



**Idaho Department  
of Environmental Quality**

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# **Strategic Plan for Fiscal Years 2015-2018**



## **A Vision for the Future**

July 2014

Cover photo of Arrowrock Reservoir, summer 2013.

Idaho Department of Environmental Quality  
State Office  
1410 North Hilton  
Boise, Idaho 83706  
(208) 373-0502  
[www.deq.idaho.gov](http://www.deq.idaho.gov)

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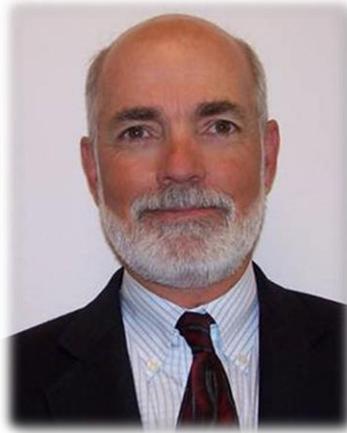
## Message from the Director

The Idaho Department of Environmental Quality's (DEQ's) strategic plan outlines the agency's goals, objectives, and strategies for fiscal years 2015–2018. The plan provides a clear and concise blueprint for how the agency will seek to protect public health and the environment over the next several years and how we will measure our performance. It also looks to the future by identifying emerging issues and opportunities that may impact public health and Idaho's environment in coming years.

Like all state agencies, DEQ felt the effects of the economic downturn. We tightened our belts and met the challenge of making do with less, while continuing to focus on the following core functions and services:

- Managing air quality to ensure compliance with federal health-based standards
- Preventing and protecting soil and water from hazardous, petroleum, and mining waste contamination
- Managing, mitigating, and remediating waste-contaminated areas
- Protecting public health and the environment at and around the Idaho National Laboratory
- Maintaining and improving surface and ground water quality
- Ensuring delivery of safe and reliable drinking water from public water systems
- Preventing, preparing for, and responding to public health and environmental emergencies
- Encouraging and empowering Idaho citizens, businesses, and communities to engage in environmentally responsible behaviors

As we continue to work toward fulfilling these functions in fiscal year 2015 and beyond, fiscal realities remain challenging. Although the economy is picking up, DEQ's budget remains relatively flat near recession levels. It is incumbent on DEQ to clearly justify any future requests for additional funding or staff that are necessary to address increases in costs and workloads—increases that we fully expect.



**Curt Fransen**

While signs of economic growth are generally positive, we are aware that as the economy gains steam, higher salaries in the employment marketplace are making it increasingly difficult to attract and retain knowledgeable and talented staff. In recent years, DEQ has lost a significant number of experienced professional staff through resignations for higher-paying jobs. DEQ is committed to doing all it can to retain our very capable and dedicated staff of scientists, engineers, analysts, information technology professionals, and administrators.

Related challenges and opportunities are presented by the recent and upcoming retirements of a number of long-term, key DEQ employees. This phenomenon appears to be common among agencies statewide as the baby boomer workforce transitions into retirement. As a result, DEQ is increasingly focused on succession planning to maintain continuity and ensure a smooth transfer of experience during this period of realignment.

Another key DEQ focus over the next several years will be implementing a major new state program to issue water quality permits to entities that discharge wastewater into surface waters of the state.

Legislation requiring DEQ to pursue state primacy for the National Pollutant Discharge Elimination System (NPDES) program, currently operated by the US Environmental Protection Agency, passed earlier this year. Idaho is one of only four states that does not administer an NPDES program.

DEQ expects this new state-run program will be a positive development both for the environment and regulated entities. Implementing a new program like this will bring exciting challenges to the agency. While permittees must expect that protective, substantive permitting requirements will remain, they can look forward to gaining enhanced access to permit writers and other staff with local experience and knowledge and experiencing a streamlined timeline for issuing permits. Planning and early steps toward implementation of this multiyear effort are underway, with the launch of a 4-year

phase-in of issuing sector-specific permits targeted for 2018.

In addition to developing the state NPDES program, a number of other specific environmental regulatory challenges are on the horizon. DEQ will be addressing the following issues:

- **New federal air quality standards for ozone.** Some areas of the state could be declared nonattainment as a result of stricter standards, and DEQ could be required to develop costly and time-consuming plans to regain attainment status to ensure protection of public health and minimize economic impacts.
- **Development of human health water quality criteria for toxic pollutants.** DEQ is currently collecting data on fish consumption within the state and engaged in negotiated rulemaking to update criteria. New criteria could affect virtually all Idahoans—those who recreate in, get their drinking water from, or fish Idaho’s surface waters and all who discharge pollutants into those waters. Our goal is to ensure the criteria are scientifically based, protective, and achievable.

- **Completion of and change in major cleanup actions at both the Idaho National Laboratory and the Bunker Hill Superfund Site.** Many cleanup activities at these sites are being completed or refocused, which will affect the type and level of DEQ oversight. Environmental monitoring and emergency planning and response will remain focal points regarding the Idaho National Laboratory. Completion and maintenance of human health-related cleanups are priorities at the Bunker Hill Site, along with new actions to improve water quality and address natural resource damages.
- **Ongoing and increasing participation in the oversight of cleanup activities at historic phosphate mines in southeast Idaho.** Work continues on the assessment and remediation of approximately 30 mine sites in southeast Idaho. DEQ will continue to play a key role in both the cleanup and permitting processes.

Overall, fiscal year 2015 and beyond looks to be a busy and productive period for DEQ. We will rely on the strategies outlined in this plan to ensure we continue to fulfill our fundamental responsibilities of protecting public health and the environment.

# Introduction

## DEQ's 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.**

The Idaho Department of Environmental Quality (DEQ) was established by the Idaho Environmental Protection and Health Act (Idaho Code Title 39, Chapter 1) to protect human health and the environment.

As the state's environmental regulatory agency, DEQ is responsible for implementing and enforcing delegated federal programs under the Clean Air, Clean Water, Safe Drinking Water, and Resource Conservation and Recovery Acts, as well as many state environmental laws and rules. This regulatory responsibility covers a broad range of activities to ensure Idaho's air, water, land, and citizens are protected from the adverse impacts of pollution.

Overall, our primary activities involve monitoring, permitting, inspecting, remediating, and providing oversight and technical assistance.

- Environmental monitoring is performed to assess conditions and ensure health-based standards are met.
- Permits are issued to facilities that manage wastes or release pollutants in order to limit the amounts to safe levels.

- Inspections of pollution sources and responses to complaints help ensure compliance with environmental regulations and standards.
- Remediation entails removing or neutralizing contaminants in soil and surface waters. Compliance may be voluntary or, if necessary, enforcement action may be taken.
- Oversight can include many different projects such as cleanups, pollution reduction, and drinking water and wastewater infrastructure improvements.
- Finally, assistance is provided through outreach and education to facilitate compliance with environmental requirements.

DEQ works closely and collaboratively with a wide range of public and private partners, including federal and state agencies; the Board of Environmental Quality; city, county, and tribal governments; businesses; community organizations; and Idaho citizens. These partnerships are critical to accomplishing our environmental and human health protection mission.

## Our 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.**

## Purpose and Structure of the Strategic Plan

Idaho statute requires each state agency to develop a strategic plan that is the foundation for establishing performance commitments and assessing progress toward achieving agency goals (Idaho Code 67-1903). Plans are based on the state fiscal year (July 1 through June 30); cover a 4-year horizon into the future, including the year in which they are developed; and are updated annually.

The purpose of the strategic plan is to provide planning and performance information to the legislature, which oversees and assesses performance, taking into account the statutory authority granted to the agency and the agency's appropriated annual budget.

The strategic plan has been designed to mirror DEQ's organizational structure (Figure 1). The agency headquarters in Boise is organized into divisions that focus on developing and administering programs and policies.

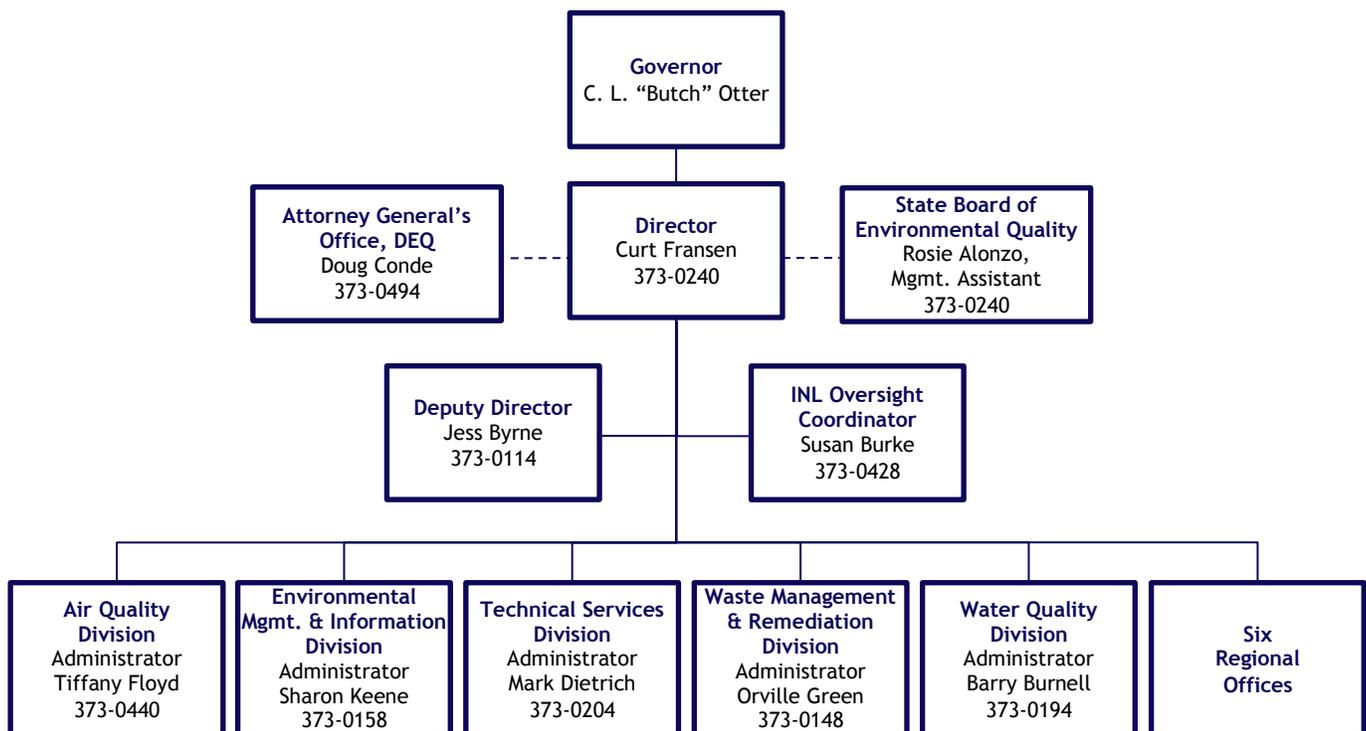


Figure 1. DEQ organizational chart.

**Goals, objectives, and strategies** are identified in the plan for each programmatic division—Air Quality, Waste Management and Remediation, Water Quality, and Environmental Management and Information—and for the Idaho National Laboratory Oversight Program and emergency preparedness and response.

- **Goals** describe the broad environmental and/or human health conditions the agency is trying to achieve.
- **Objectives** are the incremental steps that will be taken to achieve each goal.
- **Strategies** are the specific actions necessary to achieve the objectives.

The day-to-day, on-the-ground services of the agency are provided locally by six regional offices (Figure 2). The regional offices implement statewide programs and policies and perform many similar ongoing functions and services. However, individual regions sometimes face unique challenges specific to their geographic areas. Regional initiatives are identified in the strategic plan, consistent with corresponding goals and objectives.

