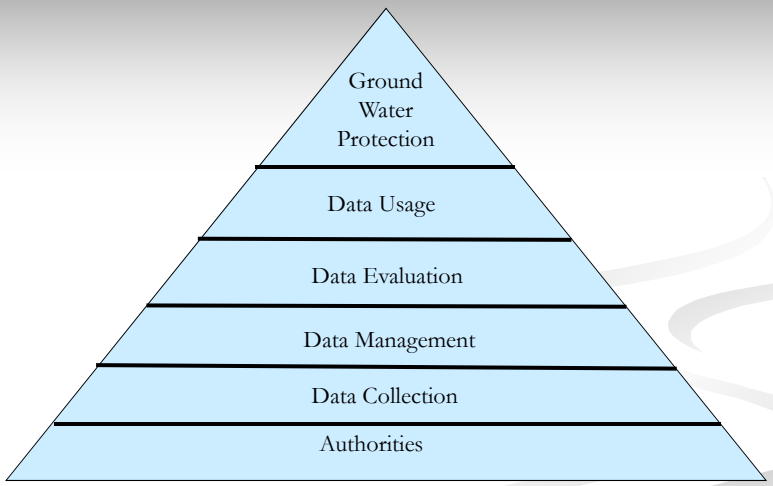
DEQ Ground Water / Source Water Protection Program Overview

Presented to
Idaho Board of Environmental Quality
April 25, 2011
Board Meeting

Ground Water Protection Pyramid



Overview of Presentation

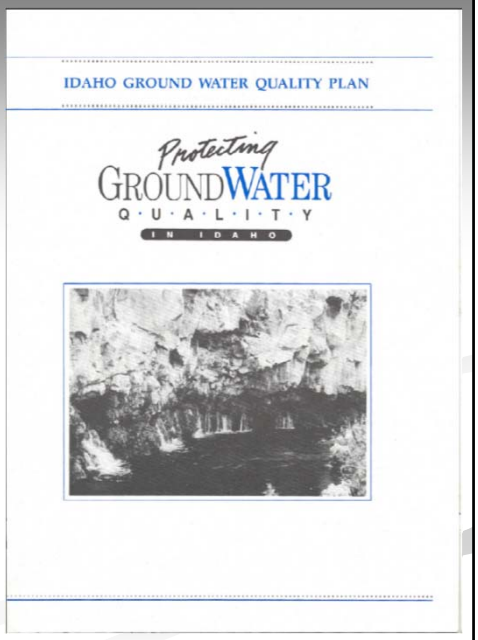
- Authorities
  - Ground Water Quality Plan & Rule
- Data collection
  - Protocols
- Data management
  - Ground Water Quality Database
- Data evaluation
  - Nitrate Priority Areas & Guidance
- Data usage
  - Source Water Assessment
- Ground Water & Source Water protection
  - Methods

TOOLS

Ground Water Quality Protection Framework

- No Federal Standards
- No Clean Ground Water Act
  - Waste Programs
  - Underground fuel tanks
  - Superfund
- State Regulations
  - Ground Water Quality Plan
  - Ground Water Quality Rule

Evaluation of Idaho Ground Water Quality Plan Implementation Activities



Idaho Ground Water Quality Plan

- Authorized by Ground Water Quality Protection Act of 1989
- Prepared by Ground Water Quality Council - 1996

Idaho Ground Water Quality Plan

- Purpose of the Plan is to protect ground water quality for use by the public.
- **Ground Water is source of drinking water for 95% of Idahoans.**
- The Plan provides guidance and direction to state agencies, local governments, and citizens in preventing ground water contamination.
- Principal document that guides ground water protection activities in Idaho.

Plan Review

- Review Plan and prepare evaluation of Plan (11 years overdue)
  - Develop an understanding of the existing status of Plan.
  - Identify successes and deficiencies.
  - Evaluation can be used to help revise Plan
  - Interviewed agency personnel at IDWR, ISDA, DEQ to determine implementation status of each of the 102 tasks in Plan

Plan Components

- Six Policy Categories, 22 policies, and 102 discrete implementation tasks
  - I. PROTECTION
  - II. PREVENTION
  - III. PUBLIC EDUCATION
  - IV. GOVERNMENT INTERACTION/PUBLIC PARTICIPATION
  - V. GROUND WATER QUALITY MONITORING/ DATA INFORMATION SYSTEM
  - VI. REMEDIATION OF CONTAMINATION

Protection Policies

- I-A Ground Water Quality Protection
- I-B Existing and Future Beneficial Uses
- I-C Categorization of Ground Water (Aquifers)
- I-D Ground Water Quality Standards

S - Significant progress – Ground Water Quality Rule creation and implementation

D - Some inconsistencies in ground water standards.

D - Unable to revise Plan – no GW Quality Council.

Prevention Policies

- II-A Prevention of Ground Water Contamination
- II-B Agricultural Chemical and Nutrient Management
- II-C Mining

  S - Numerous programs developed and implemented.

  D - **nitrate management**

Public Education Policies

- III-A Public Education on Ground Water Quality
- III-B Ground Water Quality Research

  S - Progress achieved for all implementation requirements in this policy.

  D – Need for additional education efforts.

Government Interaction/Public Participation Policies

- IV-A Public Participation in Ground Water Activities
- IV-B Local/State Government Interaction
- IV-C Local/State Consistency
- IV-D Federal Consistency
- IV-E Interstate/Interprovincial/Tribal Agreements
- IV-F Agency Roles in Ground Water Programs
- IV-G State/Local/Federal Government Coordination

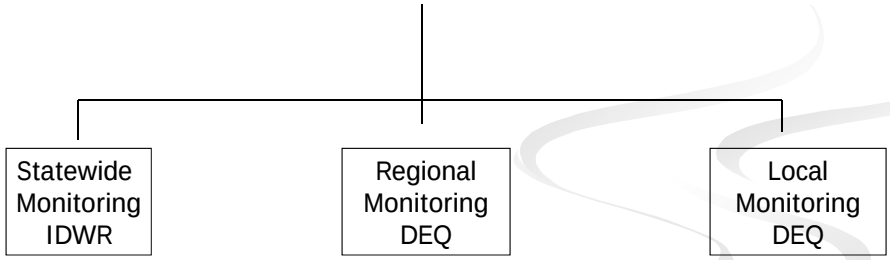
S - Progress has been achieved for nearly all 24 implementation requirements.

D - Lack of local funding for implementation of Plan.

Ground Water Quality Monitoring/Data Information System

- V-A Statewide Ground Water Quality Monitoring Network
- V-B Regional and Local Ground Water Monitoring
- V-C Artificial Recharge of Ground Water
- V-D Publicly Funded Ground Water Data Standards
- V-E Environmental Data Management System

- Ground Water Quality Monitoring Program
  - A three part approach



Ground Water Quality Monitoring / Data Information System

S - Great strides initially made in GW Quality monitoring. Aquifer recharge effective. Technology enables information sharing successes.

D - The lack of consistent dedicated funding for agencies to maintain regional and local monitoring networks to evaluate trends in ground water quality in nitrate priority areas is a significant policy deficiency.

Remediation of Contamination

- VI-A Remediation
- VI-B Liability for Costs of Remediation
  - S - Significant progress with GW Quality Rule and Risk Evaluation Manual to provide cleanup standards based on risk.
  - D - State mechanisms to fund investigation and remediation activities have not been developed.

Second part of plan

- AGRICULTURAL GROUND WATER QUALITY PROTECTION PROGRAM FOR IDAHO
  - Describes how agricultural activities are to be managed for ground water protection

Conclusions

- Most of requirements in Plan have been or are being implemented.
- Ground Water Quality Rule was HUGE
- Plan is over 15 years old and should be updated to incorporate new technologies and scientific knowledge, and recognize current economic and political realities.

Conclusions

- Ground Water Quality Protection is fragmented between multiple agencies
- Ground Water Quality Protection in Idaho is primarily a voluntary activity.
- Policies are being partially implemented
  - Many successes accomplished in 1990s

DEQ Follow-up Monitoring and Reporting

- Regional and local monitoring projects
- Follow-up Protocol for Nitrate Sources
- Source water monitoring studies
- State agency monitoring activity from 2005 to present
- Coordination with other agencies

Regional Projects overview

- Monitoring Network Development
  - Optimizing monitoring network using statistically valid approach
  - Developing monitoring network development protocol (starting with BRO)
- Best Management Practices Effectiveness
  - Validating NPA delineation

Local Projects overview

- Confirm detection – follow-up from previous studies or detections
- Characterize extent of degradation
- Follow-up Protocol for Nitrate Sources
- Identifying sources of nitrate

Follow-up Protocol for Nitrate Sources

- Goal: To provide consistent ground water monitoring responses to **elevated nitrate detections** and **sources of nitrogen**.

