Fact Sheet

Lower Umatilla Basin Groundwater Management Area

State of Oregon
Department of Environmental Quality

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Background

Oregon's Groundwater Protection Act of 1989 requires the DEQ to declare a Groundwater Management Area (GWMA) if area-wide groundwater contamination, caused primarily by nonpoint source pollution, exceeds certain trigger levels. Because elevated nitrate levels (above the 7 mg/l trigger) were detected in many wells within a 352,000-acre portion of Umatilla and Morrow Counties, DEQ declared the Lower Umatilla Basin GWMA in 1990.

Sources of Contamination

A comprehensive study of the area conducted in the early 1990s by the DEQ, the Oregon Water Resources Department, and the Oregon Health Division identified five potential sources of nitrate loading to groundwater:

- Confined Animal Feeding Operations
- Irrigated Agriculture
- Land Application of Food Processing Water
- Septic Systems (rural residential areas), and
- Umatilla Chemical Depot Washout Lagoons

Groundwater Management Committee

The Groundwater Protection Act also requires the establishment of a local Groundwater Management Committee comprised of affected and interested parties. The committee works with and advises the state agencies that are required to develop an action plan that will reduce groundwater contamination in the area.

Action Plan Goal

The goal of the December 1997 Action Plan is to seek solutions to protect the area's groundwater. Recommended solutions should bring the level of nitrate-nitrogen in the groundwater back below the 7 mg/l level triggering the GWMA declaration.

Roles and Responsibilities

The Umatilla and Morrow County Soil and Water Conservation Districts are the local agencies leading implementation of the Action Plan. DEQ and the Oregon Department of Agriculture have oversight responsibility. Local governments, private industry, individuals, and the US Army are also involved in Action Plan implementation. The Action Plan recommends general activities and specific tasks to be conducted by involved agencies and groups representing the five sources of nitrate loading.

Voluntary Action Plan

The Action Plan began on a voluntary basis. DEQ chose to begin implementation of the Action Plan on a voluntary basis in hope that individuals, businesses, organizations, and governments will, if given adequate information and encouragement, adopt or modify practices to reduce contaminant loading to groundwater.

Measuring Action Plan Success

The Action Plan includes specific ways to gauge success that are focused on each potential source of contamination. The specific parties to conduct the assessment are also identified. For each of the five potential sources, some benchmark information was collected by 1999. Assessments are made at 4-year increments after Action Plan adoption (i.e., 2001, 2005, etc.) to determine if the Action Plan will remain voluntary.

2001 Evaluation of Action Plan Success

Progress has been made towards implementing many items. Several Action Plan items have been completed in full (e.g., procedures and methods to reduce the impact of septic system nitrate loading to the groundwater have been investigated and presented to all local area governments). Many Action Plan items have some aspects that have been completed while others are ongoing (e.g., investigate and research which agricultural practices are most appropriate for use in reducing the loading of nitrate to the groundwater). Other Action Plan items have yet to be implemented (e.g., perform further analysis on different types of manure [i.e., fresh, dried, composted] to develop nutrient guidelines for the use of manure on crops). Some of these items could, and should, be implemented as soon as possible while others are scheduled for future implementation. Most of the 1999 and 2001 goals have been, or soon will be, met. Because measurable progress has been made towards the Action Plan goal, it was concluded in 2002 that sufficient progress has been made to continue the voluntary nature of the Action Plan. However, continued work is necessary to achieve the Action Plan goal.

Alternative Formats

Alternative formats of this document (such as Braille or large type) can be made available. Contact DEQ Office of Communications & Outreach for more information (503) 229-5696.

Last Updated: 12/22/03
By: Phil Richerson
DEQ 03-ER-017

2005 Goals

Each sector contributing to the nitrate contamination has a goal to meet by the end of 2005. These include:

Irrigated Agriculture

85% of the irrigated acreage is implementing an accepted system of BMPs or are covered by an implementation plan and the recommendations are in place and being used.

Rural Residential

Through a random survey, 80% of area residents are aware of the groundwater nitrate problem and know of at least one activity or practice which contributes to the problem. 50% of those surveyed can cite at least one activity or practice they have changed because of their awareness of its impact on groundwater quality.

All local area governments can cite procedures, requirements, and/or practices they have instituted as a result of the declaration of the GWMA.

Areas in the lower basin have been identified where high densities of septic systems may impact groundwater quality.

Food Processor Process Water

Monitoring data shows improving groundwater quality trends for nitrate and meeting permit conditions and objectives.

Confined Animal Feeding Operations (Feedlots & Dairies)

75% of all CAFOs are implementing an accepted system of BMPs or are covered by an implementation plan.

U.S. Army Umatilla Chemical Depot Washout Lagoons

Monitoring data should show that the treatment system is working as expected and that reinjection water is not migrating beyond the capture zone of the treatment system.

