



# State of Idaho

## Department of Environmental Quality



# Strategic Plan

Fiscal Years 2009 - 2013

**Fiscal Year – July 1 through June 30**

## Introduction

The Department of Environmental Quality (DEQ) was established by Chapter 1, Title 39 of the Idaho Code to protect public health and the environment in Idaho. DEQ manages a broad range of activities including regulating facilities that generate air, water, and hazardous waste pollution; monitoring air and water quality; cleaning up contaminated sites; and providing education and technical assistance to businesses, local and state government agencies, and Idaho citizens. DEQ implements programs and projects to protect the health of the citizens of Idaho and the environment through collaboration and cooperation with the Idaho Departments of Agriculture (ISDA), Lands (IDL), Fish and Game (IDFG), Water Resources (IDWR), and other state, tribal, and federal agencies. In addition, city and county governments and the health districts assist in implementing programs and projects at the local level.

By Idaho statute, each state agency must develop a comprehensive strategic plan for their major divisions and key functions. The plan is to be based on the agency's statutory authority.

Among other things, each plan must contain goals, objectives, and performance measures for the agency. A goal describes a broad condition an agency is trying to achieve. An objective describes a more specific condition or outcome an agency is trying to achieve in order to fulfill a goal. A performance measure is a quantifiable indicator of progress towards achieving a goal.

Throughout this strategic plan, you will see goals, objectives, and performance measures that DEQ uses to set our course, and judge the progress we are making towards protecting the health of Idahoans, and the environment in Idaho.

## Mission

To protect human health and preserve the quality of Idaho's air, land, and water for use and enjoyment today and in the future.

## Vision

DEQ envisions a future for the citizens of Idaho where the quality of life is enhanced by the quality of the environment. In partnership with communities and businesses, we will assess, sustain, preserve, and enhance the quality of the environment while recognizing the need for maintaining the economic vitality of the state.

## **GOAL: Prevent, Prepare, and Respond to Public Health and Environmental Emergencies.**

### **Objective: Provide Training and Technical Expertise for Emergency Planning and Preparedness.**

**Emergency Preparedness.** DEQ works with other state agencies and local governments by assisting in their planning and response to emergencies involving hazardous or radiological materials, including developing plans for responding to incidents occurring along transportation routes.

#### **Strategies for emergency planning and preparedness:**

- Work with state and federal agencies to update plans and procedures for emergency response to hazardous and radiological emergencies, natural disasters, and terrorist acts.
- Provide training and technical support to cities, counties, hospitals, tribes, and other state agencies in response to hazardous or radiological releases.
- Achieve compliance with the National Incident Management System (NIMS).
- Train selected DEQ staff in use of the Incident Command System (ICS).
- Prepare state assessments on Idaho National Laboratory (INL) environmental impacts.

**Performance Measures: In FY2009, provide 230 local and state emergency responders with radiation training.**

**In FY2009, train 19 DEQ personnel in the use of the Incident Command System used by the National Incident Management System.**

## **Objective: Respond to Public Health and Environmental Emergencies.**

**Emergency Response.** DEQ participates in the State Emergency Management Program to facilitate emergency support and logistics in response to emergencies and disasters. In the event of an emergency, DEQ's responsibilities are to:

- Provide personnel in support of emergency response Incident Commanders;
- Assess and evaluate human health and environmental risks in response to hazardous materials;
- Oversee cleanup and disposal of hazardous wastes, substances and materials, and deleterious materials;
- Coordinate environmental investigations and characterizations;
- Provide technical support to drinking water system operators;
- Assess environmental impacts of proposed emergency operations and suggest alternative methods or actions to minimize environmental damage; and
- Provide personnel to work in the State Emergency Operations Center, and/or field support offices in the event of state or federally declared disasters.

DEQ is authorized to implement procedures to address health emergencies. For example, in the event of an air pollution emergency, DEQ may implement a series of increasingly stringent pollution control measures while informing the public of the efforts that are underway. DEQ also works with public water systems to assure that plans are in place to protect drinking water supplies and, in the event of contamination, keep the public informed.

### **Strategies for emergency response:**

- Provide technical advice to on-scene commanders of chemical and radiological emergencies.
- Aid in providing or finding resources for emergency response actions.
- Provide pertinent emergency information to the public.
- Collaborate with the Division of Public Health to provide appropriate public health information.
- Provide immediate response to public drinking water contamination incidents that pose an acute public health threat.

**Performance Measure: Annually, document the number of immediate response actions completed to protect human health and environment.**

## GOAL: Inform and Educate the Public on Environmental Issues.

**Objective: Provide the Public with Information on Health Risks, Environmental Conditions, and Methods of Pollution Reduction.**

**Inform and Educate.** DEQ will continue to provide information and educate the public, cities, counties, communities, and business sectors to aid in making informed environmental decisions. DEQ will continue to provide businesses with available information on process improvements to aid in protecting the environment through waste reduction, and the use of best management practices (BMPs) appropriate for the activity.

### Strategies for providing information to the public:

- Develop and disseminate high-quality, accurate, and understandable information to businesses and the public.
- Work with identified business sectors to implement pollution prevention.
- Expand efforts to incorporate pollution prevention and educational messages into the classroom.
- Evaluate and improve methods to inform the public about air quality conditions, pollution reduction methods, and greenhouse gases for airsheds throughout the state.
- Participate in outreach events that provide opportunities to share environmental information with the public.
- Seek to obtain grant support to expand pollution prevention and outreach into new sectors.
- Evaluate the success of public outreach and pollution prevention activities.

**Performance Measure: Annually, reach 7,000 stakeholders through outreach activities.**



**Educators Workshop held at  
Boise State University**



**Ecological Footprint-REACH Health Fair**



**Teaching kids about aquifers-  
Water Awareness Week in McCall**

## **GOAL: Maintain and Improve Air Quality in Idaho's Airsheds.**

### **Objective: Implement Airshed Management.**

**Airshed Management.** Airshed management is a proactive approach to managing air quality to protect public health by avoiding or minimizing future air quality problems. DEQ is working toward managing air quality by collecting accurate data and developing a scientific understanding of the air pollution dynamics in each airshed. DEQ involves communities, residents, and businesses in an airshed in establishing air quality visions and goals for their area.

