Idaho Department
of Environmental Quality

Strategic Plan
for
Fiscal Years 2018-2021

A Vision for the Future

July 2017

Cover photo of Pillar Falls during high water, Twin Falls, Idaho, taken by Shell Howard (DEQ).

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Message from the Director

I am pleased to present the Idaho Department of Environmental Quality's strategic plan for fiscal years 2018–2021. This forward-looking plan outlines the agency's goals, objectives, and strategies and details specific measures the agency will carry out to protect and improve human health and the environment.

Currently, we are undertaking an agency-wide effort to closely examine our work processes and determine how we can more effectively measure results to show the collective impact of the work we do. This effort means reevaluating our mission, vision, goals, performance measures, and strategies. We want to better understand to what extent our air, land, and water are getting cleaner and how the work we do truly impacts the people of Idaho.

As we incorporate our new mission and vision into this year's plan, I am excited about the direction we are going. Measuring results is often more difficult than measuring input—both are important. The next 4 years will be challenging, but we are committed to this effort.

While objectives and strategies may change in response to fiscal, regulatory, and environmental realities and our new path forward, DEQ will continue with our core functions and services:

- Managing air quality to ensure compliance with federal health-based standards
- 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

Along with fulfilling our core functions, we will continue to effectively develop and implement our programs through efficient use of our financial resources.

DEQ submitted the Idaho Pollutant Discharge Elimination System (IPDES) Program's primacy application to EPA on August 30, 2016. IPDES currently employees 10 staff and will add an additional 9 next year. At full capacity, the program will consist of 29 staff. DEQ anticipates issuing its first permits in 2018.

The legislature added $500,000 to DEQ's budget to implement agricultural best management practices in high priority watersheds. We currently administer a federal program that funds similar projects, and this additional state money will be used to improve the quality of our surface water.

Director John Tippets

Over the next year, our Air Quality Division will be developing a smoke management plan that when fully implemented, will allow us to better manage sources of smoke. This will lead to healthier air in some areas of our state and provide better protection for those who suffer from respiratory illness.

Another project in the Air Quality Division generating significant interest is a settlement agreement with Volkswagen. Idaho can receive up to $17.3 million from a mitigation trust to decrease nitrogen oxide emissions from diesel vehicles. There will be ample opportunity for the public to provide input before the Beneficiary Mitigation Plan is finalized.

DEQ is taking important steps to increase the security of the information we store and use at the agency. We are working to implement the governor's cybersecurity directives, as well as taking additional steps to increase the reliability of our systems and secure the integrity of our data.

A challenging and productive year is ahead as DEQ works to protect the quality of Idaho's air, land, and water. Using the strategies in this plan, we will continue to fulfill our fundamental responsibilities of protecting and improving human health and the environment.

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Introduction

DEQ's Mission

To protect human health and the quality of Idaho's air, land, and water.

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, land, water, 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 to limit the amounts to safe levels.
- Inspections of pollution sources and responses to complaints help ensure compliance with environmental regulations and standards.
- Remediation removes or neutralizes 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

An Idaho where the quality of our environment enhances healthy living and supports thriving communities.

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 starting with the year 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.

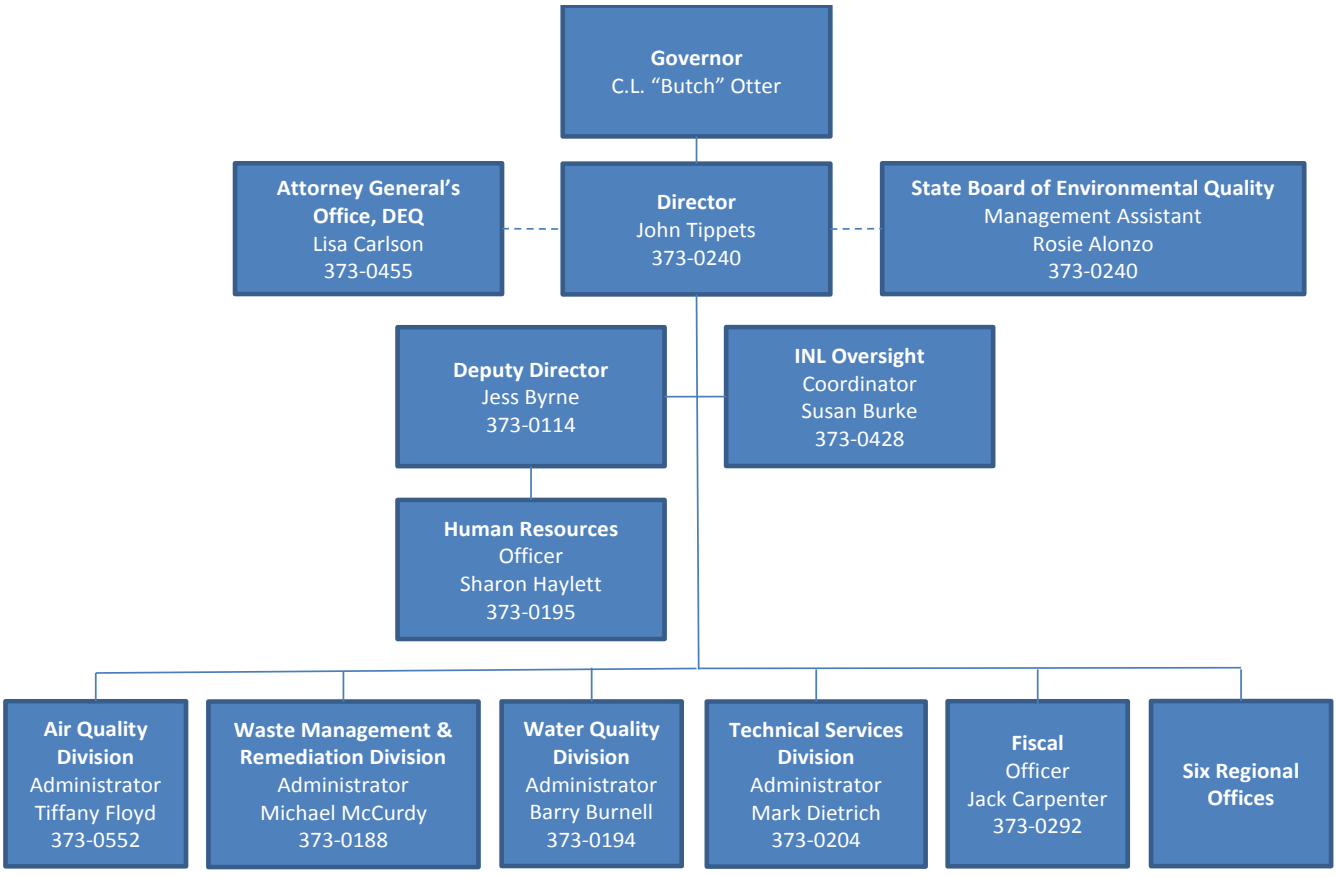

Figure 1. DEQ organizational chart.

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

- **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.

