

Proud to Serve Oklahoma

Oklahoma Department of Environmental Quality 2012 Annual Report



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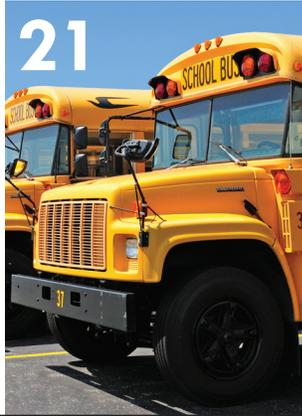
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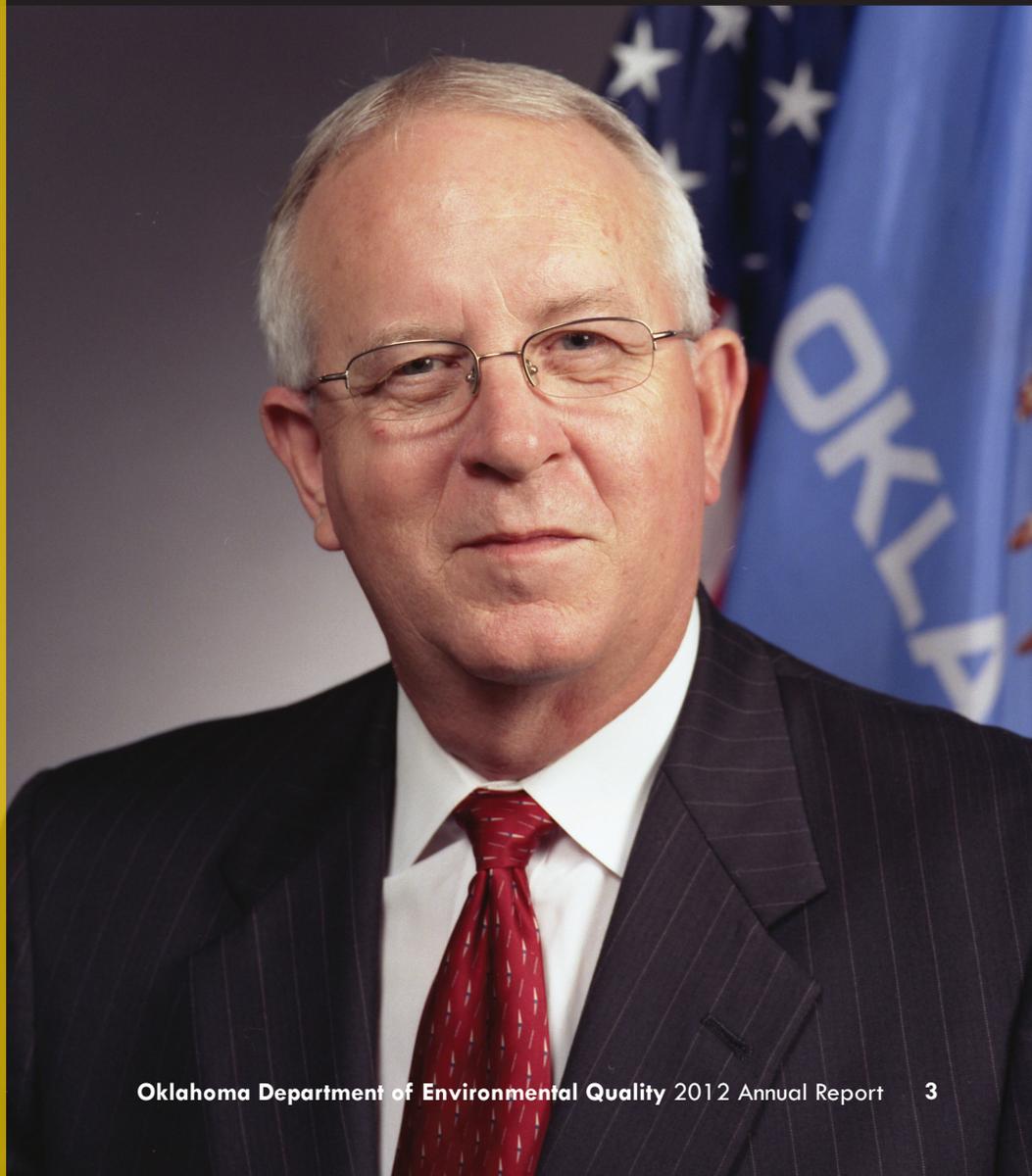
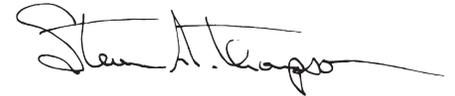
Letter from the Executive Director

By protecting the environment and human health, DEQ employees serve the needs of Oklahoma and its citizens. We take great pride in knowing the work we do makes Oklahoma a healthy state today, tomorrow and in the future. Oklahoma is our home. It's where we live, raise our families and build our lives. We are committed to making Oklahoma the best it can be.

The dedication of our employees is the backbone of our agency.

As a result of our employees' pride in serving Oklahoma, DEQ is able to effectively operate numerous programs, which you will read about in this report. We are all working toward a common goal: a healthy and prosperous Oklahoma.

