

Clean Water Act

Implementation in Idaho¹

by
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¹ This document was prepared for a series of workshops on the "TMDL process" that were organized by the Idaho Soil Conservation Commission, and is based on "Idaho Water Quality Policy for Nonpoint Source Pollution," Report #14 of the Idaho Forest, Wildlife and Range Policy Analysis Group (the "PAG").

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INTRODUCTION

This document is based "Idaho Water Quality Policy for Nonpoint Source Pollution: A Manual for Decision-Makers," Report #14 of the Idaho Forest, Wildlife and Range Policy Analysis Group (the "PAG"), a research unit of the University of Idaho's College of Forestry, Wildlife and Range Sciences. This report was published in December 1996 and presented to the Idaho Legislature in January 1997.

This document was prepared as the narrative text to accompany a series of 56 slides that summarize the information in PAG Report #14. Displayed on the left hand side of each page appears a printed version of 3 individual slides, with the narration appearing to the right of each slide. This material was prepared for use in workshops on the "TMDL process" required by the federal Clean Water Act, but is also useful as a general overview of the Clean Water Act and its requirements as they affect a broad range of non-urban land-use activities. It would be useful in any forum on water quality to ensure that participants are on the same page when the provisions of this federal law are discussed in the context of nonpoint source pollution control.

PAG Report #14 is available from the PAG (address on the title page) either in Executive Summary format or as a 117-page "Full Report"; the Table of Contents for the Full Report is included in the Executive Summary. Also available from either the PAG or the Idaho Soil Conservation Commission is the set of 35-mm. transparency slides. Also available is a 27 minute videotape of Dr. Jay O'Laughlin, author of PAG Report #14, narrating the slide show.

You may order PAG Report #14 (short or long version), the slide show, or the videotape by contacting the Idaho Forest, Wildlife and Range Policy Analysis Group (the "PAG") at 208-885-5776.

Clean Water Act
Implementation in Idaho

This presentation on the Clean Water Act provides background information needed to understand the policies and programs for implementing this federal law in Idaho.

Clean Water Act

Implementation in Idaho

University of Idaho
College of Forestry, Wildlife and
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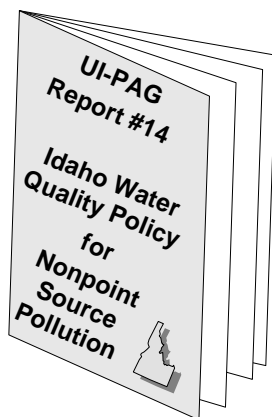


Clean Water Act - Implementation in Idaho

Outline

- What does the Clean Water Act require?
- How has federal court action affected Idaho?
- What are the features of the new Idaho policy?
- Will the new Idaho policy be effective?

The presentation targets the four questions on this outline and provides replies to them.



A University of Idaho report is the basis of this information. It is available as a 17-page Executive Summary that includes a 10-page Glossary of terms. The full report runs 117 pages and is available from the University.

This presentation follows the same outline as the Executive Summary and highlights its contents.

Clean Water Act Implementation in Idaho

The first question is—What does the federal Clean Water Act require?

Clean Water Act - Implementation in Idaho

Outline

- What does the Clean Water Act require?
- How has federal court action affected Idaho?
- What are the features of the new Idaho policy?
- Will the new Idaho policy be effective?

The Clean Water Act has evolved over the past fifty years, with major amendments in 1972, 1977, and 1987.

Because of the extent of nonpoint source pollution problems, the 1987 amendments focused attention on a water quality-based approach to controlling pollution.

Together, these laws are called the Clean Water Act. The law also includes federal regulations for implementing the Act, and court decisions about implementation.

What is the Clean Water Act?

- Federal Water Pollution Control Act of 1948 (FWPCA)
 - FWPCA amendments (1972)
 - Clean Water Act amendments (1977)
 - Water Quality Act amendments (1987)
- ▶ together, the "Clean Water Act"
 - ▶ also, implementing regulations
 - ▶ also, court decisions

Clean water issues include the quality of drinking water, wetlands protection, and groundwater quality.

Except for safe drinking water, which has its own law, these issues are covered by the Clean Water Act.

This presentation, and the University of Idaho report, is concerned with the quality of surface waters.

Clean Water Issues

- drinking water quality
 - ▶ Safe Drinking Water Act
 - wetlands protection
 - groundwater quality
 - surface water quality
- ▶ scope of this presentation is surface water quality

Clean Water Act Implementation in Idaho

What does the Clean Water Act require?

Purpose and Goal

- **Purpose - "restore and maintain the chemical, physical, and biological integrity of the nation's waters"**

- **Goal - attain "fishable and swimmable" water quality conditions wherever possible**

It is important to understand the purpose and goals as stated in the law.

The purpose of the Clean Water Act is to restore and maintain water quality, which includes chemical, physical, and biological elements.

The goal is to attain conditions in the nation's waters that support populations of fish and provide human recreation use wherever possible.

What does the Clean Water Act require?

CWA General Requirements

- **cooperative Federal / State approach**

- **plans and actions to protect water quality from pollution**
 - ▶ point sources of pollution
 - ▶ nonpoint sources of pollution

The Act is a cooperative effort between federal, state, and local governments to develop and implement programs to protect water quality.

Two categories of pollution sources are identified in federal law—point sources and nonpoint sources. They are approached differently in the plans and actions for protecting water quality.

What is "water quality"?

- **"chemical, physical, and biological integrity" (Clean Water Act)**

- **water quality generally implies suitability of water for a particular use**
 - ▶ designated "beneficial" uses

Water quality is the goal of the Clean Water Act, but what is water quality?