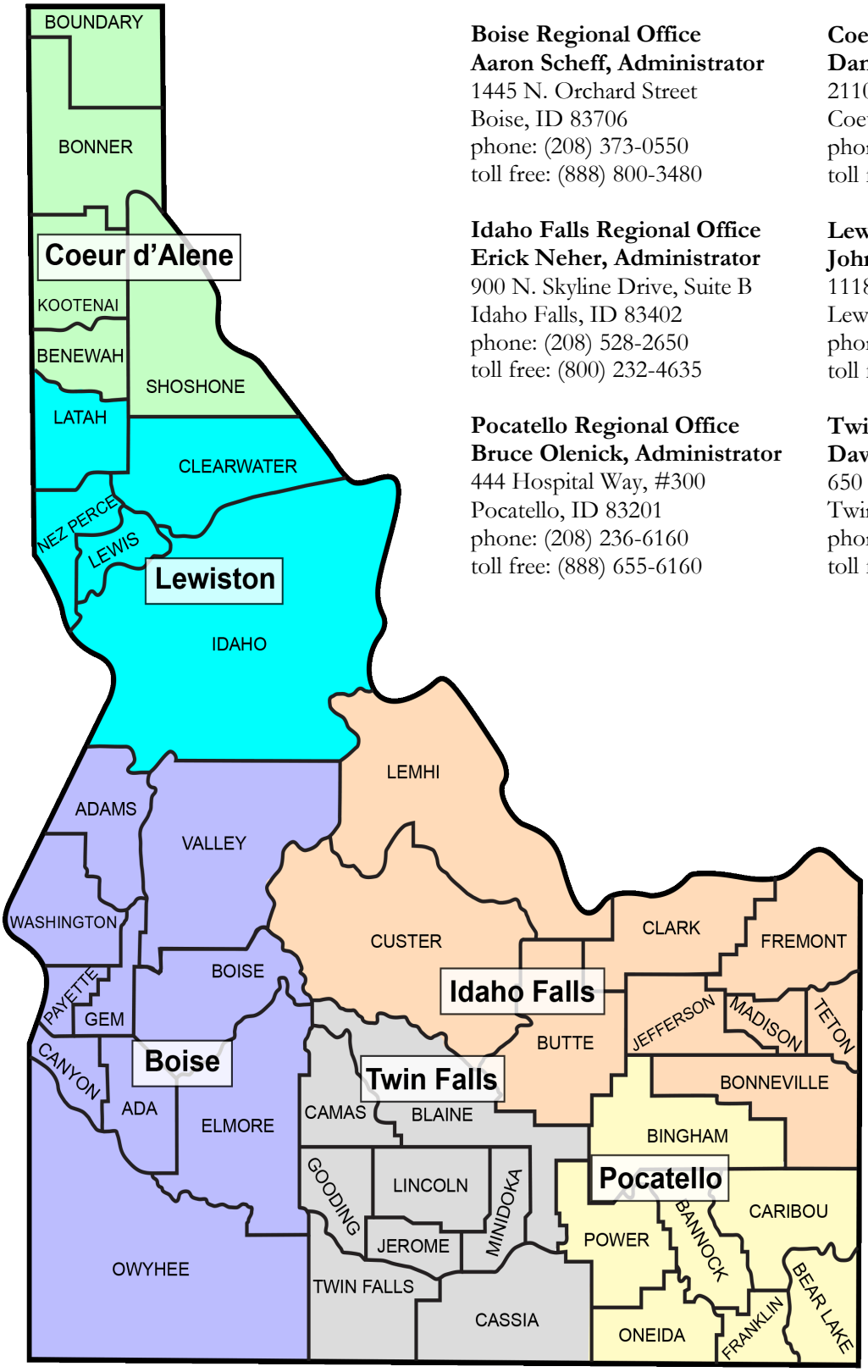

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Figure 2. DEQ regional offices.

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_{10}—particulate matter less than 10 microns in diameter—and $PM_{2.5}$, 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 (Figure 3).

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 constructing, modifying, and operating 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 automotive-coating operations and rock-crushing facilities.

DEQ monitors 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.

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 select cities throughout Idaho. The forecasted Air Quality Index considers monitoring data, the NAAQS, local emissions 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.

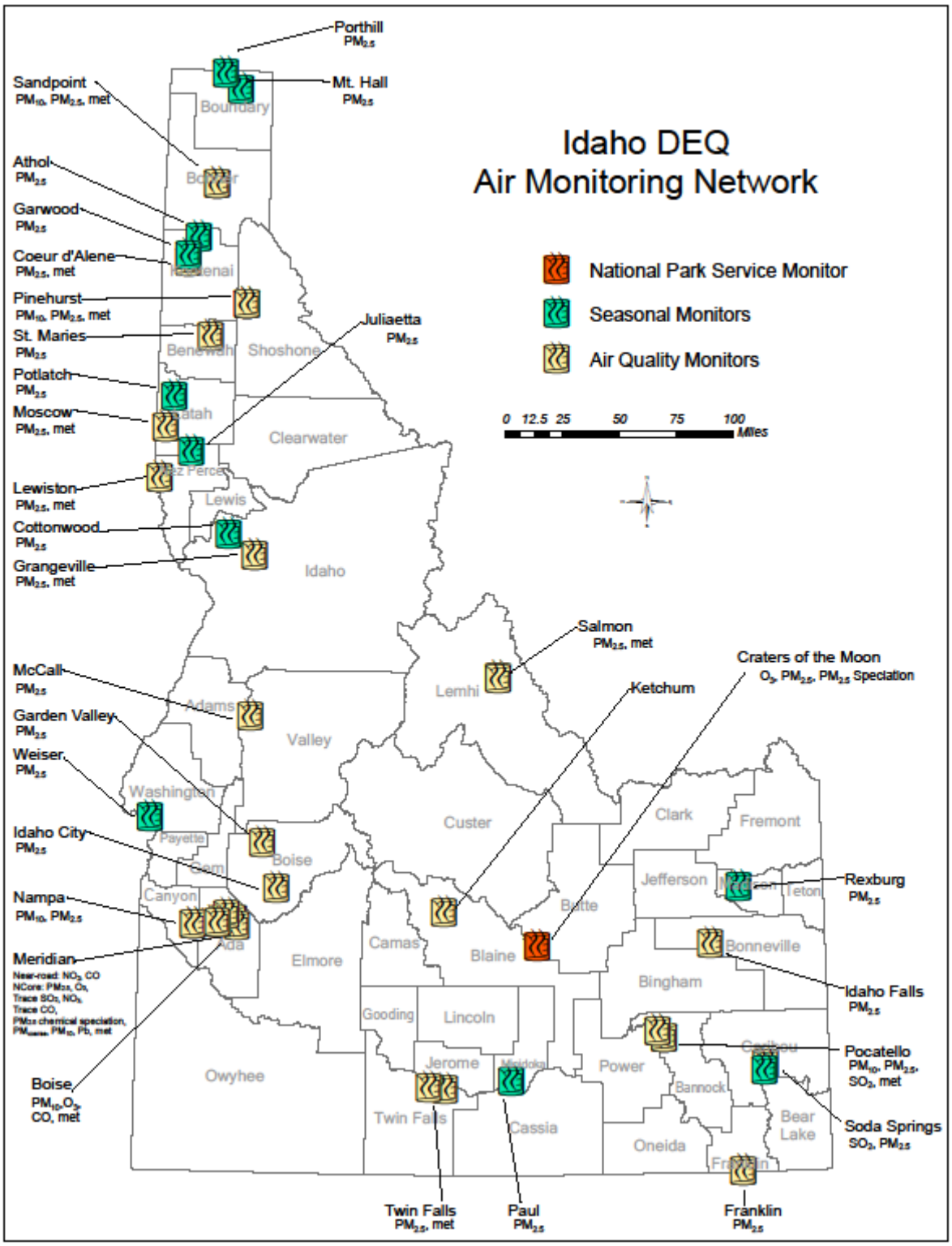

Figure 3. Idaho Department of Environmental Quality 2017 air monitoring network.

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.
- Review stationary source modeling submittals 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 as required by the Clean Air Act.
- 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 reduce air pollution and protect public health.
- Assist local communities in responding to wildfire 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 FY2018, issue air quality permits to construct in 99 days, on average. (This is a benchmark performance measure; see the Performance Accountability section).**
- ✓ **In FY2018, 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 that 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. Boiler stack at a wood products facility in northern Idaho.

Air Quality Performance Measure

✓ **In FY2018, conduct 119 inspections of stationary and portable air pollution sources.**

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

Smoke is a common occurrence in Idaho and can impact public health. Smoke comes from many different sources, such as woodstoves, crop residue burning, residential burning, burn barrels, prescribed burning, and wildfires. Burning is regulated under DEQ's open burning rules (Figure 6).

DEQ manages smoke in a variety of ways, such as implementing the smoke management program for crop residue burning (Figure 7). DEQ is also a member of the Montana/Idaho Airshed Group. This voluntary group of the large prescribed burners in Montana and Idaho implements, in 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 to 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.
- Develop a smoke management plan to address 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 to 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.

Figure 6. Logging slash pile burning near Pinehurst.

Figure 7. Postharvest crop residue burn, Kootenai River Valley, Bonners Ferry.

