

Department for

Natural Resources

Annual Report

FY 2011



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FROM THE FRONT OFFICE

Welcome to the Department's *2011 Annual Report*. On the behalf of the Department, I thank you for joining us as we review the performance of the Department for Natural Resources during Fiscal Year 2011.

As Commissioner for Natural Resources, I am proud of the work and accomplishments of the different elements of this large Department. This Report is meant to be a comprehensive compilation of what the hardworking employees of this Department have accomplished and has been compiled for your benefit, so that you may determine for yourself how we are doing. By compiling this document, we are acknowledging the diligence and devotion of nearly 800 employees to the environment and to the public.

This Annual Report serves three purposes: First, it is a resource document for the various state and federal agencies that have an interest in the activities of DNR. It assesses the mission of the various Divisions and how the Divisions are doing in terms of meeting certain specific goals in comparison to previous years. Second, it is an educational document by which different agencies can learn more about the mission and goals of its sister agencies. The annual report will spotlight the areas where the Divisions' missions have commonality and similarity. Finally, it is human interest account where we highlight the work of the employees of the Divisions. Without our dedicated employees, who work so hard to carry out the goals, DNR would not be able to accomplish its mission

In this report, you will meet the personnel of this Department and learn of the extraordinary work they are doing. Each of our agencies has its story to tell in terms of its mission and accomplishments. When you have finished this report, you will have a better understanding of how our employees are protecting the environment and the public and improving the quality of life for all Kentuckians.

In closing, please take a moment to remember Forest Ranger Don Lam, age 59, who was critically injured on September 7, 2010, while working on a fire line in Livingston County. After a long and courageous fight to recover from his injuries, Don died on February 17, 2011. Don was a long term employee of the Division of Forestry and he dedicated his life to that agency. He will be missed.

Sincerely,

Steve Hohmann
Commissioner

Mission

The Department for Natural Resources (DNR) has as its mission the following:

To improve the quality of life for all Kentuckians by protecting our land, air, and water resources; utilizing our natural resources in an environmentally conscientious manner; and creating efficient environmentally responsible ways of managing, conserving and sustaining our resources for future generations.

The Department has developed the following goals to carry out its mission:

-  Ensure that natural resource development activities such as agriculture, oil and gas drilling, logging and mining are done in an environmentally responsible manner.
-  Ensure that the natural resources of Kentucky are protected, managed and enhanced to provide maximum benefits to the people and economy of Kentucky.
-  Ensure coal mining, logging, firefighting and agricultural activities are performed in a safe manner.

The Annual Report summarizes the performance of DNR through four different sections, beginning with special projects.

Special Projects

Water Quality Trend Stations

- The Cumulative Hydrologic Impact Analysis (CHIA) protocol being developed by the Division of Mine Permits requires DNR employees or interns to enter into the Surface Mining Information System (SMIS) a very large volume of watershed data. The project also requires DNR to establish multiple sampling stations at 200 locations in the eastern coal fields and 37 in the western coal fields, so that current water data can be obtained from relevant watersheds. \$300,000 has been allocated by OSM towards this project.
- From June 1, 2010 to October 3, 2011, the CHIA staff wrote 354 watershed characterizations and entered into SMIS 66,284 quarterly water quality reports, known as Discharge Monitoring Reports (DMRs) from 1,264 permits. 46,479 surface water and ground water reports were also entered into SMIS.
- During the same time period, the staff validated 64 trend station sampling locations and digitized several hundred permit boundaries using GIS technology.
- DNR received over \$120,000 from various sources to be used for the purchase of sampling equipment and the implementation of a GIS based coal mining database that will supplement the national GeoMining Project.

Environmental Threats

- The endangered Indiana Bat is being infected throughout the Northeast with a fungus that is proving to be extremely lethal. In extreme instances, there has been a 100% mortality rate in the hibernacula. This

infection became known as the *White Nose Syndrome* and has now spread to Kentucky and identified as being immediately outside the park boundaries of Mammoth Cave.

- The *Hemlock Woolly Adelgid*, a pest that feeds on the Eastern Hemlock tree, has been found in 19 counties in eastern and southeastern Kentucky. Unless treated, the infected tree will die with 3-5 years.
- The *Emerald Ash Borer*, an insect that attacks ash trees by laying eggs under their bark, has been identified in 14 counties with another 22 counties being placed under quarantine. Additionally, communities in Fayette, Jefferson, Boone and Kenton counties are infected.

Boards and Commissions

- The Bond Pool Commission, which has 1122 performance bonds outstanding for a combined liability of over \$49 million covering 41 members, received a favorable audit. The Madison Consulting Group concluded that there was a 95 percent probability that the fund was solvent enough to withstand the failure of its largest member or any two of its members.
- The Heritage Land Conservation Fund in FY11 added 1,387.8 acres in 11 counties to its conservation pool. There are now 38,249 acres of natural land in the fund which will be preserved for future generations to enjoy.

PROTECTING THE ENVIRONMENT

The Department, via its Office of Mine Safety and Licensing and Divisions of Mine Permits, Mine Reclamation and Enforcement, and Oil and Gas, helps protect the Commonwealth's environment through its permitting and enforcement activities. The following is a summary of the agencies' performance:

Office of Mine Safety and Licensing

- Licensed 271 surface mines and 195 underground mines for a total of 466 mines
- Conducted a total of 3,406 inspections in 15,216 inspection days
- Issued 3,592 Noncompliances and 2,918 Closure Orders for a total of 6,501 enforcement actions
- Assessed \$16,568 for underground mine roof violations
- Trained a total of 20,075 miners in CPR, Electrical, Gas Hoisting Engineer Initial, Medical Emergency Technician (initial and retraining), Mine Rescue (initial and retraining), Shot Firer Conventional, Surface and Underground Mine Foreman (initial and retraining), Surface and Underground Miner (initial and retraining) and Metal/Non Metal Retraining; tested 5,766 miners on these topics.
- Investigated 6 fatalities and 3 serious accidents
- Observed, via its Mine Safety Analysts, 2,255 unsafe acts and 25,824 safe acts
- Supervised the Kentucky Mine Mapping Information System, which scanned and placed on line for public access as of January 2011 the following:
 - 68,203 documents
 - 36,108 maps along with 2,191 stitch partials
 - 29,904 transmittal letters (accompany the maps and contain vital mine information)
 - 31,571 geo-processed maps

Oil and Gas

- Issued 1,142 permits to drill for oil or gas, a continuation of a steady decline in permits since 2008
- Issued 241 permits for horizontal / deviated wells
- Issued 198 testing permits to determine feasibility of reactivating an abandoned well
- Performed 11,052 well site inspections
- Performed 1,366 gathering line inspections

- Expended approximately \$510,000 plugging 128 abandoned wells
- Conducted 123 administrative hearings
- Continued to pursue primacy from USEPA to regulate the Class II-Underground Injection Well Program

Division of Mine Permits

- Achieved a delinquency rate of less than 10% for all permitting applications
- Issued 655 permitting actions, including 68 new permits, 10 slurry applications, 125 amended permits, 65 major revisions; and 397 minor revisions
- In cooperation with the Office of Surface Mining, has been revising its cumulative hydrologic impacts assessment protocol (CHIA), which will allow the permit reviewer to determine whether a proposed mine site will have unacceptable hydrologic impact on the local watershed. This effort has led to the inclusion into the Surface Mining Information System (SMIS) of over 66,000 quarterly water quality reports for various watersheds, as well as chemical and biological water data from the Division of Water and water quality data from other agencies