Follow-up Protocol for Nitrate Sources

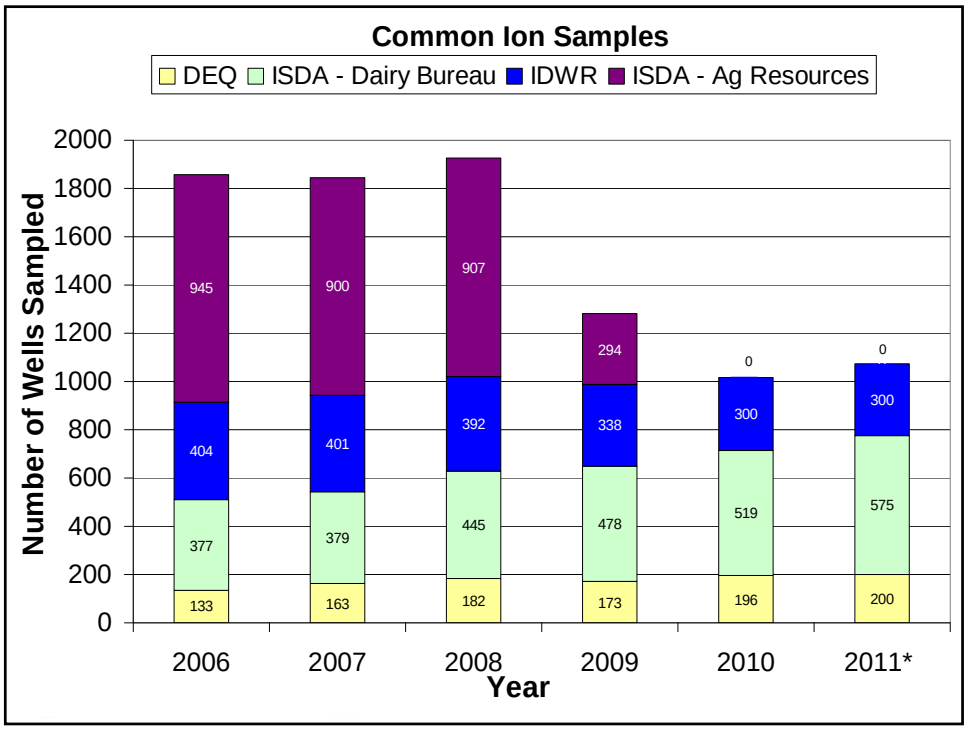
- Follow-up to elevated nitrate detections from
  - ISDA Dairy Bureau monitoring
  - IDWR Statewide monitoring – Water Quality Monitoring Protocols – Report No. 9 (Cardwell, 1995)
  - PWS monitoring
  - Outreach
    - Health Fair
    - Nitrate Test Strip Outreach

Follow-up Protocol for Nitrate Sources

- Follow-up for sources of nitrogen
  - Point Sources
    - Animal Facilities
    - Septic Tanks
  - Non-Point Sources
    - Waste Application (non-permitted Industrial, Municipal, Animal facilities)
    - Fertilizer (Synthetic and Organic)
  - Complaints

Source water monitoring studies

- Monitoring sensitive source water protection areas based on previous detections
  - i.e., Cassia County Source Water Study in response to local DEQ study in Springdale
  - Developing protocol for regions to prioritize sensitive source water areas with both point and nonpoint sources of contamination to public water systems
  - Funding is available



State agency sampling events 2005 to present (calendar year)

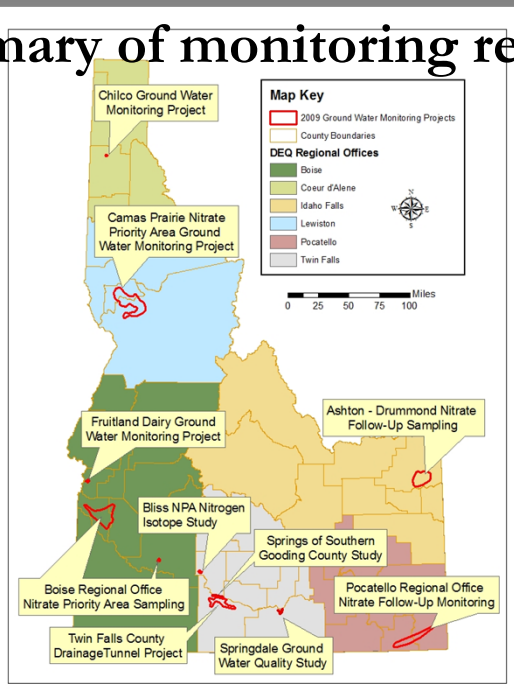
Agency		2006	2007	2008	2009	2010	2011*
DEQ	# of wells sampled	133	163	182	173	196	200*
	# of sampling events	248	347	338	242	265	250*
ISDA	Dairy Bureau	377	379	445	478	519	575*
	Ag Resources - Nitrate	945	900	907	294	0	0
	Ag Resources – Pesticides	283	332	165	141	187	185*
IDWR	State Monitoring Network	404	401	392	338	300	300*
	TOTALS (wells sampled)	**1859**	**1543**	**1926**	**1283**	**1202**	**1260**

*projected

Coordination with other agencies

- Partnering with IDWR to sample SMN wells within Source Water protection areas (approximately 25)
- Conducting ground water quality investigation in conjunction with IDWR/ IP to conduct local tracer tests studies
- Partnering with ISDA to collect sample for nitrate analyses during pesticide monitoring
- Partnering with various conservation districts on local and regional projects
- Ground Water Monitoring Technical Committee
- Working with State Universities
- Working with local Health Districts

Summary of monitoring results



DEQ Ground Water Quality Database

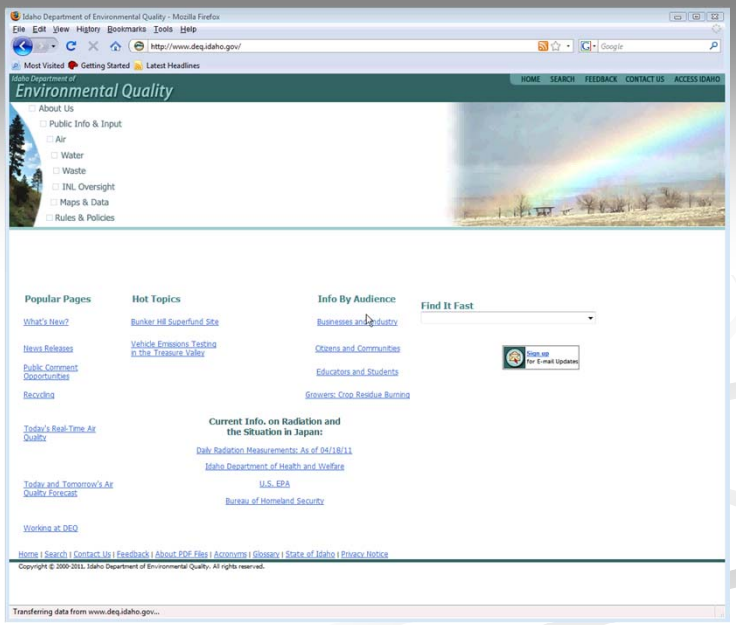
- Data collected by DEQ or contractors for Ground Water Program.
- Data from 1987 to present.

Ground Water Quality Data Online Mapping Application

- Linked to Ground Water Quality Database.
- Available to public on DEQ website.
- 926 Wells/Springs, 318 constituents.