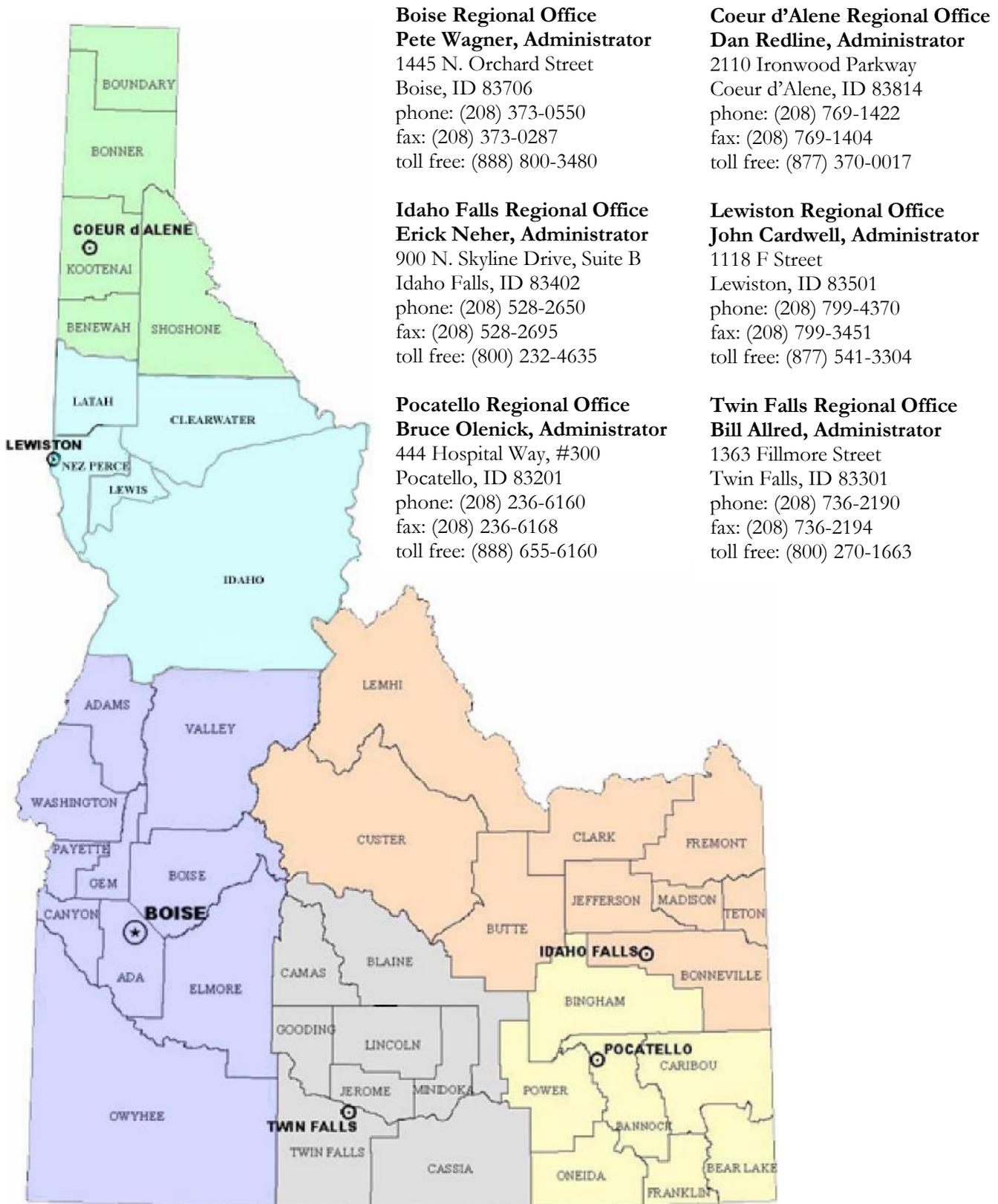


Figure 2. DEQ regional offices.

# Agency Goals, Objectives, and Strategies

## Air Quality Goal:

Manage air quality in Idaho airsheds to ensure compliance with National Ambient Air Quality Standards.

National Ambient Air Quality Standards (NAAQS) are federal standards established by the United States Environmental Protection Agency (EPA) that all states are required to meet. Standards have been established for six pollutants (known as criteria pollutants): nitrogen dioxide, carbon monoxide, ozone, sulfur dioxide, lead, and two sizes of particulate matter (PM<sub>10</sub>—particulate matter less than 10 microns in diameter—and PM<sub>2.5</sub>, which is less than 2.5 microns in diameter).

These standards establish the health-based thresholds below which DEQ strives to control air pollution in the various airsheds throughout Idaho. An airshed is defined as a volume of air that has similar characteristics and is separated from other volumes of air by weather patterns and topography. An airshed is mostly confined to a specific and definable geographic area.

DEQ maintains and operates a comprehensive statewide air quality monitoring network in selected cities to track compliance with the NAAQS and to report on the effectiveness of various actions taken to control air pollution and protect public health.

The overriding agency goal for air quality is to meet and maintain compliance with the NAAQS. If the NAAQS are violated in a geographic area, EPA designates these geographic areas as “nonattainment areas,” and DEQ is responsible for developing plans for controlling pollution to meet and maintain the NAAQS.

DEQ is committed to working with local communities to meet these standards and to developing the best state and local solutions for controlling pollution and protecting air quality. To meet this goal, the Air Quality Division has four objectives.

### ***Objective 1. Protect public health by issuing pollution control permits and maintaining monitoring and modeling capabilities to ensure compliance with NAAQS.***

DEQ issues air quality permits that can be facility-specific or for categories of industrial activities. Facility-specific permits are issued for construction, modification, and operation of stationary pollution sources to control the emissions of pollutants into the atmosphere. Permit limits, monitoring requirements, and operational requirements are specified to ensure increases in emissions will not cause or contribute to violations of air quality standards. In some instances, DEQ issues general permits for specific categories of industrial activity, such as aggregate processing operations.

DEQ monitors for ambient air quality conditions and conducts modeling to predict air quality impacts as required under the federal Clean Air Act. These tools, in conjunction with emissions inventory information, give DEQ the ability to assess compliance with the NAAQS, forecast future compliance, and assess the effectiveness of specific measures to control emissions, reduce pollution levels, or both (Figure 3).



Figure 3. Particulate monitor in Pinehurst.

DEQ provides daily forecasts of air quality conditions to the public for pollutants of concern (ozone and particulates) in the form of an Air Quality Index in selected cities throughout Idaho. The forecasted Air Quality Index considers monitoring data; the NAAQS, which are health based; local emission sources; and meteorological conditions and is reported on a scale of good, moderate, unhealthy for sensitive groups, unhealthy, very unhealthy, and hazardous (Figure 4). The index provides the public a tool to gauge air quality conditions and the potential health effects. DEQ also provides advice on precautionary measures to minimize exposure and reduce air pollution.

**Strategies for ensuring NAAQS compliance through permitting, monitoring, and modeling:**

- Issue and modify pollution control permits to ensure NAAQS and federal requirements for air pollutants are met.
- Perform stationary source modeling to ensure permits contain limits necessary for controlling pollution to meet the NAAQS.

- Issue construction permits in a timely manner.
- Provide appropriate modeling guidance documents.
- Maintain a statewide network of meteorological monitoring stations and provide staff access to real-time pollutant and meteorological data for modeling, air quality forecasting, and other air quality management decisions.
- Evaluate airsheds annually for compliance with the NAAQS and submit recommendations to EPA for redesignations and reclassifications.
- Make air monitoring and meteorological data available to the public and stakeholders for permit applications, crop residue burning, and other uses.
- Report air quality information to the public daily and inform the public of actions to help air pollution and protect public health.
- Assist local communities in responding to smoke impacts by providing timely information.

Know Before You Go! Air Quality Index		
Category	Index Value	Level of Health Concerns
Green	0-50	Good
Yellow	51-100	Moderate
Orange	101-150	Unhealthy for sensitive groups
Red	151-200	Unhealthy
Purple	201-300	Very unhealthy
Maroon	301-500	Hazardous

Figure 4. Air Quality Index.

**Air Quality Performance Measures**

- ✓ In FY2015, issue air quality permits to construct in 99 days, on average. (This is a benchmark performance measure; see the Performance Accountability section.)
- ✓ In FY2015, correctly forecast the accurate Air Quality Index category for 100% of days in Idaho’s airsheds. (This is a benchmark performance measure; see the Performance Accountability section.)

**Objective 2. Maintain an effective compliance assurance program that ensures air pollution sources are in compliance with permit conditions and regulatory requirements.**

Once permits are issued, it is important to make sure facilities comply with their provisions. DEQ conducts several types of inspections to ensure regulatory requirements and permit conditions are met. Routine compliance inspections, technical assistance inspections, and complaint response inspections are all performed to promote compliance with applicable requirements (Figure 5).

**Strategies to ensure compliance with air quality permits and regulations:**

- Provide outreach and technical assistance to help facilities comply with permits and regulatory requirements.
- Inspect air pollution sources to verify compliance with permits and regulations, and when necessary, take enforcement actions in a consistent and timely manner.



Figure 5. An EPA Method 5/202 particulate matter sampling train from an emission test observation at Idaho Power's Langley Gulch natural gas-fired combustion turbine near New Plymouth.

## Air Quality Performance Measure

- ✓ In FY2015, conduct 84 inspections of stationary and portable air pollution sources.

**Objective 3. Protect public health from the impacts of smoke.**

Smoke is a very common occurrence in Idaho that causes public health impacts. Smoke comes from many different sources such as woodstoves, crop residue burning, residential burning, burn barrels, prescribed burning, and wildfires (Figure 6). DEQ regulates all open burning in Idaho outside the five tribal reservation boundaries, because open burning emits pollution directly into the air and the environment and is a public health and environmental concern.

DEQ manages smoke in a variety of ways. DEQ implements the smoke management program for crop residue burning. DEQ is a member of the Montana/Idaho Airshed Group, which is a voluntary group of the large prescribed burners in Montana and Idaho. This group implements, with close coordination with DEQ, the smoke management program for prescribed burning conducted by large burners. Smoke from woodstoves is managed through local ordinances.

DEQ coordinates closely with other agencies responsible for smoke management in and around Idaho, such as the

tribes, other states, and local and county agencies. Efforts are continuing to improve coordination with other burn permitting and smoke management entities and expand public outreach.

DEQ continues to implement program improvements, including a more flexible burn decision process, best management practices for burning, and enhanced documentation procedures.

**Strategies for protecting public health from the impacts of smoke:**

- Conduct the smoke management program in an efficient, effective, and transparent manner.
- Ensure the smoke management program addresses all types of prescribed burning.
- Coordinate with other smoke management and fire agencies to address all sources of smoke within and outside DEQ's jurisdiction.

- Educate local communities about health impacts from smoke and ways they can reduce impacts from woodstoves and open burning.
- Make daily burn decisions by considering air quality, meteorology, field conditions, and safety factors.
- Facilitate compliance with open burning rules through training, timely communication, and outreach activities.
- Ensure public access to up-to-date burning information through DEQ's website and other outreach activities.
- Modify the smoke management program as appropriate to accommodate concerns.



Figure 6. Smoke from a prescribed burn at Dworshak Reservoir near Orofino, fall 2013.

### Air Quality Performance Measures

- ✓ In FY2015, develop a smoke management plan that addresses all prescribed burning within Idaho, outside the five Indian reservation boundaries.
- ✓ In FY2015, manage smoke impacts to the public by addressing all types of open burning and coordinating efforts with other smoke management agencies within shared airsheds.

**Objective 4. Work with communities to proactively and voluntarily protect public health from air pollution.**

DEQ uses an “airshed management” approach in working with communities to protect public health from the impacts of air pollution. Airshed management is based on active citizen involvement in a collaborative process for charting the future and the necessary actions to avoid violations of air quality standards.

This approach is based on the following:

- Collection and understanding of good scientific data
- Community involvement in establishing a vision for local air quality and goals for the future
- Community selection and implementation of strategies to address threats to air quality

Vehicle emissions are among the top contributors to ozone air pollution in Idaho airsheds, particularly in urban areas. To address ozone pollution, legislation was passed in 2008 requiring establishment of a vehicle inspection and maintenance program (i.e., emissions testing program) or equivalent strategy in areas of the state that meet specific conditions. Currently, the Treasure Valley airshed is the only airshed in the state that meets these conditions.