Mine Reclamation and Enforcement

- Issued 1,248 notices of noncompliances, 143 failure to abate cessation orders and 4 illegal mining cessation orders
- Reviewed 1,162 enforcement actions of which 991 cases were assessed penalties for a cumulative total of a little over \$10 million
- Reduced coal flyrock events to zero
- Developed a new blaster trainer program and developed new modules and improved training courses
- Responded to 728 Citizen Requests for Inspection of which the most common complaints were blasting, hydrologic impact, off permit disturbance, water quality, and fugitive dust
- Reduced the backlog of open citizen complaints waiting for a technical report to a record low of 22 complaints

Non-Coal Enforcement (Regulates hard rock operations - quarries and sand and gravel operations)

- Conducted 1,651 inspections, issued 12 Notices of Noncompliance and collected \$8,025 in penalties
- Issued 4 new permits and finalized 82 permitting actions

ENHANCING THE ENVIRONMENT

The Department also promotes, improves, enhances, and develops the environment for the benefit of all Kentuckians. These tasks are handled by the Divisions of Abandoned Mine Lands, Forestry and Conservation. The following is a summary of their performance relative to the strategic plan:

Abandoned Mine Lands

- OSM discontinued its emergency reclamation program in Kentucky. This action required DAML to assume responsibility for emergency response and resulting reclamation. DAML is fully responsive to the emergency calls that used to be made to OSM in previous years
- The fast tracking of bond forfeiture for permits that had expired, but had not yet been reclaimed, resulted in an increase of such forfeitures to 18 in calendar year 2010 and a transfer of nearly \$1 million to DAML
- AML expended over \$13 million and installed 108 miles of water lines, benefitting 540 people directly and 1,270 people indirectly

Forestry

- Will be celebrating its 100th anniversary in 2012 as an agency. Organized initially as a fire control agency, the Division is now a multifaceted agency with over 300 full time, interim and emergency employees and
- Conducted Forest Stewardship, Environmental Education, Landowner Outreach and Urban and Community Forestry programs benefitting thousands of Kentuckians
- Added 73 acres to Tygarts State Forest bringing the total to 948 acres
- Distributed \$3.25 million by the Forest Legacy Program to facilitate the purchase of the Big Rivers Corridor
- Protected the Commonwealth's forests by:
 - Suppressing 1,546 wildfires, which burned 36,417 acres
 - Issuing 232 written warnings, resulting in 117 informal conferences to resolve the warnings
 - Issuing 43 notices of violation for warnings not resolved and additionally issued 34 special orders, and 13 emergency orders
 - Conducting 17 administrative hearings which resulted in:
 - 11 bad actor designations and assessing \$12,302.50 in penalties of which over 50 percent were collected (\$6,761)
 - Distributing \$253,960 in Volunteer Fire Assistance Grants to volunteer fire departments
- Sold 2.2 million trees generating \$612,042 in revenue

Conservation

- Distributed \$975,000 in direct aid funds to 121 Conservation Districts, which supported conservation district employees and 50 conservation district offices
- Awarded 10 equipment loans for a total of \$602,719.33 through its Equipment and Infrastructure Loan program; there are now 29 equipment loans and 4 infrastructure loans in place
- Added 30,000 acres to the Agricultural District Program for a total of 446,224 acres
- Accomplished through its Soil Erosion and Water Quality Cost Share Program:
 - The installation of 544 State Cost-Share Best Management Practices for a total of \$2,046,762.80
 - The installation of 179 Conservation Reserve Enhancement Program (CREP) practices for a total of \$565,188.71
 - The disbursement of \$603,772.50 in Environmental Grants which were used to address special needs in a particular county, such as waste dump clean up and removal of dead animals.
- Conservation District employees completed 20 reclamation or repair projects in 11 counties that addressed the massive damage sustained by Kentucky during the severe weather events this previous year;
- Implemented the process of transitioning from the Conservation Reserve Enhancement Program to the Mississippi River Basin Initiative to address hypoxia issues in the Gulf of Mexico caused by agricultural runoff.

Special Awards and Notable Events

- The *2011 National Arbor Day Foundation Award* was presented to the Appalachian Regional Reforestation Initiative (ARRI), a multi-agency project developed and implemented by the Department..
- DNR presented the *Kentucky ARRI Award* to Heritage Coal.

- The Natural Resources Conservation Service awarded Director Steve Coleman its *State Conservationist Award* during the National Conservation Partnership Meeting in Louisville.
- DuPont Manual High School (Louisville, KY) won the 2011 *Environthon Award*.
- Forest Ranger Ricky Parnell was awarded the *Robert E. Browning, Jr. Award* for being an outstanding educator of children as to the dangers of wildfires
- The *Outstanding Forest Steward Award* was presented by the KDF to Dr. James W. Middleton of Hart County

Commissioner's Awards

This year, the following surface mining permittees were awarded the *Commissioner's Award for Excellence in Reclamation*:

- Lexington Coal Company – Permit No. 860-0145 (London Regional Office)
- Patriot Coal Company – Permit No. 851-0043 (Madisonville Regional Office)
- Sandlick Coal Company – Permit No. 848-0302 (Middlesboro Regional Office)
- Davis Energy, LLC – Permit No. 858-0221 (Prestonsburg Regional Office)
- Premier Elkhorn Coal Company – Permit No. 898-0400 (Pikeville Regional Office)

In Memoriam

The Department is grateful for the services of the following individuals who will be greatly missed:

- Forest Ranger Donald Ray Lam who died February 17, 2011, as a result of injuries sustained while fighting a forest fire in September 2010
- Carl Wedekind, who died in August, 2011. Mr. Wedekind was the long-time Vice Chair of the Kentucky Heritage Land Conservation Fund Board

Introduction

The Department for Natural Resources is the largest governmental agency within the Energy and Environment Cabinet, consisting of nearly 800 employees and including nine separate and distinct statutory units – The Commissioner’s Office; the Office of Mine Safety and Licensing, and the Divisions of Abandoned Mine Lands, Conservation, Forestry, Mine Permits, Mine Reclamation and Enforcement, Oil and Gas, and Technical and Administrative Support.

Along with its sister Departments, the Department for Energy Development and Independence and the Department for Environmental Protection, DNR strives to:

Improve the quality of life for all Kentuckians by protecting our land, air, and water resources; utilizing our natural resources in an environmentally conscientious manner; and creating efficient environmentally responsible ways of managing, conserving and sustaining our resources for future generations.

As a part of its strategic plan, the Department developed the following goals:

- ） Ensure that natural resource development activities such as agriculture, oil & gas drilling, logging and mining are done in an environmentally responsible manner.
- ） Ensure that the natural resources of Kentucky are protected, managed and enhanced to provide maximum benefits to the people and economy of Kentucky.
- ） Ensure coal mining, logging, oil and gas production, firefighting and agricultural activities are performed in a safe manner.

Along with these goals, the Department developed a series of objectives and measures (outcomes) to evaluate how it is doing with respect to its long term goals. Although these objectives and measures will be discussed elsewhere in this report, a copy of the Strategic Plan containing the DNR Goals, Objectives and Measures is included in the Appendix of this Report.

This report is divided into four broad sections. The first section details the activities of the Commissioner’s Office. In this section, you will find a summary of the Department’s budget and personnel, special cost savings incentives, as well a summary of the various projects initiated by the Department. Given the close relationship between DNR and the federal Office of Surface Mining (OSM), this section will also discuss the assessment given by the OSM of the Department’s performance with respect to several special studies pertaining to contemporaneous reclamation, achieving approximate original original contour on a surface mining operations, and the manner in which performance bonds are calculated.

