



Land Development in Relation to Ground Water Quality in Public Health District 4

Presented by Rob Howarth
Division Administrator

Introduction

- ▶ Central District Health – Serving Ada, Boise, Elmore, and Valley Counties
- ▶ One of seven Public Health Districts from across the state
- ▶ My Background: DEQ 1988-2002; CDH 2002-present



Idaho Public Health Districts



Central District Health Board of Health

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Ada County



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Commissioner
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CRN-P, DNP
Ada County



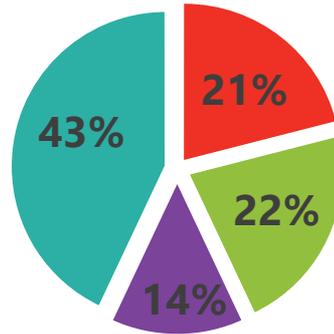
Who Are We?

- ▶ Not a state agency
- ▶ Not part of Idaho Department of Health & Welfare
- ▶ Independent Districts established in 1970



Funding

Sources of Funding



■ State ■ County ■ Fees ■ Contracts



Authority

- ▶ Administer and enforce all state and district health laws, rules, regulations, and standards (39-414)
- ▶ Receive delegated authorities from DEQ and IDHW (39-414)



Ground Water Quality Protection

- ▶ Utilize DEQ rules
- ▶ Memorandum of Understanding
- ▶ Ground Water Quality Rule (IDAPA 58.01.11)
- ▶ Individual and Subsurface Sewage Disposal Rules (IDAPA 58.01.03)



Idaho Department of
Environmental Quality
1410 N. Hilton
Boise, ID 83706
www.deq.idaho.gov

Memorandum of Understanding

The Department of Environmental Quality
and
The Public Health Districts

1. Objective

The objectives of this Memorandum of Understanding (MOU) are to define roles of the Idaho Department of Environmental Quality (DEQ) and the Public Health Districts (Districts) and protect human health and the environment by: 1) maintaining and improving ground water and surface water quality in Idaho, 2) proper solid waste management, 3) proper wastewater management, and 4) assisting and supporting public water systems in the delivery of safe and reliable drinking water. This MOU sets forth a working arrangement of program delegation and program contract between the DEQ and the Districts to reduce duplicative efforts and to provide for a detailed description of program responsibilities and authorities.



Onsite Sewage Treatment Permitting

- ▶ Standard permits
- ▶ Routine practices before installation
- ▶ Enhanced permit requirements in areas of concern



Permitting Practices

- ▶ Evaluate test holes and inspect installation
- ▶ Ensure separation to ground water and features of concern
- ▶ Monitor shallow water table before installation
- ▶ Require advanced technology when appropriate



CDH Ground Water Protection History

- ▶ 1981: CDH required ground water impact study for large sewage system adjacent to Payette Lake
- ▶ 1991: Ada and Valley Co. commissioners approach CDH concerned about septic system impacts
- ▶ 1994 CDH Board policy: "...assessment of existing water quality and water quantity to ensure no further degradation of ground water..."



CDH Ground Water Protection History - Continued

- ▶ 1997: CDH Board: revision of previous policies to require “**nutrient-pathogen study**” for developments utilizing on-site sewage disposal in “areas of concern.”
- ▶ 1994-2002: DEQ and CDH scientists/technical staff developed and revised the Nutrient-Pathogen Program
 - Technical committee: DEQ, CDH, Southwest District Health



Nutrient-Pathogen Study

What is it?

- ▶ Scientific evaluation of soils, geologic conditions, and water resources in and around the area of the proposed development.
- ▶ Predicts whether effluent from the sewage disposal systems will be treated and/or diluted enough to prevent ground water contamination.



Nutrient-Pathogen Study

What is its purpose?