Ground Water Quality Data Online Mapping Application

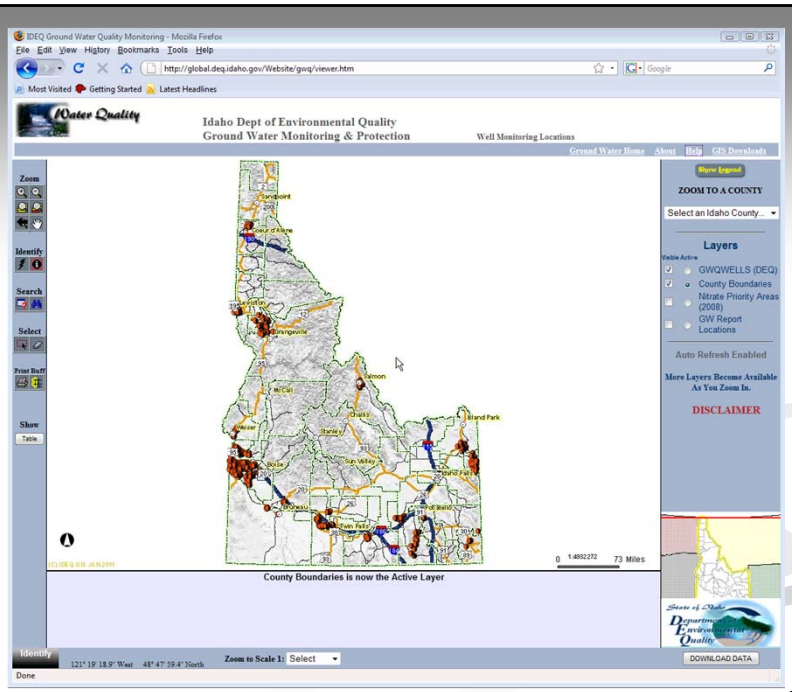
- Access from DEQ's website:
  - www.deq.idaho.gov



35

Ground Water Quality Data Online Mapping Application

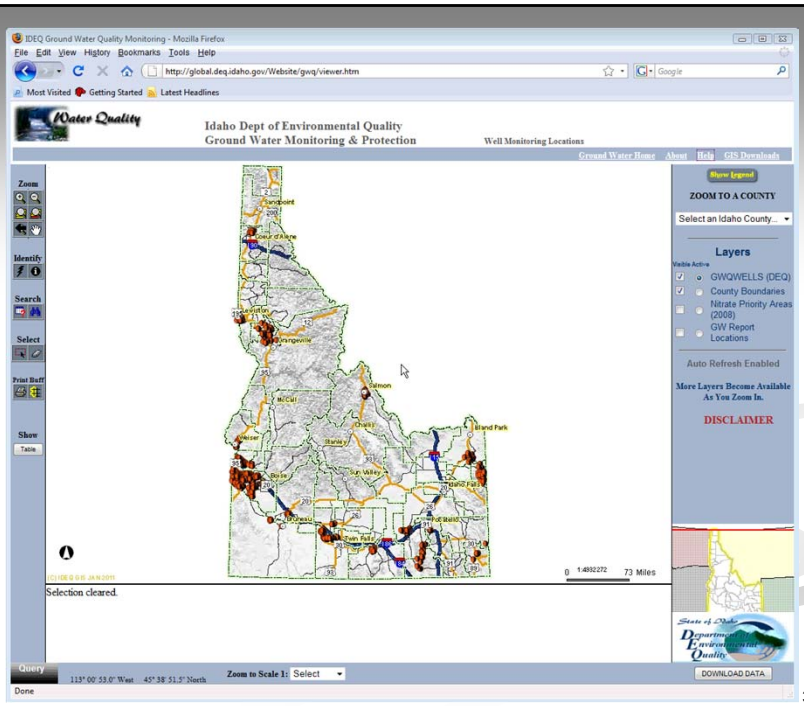
- Zoom to wells and access data.
- Query for nitrate concentrations.
- View NPA, DEQ Technical Report, and SWA data.
- Download GIS data.



37

Ground Water Quality Data Online Mapping Application

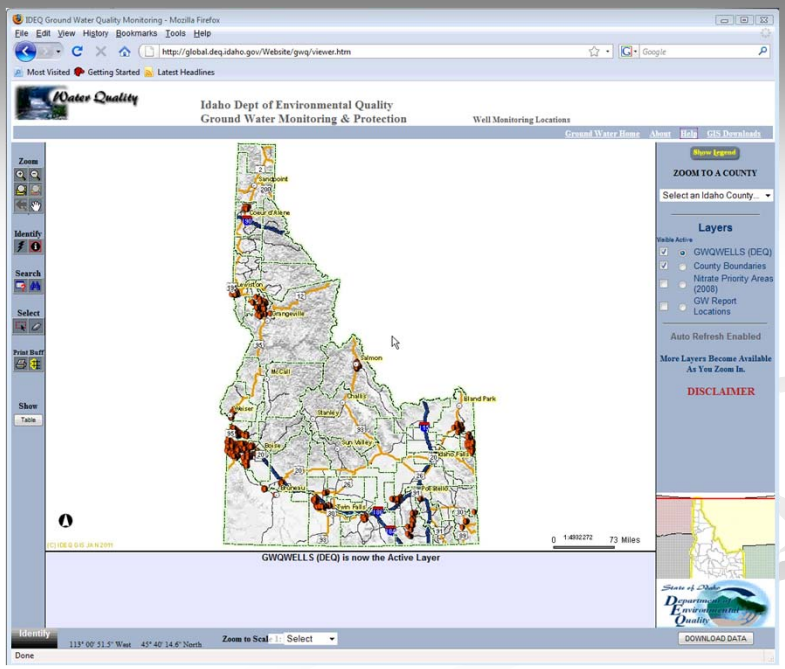
- Zoom to wells and access data.
- Query for nitrate concentrations.
- View NPA, DEQ Technical Report, and SWA data.
- Download GIS data.



39

Ground Water Quality Data Online Mapping Application

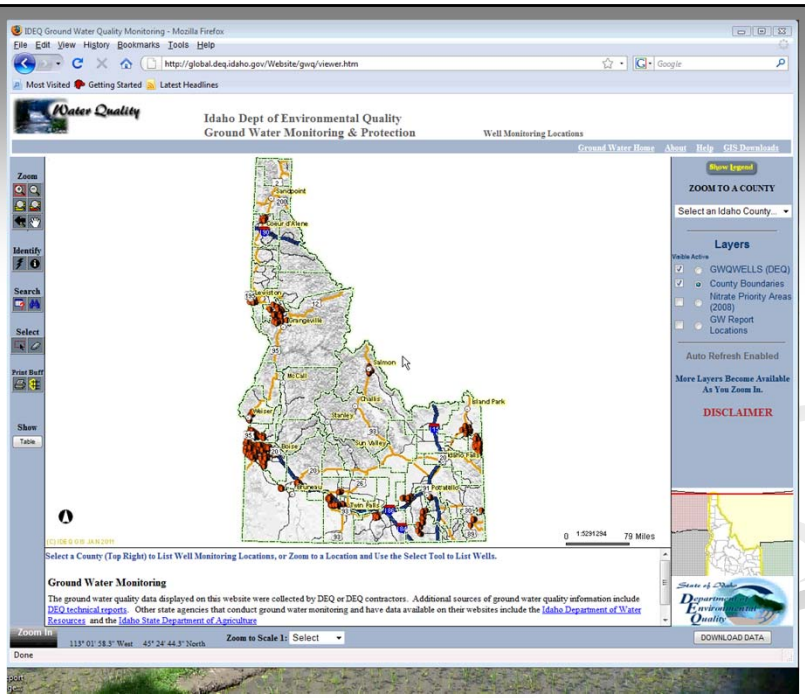
- Zoom to wells and access data.
- Query for nitrate concentrations.
- View NPA, DEQ Technical Report, and SWA data.
- Download GIS data.



41

Ground Water Quality Data Online Mapping Application

- Zoom to wells and access data.
- Query for nitrate concentrations.
- View NPA, DEQ Technical Report, and SWA data.
- Download GIS data.



43

DEQ Ground Water Quality Database Benefits

- **Reduce DEQ Costs** – Decrease or eliminate DEQ staff time spent on PIRs.
- **Improve quality of DEQ investigations** -Data in one location enables DEQ to evaluate information comprehensively.
- **Improve efficiency of state government** - Spatial locations of wells allow better coordination between agencies and stakeholders.
- **Reduce private sector costs** - Data available to public 24/7.