Parts II and III of the report constitute an evaluation of the Department’s performance with respect to protecting the environment and public and improving the quality of life through the enhancement of the environment. Accordingly, Part II will lead off with a summary of the licensing, training, and enforcement actions taken by the Office of Mine Safety and Licensing (OMSL), the oldest agency within the Department for Natural Resources. Thereafter, you will find a review of the permitting and enforcement actions of the Divisions of Oil and Gas (DOG), Mine Permits (DMP), and Mine Reclamation and Enforcement (DMRE). Part III details how the Department is enhancing the environment with a summary of the activities of the Divisions of Abandoned Mine Lands (DAML) Forestry (KDOF) and Conservation (DOC)

The last part – Special Recognitions and Notable Events –acknowledges the special recognition many of our employees have received during the past year, as well as recognizing the outstanding reclamation work performed by the coal permittees that received the *2011 Commissioner’s Reclamation Award for Excellence in Reclamation*. The section concludes with a tribute to the Kentuckians who have contributed so much to the improvement of protection of the environment.

Attached to the report is an appendix with the following items:

- Commonly Used Acronyms
- The Cabinet’s 2009 Strategic Plan
- Additional Budget and Personnel Information
- Organizational Table
- Acknowledgments

PART I - OFFICE OF THE COMMISSIONER and DTAS

Supported by the other agencies within the Department, the Office of the Commissioner, in coordination with the Division of Technical and Administrative Support (DTAS), has the important role of carrying out the following objective and measures set out in the strategic plan:

Objective 1 – Ensure that requirements of the Surface Mining Control and Reclamation Act of 1977 (SMCRA) and the Clean Water Act (CWA) as it applies to mining operations are met for all Kentucky mining operations.

Accomplishment of Objective 1 by the Commissioner's Office is achieved through two principal tools– the results of DNR's evaluation by OSM in enforcing the surface mining law and the manner in which it achieves a number of measures set out in the 2009 Strategic Plan for fulfilling administrative services. Another related, but very important function of the Commissioner's Office, is the development of needed statutory and regulatory changes for passage by Kentucky's General Assembly or for implementation by the EEC Secretary. These actions are generally subject to a comment process from the appropriate General Assembly standing committee.

More specifically, this Annual Report will discuss the following measures as set out in the Strategic Plan:

- The Department for Natural Resources budget.
- Full time employee numbers with associated full time cap positions.
- Special Projects:
 - Status of the Indiana Bat
 - Progress of the Cumulative Hydrologic Impact Assessment project
 - Underground Injection Control Authorization status
 - Kentucky Mine Mapping Project Initiative

The Office of the Commissioner consists of 11 employees, who work closely with the nine employees assigned to DTAS. The Commissioner's Office and DTAS have the responsibility of coordinating the divisional budgets, personnel actions, procurement, field audits, information technology (IT) development, motor pool and grant administration. Members of the staff also assist the Commissioner in preparing legislative and regulatory proposals, as well as spearheading a number of special projects, as will be discussed below.

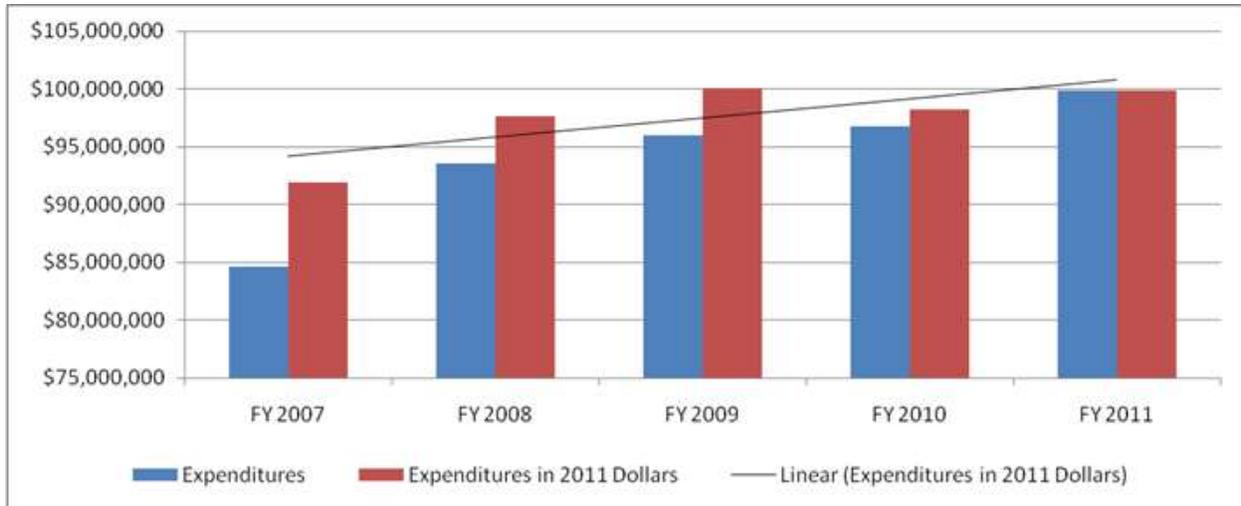
Finally, the Bond Pool Commission and the Heritage Land Conservation Fund Board are semi-autonomous administrative agencies attached to the Commissioner's office for administrative support. Their important work will also be discussed in this Part.

Administrative Support Budget and Personnel

The Department's budget consists of general funds, federal grants, and fees that are collected as authorized

by various statutes and regulations. During the last 5 years, in an environment of doing more with less as a result of budget reductions, contract reductions, furloughs, retirements, and loss of personnel, the Department has managed to accomplish its core mission as outlined in the 2009 Strategic Plan, consistent with federal and state mandates.

As can be seen below, DNR’s expenditures have remained essentially flat for the past several years. The small increases in unadjusted expenditures are a result of increased retirement factors and increased health insurance cost. Of significant note is the fact that the Department’s expenditures in 2011, when adjusted for inflation, have hardly changed at all during the past three years. In real terms, the overall budget of DNR has been reduced, even though many of its responsibilities have increased.



This brief summary, of course, is not the entire story. For more information as to allocations made to the various divisions, as well as the funding sources for these expenditures please refer to the Appendix.

Federal Funding

It is important to note that a significant portion of the Department’s budget is derived from the Administrative and Enforcement (ANE) Grant awarded each year by OSM. The Commissioner’s staff and personnel within DTAS have the critical function of preparing the annual ANE grant proposal for submission to the OSM, which oversees the enforcement, permitting and reclamation functions of DMP, DMRE and DAML.

The regulatory program is 50 percent federally-funded, meaning matching funds must be in place before it can be drawn down. This funding grant primarily supports the personnel and operational costs of the Division of Mine Reclamation and Enforcement. While DMP is receives funds from OSM, most of its personnel funds are derived from the enhanced permitting fees that were authorized by the General Assembly during FY 2010. Finally, a small portion of the grant is also used to support personnel positions in the Division of Abandoned Mine Lands. However, the bulk of DAML’s budget is in the form of a direct federal dollars allocation from the federal Title IV Abandoned Mine Land fund.

The revenue shortfalls at the state level have negatively impacted the ability of the Department to match all the available federal funds for the surface mining regulatory program.