For DEQ employees, serving Oklahoma is not just our job, it is our calling.



DEQ Leadership



Left to Right: Eddie Terrill, Jimmy Givens (Deputy Executive Director), Shellie Chard-McClary, Cindy Przekurat (Executive Secretary), Martha Penisten, Wendy Caperton, Scott Thompson, Steve Thompson (Executive Director), Gary Collins, Chris Armstrong

Environmental Quality Board

MEMBER	PROFESSIONAL REALM	APPOINTING OFFICIAL	TERM EXPIRES
Brita Haugland Cantrell	Nonprofit Statewide Environmental Organization	Governor	1/31/2013
Mike Cassidy	Agriculture Industries	Governor	1/31/2015
Anthony "Tony" Dark	Water Usage	Governor	1/31/2014
Bob Drake	Rural Water Association	Governor	1/31/2012
Jennifer Galvin	Petroleum Industry	Governor	1/31/2014
David Griesel	Solid Waste Industry	Governor	1/31/2017
Jerry Johnston*	Local Governing Board of City or Town	Governor	1/31/2015
Jan Kunze	Conservation District Representative	Governor	1/31/2016
Steve Mason	Hazardous Waste Industry	Governor	1/31/2016
Sandra Rose	Nonprofit Statewide Environmental Organization	Governor	1/31/2014
Karol "Terri" Savage	Nonprofit Statewide Environmental Organization	Governor	1/31/2017
Kerry Sublette	Environmental Professional	Governor	1/31/2013
John Wendling**	Manufacturing Representative	Governor	1/31/2013

*Chair

**Vice Chair

Environmental Quality Board Members



Brita Haugland Cantrell



Mike Cassidy



Anthony "Tony" Dark



Bob Drake



Jennifer Galvin



David Griesel



Jerry Johnston



Jan Kunze



Steve Mason



Sandra Rose



Karol "Terri" Savage



Kerry Sublette



John Wendling

The Environmental Quality Board, which is the rulemaking body for the Department of Environmental Quality (DEQ), is a 13-member body appointed by the Governor with the advice and consent of the Senate. Members of the Board are drawn from a variety of industrial, commercial, governmental and public interest backgrounds. During State Fiscal Year 2012 (FY 2012), the Board took rulemaking actions affecting 15 of the existing 30 chapters of DEQ rules.

Rule proposals were reviewed and recommended by the appropriate advisory council

before presentation to the Board for adoption. Each advisory council is comprised of nine individuals representing a broad range of perspectives, all of whom have substantial experience and/or interest in those areas within the purview of that advisory council. Prior to action on any rule proposal, the councils offer the opportunity for written and oral comments by individuals and entities interested in the rule. The level of public participation is often high, and helps to significantly shape the rule proposals that are eventually presented to the Board.

To become effective, rules adopted by the Board must be affirmatively approved by the Governor. Fee rules must be affirmatively approved by the Legislature, and other rules must be tacitly approved. All rules adopted by the Board in FY 2012 received gubernatorial and legislative approval.

The table on the following page summarizes rulemaking actions by the Board in fiscal year 2012.



Environmental Quality Board Rulemaking Activities

CHAPTER	COUNCIL	SUBJECT	ADOPTED	TYPE	EFFECTIVE
100	AQAC	Deferral of PSD and Title V permitting requirements for CO2 emissions from certain sources	11/15/11	Permanent	7/01/12
100	AQAC	Incorporation by reference of federal rules.	11/15/11	Permanent	7/01/12
205	HWMAC	Incorporation by reference of federal rules	11/15/11	Permanent	7/01/12
410	RMAC	Incorporation by reference of federal rules; removes obsolete language; includes new definitions; revokes subchapter 19.	11/15/11	Permanent	7/01/12
606	WQMAC	Incorporation by reference of federal rules	11/15/11	Permanent	7/01/12
623	WQMAC	Incorporation by reference of federal rules	11/15/11	Permanent	7/01/12
4	WQMAC	Add new rules in Chapters 627 and 656. Include new water reuse systems in environmental permitting process.	2/24/12	Permanent	7/01/12
100	AQAC	Clarifying language and adding new definition; modify SC7; permits for minor facilities to address when a construction permit is required and when operating permits are to be submitted. SC31 – change brought state limits into conformity with federal standards. Also correcting publication error in the Oklahoma Register.	2/24/12	Permanent	7/01/12
110	AQAC	Add a new subchapter which would affect training providers who offer renovation and dust sampling courses; establish fees for firm certifications; establish accreditation fee.	2/24/12	Permanent	7/01/12
515	SWMAC	Change all references to “waste tire” to “used tire” throughout; afford eligibility to tires used on implements of husbandry and agriculture; updating to include statutory changes to the Oklahoma Used Tire Recycling Act.	2/24/12	Permanent	7/01/12