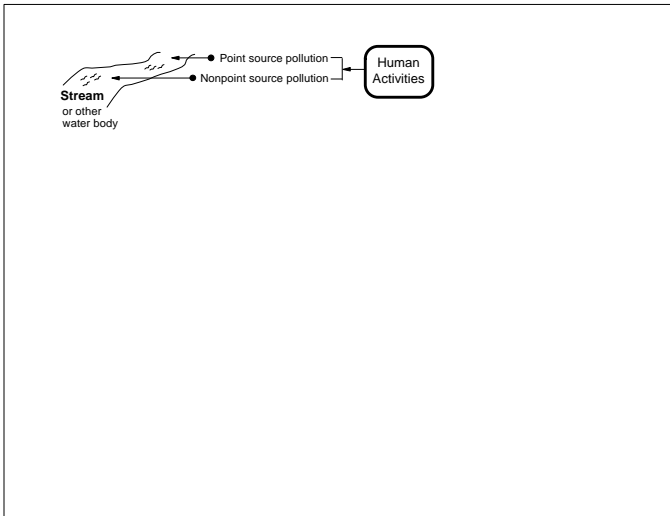
It is difficult to define and means different things to different people. For some, it is water free from chemical impurities or suspended solids. For others, it is a pristine environment unaltered by human activity. For still others, water quality means habitat for fish and other aquatic organisms.

In the law, water quality generally implies suitability of the water for a particular purpose. In legal terms, this is a designated "beneficial" use. Implementing the law depends on identifying these uses and protecting them from the adverse impacts of pollution.

Clean Water Act Implementation in Idaho

Water quality programs are somewhat complex. This is the first of a series of related diagrams illustrating how the component parts of the policy fit together. Think of them as pieces of the water quality puzzle.

The first piece is recognition that human activities have undesirable by-products, in this case the two general categories of pollution sources that impact water bodies such as streams and rivers, lakes and reservoirs.



Types of Water Pollution

- **point source**
 - ▶ pollution discharged from any identifiable point, including pipes, ditches, channels, sewers, tunnels, and containers of various types
- **nonpoint source**
 - ▶ pollution discharged over a wide land area, not from a specific location
 - ▶ polluted surface runoff

Point sources are defined in the law as being discharged from pipes, ditches, channels, sewers, tunnels, and other identifiable sources.

Nonpoint sources are everything else. They are discharges over wide areas of land, rather than discharges into a water body from a specific location.

This presentation focuses on nonpoint sources, which may be called "polluted runoff."

What does the Clean Water Act require?

Cooperative Federal / State Approach

- **State develops Water Quality Standards**
 - ▶ Federal oversight (U.S. Environmental Protection Agency)
- **State develops and implements programs to control pollution**
 - ▶ Federal oversight
 - ▶ Federal funds for some pollution control programs

States are responsible for developing Water Quality Standards and plans and programs to ensure these standards are met.

The Federal government, through the EPA, provides oversight to ensure that the Clean Water Act's requirements are met. Federal funds are provided for some programs.

Clean Water Act
Implementation in Idaho

The Idaho Legislature recognizes the importance of meeting Clean Water Act mandates, and has codified into law the state's intention to fully meet the goals and requirements of the Act.

Intent of the Idaho Legislature

It is the intent of the legislature that the state of Idaho fully meet the goals and requirements of the federal Clean Water Act.

-- Idaho Code § 39-3601

What does the Clean Water Act require?

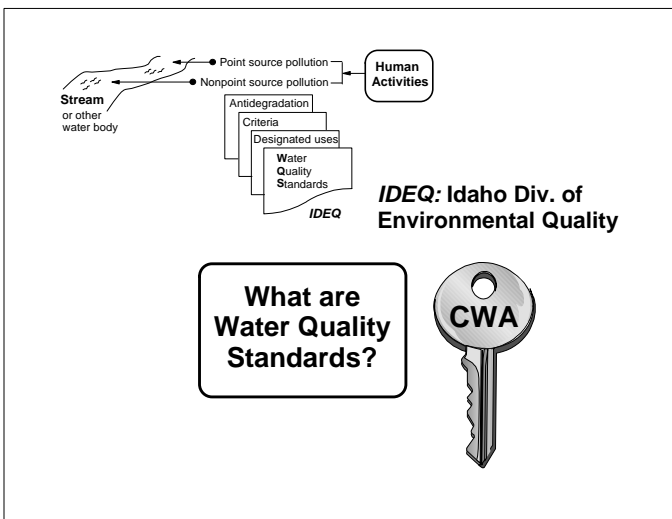
Water Quality Standards

- Water Quality Standards are developed by the States and consist of three parts
 - ▶ designated "beneficial" use
 - ▶ criteria
 - ▶ antidegradation policy statement

The States develop Water Quality Standards. These consist of three parts: designated "beneficial" uses, criteria, and an antidegradation policy statement.

Water Quality Standards are the key to understanding the Clean Water Act.

The Idaho Division of Environmental Quality, or IDEQ, has the responsibility for developing these standards. They become state law through the Idaho Administrative Procedures Act.



Clean Water Act Implementation in Idaho

What does the Clean Water Act require?

Designated "Beneficial" Use - Examples

- **different concept than "beneficial use" for water resource allocation**
- **designated by State for each water body in order to meet CWA goals**
 - ▶ **CWA "fishable" goal - examples**
 - warm water biota or cold water biota
 - salmonid spawning
 - ▶ **CWA "swimmable" goal - examples**
 - primary contact recreation (swimming)
 - secondary contact recreation (wading)

Designated "beneficial" use is the first part of the Water Quality Standards.

The concept is different from the term "beneficial use" as it is used in water resource allocation policy.

For each water body, the State must designate "beneficial" uses. They must be related to the "fishable" and "swimmable" goals of the Clean Water Act.

Uses that meet the "fishable" goal include support for warm water biota, cold water biota, and trout and salmon spawning.

Uses that meet the "swimmable" goal include primary and secondary contact recreation. These are, respectively, swimming or wading.

What does the Clean Water Act require?