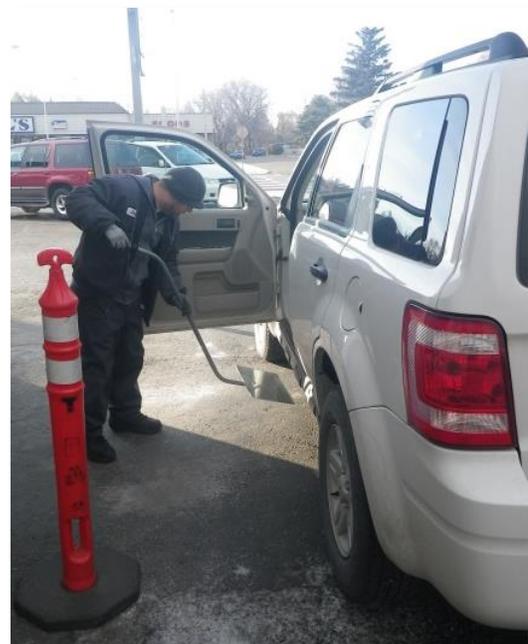
DEQ oversees the vehicle emissions testing program in Canyon County and the city of Kuna (in Ada County). When the legislation was passed in 2008, expected ozone precursor emission reduction estimates were developed for Ada and Canyon Counties. Each year, the latest approved model and program data are used to evaluate emission reductions to assess the continued benefits of the emission testing programs in comparison to the initial estimated reductions. The 2012 total Ada County emission reductions were 11% greater and the Canyon County 2012 emission reductions were 49% greater than was initially estimated (Table 1). These results confirm that the two-county testing program is a cost-effective measure for reducing ozone precursors in the Treasure Valley.

**Table 1. Ozone precursor modeled annual reductions.**

Ozone Precursor	2008 Emission Reductions		Calendar Year 2012 Emission Reductions	
	Ada County	Canyon County	Ada County	Canyon County
Volatile organic compounds (tons/year)	293	138	340	223
Nitrogen oxides (tons/year)	275	114	290	153
<b>Total reductions (tons/year)</b>	<b>568</b>	<b>252</b>	<b>630</b>	<b>376</b>

**Strategies for working with communities to prevent violations of NAAQS:**

- Identify areas at risk for exceeding NAAQS by evaluating ambient air monitoring data and using air quality models to predict conditions.
- Develop and implement air pollution control strategies for maintaining or reducing ambient concentrations of air pollutants.
- Evaluate the effectiveness of control strategies to maintain or reduce air pollutants using predictive air quality models.
- Compile comprehensive inventories of pollutant sources and their emissions to use with air quality models and to support airshed management activities.
- Manage the Idaho Vehicle Inspection and Maintenance Program in the Treasure Valley airshed to proactively address ozone and avoid future NAAQS issues (Figure 7).
- Reduce greenhouse gas emissions that contribute to global warming.
- Improve visibility in Federal Class I Areas.



**Figure 7. An inspector conducts a visual inspection of emission control systems during an emissions test.**

## Air Quality Performance Measures

- ✓ Annually review the results of the Idaho Vehicle Inspection and Maintenance Program in the Treasure Valley airshed to assess its effectiveness in reducing ozone precursors.
- ✓ In FY2015, seek funding opportunities and continue to implement a program to replace older inefficient woodstoves with cleaner-burning heating appliances in threatened airsheds. Target airsheds include Pinehurst, Salmon, Franklin County, and the Portneuf Valley.
- ✓ In FY2015, complete the Pinehurst/Silver Valley PM<sub>2.5</sub> Nonattainment Area State Implementation Plan and submit to EPA.

## Emerging Issues and Opportunities in Air Quality

**New ozone standard.** EPA may announce a new, more stringent standard for ozone in 2014. Depending on the new standard, the Treasure Valley may not meet the standard and, as a result, may be designated as a nonattainment area. Tighter standards for various other pollutants are expected to be implemented over the next several years as well.

**PM<sub>2.5</sub> standard revision.** EPA recently tightened the PM<sub>2.5</sub> annual NAAQS. This revision has resulted in Pinehurst being designated nonattainment and will likely result in Salmon not meeting the standard either unless Idaho reduces the amount of woodstove pollutants in communities that use wood fuel and are located in restricted airsheds (mountain valleys). DEQ will need to continue to work with communities and exploit funding opportunities to replace old wood-burning stoves with cleaner heating options.

**Biomass for energy production.** Biomass is any plant material or animal waste used to produce energy. The potential for increased use of biomass, while providing an alternative source of energy, could have a significant impact on local airsheds. The additional emissions of particulate matter from facilities producing energy with biomass could put more areas at risk for impaired air quality, should these facilities materialize. DEQ will need to work closely with communities in permitting these facilities.

**Clean Air Act section 105 federal air quality grant allocation.** EPA is proposing to change the formula for allocating federal §105 Clean Air Act dollars to the regions. As proposed, Region 10 could have its allocation reduced by as much as 40% phased in over the next 8 years (beginning in 2015). This reduction could have a significant impact on Idaho's ability to maintain primacy over certain air programs and may require Idaho to consider the impacts and alternatives to relinquishing some air programs to EPA. DEQ is working closely with other Region 10 states and EPA to minimize or eliminate this potential problem.

## Waste Management and Remediation Goal 1:

Through proper waste and product management, prevent and protect soil and water from contamination resulting from solid and hazardous waste, petroleum products, and mining-related activities.

DEQ is responsible for monitoring and controlling the generation, treatment, storage, and disposal of wastes and regulating the management of petroleum products in underground storage tanks (USTs) in Idaho. When contaminants are released into the environment, DEQ is also responsible for responding to the release and ensuring proper cleanup actions are taken to protect human health and the environment.

Several kinds of wastes and products that DEQ regulates pose risks to human health and the environment, if not handled correctly.

**Solid waste** is a broad term that includes garbage, refuse, sludges, or other discarded material. It also includes discarded liquids and containerized gases. In general, DEQ's solid waste program deals with municipal and nonmunicipal solid waste at transfer stations, certain composting operations, certain petroleum-contaminated soils landfills and landfills. While the term "solid waste" technically includes hazardous and mining waste, DEQ has other specific programs to address these wastes.

**Hazardous wastes** have properties that make the waste dangerous or potentially harmful to human health or the environment (Figure 8). In regulatory terms, a hazardous waste is either a "listed" waste (a waste that appears on one of four federal hazardous waste lists due to its potential inherent dangers) or a waste that exhibits at least one of four characteristics: ignitability, corrosivity, reactivity, or toxicity.

**Mining wastes** are solid or hazardous wastes that are associated with mining operations. Special regulations in Idaho govern surface mining operations and cyanidation facilities.

**Petroleum products** are not wastes. However, leaks from underground and aboveground storage tanks or their associated piping systems can contaminate the environment. To prevent leaks and to minimize the extent of a leak, it is important to ensure that the tanks are properly installed, operated, and inspected.

Overall, DEQ's waste management and remediation activities focus on preventing the release of contaminants to the environment and ensuring cleanup of contamination, once it is identified.

### **Objective 1. Minimize the threat of releases of hazardous, solid, and mining wastes and petroleum products to the environment.**

DEQ issues permits and other approvals, conducts inspections, and provides training and compliance assistance to facilities that generate, dispose of, treat, or store wastes to ensure that those wastes do not adversely impact the environment or pose a public health risk.

DEQ also manages the state's Underground Storage Tank Program, which is aimed at preventing and detecting leaks of petroleum products and hazardous substances. In FY2012, EPA granted DEQ state program approval to operate the UST Program in lieu of EPA in Idaho. DEQ's UST Program is responsible for conducting operator

training, inspections, and compliance assistance at Idaho's 1,192 petroleum storage facilities (Figure 9 and Figure 10).

#### **Strategies for minimizing the release of contaminants:**

- Update state regulations as necessary to ensure consistency and compliance with state and federal laws and to address directives from the Board of Environmental Quality.
- Issue siting licenses for new or expanded commercial solid waste landfills or commercial



**Figure 8. Broken lead-acid batteries pose a threat to human health and the environment.**

facilities that treat, store, or dispose of hazardous waste.

- Issue and enforce permits for hazardous waste facilities, municipal and nonmunicipal solid waste management facilities, and cyanidation mining operations.
- Inspect facilities that manage solid or hazardous waste, store petroleum products or hazardous substances in USTs, or conduct mining operations using cyanide.
- Issue inspection reports and, when necessary, initiate enforcement actions in a consistent and timely manner.
- Ensure that solid waste and hazardous waste facilities meet applicable financial assurance requirements.

- Issue certifications or permits for closure and post-closure of solid waste and hazardous waste facilities.
- Provide site-specific training to owners, operators, and employees on safe and compliant operation of UST systems.
- Provide access to an UST Internet database detailing the status of all regulated petroleum UST systems in Idaho.
- Provide technical and compliance assistance to regulated facilities.



Figure 9. Removal of a 20,000-gallon UST from a site in Homedale.



Figure 10. UST basin after tank removal. USTs were located so close to buildings that shoring had to be installed to protect buildings from collapsing into excavation.

## Waste and Remediation Performance Measures

- ✓ In FY2015, conduct at least 107 inspections of facilities that manage or generate hazardous waste.
- ✓ In FY2015, complete all time-critical or scheduled hazardous waste permits and reviews within established time frames. (This is a benchmark performance measure; see the Performance Accountability section.)
- ✓ In FY2015, complete compliance inspections at approximately one-third of the 1,192 facilities in Idaho with registered petroleum underground storage tank systems. State and federal requirements mandate that all facilities in Idaho be inspected once every 3 years.

## **Waste Management and Remediation Goal 2:** Protect human health and the environment through proper waste management, mitigation, and remediation of contaminated areas.

DEQ learns about contaminated land or water from facility inspections, site investigations, complaints, or emergency response activities. Contamination can result from a variety of activities such as improper practices at existing facilities, accidental spills, or leaks from UST systems. DEQ also gathers information about suspected contamination due to abandoned mines, rural airfields that have served as bases for aerial spraying, old landfills, illegal dumps, and abandoned industrial facilities.

DEQ oversees the investigation and remediation of sites that have been or are suspected to have been contaminated by metals, chemicals, petroleum, or other waste products. DEQ also maintains a database inventory of identified contaminated sites. To meet this goal, the Waste Management and Remediation Division has three objectives.

### ***Objective 1. Assess and remediate contaminated sites.***

When environmental contamination is discovered, the site must be assessed to determine what contaminants are present, the concentrations, and the pathways that exist for contaminants to affect human health or the surrounding environment. Once assessed, the risk to the public and the environment is determined, and appropriate cleanup activities are initiated. Contamination is removed or controlled to ensure human health and the environment are protected for current and future land.

#### **Strategies for assessing and remediating contaminated sites:**

- Assess contaminated sites and determine the threat to human health and the environment using risk-based targets to establish site cleanup goals.
  - Provide ongoing oversight for long-term cleanup sites such as the Burlington Northern Refueling Depot, Broadway Cleaners, Deming, LD McFarland, Joslyn, Univar Boise and Nampa sites, multiple former Western Farm Service sites throughout southern Idaho, and the City of Boise Gowen PCE site.
  - Fund and conduct environmental assessments of “brownfields” sites, which are vacant or underutilized properties where redevelopment or reuse is complicated by actual or perceived environmental contamination. These sites have the unique characteristic of high redevelopment potential and community value (Figure 11 and Figure 12).
  - Assist eligible entities in applying for federal grants to cleanup contaminated brownfields sites.
  - Provide oversight for four Community Reinvestment Pilot Sites (brownfields) in progress.
- This pilot program was funded by the legislature to provide partial reimbursement to 10 private or nonprofit entities for completing DEQ-approved cleanups of pilot brownfields sites. Upon completion of the cleanup, DEQ issues the pilot participant a rebate equal to 70% of the eligible cost, up to a maximum of \$150,000 per pilot site.
- Fund and conduct preliminary assessments/site inspections of inactive or abandoned mining and industrial areas to provide property owners with recommendations for voluntarily managing risks and controlling environmental problems on their property.
  - Work with willing responsible parties to manage or abate risks from contamination through DEQ’s Voluntary Cleanup Program, which was created by the Idaho Land Remediation Act. As an alternative to enforcement action, a party may enter into a voluntary agreement with DEQ to clean up contaminated property to DEQ standards. Once the property is cleaned up, DEQ may provide the party a covenant not to sue.
  - Initiate enforcement action, when necessary, by issuing the responsible party a notice of violation, consistent with the Hazardous Waste Management Act or Environmental Protection and Health Act. After issuing a notice of violation, DEQ will seek to alleviate the existing threat and may pursue penalties for violations of state law, as well as seek cost recovery.
  - Issue an emergency declaration when an imminent and substantial threat to human health or the environment exists and no responsible party can be identified. This declaration allows DEQ to use

emergency response funding to hire remediation specialists to cleanup the site. Emergency response funds are drawn from penalties imposed on responsible parties who have violated the Hazardous Waste Management Act.