Environmental Quality Board Rulemaking Activities

CHAPTER	COUNCIL	SUBJECT	ADOPTED	TYPE	EFFECTIVE
515	SWMAC	Adopt new appendices H & I; and update unit cost with current statutes.	2/24/12	Permanent	7/01/12
619	WQMAC	Update language, move rules to a new chapter and modify signage requirements for lagoons. Also non-substantive changes for clarification.	2/24/12	Permanent	7/01/12
621	WQMAC	Remove obsolete language; move rules concerning operation and maintenance of land application sites for these facilities to a new chapter 627; revoke redundant language concerning financial assurances.	2/24/12	Permanent	7/01/12
626	WQMAC	Add new rule for nitrate removal; modify standards for water treatment plant pretreatment; modify standards to conform with standards in other chapters; make minor clarifications.	2/24/12	Permanent	7/01/12
627	WQMAC	New rule for treated wastewater; define terms, establish fees for program maintenance.	2/24/12	Permanent	7/01/12
631	WQMAC	Incorporation by reference of federal rules; modify fee schedule; rule clarification.	2/24/12	Permanent	7/01/12
641	WQMAC	Rule update and clarification	2/24/12	Permanent	7/01/12
656	WQMAC	Rule clarification; establish fees for water reuse treatment systems; move parts of 619 and 621 to this chapter as Categories 4 and 5 reclaimed water.	2/24/12	Permanent	7/01/12

AQAC refers to the Air Quality Advisory Council; HWMAC refers to the Hazardous Waste Management Advisory Council; RMAC refers to the Radiation Management Advisory Council; SWMAC refers to the Solid Waste Management Advisory Council; and WQMAC refers to the Water Quality Management Advisory Council.

Seven advisory councils hold meetings throughout the year as part of the agency's rulemaking process. Once an advisory council approves a rule, it then goes to the Environmental Quality Board. Upon board adoption, the rules proceed to the state Legislature and Governor for final approval and adoption.

Information on the agency's advisory councils is on the following pages.

Air Quality Advisory Council

MEMBER	PROFESSIONAL REALM	APPOINTING OFFICIAL	TERM EXPIRES
David Branecky	Utility	Governor	6/15/2013
Montelle Clark	General Public	Governor	6/15/2019
Gary Collins	Agriculture	Governor	6/15/2017
David Gamble	Petroleum	Governor	6/15/2019
Jim Haught**	Transportation	Governor	6/15/2014
Laura Lodes*	Engineering	Governor	6/15/2013
Robert Lynch	Higher Education	Governor	6/15/2018
Sharon Myers	General Industry	Governor	6/15/2016
Pete White	Local Government	Governor	6/15/2015

*Chair / **Vice Chair

During FY 2012, the Air Quality Advisory Council considered and approved changes to:

- OAC 252:100-2 and Appendix Q, Incorporation by Reference
- OAC 252:100-1, General Provisions
- OAC 252:100-7, Permits for Minor Sources
- OAC 252:100-8, Permits for Part 70 Sources
- OAC 252:100-31, Control of Emission of Sulfur Compounds
- OAC 252:110, Lead-Based Paint Management

All these rules were approved for adoption by the Environmental Quality Board and became effective on July 1, 2012.

Hazardous Waste Management Advisory Council

MEMBER	PROFESSIONAL REALM	APPOINTING OFFICIAL	TERM EXPIRES
Earl Hatley	Environmental Organization	Governor	3/1/2012
Eric Benson	Political subdivision	Governor	3/1/2014
Bob Kennedy	Industry	Governor	3/1/2014
Wesley Anderson	Industry HW Generator	Pro Tempore	2/13/2015
Marsha Slaughter	Political Subdivision	Pro Tempore	3/11/2015
Michael D. Graves	General public	Pro Tempore	5/12/2015
Terry Vandell	Geology	Speaker of the House	3/31/2013
Ray Reaves **	Engineering	Speaker of the House	3/31/2015
Lee Grater *	Hazardous Waste Industry	Speaker of the House	3/31/2014

*Chair / **Vice Chair

The Hazardous Waste Management Advisory Council (HWMAC) did the following:

- Updated the agency's adoption by reference of EPA rules to the latest available version. These changes were necessary due to revised federal rules that are adopted by reference:
 - Removal of Saccharin and its salts from the list of hazardous constituents;
 - Technical corrections to Subpart K of 40 CFR 262 which established an alternative set of generator requirements applicable to laboratories owned by eligible academic entities; and
 - Revision of the Land Disposal Treatment Standards for Carbamate Wastes: an alternative standard for the use of the Best Demonstrated Available Technologies (BDAT) for treating hazardous wastes from the production of carbamates. This action removes carbamate regulated constituents from the table of Universal Treatment Standards.

The changes were recommended to the Environmental Quality Board by the HWMAC at the October 13, 2011, council meeting, and approved by the Environmental Quality Board at the November 15, 2011, meeting.