Air Quality Performance Measures

- ✓ **In FY2018, develop a smoke management plan that addresses all prescribed burning within Idaho, outside the five Indian reservation boundaries.**
- ✓ **In FY2018, 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 determining actions needed to avoid violations of air quality standards.

This approach is based on the following:

- Collecting and understanding good scientific data
- Community involvement in establishing a vision for local air quality and goals for the future (Figure 8)
- 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's urban airsheds. 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 Idaho airshed 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 emissions reduction estimates were developed for Ada and Canyon Counties. While national emissions standards are more rigorous for newer vehicles, the emissions testing programs in Ada and Canyon Counties continue to provide emissions reductions greater than those proposed at the program's inception (Table 1). These results confirm that the testing program is a cost-effective measure for reducing ozone precursors in the Treasure Valley. As the program matures, however, and as gross emitters and older vehicles are removed from operation in the Treasure Valley, emissions reductions are expected to decrease.

Table 1. Ozone precursor modeled annual reductions.

Ozone Precursor (tons/year)	2013 Emissions Reductions		2014 Emissions Reductions		2015 Emissions Reductions	
	Ada	Canyon	Ada	Canyon	Ada	Canyon
Volatile organic compounds	306	169	319	212	318	209
Nitrogen oxides	282	147	283	146	265	139
Total reductions	**587**	**316**	**602**	**358**	**583**	**348**

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 Canyon County and the city of Kuna to proactively address ozone and avoid future NAAQS violations.
- Reduce greenhouse gas emissions.
- Improve visibility in federal Class I areas.

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 FY2018, 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.**

Figure 8. DEQ's woodstove booth at Pinehurst Days in northern Idaho, August 2016. DEQ sponsors woodstove changeout programs in various areas of Idaho when funding is available.

Emerging Opportunity in Air Quality

Volkswagen Settlement. On January 24, 2016, the United States and the State of California filed a lawsuit against Volkswagen alleging it had manufactured diesel cars sold and operated in the United States beginning in 2009 with systems intended to defeat emissions tests. These systems allowed vehicles to emit nitrogen oxide (NOx) at levels 40 times the amounts allowed under the Clean Air Act. After a significant amount of investigation and negotiation, Volkswagen agreed to settle these allegations. Two settlements were reached, one for 2.0-liter diesel vehicles and the other for 3.0-liter diesel vehicles.

Under the settlements, Volkswagen is required to fund an Environmental Mitigation Trust in the amount of $2.92 billion to be used to offset the air pollution emitted by the vehicles that violated the Clean Air Act. The fund is distributed among states, territories, and federally recognized tribes based on the proportion of affected Volkswagen diesel vehicles registered in each jurisdiction. The State of Idaho has the opportunity to receive $17.3 million from this mitigation trust. The settlement document provides a list of the mitigation projects eligible for funding. Eligible projects are those that replace diesel emissions sources with cleaner technology to reduce excess NOx emissions caused by the violating vehicles, such as repowering or replacing eligible diesel-powered vehicles with new diesel or alternative fueled or all-electric engines or vehicles. Idaho will develop a Beneficiary Mitigation Plan summarizing how the state allocation of mitigation funds will be distributed among the various eligible mitigation projects to reduce NOx emissions. The plan will be developed through a public process, with multiple opportunities for public input.

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 (Figure 9). 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 landfarms, and landfills. While the term solid waste technically includes hazardous and mining waste, DEQ has other specific programs to address these wastes.

Figure 9. Canyon County municipal solid waste landfill.

Hazardous wastes have properties that make the waste dangerous or potentially harmful to human health or the environment. 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, inspected, and closed.

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 UST 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 1,178 regulated UST facilities.

Strategies for minimizing the release of contaminants

- Update state regulations as necessary to ensure consistency and compliance with state and federal laws.
- Issue siting licenses for new or expanded commercial solid waste landfills or commercial facilities that treat, store, or dispose of hazardous waste.
- Issue and enforce permits for hazardous waste facilities and cyanidation mining operations and issue site and design approval for municipal and nonmunicipal solid waste management facilities.
- 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 postclosure of solid waste and hazardous waste facilities.
- Continue to provide site-specific training to owners, operators, and employees on safe and compliant operation of UST systems.
- Continue to provide online access to the UST/leaking underground storage tank (LUST) database detailing the status of all regulated UST systems in Idaho.
- Attend installation and closure activities at UST systems, review closure reports, and provide technical assistance if a release has occurred.
- Provide technical and compliance assistance to regulated facilities.

Waste and Remediation Performance Measures

- ✓ **In FY2018, conduct at least 85 inspections of facilities that manage or generate hazardous waste.**
- ✓ **In FY2018, 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 FY2018, complete compliance inspections at approximately one-third of the 1,178 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.**
- ✓ **In FY2018, complete at least three 3-to-5 year inspections of municipal solid waste landfills.**

Waste Management and Remediation Goal 2:
Protect human health and the environment through proper assessment and remediation of contaminated areas.

DEQ learns about contaminated land or water from facility inspections, site investigations, complaints, property transactions, property owner and responsible party notifications, 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 or aboveground storage tank 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, nuclear wastes from research or historical weapons production, 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 four 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, risk to the public and environment is determined, and appropriate cleanup activities are initiated. Contamination is removed or controlled to ensure human health and the environment are protected.

Strategies for assessing and remediating contaminated sites

- Assess contaminated sites and determine the threat to human health and the environment using established risk standards or site-specific 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, Sandpoint Gas-n-Go, LD McFarland, Joslyn, Univar Boise and Nampa sites, multiple former Western Farm Service sites throughout southern Idaho, and the City of Boise Gowen tetrachloroethylene (PCE) site.
- Using federal funding under an EPA grant, 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 redevelopment potential and community value.
- Oversee assessment and cleanup activities at Mountain Home Air Force Base under the Federal Facility Agreement between DEQ, EPA, and the Air Force.
- Oversee Department of Defense (DOD) investigation and cleanup at Formerly Used Defense Sites (FUDS), including former bombing ranges under the Military Munitions Response Program (MMRP) (Figure 10).
- Assist eligible entities in applying for federal grants to assess and remediate brownfields sites in their respective communities.
- Oversee three Community Reinvestment Pilot sites in progress. The Idaho Land Remediation Act was modified in 2005 to incorporate the Community Reinvestment Pilot Initiative, a state-funded program to assist with cleanup costs of up to 10 properties whose development is complicated by contamination issues. This pilot program, funded by the legislature, provides partial reimbursement to 10 private or nonprofit entities for completing DEQ-approved cleanups of pilot sites within DEQ's Voluntary Cleanup Program. Upon completing 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.
- Using federal funding under an EPA grant, conduct sampling events at LUST sites.
- Using federal funding under an EPA grant, oversee activities conducted by responsible parties of LUST sites to assess and clean up contamination.
- Using federal funding under an EPA cooperative agreement, conduct preliminary assessments/site inspections of inactive or abandoned mining and

industrial areas to obtain data and information about potential contamination at the site and to provide property owners with recommendations for 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, created by the Idaho Land Remediation Act. As an alternative to enforcement action, a party may enter into a voluntary remediation agreement with DEQ to further assess and/or clean up contaminated property. Once the property is cleaned up, DEQ may provide the participant 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 clean up 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 200 emergency incidents per year 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 Waste Facility Mapper via the internet, which shows contaminated sites in Idaho.

Waste and Remediation Performance Measures

- ✓ **In FY2018, remediate six leaking underground storage tank sites for safe reuse.**
- ✓ **In FY2018, oversee completion of 10 brownfields site assessments. (This is a benchmark performance measure; see the Performance Accountability section.)**
- ✓ **In FY2018, continue oversight of three Community Reinvestment Pilot sites in the Voluntary Cleanup Program and collect economic impact data on sites that receive state rebates.**

Figure 10. Military munitions debris and unexploded ordnance at one of the precision bombing ranges was investigated in 2016.

Objective 2. 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. Using federal funding, 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) Identifying the need for additional data and information to fully understand site conditions, extent of contamination, and potential risk to human health and the environment.
2) Recommending site remediation by participating in the Voluntary Cleanup Program, using other state or federal cleanup alternatives, or using other state or federal cleanup and/or clean water authorities.
3) Determining no further remedial action is necessary based on the potential risk to human health and the environment.