**Ozone.** Breathing ozone is harmful to everyone, although it is most harmful to children, the elderly, anyone who is active outdoors, and people with respiratory diseases. Recent health studies have shown ozone to be more detrimental to health than previously thought. Pollutants that cause ozone come from motor vehicle exhaust, industrial emissions, gasoline vapors, chemical solvents, and vegetation.

Due to the new health information on ozone, the U. S. Environmental Protection Agency (EPA) has issued a new, more stringent standard for ozone of 75 parts per billion (ppb). The more stringent air quality standard could result in more areas violating the ozone standard, and could lead to nonattainment designations for these areas. Most at risk is the Treasure Valley. The new standard is below the 78 ppb average recorded over the last three years in the Treasure Valley. Because ozone levels are heavily dependent on weather conditions that we cannot control, we cannot know for sure what our air quality will be this summer. What we can do, as a community, is to make wise choices to limit pollution that we put into our air.

**PM<sub>2.5</sub> State Implementation Plan (SIP) Revisions.** In 2006, the EPA tightened the 24-hour fine particulate matter (PM<sub>2.5</sub>) standard from 65 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) to 35  $\mu\text{g}/\text{m}^3$ . The Cache Valley (Franklin County) and Pinehurst (Shoshone County) were proposed as nonattainment areas for the new, more stringent PM<sub>2.5</sub> standard. DEQ will work with local communities to develop plans describing how the areas will reduce pollutant levels to attain and maintain the National Ambient Air Quality Standards (NAAQS) for PM<sub>2.5</sub>. In other words, develop plans to clean up polluted areas and keep them clean. These plans become part of the SIP. Revisions to the SIP are necessary whenever the attainment status changes for an area.

In general, the SIP revisions for these areas must include:

- A monitoring program to provide actual measurements of the pollutant concentrations in the air and identify whether an area is meeting the air quality standards;
- Long term emissions reduction plan, using a computer model, to demonstrate that a maintenance plan will keep air quality within the federal standards;

- An inventory showing all sources of air pollution and how much they generate – the maximum amount of emissions that can be allowed without violating air quality standards must be identified;
- Studies to find the best ways to reduce emissions;
- Adoption of enforceable measures to ensure the reductions are achieved; and
- A schedule of periodic reviews to evaluate whether needed reductions were achieved.

**Strategies for airshed management:**

- Identify areas at risk for nonattainment due to poor air quality and work with those communities to identify and implement voluntary airshed management strategies to protect public health and meet air quality standards.
- Develop and implement strategies with cities, counties, and metropolitan planning agencies in the Treasure Valley to address ozone and particulate problems caused by growth and increased vehicle emissions.
- As directed by the new Inspection and Maintenance legislation, work with appropriate impacted cities and counties to evaluate the applicability of the legislation, and where it is required, implement a vehicle emissions testing program, or vehicle emissions reduction program.
- As directed by legislation, assist regional air quality councils such as the Treasure Valley Air Quality Council in implementing air quality improvement plans, including stage 1 vapor recovery, standardized local ordinances for woodstoves, dust minimization, and open burning controls.
- Develop partnerships with public and private transportation fleets to install diesel retrofit technologies to reduce air pollution and improve fuel efficiency.
- Develop a plan to prepare DEQ for the new PM<sub>2.5</sub> and ozone standards through airshed planning, rule changes, and permitting policies.
- Develop and implement air quality improvement and maintenance plans to protect public health and address federally mandated planning requirements in Sandpoint, Pinehurst, and Franklin County.
- Evaluate air quality protection processes and resource allocation to ensure consistency with airshed management and SIP objectives.

**Performance Measures: In FY2009, implement stage 1 vapor recovery throughout the Treasure Valley.**

**By July 2009, develop an integrated project plan to implement the new PM<sub>2.5</sub> and Ozone NAAQS and Regional Haze SIPs.**

**By 2013, submit to EPA a revised SIP to implement the new PM<sub>2.5</sub> NAAQS.**

**Objective: Provide Education and Outreach to Help the Public Understand Air Quality Issues Including How the Public Can Help Meet Clean Air Goals.**

**Education and Outreach.** To successfully meet clean air goals in Idaho, the public will need to be informed, become engaged, and take an active role in protecting air quality. DEQ will provide information to the public, local governments, and organizations on what they can do to aid in this effort. To this end, DEQ will increase efforts to educate and inform the public on specific individual actions that collectively will aid in improving air quality.

**Clean Air Zone Idaho.** *Clean Air Zone Idaho* is a voluntary program aimed at reducing school children's exposure to vehicle emissions. The program discourages idling of school buses and other vehicles, and helps schools obtain funding to retrofit buses with advanced emission control technologies. In 2006 the program expanded into Idaho communities with an initiative to reduce emissions from idling vehicles at a wide range of public facilities such as airports, libraries, and parks.

In 2008, *Clean Air Zone Idaho* expanded to increase its emphasis on preschool and child care facilities. Just as children are more susceptible to the effects of air pollution than adults, younger children are more susceptible than older children. Therefore, children attending preschools and child care facilities represent some of Idaho's most vulnerable citizens. By reaching out to facilities that serve these young children, DEQ is helping to protect the health of this younger population and is also educating parents about the health effects of air pollution and the difference they can make by not idling.

**Strategies for outreach:**

- Work with schools, preschools and child care facilities, communities, and businesses to expand education and outreach programs, such as *Clean Air Zone Idaho*.
- Assist school districts to obtain funding for installation of air pollution control technologies on school buses.
- Use public service announcements, the agency's email subscription service (GovDelivery), and other means to increase awareness of air quality issues, the Air Quality Index (AQI), and DEQ's alert program.
- Produce and run a series of multimedia public service announcements to educate and alert Treasure Valley citizens on the air quality challenge facing us.
- Obtain commitments from the private and public sector to take actions to lower emissions.
- Participate in valley events throughout the summer, focusing on disseminating air quality protection information through educational resources and other hands-on materials.
- Work with the media to present air quality information to the public.