- Provide environmental expertise and field support to local first responders for approximately

300 emergency incidents in Idaho involving the potential release of hazardous materials and/or weapons of mass destruction.

- Assist local governments and the public by maintaining and providing access to the Internet database of contaminated sites in Idaho.

## Waste and Remediation Performance Measures

- ✓ In FY2015, conduct training for DEQ staff and environmental consulting firms on new software developed for calculating risk associated with petroleum contamination at sites and training using DEQ's 2012 *Risk Evaluation Manual for Petroleum Releases*.
- ✓ In FY2015, remediate 10 leaking underground storage tank sites for safe reuse.
- ✓ In FY2015, oversee completion of up to 10 brownfields site assessments. (This is a benchmark performance measure; see the Performance Accountability section.)
- ✓ In FY2015, continue oversight of four Community Reinvestment Pilot sites in the Voluntary Cleanup Program and collect economic impact data on sites that receive state rebates.



Figure 11.

Former Goodman Oil building—a brownfields site—in Grand View. Flagged stakes represent geoprobe soil boring locations. A geoprobe is a hydraulically powered soil probing machine that drives steel boring rods into the ground to the desired depth. The rods contain plastic tubes that collect soil samples for analysis.



Figure 12.

Monitoring well installation by geoprobe drill rig at a brownfields site inside the former Idaho Linen Building in Boise.

**Objective 2. Complete risk assessments and determine necessary action to prevent and control the release of past mining and other industrial and landfill contamination to the environment.**

More than 8,500 inactive and abandoned mines, mineral locations, and mineral discoveries are located in Idaho, in addition to multiple abandoned or repurposed industrial facilities such as landfills, waste disposal areas, dry cleaners, rural airfields, railroad depots, and various other manufacturers (Figure 13). DEQ offers assistance to private owners of these properties to help evaluate and manage human health and ecological risks on their properties.

With property owner permission, DEQ assesses private or local government–owned sites as part of the Preliminary Assessment Program. The DEQ State Office works with the regional offices to identify candidate sites for assessment. Due to accessibility and funding considerations, priority is given to sites with high potential for human health and ecological impacts and high potential for future development and reuse.

Preliminary assessments can result in three potential conclusions:

- 1) Request for additional information to fully understand site conditions and extent of contamination
- 2) Recommendations for voluntary site remediation or use of other cleanup or clean water authorities
- 3) Determination that no further action is necessary

**Strategies to prevent and control contamination from mining:**

- Work with state and federal land management agencies to identify, assess, and prioritize potentially contaminated mine sites and with property owners to determine remediation options.

- Evaluate potential impacts of new mine sites to soil, ground water, and surface water resources and collaborate with federal agencies in developing best management practices as new mines are permitted.

**Strategies to prevent and control contamination from industrial sites:**

- Work with DEQ regional offices to identify, assess, and prioritize potentially contaminated industrial sites and with property owners to determine remediation options. Sites will be prioritized based on DEQ criteria for siting rationales for industrial sites.



**Figure 13. DEQ's Preliminary Assessment Program evaluates and prioritizes assessment of potentially contaminated sites such as abandoned mines, rural airfields that have served as bases for aerial spraying, old landfills, illegal dumps, and abandoned industrial facilities.**

## Waste and Remediation Performance Measure

- ✓ In FY2015, work with landowners to complete problem assessments and implement measures that will result in 5 inactive or abandoned mining and 5 industrial/landfill sites receiving no-further-action determinations or being carried forward to a remediation process. The targeted number of sites is dependent on funding from EPA.

### **Objective 3. Implement major long-term cleanup actions for historic releases of mining-related contamination to the environment.**

DEQ is working with EPA and other federal, state, tribal, and local agencies and stakeholders to implement two major mining cleanup projects. These projects are at opposite ends of the state—one in the phosphate mining area of southeast Idaho and the other in the Silver Valley of the Idaho Panhandle.

**Selenium Contamination in Southeast Idaho.** The Pocatello Regional Office is working to remediate historic phosphate mine sites. DEQ is making progress in conducting assessments and cleanup of sites that are under state leadership and continues to support work on federal lead cleanup sites. As a cooperating agency, DEQ is also proactively engaged in permitting new mine sites. In all, DEQ is involved in nearly 27 selenium-related remediation sites in southeast Idaho and 7 permitting projects.

One historic phosphate mine site under DEQ lead is the Conda/Woodall Mountain Mine. Conda, one of the oldest and largest mines in eastern Idaho, produced phosphate ore under various mine operators from 1906 through 1984. During open-pit mining, overburden (waste rock) was removed from the mine pits and placed in overburden disposal areas (ODAs).

The remedial investigation/feasibility study (RI/FS) began in 2008. The investigation is complete for most parts of the mine and a draft final RI report is currently under review. A draft baseline risk assessment will be submitted in early 2015, and a draft FS evaluating cleanup alternatives will be submitted in 2017. A supplemental ground water investigation in one part of the mine will be conducted in 2014 and 2015, with the results incorporated into a final RI report and final risk assessment in 2016. Cleanup actions taken in 2013 are summarized in Figure 14 and Figure 15.



**Figure 14. Before photo of the Pedro Creek Overburden Disposal Area (ODA).**

The Pedro Creek ODA consists of several million cubic yards of dumped overburden materials in the upper reaches of the Pedro Creek drainage. The ODA consisted of 32 relatively flat acres bordered on the east by 28 acres of very steep side slopes (Figure 14). Cleanup action was needed because the steep side slopes were unstable and subject to slumping. Also, rain and snowmelt pooling on, and infiltrating through, the ODA contaminated Pedro Creek and shallow ground water with high levels of selenium and other contaminants that currently exceed state water quality standards.

The final removal action for the Pedro Creek ODA was conducted to recontour and stabilize the dump, capture stormwater, and limit water infiltration in order to significantly reduce contamination found in Pedro Creek (Figure 15). The site will be monitored over the next several years to evaluate the action's effectiveness.



**Figure 15. Work completed in 2013 for the Pedro Creek ODA.**

**Metals Contamination in the Coeur d'Alene Basin.** In 1983, EPA listed the Bunker Hill Mining and Metallurgical Complex as a Superfund site. This listing was in large part due to high levels of metals (including lead, arsenic, cadmium, and zinc) in the local environment and elevated blood lead levels in children.

DEQ works with the Basin Environmental Improvement Project Commission (BEIPC) and its member agencies, including EPA, to plan and oversee implementation of the cleanup for the Coeur d'Alene Basin (Figure 16).

Cleanup of residential and commercial properties to address human health exposures has been the primary focus of work to date. This work has been largely completed and is winding down. For example, the average number of properties remediated has been about 300 per year. In the 2014 construction season, plans are to remediate 100 properties. This number is expected to decline over the next few years until the current large-scale program is no longer cost effective. At that time, remediation of remaining properties will be turned over to the Coeur d'Alene Work Trust, which was created as a result of the ASARCO bankruptcy settlement.

Several side drainage flood control projects were completed in the 2013 construction season. This work will continue in the next few years to provide long-term protection of the human health remedy.

DEQ has also worked to protect human health by administering the Paved Roads Remediation Program for the site (Figure 17). This program is needed to

restore paved roads so they are effective barriers to underlying contamination. Paved roads at the site are in poor condition in part due to heavy truck traffic caused by the remediation. This program functions like a grant program where DEQ provides funding to local road jurisdictions to implement projects on eligible roads. The paved roads work could continue for up to 10 years. One of the reasons for the longer implementation period is that communities are working to obtain other grants to install other infrastructure as part of the paved roads work. This approach is cost-effective and has significant environmental and community benefits.

DEQ will continue to partner with the Panhandle Health District by funding the Institutional Controls Program (ICP). The ICP is a locally controlled free permitting system that ensures clean barriers are maintained and installed after excavation activities. These two agencies also partner to implement health intervention and education to reduce human exposures to lead.

DEQ will continue to work with EPA to improve water quality in the South Fork Coeur d'Alene River through various remedial actions including water collection and treatment and mine waste remediation sites at Bunker Hill.

Natural resource restoration is a part of the Superfund process. As part of the Bunker Hill cleanup, the Restoration Partnership has been established. The partnership is made up of the Coeur d'Alene Tribe, the US Department of Interior, the US Department of Agriculture, and the State of Idaho, represented by DEQ and the Idaho Department of Fish and Game. The partnership is working on its long-term plans based on public and agency input.

#### Strategies for long-term mining cleanups:

- Work with industry and state, federal, and tribal agencies to conduct site-specific assessments, interim actions, and remediation activities to address selenium contamination resulting from phosphate mining in southeast Idaho.
- Implement projects to protect and preserve existing remedial efforts and address water quality through source control and other strategies (Figure 18).
- Continue to plan and implement natural resource restoration projects in the Coeur d'Alene Basin as a member of the Restoration Partnership.
- Site and design repositories to isolate contaminated materials so they are not released into the environment.
- Support the Basin Environmental Improvement Project Commission with its task of addressing heavy metal contamination in the Coeur d'Alene Basin.



**Figure 16.** DEQ employees Glen Pettit and Denna Grangaard at an educational booth about human health and soil and water quality in the Coeur d'Alene River basin at the North Idaho Fair and Rodeo. Led by the DEQ Kellogg office, this cooperative effort involves the BEIPC, EPA, Coeur d'Alene Tribe, and Panhandle Health District and reaches 2,000 people annually.

## Waste and Remediation Performance Measures

- ✓ In FY2015, meet all milestones, deliverables, and deadlines for state-led phosphate mine remediation activities, consistent with agreements in place to permit, assess, and remediate selenium contamination in southeast Idaho.
- ✓ During the 2014 construction season, remediate 100 metals-contaminated individual properties in the Coeur d'Alene Basin, achieving remediation of a total of over 3,800 properties by the end of the construction season.



Figure 17. Paved Roads Remediation Program project in Osburn, Idaho.



Figure 18. Remediation work at Bunker Hill creating a storm drain channel to help manage contaminant migration.

### Objective 4. Complete CERCLA (Superfund) regulatory actions at the Idaho National Laboratory.

Under the federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Tri-Agency (DEQ-EPA-US Department of Energy [DOE]) Federal Facilities Agreement and Consent Order (FFA/CO), the DEQ Waste Management and Remediation Division evaluates the following:

- The effectiveness and regulatory compliance of records of decision and non-time-critical removal actions
- Completed and on-going remediation activities directed toward historic releases of radionuclides and hazardous substances to soil and the Eastern Snake River Plain aquifer
- The deactivation and decommissioning of facilities no longer supporting Idaho National Laboratory (INL) mission activities

At the INL, DEQ performs various tasks:

- Monitors and evaluates the effectiveness of completed and on-going CERCLA remediation

activities involving retrieval of previously buried waste, contaminated soils, and treatment of specific zones of the Eastern Snake River Plain aquifer

- Investigates, proposes, and implements remedial action as applicable for newly discovered releases of hazardous substances and radionuclides upon the environment
- Provides for state oversight, in perpetuity, of institutional controls and stewardship of CERCLA waste disposal areas and other sites contaminated with radionuclides and hazardous substances

#### Strategies for reviewing and evaluating FFA/CO compliance:

- Review site-specific institutional controls to ensure limits for human exposure are not exceeded.

- Review and approve plans and proposals to deactivate and decommission surplus facilities, and ensure that residual contamination and/or waste is documented and properly addressed or disposed.
- Review ground water and soil monitoring data to evaluate compliance with remediation goals.
- Review monthly data reports on buried waste retrieval to ensure specified areas, volume, waste type, and efficiencies are being met.

### Waste and Remediation Performance Measure

- ✓ In FY2015, inspect three major active CERCLA activities at the INL: Radioactive Waste Management Complex (RWMC) buried waste retrieval at Waste Area Group 7-13/14 (Figure 19); Idaho Nuclear Technology and Engineering Center (INTEC) anthropogenic and natural precipitation infiltration control system at Waste Area Group 3-14; and the Idaho CERCLA Disposal Facility (ICDF) landfill operations at Waste Area Group 3-13.