Water Quality Standards - Criteria

- **indicator of whether designated "beneficial" use is supported**
- **designated by the State**
- **may be numeric or narrative**
 - ▶ **toxic pollutants must meet Federal guidelines**
 - ▶ **narrative example - Is the water body free from excess sediment in quantities that impair designated beneficial uses?**
(Idaho)

The criteria in the Water Quality Standards indicate the levels at which designated "beneficial" uses will be supported.

Criteria are designated by the State and may be either numeric or narrative. In the case of pollutants harmful to human health, criteria must conform to EPA numeric guidelines.

Sediment is an example of a contaminant for which it is extremely difficult to develop quantitative criteria because of the high degree of variability in the natural processes that create and deliver sediment to water bodies. The narrative criterion in Idaho states, "Is the water body free from excess sediment in quantities that impair designated beneficial uses?"

What does the Clean Water Act require?

Antidegradation Policy Statement

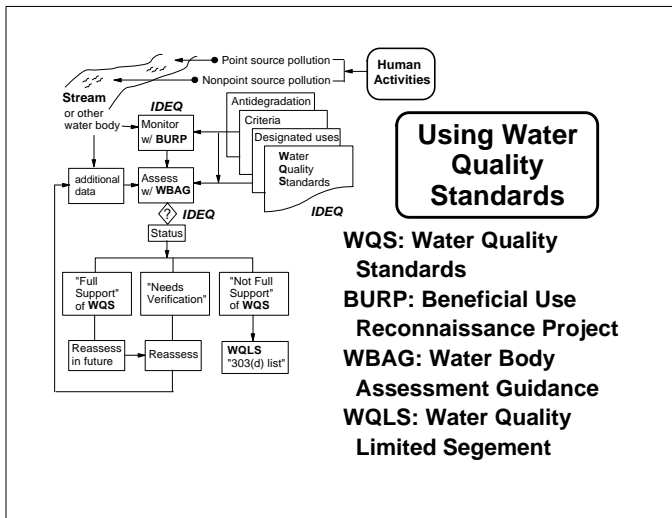
- **required by US-EPA regulations:**
 - ▶ **maintain and protect all "existing uses" in 1975, even though the use may no longer be present**
 - ▶ **allow lowered water quality to accommodate development, but adequate to protect "existing uses"**
 - ▶ **maintain and protect high quality waters (outstanding National resource waters)**

The third part of the Water Quality Standards is required by the EPA's regulations.

The State's antidegradation policy must address three things: 1) maintain and protect "existing uses" as they were in 1975, whether currently present or not; 2) allow lowered water quality to accommodate development, but adequate to protect "existing uses"; and maintain and protect high quality waters.

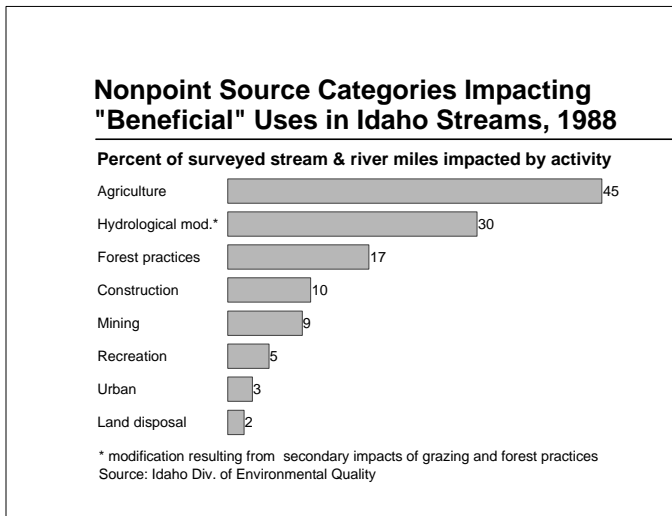
The antidegradation statements appear in the Idaho Code.

Clean Water Act Implementation in Idaho



Water Quality Standards are used to determine if a water body meets the goals of the Clean Water Act. The key is determining whether the water body supports its designated "beneficial" uses.

Monitoring data from the Beneficial Use Reconnaissance Project (or BURP) and other data are used in a process called the Water Body Assessment Guidance (or WBAG) to determine use support. If uses are fully supported, the goals of the Clean Water Act have been met. If not, the water body is a "water quality limited segment" (or WQLS) and must be identified as such on the "303(d) list"—named for the pertinent section of the Act. These waters have impaired quality that must be restored to a condition that fully supports Water Quality Standards.



The Idaho DEQ surveyed about half of the stream and river miles in the state in 1988 to determine which nonpoint source activities were impacting water quality. Similar data has not been compiled since then.

The activity with the most extensive impact was agriculture, which includes grazing. Forest practices also had widespread impact, followed by construction, mining, and recreation.

It should be noted that "impact" does not necessarily mean that designated "beneficial" uses are impaired. "Impaired" means the uses are not fully supported.

What does the Clean Water Act require?

Pollution Control Actions

■ point sources

- ▶ relies on technology-based approach
- ▶ Federal NPDES permit process by EPA

■ nonpoint sources

- ▶ relies on water quality-based approach
- ▶ use of Best Management Practices (BMPs) as technology to minimize pollution
- ▶ State implementation programs may be regulatory or non-regulatory
- ▶ EPA assumes responsibility in default

Water pollution control actions vary depending on whether point sources or nonpoint sources are implicated.

The strategy for point source control is to treat waste water effluent with technology, reducing chemical pollutants to numeric criteria levels before discharge into water bodies. Examples include municipal water treatment or processing of industrial water before it leaves the factory. Point source programs are regulated through NPDES permits issued by the EPA.

Nonpoint source control relies on a water quality-based strategy. Best Management Practices (or BMPs) are used to minimize the production and discharge of pollutants from land-use activities. Programs are developed and implemented by the States and may be regulatory or non-regulatory. If State programs are unsatisfactory, by default the EPA takes over responsibilities from the State.