**Performance Measure: By the end of FY2009, have 345 schools and child care facilities participating in the *Clean Air Zone Idaho* program (a 10% increase).**

**Objective: Develop a Greenhouse Gas Reduction Plan for State Agencies.**

**Greenhouse Gas Reduction Plan.** Atmospheric concentrations of greenhouse gases are rising and are projected to continue to increase. Although no state or region can unilaterally address emissions, DEQ is tasked by Executive Order with developing recommendations on statewide emission reduction opportunities to reduce greenhouse gases generated by state agencies.

**Strategies for reduction of greenhouse gases:**

- Implement the Executive Order for the reduction of greenhouse gases.
- Work with state agencies to implement greenhouse gas reduction plans and ensure state government is a role model and leader in conservation and greenhouse gas reductions.
- Promote dialogue on greenhouse gas to ensure informed decision making, challenge our partners, industry, and constituents to reduce their greenhouse gases, look at technology and science to help deliver part of the solution, and finally, develop proactive strategies and plans to help prepare Idaho for a warmer climate.

**Performance Measure: In FY2009, complete a greenhouse gas inventory with statewide emission reduction recommendations.**

**Objective: Implement a crop residue burning program that is protective of public health while allowing farmers to conduct field burning under controlled conditions.**

**Crop Residue Burning (CRB).** Burning of crop residue outside Indian reservations has been prohibited in Idaho since January 2007, when the U.S. Circuit Court of Appeals ruled that the rules under which agricultural field burning and smoke management were regulated had been inappropriately developed. In July 2007, Governor Otter initiated negotiations to find a solution that would allow farmers to conduct field burning and ensure protection of public health from smoke impacts. A negotiating committee comprised of representatives of DEQ, ISDA, Safe Air for Everyone (SAFE), and grass and grain growers reached an agreement to allow field burning under closely supervised conditions.

At the direction of the Legislature, DEQ will be responsible for overseeing the CRB program. The program will allow for crop residue burning with a priority on protecting public health. It will prohibit field burning if air quality levels exceed or are expected to exceed 75 percent of any NAAQS. Farmers wishing to burn will be required to register their fields, obtain a permit, pay a fee based upon the number of acres to be burned, and obtain permission to burn. Before granting permission, DEQ will consider air quality

conditions, number of acres to be burned, crop type, fuel characteristics, meteorological conditions, and the proximity of the burn to institutions with sensitive populations, public roads, and airports. The public will have access to information on burn locations, size, and type of field.

Implementation of the new program requires a change in our SIP, which must be approved by EPA before it can take effect. EPA is currently reviewing the proposed change, which DEQ anticipates will be approved in late summer or early fall of 2008.

**Strategies for field burning:**

- Work with EPA to ensure approval of field burning modifications to the SIP.
- Implement a legislatively approved CRB program.
- Provide public access to pertinent field burning information.
- Conduct ongoing and annual reviews of CRB program.
- Monitor ambient air quality conditions in areas of field burning.
- Monitor meteorological conditions and allow burning only if conditions are favorable.

**Performance Measures: By October 2008, implement a Crop Residue Burning program that is protective of human health and useful to growers.**

**By March of each year, review the quality of the Crop Residue Burning program pursuant to the negotiated agreement.**

**Objective: Conduct Air Monitoring, Maintain Pollution Source Inventories, and Support Predictive Model Development.**

**Air Quality Index (AQI).** The AQI is a tool for reporting daily air quality to the general public in a concise, easily understandable format. It indicates how healthy or polluted the air is in a particular area and identifies potential health impacts. The AQI, which is based on the NAAQS, focuses on health effects that can happen within a few hours or days after breathing polluted air. Recent changes to the PM<sub>2.5</sub> and ozone standards make the NAAQS even more protective of human health.

**PM<sub>2.5</sub> Precursor Study.** PM<sub>2.5</sub> is a pollutant of concern in several locations in Idaho. During the winter of 2008/2009, DEQ will implement an air quality monitoring study of the formation of fine particulate matter. DEQ and Washington State University researchers will conduct monitoring for a variety of compounds to identify those compounds that play a key role in the formation of

PM<sub>2.5</sub>. An objective of the study is to identify source categories of those compounds, which will lead to identification or development of control strategies for reducing PM<sub>2.5</sub> levels during air quality stagnation events. Data from this study will also facilitate development and testing of airshed models used in estimating PM<sub>2.5</sub> concentrations across the Treasure Valley airshed.

**Emergency Air Monitoring Equipment.** During the summer of 2007, Idaho experienced a substantial fire season. Fires threatened several cities in Idaho, and DEQ was asked to provide information to communities on the status of air quality in their areas. Without monitors in these geographical locations, DEQ often had little-to-no data that could be provided to the communities. DEQ requested and received funding from the legislature for the purchase of six new monitors that will be used in emergency situations.

The monitors will be equipped with satellite packs or telemetry systems which will update a publicly accessible Web-site with hourly averaged PM<sub>2.5</sub> concentrations for anywhere in Idaho. The Web-site will provide information, such as the current AQI, updated on an hourly basis. The satellite packs are equipped with GIS transmitters that identify the specific location of the monitor, which can then be displayed on a map. These monitors are very useful for determining short-term trends and impacts of fine particulates caused by smoke. DEQ will maintain these monitoring systems in a state of readiness to deploy to areas impacted by smoke from fires.

**Strategies for modeling and monitoring:**

- Report air quality information to the public on a daily basis and inform the public of actions they can take to help reduce air pollution and protect public health.
- Make air monitoring and meteorological data available to the public and stakeholders for permit applications and other uses.
- Maintain a statewide network of meteorological monitoring stations and provide access to “real-time” meteorological data to support air quality forecasting and other air quality management functions.
- Maintain the statewide air monitoring network to determine compliance with NAAQS, to assess the progress of pollution control efforts, and to reconcile the accuracy of mathematical air quality models.
- Develop and implement monitoring strategies that identify pollutants (and their sources) that contribute to the secondary formation of PM<sub>2.5</sub> and ozone, and identify areas with a high risk of toxic and hazardous air pollutants.
- Compile comprehensive inventories of pollutant sources and their emissions to use with air quality models and to support airshed management activities.