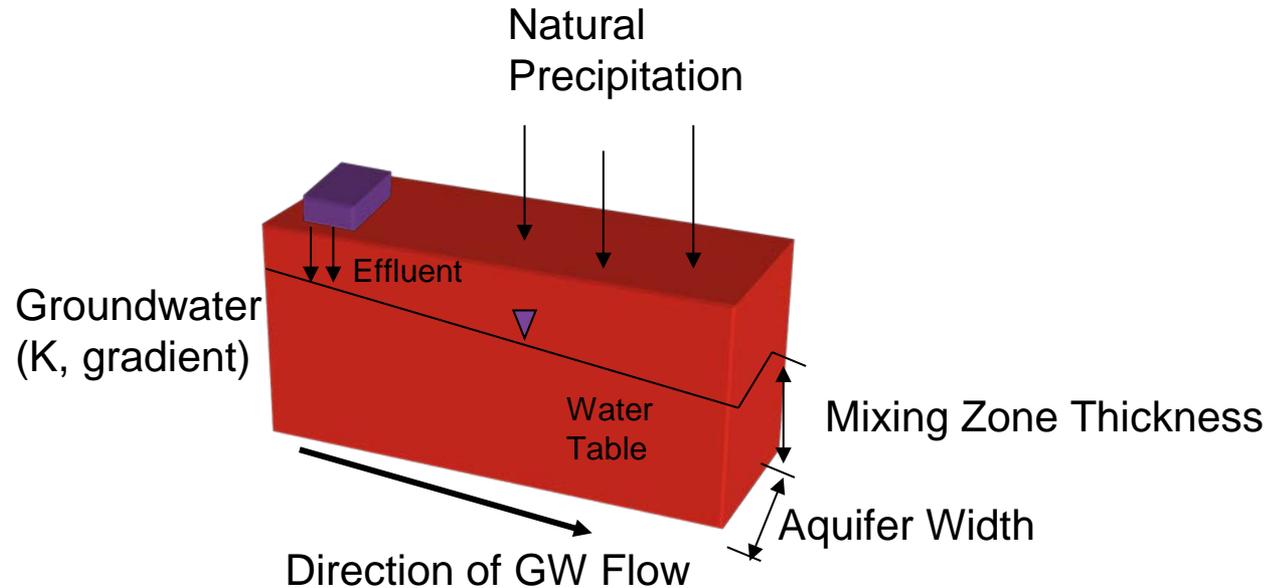
- ▶ Determine the appropriate number of on-site wastewater treatment systems for a given parcel of land.
- ▶ Direct the placement of the on-site wastewater treatment systems in a way that will not significantly degrade the quality of ground water or surface water resources.



N-P Study, Two Options

Level 1

- ▶ Compile existing data
- ▶ Calculate the mixing of water and nutrients
- ▶ Spreadsheet and guidance provided



N-P Study Criteria

1997-2004

- ▶ Areas of concern: shallow ground water, poor soils, existing contamination
- ▶ Five or more lots
- ▶ Commercial facilities generating 600 gal/day or more



N-P Study Criteria

2005-2014

- ▶ No study required for lot size 5 acres or greater
- ▶ No study required for lot size 3 to 5 acres with use of nutrient-reducing systems (27 mg/l total N)
- ▶ (2006) No study required for lot size less than 3 acres with use of nutrient-reducing systems (16 mg/l total N)
- ▶ Revision based on review of 26 N-P studies, 2001 to 2005 in Central District Health and Southwest District Health regions.



N-P Study Criteria

2015-present

- ▶ Development in Nitrate Priority Areas (DEQ designation)
- ▶ Five or more lots smaller than 5 acres
- ▶ Commercial facilities generating 600 gal/day or more on less than 5 acres
- ▶ Unique site conditions putting surface water or ground water quality at risk



Nitrate Priority Areas

2014 NPA Delineation and Ranking Process

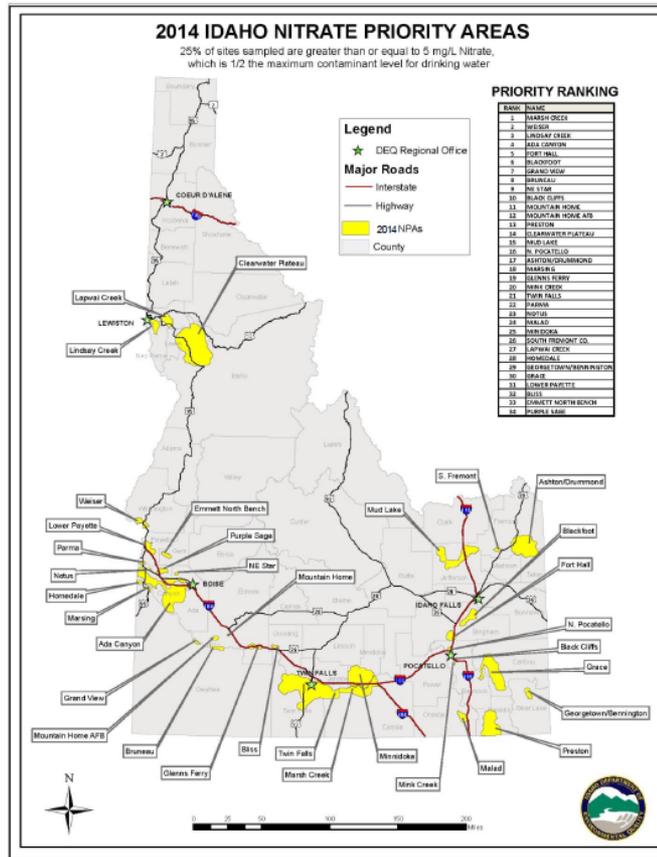
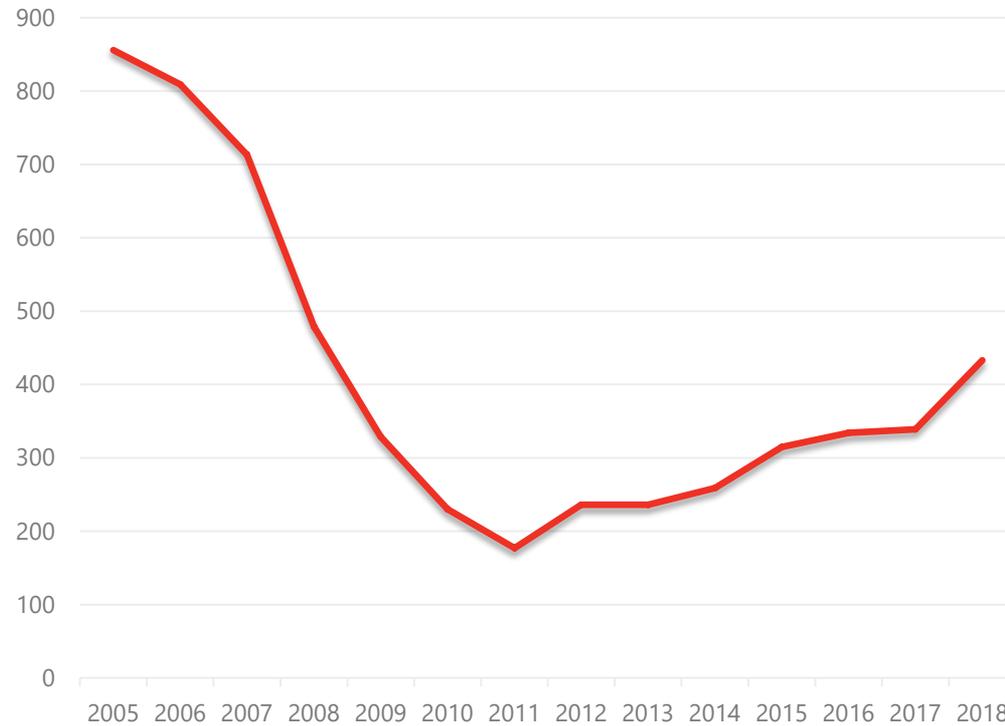