Figure 19. Radioactive Waste Management Complex looking south. (Photo courtesy CH2M-WG Idaho, LLC.)

### Emerging Issue and Opportunity in Waste Management and Remediation

**Waste-to-energy proposals.** Several waste-to-energy (WTE) facilities have been proposed or are in the planning stages in Idaho using various types of solid waste. Several different technologies are employed to process solid waste to generate electricity, generate methane that can be burned to generate electricity, or undergo further processing to be used as a fuel source. Some of these technologies are new and have yet to be evaluated for environmental impacts. Though supportive of WTE concepts, DEQ will need to ensure that emissions, odor control, feedstock handling, and byproduct waste disposal are done in environmentally protective ways.

## Idaho National Laboratory Oversight Goal: Protect public health and the environment at and around the Idaho National Laboratory.

DEQ's INL Oversight Program independently evaluates the effectiveness of the INL's environmental and public health protection programs. The INL Oversight Program conducts environmental monitoring on and around the INL and participates in emergency preparedness, planning, and response to radiological incidents. DEQ has two objectives to meet this goal.

### **Objective 1. Monitor environmental conditions on and around the INL, compare the results to those generated by United States Department of Energy contractors and to applicable regulations, and keep the public informed.**

DEQ maintains an environmental monitoring program around the INL to verify and supplement monitoring activities carried out by the United States Department of Energy (DOE). DEQ has developed a database of monitoring results covering more than 20 years. This information allows DEQ to better understand background radiation as well as water quality and identify any changes potentially related to INL operations.

Environmental monitoring data are analyzed and summarized annually to identify trends. Detailed data reports are prepared and released quarterly.

#### **Strategies for INL monitoring activities and reporting:**

- Operate 10 continuous air monitoring stations and 12 real-time radiation monitoring stations (Figure 20 and Figure 21). Real-time monitoring data are available at [www.deq.idaho.gov/inl-oversight/monitoring.aspx](http://www.deq.idaho.gov/inl-oversight/monitoring.aspx).
- Collect samples and analyze the data from 105 ground water sampling locations, including locations south (downgradient) of the INL (Figure 22).
- Analyze ground water data obtained from wells drilled by the United States Geological Survey and DOE.
- Analyze sample results from three wastewater sites.
- Collect milk samples from dairy animals to detect the presence or absence of atmospheric radioiodine deposited in the terrestrial environment.
- Conduct soil sampling and analyze the data to evaluate the long-term deposition and migration of contaminants in the environment.
- Ensure the public is informed of how activities at

the INL affect public health and the environment through quarterly and annual monitoring reports published on the DEQ website.



Figure 20. Community monitoring station.



Figure 21. Radiological monitoring station.

## INL Oversight Performance Measure

- ✓ In FY2015, ensure continuous air monitoring stations and real-time radiation monitoring stations are operational at least 97% of the time. (This is a benchmark performance measure; see the Performance Accountability section.)



Figure 22. Sampling irrigation well downgradient of INL.

### **Objective 2. Maintain independent capability for radiological emergency response/consequence assessment modeling.**

DEQ's INL Oversight Program provides support to state and local entities for emergencies involving radioactive materials. DEQ personnel will respond to incidents with potential radiological consequences. Emergency preparedness functions include training first responders and other potentially affected organizations in basic radiation principles, instrumentation use, precautions, and preparedness. DEQ also provides radiation detection instrumentation to first responders and maintains instrument calibration.

#### **Strategies for radiological emergency response and preparedness:**

- DEQ will participate in emergency preparedness meetings and emergency exercises and drills conducted by regional and local entities as well as those conducted by DOE contractors.
- DEQ maintains consequence assessment modeling software that may be used for planning

or during actual emergencies. DEQ has access to the same software as DOE contractor emergency response organizations but maintains capabilities with alternative software to provide additional tools for emergency planning or response. Currently, DEQ is investigating use of Radiological Assessment System for Consequence Analysis (RASCAL), a well-supported, widely used Nuclear Regulatory Commission code, as an alternative to the codes used by INL. RASCAL may replace the Air Pollutant Graphical Environmental Modeling System (APGEMS) code.

- DEQ supports hospitals that could receive radiologically contaminated patients from the INL site. DEQ provides training applicable to hospital staff and participates in drills and exercises.

## INL Oversight Performance Measure

- ✓ In FY2015, complete adaptation of RASCAL to use National Oceanic and Atmospheric Administration MesoNet meteorological data. Compare RASCAL modeling products to those produced by other INL emergency response codes, particularly HySplit. Document the implementation of RASCAL and introduce the code to all of DEQ's health physicists.

## Water Quality Goal 1: Maintain and improve surface and ground water quality in Idaho.

Two primary state statutes direct DEQ's overall efforts to maintain and improve surface and ground water quality. Under Idaho Code 39-3601 through 3623, DEQ works with six basin advisory groups (BAGs) across the state for advice on surface water quality protection. BAGs provide input on water quality improvement plans (known as total maximum daily loads [TMDLs]), monitoring priorities, designation of beneficial uses, and the biennial report to EPA on state water quality (Integrated Report). In addition, they review and prioritize water quality improvement projects that address nonpoint source pollution impacts on surface and ground water. Idaho Code requires DEQ to form and work with individual watershed advisory groups (WAGs) to develop and implement specific TMDLs.

Idaho Code 39-120 through 127 designates DEQ as the primary state agency to coordinate and administer ground water quality protection programs. Rules have been promulgated under this statute to ensure DEQ maintains and protects the existing high quality of the state's ground water and the existing and projected future beneficial uses of ground water and interconnected surface water. DEQ also works more informally with lake protection associations and ground water protection groups who share a common interest in protecting the quality of state water resources and public health.

Finally, DEQ has delegated authorities under Section 401 of the federal Clean Water Act to issue water quality certifications for federal agency permits. These certifications include provisions that must be met to ensure compliance of wastewater discharge permits (known as National Pollutant Discharge Elimination System [NPDES] permits), dredge and fill permits (covered under the Clean Water Act Section 404), and hydropower license permits (granted by the Federal Energy Regulatory Commission [FERC]) with state water quality standards. In 2014, revisions were made to Idaho Code 39-172 that directed DEQ to develop an application to EPA for NPDES program primacy. To meet the goal of protecting and improving the quality of surface and ground water in Idaho, the Water Quality Division has four objectives.

### ***Objective 1. Monitor and assess water quality conditions to determine compliance with standards and support of beneficial uses.***

In cooperation with other state and federal agencies, DEQ conducts monitoring for surface water and ground water trends, reconnaissance, special projects, and priority areas to assess conditions, prepare reports, and update standards.

Surface water trend monitoring is a core DEQ responsibility and key to understanding water quality conditions in the state. In FY2015–2018, DEQ will use state-funded support for surface water quality monitoring under the Beneficial Use Reconnaissance Program (BURP). Federal funds will enable DEQ to conduct randomized sampling of rivers and streams in summers 2014 and 2015. DEQ's overall responsibility for protecting surface water quality will be met in FY2015.

#### **Strategies for determining compliance with water quality standards and support of beneficial uses:**

- Collaborate with other agencies to implement ground water quality monitoring networks in nitrate priority areas to evaluate trends and the

effectiveness of ground water quality improvement plans.

- Conduct appropriate follow-up monitoring when chemicals are detected at levels of concern through the Idaho Department of Water Resources Statewide Ambient Ground Water Quality Monitoring Network, Idaho State Department of Agriculture dairy monitoring, or other monitoring programs.
- Collaborate with other state agencies to characterize ground water quality in areas where oil and gas exploration and production are occurring.
- Prepare annual ground water quality monitoring summary reports that compile, analyze, and interpret ground water quality monitoring results.
- Provide ground water quality monitoring data to the public through web-based applications.
- Every 5 years, evaluate ground water data for trends in nitrate concentrations and update the nitrate priority areas. In FY2015, release the

nitrate priority area ranking update for the 2007–2011 5-year period.

- Include monitoring and reporting requirements in all recycled water reuse permits to ensure surface and ground water quality are protected.
- Collect and evaluate information from contractors and subgrantees in implementing nonpoint source projects to determine progress in reducing water quality impacts from agriculture, forest practices, mining, urban development, and other activities.
- Conduct site evaluations of active and legacy projects to assess the effectiveness of ongoing project maintenance. Each year, target one BURP monitoring activity in each DEQ region in an assessment unit where a nonpoint source project has been conducted.
- Conduct assessments of BURP monitoring data.
- Compile, analyze, and interpret surface water quality data and maintain DEQ's Assessment Database.
- Submit final 2014 biennial Integrated Report to EPA as required under federal Clean Water Act

sections 305(b) and 303(d). Begin process for 2016 Integrated Report.

- Collect surface water quality data (biological, chemical, and physical) as part of TMDL subbasin assessments or specific surface water quality investigations to determine compliance with state surface water quality standards (Figure 23).



Figure 23. DEQ staff conducting a streambank erosion inventory on the Little Wood River.

## Water Quality Performance Measures

- ✓ In FY2015, complete annual ground water quality monitoring summary report for calendar year 2013.
- ✓ In FY2015, release the revised nitrate priority area rankings based on data collected during 2007–2011.
- ✓ In FY2015, conduct water quality monitoring in 240 wadeable streams following BURP protocols.
- ✓ In FY2015, analyze surface water quality data, and submit the final 2014 Integrated Report to EPA. Begin process for 2016 Integrated Report.

### **Objective 2. Complete reviews, guidance, and plans for improving and maintaining water quality.**

DEQ performs a variety of functions designed to improve and maintain surface and ground water quality. We develop technical guidance to help consultants, businesses, permittees, and citizens comply with environmental requirements. We also review and evaluate environmental analyses to ensure proposed activities will comply with applicable requirements.

DEQ completes several types of statewide and local water quality plans designed to improve and protect water quality. Examples include the statewide Nonpoint Source (NPS) Management Plan, ground water quality improvement plans for nitrate priority areas, and TMDLs for impaired surface waters. The environmental reviews and guidance are designed to prevent impacts to water quality, while the various plans address how to improve and maintain water quality.

#### **Strategies for improving and maintaining water quality:**

- Work with other state and federal partners to rewrite the NPS Management Plan's memoranda of understanding to protect water quality from the impacts of nonpoint source activities.
- Work with local stakeholders to continue to develop and implement ground water quality improvement plans in nitrate priority areas.
- Help mining operations to characterize hydrogeologic conditions and background ground water quality prior to initiating mining activities.
- Develop guidance and policies to facilitate implementation of the Idaho "Ground Water Quality Rule" (IDAPA 58.01.11) in a consistent manner on a statewide basis.

- Work with WAGs to complete assessment unit/pollutant combination TMDLs that remain under the 2002 TMDL settlement agreement and submit to EPA for approval.
- Work with WAGs to complete TMDL reviews at 5-year intervals.
- Work with WAGs to complete TMDLs (by assessment unit and pollutant) for impaired water bodies identified in the current Integrated Report (currently 2010), updated on a 2-year cycle and submitted to EPA for approval. (See discussion of external factors below.)
- Work with the stakeholder committee to update the guidance for recycled water for use by DEQ staff, the public, and permittees and their consultants.
- Use the DEQ guidance for recycled water and compliance assistance as outreach tools for working with customers to improve design, testing, operator training, and other wastewater-related activities and assist customers in complying with requirements.
- Provide guidance to consultants for completing evaluations of nutrient-pathogen impacts on water quality from subsurface sewage disposal systems.
- Review nutrient-pathogen evaluations written by consultants to ensure proposed developments meet applicable water quality standards.

### Water Quality Performance Measures

- ✓ In FY2015, work with stakeholders to cooperatively update the NPS Management Plan's memoranda of understanding.
- ✓ In FY2015, work with local stakeholders to implement ground water quality improvement plans for nitrate priority areas.
- ✓ In FY2015, complete 234 assessment unit/pollutant combination TMDLs and submit to EPA for approval. (This is a benchmark performance measure; see the Performance Accountability section.)
- ✓ In FY2015, complete 6 TMDL 5-year reviews.

**External factors affecting performance success.** The 2002 TMDL settlement agreement has driven DEQ to set priorities for completing TMDL work required under state statute. The priorities are (1) complete 2002 settlement agreement TMDLs, (2) complete TMDL 5-year reviews, and (3) complete TMDLs for newly listed water bodies in the current Integrated Report (2010, updated every 2 years).