Ground Water Quality Rule
-
Determination of Degradation and Significant Degradation
-
Guidance Documents

Degradation

- Ground Water Quality Rule definition of degradation

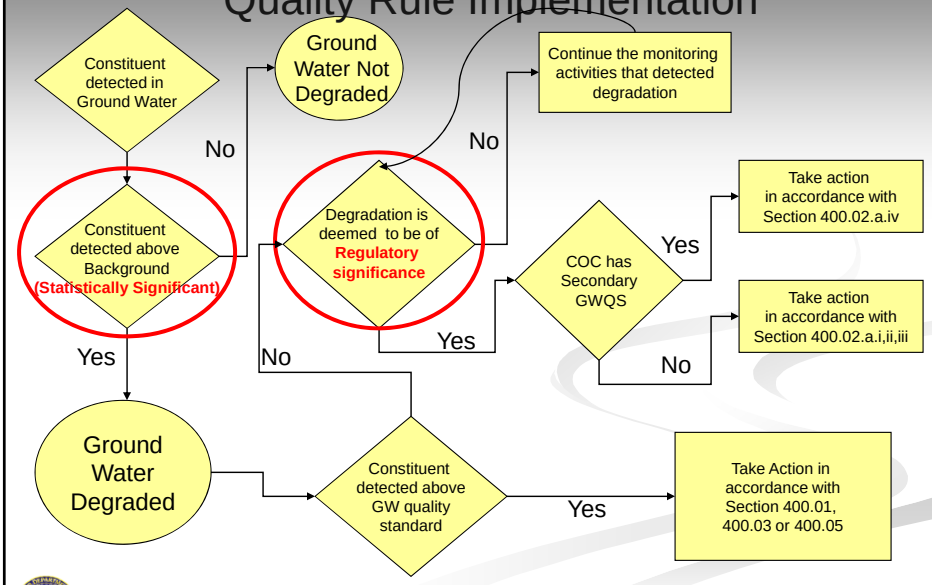
13. Degradation. The lowering of ground water quality as measured in a statistically significant and reproducible manner. (3-20-97)

Ground Water Quality Rule two types of Degradation

1) Statistically significant degradation – statistical guidance (2008)

2) Regulatory significant degradation (draft guidance)

Conceptual Approach to Ground Water Quality Rule Implementation



Guidance Development Background and Degradation

- DEQ developed a guidance document that describes how to determine natural background and degradation in a manner that is consistent with the Ground Water Quality Rule.
- Dr. John Welhan from ISU was hired to assist with development of a statistical guidance. This guidance was based on the DEQ draft document entitled "*Wastewater Land Application Statistical Guidance for Ground Water Quality*".

Ground Water Quality Rule Statistical Guidance

Statistical Guidance for Determining Background
Ground Water Quality and Degradation

May 2009

Version 2008-1

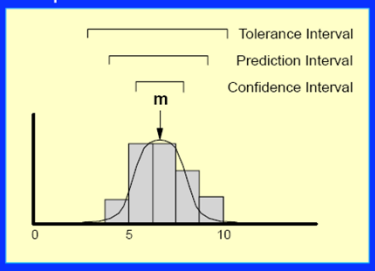
Prepared by Dr. Xin Dai, Idaho Department of Environmental Quality
Technical Review Provided by Dr. John Welhan, Idaho Geological Survey
Edited by Edward Hagan, Idaho Department of Environmental Quality

Determination of Background

- Two options
  - 1) Use Alternative Concentration Limit (ACL)
    - Use the largest value of the most recent data collected
    - Mean + 1.65 x Standard Deviation
    - Median + 1.65 x IQR,
      IQR = the interquartile range
    - The method that gives the lowest value is chosen
  - 2) Use statistical analyses to determine upper limit
    - consider data distributions (normal, log-normal, non-parametric), data trends, seasonality

Some Relevant Definitions

Sample data:



Confidence Interval - at 95% confidence, m falls in [5.4, 7.8] (population parameter)

Prediction Interval - at 95% confidence, the next 4 measurements will all fall in [4.2, 9.0]

Tolerance Interval - at 95% confidence, 99% of future measurements will fall within [3.0, 10.2]

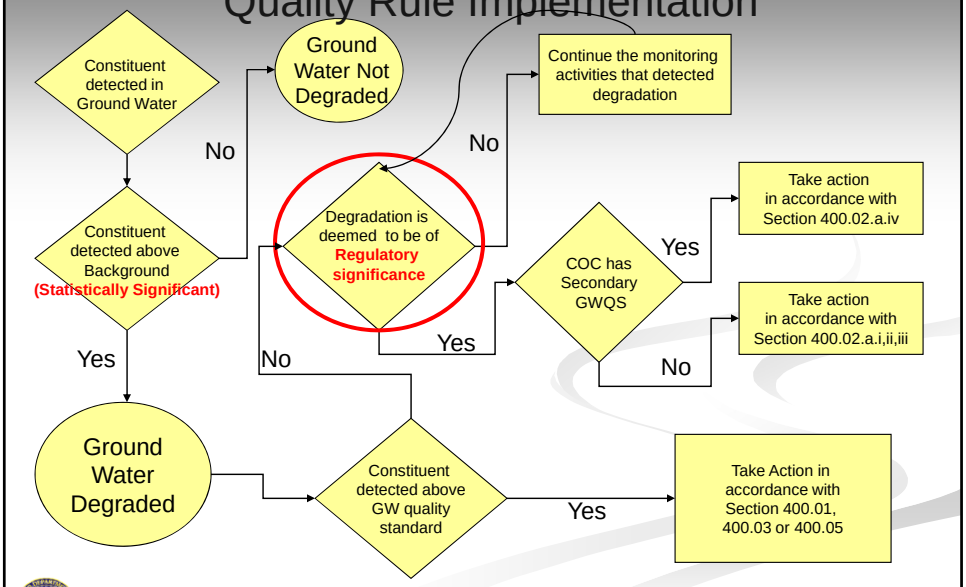
Intervals can be one-sided or two-sided

Prepared by Dr. John Welhan

Degradation
(Statistically Determined)

- Degradation is a detection above upper limit of background as determined using statistical methods.
- Degradation is site-specific.
- At a specific site, degradation may be well specific.

Conceptual Approach to Ground Water Quality Rule Implementation



Regulatory Significant Degradation

- Determination of regulatory significance is important because DEQ is required to take action when degradation is deemed to be significant.
- The Rule provides criteria for DEQ to use to determine what is significant degradation.

Criteria

§ 400.02.b of the Rule provides criteria for DEQ to use in determining what is significant degradation.

1. Site-specific hydrogeologic conditions;
2. Water quality, including seasonal variations;
3. Existing and projected beneficial uses;
4. Related public health issues; and
5. Whether the degradation involves a primary or secondary constituent.

-Old Version-
Regulatory Significance Process

Guidance addressed the 5 criteria with 9 questions.

The questions were weighted based on impact to human health.

A numerical score was generated to provide a relative indication of the potential for beneficial uses to be impacted by the detected degradation.

Scores were separated into five categories

Examples illustrating application of guidance using nitrate as COC

Significant degradation determination - Old Version

High Score

Degradation is significant if the COC is detected above the site background

Degradation is not significant until COC is detected above site background level plus **10% of the difference of Ground Water Quality Standard – background**)

Degradation is not significant until COC is detected above site background level plus **25% of the difference of Ground Water Quality Standard and background**
(up to ½ the numerical Ground Water Quality Standard)

Degradation is not significant until COC is detected above site background level **plus 50% of the difference of Ground Water Quality Standard – background**
(up to ½ the numerical Ground Water Quality Standard)

Degradation is not significant until COC is detected above ½ the numerical Ground Water Quality Standard

LOW Score

59

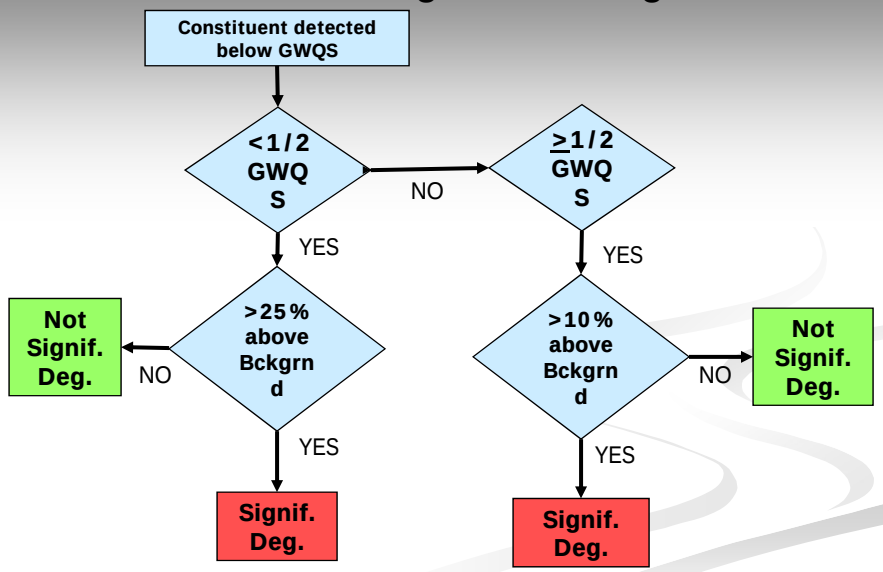
Revised Version

- Consistent with DEQ aquifer recharge guidance alert levels
- Criteria considered when determining background concentration
- No questions or scoring
- 2 categories
  - Detection is below ½ GWQS
    - allowed 25% increase
  - Detection is at or above ½ GWQS
    - Allowed a 10% increase above background
    - In most cases a detection > ½ GWQS is significant

Significant degradation

Any detections of a synthetic organic chemical (SOC), a volatile organic chemical (VOC), bacteria, or pathogens are significant.