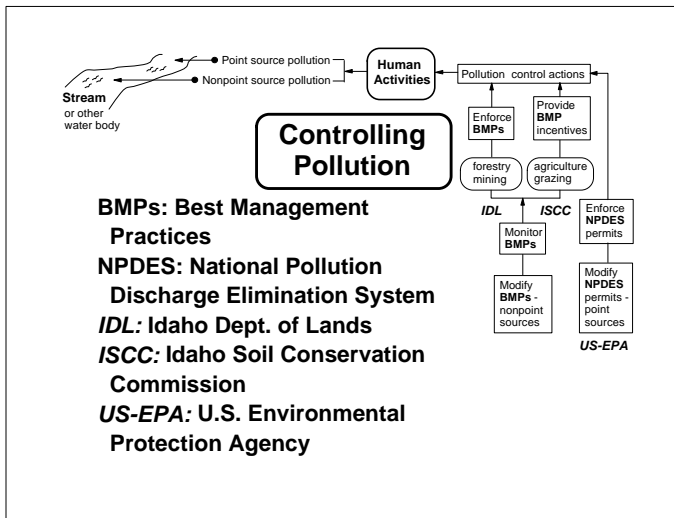
Clean Water Act Implementation in Idaho

This diagram illustrates the program approaches in Idaho for controlling point source and nonpoint source pollution.

The EPA issues, modifies, and enforces NPDES permits for point source dischargers.

Two state agencies have the major responsibilities for nonpoint source control programs. The Idaho Department of Lands (or IDL) develops, modifies, and enforces BMPs for forestry through the Idaho Forest Practices Act. State law requires forest landowners and operators to use BMPs.

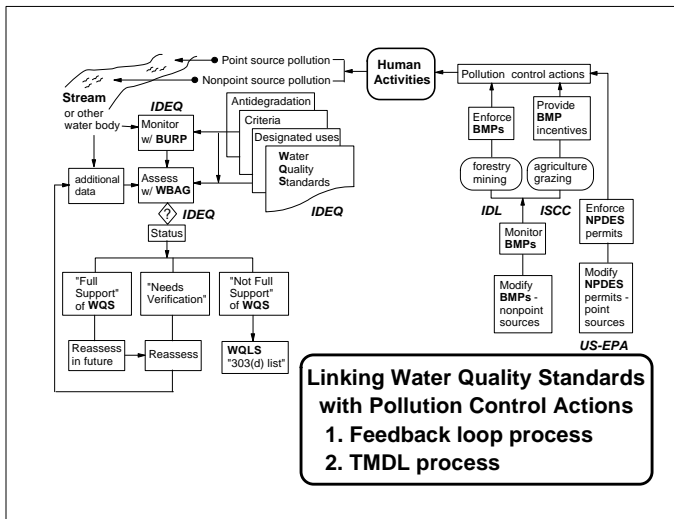
The Idaho Soil Conservation Commission (or ISCC) develops and recommends BMPs for agriculture and grazing. Non-regulatory approaches such as incentives programs are used to encourage implementation of these BMPs.



Pollution control actions are linked to Water Quality Standards through two processes.

First, the feedback loop process determines the actions necessary to maintain water quality when designated "beneficial" uses are fully supported.

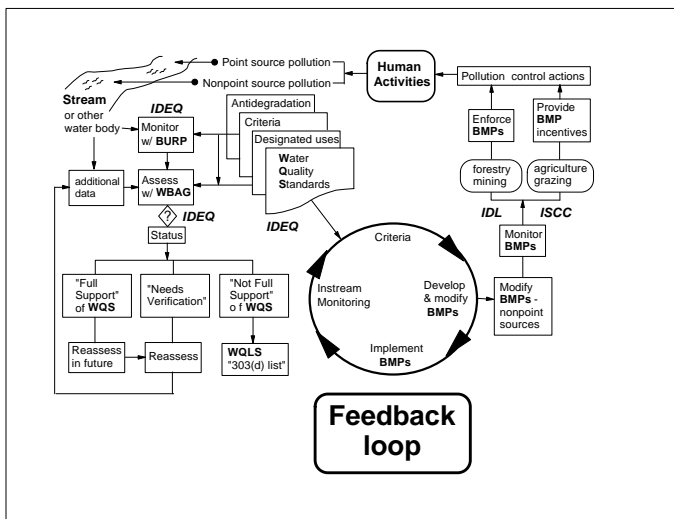
Second, for water bodies that are impaired—that is, do not fully support Water Quality Standards and are on the "303(d) list"—the TMDL process provides the linkage.



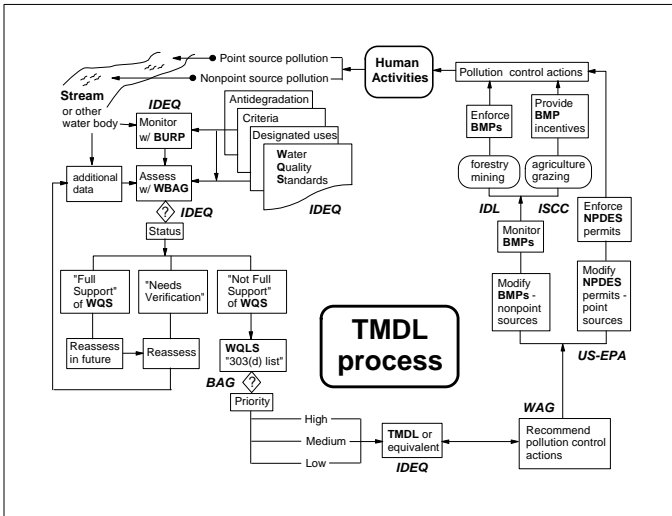
The feedback loop relies on two things.

First, the development, modification, and implementation of BMPs that minimize the delivery of pollution to water bodies.

Second, monitoring to determine if the Water Quality Standards criteria are met. "Feedback" implies that if Standards are not met, BMPs are modified until Standards are met.



Clean Water Act Implementation in Idaho



The TMDL process links Water Quality Standards to control actions through analytical procedures used to develop a water quality management plan that recommends pollution control actions.