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.

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.

Waste and Remediation Performance Measure

✓ **In FY2018, work with landowners to complete assessments that will result in five inactive or abandoned mining and one industrial/landfill sites receiving no-further-action determinations or being carried forward to a remediation process. The targeted number of sites is based on sites where access has been granted and 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 southeastern Idaho and the other in the Silver Valley of the Idaho Panhandle.

Selenium contamination in Southeastern Idaho. The Pocatello Regional Office is working to remediate historic phosphate mine sites. In 2016–2017, DEQ met all milestones for assessments, agreements, and cleanup of sites that are under state leadership and continues to support work on federally led cleanup sites. As a cooperating agency, DEQ is also proactively working to integrate state regulatory programs such as ground water points of compliance determinations and oversight of active mineral exclusion agreements into the permitting process for new or ongoing mine and cleanup sites. DEQ's current involvement in the active mining and cleanup process is summarized in Table 2.

Table 2. Active phosphate mine projects with DEQ involvement.

Description	Number
DEQ-led cleanup agreements	9
DEQ support agreements with federal partners	12
DEQ involvement in permitting agreements	7
Point of compliance/active mineral extraction	9
Total	**37**

The following reclamation and remedial milestones have been made in the phosphate resource area:

Conda/Woodall Mountain Mine (DEQ-led cleanup site). The remedial investigation (RI) for the Conda/Woodall Mountain Mine site was finalized in 2016 and is now moving into the feasibility study (FS) phase. Remedial action will follow the FS phase (Figure 11).

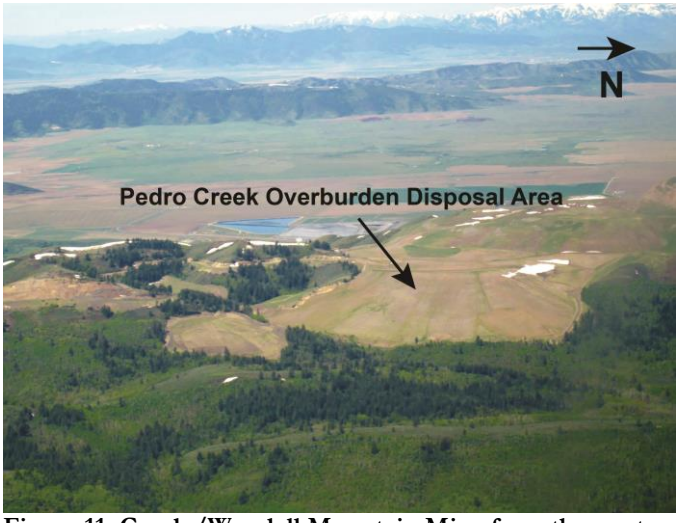

Figure 11. Conda/Woodall Mountain Mine from the west. Pedro Creek Overburden Disposal Area shown in center/right.

Blackfoot Bridge Mine (DEQ point of compliance site [POC]). As part of the approved reclamation plan and to protect the Blackfoot River and downgradient ground water, a laminated geosynthetic clay liner (GCL) topped with 32 inches of natural cover and topsoil is being placed over selenium-bearing overburden (Figure 12). The protectiveness of the GCL was evaluated as a part of the POC process to meet Idaho's ground water rule.

South Rasmussen Ridge Mine (DEQ-led cleanup site). A 2015 Remedial Action Plan (RAP) was completed in 2016 to reduce selenium contamination from entering South Fork Sheep Creek. Per the RAP, a permeable reactive barrier was installed below the Horseshoe Overburden Area to capture and treat shallow ground water that surfaced into the creek.

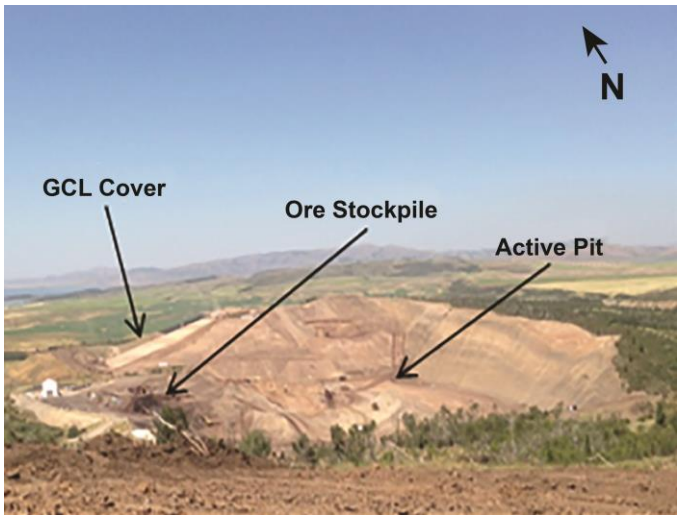

Figure 12. Blackfoot Bridge Mine showing the active pit, GCL covering being installed, and the ore stockpile.

Rasmussen Valley Mine (DEQ involved with National Environmental Policy Act [NEPA] and or/mine plan reviews). The Final Environmental Impact Statement was published by the Bureau of Land Management (BLM) in 2016. DEQ determined the POC will be incorporated into the BLM and Idaho Department of Lands-approved Mine and Reclamation Plan.

DEQ efforts also include ongoing community involvement in the phosphate area, including development of the newest edition of the *Phosphate Mine Site Investigations and Cleanup in Southeast Idaho* fact sheet, slated for release to the public and interested parties in summer 2017. Other outreach efforts include visits to local schools and an informational booth at the Caribou County Fair and Rodeo staffed by mine company and agency representatives.

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 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 and its member agencies, including EPA, to plan and oversee implementation of the cleanup for the Coeur d'Alene Basin.

Cleanup of residential and commercial properties to address human health exposures continues to be a priority. More than 7,000 properties have been remediated over the years across the entire Bunker Hill site. Remediation is

achieved by creating clean barriers between people and contaminated soil. Barriers include soil, gravel, and pavement. The work has resulted in declines in child blood lead levels to near national averages. Property remediation will continue for the next few years at a diminished rate as the number of properties to remediate decreases. Current and future efforts to protect human health involve addressing contaminated areas used for recreation, such as beach areas along rivers, mine and mill sites, and hillside areas contaminated by smelting and mining activities.

Several side drainage flood control projects were completed during the 2016 construction season. This work will continue for the next couple 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. This program restores paved roads so they are effective barriers to underlying contamination. Paved roads at the site were in poor condition in part due to heavy truck traffic associated with the remediation. This program functions like a grant program where DEQ provides federal funding to local road jurisdictions to implement projects on eligible roads. Since 2013, 421 of the 603 road segments slated for remediation have been completed.

The cities of Kellogg and Wallace have leveraged the paved roads work to obtain funding to replace other infrastructure. Kellogg is replacing sewer and water lines, and Wallace is replacing sewer lines after roads are torn out and before new roads are constructed. These cleanup projects are examples of local cities working together with state and federal agencies to save money and provide critical utility and remediation services to residents (Figure 13). Coordination significantly reduces costs of the public works projects and leaves a seamless roadway when the work is completed.

DEQ developed Limited Use Repositories (LUR) to dispose of asphalt concrete and base materials generated from the paved roads program. Besides being a cost-effective method for remedial waste disposal, the LUR will also provide an effective cap and cover over landscapes that can be used for future development (Figure 14).

DEQ will continue to partner with the Panhandle Health District (PHD) to ensure clean barriers used for the remediation are maintained, replaced, or installed to match the property use. Through the Institutional Controls Program (ICP), a free permitting program administered by the PHD, DEQ provides funding as part of its matching and operation and maintenance responsibilities at each site. These two agencies also partner to implement health intervention and education to reduce human exposures to lead.

In 2017, work began on a project to collect shallow ground water that flows beneath the Central Impoundment Area (CIA) (a closed, over 200-acre tailings pond). The CIA does not have an under liner and remains a source of metals contamination to the shallow aquifer that feeds into the South Fork Coeur d'Alene River. The collected water will be pumped to the Central Treatment Plant to remove metals before discharging the treated water back into the river. DEQ will continue to work with EPA to improve water quality in the river through various remedial actions including water collection and treatment and mine waste remediation at Bunker Hill sites.