Determination of Significant Degradation



Example

- Detection = Nitrate = 2.3 mg/L
- 1/2 GWQS of 10 = 5
- Background Nitrate = 2.0
- Significant = bkgd + 25% of Bkgd
  - 2.0 + 0.5 = 2.5
- 2.3 < 2.5 so not significant degradation

Example 2

- Detection = Nitrate = 4.6 mg/L
- 1/2 GWQS of 10 = 5
- Background Nitrate = 2.0
- Significant = bkgd + 25% of Bkgd
  - 2.0 + 0.5 = 2.5
- 4.6 > 2.5 so significant degradation

Example 3

- Detection = Nitrate = 5.5 mg/L
- 1/2 GWQS of 10 = 5
- Background Nitrate = 4.0
- Significant = bkgd + 10% of Bkgd
  - 4.0 + 0.4 = 4.4
- 5.5 > 4.4 so significant degradation

Summary

1) Statistical guidance is complete

   a) background ground water quality, and

   b) degradation (statistically significant and reproducible).

2) A draft guidance providing a process for DEQ to use to determine when degradation is of "regulatory significance" is being revised for public review and comment.

3) Steps in ongoing process of interpretation and implementation of Ground Water Quality Rule

Source Water Protection Program

Amy Williams
Source Water
Program Coordinator

Kathryn Elliott
Source Water
Implementation
Coordinator

Today's Presentation

- Source Water Protection Program Information
- Source Water Assessment (SWA) Overview
- SWA Website Demo
- Source Water Protection Activities
  - Planning
  - Implementation

Source Water Protection Program Funding

- Section 1452 of the federal Safe Drinking Water Act provides funds for Source Water Assessment and Protection.
- Idaho receives 10% Drinking Water SRF Set-A-Side (100% Federal Funding)

69

Definition of Source Water

Source water is defined as "any aquifer, surface water body, or watercourse from which water is taken either periodically or continuously by a public water system for drinking or food processing purposes".

(*Idaho Source Water Assessment Plan).*

70

Definition of Source Water

Source water is drinking water **prior** to reaching the public water system.

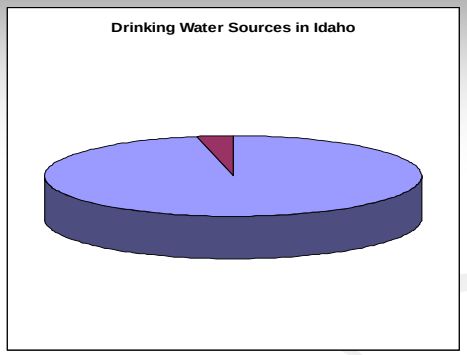
71

Safe Drinking Water Act Amendments

- 1986 Wellhead Protection Program
- 1996 Source Water Protection Program

72

Idaho's Drinking Water Sources



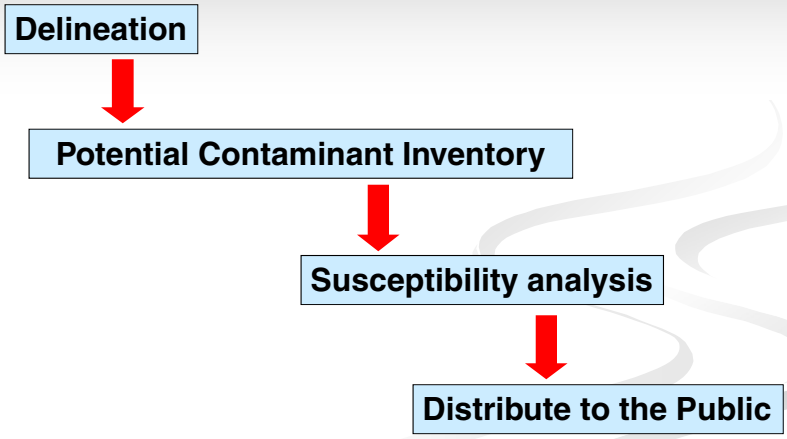
Ground Water Source (Wells and Springs)	3183
Surface Water Source	102
Total Sources	3285

73

Source Water Assessment

- Provides the public with the current status of their drinking water system
- Summarizes *potential* threats to the communities public water supply
- A starting point for drinking (source) water protection efforts

What does a Source Water Assessment Include?

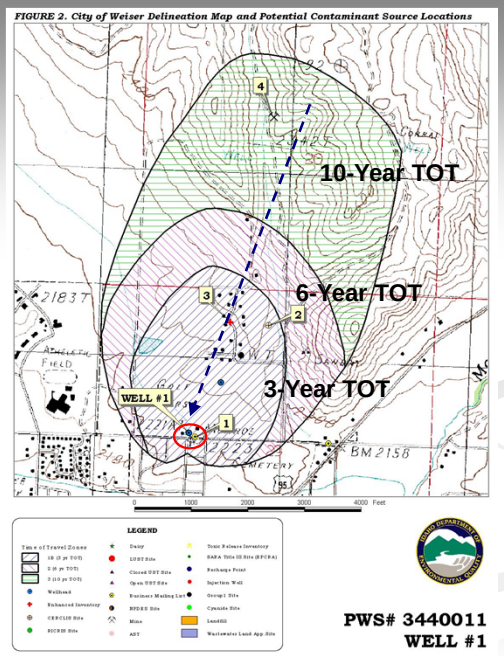


75

Source Water Delineation

- Surface Water Sources
  - watershed boundaries
  - 25 miles upstream or 4 hour stream flow and a 500 foot buffer on each side of the river/stream.
  - 500 foot buffer around lake
- Ground Water Sources
  - Fixed radius
  - Ground water flow model to determine flow direction and time of travel zones

76



Refined Analytical Method

77

What does a Source Water Assessment Include?

- **Delineation**
- **Potential Contaminant Inventory**
- **Susceptibility analysis**
- **Distribute to the Public**

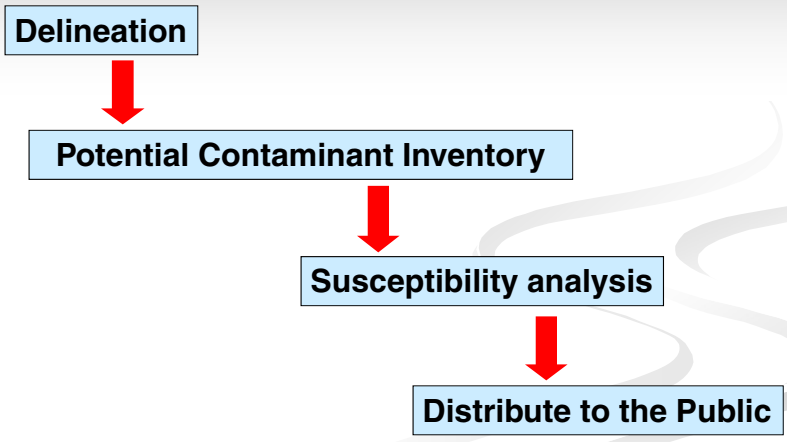
78

PCI Datasets

- Public Water Systems
- CERCLA Sites
- Toxics Release Inventory
- UST Sites
- Dairies
- NPDES
- RCRA
- Mines
- Injection Wells (deep & shallow)
- Surface Water
- Landfills
- WLAP fields
- Agricultural Land uses
- Nitrate Priority Areas
- Soil Drainage Class
- Floodplains
- Agricultural Chemical Use
- Feedlots
- Tunnels/Drains
- Lagoons
- Phosphate Mines
- Railroad
- Remediation Sites
- ITD road salt locations
- Pesticide Management Areas
- CAMEO

79

What does a Source Water Assessment Include?