Groundwater Sampling

DEQ samples a network of 36 wells every other month for analysis of nitrate. Once a year, these wells are also sampled for major ions, metals, and additional pesticides. These data are being used to evaluate changes in groundwater quality over time in response to adoption of BMPs.

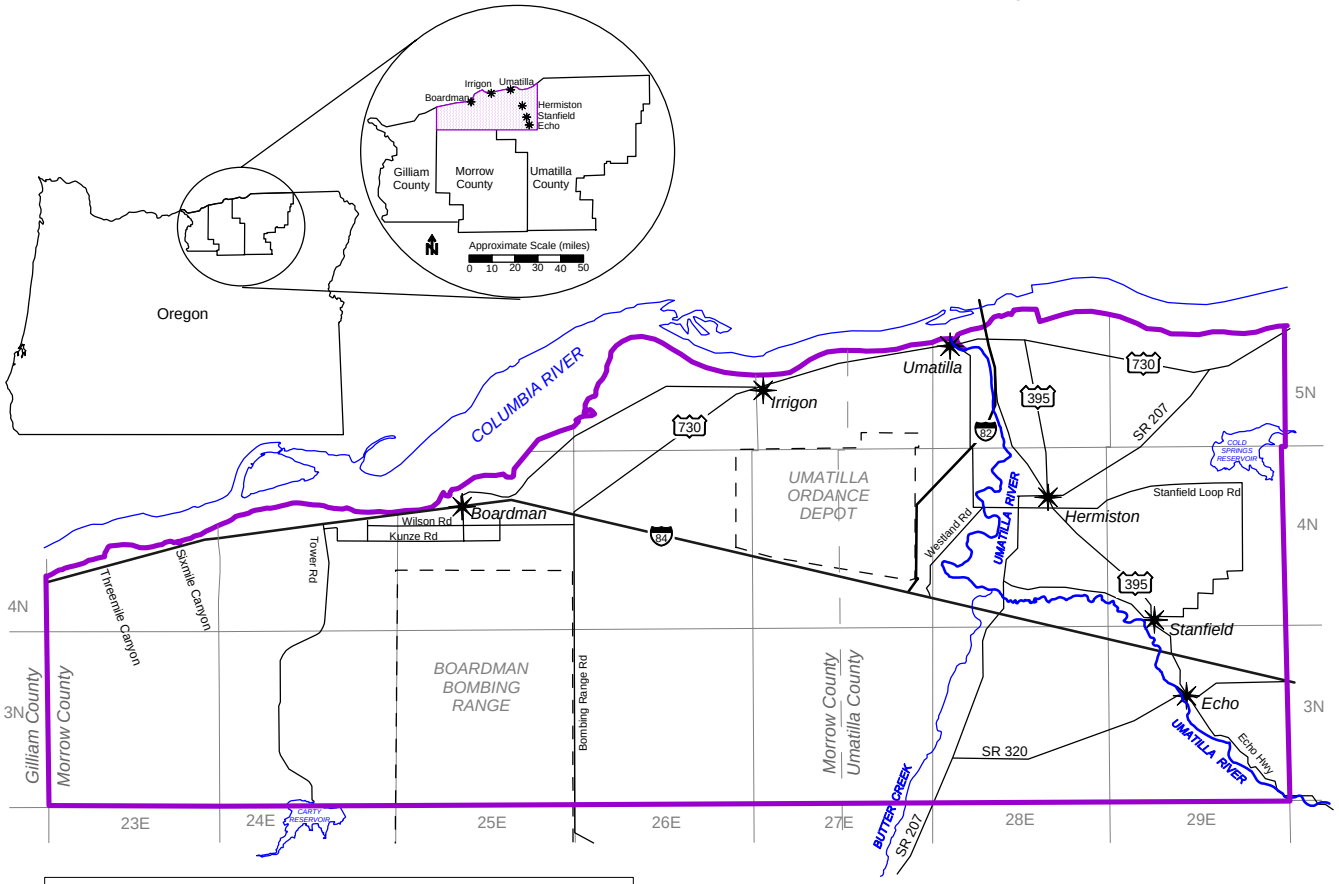
Summary

Progress is being made at land surface, but it will take years or even decades for groundwater quality to return to natural background levels.

Online LUB GWMA Information

Additional information is available at
http://www.deq.state.or.us/wq/groundwa/LUBGWMgmtArea.htm

Location and Boundaries of the Lower Umatilla Basin Groundwater Management Area



Lower Umatilla Basin Groundwater Management Area Boundaries
North: Columbia River
South: 2N/3N Township Boundary
East: 29E/30E Range Boundary
West: 22E/23E Range Boundary (also the Morrow / Gilliam County line)