OSM allocations, while remaining constant, or even increasing, have not been successfully matched by the Department due to insufficient general fund appropriations. At the end of FY11, the Department returned to OSM approximately \$1.8 million that had not been matched by the General Assembly. This trend is a regrettable continuation of lost funds, as evidenced during the past two grant cycles where the DNR in FY08 returned \$1.8 million from of its grant and deobligated nearly \$500,000 dollars of its FY09 grant. DNR’s inability to secure sufficient general fund dollars to match fully the OSM grants creates a major problem in

maintaining optimum staffing ratios and procurement of major pieces of equipment, such as inspector vehicles used for mine inspections.

Cost Saving Initiatives - Improved Cell Phones and E-mailing of Documents

The Commissioner's office, in conjunction with DMRE, undertook two projects as a cost saving measure, which led to improved performance by the DMRE's inspectors.



The first of these projects was the renegotiation of the cell phone contract with AT&T. Inspectors within DAML, OMSL and DMRE were not able to effectively communicate with their field offices in eastern Kentucky due to a non-existing or poorly functioning cell phone service.

At the instigation of DMRE, the Commissioner's office conducted an audit and determined that DNR was indeed paying for phones services that were not being provided. This failure constituted a basis for a change in the vendor contract. DNR is now under contract with another provider as its eastern Kentucky cell phone provider. While cell phone service is not perfect, the new contract proved itself invaluable during the spring floods with the DAML, DMRE and OMSL inspectors able to communicate with the regional offices during emergencies from areas where they previously did not have cell phone service.

The other project stemmed from the passage of legislation in 2009, which allowed enforcement personnel within DMRE to send enforcement documents by e-mail to permittees who signed up for the service. By virtue of the change in the legislation, the DMRE was no longer required to use certified mail (\$5.46 per envelope and green card) for the delivery of its enforcement documents. Instead, the Division was able send its documents by Rpost at 41 cents per electronic stamp. The estimated savings resulting from this change in procedure is will be approximately \$150,000 over five years.

DMRE became the **FIRST** agency within DNR, and possibly state government, to enact specific legislation allowing service of its legal documents by email. The Finance and Administration Cabinet is now studying the issue with respect to amending a variety of service regulations allowing electronic delivery of documents in lieu of certified mail. This year, DNR will further amend its regulations to allow service of penalty assessment documents by email, which is also expected to generate significant savings.

The Division has also reduced its regular mail costs by reviewing and revising its antiquated mailing policy and reducing the number of copies of enforcement documents that are sent to entities other than the mining permittee. This revision netted the Division an additional \$20,000 annually in savings. Combined savings is estimated to be over a quarter of a million dollars.

Personnel

The overall number of authorized employees has remained fairly consistent at 826 individuals; however, the number does not accurately reflect a decline that has actually occurred in the overall personnel strength of the agency. This authorized cap is significantly modified by funds appropriated to the Department and available to fill its positions. As reflected in the chart on the next page, the Department is authorized to fill only 772 positions.



Authorized Personnel Positions

	2007	2008	2009	2010	2011	2012
DNR Commissioner's Office	3	3	10	11	11	11
Division of Technical and Administrative Support	16	16	8	8	9	9
Forestry	225	225	201	201	188	188
Conservation	26	26	24	24	23	23
Mine Reclamation and Enforcement	185	185	186	185	185	185
Mine Permits	101	100	89	105	102	102
Abandoned Mine Lands	80	94	94	94	94	94
OMSL	7	7	12	12	12	12
Safety Inspection and Licensing	80	80	97	112	110	110
Safety Analysis Training and Certification	47	47	65	65	65	65
Explosives and Blasting	9	9				
Investigation	6	5				
Oil and Gas	29	29	25	26	26	26
Total DNR	814	826	811	843	825	825
Mine Safety Review Commission				1	1	1
	814	826	811	844	826	826

Full-Time Filled Positions

	2007	2008	2009	2010	2011
DNR Commissioner's Office	3	2	10	11	10
Division of Technical and Administrative Support	15	13	8	9	8
Forestry	212	193	199	188	186
Conservation	25	23	23	22	22
DNR-Bond Pool	1	1	1	1	1
Mine Reclamation and Enforcement	177	166	157	185	169
Mine Permits	90	85	77	102	96
Abandoned Mine Lands	73	70	83	94	88
OMSL	6	6	10	12	11
Safety Inspection and Licensing	77	72	85	97	96
Safety Analysis Training and Certification	46	46	55	65	59
Explosives and Blasting	8	8			
Investigation	5	5			
Oil and Gas	26	26	25	26	26
Total DNR	764	716	733	812	772
Mine Safety Review Commission			0	0	0
	764	716	733	812	772

OSM EVALUATION AND OVERSIGHT

As noted in the discussion concerning the Department's budget, the ANE grant is subject to a review and oversight by the federal Office of Surface Mining. Under the statutes and regulations governing the enforcement of the Kentucky Surface Mining Program, Kentucky has the main lead or primacy in making sure that coal mining permittees remain in compliance. However, OSM has an obligation under its rules and regulations to satisfy itself that the state is doing an effective job. The concept is known as Oversight Evaluations and it is a major component of OSM's role vis-à-vis the Department.

To accomplish that task, each year OSM enters into an agreement with DNR outlining its oversight function and enumerating the tasks that will be evaluated. In addition, OSM undertakes a number of special studies, some of which can last for several years. During the past fiscal year, OSM completed, among others, two significant special studies: *National Priority Review Topic: Approximate Original Contour in Kentucky* and *Contemporaneous Reclamation Variances Report*. By law, surface mining permittees are required to reclaim a mining site to its approximate original contour (AOC) within a given time frame, subject to a variety of permitting variances that may be authorized by the Division of Mine Permits. The time frame within which reclamation is to be accomplished is typically referred to as contemporaneous reclamation. Along with sediment control, these two regulatory objectives constitute the main components of the Kentucky Mining Reclamation Program.



This year's evaluation can be found at <http://www.osmre.gov/Reports/EvalInfo/EvalInfo.shtm>

Approximate Original Contour Study (AOC)

The AOC study addressed the following issues:

- (1) AOC interpretation and permitting documentation;
- (2) Process for on-the-ground AOC verification; and
- (3) Field verification that on ground backfilling and grading are in accordance with specifications set out in the approved permit.

Using a two-tiered approach in its study of 102 permits, OSM determined that DNR's interpretation of the regulation and various guidelines was in conformity with these required standards but noted there were some issues with the manner in which the spoil material balance calculations were being accomplished. The report also noted that there was a need for the permittee to use a larger number of cross sections in determining whether AOC had in fact been achieved.

As a result, the Department is now in the process of changing the AOC field verification process and is moving from a system that requires the DMRE inspector to document the post-mining configuration in the field to one that requires the permittee to certify to the Department the post-mining configuration, and thereafter the inspector verifies the permittee's documentation. OSM was of the opinion that this task could be easily accomplished by the inspector given the fact that under the Infill Minimization Reclamation Advisory Memorandum (RAM) No. 145, (effective 2010) permittees were required to submit a certification that hollowfills and other areas that were backfilled and graded were sufficiently stable. The certification process requires the permittee's authorized agent and a licensed professional engineer, or licensed surveyor, to affirm that the operation remains in substantial compliance with the mining plan on which the optimization assessment was based.

Contemporaneous Reclamation Study

The special study was conducted jointly by a team of Department and OSM personnel from the Lexington Field Office. In its study, OSM reviewed ten permits to determine if the method of operation used by the permittee was in compliance with the contemporaneous reclamation variance identified in the permit. In the study OSM concluded:

- } All ten permits contained concise descriptions of the contemporaneous reclamation variance;
- } The variances matched the field observations;
- } Four of the 10 permits predated an earlier study conducted in 2003 where issues were noted with the DNR's enforcement of contemporaneous enforcement standards, but these permits, however, had been amended to contain clear and current variance language; and
- } All ten permits had posted the proper supplemental bonds for the variances noted in the field.