**Performance Measure: In FY2009, work with local governments and the public to maintain AQI levels of at least 98% of days in the “good” or “moderate” categories.**

**External Factors:** EPA has passed more stringent NAAQS for PM<sub>2.5</sub> and ozone. It is likely that the more stringent standards will increase the number of days that Idaho’s air quality is in the “unhealthy for sensitive groups” and “unhealthy” categories. In addition, the number and severity of wildfires and prescribed burns, over which DEQ has no control, can increase AQI levels.

If federal funds are reduced, air quality monitoring could be reduced, which could limit DEQ’s ability to identify problem areas.

**Objective: Issue and Modify Pollution Control Permits to Ensure Air Quality Standards are Met in Airsheds.**

**Pollution Control Permits.** DEQ operates a program to issue air quality permits by evaluating industrial source plans for construction or modification of air pollution sources and ensuring that the sources are capable of meeting state and federal air quality rules and regulations.

**Strategies for air quality permits:**

- Continue to process all permits-to-construct using a streamlined process to better serve our customers.
- Develop process improvement tools for Tier I and Tier II operating permits based on lessons learned from permit-to-construct streamlining initiatives.
- Develop and implement general permits for selected industrial sources.

**Performance Measure: In FY2009, process air quality permits-to-construct on a 99-day average.**

**Objective: Inspect Air Pollution Sources and Take Enforcement Actions to Ensure Compliance with Permits.**

**Inspections and Compliance.** DEQ compliance activities include traditional enforcement methods, such as inspections and public complaint response, as well as technical assistance and education and outreach. Inspections of industrial air pollution sources are conducted periodically to ensure that environmental protection regulatory requirements and applicable permit conditions are being met. If DEQ determines that a facility has violated the laws or rules or the provisions of its permit, an enforcement action may be initiated.

**Strategies for compliance:**

- Inspect sources of air pollution to verify compliance with regulations and permit requirements.
- Issue inspection reports and, when needed, enforcement actions to regulated facilities in a consistent and timely manner.
- Conduct technical assistance inspections to aid facilities in complying with environmental rules, regulations, and permit requirements.

**Performance Measure: In FY2009, conduct 107 inspections of regulated air pollution sources.**



**Whitebird Hill**

**Photograph by Joe Baldwin**

## **GOAL: Maintain and Improve Surface and Ground Water Quality in Idaho.**

### **Objective: Implement Surface and Ground Water Quality Protection Using a Watershed Approach.**

**Watershed Management.** “Watershed” refers to the total land area that contributes water to a river, stream, lake, aquifer, or other water body. To achieve sustainable use and management of water resources, DEQ will continue integrating water quality programs at the watershed level as the way to achieve water quality goals. The basis for this approach is that watersheds are the basic unit used to define and gauge water quality, and at that level water programs can be most effective.

**Nonpoint Source Management Plan.** Nonpoint sources of pollution have been identified as primary causes of surface and ground water contamination across Idaho. The *Nonpoint Source Management Plan* describes how DEQ will implement nonpoint source activities to meet requirements of the Clean Water Act.

DEQ recognizes the nonpoint source mitigation process must be driven by local knowledge and experience. DEQ assists local stakeholders to guide decision-making on local issues. DEQ provides support through the pass-through and sound fiscal management of §319 grants, scientific-based technical assistance, and integration of related aspects of water management, such as surface and ground water, water quantity and quality, and economic development and environmental protection.

DEQ focuses on implementing water quality activities prescribed in water body improvement plans known as total maximum daily loads (TMDLs). These activities are designed to protect and restore beneficial uses (such as swimming and fishing) and to prevent present and future activities from degrading water quality. The term, “best management practice,” or “BMP,” is often used to describe the actions taken to help achieve TMDL goals. A BMP is a practice that has been found to be effective at preventing or reducing pollution from nonpoint sources.

#### **Strategies for watershed implementation:**

- Provide support to local stakeholders to reduce nonpoint source pollutants by providing funding and technical assistance and by overseeing the implementation of nonpoint source pollutant reduction projects.
- Continue working with our partners to rewrite the *Nonpoint Source Management Plan* and related Memorandum of Understanding, to clarify roles and responsibilities for water quality protection and watershed management.
- Administer grants in accordance with relevant conditions including use of the Grant Reporting and Tracking System to report program activities on mandatory elements, such as estimated pollutant load reductions (for nitrogen, phosphorus, and sediment as applicable).

- Integrate outside funding efforts with §319 money to allow increased funding of implementation work in priority watersheds, per §319 guidance.
- Develop a method to integrate §319 projects into five-year TMDL reviews.

**Performance Measure:** Work with stakeholders to rewrite the *Nonpoint Source Management Plan* by 2011.

**Objective: Determine the Quality of Surface and Ground Water through Monitoring and Assessment of Water Bodies and Aquifers.**

Protecting surface water and ground water is a continual process. Steps in this process involve monitoring and assessing the quality of surface water bodies and aquifers to determine current conditions, identifying potential problem areas, and detecting trends in surface and ground water quality. Results of the monitoring and assessment are used to report on the quality of Idaho's waters, develop water quality improvement plans (TMDLs and ground water quality management plans), and to develop and implement implementation plans. The success of those plans is demonstrated through improved water quality.

**Sampling Water Bodies for Mercury.** A growing concern of Idaho citizens has been recent sampling results that have shown mercury concentrations above water quality standards in several fish species in certain locations. DEQ is midway through an aggressive representative sampling of water bodies statewide to determine mercury levels. The sampling results will help inform citizens of potential risks and advise them on the amount of fish from sampled water bodies that may be safe to consume. DEQ works with other agencies including the Idaho Department of Health and Welfare, the Idaho Department of Fish and Game, and the U. S. Geological Survey (USGS) on the Idaho Fish Consumption Advisory Program (IFCAP). IFCAP informs Idahoans about possible contamination of water bodies that may impact fish and human health.