Figure 3. 2014 ranked nitrate priority areas.



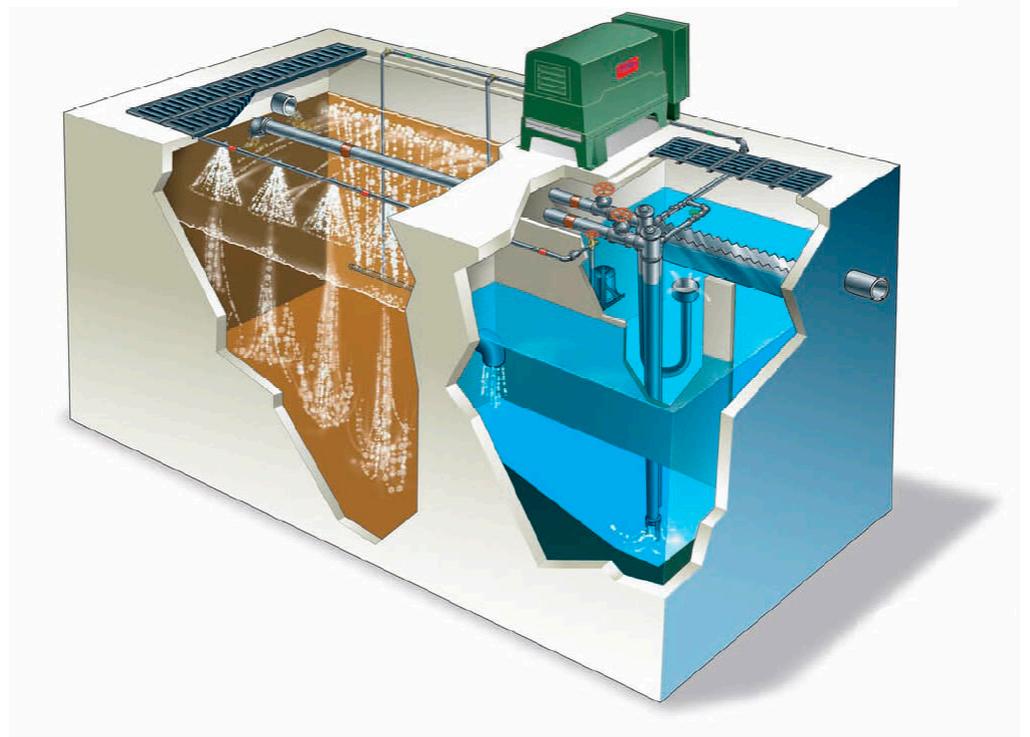
The Economy

CDH Sewage Permits Issued



Advanced Technology

- ▶ Extended Treatment Package Systems (ETPS)
- ▶ Improves effluent quality and sometimes reduces nitrogen
- ▶ Installation in sensitive areas



ETPS Status

- ▶ 400+ in CDH region; 2,000 statewide
- ▶ Annual maintenance and reporting
- ▶ Compliance challenge