The team then found that the Department had utilized effective methods for permitting and enforcement of contemporaneous reclamation variances.

Bonding Calculations

OSM also completed its assessment of the Cabinet's methodology of calculating performance bonds. By law, each permit must be bonded in an amount sufficient to ensure its reclamation to permanent program standards in the event the permittee goes bankrupt or for whatever reason cannot complete the reclamation work. Kentucky has not changed its minimum bonding amounts for nearly thirty years, but it did add to its statutory program in the early 1990s a requirement that a supplemental bond must be obtained if the exposed highwall exceeded a maximum of 1,500 linear feet. For a number of years, OSM had expressed a concern that the manner in which bond calculations were being performed and the amount of bond being required for surface mining permits were not adequate.

This study entitled *Final Report of the Adequacy of Kentucky Performance Bond* detailed the findings of the OSM National Priority Review Oversight Study and included an evaluation of a variety of permits using the OSM's "Handbook for Calculation of Reclamation Bond Amounts." The study found that reclamation performance bonds in Kentucky were not always sufficient to complete the reclamation required in the approved permit. EEC established a work group, comprised of industry and environmental group representatives, to devise a plan to correct the noted deficiencies and arrive at a proposed solution. Their final report, titled *Kentucky Bonding Action Plan* was completed in April 2011 and submitted to OSM for review. OSM determined that further verification was needed and subsequently a smaller group comprised of DNR and OSM representatives was established to validate the protocols and statistical information used in the report. This review is on-going and will result in a combined report being developed at a later date.

A copy of these studies can be found at the OSM Web site at <http://www.arcc.osmre.gov/FOs/LFO/KY/TS/KY-TS.shtm>.

SPECIAL PROJECTS

The 2009 Strategic Plan calls for the Commissioner's Office to ensure that a number of special projects are implemented and fulfilled. Since the drafting of the plan in 2009, several of these tasks, such as the Fill Placement Optimization Project and the establishment of a wetlands working group, were ongoing projects which were evaluated at length in the 2010 Annual Report. While those projects remain important, for the most part, the objectives of those programs have been achieved. Thus, this report will center on the programs that are still being developed or need additional updating.. The progress that is being made with respect to obtaining primacy for the control of Class II Underground Injection wells will be discussed in the section devoted to the Division of Oil and Gas.

Cumulative Hydrologic Impacts Assessments (CHIA)

Of all the projects that are currently underway, one of the most important is the reform and enhancement of the manner in which cumulative hydrologic impact assessments are performed as a part of the permitting process.

Under the permitting regulations, a surface mining and reclamation operations permit cannot be issued until a determination has been made that the mining operations will not adversely affect the receiving watersheds. Part of that determination entails a review of the existing impacts in a given watershed. Thus, the Department, through its Division of Mine Permits, must conduct an analysis of the probable hydrologic impacts that might occur as the result of coal mining in the area being permitted. Towards the end of 2008, the Department realized that it needed to revise its CHIA process. The Department previously had been using a programmatic CHIA template that relied on water-quality predictions from a river-basin-scale computer model, coupled with a detailed technical review of a particular individual permit. The process also included an annual river-basin-scale report that summarized changes in water quality at multiple drinking-water-source withdrawal points. This process was subject to the criticism that it was not sufficiently accurate or a reliable predictor of mining impacts.

The CHIA enhancement effort, spearheaded by the Division of Mine Permits in conjunction with OSM, included meetings of an ad-hoc committee consisting of representatives from industry, environmental groups, federal government agencies, and other state agencies. These discussions led to the decision that the CHIA process had to be reformed, thereby necessitating the hiring of additional personnel, researching the CHIA programs of other Appalachian coal-producing states, analyzing the Kentucky program to pinpoint its deficiencies, and adding new measures to the existing process. Additional funding for the multi-focus, multi-year project was provided by the OSM and the Environmental Protection Agency (EPA). As will be discussed below, the CHIA process necessarily requires the establishment of "trend stations" for water sampling data, as well as conversion of "dumb" (non-interactive discharge monitoring reports) into a "live" interactive program which will allow permit reviewers to manipulate the data.

The enhanced CHIA process continues to rely on technical review, the annual river-basin scale report, and the historical computer model. It adds quarterly reports of watershed-scale water quality that include thousands of records in DNR's Surface Mining Information System (SMIS) database, plus chemical and biological data from the Division of Water, and water-quality data from the Kentucky Geological Survey and EPA STORET databases. The CHIA process also now includes individual permit-based CHIA reports linking watershed characterizations to individual permit applications, and data from quarterly monitoring at dozens of watersheds throughout the eastern and western coal fields.

As part of the CHIA process, DNR developed a new online service that gives the public access to vital watershed data, which may include surface water quality, benthic information, groundwater quality, water quality violations, pollutant discharge elimination information, maps, mine history and information regarding pending mines.

The files are packaged and organized by the watershed's Hydrologic Unit Code (HUC), which is used to uniquely identify the watershed. Each of these "characterization" data packages contain between 25 and 35 files. In addition, each package is equipped with a Water Quality Results Viewer, designed to enable individuals to view, filter, sort, graph and export groundwater and surface water quality data.

Water Trend Stations, Water Sampling, Data Compilation and Interns

The Surface Mining Control and Reclamation Act (SMCRA) establishes limits on certain parameters (such as acidity, alkalinity, manganese and iron) which have the potential of adversely impacting water quality. As part of the CHIA process, it is important that DNR personnel ascertain and predict the parameters and activities responsible. To that end OSM and DNR are utilizing federal monies to establish trend stations or sampling points at 200 locations in the eastern coalfield and 37 in the western coalfield. Water samples are being collected four times a year and added to a database, which can be used by both the public and regulatory agencies. Analysis of the data will enable DNR to measure trends in the parameters, which will reflect the impact that activities such as road construction, oil and gas development, and mining are having on the watershed.

Original funding of a little over \$300,000 from the federal Office of Surface Mining (OSM) is presently covering the costs of establishing the trend stations and providing six interns for data entry and watershed characterization reports.

Additionally, DNR has been awarded two grants from EPA: \$50,000 to purchase sampling equipment for the watershed assessments, and \$74,537 for the advancement and implementation of a GIS-based coal mining database that will supplement the national GeoMine program. The GeoMine program will provide a collaborative vehicle to share coal-mining data including coal permit boundaries, critical watershed features, federally listed species, endangered species and the status and success of land reclamation. This program will ensure transparency in regulatory decisions among DNR's partners, e.g., the EPA and Army Corps of Engineers (COE) and other federal/state regulatory agencies.





This page and previous page: Trend stations sampling by DNR interns

In May 2011, OSM provided the personnel costs for four interns (\$34,500) for the early summer of 2011 to enter Discharge Monitoring Reports (DMR) data into Surface Mining Information System (SMIS) from paper documents that had been scanned DocTree documents. Once surface/ground water baseline reports and DMRs are in SMIS, the data can be transferred into specific watershed datasets.



Intern inputting data into SMIS

The students were hired as temporary state employees to compile and record historical water quality data, write watershed assessments describing such things as land uses, past, present, and anticipated mining, and assist with various GIS projects related to CHIA. The program has been extremely successful in terms of the work the students have performed for Department and the benefits the students have derived from the experience.