Figure 13. The Bunker Hill paved road remediation work reduces exposures to lead-contaminated materials in roadways. Cleanup work is coordinated with local government replacements of sewer and water lines in Mullan, Wallace, and Kellogg.

Figure 14. DEQ Limited Use Repository for paved roads wastes that will be eligible for future development.

Natural resource restoration is a part of the Superfund process but is managed separately from the remediation work. The natural resource trustees involved in the restoration process have formed the Restoration Partnership. The partnership is made up of the Coeur d'Alene Tribe, US Department of Interior, US Department of Agriculture, and the State of Idaho, represented by DEQ and the Idaho Department of Fish and Game. The partnership is developing a comprehensive restoration plan that involves public input and meets NEPA requirements. Once complete, the restoration plan will provide opportunities for funding projects that meet the goals, strategies, and criteria identified in the plan.

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 southeastern Idaho.
- Implement projects to protect and preserve existing remedial efforts and address water quality through source control and other strategies.
- Plan and implement natural resource restoration projects in the Coeur d'Alene Basin as a member of the Restoration Partnership.
- Continue residential and commercial property remediation and health intervention and education work with new efforts to address recreational exposures.
- Support the Basin Environmental Improvement Project Commission with its task of addressing heavy metal contamination in the Coeur d'Alene Basin.

Waste and Remediation Performance Measures

- ✓ **In FY2018, 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 southeastern Idaho.**
- ✓ **During the 2017 construction season, remediate 50 metals-contaminated individual properties in the Coeur d'Alene Basin, achieving remediation of nearly 3,750 properties by the end of the construction season.**

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

Under the federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), DEQ, EPA, and the US Department of Energy (DOE) are agreement agencies to the Federal Facilities Agreement and Consent Order (FFA/CO), where the DEQ Waste Management and Remediation Division evaluates and oversees the following:

- Effectiveness of completed and on-going record of decision (ROD) and nontime-critical removal actions and cleanup activities
- Risk assessment, proposed alternatives evaluation, negotiation, and selection of primary alternatives for the deactivation and decommissioning of facilities proposed by DOE as no longer supporting Idaho National Laboratory (INL) mission activities

At the INL, DEQ performs various tasks including the following:

- Monitor and evaluate the effectiveness of completed and on-going CERCLA remediation activities involving retrieval of previously buried radiological and hazardous substances and contaminated soils, limiting anthropogenic infiltration, specialized treatment of specific zones of the Eastern Snake River Plain Aquifer, and operations at the Idaho CERCLA Disposal Facility (Figure 15–Figure 17).
- Evaluate "new release" sites for consideration of inclusion in the Operable Unit 10-08 Remove and Dispose "Plug-In" remedy program.
- Provide for state inspections of institutional controls, buried waste exhumations, operation and maintenance requirements, and long-term stewardship of CERCLA sites contaminated with radionuclides and hazardous substances.

Strategies for reviewing and evaluating current and planned FFA/CO actions

- Review limitations and validations reports for laboratory analysis of soils, perched water, and ground water.
- Review and approve field sampling plans for waste removal, water, soil, and ground water as applicable.
- 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.
- Review and approve draft 30%, 90%, and 100% design and modeling documents for 100-acre buried waste landfill evapotranspiration cover and subsequent performance measures; draft volatile organic compound (VOC) vapor rebound test and sampling plans; oversee completion of Acceleration Retrieval Projects (ARP) VIII and IX; construct interim infiltration barrier over two-thirds of the INTEC Tank Farm facility; and continue treatment of VOC ground water plume at Test Area North.

Figure 15. Technicians performing annual sampling for constituents of concern at the Idaho CERCLA Disposal Facility (ICDF) evaporation pond. Two evaporation ponds contain leachate that is collected from the engineered disposal facility located at the INL's Idaho Nuclear Technology and Engineering Center (INTEC).

Figure 16. Cleanup workers at the INL successfully removed the last wooden box of radioactive waste from the aboveground Transuranic Storage Area.

Figure 17. Radiological survey conducted outside the SL-1 burial site using Humvee-mounted Global Positioning Radiometric Scanner (GPRS).

Waste and Remediation Performance Measure

- ✓ **In FY2018, inspect three major active CERCLA activities at the INL: Radioactive Waste Management Complex (RWMC) buried waste retrieval at Waste Area Group 7-13/14; INTEC anthropogenic and natural precipitation infiltration control system at Waste Area Group 3-14; and the ICDF landfill operations at Waste Area Group 3-13.**

Emerging Issues and Opportunities in Waste Management and Remediation

Underground Storage Tank Program. During the 2017 legislative session, rules authorizing DEQ to collect tank fees were approved. Rules on administering the tank fees as well as adoption of new federal regulations became effective March 24, 2017. DEQ will educate Idaho's UST owners and operators on the new rules, update inspection and training software to reflect the new rules, and apply for state program approval with EPA by October 13, 2018.

New and legacy mining projects. Interest continues in mining projects both large and small in Idaho. The long time frame associated with mine permitting and development creates long-term but sporadic demands on DEQ staff. Additionally, mines in closure or after reclamation and/or remediation are proving to require DEQ attention primarily for ongoing water quality impacts. These issues can result in staff and financial resource constraints at DEQ making it difficult to provide the technical and permitting services required. DEQ is coordinating internally across programs and offices to ensure efficient use of resources. DEQ is also continuing to use cost recovery agreements when possible. However, these efforts are not always successful in meeting resource needs. The high 2017 spring runoff created erosion of contaminated material, increased mine water flows, and contaminated seeps at several mine sites that required DEQ attention.

Idaho National Laboratory Oversight Program 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 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 (Figure 18) and 12 real-time radiation monitoring stations. Real-time monitoring data are available at *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 19).
- Analyze ground water data obtained from wells drilled by the US Geological Survey and DOE.
- Analyze sample results from one wastewater site.
- 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 outreach events (Figure 20) and annual monitoring reports published on DEQ's website.

Figure 18. Air samples are collected at the Mud Lake monitoring station.

Figure 19. DEQ staff conduct water sampling at Twin Falls Lake.

INL Oversight Program Performance Measure

✓ **In FY2018, 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 20. The workshop, My Amazing Future, organized by INL, is geared toward middle school girls to encourage them to pursue a science, technology, engineering, and math (STEM) education and career path.

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

- Participate in emergency preparedness meetings and emergency exercises and drills conducted by regional and local entities as well as those conducted by DOE contractors.
- Maintain 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. DEQ evaluates real and potential releases using 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.
- Support 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 Program Performance Measure

✓ **In FY2018, develop plans and appropriate procedures to provide customized radiological training applicable to regional hospitals that support the INL (Eastern Idaho Regional Medical Center, Portneuf Regional Medical Center, and Bingham Memorial Hospital). Participate in one drill that engages medical resources.**

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 (NPS) 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] or soon to be Idaho Pollutant Discharge Elimination System [IPDES] 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. The NPDES program primacy application for an IPDES program managed by DEQ was submitted to EPA on August 30, 2016, with program delegation beginning July 2018. 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 (Figure 21–Figure 23).

Surface water trend monitoring is a core DEQ responsibility and key to understanding water quality conditions in the state. In FY2018–2020, DEQ will use state-funded support for surface water quality monitoring under the Beneficial Use Reconnaissance Program (BURP). State funds will enable DEQ to conduct targeted and randomized sampling of wadeable streams in summers 2017, 2018, and 2019. In addition, DEQ participates in EPA's National Aquatic Resources Survey and will monitor lakes and reservoirs in 2017 and rivers and streams in 2018 and 2019. DEQ will also continue to work on monitoring the effectiveness of Idaho's new shade rule in 2017 and complete this work in 2018. DEQ's overall responsibility for protecting surface water quality will be met in FY2018.

