

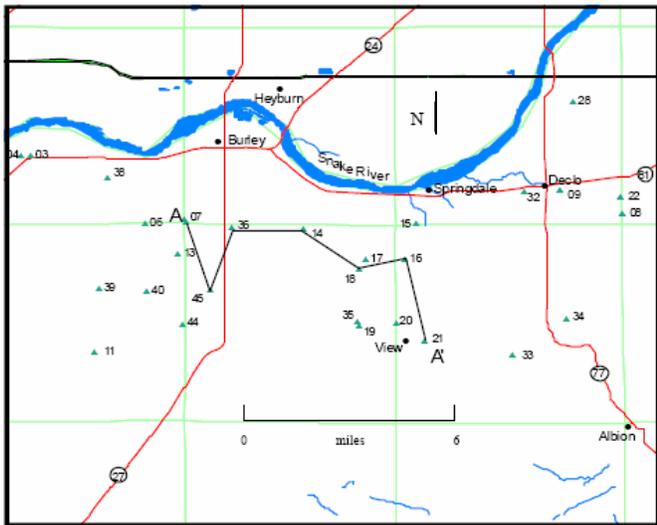
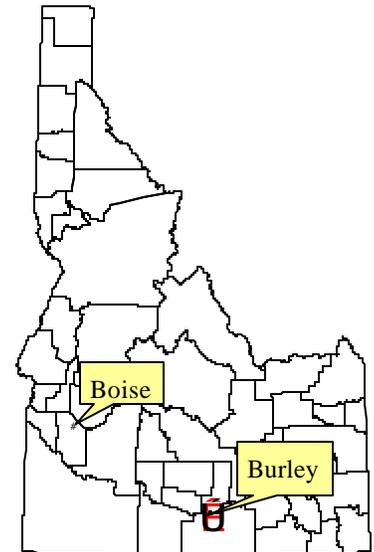


Ground Water Fact Sheet Northern Cassia County

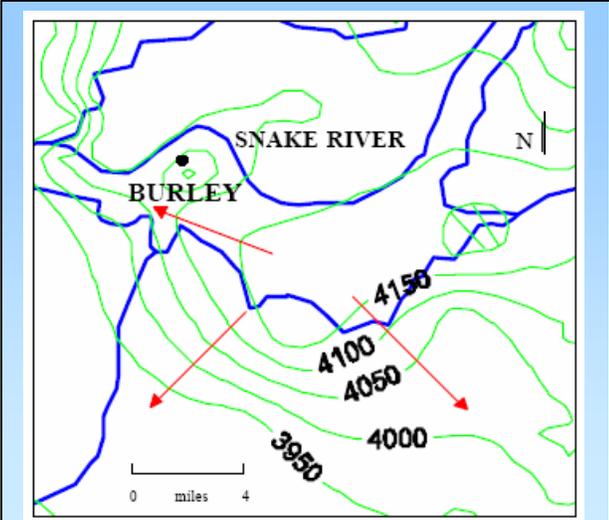
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This fact sheet summarizes pesticide detections in the ground water found by the Idaho State Department of Agriculture (ISDA) in the Burley area. Burley is located in Cassia County, south of the Snake River (refer to map on right).

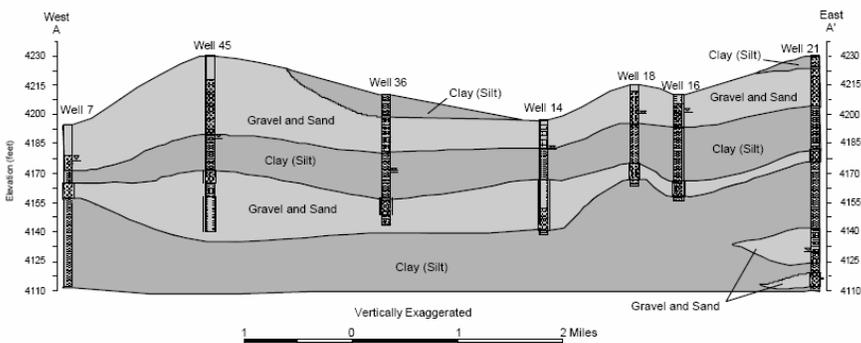
The hydrogeology near Burley consists of an upper aquifer composed of alluvial deposits overlying a lower aquifer composed of fractured basalt. Based on well drillers' reports from domestic wells in the project area, typical depth to ground water is less than 50 feet below ground level in the upper aquifer and over 150 feet below ground level in the lower aquifer. The shallow aquifer is composed of alluvial deposits, mainly sand and gravel, with a few thin interbedded clay layers. The shallow subsurface alluvial deposits are conducive to leaching of contaminants, including pesticides. A potential source of recharge to this shallow system is applied irrigation waters.



The map above shows the domestic wells used for the cross section pictured below (figures from Tesch et al., 2003). The clay layers prevent or greatly slow the downward movement of many contaminants, including pesticides. The gravel and sand layers that are not overlain by a layer of clay are susceptible to pesticide contamination. It is important to recognize that many domestic wells in the Burley area draw water from the unprotected gravel and sand layers. Pesticide applicators should apply pesticides following the label instructions to help prevent pesticides from contaminating the ground water.