The Clean Water Act requires TMDLs for impaired waters, which are those on the "303(d) list." A schedule for the development of TMDLs is required, and TMDLs are the responsibility of the Idaho DEQ.

The Basin Advisory Group (or BAG) plays a role in the process. So does the Watershed Advisory Group (or WAG). There is more to say later about the roles and responsibilities of BAGs and WAGs.

What does the Clean Water Act require?

What is a TMDL?

- **"Total Maximum Daily Load" - a tool to develop a watershed management plan**
 - ▶ determines amount of pollutant the water body can receive from various sources in the watershed
 - ▶ sum of individual point and nonpoint source loads, plus margin of safety
- **allocates pollution control responsibilities among sources**
 - ▶ basis for taking pollution control action

A "Total Maximum Daily Load" is a tool for developing a watershed management plan.

A TMDL determines the amount of a pollutant the water body can receive from various sources in the watershed. All individual point and nonpoint sources of a pollutant are identified, quantified, and summed. A margin of safety is added.

Based on these numbers, responsibilities for pollution control are allocated among the sources throughout the watershed and thus become the basis for pollution control program efforts.

What does the Clean Water Act require?

How is a TMDL developed?

- **select pollutant to consider**
- **estimate amount of pollutant the water body can receive and not become polluted**
- **identify amount of pollutant from each source in the watershed**
- **determine amount of pollutant water body may receive from each source**
- **add margin of safety, for uncertainty**

TMDL development is a technically demanding process. A TMDL is developed for each pollutant that impairs the quality of a water body.

A TMDL depends first on estimating how much of the pollutant the water body can receive and still maintain Water Quality Standards.

Each source of pollution is identified and quantified. A TMDL determines the amount of the pollutant the water body may receive from each source. For uncertainty, a margin of safety is added.

Clean Water Act Implementation in Idaho

What does the Clean Water Act require?

What does a TMDL provide?

- inventory - all sources of a pollutant
- analysis - why current pollution controls are ineffective
- plan - monitor and evaluate progress toward water quality goals
- list - pollution control strategies for reducing sources of pollution
- prediction - amount of time needed to restore and protect water quality

A TMDL provides an inventory of the pollution sources, analysis of why current pollution controls are ineffective, a plan to monitor and evaluate progress toward water quality goals, a list of strategies for reducing pollution sources, and a prediction of how much time it will take to restore water quality.

What does the Clean Water Act require?

Can designated "beneficial" use be changed?

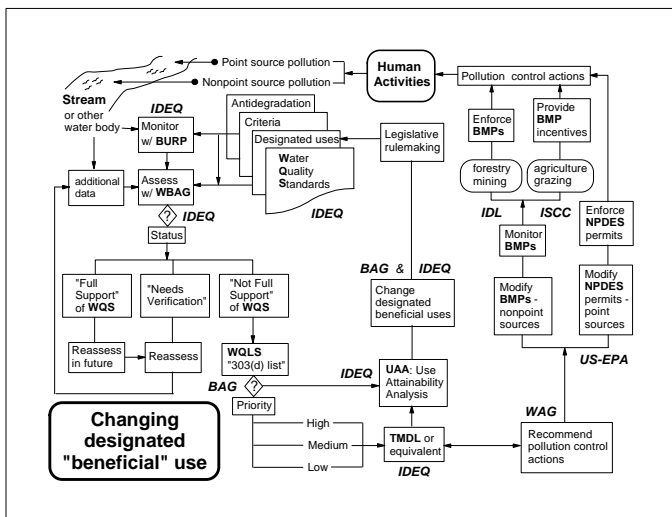
- Yes, there is a process for changing designated "beneficial" uses.
 - ▶ must protect "existing uses" in 1975, even though no longer present
 - ▶ process initiated by Basin Advisory Group (BAG) recommendation to Idaho DEQ
 - must have a TMDL
 - Idaho DEQ must perform a Use Attainability Analysis (UAA)
 - requires legislative rulemaking

The Clean Water Act goals are met when the condition of a water body fully supports its designated "beneficial" uses. This raises the question—Can those uses be changed?

Yes, there is a process for so doing. However, all uses that existed in 1975 must be protected.

A process called a Use Attainability Analysis must be performed, and a TMDL is part of it. The process can be initiated by a Basin Advisory Group (or BAG).

Designated "beneficial" uses must be changed through legislative rulemaking under the Idaho Administrative Procedures Act if the analysis indicates the need for change.



New information on this diagram appears in the center, illustrating the process for changing a designated "beneficial" use. The BAG recommends a change. Using the TMDL, the DEQ develops a Use Attainability Analysis. If warranted, the BAG and DEQ recommend legislative rulemaking to change the designated "beneficial" use for the water body.

Clean Water Act Implementation in Idaho

Clean Water Act - Implementation in Idaho

Outline

- What does the Clean Water Act require?
- How has federal court action affected Idaho?
- What are the features of the new Idaho policy?
- Will the new Idaho policy be effective?

The second question on the outline is—How has federal court action affected Idaho?

How has federal court action affected Idaho?

Idaho Water Quality Lawsuits

- Idaho WQS lawsuit
(WQS = Water Quality Standards)
- Idaho TMDL lawsuit
(TMDL = Total Maximum Daily Load)

There are two lawsuits to consider. One focused on the adequacy of Idaho's Water Quality Standards. The other focused on TMDLs.

How has federal court action affected Idaho?

Outcome of Idaho WQS Lawsuit

- focused on adequacy of Idaho's Water Quality Standards
- Idaho must designate "beneficial" uses for all water bodies
 - ▶ 90% of Idaho's water bodies did not have them in 1996
- Idaho must develop stream temperature criteria to protect designated "beneficial" uses

The Clean Water Act requires States to designate "beneficial" uses for all water bodies as part of the Water Quality Standards. In 1996, approximately 90 percent of Idaho's water bodies did not have uses designated. For these waters, default uses apply until "beneficial" uses are designated.