**Strategies for monitoring and assessment:**

- Assess water bodies and conduct surface and ground water monitoring in cooperation with other entities to determine current conditions, identify potential problem areas, detect trends in water quality, and develop and implement water quality protection plans.
- Investigate mercury fish tissue levels at 50 randomly selected river locations in Idaho.

- Develop a statewide estimate of mercury levels in fish tissue for all major lakes, reservoirs, rivers, and streams.
- Chair the technical work group evaluating the potential for new selenium criteria for streams in southeast Idaho.
- Coordinate ground water monitoring in degraded areas to confirm the nature and extent of contamination and to set a baseline for determining the effectiveness of ground water protection activities.

**Performance Measure:** By FY2011, develop a statewide estimate of mercury levels in fish tissue for all major lakes, reservoirs, rivers, and streams.

**Objective: Reduce Pollutants in Surface Water to Meet Water Quality Standards and Beneficial Uses.**

**Water Quality Improvement Plans.** Some surface waters in Idaho have been found to not support their designated beneficial uses. When these uses are not supported, a water quality improvement plan (TMDL) is developed. A TMDL is a calculation of the maximum amount of a pollutant that a water body can receive from human-caused sources and still meet water quality standards. Basically, a TMDL is a pollutant budget.

**Pharmaceutical Take-Back Program.** As studies turn up evidence of pharmaceuticals in the environment, concern about proper disposal of unwanted pharmaceuticals has grown. For example, a nationwide study released in 2002 by the USGS showed trace levels of chemicals found in prescription drugs in 80% of the streams across the country, including three monitoring sites in the Boise River.

Unwanted or expired medications sitting in medicine cabinets present a risk of accidental poisoning. Putting medicines in the garbage may lead to accidental contact by children and animals and, if placed in a landfill, contamination of soil and ground water can occur.

The goal of a pharmaceutical take-back program is for a coalition of government and non-profit groups throughout the state to develop a means to collect unwanted household pharmaceuticals from the public and dispose of them safely. Proper disposal of pharmaceuticals will aid in preventing the pharmaceuticals from reaching surface and ground water.

**Strategies to reduce pollutants in surface water:**

- Work with watershed advisory groups (WAGs), basin advisory groups (BAGs), tribes, and other states to develop, implement, and review TMDLs. Seek input on the appropriateness, attainability, and status of existing designated beneficial uses and water quality criteria.
- Complete new TMDLs in conjunction with scheduled five-year reviews.

- Issue water quality certifications for federal permits/licenses of activities that have a potential to result in a discharge to waters of the United States in Idaho to ensure there is a reasonable assurance that those activities will comply with water quality standards.
- Review water quality standards to determine if the designated beneficial uses for surface waters are appropriate.
- Encourage wastewater reuse projects to eliminate the discharge of pollutants to surface waters.
- Research, develop, and facilitate implementation of pilot pharmaceutical take-back programs in four Idaho communities.

**Performance Measures: In FY2009, complete 342 TMDL settlement agreement related assessment unit/pollutant combination TMDLs.**

**In FY2009, complete 10 five-year TMDL reviews.**

**By FY2011, sample and characterize major water bodies for mercury levels.**

**By FY2011, facilitate implementation of pilot pharmaceutical take-back programs in four Idaho communities.**

**External factors.**

As the science, technology, procedures, and methodology for developing TMDLs changes, DEQ sees workload increase. Changes in temperature methodology have increased DEQ’s role in educating interested parties. Changes in total phosphorous science and technology have created disagreement about what is needed to comply with the nutrient narrative standards to achieve beneficial uses. These factors continue to complicate the TMDL process. DEQ also continues to experience high turnover of TMDL writers. Efforts are under way to retain these employees, but the continued turnover, learning curve, and required training have challenged our ability to complete TMDLs. Nonetheless, DEQ has completed over 1600 TMDLs in the last 6 years.



**Pebble Creek**

**Photograph by BURP Crew**

**Objective: Protect and Improve Ground Water Quality.**

**Ground Water Quality Management Plans.** In many locations throughout the state, nitrates exceed the allowable concentration for ground water. In these areas, ground water quality management plans are being developed in conjunction with area residents, other agencies, and interested parties. The plans identify BMPs that can be used to reduce nitrates in ground water.

**Nitrate Priority Area Five-Year Review.** DEQ is conducting a five-year review of ground water quality data to evaluate the status of the nitrate priority areas. The study will determine the appropriate priority area ranking, if ground water quality is changing in response to protection efforts, and if existing priority area boundaries are still appropriate. The areas will be ranked in order of degradation to prioritize agency resources in assisting communities with developing management strategies aimed toward improving ground water quality for removal from the priority list. The criteria used for ranking include three weighted factors: population, existing water quality, and water quality trends. The five-year review will assist DEQ and other entities involved with implementation to determine the effectiveness of strategies. Along with ground water quality data collected by DEQ, IDWR, USGS, and ISDA have also contributed data and guidance.

**Strategies for ground water protection:**

- Work with other agencies and communities to develop and assist with the implementation of ground water quality management plans.
- Promote implementation of BMPs for ground water protection.
- Work with the ISDA and IDWR on site evaluations for concentrated animal feeding operations (CAFOs).
- Work with other agencies to ensure ground water recharge activities are protective of ground water quality.
- Continue to provide education to local government officials on the importance of their role in protecting ground water quality.
- Oversee cleanup of contaminated sites.
- Review nutrient-pathogen evaluations to assess potential impacts of on-site subsurface sewage disposal on surface and ground water.
- Conduct a five-year review of nitrate priority areas, including a trend analysis of nitrate contamination levels in those areas.

**Performance Measure: By the end of FY2010, complete the development of ground water quality management plans for 10 nitrate priority areas.**

## **Objective: Assist and Support Public Water Systems in the Delivery of Safe and Reliable Drinking Water.**

**Drinking Water.** DEQ protects public health by working closely with managers and licensed operators of Idaho's public water systems to help them ensure that safe drinking water from the approximately 2,000 regulated public drinking water systems is provided. DEQ is authorized to administer Idaho's Drinking Water Program through the federal Safe Drinking Water Act and Idaho's Rules for Public Drinking Water Systems.