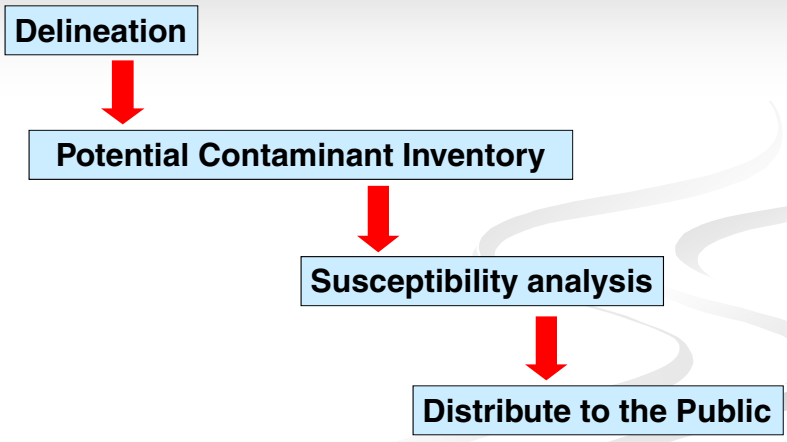
80

Susceptibility Analysis

- Evaluate the conditions in the delineated area to determine the potential for contaminants to impact water quality at the wellhead.
  - Hydrologic Sensitivity
  - Potential Contaminant Source/Land Use
  - System Construction

81

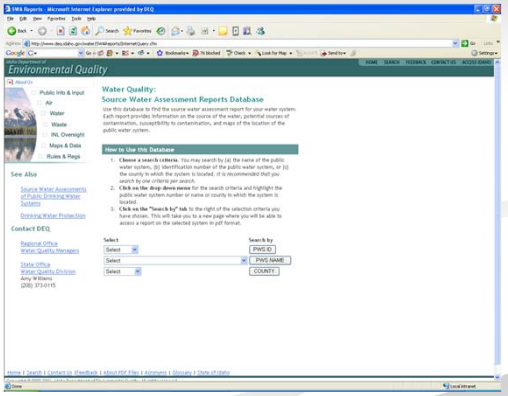
What does a Source Water Assessment Include?



82

Distribute to the Public

- Reports online
- GIS information available online and through Public Information Request



www.deq.idaho.gov

83

Distribute to the Public

- In 2008, DEQ completed a review to improve the process of developing and distributing SWAs

84

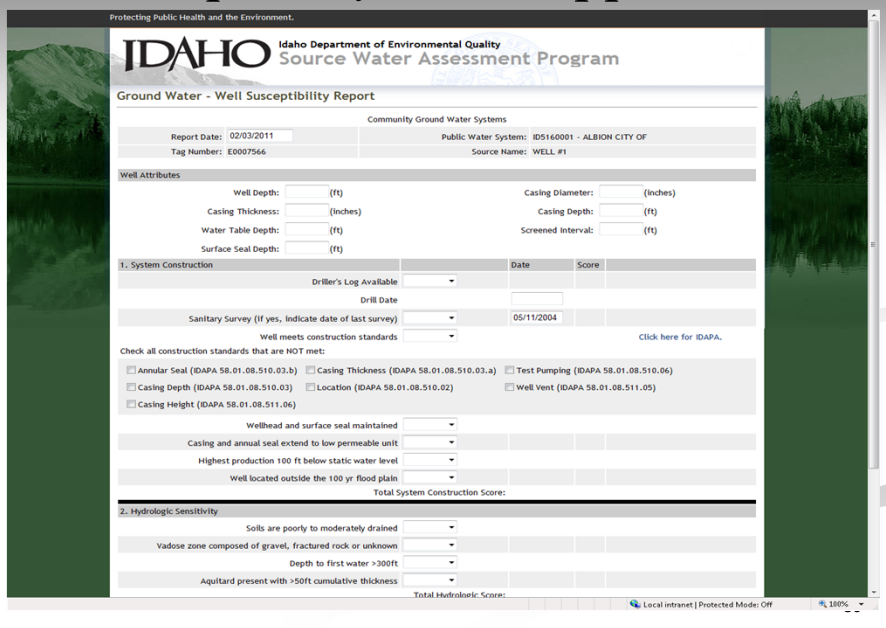
Source Water Assessment Improvements

Developed an automated susceptibility scoring application

- Same EPA approved scoring process
- Auto filled data from GIS and SDWIS
- Automated calculations
- Scores stored in database

85

Susceptibility Score Application



Source Water Assessment Improvements

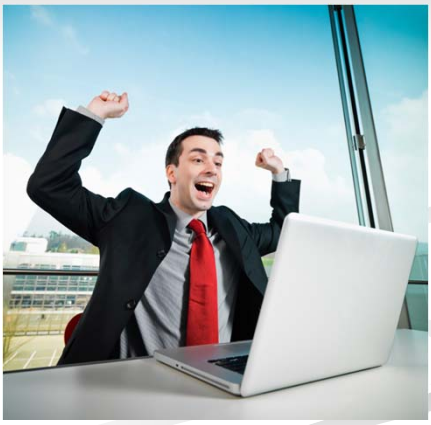
Created SWA Website

- Delineations and PCI can be viewed in an interactive or static map
- PCI updated annually for each source
- Reports are auto generated

87

Source Water Assessment Website

Website Demonstration!



88

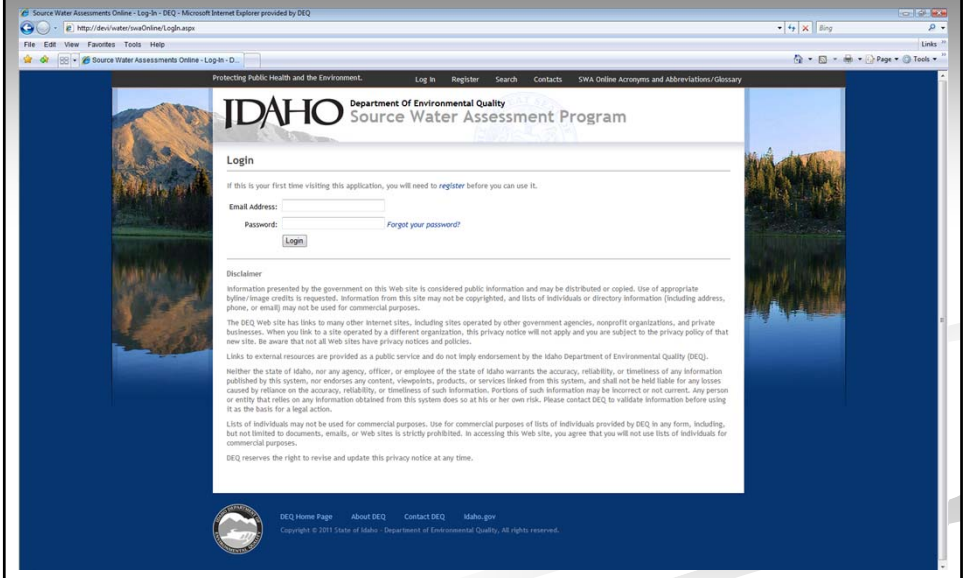
SWA Website Demonstration

- Log in
- Search capabilities
- Susceptibility score
- PCI table
- Delineations - Interactive map
- Summary report

89

http://www.deq.idaho.gov/water/swaOnline/

90



91

SWA Website Demonstration

- Log in
- Search capabilities
- Susceptibility score
- PCI table
- Delineations - Interactive map
- Summary report