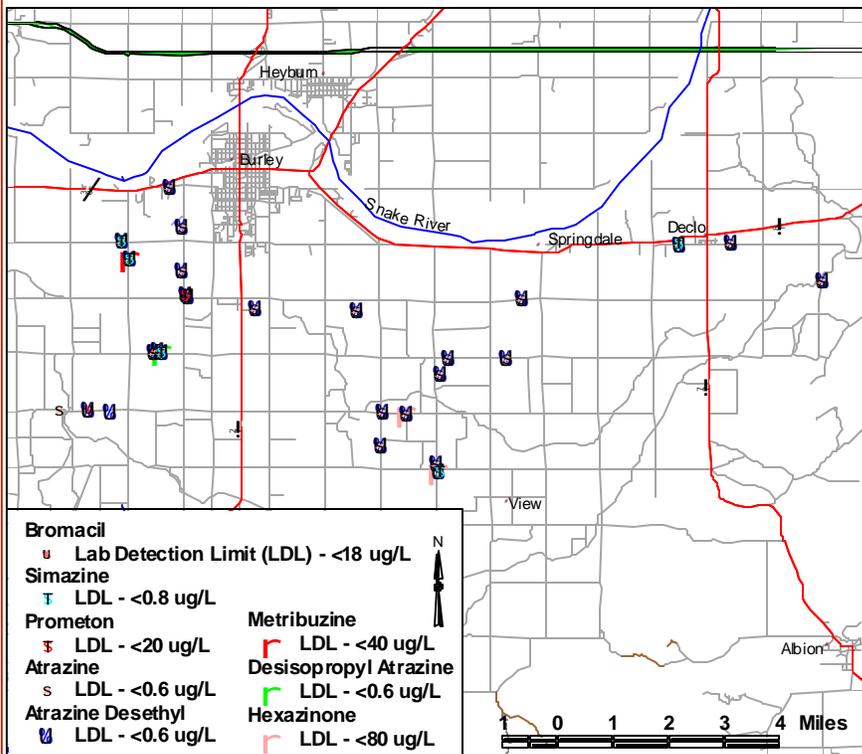
During 2001, approximately 1,235 static water level measurements of the Eastern Snake River Plain Aquifer were taken by the U.S. Geological Survey (USGS). The map above uses the 2001 USGS data to show the direction of the ground water flow, indicated by the red arrows (from Tesch et al., 2003). The ground water flow is complex in part due to the influence of recharge from irrigation canals. Ground water flow near Burley is predominately to the northwest. South of Burley the general ground water flow direction is to the southwest. The area to the southeast of Burley has ground water flow to the southeast.





Northern Cassia County 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.



2001 ISDA Pesticide Detections

The map to the left shows pesticide detections from the ISDA 2001 sampling. All detections were below any health standards set by the EPA or the state of Idaho. All detections fall into the level 1 category established by the Idaho PMP, which is a detection that is less than 20% of a reference point. For level 1 detections ISDA will notify and educate well owners, assess historical data, and educate pesticide applicators. **It is important for applicators to follow the pesticide label and for ISDA to continue to work with applicators to protect ground water.**

Contacts

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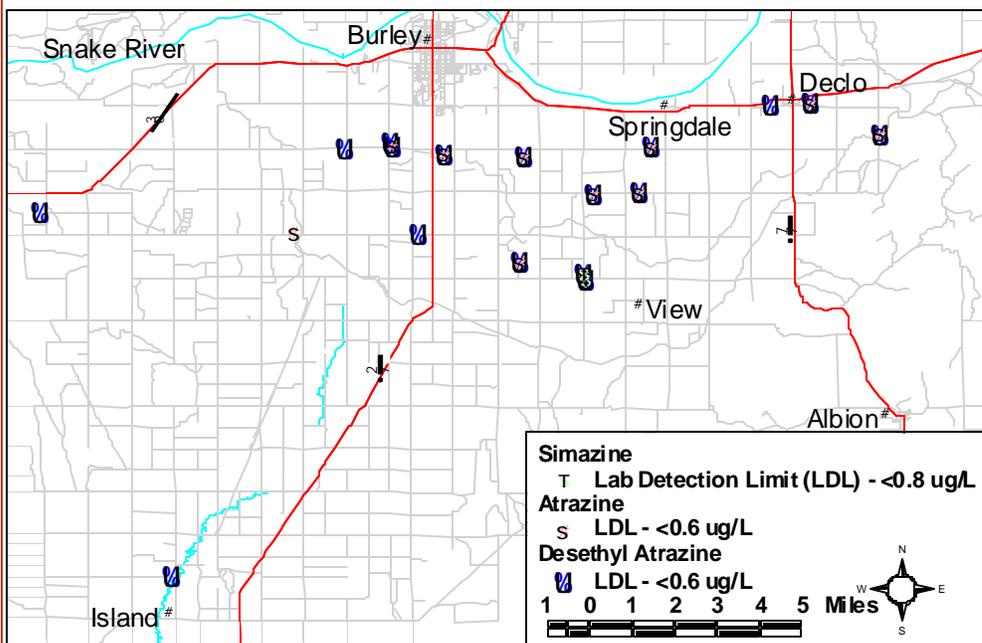
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References

Tesch, C., R. Carlson, and J. Fox, 2003. Ground water nitrate monitoring in Cassia County, Idaho. Idaho State Department of Agriculture Technical Results Summary #13.



2002 ISDA Pesticide Detections

The map to the left shows pesticide detections from the ISDA 2002 sampling. All detections were below any health standards set by the EPA or the state of Idaho. All detections fall into the level 1 category established by the Idaho PMP.