Figure 21. BURP crew at work in Cascade Creek, on the east slope of the Selkirk Range. The crew member with the backpack Hess sampler is collecting macroinvertebrates from the substrate, the middle crew member is performing a modified Wolman pebble count, and the crew member sitting on the log is entering the pebble count data into the electronic field forms.

DEQ conducts ground water quality monitoring in coordination with the Idaho Department of Water Resources and the Idaho State Department of Agriculture to characterize ground water quality conditions, identify trends in ground water quality, and assess the extent of degradation when contamination occurs.

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.
- Evaluate available nitrate ground water quality data to identify and prioritize areas with degraded ground water quality due to nitrate. Delineating and ranking nitrate priority areas is a multiagency effort conducted every 5 years in collaboration with the Ground Water Monitoring Technical Committee (GWMTC).

Figure 22. Idaho Falls Regional Office sampling ground water for potential nitrate sources in Mud Lake.

- Chair biannual GWMTC meetings to coordinate ground water monitoring projects, share project information, and strategize ways to address ground water quality issues.
- 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.

Figure 23. Ground water sampling by Twin Falls Regional Office near Hollister.

- Collaborate with other state agencies to characterize and monitor ground water quality in areas where oil and gas exploration and production currently exists, or may occur.
- Prepare annual ground water quality monitoring summary reports that compile and present ground water quality monitoring results.
- Provide ground water quality data to the public through web-based applications.
- 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 NPS 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 NPS project has been conducted.
- Conduct BURP monitoring of wadeable streams.
- Assess BURP monitoring data with other data collected by DEQ and others to determine beneficial use support status of Idaho waters.
- Compile, analyze, and interpret surface water quality data and maintain DEQ's water quality database.
- Begin assessment work for the 2016 Integrated Report, as required under federal Clean Water Act sections 305(b) and 303(d). The 2014 Integrated Report was approved by EPA on June 5, 2017.

- 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.
- In cooperation with the Idaho Department of Lands, University of Idaho, and private industry, continue the shade rule study to assess the effect of timber harvest near streams on shade.
- In January 2017, finalized the 2016 forest practices audit report conducted in collaboration with the Idaho Department of Lands.

Water Quality Performance Measures

- ✓ **In FY2018, conduct approximately 270 ground water quality sampling events from existing wells across the state and provide results to the public. (This is a benchmark performance measure; see the Performance Accountability section.)**
- ✓ **In FY2018, complete annual ground water quality monitoring summary report for calendar year 2016.**
- ✓ **In FY2018, conduct water quality monitoring in 280 wadeable streams following BURP protocols. (This is a benchmark performance measure; see the Performance Accountability section.)**
- ✓ **In FY2018, analyze surface water quality data, and submit the final 2016 Integrated Report to EPA.**

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 NPS management plan 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 implement the 2015 NPS management plan and associated memoranda of understanding to protect water quality from the impacts of NPS activities.
- Provide technical assistance and regulatory reviews of projects to ensure adverse impacts to ground water quality are minimized. Examples include nutrient-pathogen evaluations, managed aquifer recharge monitoring programs, and mining point of compliance determinations.
- Help mining operations to characterize hydrogeologic conditions and background ground water quality before initiating mining activities.
- Develop guidance and policies to facilitate implementation of the Idaho "Ground Water Quality Rule" (IDAPA 58.01.11) and "Wastewater Rules" (IDAPA 58.01.16.600) in a consistent manner on a statewide basis.
- Work with IDWR and other entities conducting managed aquifer recharge to characterize hydrogeological conditions and design a monitoring program that ensures activities are conducted according to state statute and rules that protect ground water quality.
- 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 (2014), updated on a 2-year cycle and submitted to EPA for approval. (See discussion of external factors below.)
- Release for public comment the revised implementation guidance for review on the effect of new and increased discharge of pollutants on

changing surface water quality (antidegradation review).
- Use the guidance for mixing zones to ensure DEQ's authorization of limited mixing of pollutant discharges with receiving streams is appropriate.
- Work with the Lake Pend Oreille, Pend Oreille River, Priest Lake and Priest River Commission and Bear Lake Regional Commission in carrying out their statutory responsibilities as they relate to water quality and assist with legislative funding obligations.
- 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.

Water Quality Performance Measures

- ✓ **In FY2018, work with stakeholders to cooperatively update the NPS management plan's memoranda of understanding.**
- ✓ **In FY2018, ensure the beneficial uses of ground water, such as drinking water, are not adversely impacted by activities with the potential to degrade ground water quality.**
- ✓ **In FY2018, complete six 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 (2014, updated every 2 years).

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

DEQ promotes and 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 NPS pollution reduction grants, 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).

Strategies for reducing surface and ground water pollution

- Provide technical and regulatory assistance to local governments to help them protect ground water quality according to their statutory responsibilities.
- Help communities develop and implement ground water quality improvement plans in nitrate priority areas.
- Conduct education and outreach activities to inform the public of the importance of ground water protection by participating in classroom and community events and distributing educational materials.

Figure 24. In Palisades Creek, the channel was graded, and root wads were used to create bank stability.

- Promote reuse of treated wastewater, which eliminates surface water discharges and makes good use of recycled water.
- Complete annual recycled water reuse facility inspections and report reviews to ensure compliance with permit requirements and optimize treatment efficiencies and energy costs (Figure 25 and Figure 26).
- 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.
- 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, other watershed partners, and the Basin Environmental Improvement Project Commission.
- 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.
- In coordination with the Rural Community Assistance Corporation, provide funding assistance to replace individual, failing septic systems.
- Provide federal grant funding and technical oversight for projects that reduce NPS pollutants.
- 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. Basic American Foods, Blackfoot, reuse pivots discharging recycled water onto alfalfa and grass crops.

Figure 26. Municipal reuse site with red alder trees at Ellisport Bay in northern Idaho.

Water Quality Performance Measures

- ✓ **In FY2018, ensure that 100% of the wastewater loan recipients that complete their project will be better positioned to sustain their operations into the future. (This is a benchmark performance measure; see the Performance Accountability section.)**
- ✓ **In FY2018, issue 18 permits for recycled water reuse facilities. (This is a benchmark performance measure; see the Performance Accountability section.)**
- ✓ **In FY2018, conduct 50 annual report reviews for permitted recycled water reuse facilities.**
- ✓ **In FY2018, complete 40 inspections of permitted recycled water reuse facilities.**
- ✓ **In FY2018, complete 50 inspections of NPDES-permitted facilities, under agreement with EPA.**
- ✓ **In FY2018, conduct 50 ground water quality protection outreach events.**
- ✓ **In FY2018, work with local stakeholders to implement ground water quality improvement plans for nitrate priority areas to decrease the percentage of wells with elevated nitrate concentrations.**

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

Idaho is one of only four states that does not administer the NPDES program. EPA Region 10 issues NPDES permits to Idaho facilities that discharge treated wastewater into waters of the state (Figure 27). However, in 2014, revisions were made to Idaho Code §39-172 that directed DEQ to develop an NPDES primacy application. The state program is called the Idaho Pollutant Discharge Elimination System (IPDES).

Headworks with mechanical bar screen and grit removal.

Secondary clarifier where solids settle to bottom of clarifier and treated effluent flows out. Effluent flows to building to right of clarifier, where tertiary filtration occurs.

Aeration basins provide biological nutrient removal through an activated sludge process.

Figure 27. City of Rupert wastewater treatment facility.

The process for receiving primacy in the NPDES permitting program from EPA is described below. Additional staffing resources were provided to develop the primacy application.

First, there is a need to implement the fee, state general fund, and federal grant funding strategy. The current estimated level of effort for full program implementation is 29 full-time equivalents (FTEs) and $3.1 million. The funding strategy includes a combination of annual user fees paid by the permit holders; state general funds (ongoing funding for 3 FTEs was provided in FY2015, 3 FTEs in FY2016, and 4 FTEs in FY2017, and another 9 FTEs in FY2018); and federal Clean Water Act grant funds (surface water section 106 grant funds). State general fund support will be needed to frontload the IPDES program. To receive primacy delegation, a state must demonstrate the capability of delivering the IPDES program, which means that Idaho must have hired and trained the staff to be capable of program delivery. An additional 4 FTEs will be requested for the FY2019 budget. 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 was 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 necessary complaint follow-ups (Figure 28). 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.