Radiation Management Advisory Council

MEMBER	PROFESSIONAL REALM	APPOINTING OFFICIAL	TERM EXPIRES
Karen Jennings	Environmental Organization	Governor	7/1/2015
Steve Woods*	Engineering Profession	Governor	7/1/2014
Christopher Honigsberg	Manufacturing/Processing	Governor	7/1/2013
Nadine Barton	General Public	Pro Tempore	1/3/2014
Wayne Conway	Industrial Radiography	Pro Tempore	3/3/2013
George MacDurmon**	Higher Education	Pro Tempore	1/4/2015
Eric Mitchell	Transportation Industry	Speaker of the House	6/30/2013
Shawn Heldebrandt	Medical Industry	Speaker of the House	6/30/2012
Chad Mashburn	Petroleum Industry	Speaker of the House	6/30/2014

*Chair / **Vice Chair

In 2011, the Radiation Management Advisory Council (RMAC) recommended the following:

- Updated the adoption by reference of Nuclear Regulatory Commission rules to the latest available version. Major differences were some adjustments for training and experience of medical users, and some technical changes to definitions and reporting requirements.
- Rules for use of X-rays for therapeutic purposes were updated to reflect current practice and technology.
- Subchapter 19 on use of X-ray Fluorescence Instruments for lead-based paint detection was revoked, as it had been superseded by revised federal rules that are adopted by reference.

The changes were recommended to the Environmental Quality Board by RMAC at the October 6, 2011, council meeting, and approved by the Environmental Quality Board at the November 15, 2011, meeting.

Solid Waste Management Advisory Council

MEMBER	PROFESSIONAL REALM	APPOINTING OFFICIAL	TERM EXPIRES
Traci Phillips	Environmental Organization	Governor	3/1/2013
Vacant	General Public	Governor	--
Ralph Triplett, Jr.	County Commissioner	Governor	3/1/2012
Steve Landers	Industry Generating Solid Waste	Pro Tempore	3/1/2014
Jim Linn**	Political Subdivision	Pro Tempore	3/1/2013
Bill Torneten	Geologist	Pro Tempore	3/1/2015
Brenda Merchant	Transportation Industry	Speaker of the House	12/4/2012
M. Todd Adcock	Solid Waste Industry	Speaker of the House	3/7/2014
Jeff Shepherd*	Field of Engineering	Speaker of the House	10/31/2013
Thomas Grafton	Solid Waste Incineration Waste-to-Energy Industry	Governor	6/30/2013

*Chair / **Vice Chair

In 2011, the Solid Waste Management Advisory Council met and discussed proposed amendments to the used tire recycling rules in OAC 252:515 "Management of Solid Waste". The changes were recommended to the Environmental Quality Board.

Water Quality Management Advisory Council

MEMBER	PROFESSIONAL REALM	APPOINTING OFFICIAL	TERM EXPIRES
Cathy Canty	General Public	Governor	3/1/2014
Michel J. Paque*	Environmental Organization	Governor	3/1/2015
Jeffrey E. Short	Engineering	Governor	3/1/2013
Jim Rodriguez	Industry	Pro Tempore	3/16/2014
Steve Sowers	Oil Field Related	Pro Tempore	3/2/2015
Duane L. Winegardner**	Geology	Pro Tempore	3/2/2015
Debbie Wells	Rural Water District	Speaker of the House	8/20/2013
Vacant	Agriculture	Speaker of the House	--
Vacant	Local Government	Speaker of the House	--

*Chair / **Vice Chair

The Water Quality Management Advisory Council (WQMAC) is responsible for 16 rule chapters (not including Chapter 4). A new rule chapter was added in FY 2012. Chapter 627 Operation and Maintenance of Water Reuse Systems was created to:

- Establish standards for the operation and maintenance of systems that take treated wastewater and, with additional treatment, make it into non-potable “reclaimed water” for beneficial reuse.

Additionally, WQMAC passed rule changes to Chapters 4, 606, 619, 621, 623, 626, 631, 641, and 656.

Waterworks and Wastewater Works Advisory Council

MEMBER	PROFESSIONAL REALM	APPOINTING OFFICIAL	TERM EXPIRES
Robert Carr, Jr.	OK Municipal League	Governor	6/30/2015
Bill Clark	Environmental Training Center/ Higher Education	Governor	6/30/2013
Jim Pumphrey	Waterworks Operator	Governor	6/30/2011
Carl Gray	OK Water & Pollution Control Association	Pro Tempore	7/1/2012
Arnold Miller*	OK Water & Pollution Control Association	Pro Tempore	6/30/2012
Mark Matheson	OK Rural Water Association	Pro Tempore	6/30/2014
Allen McDonald	Waterworks Operator	Speaker of the House	6/27/2013
Karl Potochnik**	OK Rural Water Association	Speaker of the House	7/8/2014
Jon Nelson	Wastewater Works Operator	Speaker of the House	6/30/2015

*Chair / **Vice Chair

No rulemaking action was taken by the Waterworks and Wastewater Works Advisory Council in FY 2012.