#### ***Objective 3. Implement pollution reduction actions needed to meet water quality standards and support beneficial uses.***

DEQ implements pollution reduction actions in many ways, including permitting, water quality certifications of other agency permits, wastewater facility inspections, engineering reviews of wastewater systems, funding for nonpoint source pollution reduction grants (Figure 24), and wastewater facility improvement grants and loans.

Appropriate design and engineering can prevent pollution. Permit and certification conditions are included to limit pollutants to levels that meet applicable water quality standards. Facility inspections ensure compliance with permit requirements and can trigger corrective action, if necessary. Finally, grant and loan funding provides direct support for implementing pollution reduction actions.



**Figure 24.** Rock barbs are set on an angle pointing upstream to divert water from eroding shorelines.

### Strategies for reducing surface and ground water pollution:

- Provide technical and regulatory assistance to local governments to help them protect ground water quality in accordance with their statutory responsibilities.
- Provide implementation support to communities as identified in completed ground water quality improvement plans.
- Promote reuse of treated wastewater, thereby eliminating surface water discharges and making good use of recycled wastewater (Figure 25).
- Complete annual recycled water reuse facility inspections and report reviews to ensure compliance with permit requirements and optimize treatment efficiencies and energy costs.
- Under agreement with EPA, inspect facilities with NPDES permits and review monthly discharge monitoring reports to determine compliance with permit requirements.
- Issue water quality certifications (Clean Water Act Section 401) for FERC hydropower permits, US Army Corps of Engineers dredge and fill permits (Clean Water Act Section 404), and EPA NPDES permits for wastewater discharges.
- Include performance measures, mitigation steps, and enhancement plans in certification conditions for FERC license applications to offset or correct short-term water quality impacts.
- Review and approve mitigation and enhancement implementation plans for compliance with Section 401 certification and FERC license requirements.
- Work with border states and EPA Regions 8, 9, and 10 to address interstate water quality projects such as TMDLs, NPDES permits, and FERC relicensures.
- Promote pollutant trading as a cost-effective tool to implement pollutant reduction in watersheds with approved TMDLs. Develop regional pollutant trading guidance through a collaborative process with Oregon, Washington, and the Willamette Partnership.
- Work with the various permitting agencies in developing an administrative record for water quality certifications documenting compliance with state water quality standards.
- Implement the Coeur d'Alene Lake Management Plan to control metals in lake bottom sediments in coordination with the Coeur d'Alene Tribe, three counties, and other watershed partners.
- Provide loan fee-funded grant assistance to eligible communities to complete the planning phase of wastewater treatment system projects to protect public health and reduce water pollution impacts.
- Provide loan assistance (Clean Water State Revolving Fund [SRF] loans) to eligible communities to design and construct wastewater treatment systems that protect public health and reduce water pollution.
- Provide federal grant funding and technical oversight for projects that reduce nonpoint source pollutants (Figure 26).
- Complete reviews of wastewater engineering plans and specifications within 42 days, as required by statute, to ensure designs meet rule requirements, protect public health, and protect surface and ground waters from contamination.
- Provide technical information, guidance, and training on various wastewater issues of interest such as microconstituents, specific reuse topics, lagoon seepage, and handling of biosolids and septage.



**Figure 25. The tenth annual Water Reuse Conference, May 2014.** Conference attendance was at an all-time high with over 300 attendees from cities, businesses, and government entities from across the nation. This DEQ-sponsored conference enables water and wastewater operators, engineers, public works directors, elected officials, consultants, developers, attorneys, environmental advocates, and other professionals to continue their education, network, and discuss key issues related to water reuse in Idaho and the West. For more information, visit <http://www.deq.idaho.gov/2014-water-reuse-conference>.



Figure 26. This project addressed nonpoint source water quality problems on Rock Creek. The picture on the left was taken in 2002 and the picture on the right in 2013. The cleanup work removed residual concrete material from an abandoned concrete plant and unpermitted landfill waste that was a source of pollutants to Rock Creek. The project area now collects stormwater runoff and routes it to a settling pond for treatment. Grass was planted to filter out sediment and other pollutants. The land adjacent to the settling pond was converted to a park with recreational vehicle parking and hookups to accommodate overnight camping. A hiking trail was created that extends several miles upstream from the camping area.

### Water Quality Performance Measures

- ✓ In FY2015, obligate 100% of available wastewater and nonpoint source grant and loan funds.
- ✓ In FY2015, complete reviews of engineering plans and specifications for wastewater systems within the statutory deadline of 42 days. (This is a benchmark performance measure; see the Performance Accountability section.)
- ✓ In FY2015, issue 20 permits for recycled water reuse facilities.
- ✓ In FY2015, complete 60 annual report reviews for permitted recycled water reuse facilities.
- ✓ In FY2015, complete 50 inspections of permitted recycled water reuse facilities (Figure 27; Figure 28).
- ✓ In FY2015, complete 50 inspections of NPDES-permitted facilities, under agreement with EPA.



Figure 27. Secondary clarifier at the City of Meridian’s water reuse facility. The clarifier helps treat the wastewater by allowing solids to settle out and any residual fats and greases to rise and be skimmed off the top. The treated and clarified water can then be filtered and disinfected before reuse.



Figure 28. Reclaimed water signage at Heroes Park in Meridian.

#### **Objective 4. Develop the Idaho Pollutant Discharge Elimination System program.**

Idaho is one of only four states that does not administer the National Pollutant Discharge Elimination System (NPDES). EPA Region 10 issues NPDES permits to Idaho facilities that discharge treated wastewater into waters of the state. However, in 2014, revisions were made to Idaho Code 39-172 that directed DEQ to develop an NPDES primacy application. The state program will be called the Idaho Pollutant Discharge Elimination System (IPDES). The steps below describe the process of receiving primacy in the NPDES permitting program from EPA. Additional staffing resources were provided to develop the primacy application.

First and foremost is developing a funding strategy. The current estimated level of effort for full program implementation is 25 full-time equivalents (FTEs) and \$2.5 million. The funding strategy may be a combination of annual user fees paid by the permit holders; state general funds (ongoing funding for 3 FTEs was provided in FY2015); and federal Clean Water Act grant funds (surface water section 106 grant funds). State general fund support will be needed to frontload the NPDES program. To receive primacy delegation, a state must demonstrate the capability of delivering the NPDES program, which means that Idaho must have hired and trained the staff so it is capable of program delivery. Areas of expertise needed for program implementation include program administration, permit preparation, permit enforcement, data management, fiscal office support, and attorney general office support. Determining the level of long-term state general fund and federal grant support will be critical to discussing and determining the annual user fees paid by permittees.

Some level of NPDES program support comes from the surface water 106 grant. This level of support is for conducting 50 NPDES inspections and 10 complaint follow-ups. DEQ does not anticipate additional section 106 grant funds becoming available for IPDES program implementation. The congressional appropriation for the grant fund would need to increase in order for DEQ to get additional federal support for the program.

The second step is preparing and developing IPDES rules for Idaho. The rules must not be more stringent than EPA, but to receive primacy, Idaho's rules may not be less stringent than EPA. This rulemaking will address areas where states have program flexibility, such as the permitting process steps. The rulemaking will also incorporate by reference or recite EPA NPDES rules.

The negotiated rulemaking committee will provide advice to DEQ on this distinction.

The third step is to prepare guidance documents for determining water quality based effluent limits (WQBELs), reasonable potential-to-exceed (RPTE) determinations, mixing zones, and other program implementation documents not included in rules.

The fourth step is revising existing Idaho Code statutes to address confidential business information; the conflict in Clean Water Act requirements for hearing administrative appeals for IPDES permits and the current appeal structure with the Board of Environmental Quality; concentrated animal feeding operation environmental control acts (if necessary); program authorization; and the direction for DEQ to sign a memorandum of agreement (MOA) with EPA on NPDES program delegation.

The fifth step is building program capacity through hiring and training staff. DEQ must show the capability of delivering the IPDES program in order for EPA to delegate its NPDES program to Idaho. This will require Idaho to frontload the IPDES staffing with state general funds as the existing legislation prevents DEQ from assessing an IPDES program fee until the program has been delegated to Idaho. The projected staffing needs are 25 FTEs, composed of permit writers, compliance assistance staff, and staff for rule and guidance development, data management, administrative support, attorney general support, and program management.

The sixth step is developing and negotiating the MOA with EPA on NPDES program delegation. IPDES program approval from EPA has been estimated to take between 12 and 24 months.

The seventh step is a 4-year sector-specific IPDES program phase in.

#### **Strategies for developing the IPDES program:**

- Submit primacy application by September 1, 2016.
- Begin rulemaking in 2014 for adoption by DEQ board in 2015 and presentation to the legislature during the 2016 session.
- Make statute revisions in 2015 or 2016 legislative session.
- Follow the state of Alaska's approach to NPDES program delegation to assist in

developing the EPA-DEQ MOA. The MOA will be drafted as part of the IPDES primacy application and negotiated with EPA during its NPDES program delegation deliberations, September 2016 to 2017.

- Phase in program over 4 years. It is anticipated

that in 2018 or 2019, the IPDES phase-in will start with the municipal permits and then progress annually through the industrial permits, the general permits, and conclude with the stormwater and biosolids components.

## Water Quality Performance Measures

- ✓ In FY2015, hire 3 FTEs: the IPDES program manager, the IPDES permit manager, and the IPDES rule/guidance program manager.
- ✓ In summer 2015, complete funding strategy for placement into IPDES rules.

## Water Quality Goal 2:

Protect human health through the delivery of safe and reliable drinking water from public water systems.

DEQ recognizes that economic health and public health are closely related. Economically viable and sustainable communities and the health and well-being of Idaho citizens depend on safe and reliable sources of drinking water. To meet this goal, the Water Quality Division has three objectives.

### ***Objective 1. Ensure customers served by regulated public water systems are receiving safe and reliable drinking water.***

DEQ provides technical assistance, training, and support to owners of public water systems so they are able to produce and deliver safe and reliable drinking water. This objective is accomplished by ensuring that public water systems are located, designed, constructed, operated, maintained, and protected to reliably meet health-based drinking water standards (Figure 29).



Figure 29. City of Chubbuck water storage tanks.

### **Strategies to ensure safe and reliable drinking water:**

- Provide technical assistance and training to owners and operators of public water systems to help them comply with drinking water quality standards.
- Respond immediately to all acute contamination events at public water systems and assist with timely diagnosis and resolution of the problem.
- Assist owners of public water systems in preventing waterborne disease outbreaks by requiring compliance with health-based standards and the “Idaho Rules for Public Drinking Water Systems” (IDAPA 58.01.08).
- Provide the public and public water system operators with real-time access to information on the quality of their drinking water, monitoring requirements and schedules, and other regulatory requirements through the web-based Public Water System Switchboard ([www.deq.idaho.gov/pws-switchboard](http://www.deq.idaho.gov/pws-switchboard)).
- Encourage mutual assistance between operators of water utilities and provide opportunities by hosting and maintaining the Operator Search Tool webpage for finding operators for water and

wastewater systems. Serve on the Idaho Water Area Response Network Executive Committee to promote assistance agreements between water systems.

- Complete engineering plan and specification reviews of public drinking water systems within the 42 days required by statute to ensure systems are properly located, designed, and constructed.
- Conduct comprehensive sanitary survey inspections at public water systems to ensure they are properly maintained and operated.
- Provide timely response to violations and require compliance with health-based standards and rules through enforcement action, after exhausting technical assistance and educational opportunities.

## Water Quality Performance Measures

- ✓ In FY2015, aggressively seek to obligate drinking water grant and loan funds.
- ✓ In FY2015, complete engineering plan and specification reviews of drinking water systems within the statutory deadline of 42 days. (This is a benchmark performance measure; see the Performance Accountability section.)
- ✓ In FY2015, work with owners of community water systems to ensure that 95% of the “person months” (i.e., all persons served multiplied by 12 months) during which community water systems provide drinking water meet all health-based standards (see discussion of external factors below). (This is a benchmark performance measure; see the Performance Accountability section.)

**External factors affecting performance success.** EPA promulgated the Revised Total Coliform Rule, which will become effective April 1, 2016. Idaho’s public water systems will need to comply with these new requirements at that time, and it will likely result in a short-term reduction in compliance rates as systems adjust to the new requirements.