The court ruled in 1996 that Idaho must develop stream temperature criteria indicating support of designated "beneficial" uses.

Clean Water Act Implementation in Idaho

How has federal court action affected Idaho?

Outcome of Idaho TMDL Lawsuit

- **expanded "303(d) list" from 36 to 962 water quality limited segments, or "impaired waters"**
 - ▶ 10% of Idaho's stream & river miles
- **complete TMDLs by 2005**
- **similar litigation in >20 other states**
- **US-EPA reevaluation of TMDL concept**
 - ▶ affirmed for nonpoint sources with August 1997 "final policy statement" on TMDLs

The TMDL lawsuit expanded the number of impaired waters in Idaho from 36 to 962 water bodies.

As a matter of perspective, the expanded "303(d) list" includes approximately 10 percent of the stream and river miles in the state.

To comply with court actions, Idaho has developed a schedule to complete TMDLs for impaired waters by the year 2005.

Similar litigation on TMDLs is going on in more than 20 states. This led the EPA to reevaluate the TMDL concept. An August 1997 "final policy statement" affirms that the existing TMDL concept applies to nonpoint sources.

How has federal court action affected Idaho?

Outcome of TMDL Lawsuit

- **encouraged legislative redesign of State water quality policy for nonpoint source pollution affecting surface waters**
 - ▶ Senate Bill 1284 passed in 1995
 - ▶ became Idaho Code § 39-3601

In response to the TMDL lawsuit, in 1995 Idaho's water quality law was revised as it pertains to nonpoint source pollution control affecting surface waters.

The legislature passed Senate Bill 1284, which became Idaho Code section 39-3601 when the governor signed it into law.

Clean Water Act - Implementation in Idaho

Outline

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The third question is—what are the features of the new Idaho policy?

Clean Water Act Implementation in Idaho

What are the features of the new Idaho policy?

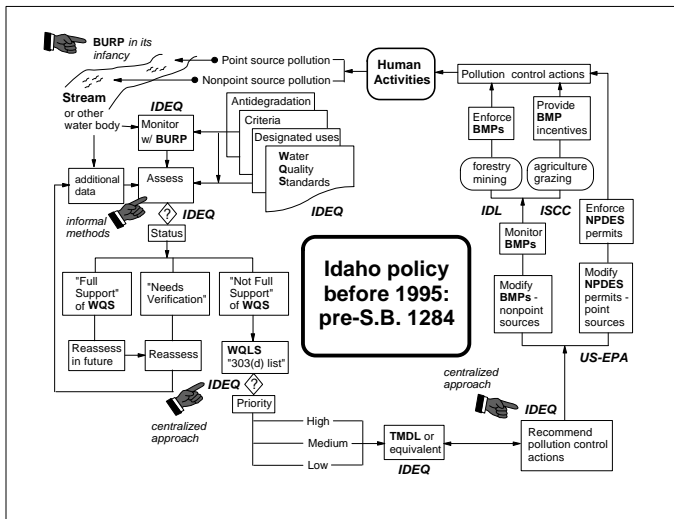
New Water Quality Policy Features

- key feature is watershed management
 - Basin Advisory Groups (BAGs)
 - Watershed Advisory Groups (WAGs)
- new water quality assessment protocol
 - Water Body Assessment Guidance (WBAG)
 - process to determine whether designated "beneficial" uses are fully supported
- expanded new monitoring program
 - Beneficial Use Reconnaissance Project (BURP)

Idaho's new water quality policy features local watershed management. It creates six regional Basin Advisory Groups (or BAGs) and local Watershed Advisory Groups (or WAGs) as recommended by the BAGs and approved by the Idaho DEQ.

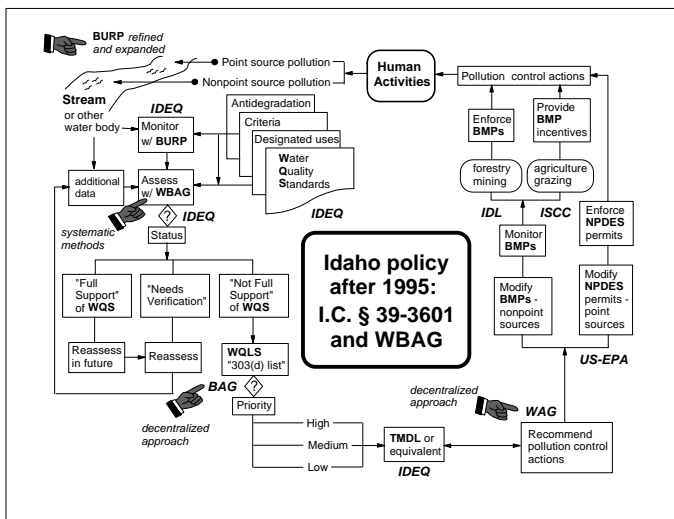
Also new since 1995 is a protocol for determining support of designated "beneficial" uses. This process is called the Water Body Assessment Guidance (or WBAG).

In addition, the monitoring program for Beneficial Use Reconnaissance Projects (or BURP) has been revised and expanded.



This diagram points out four features of Idaho water quality policy as they were before the new state law was passed in 1995.

In the upper left corner, the BURP monitoring program was just getting underway. Below that, assessments of support of Water Quality Standards were not done systematically. The other two pointers indicate the centralized approach of the Idaho DEQ to determine priorities for impaired waters and to recommend pollution control actions.



By 1995, the BURP program had been refined through experience and expanded. In 1996, the Water Body Assessment Guidance was developed to provide systematic methods for assessing support of designated "beneficial" uses.

Decentralization occurred with the new law in 1995. The six regional Basin Advisory Groups (or BAGs) are to determine priorities for impaired waters. Local Watershed Advisory Groups (or WAGs) got the job of recommending pollution control actions for impaired waters.

Clean Water Act Implementation in Idaho

What are the features of the new Idaho policy?