Laboratory Services Advisory Council

MEMBER	PROFESSIONAL REALM	APPOINTING OFFICIAL	TERM EXPIRES
Brian Duzan	Private Laboratory	Governor	7/1/2015
Ray Powers	Permit Holder	Governor	7/1/2013
James Roberts**	Field of Hydrogeology	Governor	7/1/2014
Scott Haas	Private Laboratory	Pro Tempore	9/9/2012
William J. Janacek	Public Laboratory	Pro Tempore	2/13/2013
Elaine Stebler*	Microbiology	Pro Tempore	9/9/2014
Anthony Bright	Environmental Chemistry	Speaker of the House	2/1/2013
Kenneth Crawford	Private Laboratory	Speaker of the House	3/7/2014
Matt Grimes	Permit Holder	Speaker of the House	3/7/2014

*Chair / **Vice Chair

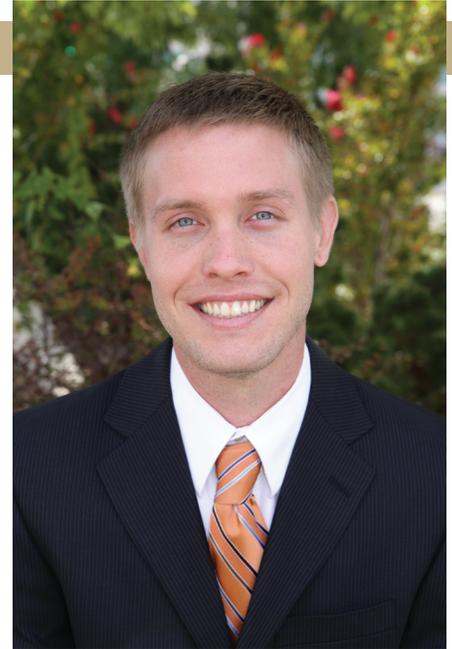
During FY 2012, the Laboratory Services Advisory Council (LSAC) held two meetings to discuss the adoption by reference of The NELAC Institute (TNI) 2009 National Environmental Laboratory Accreditation Program (NELAP) standards into the DEQ rules and the implications of EPA's new Method Update Rule for private laboratories and wastewater permittees. Discussions led to a determination to delay the adoption of the 2009 TNI Standards and NELAP until January 1, 2016. The additional time will be used to ensure that the agency's stakeholders and the laboratories that DEQ accredits have rules that are clearly written and enforceable.

The Best of the Best

Agency employees who demonstrate exceptional performance are recognized each quarter, and then one is selected as employee of the year. These employees have superior customer service, teamwork, problem solving, and leadership skills. DEQ's employees of the quarter are a great example of the work being done in state government.



Gordon Michael Taylor – Water Quality Division – Employee of the Quarter (First Quarter)



Michele Morris – Administrative Services Division – Employee of the Quarter (Second Quarter) and Employee of the Year



Tom Richardson – Air Quality Division – Employee of the Quarter (Third Quarter)



Joe Don Willingham – Water Quality Division – Employee of the Quarter (Fourth Quarter)





Mission Statement

The Department of Environmental Quality

...to enhance the quality of life in Oklahoma and protect the health of its citizens by protecting, preserving and restoring the water, land and air of the state, thus fostering a clean, attractive, healthy, prosperous and sustainable environment.

Fiscal Year 2012 Goals

GOAL ONE:

Solve problems through effective processes and customer services approaches.

GOAL TWO:

Provide standardized, effective, timely and enforceable permitting processes.

GOAL THREE:

Provide services to citizens, businesses and local governments on issues within the Department's mission.

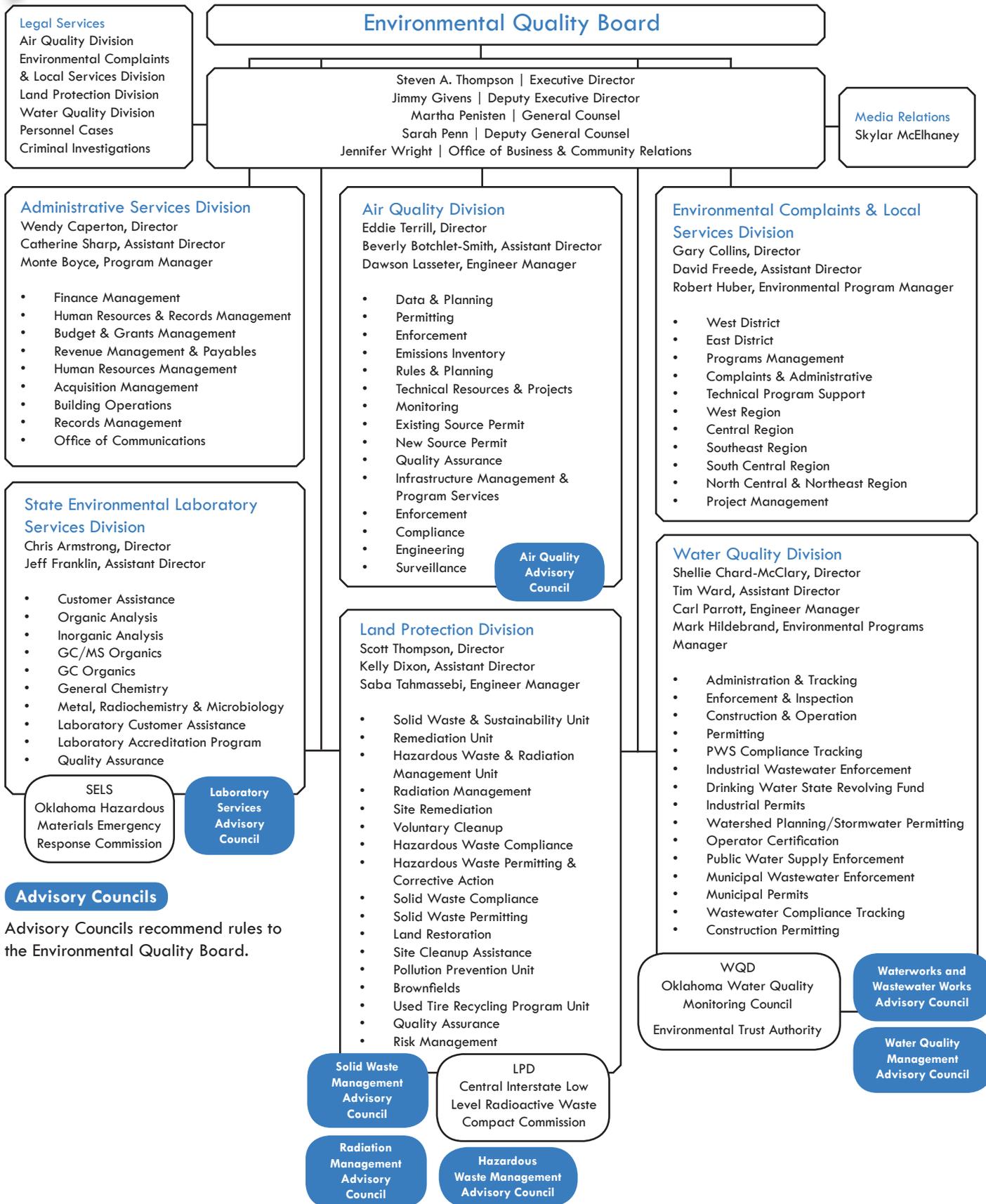
GOAL FOUR:

Solve problems through a responsive, equitable and timely environmental complaints process and emergency response system.

GOAL FIVE:

Provide consistent inspection, monitoring and enforcement within the bounds of the Department's statutory jurisdiction.

DEQ Organizational Chart



Advisory Councils

Advisory Councils recommend rules to the Environmental Quality Board.

Proud to Serve Oklahomans

At the heart of the Oklahoma Department of Environmental Quality (DEQ) is service to Oklahomans. Established in 1993, the agency's core function is protection of the environment

and human health. That concept is woven into every DEQ program. What began as one agency to address many environmental issues is now so much more.

State Fiscal Year 2012 was a time of change. In an effort to better accomplish the agency's core services, some divisions within DEQ reorganized.

OKLAHOMA

*The waving wheat can sure smell sweet
when the wind comes right behind the rain...*

Necessary Change to Meet Challenges of Today

There has been increasing awareness about the importance of environmental protection over the past few years. There has simultaneously been increased scrutiny of environmental regulations.

According to the U.S. Environmental Protection Agency (EPA), regulation of interstate air pollution will result in health benefits for 240 million people. EPA finalized the Cross-State Air Pollution Rule (CSAPR) requiring states, including Oklahoma, to reduce power plant emissions that contribute to ozone and fine particle pollution in downwind states. More than three dozen lawsuits were filed challenging CSAPR, calling it costly and burdensome. Recently, the U.S. Court of Appeals for the D.C. Circuit issued a decision vacating CSAPR, ruling that EPA exceeded its statutory authority. The court held that the Clean Air Act gives EPA the authority to require upwind states to reduce only their own significant contributions to a downwind state's air pollution. However, under CSAPR, upwind states may be required to reduce emissions by more than their own significant contributions. The court also held that under the Clean Air Act states must first be given the opportunity to implement the rule, but under CSAPR, EPA would run the program without first providing states the opportunity. EPA has not yet decided whether to appeal.

As federal regulations change, DEQ has been forced to change some of its practices. The Air Quality Division

(AQD) increased permit application fees as approved by the Air Quality Advisory Council. Fees had not been changed in several years. This revenue stream will allow AQD to maintain its program at the same level as it has in the past.

Additionally, due to increased activity in the oil and gas industry, air quality permit applications have greatly increased. To address this additional workload, AQD developed a general permit for minor oil and gas activities. This streamlines the process for applicants while preserving integrity of the process. New permit applications increased by one-third in 2011. That brought the total of new applications to nearly 2,000. The number of new permits issued increased from 719 in 2010 to 1,115 in 2011.

In the Land Protection Division, Resource Conservation Recovery Act (RCRA) permits are posted on the agency's website. Permits are required for greater than 90-day treatment, storage, or disposal, and while there have been permit renewals in the RCRA program, no new permits had been issued for about 20 years, until recently. Three new RCRA permit applications prompted staff to evaluate and improve the permit review process. One need identified as part of this effort was to include steps that will enhance public participation in all permitting processes. As a result, the agency has identified steps to take in the future to achieve that goal.

In response to statewide outbreaks of harmful algal blooms (HABs), which you will read more about later in this report, the Environmental Complaints and Local Services Division (ECLS) changed the regulations for on-site sewage treatment systems. The changes were designed to reduce the amount of nutrients from on-site sewage systems entering waterbodies. Specifically, the rules now require that any system installed within 660 feet of an impaired waterbody must include nitrogen reducing technology. Additionally, the rule change requires that systems within a quarter of a mile of an impaired water body be designed using a soil profile description, which provides more design information than the old percolation test method.