Figure 28. DEQ staff follow up on a stormwater complaint at the McCall RV Resort.

The second step has been completed. DEQ prepared and developed IPDES rules for Idaho, and the legislature approved these rules. The rules must not be more stringent than EPA, but to receive primacy, Idaho's rules may not be less stringent than EPA. DEQ conducted eight negotiated rulemaking meetings in FY2015 to take comment and advice from the rulemaking committee on draft rule language. A full chapter of rules pertaining to the IPDES program was presented and adopted by the Board of Environmental Quality in FY2016 and pending rules were presented and approved by the 2016 legislature.

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. DEQ began this guidance development effort in FY2016 and completed guidance documents submitted as part of the primacy application in FY2017. Further guidance development has continued throughout FY2017 (Figure 29.)

Figure 29. IDPES guidance development meeting, June 2017.

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. Three pieces of legislation were passed by the 2016 legislature addressing trade secrets, appeals, and concentrated animal feeding operation conflicts with the Clean Water Act.

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 29 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 18 months.

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

Strategies for developing the IPDES programs

- Draft and complete guidance document for developing effluent limits.
- Work with EPA to complete review of the IPDES application package and provide for public comment during FY2018.
- Complete negotiations on the IPDES MOA to have final document ready for approval by the 2018 legislature.
- Phase in program over 4 years. DEQ anticipates the IPDES phase-in will start with the municipal permits in 2018 or 2019 and progress annually through the industrial permits, general permits, and conclude with the stormwater and biosolids components.

Water Quality Performance Measures

- ✓ **In FY2018, hire nine FTEs: four IPDES permit writers, an IPDES compliance and enforcement officer, three IPDES regional compliance officers, and an IDPES technical records specialist.**
- ✓ **Seek four additional IPDES staff (regional compliance officers) via the FY2018 budget process. Contract with the Office of the Attorney General to employ an additional Deputy Attorney General in the Natural Resources Division to provide legal counsel and support for the IDPES program.**
- ✓ **In FY2018, complete draft MOA for approval by DEQ director and EPA administrator. Prepare legislation that authorizes DEQ to enter into an MOA with EPA for the IPDES program for the 2018 legislative session.**
- ✓ **In FY2018, negotiate and implement an MOU with the Idaho State Department of Agriculture pursuant to authorities granted in Idaho Code §39-175 for assistance in implementing the concentrated animal feeding operation component of the IPDES program.**

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. A multi-barrier approach consisting of source water protection, effective system operation, and monitoring and compliance is used to provide safe drinking water for consumers. To meet this goal, the Water Quality Division has three objectives.

Objective 1. Ensure customers served by regulated public water systems are reliably receiving safe drinking water.

DEQ provides technical assistance, training, and support to owners of public water systems so they are able to reliably produce and deliver safe drinking water. This objective is accomplished by ensuring that public water systems are located, designed, constructed, operated, maintained, and protected to meet health-based drinking water standards (Figure 30).

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.
- Prevent 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 owners and operators with real-time access to information on the quality of their drinking water, monitoring requirements, and other regulatory requirements through the web-based Public Water System Switchboard (*www.deq.idaho.gov/pws-switchboard*).
- Encourage mutual assistance between water utilities by hosting and maintaining the Operator Search Tool webpage for finding operators for water and wastewater systems. Participate in the Idaho Water Area Response Network Executive Committee to promote assistance agreements between water systems.
- Perform engineering plan and specification reviews of public drinking water systems 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 through enforcement actions, after exhausting technical assistance and educational opportunities.

Figure 30. City of Blackfoot water storage reservoir.

Water Quality Performance Measures

- ✓ **In FY2018, aggressively seek to obligate drinking water grant and loan funds.**
- ✓ **In FY2018, ensure that 95% of all public water systems have a current comprehensive sanitary survey to ensure the safe delivery of drinking water.**
- ✓ **In FY2018, work with owners and operators of community water systems to ensure that 95% of the people served by community water systems receive drinking water meeting 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, effective April 1, 2016. Idaho's public water systems must comply with these new requirements, which 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

- Assess all public drinking water sources to characterize the water source, determine its susceptibility to contamination, and make assessment information available to the public through interactive web applications.
- Assist public water systems with developing source water protection plans and integrating source water protection into existing planning efforts, such as city and county comprehensive plans, and other regional water quality planning efforts.
- Develop source water protection partnerships through the Idaho Source Water Protection Collaborative that foster a collaborative approach (among various agencies) to source water protection, provide a clearinghouse of source water information, and incorporate source water protection into other existing state and federal programs.
- Create tools and resources to assist and facilitate source water protection implementation efforts.
- Provide source water protection education, outreach, training, and technical assistance to public water systems, local governments, schools, businesses, and the public and provide examples of successful source water protection tools such as ordinances, overlay zones, riparian buffers, and land use planning (Figure 31 and Figure 32).

Figure 31. Source water protection booth at DEQ's water reuse conference, May 2017.

Figure 32. Leading kids through the Incredible Edible Aquifer activity at a Boise elementary school.

Water Quality Performance Measures

- ✓ **In FY2018, increase the percentage of Idaho's population using source water protection strategies to protect drinking water.**
- ✓ **In FY2018, conduct four regional training workshops for public water system operators, community planners, and local government officials on source water protection.**
- ✓ **In FY2018, update 8 existing source water assessments and complete 106 new source water assessments on public water system sources.**
- ✓ **In FY2018, promote and maintain source water protection tools including a new web-based application to help public water systems develop customized source water protection plans.**

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 DEQ grant and loan program provides funding to communities to help them make the system improvements needed to provide safe drinking water.

Strategies for funding 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.
- Provide fully subsidized assistance to public water systems and public schools to replace lead-lined piping and drinking water fixtures, and to treat corrosive water.
- Provide fully subsidized assistance to public water systems with small scale emergency repairs.

Emerging Issues and Opportunities in Water Quality

Drinking water and wastewater system loan requirements. EPA monitors loan pace very closely, but the pace of DEQ's loan program is impacted by an increasing number of federal requirements. DEQ should explore all available means to reduce the administrative burden on loan recipients.

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 long-term sustainability requirements.

State-funded agriculture best management practices. In the recent session of the Idaho Legislature, ongoing General Fund support for implementing agricultural best management practices and improving water quality in high priority watersheds, was approved for $500,000 per year. DEQ is currently developing implementation policy for this legislation. With federal 319 funding under pressure to be reduced, this new funding source represents an opportunity for DEQ to take advantage of its institutional knowledge and expertise in administering such funds.

Harmful algal blooms. A combination of factors, including nutrient imbalance, warmer temperatures, and reduced flow, are leading to more frequent proliferation of certain species of naturally occurring algae, particularly blue-green algae, in water bodies throughout the state. Given the right conditions, high concentrations of blue-green algae can occur and form a bloom. Some of these blooms produce a foul odor while others can produce toxins. Not all blooms produce toxins, but when they do, they present a health risk to humans, pets, and livestock. DEQ works with the public and other natural resource agencies to monitor blooms when they occur and determine whether toxins are present. DEQ coordinates with local health districts to warn the public of any potential health risks when found.

Human-made waters. Idaho has an extensive system of canals and drains that supply water to farm fields to support irrigated agriculture. These canals and drains are known as human-made waters because they largely did not exist as water conveyances prior to construction. How to manage water quality in theses conveyances and the level of protection afforded are issues being evaluated in connection with NPDES permitting. DEQ is specifically looking at NPDES-permitted discharges to human-made waters and how protection of water quality should factor into permit effluent limits.

Emergency Preparedness and Response Goal:
Prevent, prepare for, and respond to public health, environmental, and information technology 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 Office of Emergency Management (OEM); 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 courses and exercises. To protect the agency against cybersecurity threats, DEQ has adopted the National Institute of Standards and Technology Cybersecurity Framework and is implementing the Center for Internet Security controls. To meet the emergency preparedness and response goal, DEQ has three objectives.

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

DEQ works with OEM 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 federal, state, and facility emergency response exercises (Figure 33).