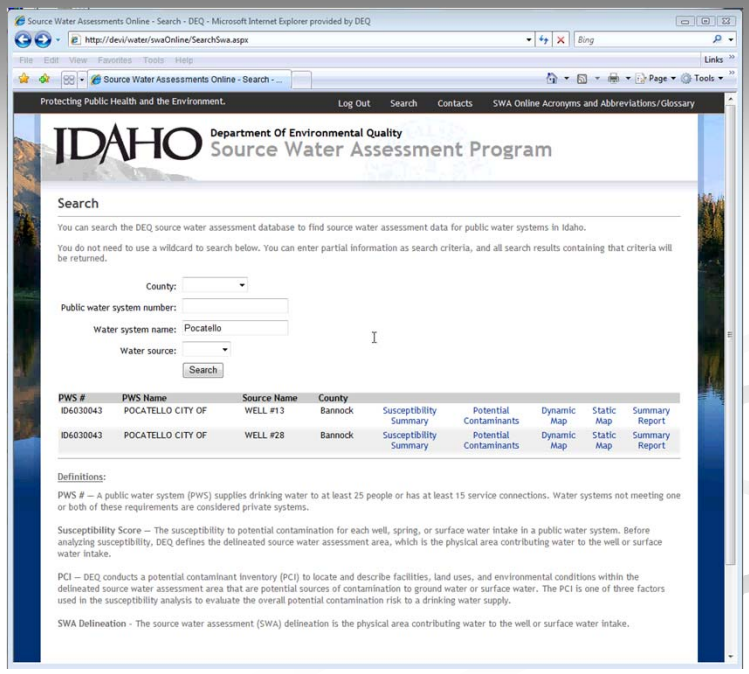
92

93

SWA Website Demonstration

- Log in
- Search capabilities
- Susceptibility score
- PCI table
- Delineations - Interactive map
- Summary report

94

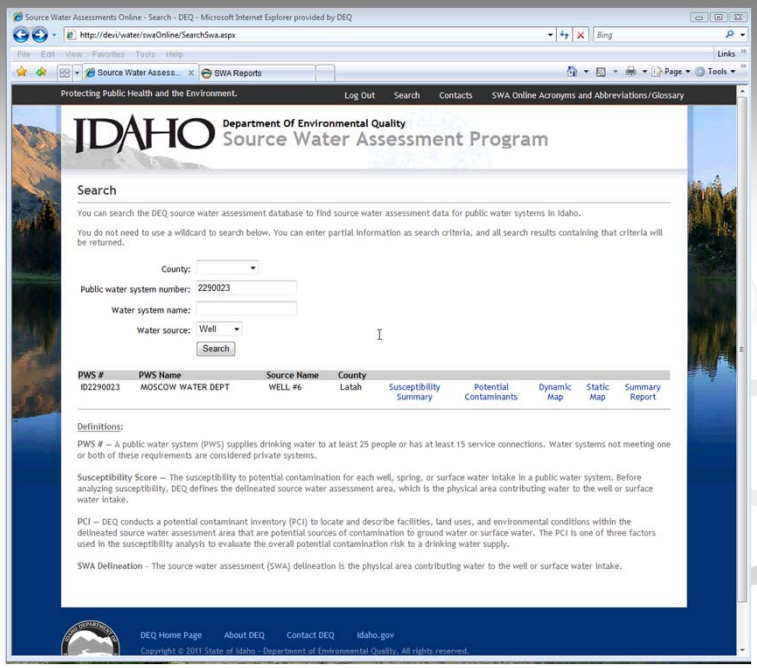


95

SWA Website Demonstration

- Log in
- Search capabilities
- Susceptibility score
- PCI table
- Delineations - Interactive map
- Summary report

96

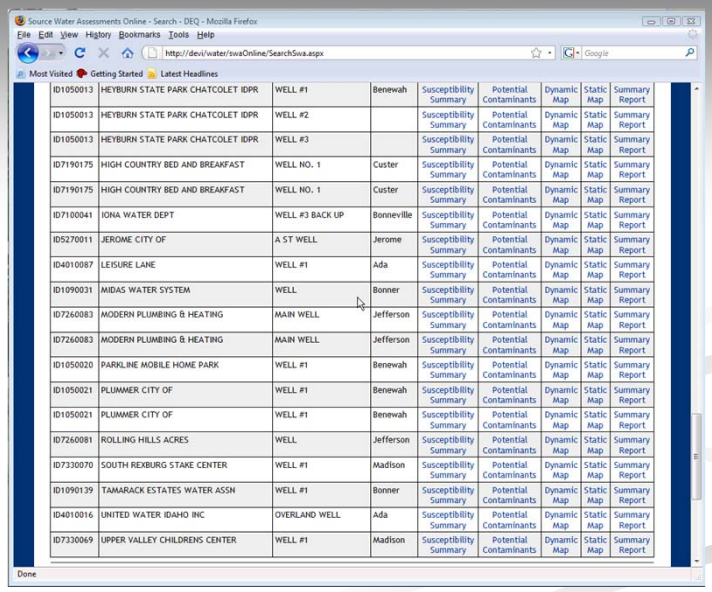


97

SWA Website Demonstration

- Log in
- Search capabilities
- Susceptibility score
- PCI table
- Delineations - Interactive map
- Summary report

98



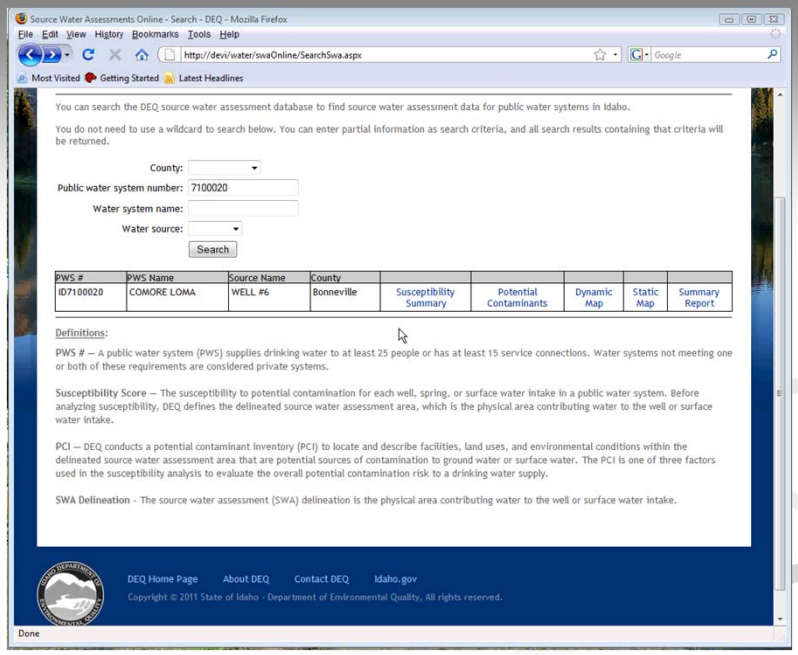
ID1050013	HEYBURN STATE PARK CHATCOLET IDPR	WELL #1	Benewah	Susceptibility Summary	Potential Contaminants	Dynamic Map	Static Map	Summary Report
ID1050013	HEYBURN STATE PARK CHATCOLET IDPR	WELL #2		Susceptibility Summary	Potential Contaminants	Dynamic Map	Static Map	Summary Report
ID1050013	HEYBURN STATE PARK CHATCOLET IDPR	WELL #3		Susceptibility Summary	Potential Contaminants	Dynamic Map	Static Map	Summary Report
ID7190175	HIGH COUNTRY BED AND BREAKFAST	WELL NO. 1	Custer	Susceptibility Summary	Potential Contaminants	Dynamic Map	Static Map	Summary Report
ID7190175	HIGH COUNTRY BED AND BREAKFAST	WELL NO. 1	Custer	Susceptibility Summary	Potential Contaminants	Dynamic Map	Static Map	Summary Report
ID7100041	IONA WATER DEPT	WELL #3 BACK UP	Bonneville	Susceptibility Summary	Potential Contaminants	Dynamic Map	Static Map	Summary Report
ID5270011	JEROME CITY OF	A ST WELL	Jerome	Susceptibility Summary	Potential Contaminants	Dynamic Map	Static Map	Summary Report
ID4010087	LEISURE LANE	WELL #1	Ada	Susceptibility Summary	Potential Contaminants	Dynamic Map	Static Map	Summary Report
ID1090031	MIDAS WATER SYSTEM	WELL	Bonner	Susceptibility Summary	Potential Contaminants	Dynamic Map	Static Map	Summary Report
ID7260083	MODERN PLUMBING & HEATING	MAIN WELL	Jefferson	Susceptibility Summary	Potential Contaminants	Dynamic Map	Static Map	Summary Report
ID7260083	MODERN PLUMBING & HEATING	MAIN WELL	Jefferson	Susceptibility Summary	Potential Contaminants	Dynamic Map	Static Map	Summary Report
ID1050020	PARKLINE MOBILE HOME PARK	WELL #1	Benewah	Susceptibility Summary	Potential Contaminants	Dynamic Map	Static Map	Summary Report
ID1050021	PLUMMER CITY OF	WELL #1	Benewah	Susceptibility Summary	Potential Contaminants	Dynamic Map	Static Map	Summary Report
ID1050021	PLUMMER CITY OF	WELL #1	Benewah	Susceptibility Summary	Potential Contaminants	Dynamic Map	Static Map	Summary Report
ID7260081	ROLLING HILLS ACRES	WELL	Jefferson	Susceptibility Summary	Potential Contaminants	Dynamic Map	Static Map	Summary Report
ID7330070	SOUTH REXBURG STAKE CENTER	WELL #1	Madison	Susceptibility Summary	Potential Contaminants	Dynamic Map	Static Map	Summary Report
ID1090139	TAMARACK ESTATES WATER ASSN	WELL #1	Bonner	Susceptibility Summary	Potential Contaminants	Dynamic Map	Static Map	Summary Report
ID4010016	UNITED WATER IDAHO INC	OVERLAND WELL	Ada	Susceptibility Summary	Potential Contaminants	Dynamic Map	Static Map	Summary Report
ID7330069	UPPER VALLEY CHILDRENS CENTER	WELL #1	Madison	Susceptibility Summary	Potential Contaminants	Dynamic Map	Static Map	Summary Report

