

impact

University of Idaho Extension programs that are making a difference in Idaho.

New source water education program helps protect Idaho drinking water

AT A GLANCE

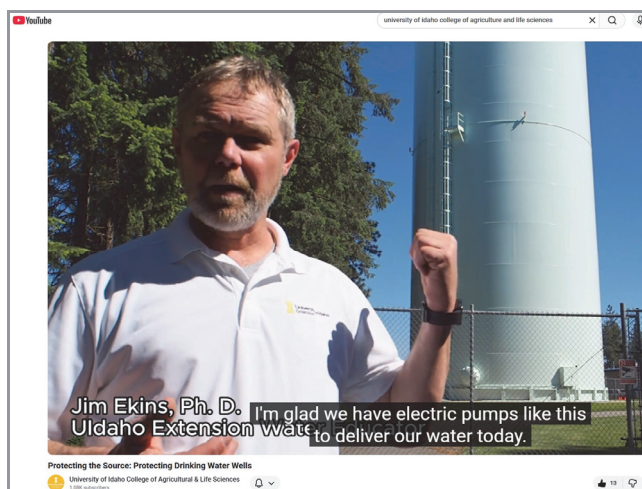
80% of Idahoans source their drinking water from groundwater/aquifer wells. Contamination requires expensive fixes and can make people very sick. Prevention is best, and we teach people how.

The Situation

More than 80% of Idahoans source their drinking water from wells that tap into groundwater or aquifers. There are about 3,500 active sources of drinking water in Idaho, and any of these can be contaminated with bacteria and other microbes, inorganic chemicals like heavy metals, and volatile and synthetic organic chemicals like gasoline, pesticides and oils. Contamination, especially bacteria, can come from the area immediately adjacent to the well, so it's important to keep pets and livestock at least 50' from the wellhead. All types of contamination can seep into the ground from areas far upstream from the well. These areas are called source water assessment areas, but very few people know whether they live in or near one.

Our Response

University of Idaho Extension Water Outreach is developing a comprehensive source water education program with a competitive grant from Idaho Department of Environmental Quality Source Water Protection funds, originating from the U.S. Environmental Protection Agency Drinking Water Protection Program. The source water education includes the production of peer-reviewed educational videos, development of middle- and high school aquifer/groundwater field



Jim Ekins in the peer-reviewed educational video, “Protecting Drinking Water Wells in Idaho, CALS YouTube channel.

science projects, and “train-the-trainer” workshops for K-12 teachers and non-formal educators (like park rangers and after-school program staff). Future plans include development of site-specific informational flyers for residents within source water assessment areas, and other informational events directly related to protecting sources of drinking water.

Program Outcomes

In the Treasure Valley, our assistant Extension water educator has been developing aquifer lessons to use with middle- and high school students. Thus fall, more than 300 middle school students received groundwater training with handheld models through a program called EFE (Environmental Field Experiences). Each student worked with the clear-sided aquifer model to

see how contamination can spread underground, and whether it was possible to protect their “well,” a spray bottle top, from pumping the contamination. Almost 300 high school students received more data-driven aquifer education around drinking water quality through the expansion of The Confluence Project. And last summer, almost 100 central Idaho Natural Resources Camp participants, mostly middle school-aged youth, also got to work with the aquifer models as a part of their water lab.

In northern Idaho, about 250 high school youth above the sole-source Spokane Valley-Rathdrum Prairie Aquifer used similar, clear-sided aquifer models to understand groundwater contamination spread. Analyzing the differences between pre- and post-survey evaluations clearly demonstrate improved knowledge and changed practices after our TCP aquifer field experiences. 50 teachers and non-formal educators from around the aquifer region participated in a workshop where UI Extension Water Outreach walked them through a contamination plume exercise through a Project WET (Water Education for Teachers) activity called “A Plume Problem” (formerly, “A Grave Mistake”).

UI Extension Water Outreach produced two aquifer-related peer-reviewed educational videos in late-2024: “How Idaho Aquifers Work” and “Protecting Drinking Water Wells.” These videos were viewed 6,440 times (4,890 and 1,550 views respectively) and are available via the University of Idaho College of Agricultural and Life Sciences YouTube channel.

The Future

We started with youth educational programming because we knew how to develop and implement those activities quickly. We are also developing various adult education ideas to help serve the broader community. One idea under development is a series of area-specific

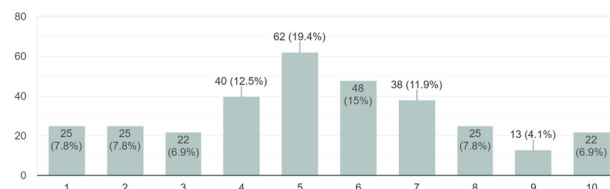
postcards that provide homeowners and landowners living near a community water well a list of easy-to-follow tips for protecting the groundwater in their area. We are also developing informational table displays and handouts.

Cooperators and Co-Sponsors

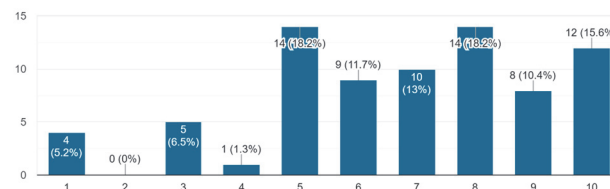
This program is made possible through a competitive grant from Idaho Department of Environmental Quality’s Source Water Protection program. Additional technical support is provided by Panhandle Health Department and Protect the Source (protectthesource.org).

Pre- and post-survey results

I understand how stormwater can affect both surface water and groundwater
320 responses



I understand how stormwater can affect both surface water and groundwater
77 responses



The charts above demonstrate knowledge gained about groundwater contamination by students in The Confluence Project.

FOR MORE INFORMATION

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