From June 1, 2010 to October 3, 2011, the (CHIA) interns have written 354 watershed characterizations, entered into SMIS 66,284 Discharge Monitoring Reports (DMRs) from 1,264 permits, entered 46,479 surface water and ground water reports into the information data bases, groundtruthed 64 trend station sampling locations, and

digitized (GIS) several hundred permit boundaries.

Two of the interns employed under the original cooperative agreement were subsequently hired as full-time permit reviewers in the Division for Mine Permits. Permit Reviewers are professional positions vital to Department's operation of the State program. In addition to the assigned CHIA specific duties, the students are provided with opportunities for training and field exposure aimed at further enhancing their education and career development. Many positive experiences for both the students and Department are resulting from this initiative.

This information continues to be updated and has been placed on the Division of Mine Permits' Web site at <http://minepermits.ky.gov/Pages/CHIA.aspx> for public use.

The Kentucky Mine Mapping Information System

For more than thirty years, the Office of Mine Safety and Licensing has been the Mine Map Repository for the Commonwealth. The repository is of crucial importance to the University of Kentucky's Center for Applied Energy Research and to the Office of Surface Mining's (OSM) Mine Map Repository in Pittsburgh. The Mine Mapping Information System is a state-of-the-art online system that allows free and immediate download of underground mine maps and associated mine information from the Internet.

Currently the Office has more than 175,000 paper coal mine maps on file and 183,000 mine records in the corresponding database. The maps range in date from 1948 to present, while the data spans 1884 to present. A fire in 1948 destroyed 30,000+ mine maps, but many have been replaced over the years. A few old maps prior to 1948 are still on file.

A collaborative effort between the Kentucky Geological Survey, the Department for Natural Resources, and the federal Mine Safety and Health Administration (MSHA) led to the creation of the Kentucky MineMapping Project in 2003 with a one year grant of \$1M from MSHA. Beginning in 2007, OSM continued to support the project with annual grants. The project focused on the scanning and geoprocessing of current and recently submitted underground mine maps, while giving priority to those in areas of active mining. As of December 31, 2010, the following documents have been scanned, placed on line and can be found KentuckyMine Mapping Web site at [http:// minemaps.ky.gov](http://minemaps.ky.gov):

- } 68,203 documents
- } 36,108 maps along with 2,191 stitch partials
- } 29,904 transmittal letters which accompany the maps and contain vital mine information)
- } 31,571 geoprocessed maps

There is still much to be done. Currently, the un-digitized mine map inventory contains:

- } 532 historic maps needing to be scanned and georeferenced
- } 1,000 maps from private archives, such as land companies, mining companies and the Kentucky Geological Survey. The KGS has a number of Consol Coal Company maps that need to be scanned.
- } 130,000+ maps/documents that either are not the final or most comprehensive maps. Some are progress maps containing information that is not available elsewhere.
- } 388 large format/rolled maps donated from outside sources

The Kentucky Mine Mapping Information System is serving a vital role in the areas of both miner and public safety. The demand for this type of information is reflected in the fact that the service experiences an average of 600,000 hits on its Web site monthly. In time, the mine mapping staff will digitize the entire collection and continually update the system with new mine mapping information. To date, the program has been very successful in playing an important role in locating old abandoned mines and avoiding the hazards associated with encountering them.



From left to right: Tom Shubert, John Hiett, and John Sims

ENVIRONMENTAL THREATS

Included in the 2009 Strategic Plan is an obligation on the part of the Commissioner's Office to continue monitoring the status of the Indiana Bat, and by implication any other environmental threats to the bio-sphere including Kentucky's forests. While the Division of Forestry has the primary obligation of detecting, monitoring and assisting in minimizing insect infestations, it is appropriate to discuss those threats in this part of the report.

Indiana Bat Guidance and White Nose Syndrome

Even without the current environmental threat presented by the *White Nose Syndrome*, DNR and United States Fish and Wildlife Service (US FWS) have been deeply concerned about the status and preservation of the Indiana Bat since 1995. A variety of conflicting directives from the agencies that were involved in the protection and preservation of the Indiana Bat, led to a cooperative venture among the DNR, OSM, Interstate Mining Compact Commission and FWS. Thereafter, the agencies published the 2009 Guidelines. These guidelines are now in use in Kentucky, and West Virginia. The Division of Mine Permits reviewers and the coal industry were given training as to the guidelines in 2010 and 2011. In a nutshell, the guidelines establish a process for determining whether a given area is a bat habitat and impose limitations on disturbance or removal of bat habitat until it is determined that the area is not a habitat for the Indiana Bat. A copy of the guidelines can be found at <http://www.osmre.gov/guidance/docs/INBatPEPGuidelines.pdf>



Unfortunately, the difficult task of protecting this endangered species has been compounded by the *White Nose Syndrome*. In 2006, this fungus was first discovered in Albany, New York, when a caver noticed a white substance on the nose of hibernating bats and dead bats on the floor of the cave with the same coating. This discovery triggered the numerous studies of the *White Nose Syndrome*. Affected bats usually have white fungus on their muzzles and other parts of their bodies and will exhibit uncharacteristic behavior such as moving to cold parts of the hibernacula, and flying during the day and during cold winter weather when the insects they feed upon are not available. These activities weaken bats and eventually results in death, because

they frequently lack adequate body fat to survive until spring. In some hibernacula, mortality rates have reached 90 to 100 percent.

For the first time this year, the fungus was identified in Kentucky near Mammoth Cave. The following map shows the distribution of *White Nose Syndrome*. The reader should note the red marking showing a confirmed contamination just outside the boundary of Mammoth Cave Park, as well as the red zone in Virginia on the Kentucky border near Cumberland Gap.



Although not an employee of the Department, the August 2011 issue of *Smithsonian Magazine* gave prominent mention to Brooke Slack in its extensive review of the threat presented by this devastating infestation. Ms. Slack is a biologist with the Kentucky Department for Fish and Wildlife Resources. The article can be found at <http://www.smithsonianmag.com/science-nature/What-is-Killing-the-Bats.html>.

Hemlock Woolly Adelgid.

Another major concern is the Hemlock Woolly Adelgid, a pest that feeds by sucking the sap from hemlock trees and poses a major threat to the Eastern Hemlock. In Kentucky, the Eastern Hemlock makes up an important environmental niche in forested areas in Kentucky. The adelgid feeds on the tender hemlock shoots, causing the tree to lose needles and not produce new growth.



Monitoring results indicate that the insect has not spread since the publication of the 2010 Annual Report and has been confined to 19 counties in eastern and southeastern Kentucky. Treatment continues at the Kentucky Ridge State Forest, and the Division of Forestry is actively collaborating with numerous partners for treatment across the hemlock realm in southeastern Kentucky.

Emerald Ash Borer

In 2009, the Emerald ash borer (EAB) was confirmed in Jessamine County. The EAB attacks an ash tree by laying its eggs under the bark. As the eggs hatch, the larvae feed on the tree sap, weakening the tree. EAB is now known to be in 14 counties, with a quarantine including 22 counties. Communities within the Golden Triangle (Louisville – Lexington – Boone, Kenton and Campbell counties) are all infected. The quarantine restricts the movement of regulated materials such as the borer itself, hardwood firewood, ash nursery stock, green ash lumber, other ash material, and any material that present a potential of spreading the pest.



During this past year, the DNR and KDF partnered with University of Kentucky Department of Forestry to host an EAB conference for all urban forest managers, including arborists, foresters, park and recreation employees and other city employees. Over 225 people attended. In addition, the Division of Forestry co-developed an online tree disease key with the University of Kentucky Department of Plant Pathology to help professionals determine tree disease problems.