99

SWA Website Demonstration

- Log in
- Search capabilities
- Susceptibility score
- PCI table
- Delineations - Interactive map
- Summary report

100



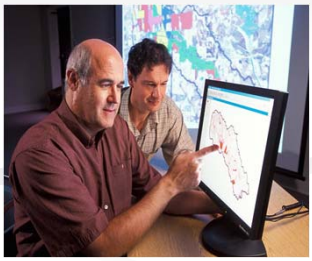
101

SWA Website

How is this useful?

The online application provides:

- information on where the drinking water comes from and what the threats are to the source
- data for informed land use decisions to protect the drinking water source
- tools to develop drinking water protection plans



http://www.deq.idaho.gov/water/swaOnline/

102

Source Water Protection

EPA Strategic Plan Targets:

- By 2011, minimized risk to public health through source water protection will be achieved for 50 percent of community water systems and for an associated 62 percent of the population served by community water systems

(Goal 2/Objective 2.1/Sub-Objective 2.1.1)

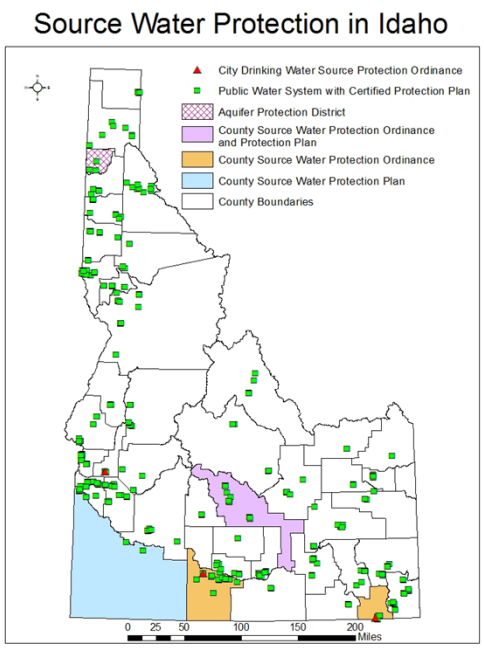
103

Source Water Protection

DEQ's definition of substantial implementation

- Completion of at least one high priority source water protection action item and continued implementation of the source water protection action items listed in a protection plan.
- City or county ordinance or other binding land use control that protects source water protection areas.
- Land acquisition within source water protection areas
- Ongoing source water protection program

104

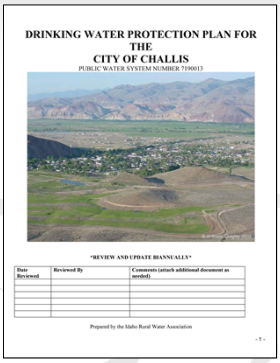


Drinking Water Protection in Idaho

105

Source Water Protection Plans

- Voluntary plans
- 5 steps to certification
- Provides a variety of tools, both regulatory and non-regulatory,
- 126 plans have been state certified


DRINKING WATER PROTECTION PLAN FOR THE
CITY OF CHALLIS
PUBLIC WATER SYSTEM NUMBER 7190013

REVIEW AND UPDATE BIANNUALLY

Date Reviewed	Reviewed By	Comments (attach additional document as needed)

Prepared by the Idaho Rural Water Association

106

Regional Planning Efforts

- Multiple PWS planning efforts
  - Teton Valley
  - North Kootenai Water and Sewer District
- County Wide Planning Efforts
  - Combined SWP and GWQI Plans

107

Comprehensive Plan and Ordinance Template Contract

Contract under development with Jerry Mason

Project goals:

- Develop comprehensive plan template language to provide foundational support for source water protection ordinance development.
- Develop Source Water Protection Overlay ordinance template for ground water, surface water and spring sources.
- Local Government workshops planned for spring 2012.

108

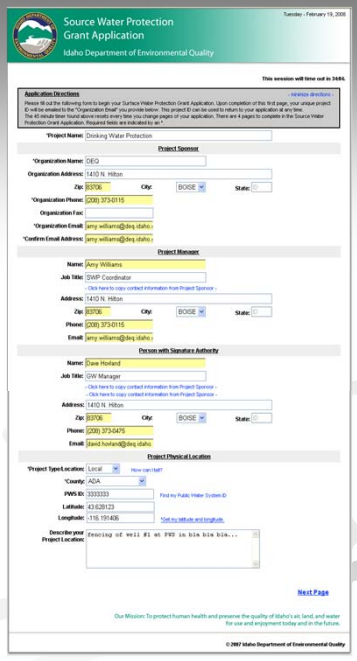
Source Water Protection Implementation

- Source Water Protection Grant Program
- Education and Outreach
  - Workshops and training
  - Open houses, presentations, etc.
  - Education resources and materials

109

Source Water Protection Grant Online Application

www.deq.idaho.gov



Source Water Protection Grant

Funding for 2011 grant cycle:

- $200K in funding
- 40 applications
- $685,000 requested
- Currently reviewing and ranking applications

111

Source Water Protection Grant

13 grants were awarded in 2010 including:

- security fencing around drinking water sources
- decommissioning wells that pose a risk of contamination
- countywide HHW collection event
- development of source water/watershed plan
- various educational projects including drinking water protection signage, school water festival and countywide source water education programs.

112

Source Water Protection Education and Outreach Activities

- Workshops and Training
  - Household Hazardous Waste Workshops

113

HHW Training and Mini Grants

- Training provided in Boise Region as a pilot project in 2010
- $2,000 - $5,000 grants
- Funding awarded to Adams, Gem, Canyon (Caldwell), and Valley counties
- 2011 workshops planned in Pocatello, Lewiston and Coeur d'Alene regions

114

Source Water Protection Education and Outreach Activities

- Workshops and Training
  - Household Hazardous Waste Workshops
  - Chemical Roundup Program

115

Chemical Roundup Program for Schools

- Up to $10,000 available in 2011 to schools that are PWS or SWA area
- Assistance with chemical inventory, mercury audit, revising purchasing policy, training and disposal 2011
- Grant awarded to Homedale School District

116

Source Water Protection Education and Outreach Activities

- Workshops and Training
  - Household Hazardous Waste Workshops
  - Chemical Roundup Program
  - Source Water Protection Workshops

117

Source Water Protection Workshops

- Planning for Fall 2011
- 3 Part Series
  - Hydrogeology 101, SWA
  - Potential Contaminant Inventory, BMPs
  - Protection (planning and implementation)

118

Education and Outreach Activities

- Workshops and Training
  - Household Hazardous Waste Workshops
  - Chemical Roundup Program
  - Source Water Protection Workshops
    - 3 Part Series
- Educational Materials/Resources
  - Brochures, website, activity handouts

119

Questions?

Amy Williams
Source Water
Program Coordinator

Kathryn Elliott
Source Water
Implementation
Coordinator

120