**Drinking Water Source Protection.** Drinking water source protection is a voluntary program a community can implement to help prevent its public water system from becoming contaminated. The program involves creating a drinking water source protection plan (DWSPP) and implementing regulatory and/or non-regulatory management practices. Preventing contaminants from entering a public water system supply can benefit the community by reducing risk to public health, save on monitoring costs, and prevent the need for additional water treatment. DEQ provides technical and financial support to communities that are implementing DWSPPs. Additionally, a community that has a DEQ certified DWSPP is granted additional points when applying for DEQ-administered drinking water grants and loans.

### **Strategies for safe drinking water:**

- Assist communities in protecting drinking water sources by identifying potential sources of contamination, developing protection plans that outline management tools, and assisting in plan implementation.
- Provide technical assistance to public water systems to help them comply with increasingly stringent drinking water quality standards.
- Protect public health and local economies by assisting public water systems in the prevention of waterborne disease outbreaks by requiring compliance with health-based standards.
- Assess public drinking water sources and provide technical and financial assistance to communities implementing drinking water protection plans to protect aquifers that supply public drinking water systems.
- Encourage local governments to actively participate in drinking water source protection implementation.
- Protect public health and maintain state delegation of the Drinking Water Program by requiring compliance with the Idaho Rules for Public Drinking Water Systems and the Safe Drinking Water Act.
- Conduct comprehensive sanitary survey inspections at public water systems to ensure they are properly maintained and operated.

- Review plans and specifications for public drinking water systems within 42 days, per state law, to ensure systems are properly located, designed, and constructed.
- Implement underground storage tank secondary containment rules to protect drinking water.

**Performance Measures: Annually, complete drinking water plan and specification reviews within 42 days.**

**In FY2009, work with owners of public water systems to ensure at least 90% of people served by community water systems are delivered water that meets all health-based standards.**

#### **External factors.**

Promulgation by EPA of new or more stringent standards for drinking water will result in a decrease in the percentage of people served safe water. It is important to note that drinking water is of the same relative quality as it has been, but the complexity and cost of complying with more stringent standards for arsenic and radionuclide treatment have proven difficult and expensive to achieve, resulting in lower compliance rates.

Diminished funding levels are expected from federal grants. Significant increases in workload are expected for public water systems and DEQ due to increasingly stringent regulatory standards (arsenic, radionuclides, and microbes) as well as increasing frequency of inspections.

#### **Objective: Encourage Environmentally Protective Reuse of Wastewater.**

**Wastewater Reuse Permitting.** DEQ is the state agency assigned responsibility to issue wastewater reuse permits. Two types of wastewater reuse permits are issued - industrial and municipal. Industrial wastewater reuse permits regulate reuse of wastewater from operations such as food processing facilities. Municipal wastewater reuse permits regulate reuse of wastewater that contains treated sewage. All wastewater reuse permits specify both standard and site-specific125 conditions.

**Reclaimed Wastewater Reuse.** DEQ promotes the practice of reuse of both municipal and industrial reclaimed wastewater. As more reclaimed wastewater is reused, the quality of Idaho's rivers, streams, and ground water will improve. Additionally, the reuse of reclaimed wastewater frees up water resources to be used for other beneficial uses. Through the continued creation and implementation of rules and guidance, DEQ will provide permittees opportunities for new forms of reuse. Rules and guidance are being developed to simplify the application process, permitting, and required compliance activities of permittees.

**Strategies for wastewater reuse:**

- Promote the reuse of reclaimed wastewater.
- Issue, modify, renew, and enforce wastewater reuse permits to ensure protection of public health and water quality.
- Streamline the wastewater reuse permitting process to reduce the amount of time to process permit applications.
- Inspect permitted facilities, including their records and reports, to ensure compliance with permit conditions and all applicable requirements.

**Performance Measures: In CY2008 issue 20 permits for wastewater reuse facilities.**

**By FY2011, streamline the wastewater reuse permitting process to reduce the amount of time to process permit applications by at least 20%.**

**Objective: Prevent and Control Pollution from Wastewater Discharges.**

**Wastewater.** Wastewater is spent or used water, such as from households and businesses that contains enough harmful material to damage the water's quality. Every building with running water generates some sort of wastewater. Wastewater may contain contaminants such as oil, dirt, human waste, and chemicals. Untreated wastewater can cause serious harm to the environment and threaten human health. Proper management and disposal of wastewater is essential to protect public health and Idaho's water quality.

**Strategies for controlling pollution from wastewater discharge:**

- Review plans and specifications for wastewater facilities within 42 days, per state law, to ensure systems are properly located, designed, and constructed.
- Inspect National Pollutant Discharge Elimination System (NPDES) permitted wastewater facilities, in conjunction with EPA, to ensure compliance with permit conditions and all applicable requirements.

**Performance Measure: Annually, complete wastewater plan and specification reviews within 42 days.**

**Objective: Finance Watershed Improvement Projects and Drinking Water and Wastewater Treatment Systems to Meet Regulatory Standards.**

**Planning Grants and Construction Loans.** DEQ administers federal and state funds used to provide grants and low-interest loans to eligible entities to conduct activities designed to improve the quality of Idaho’s water resources. Communities are provided financial assistance through the issuance of grants and below-market-rate loans to plan, design, construct, and modify cost-effective drinking water and wastewater treatment systems.

**Financing Watershed Improvement Projects.** Idaho has fulfilled the requirements to be eligible for §319 grants and DEQ is the state agency that administers the grant program. Funds may be used to address nonpoint source management and prevention activities. The majority of §319 funds are used at the local level for on-the-ground TMDL implementation projects. Grants are awarded annually on a competitive basis. A successful grant focuses primarily on improving the water quality of lakes, streams, rivers, and aquifers.

**Strategies for grants and loans:**

- Provide financial assistance through grants and below-market-rate loans to plan, design, construct, and modify cost-effective drinking water and wastewater treatment systems.
- Develop more effective and timely planning grant and construction loan processes for our customers, including Web-based guidance documents and applications.
- Provide funding for nonpoint source watershed projects.