Figure 33. Spill response training at the Twin Rivers hatchery and campground, Kootenai and Moyie Rivers.

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 OEM. When an emergency occurs, DEQ participates in the state communications 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 34).

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.

Objective 3. Implement internet security controls.

Under the National Institute of Standards and Technology Cybersecurity Framework, five Center for Internet Security goals must be obtained by June 30, 2018. DEQ is improving cybersecurity by implementing the first five Critical Security Controls (CSC 1–5) beginning FY2018 and continuing over the next 2 years.

Strategies for internet security

- Electronic hardware inventory and control (CSC 1) will be completed fall 2017.
- Software inventory and control (CSC 2) will be started in FY2018. DEQ currently has over 3,500 unique software installs. Removing older software in many different versions and reinstalling current software from a controlled and audited install will ensure system-wide program uniformity.
- Software imaging (CSC 3) is already taking place. Increased file integrity scans will be started in FY2018.
- Vulnerability scanning (CSC 4) will begin FY2018.
- Administrator management and authentication. (CSC 5) will be thoroughly reviewed and brought into compliance during FY2018.

Emerging Issue and Opportunity in Emergency Preparedness and Response

Increased transport of crude oil by rail. DEQ is working closely with OEM, EPA, and surrounding states to improve federal, state, and local emergency response to potential spills associated with the increase in rail transportation of crude oil throughout the northwest.

Figure 34. Car removed from Salmon River in Custer County. The Bonneville County dive team and Custer County were integral in safely removing the car from the river. Minimal sheen was observed on the water as removal occurred.

Environmental Outreach and Education Goal:

Encourage and empower Idaho citizens, businesses, and communities to engage in behaviors that 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, social media, 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.
- Find support for prolonged engagement with schools to address a variety of environmental information and promote greater understanding of scientific information.
- 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 35).
- Encourage businesses to adopt pollution prevention (P2) methods as part of their everyday operations by recognizing business leadership on waste reduction through the P2 Champions program.
- Identify areas where P2 assistance and outreach can help to achieve prioritized public and environmental health goals, such as resiliency planning and disaster response.
- Seek out feedback from consumers of P2 information to capture usefulness and retention of environmental outreach topics.
- Promote the use of P2 as a risk mitigation and reduction tool.

Figure 35. DEQ staff member teaches students at Seven Oaks Elementary about ground water flow using a demonstration model.

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

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.

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.
- Integrate statistical process control and process improvement techniques with P2 to help manufacturers reduce waste.
- Use tools such as experimental design to assist companies with selecting safer chemical alternatives for process inputs.
- 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 (Figure 36).
- 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.
- Use inter-industry benchmarking to identify P2 opportunities. Utilize collaborative inter-industry opportunities to reduce implementation barriers to benchmarked P2 opportunities.
- Use existing collaborative partnerships with Boise State University to grow and develop the P2 internship program.

Figure 36. DEQ presents Clearwater Paper's Lewiston mill with a Pollution Prevention Champion Award for their work in reducing waste, energy use, and water use in their papermaking operations, October 2016.

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 37).
- Develop and practice internal policies and procedures to prevent pollution, conserve resources, and mentor stakeholders on how to pursue and achieve similar results.

Figure 37. As part of Commuteride's 2017 May in Motion event, 77 DEQ employees used alternative transportation by carpooling, vanpooling, walking, or biking to work during the month of May. Staff kicked off the event with an employee luncheon.

Environmental Outreach and Education Performance Measures

- ✓ **In FY2018, train a minimum of 10 teachers in green chemistry principles and target 1 school district for participation in the Chemical Round-up Program to promote long-term, sustainable pollution prevention.**
- ✓ **In FY2018, target seven businesses or organizations to participate in the Clean Air Zone Idaho Program to reduce vehicle idling.**
- ✓ **In FY2018, 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 FY2018, work with a minimum of three businesses on an economy, energy, and environment (E3) "Green the Green Belt" initiative using six sigma statistical tools to identify opportunities for waste reduction through comprehensive data collection and analysis.**
- ✓ **In FY2018, provide a minimum of two outreach activities informing businesses of chemical alternatives assessment tools.**

Emerging Opportunities in Environmental Outreach and Education

Using six sigma tools to identify opportunities for waste reduction. The catalog of tools that can be borrowed from lean manufacturing and six sigma statistical techniques for continuous improvement can substantially contribute to the effectiveness of waste auditing. DEQ's P2 Program recently completed an E3 project in which the principal focus of its technical assistance and outreach was the use of statistical tools to identify and confirm waste reduction opportunities. Statistical tools allow the program to analyze potential projects and look into underlying factors contributing to the waste. Data collection used for these purposes provides a rigorous accounting of pollution or waste reduced and provides companies additional tools and ideas with which to identify opportunities in the future.

Inter-industry benchmarking. Private companies are increasingly publishing environmental impact statements and displaying information on resource inputs and pollution. This information can be compiled, analyzed, and compared to local companies to benchmark environmental performance in various areas of production. Normalizing environmental impacts on a unit-adjusted basis and correcting for growth can give insight into whether or not companies are falling behind, staying with, or exceeding waste generation trends. This benchmarking can allow for highly targeted assistance focused on closing performance gaps.

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 10 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 similar 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 FY2018 (Table 3).

While the focus of this strategic plan is primarily on agency performance commitments for the FY2018 budget appropriation, it is also forward-looking through FY2021. Emerging issues and opportunities have been identified and described throughout this plan and are summarized in Table 4. 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.** 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 within an average number of 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.** 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 for a determined percentage of the time.
6. **Ground water monitoring.** Ground water is vulnerable to contamination. Once ground water becomes contaminated, it is difficult to clean up. The contamination may impair ground water for use as drinking water and other beneficial uses and may affect the quality of the surface waters where it discharges. DEQ is responsible for monitoring, assessing, and protecting the quality of ground water in Idaho in partnership with numerous other agencies and organizations.
7. **Surface water monitoring.** As the agency responsible for protecting Idaho's surface water, DEQ continually monitors and assesses the quality of the state's rivers, streams, and lakes. Each summer, DEQ BURP technicians follow standardized procedures to collect aquatic insects and water samples, conduct fish surveys, and document habitat conditions in streams and rivers.
8. **Wastewater loans.** The Water Pollution Control State Revolving Loan Fund provides below-market-rate interest loans to help build new or repair existing wastewater treatment facilities.
9. **Recycled water reuse permits.** Treated wastewater can be applied to land for irrigation and further supplemental treatment. The treated wastewater is suitable for reuse as recycled water providing both nutrients and water to crops. Through soil filtration and absorption, additional treatment of the recycled water occurs. DEQ issues reuse permits to facilities treating wastewater and sludge for reuse purposes.
10. **Regulating community water systems to provide safe drinking water.** The total population of Idaho was estimated at 1,683,140 in 2016. Idaho has 737community water systems, serving a total of 1,290,065 people. Rigorous monitoring requirements for community water systems must be met to ensure safe drinking water is provided and public health is protected.

Table 3. DEQ performance commitments for FY2018.

Benchmark Performance Measure	Performance Commitment FY2018
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 ground water sampling events conducted	270
7) Number of wadeable streams monitored following BURP protocols	280
8) Percentage of wastewater loan recipients that complete their project and will be better positioned to sustain their operations into the future	100%
9) Number of recycled water reuse permits issued	18
10) Percentage of people served by community water systems that are provided drinking water meeting all health-based standards	95%

Table 4. Emerging issues and opportunities for FY2018–2021.

Emerging Issue/Opportunity	Division/Program
1) Volkswagen settlement	Air
2) UST Program	Waste
3) New and expanding mining projects	Waste
4) Drinking water and wastewater system loan requirements	Water
5) State-funded agricultural best management practices	Water
6) Harmful algal blooms	Water
7) Human-made waters	Water
8) Increased transport of crude oil by rail	Emergency Response
9) Statistical tools for identifying waste reduction opportunities	Outreach
10) Inter-industry benchmarking	Outreach

Tour of air permittee, Chilco lumber mill

Celebrating retrieval of last box of radioactive waste from INL's Transuranic Storage Area

Burp crew, Queens River

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