Purple Boxes

Many of you may have seen a number of purple boxes along the highways or in the public parks. They are traps to determine the spread of the infestation. About 5,500 such traps were hung in 2010.



LEGISLATIVE AND REGULATORY DEVELOPMENT

During the so-called short session of the General Assembly in 2011, the legislative body enacted a number of measures, which directly or indirectly impacted the agencies within the Department. The following is a summary of that legislation:

HB 33

House Bill 33 enacted a new statute prohibiting all state agencies from mailing publications to any person who had not specifically requested a copy. The bill contained an exception that state publications could be distributed to anyone, if the distribution was determined to be essential by either the Governor or the General Assembly. This bill also included a provision requiring state agencies to transmit annual or biennial reports to the General Assembly or the Legislative Research Commission electronically, rather than in paper format.

HB 259

HB 259 added a new section to KRS Chapter 353 and directed the EEC to select one to five projects that would demonstrate the feasibility of injecting carbon dioxide into the ground as means of sequestering carbon dioxide by storing it in a permanent underground geologic reservoir. The bill also provided a process for pooling of pore space necessary to create underground carbon storage reservoirs and create a process by which the ownership of and liability for stored carbon dioxide will be transferred to the federal or state government following a period of monitoring of the storage facility. The Division of Oil and Gas plays an important role in coordinating the pooling, drilling and monitoring processes once the demonstration projects have been selected.

HB 385

HB 385 dealt with two separate issues. First, it amended KRS 350.060(11) requiring the Cabinet to promulgate as an administrative regulation any changes it may make to its bonding procedure for surface coal mining operations. Failure to adhere to the provisions of KRS Chapter 13A (the State Administrative Procedures Act) would invalidate the revised bonding procedures.

A separate provision of the Act now requires certain water labs to obtain wastewater laboratory certification. Although the program will be administered by the Department for Environmental Protection (DEP), it will impact any coal company that applies for, or has received, a surface mining permit from DNR. This amendment authorizes DEP to promulgate administrative regulations establishing certification standards for the operation of laboratories relating to analyses and laboratory tests for wastewater pollution. The bill also provides a sunset provision for non-certified labs in that DEP may continue to receive and accept results from uncertified labs up to one year after the effective date of the administrative regulation. After that date, any data submitted by an uncertified lab will be rejected as being unacceptable for purposes of complying with the provisions of the Clean Water Act.

SB 8

In an effort to make conducting business in Kentucky easier and more efficient, SB 8 authorized the creation of a “one-stop-shop” electronic portal. The bill established an electronic portal that will serve as a single, unified entry point for business owners to access information about state services and requirements for operating a business in Kentucky. Additionally, the portal will allow Kentucky companies to submit forms and applications, make payments, and complete other required transactions needed to conduct business in the state.

SB 8 also established an advisory committee to oversee the implementation of the one-stop business portal. The committee is composed of the Secretary of State; the Secretary of the Governor's Executive Cabinet; and the Secretaries of Finance and Administration; Economic Development; Education and Workforce Development; Public Protection; Transportation; Tourism, Arts and Heritage and the Energy and Environment Cabinets. A complete assessment and recommendations for the portal are due from the advisory committee by Dec. 31, 2011.

Regulations

During the past fiscal year, the following two regulations were reviewed by the appropriate General Assembly committee without objection:

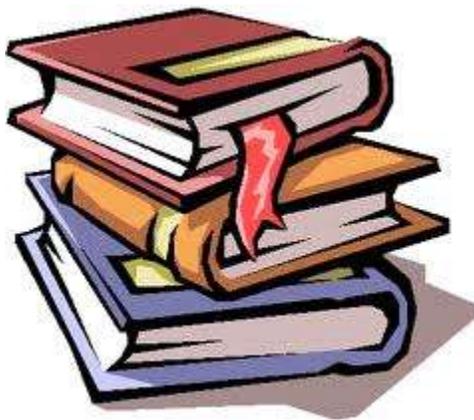
- **805 KAR 8:060**

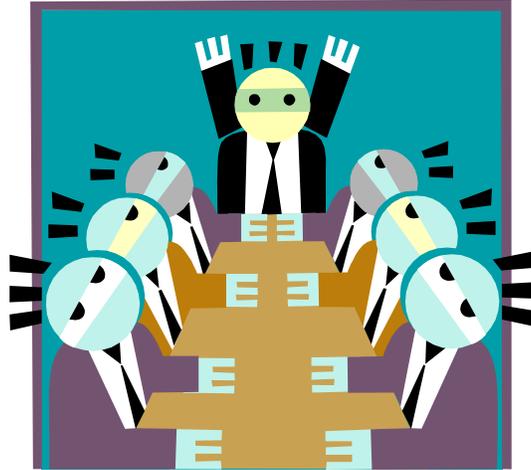
805 KAR 8:060 imposes a variety of sanctions including civil monetary penalties against licensees for violations of mine safety laws creating an imminent danger of serious physical injury or death. The regulation was amended to include as in its definition of an "unsafe working condition" the failure to include mine seal construction plans. Failure to do so will now result in a civil penalty.

- **405 KAR 8:010**

The amendment to 405 KAR 8:010:

- Revised the mine permit fees provisions, so as to be consistent with the revised permit fees set out in HB 283, as passed during the 2010 Legislative Session.
- Amended the regulation to allow permittees to use the reclamation practices set out in RAM No. 124, Reforestation Initiative (loose grading of mine site instead of compaction), if they are required to establish trees and shrubs as part of the approved reclamation plan.
- Incorporated by reference the revised permitting forms.





Attached to the Commissioner's Office are two semi-autonomous boards – the Kentucky Bond Pool Commission and the Kentucky Heritage Land Conservation Fund Board.

The Kentucky Bond Pool and Bond Pool Commission

The Kentucky General Assembly created the Kentucky Bond Pool in 1986 as an alternative bonding program that would enable qualifying permittees (mostly small to medium size mining companies) to meet the bonding requirements of KRS 350.060(11). The heart of the voluntary program is a special Bond Pool Fund into which all members of the Pool pay membership and tonnage fees. Qualification is based on mining experience, reclamation record, bond release history and financial standing. Members must continue to meet these qualifications to stay in the program. Preparation plants, tipples and loading facilities are not eligible for coverage under the Bond Pool. The Bond Pool does not cover subsidence, nor does it provide supplemental assurance for contemporaneous reclamation variances.

The Bond Pool Commission is the governing body and key decision-maker for the Bond Pool. The Commission reviews all applications for membership, determines eligibility, grants and denies memberships, assigns and revises membership ratings and revokes memberships when necessary. It also suspends or reinstates tonnage fees, secures audits and actuarial studies, authorizes expenditures, and prepares an annual report to the Governor.

The Commission consists of seven members appointed by the Governor. Four members are small coal operators who produce less than 300,000 tons of coal per year, including the chairman and one other member of the Small Coal Operators Advisory Council established at KRS 350.260. The other members include a large coal operator, a certified public accountant, and the Secretary of the EEC. A cabinet employee serves as Bond Pool Administrator and assists the Commission.

In 2011, the Commission underwent an actuarial study. The study:

- } Favorably noted that the leverage ratio (the difference between the bonds in force and cash on hand) was \$1.77, which was determined to be a reasonable and prudent ratio.
- } Observed that tonnage fees were reinstated, which in its view was an appropriate and proactive step to further strengthen the solvency of the fund.