**Performance Measure: In FY2009, obligate 100% of available grant and loan funds.**



**Stauffer Creek**

**Photograph by BURP Crew**

**GOAL: Protect Human Health and the Environment through Proper Waste Management and Remediation of Contaminated Areas.**

**Objective: Ensure Proper Management of Hazardous and Solid Waste to Minimize the Threat of Releases.**

**Hazardous Waste.** DEQ issues permits, inspects facilities that generate hazardous waste, provides technical and compliance assistance, and takes corrective action, as needed, so that hazardous wastes are safely managed and properly disposed.

**Solid Waste.** In conjunction with counties and public health districts, DEQ oversees the development and operation of municipal and non-municipal solid waste disposal sites in Idaho. Because more than 95% of water used by households in Idaho is ground water, it is very important that landfills in the state are carefully managed and regulated to protect ground water to assure protection of public health and the environment.

**Strategies for proper waste management:**

- Issue and enforce permits for hazardous waste facilities.
- Oversee the development and operation of municipal and non-municipal solid waste disposal sites by reviewing and certifying plans for site design, operations, closure, and post closure.
- Inspect facilities that manage solid or hazardous waste to ensure compliance.
- Issue inspection reports and, when needed, enforcement actions to regulated facilities in a consistent and timely manner.
- Ensure that solid waste and hazardous waste management facilities meet financial assurance requirements.
- Provide compliance-assistance inspections to help regulated facilities comply with regulations.

**Performance Measures: Annually, complete all time-critical or scheduled hazardous waste permits and/or reviews within required timeframes.**

**In FY2009, conduct at least 166 inspections of facilities that manage or generate hazardous waste.**

**Objective: Through Outreach and Assistance Aid Facilities and Local Governments in Reducing Waste.**

**Waste Reduction.** DEQ partners with schools, businesses, community organizations, and other government entities to conduct public outreach on pollution prevention and waste reduction.

**Strategies for waste reduction:**

- Reduce waste generation by providing the public, local governments, and targeted business sectors with information about pollution prevention and recycling.
- Partner with manufacturers to improve productivity and eliminate waste by integrating pollution prevention into business strategies.
- Develop an *Environmental Guide for Local Governments* that outlines common environmental concerns, pollution prevention best practices, available resources, environmental laws and regulations, and case studies about communities implementing successful pollution prevention practices.

**Performance Measure:** By the end of FY2010, develop an *Environmental Guide for Local Governments* to help communities manage their environmental concerns in a proactive and affordable way.

**Objective: Ensure Past and Present Mining Activities Meet Water Quality Standards, Comply with Ground Water Quality Rules, and Meet Regulations.**

**Mining.** DEQ works with EPA and property owners to clean up areas where mining activities have contaminated soil, surface water, and ground water. Priorities include cleaning up the Bunker Hill Superfund site, including the Coeur d'Alene Basin in northern Idaho, and investigating the impact of selenium contamination from historic mines in southeast Idaho.

There are over 8,500 inactive and abandoned mines, mineral locations, and mineral discoveries in Idaho. DEQ offers assistance to the owners of these properties that contain inactive or abandoned mines and mineral locations. At the owner's request, DEQ will assess privately owned mine sites as part of the Preliminary Assessment Program. The purpose of these assessments is to help private land owners and miners evaluate and manage human health and ecological risks on their property. Since the inception of the preliminary assessment program, DEQ has worked with property owners to conduct over 300 mine site assessments.

**Coeur d’Alene Yard Remediation.** Due in large part to high levels of metals (including lead, arsenic, cadmium, and zinc) in the local environment and elevated blood lead levels in children, EPA listed the Bunker Hill Mining and Metallurgical Complex and Coeur d’Alene Basin in northern Idaho as a Superfund site. The focus of cleanup in the area has been replacing metal-contaminated residential yards with clean soil. By removing the contaminated soil and replacing it with clean soil, exposure to heavy metals among individuals, particularly children, is reduced. DEQ receives federal funds for this program and is responsible for the majority of the yard remediation program.

**Strategies for impacted mining sites:**

- Work with state and federal land management agencies to identify, assess, and prioritize potentially contaminated mine sites and work with property owners to determine remedial options.
- Work with industry, state, federal, and tribal agencies to conduct area-wide and site-specific assessments of selenium contamination in eastern Idaho.
- Support the Basin Environmental Improvement Commission with its task of addressing heavy metal contamination in the Coeur d’Alene Basin.
- Remediate contaminated residential yards, rights-of-way, and commercial properties in the Coeur d’Alene Basin.
- Review and issue permits to cyanidation mining facilities and perform inspections to determine compliance.

**Performance Measures: In FY2009, determine 20 mine sites requiring no further action.**

**During the 2008 construction season, remediate 350 metal-contaminated properties in the Coeur d’Alene Basin.**

**By the end of the 2010 construction season, remediate a total of 2,748 metal-contaminated yards in the Coeur d’Alene Basin.**



**Bunker Hill -Photo by Waste & Remediation Division**

**Objective: Ensure Cleanup of Contaminated Sites.**

**Remediation.** DEQ oversees remediation of sites contaminated by metals, petroleum, or chemicals leaking from storage tanks, and solvents entering soils and ground water. DEQ also maintains a database inventory of contaminated sites in Idaho and assists eligible entities in applying for federal grants to clean up contaminated sites known as Brownfields.

**Brownfield Revitalization Program.** The Brownfield Revitalization Program provides an avenue for returning potentially contaminated property to productive use. A Brownfield assessment is conducted when a lack of environmental information about actual or perceived contamination of a property complicates the opportunity for redevelopment or reuse. The site assessment provides the information necessary to evaluate potential risks and estimate the cost of site remediation.

**Strategies for cleanup of contaminated sites:**

- Assist decision makers in cleaning up properties for redevelopment.
- Assist local governments and the public by maintaining and providing access to the Brownfield inventory.
- Conduct environmental assessments of Brownfield sites where a lack of environmental information has complicated site redevelopment or reuse.
- Assess contaminated sites based on the threat to human health and the environment using risk-based targets to establish site cleanup goals.