The foundation for DEQ programs is its employees in various divisions and programs. As DEQ's programs change to better meet the needs of today, it is important that the agency's workforce evolves. This is vital to the service that DEQ provides to the citizens of this state.

Formerly known as the Customer Services Division, the State Environmental Laboratory Services Division (SELS) has shifted its focus. SELS's primary emphasis is now the state environmental laboratory. With this change, some personnel and programs were relocated to other divisions. The goal is to better serve the needs of both the public and DEQ.

Targeting More Tires

The agency continues to enhance compliance in its Used Tire Recycling Program. A recent change in the program has resulted in more resources to clean up abandoned tire dumps across the state.

In FY 2012, DEQ inspectors targeted businesses that were delinquent on reporting

or remitting waste tire fees. Additionally, more outreach was conducted to educate tire dealers about the program.

More information on the agency's tire recycling program is available at <http://www.deq.state.ok.us/lpdnew/TireRecyclingPrg.htm>.

We're Here to Help!

DEQ works with many customers – citizens, businesses, and municipalities. In keeping our commitment to outstanding customer service, the agency established the Office of Business and Community Relations to serve as a single point of contact for individuals or groups who seek agency information.

In order to carry out our mission, we must focus on our customers' needs and ensure a timely response to inquiries. Our goal

is to provide professional, open, timely, accurate information to our customers. The Office of Business and Community Relations is here to do just that and can be reached at 1-800-869-1400 or customerassistance@deq.ok.gov.

Up in the Air

Did you hear about ozone? The result of a complex chemical reaction, ozone is not emitted directly into the air. The ingredients are nitrogen oxides and volatile organic compounds in the presence of sunlight. Oklahoma had plenty of sun during FY 2012, but it takes more than hot weather. Emissions from industrial and electric utilities, motor vehicle exhaust, gasoline vapors, and chemical solvents contribute to the formation of ozone.

Ozone can impact your health. It can cause symptoms ranging from respiratory to cardiovascular issues. The agency's extensive monitoring system, in place across the state, helps notify the public of air quality events, including

high levels of ozone, which could have an effect on human health.

The Air Quality Division issued a number of ozone watches, also known as ozone alerts, in FY 2012: Oklahoma City – 17, Tulsa – 26, Lawton – 4, and rural Oklahoma – 1. These watches are predictions that ozone may reach high levels on the following day.

The Air Quality Division also issues health advisories, real-time email alerts. During FY 2012, 90 health advisories were issued for parts of the state, many of them for ozone. Visit <http://www.deq.state.ok.us/aqdnew/index.htm> to learn more about air quality or to sign up for health advisories.

If You Want to Get Technical...

Geographic Information System (GIS) is an important tool used in many DEQ programs. Recently, the agency revised its GIS system to make it more user friendly and efficient. The agency uses GIS to help track the locations of permitted facilities and other environmental program information. The new GIS system, called the Flex Viewer allows users to graphically display DEQ

generated data on top of street maps, aerial photographs, or topographic maps of the state. The new search and query tools make it possible to sort through DEQ data to find information more quickly. Additionally, the new viewer features advanced drawing, buffer, and print map tools. Driving directions and the weather tool can assist with trip planning.

Other features include:

- Local DEQ Office Locations
- Air Quality Facility Locations and Air Quality Monitoring Sites
- Land Protection Division Facility Locations
- Impaired bodies of water

The new Flex Viewer can be accessed at <http://gis.deq.ok.gov/flexviewer/>.

What's That Green Stuff?

One challenge of this fiscal year was harmful Blue Green Algae (BGA) at several Oklahoma lakes. During the summer of 2011, DEQ was notified of a BGA bloom at Grand Lake. Low numbers of BGA are generally found in lakes, ponds, and streams, but when the water is warm and enriched with nutrients like phosphorus or nitrogen BGA can become abundant or bloom.

When environmental conditions are just right, BGA can grow very quickly. Most species float to the surface, where they form a scum layer or mat. However, some types of BGA occur one to three feet below the surface and can only be identified by looking at samples under a microscope.

BGA can produce harmful toxins that may cause a variety of reactions, most commonly, upper respiratory problems, eye irritation, and gastrointestinal upset. Children are particularly vulnerable to BGA as they weigh less than adults and smaller

quantities of the toxins may trigger a more severe reaction.

In response to the BGA bloom at Grand Lake during summer 2011, DEQ worked closely with the Grand River Dam Authority (GRDA) to post warning signs around the lake and distribute flyers in the Grand Lake area. DEQ's Environmental Complaints and Local Services Division spent considerable time distributing educational information in the Grand Lake area and responding to reports of BGA at other bodies of water in the state. ECLS, SELS, and the Water Quality Division (WQD) coordinated to ensure that public water supplies that use water from affected lakes were operating efficiently and were sampled to make sure water served to the public was safe.

Following at times daily sampling, SELS coordinated closely with GRDA and the U.S. Army Corps of Engineers to determine the next steps. BGA is sometimes referred to as a moving target because

weather and water conditions change the areas affected in a matter of hours. Even if you can't see it floating on the surface of the water, that doesn't mean it isn't there. BGA can be suspended below the surface, and its location depends on a number of factors. Most importantly, wind, light and nutrients affect BGA's location.

