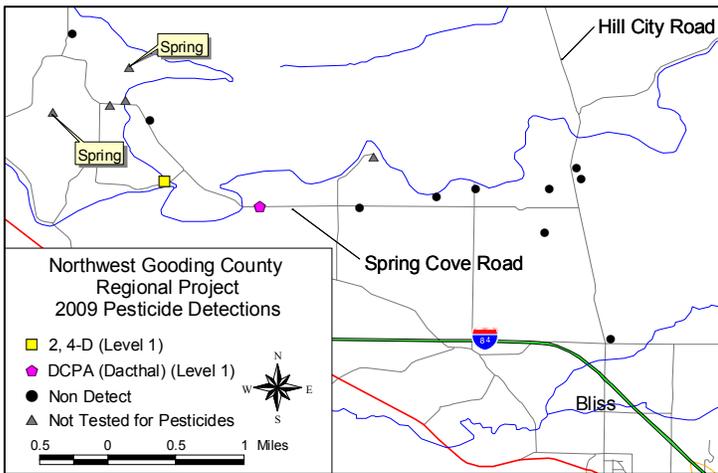


Figure 4. Pesticide detections from 2009 sampling efforts.

## 2009 ISDA Pesticide Detections

In 2009, 12 of the 15 wells in the Northwest Gooding County regional project were tested for pesticides (Figure 4). Two wells each had one pesticide detection. The pesticides detected were 2,4-D and DCPA (dacthal) (Figure 4). Both detections were below any health-based standards set by the EPA or the State of Idaho and are defined as Level 1 detections based on the Idaho PMP Rule.

**It is important for applicators to follow the pesticide label and for ISDA to continue to work with applicators to protect ground water. Review all label language including: Precautionary Statements, Environmental Hazards, Directions for Use, General Instructions, Mixing and Loading Instructions, Application Instructions, and Proper Storage and Disposal.**

Before using any pesticide,



**READ, AND FOLLOW THE LABEL!**

**C** Idaho State Department of Agriculture  
**O** Water Program  
**N** 2270 Old Penitentiary Road  
**T** Boise, ID 83712  
**A** 208-332-8500  
**C**  
**T**

**S** Gary Bahr—Scientist 4  
**T** Kathryn Dallas Elliott—Program  
**A** Manager  
**F**  
**F**

**R** Garabedian, S. P., 1992. Hydrology and Digital Simulation of the  
**E** Regional Aquifer System, Eastern Snake River Plain, Idaho: U.S.  
**F** Geological Survey Professional Paper 1408-F, 65 p  
**E**  
**R**  
**E** Tesch, C. and K. Dallas, 2007. Ground Water Quality Monitoring  
**N** Update for the Bliss Local Project Area, Gooding County, Idaho.  
**C** ISDA Technical Results Summary #36.  
**E**