Watershed Protection Approach

- **developed by the U.S. Environmental Protection Agency in 1991**
- **the centerpiece of Idaho's new policy**
- **five features**
 - ▶ **place-based focus**
 - ▶ **stakeholder involvement and partnerships**
 - ▶ **environmental objectives**
 - ▶ **problem identification and prioritization**
 - ▶ **integrated actions**

Idaho's new water quality policy seems consistent with the watershed protection approach developed by the EPA in 1991.

The approach focuses on places, or local watersheds. It involves stakeholders living and operating in the watershed, and encourages partnerships. It is keyed to environmental objectives, and functions by identifying and prioritizing problems, then taking integrated actions based on cooperative efforts.

What are the features of the new Idaho policy?

Watershed Advisory Group (WAG)

- **WAGs are people with an interest in how the watershed is managed**
- **WAGs advise Idaho DEQ on actions to control sources of pollution within priority watersheds**
- **WAGs help Idaho DEQ draft a watershed management plan**
 - ▶ **through TMDL process, identify specific actions to control pollution**

Watershed Advisory Groups (or WAGs) are people with an interest in how an individual watershed is managed.

The basic responsibility of a WAG is to advise the Idaho DEQ on actions needed to control sources of pollution in the watershed.

WAGs help the DEQ develop a watershed management plan. Because the output of the TMDL process identifies specific actions for controlling pollution, WAGs can play an important role helping the DEQ develop a TMDL.

What are the features of the new Idaho policy?

Watershed Advisory Group Functions

- **determine water quality concerns**
- **define controls - pollutants and sources**
- **select strategies for watershed management plan**
- **submit watershed plan to BAG & IDEQ**
- **administer watershed management plan**
- **revise watershed management plan based on periodic evaluations**

More specifically, the WAG helps determine the water quality concerns in the watershed and defines the controls for pollutants at their sources.

The WAG selects strategies for the watershed management plan and helps submit, administer, and revise such plans, using data from periodic evaluations of water quality conditions in the watershed.

Clean Water Act Implementation in Idaho

The final question on the outline is—Will the new Idaho policy be effective?

Clean Water Act - Implementation in Idaho

Outline

- What does the Clean Water Act require?
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Will the new Idaho policy be effective?

Key Policy Elements and Issues

- necessary elements
 - ▶ patience - as locally crafted solutions begin to emerge from BAGs & WAGs
 - ▶ funding - for monitoring, assessment, and pollution control programs
 - ▶ coordinated efforts - among agencies, private landowners and operators, and interested citizens
- important issues
 - ▶ cost-effective monitoring
 - ▶ cost-effective pollution control actions

Three elements are necessary for Idaho's policy to be effective. One is patience as locally created solutions begin to emerge from the BAGs and WAGs. Another is funding for monitoring, assessment, and pollution control programs. A third is coordinated efforts among all parties, including government agencies, private landowners and operators, and interested citizens.

Two important issues that will influence the success of the policy are cost-effective monitoring and cost-effective pollution control actions.

Will the new Idaho policy be effective?

Cost-effective Monitoring

- two types of monitoring are necessary to determine BMP effectiveness
 - ▶ on-land compliance monitoring of BMP installation
 - ▶ at the watershed scale, periodic instream monitoring of the overall effectiveness of BMPs at keeping pollution out of the water
 - under the CWA, this means determining if Water Quality Standards are met

Two types of monitoring are necessary to determine whether BMPs are effective.

On land, compliance monitoring is necessary to determine whether BMPs have been properly installed.

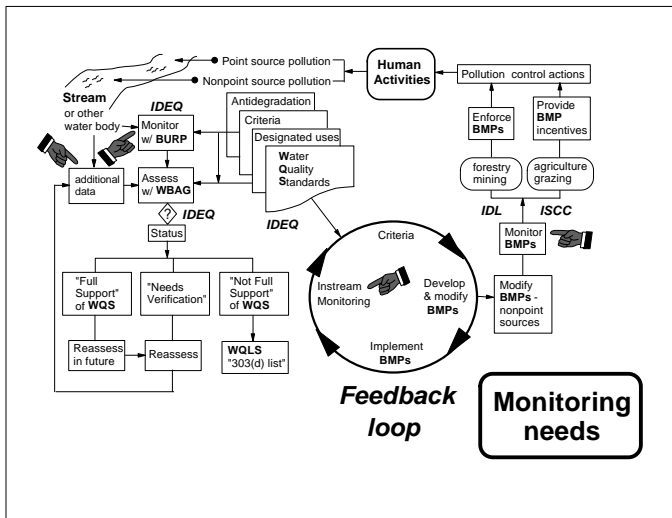
At the watershed scale, it is necessary to monitor instream conditions periodically to determine the overall effectiveness of BMPs at keeping pollution out of the water. Under the Clean Water Act, this means determining if Water Quality Standards are met—that is, are the designated "beneficial" uses being supported?

Clean Water Act Implementation in Idaho

The need for two types of monitoring is pointed out on this diagram.

In the upper left and in the Feedback Loop, monitoring data is used with Water Quality Standards criteria to determine support of designated "beneficial" uses.

On the right-hand side is a pointer indicating where BMP compliance monitoring on the land is used.



Will the new Idaho policy be effective?

Cost-effective Pollution Control

- **control of sediment is a major problem**
 - ▶ sediment is a natural process
 - ▶ sediment is a by-product of land-use activities
 - ▶ 91% of Idaho's waters on the "303(d) list" are impaired by sediment
 - ▶ sediment is the *only* source of pollution for 46% of Idaho's impaired waters

The most widespread nonpoint source pollution problem in Idaho is controlling sediment.

Natural processes produce sediment and deliver it to water bodies. Sediment is also produced as a by-product of land-use activities.

More than 90 percent of Idaho's waters on the "303(d) list" are impaired by sediment.

Sediment is the only source of pollution for almost half of Idaho's impaired waters.