There is no quick remedy to control BGA once there has been a bloom. Reducing the amount of nutrients that wash into water bodies will eventually reduce the frequency and intensity of blooms, but it takes time. To help in that effort, in FY 2012 ECLS proposed rules that would reduce BGA. The rules focus on the installation of nutrient reducing septic systems around lakes that are considered impaired. Under the rules, when older septic systems are replaced, the new system must reduce nutrients. The rules were signed by Governor Mary Fallin and are currently in effect.

In the News

Tulsa World
Algae found in water at Grand Lake may be dangerous - June 25, 2011

Tulsa World
Emergency meeting called on Blue Green Algae in Grand Lake - June 30, 2011

In the News

KTUL - Tulsa
Testing shows Blue Green Algae in other Oklahoma lakes - July 9, 2011

The Journal Record
Heat wave fosters toxic algae in touristy lakes - July 21, 2011

Watch Us Turn Yellow to Green

Did you know that the average daily bus ride time for a student is one hour? Did you know that children breathe 50 percent more air per pound of body weight than an adult? That makes a child's developing respiratory system especially vulnerable to air pollution.

Through a grant program, AQD awards funding to schools to help reduce diesel air emissions from school buses. According to EPA, reducing emissions from diesel engines is one of the most important challenges facing the country. Millions of diesel engines already in use emit large amounts of nitrogen oxides, particulate matter and air toxics.

EPA established the national Clean Diesel Campaign to help voluntarily reduce harmful emissions from heavy duty diesel engines.

Funds from the campaign, administered by AQD, can be used to retrofit older model school buses with control devices to reduce exhaust emissions or replace older buses with new buses that meet more stringent emissions requirements.

Since 2008, AQD has been able to contribute to the retrofit or replacement of 359 school buses by leveraging more than four million dollars awarded by EPA. This funding has allowed children across Oklahoma to breathe easier on the way to and from school every day. You can learn more about this program at <http://www.deq.state.ok.us/aqdnew/cleandiesel/index.html>.



DEQ Responds to Red River Fish Kills

DEQ scientists in SELS, the Land Protection Division (LPD), and ECLS have worked with the Oklahoma Department of Wildlife Conservation, Oklahoma Corporation Commission, EPA and Texas Parks and Wildlife Department to determine the cause of two recurring fish kills in the Red River.

DEQ responded to the initial kill in July 2011. Agency personnel observed numerous dead blue and flathead catfish. This fish kill proved to be unlike any other

the agency has worked because it only affected large bottom-feeding fish and covered a segment of river approximately 100 miles in length. In all, about 4,000 fish died.

DEQ collected water, sediment and fish samples for analysis. When traditional analysis failed to identify a cause, the agency requested EPA's assistance. DEQ worked with EPA laboratories in Houston, Denver, and Las Vegas to analyze the samples for toxins that the SELS could not. Through

this, EPA tentatively identified a mycotoxin as the potential cause of the fish kill. Mycotoxins are produced by a fungus that grows on grains and grasses. The investigation as to the source of the mycotoxin is still in progress.

The initial fish kill was followed by kills in September 2011 and June 2012. As a result, DEQ personnel have been on the site numerous times responding to the kill and investigating possible causes. The investigation is ongoing.

It Takes an Army

Twelve former National Guard Armories were cleaned up over the past fiscal year as part of the Site Cleanup Assistance Program (SCAP). Cleanups typically remove lead and asbestos contamination to allow the properties to be safely transferred to local governments for reuse.

Reuse has included facilities for police and emergency personnel, leases to various businesses, and non-profit doctor and dental offices. Since its inception, SCAP has remediated 25 armories across the state.

This is part of a collaborative effort between DEQ, the Oklahoma Military Department, and the Department of Central Services.

Drought Impacts Water Systems

In the past year, Oklahoma has experienced record-setting weather. From the coldest day ever recorded in the state (-31 in Nowata) to the hottest July in the history of the United States, it proved to be a year when anything could happen. In addition to the extreme heat and cold, Oklahoma has experienced a severe drought. The drought has caused many

towns throughout Oklahoma to implement varying forms of water rationing. At one point in FY 2012, there were more than 100 public water systems in Oklahoma forced to implement rationing due to the drought.

The public can see which communities are under rationing at <http://www.deq.state.ok.us/>.

Rethink, Reinvest, Reinvent

Experts and industry leaders from across the country were in Oklahoma City for the 2012 Oklahoma Brownfields Conference. DEQ hosted the event at the Skirvin Hilton Hotel, an iconic brownfields success story. Brownfields are properties that have lost value due to real or perceived environmental contamination, and the 2012 conference highlighted the redevelopment of contaminated and/or abandoned properties with the theme Rethink, Reinvest, Reinvent.

Panelists provided insight into the environmental, social, and economic impact of brownfields redevelopment. The conference was attended by more than 300 professionals. Over the past few years, the Oklahoma Brownfields Conference has grown significantly in size and national scope. The next conference will be held in early 2014.