### **Objective 2. Assist public water system owners in protecting their drinking water sources from contamination.**

Communities depend on clean drinking water supplies to ensure public health, economic development, sound financing, and the quality of life of residents. Source water protection is focused on preventing contamination of the aquifers and surface water bodies that are the source of public drinking water supplies.

Keeping contaminants from entering a public water system can benefit a community by reducing the risk to public health, saving on monitoring costs, and preventing the need for additional water treatment.

#### **Strategies for protecting drinking water sources:**

- Work with local governments to protect drinking water sources by providing technical assistance and examples of successful source water

protection tools such as ordinances, overlay zones, riparian buffers, and land use planning.



**Figure 30. DEQ attends outreach events—this one at the Boise WaterShed during Water Awareness Week—and conducts youth activities such as the Incredible Edible Aquifer, which illustrates the geologic formation of an aquifer, how pollution can get into ground water, and how this pollution can end up in drinking water wells.**

- Conduct education and outreach activities to inform public water systems, local governments, and the public on source water protection through training workshops and distributing educational materials at public events such as health fairs (Figure 30).

- Lead the Idaho Source Water Protection Collaborative to foster a collaborative approach (among various agencies and entities) to source water protection and to provide a clearinghouse website for source water protection information.

- Work with owners of public water systems and local governments to develop regional aquifer and

- watershed protection plans that include protections for drinking water sources and to recertify existing source water protection plans.
- Complete source water assessments on new drinking water sources and update existing sources with new information. Assist communities in using the information to develop and implement drinking water source protection strategies.
- Provide source water assessment reports to the public through web-based applications.
- Develop web-based tools to facilitate implementation of source water protection.

### Water Quality Performance Measures

- ✓ In FY2015, increase the percentage of Idaho's population using source water protection strategies to protect drinking water.
- ✓ In FY2015, conduct regional training workshops for public water system operators, community planners, and local government officials on source water protection.
- ✓ In FY2015, update 64 existing source water assessments and complete 47 new source water assessments on public water system sources.
- ✓ In FY2015, continue to develop new web-based source water protection tools including a best management practices guide and source water protection plan template.

#### **Objective 3. Provide financial assistance to public water systems for facility improvements and source water protection.**

The cost of compliance with the Safe Drinking Water Act provisions can be a difficult burden for many of the citizens served by drinking water systems, especially those with small population bases. DEQ provides financial assistance to communities to prevent contamination of drinking water sources and to make facility improvements needed to comply with regulatory requirements.

The source water protection grant program makes funding available to help communities with projects that mitigate or prevent degradation of ground water or surface water sources that supply their systems. The DEQ grant and loan program provides funding to communities to help them make the system improvements needed to provide affordable, safe drinking water.

#### **Strategies for funding source water protection and facility improvements:**

- Provide SRF set-aside funded grant assistance to owners of eligible systems to complete facility plans in preparation for obtaining DEQ loans for designing and constructing drinking water treatment systems.
- Provide state- and federal-funded low-interest loan assistance to eligible communities for designing and constructing safe drinking water systems.

### Water Quality Performance Measure

- ✓ In FY2015, manage approximately \$200,000 in previously awarded source water protection grants.

## Emerging Issues and Opportunities in Water Quality

**Water quality standards to protect human health—Idaho’s surface water quality toxics criteria.** In May 2012, EPA disapproved Idaho’s human health-based water quality toxics criteria. The disapproval was based on EPA’s uncertainty about appropriate fish consumption rates used to calculate such criteria. DEQ used EPA’s national recommended fish consumption rate of 17.5 grams per day, or the equivalent of one 4-ounce meal per week, to calculate the water quality toxics criteria. The rule was submitted to EPA in 2006 for their review and approval. Since 2006, Oregon DEQ has adopted a water quality toxics standard based on a fish consumption rate of 175 grams per day or the equivalent of a 6-ounce meal every day. DEQ, decided to promulgate new toxics criteria on August 6, 2012, and notified EPA of the state’s intent to undertake rulemaking. Sound data on actual fish consumption rates in Idaho is needed. DEQ is implementing a fish consumption survey. DEQ is also undertaking negotiated rulemaking to gather stakeholder input on several policy decisions associated with the water quality standards human health criteria. In the absence of state action, EPA could be forced to promulgate federal toxics criteria for application in Idaho.

**Drinking water and wastewater system loan requirements.** EPA has shared its view that most, if not all, states should be leveraging their loan assets. Should this “view” become a capitalization grant requirement, an additional administrative burden will be placed on the state; however, leveraging may facilitate an increase in loan volume. DEQ would address the additional administrative burden by enhancing its State Revolving Fund program software support to seek a more efficient operating environment.

EPA is evolving its policy toward system sustainability. This evolution will likely continue over the next 4 years and will require administrative changes. The policy may translate into specific capitalization grant requirements, such as user rate structures that incorporate capital replacement. Such an evolution would pose significant issues:

- User rates may need to be increased to a level that exceeds ratepayers’ ability to pay.
- DEQ may be faced with the administrative burden of enforcing cities’ compliance with the capitalization sustainability requirement.

**Antidegradation implementation.** The Clean Water Act requires Idaho to protect the existing uses of all state waters and to protect high-quality waters from degradation. Federal law requires states to have both an antidegradation policy and methods to implement the policy. Idaho now has an antidegradation policy and implementation procedures in state statute and the water quality rules. Procedures to limit degradation of Idaho water bodies rely on the current Integrated Report (2010, updated every 2 years) to classify Idaho’s surface waters into tiers for protection. All three tiers require waters to meet water quality standards; in water bodies where water quality is better than water quality standards, called high-quality waters, additional analysis and justification is required before a lowering of water quality can be allowed.

## **Emergency Preparedness and Response Goal:** Prevent, prepare for, and respond to public health and environmental emergencies.

DEQ maintains the resources and readiness to quickly and effectively support local emergency response personnel and communities when an environmental or public health emergency occurs. This readiness is accomplished by training alongside regional response teams; state agencies such as the Idaho Transportation Department, Idaho Department of Fish and Game, and Idaho Bureau of Homeland Security (BHS); and federal agencies such as EPA, DOE, and the Federal Emergency Management Agency. Additionally, DEQ maintains expertise in handling hazardous and radioactive materials emergencies by participating in advanced-level courses and exercises. To meet the emergency preparedness and response goal, DEQ has two objectives.

### ***Objective 1. Provide training and technical expertise for emergency planning and preparedness.***

DEQ works with BHS and DOE to train and prepare local communities and regional response teams to respond to emergencies involving hazardous and radiological materials.

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

- Provide specific training and technical support to cities, counties, hospitals, tribes, and other state agencies in responding to hazardous and radiological emergencies, natural disasters, and terrorist acts.
- Work with other state and federal agencies to develop predictive air dispersion and water transport models to use as tools in responding to and minimizing impacts from spills of hazardous materials.
- Work with federal, state, and local agencies to develop plans for responding to incidents occurring along transportation routes.
- Maintain expertise with the National Incident Management System and Incident Command System by participating in exercises and advanced training.
- Review the Idaho Fixed Facilities Emergency Plan annually to ensure compliance with state regulatory requirements and federal guidance.
- Activate DEQ-INL Oversight Program, DOE-Idaho Operations Office, and affected INL facilities' and counties' emergency plans as necessary to protect public health when an INL emergency involves the potential or actual release of radioactive materials.
- Participate in DOE and BHS emergency response exercises.

### ***Objective 2. Respond to public health and environmental emergencies.***

DEQ is one of many agencies that participates in the State Emergency Management Program, operated under the leadership of BHS. When an emergency occurs, DEQ participates in the BHS communication center bridge calls for planning and coordinating incident responses. DEQ provides on-scene personnel support to assess environmental and human health risks, suggest approaches for minimizing impacts, coordinate environmental investigations, and characterize and oversee cleanup (Figure 31 and Figure 32).

In the event of a state or federally declared disaster, DEQ provides personnel to work in the State Emergency Operations Center in Boise, in support offices, or both. DEQ is also authorized to implement procedures to

address public health emergencies. In the event of an air pollution emergency, DEQ may implement a series of increasingly stringent pollution control measures while keeping the public informed of efforts underway to safeguard health. In the event of a release that may threaten drinking water supplies, DEQ works with public water systems to ensure plans are in place to protect supplies and, in the event of contamination, inform the public of necessary precautions.

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

- Provide technical advice to on-scene incident commanders for responding to chemical and radiological emergencies.

- Provide or help identify resources needed for emergency response actions.
- Provide pertinent emergency information to the public.
- Collaborate with the Idaho Department of Health and Welfare's 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.



Figure 31. DEQ responded to a semi tractor trailer crash on Highway 95 near Riggins. The boat helped survey and secure the fuel tanks submerged in the Salmon River.



Figure 32. Gayle Osburn, from DEQ's Lewiston Regional Office, responded to the event as an environmental liaison helping with remediation oversight.

## Emerging Issue and Opportunity in Emergency Preparedness and Response

**Building emergency response depth.** As Idaho moves toward full integration with the National Incident Management System and the Incident Command System for responding to local and regional emergencies, DEQ will need to build emergency response depth within the organization. Over the next few years, DEQ will train multiple levels of management as well as key staff in the Air Quality, Waste Management and Remediation, and Water Quality Divisions, as well as each regional office, in the Incident Command System.

## Environmental Outreach and Education Goal:

Encourage and empower Idaho citizens, businesses, and communities to engage in behaviors to protect public health and preserve Idaho's environment.

Education and outreach are effective tools for raising public awareness and promoting environmentally responsible behaviors. Although agency budget cutbacks have led to reductions in focused resources to support these activities, DEQ remains committed to integrating education and outreach into staff activities agency-wide within existing budgetary capabilities.

### **Objective 1. Employ public outreach to increase awareness and understanding of environmental and related health issues impacting Idaho citizens, schools, businesses, and communities.**

Idaho's environmental laws, rules, and programs can be complex and difficult to understand. DEQ's public outreach efforts are aimed at helping citizens, schools, businesses, and communities learn about required and recommended actions to protect the environment and public health and encouraging them to make healthy, sustainable choices.

#### **Strategies for increasing environmental and public health awareness:**

- Integrate outreach, education, and compliance assistance into agency regulatory activities.
- Develop high-quality, accurate, and understandable publications, web content, displays, and other outreach materials designed to inform stakeholders about key environmental issues and agency initiatives.
- Provide timely public access to information on environmental issues and agency activities via the news media, DEQ's website, workshops, and events sponsored by DEQ and stakeholders.
- Participate in community events to interact with citizens and share information on environmental issues and best practices.
- Encourage participation in the agency's anti-idling program—Clean Air Zone Idaho—among schools, businesses, and communities to reduce tailpipe emissions.
- Seek opportunities to work with schools to share information on aquifer protection with children.
- Encourage schools to responsibly dispose of hazardous chemicals and prevent pollution through DEQ's Chemical Round-up Program.
- Encourage green chemistry in the classroom, including preferable purchasing of lab chemicals and using nontoxic lab experiments (Figure 33).
- Encourage local elected and solid waste officials to adopt household hazardous waste, electronic waste, and other waste collection policies and programs locally tailored to their communities.
- Encourage businesses to adopt pollution prevention methods as part of their everyday operations through outreach such as the Economy, Energy, and the Environment (E3) sustainable manufacturing program.
- Collaborate with local leaders and other state agencies for whom pollution prevention assistance and outreach can help to achieve prioritized public and environmental health goals.

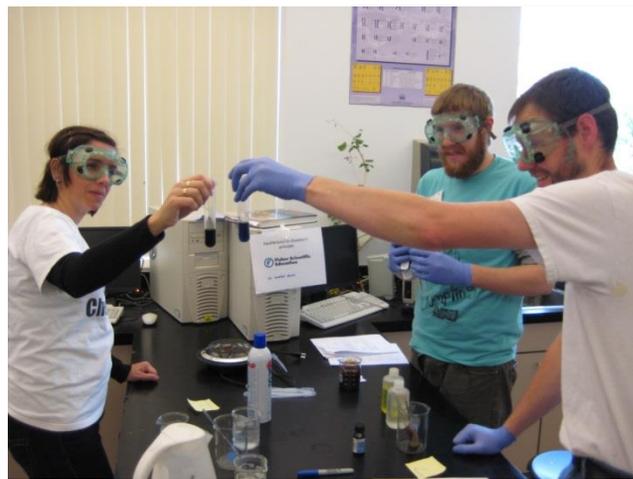


Figure 33. DEQ hosted a workshop at the 2013 Idaho Science Teachers Association Conference in Pocatello. The purpose of the workshop was to demonstrate less-toxic chemistry labs. The teachers in the picture used tea, water, ice, and food coloring to demonstrate Le Chatelier's principle of equilibrium change in response to temperature change. Traditionally this lab would be prepared with cobalt chloride or other less benign formulations.