Water Quality Impaired Waters in Idaho Affected by Sediment, by Basin, 1996

Basin	Number of Impaired Water Bodies	% of Water Bodies Impaired by Sediment	% of Water Bodies Only Impaired by Sediment
Bear River	43	98%	30%
Upper Snake R.	198	92%	29%
Southwest Idaho	187	93%	54%
Salmon River	115	89%	57%
Clearwater River	225	96%	61%
Panhandle	192	83%	35%
Total	960	91%	46%

Source: Idaho Div. of Environmental Quality

Information in this table shows the widespread effects of sediment pollution in Idaho.

Information is organized according to the six basins where Basin Advisory Groups have been formed. All six basins have sediment problems.

Clean Water Act Implementation in Idaho

Two points are prominent in this table.

First, Idaho's impaired waters represent 10.1% of the stream and river miles in the state, which is about 10,000 miles in total.

Second, Idaho's water quality situation is neither better nor worse than the other three state regions in the Interior Columbia River Basin.

Water Quality Impaired Waters in the Interior Columbia Basin Region, 1996

State*	Total Stream Miles in ICB Region	% of Streams Impaired	% of Streams Impaired by Sediment
Idaho	98,984	10.1%	88%
Montana	31,317	12.5%	78%
Oregon	75,186	10.8%	12%
Washington	49,150	8.1%	no data
Total	254,637	10.2%	unknown

* Portions of states in the region are all of Idaho except Bear River Basin; most of Montana west of the continental divide; and the portions of Oregon and Washington east of the Cascade Range.

Source: USDA Forest Service & USDI Bureau of Land Management

Will the new Idaho policy be effective?

Cost-effective Pollution Control

- **controlling sources of sediment pollution through BMP installation is a major water quality policy issue**
 - ▶ regulatory approach - forestry and mining BMPs are required in Idaho
 - ▶ nonregulatory approach - agriculture and grazing BMPs in Idaho

Controlling sources of human-caused sediment through the installation of BMPs is a major water quality policy issue.

Idaho takes two different approaches. The forestry and mining sectors are regulated, meaning BMPs are required. Approaches to agriculture and grazing are non-regulatory.

What does the Clean Water Act require?

Examples of BMPs

- **Agriculture**
 - ▶ animal waste management
 - ▶ conservation tillage
 - ▶ contour farming
 - ▶ cover crops
 - ▶ crop rotation
 - ▶ fertilizer management
 - ▶ integrated pest management
 - ▶ terraces

On this and the next three slides are lists of some examples of individual BMP components. Here are a few for agriculture ...

Clean Water Act Implementation in Idaho

Here is a list of some BMPs for grazing ...

What does the Clean Water Act require?

Examples of BMPs

■ Grazing

- ▶ critical area planting
- ▶ fencing
- ▶ livestock exclusion
- ▶ range and pasture management
 - control timing, frequency, intensity of use
- ▶ planned grazing system
- ▶ range seeding
- ▶ stock trails and walkways

... and for forestry ...

What does the Clean Water Act require?

Examples of BMPs

■ Forestry (Silviculture)

- ▶ ground cover maintenance
- ▶ limiting disturbed areas
- ▶ log removal techniques
- ▶ pesticide / herbicide management
- ▶ proper handling of haul roads
- ▶ removal of debris
- ▶ riparian zone management
- ▶ road and skid trail management

... and here are some multcategory BMPs. These are appropriate for all sectors.

What does the Clean Water Act require?

Examples of BMPs

■ Multcategory

- ▶ buffer strips
- ▶ detention / sedimentation basins
- ▶ grassed waterway
- ▶ interception / diversion
- ▶ material ground cover
- ▶ sediment traps
- ▶ streamside management zones
- ▶ vegetative stabilization / mulching

Clean Water Act Implementation in Idaho

Will the new Idaho policy be effective?

Cost-effective Pollution Control

- **Are BMPs effective pollution controls?**
- **Yes, when BMPs are properly installed**
 - ▶ **regulated approach (Idaho Forest Practices Act)**
 - BMPs are installed in >90% of the situations where they should be
 - BMPs are 99% effective at keeping sediment and other pollutants from streams
 - ▶ **non-regulated approach (agriculture & grazing)**
 - incentives for implementation of BMPs
 - Should Idaho have a "bad actor" law (as in other states)?

A fundamental question is—Are BMPs effective pollution controls? Yes, when they are properly installed.

For example, compliance with the Idaho Forest Practices Act is monitored by the Idaho DEQ every two years. Forestry BMPs are installed in more than 90 percent of the situations where they should be. When properly installed, auditors find that BMPs are 99 percent effective at keeping sediment and other pollutants from water bodies.

What about the non-regulatory approaches for agriculture and grazing? Here the policy issues are incentives and other programs for encouraging installation of BMPs, and a back-up mechanism such as a "bad actor" provision to ensure compliance.

Clean Water Act - Implementation in Idaho

Conclusions

- **10% of Idaho's streams and rivers have impaired water quality - "303(d) list"**
 - ▶ watershed management plan based on TMDL
- **pollution control programs**
 - ▶ regulatory - forestry & mining
 - ▶ non-regulatory - agriculture & grazing
- **new Idaho water quality policy in 1995**
 - ▶ involve local interests at the watershed level
 - ▶ successful implementation requires patience, funding, and coordinated efforts

In conclusion, several points are worth remembering. Idaho has 10,000 miles of streams and rivers that do not meet the Clean Water Act goals because their designated "beneficial" uses are not fully supported. This is about 10% of all the stream and river miles in the state.

The law requires TMDLs for these waters, and a watershed management plan based on the TMDL. Also required are pollution control programs, which may be regulatory, as for forestry and mining, or non-regulatory, as they are for agriculture and grazing.

In 1995 Idaho's water quality policy was revised, and its new features include involving local interests at the watershed level through regional BAGs and Local WAGs. The success of this approach depends on patience as programs are developed, adequate funding for monitoring and pollution control programs, and coordinated efforts among government agencies, private landowners and operators, and interested citizens.