**Performance Measures: In FY2009, render 20 leaking underground storage tank sites safe for reuse.**

**In FY2009, complete and provide oversight for 10 Brownfield site assessments.**

**In FY2009, ensure all 10 Community Reinvestment Pilot sites are identified and accepted into the Voluntary Cleanup Program.**

**Objective: Ensure Underground Storage Tanks are Properly Operated to Prevent Releases.**

**Underground Storage Tanks (USTs).** In 2007, the Idaho Legislature enacted the Idaho Underground Storage Tank Act, which authorizes DEQ to establish an UST program to comply with the requirements of the federal Underground Storage Tank Compliance Act of 2005 and federal UST rules. Rules were developed by DEQ in consultation with tank owners and operators, petroleum marketers, tank installers, representatives of the Idaho Tank Insurance Fund, and the EPA to implement the Idaho Underground Storage Tank Act. These rules were approved by the legislature and took effect in April 2008.

Major provisions of the new rules include tank installation requirements, release reporting procedures, ground water protection measures, training requirements, tank inspection procedures, and fuel delivery prohibitions.

**Owner/Operator Training.** The Idaho Underground Storage Tank Act directs DEQ to develop a training program to assist owners and operators of USTs and their employees in understanding and complying with UST rules and regulations. This training is specific to the equipment in use, conducted on location or at a mutually convenient location, and is offered at no cost to the attendees.

**Strategies for UST compliance:**

- Conduct site-specific training for owners, operators, and their employees on the safe and compliant operation of their UST systems.
- Develop and maintain an UST database that is available to the public via the internet, detailing the status of all UST systems in Idaho.
- Conduct inspections at all UST facilities at last once every three years.

**Performance Measure: By the end of FY2011, provide training that is site-specific for the equipment and applicable regulations for each facility, for 100% of the 1210 facilities in Idaho that have registered UST systems.**

**GOAL: Protect Human Health and the Environment On and Around the Idaho National Laboratory (INL).**

**Objective: Monitor Environmental Conditions to Ensure the INL and Surrounding Area Meet Air, Radiation, and Water Quality Standards.**

**INL Monitoring.** DEQ maintains an independent environmental surveillance program around the INL, designed to verify and supplement INL monitoring programs. Over the past 11 years, the program has developed a database of knowledge that allows us to better understand background radiation, track emissions from site facilities, and follow behavior of contamination in the aquifer. DEQ then provides this information in an understandable format to the public.

**Strategies for INL Monitoring:**

- Operate 10 continuous air monitoring stations and 11 real-time radiation monitoring stations.
- Collect samples and analyze the data from 97 ground water sampling locations.
- Analyze ground water data obtained from wells drilled by the USGS and the Department of Energy (DOE).
- Analyze sample results from 11 wastewater sites.
- Ensure the public is kept informed of how activities at the INL affect public health and the environment.
- Analyze other monitoring information to evaluate the long-term deposition and migration of contaminants in the environment.
- Review ongoing and proposed actions to determine whether monitoring efforts need to be refined.

**Performance Measure: In FY2009, ensure continuous air monitoring stations and real-time radiation monitoring stations are operational 97% of the time.**

**Objective: In conjunction with DOE and the EPA, evaluate and remediate hazardous and radiological contaminated past release sites under the Federal Facilities Agreement and Consent Order Program.**

**Idaho National Laboratory.** DEQ works with the DOE and other agencies to ensure the INL is operated in a manner that protects public health and the environment, while supporting and making full use of the INL's technical expertise and resources to address the nation's engineering and environmental challenges. The agencies are ensuring the INL is complying with legal agreements for waste treatment, remediation, and removal, and all applicable environmental regulations.

Remedial activities that occur at the INL must comply with a Record of Decision (ROD). A ROD is a legal, technical, and public document that explains which cleanup alternative will be used at the INL. The ROD is based on information and technical analysis generated during the remedial investigation and feasibility study (RI/FS) and consideration of public comments and community concerns. Each area of cleanup at the INL has a specific ROD which controls the remedial actions. DEQ works with DOE, EPA, and local stakeholders in the development of RODs for the INL.

**Strategies for INL remediation:**

- Review and approve plans and decisions for contaminated site investigation, risk assessment, and remedial action (cleanup).
- Prepare Proposed Plans for public comment and develop RODs for implementation of remediation activities.
- Oversee the remediation, monitoring, and long-term stewardship of contaminated sites at the INL.

**Performance Measure:** In FY2009, work with EPA and DOE to finalize RODs for Waste Area Group (WAG) 7-13/14, Subsurface Disposal Area at the Radioactive Waste Management Complex; and WAG 10-08, Site wide Groundwater and Miscellaneous Sites.

**GOAL: Ensure Data Management Capabilities are Adequate to Fulfill the Mission of DEQ.**

**Objective: Develop an Integrated Data Management System that Provides Access to Quality Data and Analytical Tools to DEQ and the Public.**

**Automated Permit Application Process.** Closely aligned with the air permit streamlining initiative is a plan to fully automate the process of applying for pollution control permits. Among the permits DEQ issues are air quality permits to limit emissions from regulated facilities and wastewater reuse permits to protect surface and ground water from potential contamination associated with land application for irrigation and other purposes.

Currently, applicants must fill out and submit hard copies of permit application forms to DEQ, along with checks for fees, if applicable. This process is lengthy and cumbersome. Providing applicants with the tools to submit permit applications and

fees electronically via the Web will improve customer service by making the application process easier and quicker to complete.

**Strategies for data management:**

- Fully automate the application process for permits issued to reduce paperwork and improve customer service.
- Expand the ability of the public to access environmental information via DEQ’s Web site.
- Develop electronic information exchange capabilities with other agencies.
- Provide the public the opportunity to comment on DEQ actions through the Web site.
- Implement an integrated environmental information management system capable of accessing air, waste, and water data to aid in better managing environmental conditions.

**Performance Measures: By FY2010, complete automation of the application process for permits issued by DEQ.**



**Nitrous Oxide (NOX) Monitoring Equipment**



**PM<sub>10</sub> Monitoring Equipment**



**Secondary Aerosol Monitoring Equipment**



**City of Boise – Photograph by Boise Regional Office**



**City of Boise – Photograph by Janet Trumbull**

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