**What is E3?**

E3 is a multiagency, interdisciplinary technical assistance program aimed at increasing the economic, energy, and environmental efficiency and sustainability of manufacturers.

- E3 seeks to increase the economic efficiency and competitiveness of the manufacturing industry through lean manufacturing.
- E3 seeks to increase the energy efficiency of the manufacturing industry through comprehensive energy audits designed to reduce energy consumption without decreasing value added in the production process.
- E3 seeks to reduce the manufacturing industry's impact on the environment through pollution prevention.

**Objective 2. Build the capabilities of Idaho citizens to incorporate pollution prevention practices into the workplace and their daily lives.**

Pollution prevention (P2) is any activity—including the use of materials, processes, or practices—that reduces or eliminates the creation of pollutants or waste at the source. Instead of trying to manage the wastes or pollutants through treatment or disposal methods, P2 aims to prevent the initial generation or reduce the toxicity of wastes and pollutants such as hazardous waste, air pollutants, solid waste, and wastewater (Figure 34).

P2 also includes any activity that reduces the toxicity of materials purchased or reduces the consumption of resources such as raw materials, water, energy, or fuel. By employing P2 practices, stakeholders can enhance productivity, save money, improve workplace safety, reduce liability, and conserve natural resources.

**Strategies for building P2 capabilities:**

- Plan, develop, and implement projects that provide stakeholders with effective tools to prevent pollution, minimize waste, and conserve energy and resources.
- Partner with the Idaho TechHelp Program, the Idaho Office of Energy Resources, and other agencies to incorporate P2 techniques into technical assistance visits with Idaho businesses.
- Provide technical assistance to avert potential violations of environmental laws, rules, and programs; enhance compliance; and encourage above-and-beyond compliance actions to protect public health and preserve the environment.
- Recognize the P2 achievements of stakeholders, with an eye toward encouraging others to replicate these successes.
- Identify needs for P2 education and outreach

based on real and known pollutant impacts on human and environmental health; the persistence, bioaccumulation, and toxicity of pollutants monitored in databases such as the Toxics Release Inventory; and the effectiveness of previously implemented outreach or technical assistance efforts.

- Identify needs for P2 education based on feedback from previous technical assistance clients and industry groups.



**Figure 34. Materials from a chemical replacement analysis DEQ conducted with Üsul Glassworks in Boise to find a safer alternative to methylene chloride–based paint strippers. To remove the painted labels from certain bottle products, the company was using a product that contained a high percentage of methylene chloride, a known carcinogen that presents acute health hazards. The analysis tested two safer alternative products and found consistent paint removal on certain bottle types. DEQ recommended using these safer products where effective.**

### **Objective 3. Lead by example to demonstrate DEQ's commitment to the benefits of modeling environmentally responsible behaviors.**

As the state agency responsible for ensuring clean air, water, and land in the state and protecting Idaho citizens from the adverse health impacts of pollution, it is incumbent upon DEQ to model environmentally responsible behaviors and demonstrate the benefits of those behaviors to public health and the environment.

#### **Strategies for leading by example:**

- Encourage and facilitate staff participation in environmentally responsible behaviors such as

using alternative transportation, recycling, and conserving energy (Figure 35).

- Develop and practice internal policies and procedures to prevent pollution, conserve resources, and mentor stakeholders on how to pursue and achieve similar results.
- Publish documented efforts of P2 and alternative transportation on DEQ's website.



Figure 35. As part of Commuteride's May in Motion event, 92 DEQ employees avoided driving 24,150 vehicle miles by using alternative transportation, such as this Commuteride vanpool, for the entire month of May.

### **Environmental Outreach and Education Performance Measures**

- ✓ In FY2015, train a minimum of five teachers in green chemistry principles and target one school district for participation in the Chemical Round-up Program to promote long-term, sustainable pollution prevention.
- ✓ In FY2015, target five businesses or organizations to participate in the Clean Air Zone Idaho Program to reduce vehicle idling.
- ✓ In FY2015, work with Idaho stakeholders in the Spokane River Toxics Task Force and the Columbia River Toxics Task Force to collaborate on education and outreach initiatives designed to reduce toxics loading into the Spokane and Columbia River watersheds.
- ✓ In FY2015, provide technical assistance to a minimum of 10 businesses in an industry sector or sectors for outreach specifically aimed at reducing compliance issues with federal or state regulatory rules.
- ✓ In FY2015, target at least one business for an E3 technical assistance project encompassing energy efficiency, environmental performance, and economic sustainability.
- ✓ In FY2015, target three businesses within a single industry to participate in an E3 technical assistance cohort project designed to reduce pollution and energy use and improve economic efficiency through sharing information and best management practices between participating companies.

## Emerging Opportunities in Environmental Outreach and Education

**Industry trade groups.** Within the last 12 to 18 months, a number of industry trade groups focusing on education, advocacy, and process improvement have emerged representing businesses throughout Idaho. These include groups such as Idaho Brewers United, the Idaho Auto Body Craftsmen Association, the Southwest Idaho Manufacturing Alliance, and the Idaho Aerospace Alliance. These groups provide networking and resources to their membership and can be valuable sources of information on environmental needs and educational opportunities specific to their industry and membership. DEQ's P2 program has engaged several of these groups and found significant success in identifying future outreach activities and needs. DEQ anticipates that these networks will become increasingly important for identifying outreach opportunities in the future.

**Mobile technology and applications.** The use of smartphones, tablet computers, and Internet-accessible devices has dramatically expanded in the past several years and provides new opportunities for DEQ outreach and education efforts. Quick Response (QR) codes allow most smartphone users to access Internet-based information about products and services without recalling a website address. Likewise, dedicated mobile applications have allowed smartphone and tablet users immediate access to information. DEQ anticipates increased use of mobile technology and applications in the future to improve access to air quality conditions and other environmental information.

## Performance Accountability

DEQ has established two sets of performance measures to track progress toward meeting agency goals and to maintain readiness for the challenges of the future: (1) program performance measures and (2) benchmark performance measures.

The **program performance measures** address ongoing agency functions and services to protect human health and the environment. Each division identifies and tracks measures important to managing internal program performance, meeting performance agreements with EPA, and meeting grant conditions for external funding sources. These performance commitments have been included throughout this plan to provide a more complete picture of the ongoing functions and services the agency performs.

The **benchmark performance measures** are how the agency reports performance accountability to the state legislature, which is the main purpose of the strategic plan. DEQ has chosen nine benchmark performance measures to track and report progress in meeting the overall agency goal of protecting public health and the environment. We have focused on these same measures for several years to ensure consistency in assessing progress over time. These performance measures were purposefully chosen because each reflects an actual environmental or public health outcome (result) of many different actions that, when taken together, indicate progress toward achieving overall agency goals. A general definition of each benchmark measure is given below, followed by the agency's specific performance commitments for FY2015 (Table 2).

While the focus of this strategic plan is primarily on agency performance commitments for the FY2015 budget appropriation, it is also forward-looking through FY2018. Emerging issues and opportunities have been identified and described throughout this plan and are summarized in Table 3. Looking forward on a 4-year horizon, these initiatives may be short-term or they may lead to a shift in agency focus and become the ongoing priorities of the future. Anticipating the opportunities and challenges of the future will better position the agency to make adjustments, if needed, while at the same time remaining focused on core functions and services.

## Definitions of Benchmark Performance Measures

- 1. Air quality permits to construct issued, on average, in 99 days.** DEQ recognizes the importance of issuing timely permits to construct so facilities that require permits can plan and make strategic business decisions. DEQ streamlined its permitting process in 2007 and developed a performance objective to issue minor source permits to construct, on average, in 99 days. DEQ tracks the amount of time it takes to issue a permit to construct on a 2-year, monthly rolling average and reports annually the actual average number of days to issue these permits.
- 2. Air Quality Index category correctly forecasted 100% of days.** The Air Quality Index is a tool to help citizens understand the severity of air pollution and potential health implications so they can take steps to protect their health and reduce their contribution to air pollution. The index is calculated using actual monitoring data compared to health-based standards. It is reported daily in selected cities on a scale of increasing pollution and health concerns, according to the following six categories: good, moderate, unhealthy for sensitive groups, unhealthy, very unhealthy, and hazardous.
- 3. Hazardous waste permits and reviews.** Permits and reviews associated with hazardous wastes are completed annually according to established schedules. Time frames are established from a variety of sources, including federal regulations, project schedules, construction seasons, and company requests.
- 4. Brownfields site assessments.** A brownfields site is a vacant or underutilized property where redevelopment or reuse is complicated by actual or perceived environmental contamination. Site assessments are completed to provide environmental information necessary for proceeding with redevelopment or reuse. This information is used to guide site cleanup to minimize public health risks and bolster the community's economic vitality.
- 5. Monitoring of INL conditions.** Continuous air quality monitors and real-time radiation monitors on and around the INL track environmental conditions and must be operational at least 97% of the time.
- 6. TMDLs.** DEQ is required to complete TMDLs, or water quality improvement plans, for water bodies that are not meeting water quality standards or supporting beneficial uses. TMDLs are completed for water bodies based on the number of assessment units they contain and the number of individual pollutants that are impairing water quality. Idaho water bodies have been categorized into 5,754 assessment units based on hydrologic catalog units (subbasins) and stream order. These units encompass approximately 95,119 miles of streams and rivers and 469,045 acres of lakes and reservoirs. As an example, if a stream is made up of 3 assessment units and has 4 pollutants identified as impairing water quality, there would be 12 assessment unit/pollutant combination TMDLs to complete for that stream.
- 7. Reviews of wastewater engineering plans and specifications.** In 2005, the legislature established a 42-day time frame for DEQ to review and act on engineering plans and specifications. This establishes a reasonable window to complete thorough evaluations while at the same time being responsive to business planning needs.
- 8. Reviews of drinking water engineering plans and specifications.** In 2005, the legislature established a 42-day time frame for DEQ to review and act on engineering plans and specifications. This establishes a reasonable window to complete thorough evaluations while at the same time being responsive to business planning needs.
- 9. Regulating community water systems to provide safe drinking water.** The total population of Idaho was estimated at 1,612,136 in 2013. Idaho has 738 community water systems, serving a total of 1,253,915 people. Rigorous monitoring requirements for community water systems must be met to ensure safe drinking water is provided and public health is protected.

Table 2. DEQ performance commitments for FY2015.

Benchmark Performance Measure	Performance Commitment FY2015
1) Number of days, on average, to issue a permit to construct	99 days
2) Percentage of days the Air Quality Index category is correctly forecasted	100%
3) Percentage of scheduled hazardous waste permits or reviews completed within established time frames	100%
4) Number of brownfields site assessments completed	10
5) Percentage of time that air monitoring and radiation monitoring stations are operational to monitor INL conditions	97%
6) Number of TMDLs completed for assessment unit/pollutant combinations	234
7) Percentage of wastewater water plan and specification reviews completed within 42 days of receipt	100%
8) Percentage of drinking water plan and specification reviews completed within 42 days of receipt	100%
9) Percentage of “person months” during which community water systems provide drinking water that meets health-based standards	95%

Table 3. Emerging issues and opportunities for FY2015–2018.

Emerging Issue/Opportunity	Division/Program
1) New ozone standard	Air
2) PM <sub>2.5</sub> standard revision	Air
3) Biomass for energy production	Air
4) Section 105 federal air quality grant allocation	Air
5) Waste-to-energy proposals	Waste
6) Water quality standards to protect human health—surface water toxics criteria	Water
7) Drinking water and wastewater system loan requirements	Water
8) Antidegradation implementation	Water
9) Building emergency response depth	Emergency Response
10) Industry trade groups	Outreach
11) Mobile technology and applications	Outreach

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