-)} Concluded that there was a 95 percent probability that the Fund would be solvent enough to withstand the failure of the largest member or the failure of any two member companies.
-)} Noted that the diversification of bond pool members has dramatically improved, but the fund needed to remain diligent in maintaining such diversity, especially given the current economic climate.

The Bond Pool Commission has one full time assistant assigned to the Commissioner’s staff.

Heritage Land Conservation Fund Board

The Kentucky Heritage Land Conservation Fund (HLCF) was established in 1994 for the purpose of benefiting the people of the Commonwealth by acquiring and maintaining eligible lands to be used as state parks, recreation areas, state forests, nature preserves, wildlife management areas, and wetlands. The fund, administered by a 12 member board with the assistance of a full time staff, is the primary source of the state funds needed for the purchase of natural areas. The focus of the project is protecting and conserving the Commonwealth’s unique natural areas for enjoyment by this and future generations.

The fund is administratively assigned to DTAS. A copy of the annual report of the fund can be found on the Web site at <http://heritageland.ky.gov>.

The HLCF has been purchasing properties since its inception. In FY11, a total of 1,387.8 acres of Kentucky’s natural lands in 11 different Kentucky counties were conserved with funding assistance from the Kentucky Heritage Land Conservation Fund. To date, over 38,249 acres of natural lands have been preserved for the benefit of future generations.

In addition, 22 project applications were reviewed and approved by the Board in 2011. Funds totaling over \$8.4 million were approved for the proposed acquisition and management of more than 10,194 acres located in 14 different counties throughout the state. Local government/university projects were approved in Estill, Greenup, Hart and Letcher counties, while state agency projects were approved in Graves, Lincoln, Franklin, Hart, McCreary, Hardin, Barren, Meade, Whitley, Union, Crittenden and Letcher counties.

[Big River Project –Crittenden County – photo courtesy of Joe Dietz.](#)



Part II -Protecting the Environment – Permitting and Enforcement



The Office of Mine Safety and Licensing and the Divisions of Mine Permits, Oil and Gas, and Mine Reclamation and Enforcement are the principal agencies tasked with the responsibility of requiring drilling, logging, and non-coal and coal mining operators to carry out their operations in an environmentally responsible manner (Goal 1) and ensuring these activities are performed in a safe manner (Goal 2). To that end, these Divisions must be evaluated in terms of how they have performed with respect to the following objectives:

- | Ensure that the requirements of the Surface Mining Control and Reclamation Act of 1977 (SMCRA) and the Clean Water Act (CWA) as it applies to mining operations are met for all Kentucky mining operations;
- | Encourage citizen participation in coal mine permitting and enforcement processes;
- | Ensure that logging operations employ measures to protect water quality;
- | Evaluate the current oil and gas regulatory program to ensure that it is adequate to prevent waste, protect correlative rights and protect the environment, while encouraging responsible development and production of crude oil and natural gas resources;
- | Protect the Commonwealth's forests and prime farmland for agricultural production;¹
- | Prevent flyrock incidents related to coal and non-coal mining;
- | Provide training to increase workplace safety and reduce worker accidents and injuries;
- | Reduce serious mine accidents and fatalities; and
- | Provide underground coal miners with the option to request MSHA mandated mine rescue team coverage that complies with the requirements of the federal MINER Act.

Much of the work performed by DNR is centered on the concept of permitting and licensing of a given environmental or mining activity. Once a person or project is permitted or licensed, it is then subject to regulatory review by an enforcement agency. If the permitted or licensed entity fails to adhere to the regulatory standard, it can be sanctioned with a variety of enforcement actions such as Notices of Noncompliance, Notices

¹ The role played by the Divisions of Forestry and Conservation as to the protection and enhancement of the Commonwealth's forests and agriculture is explored more fully in Part III of this Report.

² This task is shared jointly with the Commissioner's office and has already been addressed in Part 1 of this Report.

³ Why are there 121 Conservation Districts when there are only 20 counties? Logan County was the first county to organize a

of Violation, Citations or Closure Orders. Depending on their severity, violations in turn can lead to the imposition of fines, penalties, forfeitures, revocation of license, and in extreme cases, criminal prosecution.

In a similar fashion, a designated division within the Office of Mine Safety and Licensing ensures the health and well-being of coal miners by making sure they are properly trained and certified before they engage in underground mining or surface mining.

This section constitutes a review of the activities of the following permitting and regulatory agencies – the Office of Mine Safety and Licensing and the Divisions of Oil and Gas, Mine Permits and Mine Reclamation and Enforcement. Although they regulate entirely different activities, the approach is essentially the same – permit or license the activity and then control the activity through regulatory enforcement. The enforcement activities of the Division of Forestry will be discussed in Part III of this report.

Office of Mine Safety and Licensing

Organization and Mission

The Office of Mine Safety and Licensing (OMSL) is the oldest state agency in Kentucky, having been organized in 1883, with operations beginning in 1884. The agency, consisting of 174 employees, has six district offices with an executive director's office in Frankfort, Ky. The district offices are located in Barbourville, Harlan, Hazard, Madisonville, Martin and Pikeville with the main office located in Frankfort.

Organizationally, the Office is divided into two main agencies, the Division of Safety Inspection and Licensing and the Division of Safety Analysis Training and Certification. The Division of Safety Inspection is essentially the enforcement arm of the agency, while the Division of Safety Analysis is the training arm and accident investigator for the Office. The Office also maintains two trained and equipped mine rescue teams in each district office and is the only state agency in the nation to provide this kind of support.

Attached to the Office are the Mine Safety Review Commission (MSRC) and the Kentucky Mining Board. The Mine Safety Review Commission is a three member commission whose purpose is to conduct hearings concerning mine safety laws. Commission members have a judicial function established by state law to hear the charges and defenses to allegations that a miner or operator has violated a mine safety law. MSRC members issue orders, conduct formal hearings and make final determinations in cases involving violations of Kentucky mine safety laws.

The Kentucky Mining Board, a seven member board, reviews and either approves or rejects the terms or settlement agreements the Mine Safety Review Commission may have placed on a reinstatement request by a miner who pled guilty to a drug related violation. The Board also approves in writing any specialty testing examinations provided by the OMSL. The Board, from time to time, will make suggestions or propose amendments to regulations and laws regarding the training as well as testing provisions for the mining of coal in Kentucky. Finally, the Mining Board has the authority to accept or deny drug reinstatement requests from miners who have had their mining certificate revoked by the Mine Safety Review Commission, if they did not meet the terms of a settlement agreement with the Commission or did not enter into one.

Mine safety allegations are made by the OMSL in a formal document called a complaint. The OMSL prosecutes these cases before the MSRC through the services of the Office of General Counsel.

OMSL is responsible for ensuring Kentucky’s miners have a safe working environment to perform their jobs. To achieve this goal, the Office conducts a comprehensive mine safety training program, performs mine inspections, administers a comprehensive drug testing enforcement program, performs safety analysis to prevent mine accidents, and maintains the 12 agency mine rescue teams.

Mine Licensing

All owners, operators, lessees or licensees of any existing mining operation (surface or underground) that is actively producing coal must file by February 15 of each year an application with OMSL and obtain a license to operate. Licenses must be obtained from the district office responsible for the county in which the mine is located. Licenses must also be obtained at any time control of the mine is changed, a new mine is opened or an abandoned mine is reactivated.

From Feb. 15, 2010, to Feb. 14, 2011, OMSL licensed 271 surface mines and 195 underground mines for a total of 466 licensed mines. The total number of mines has remained fairly consistent over the past five years.



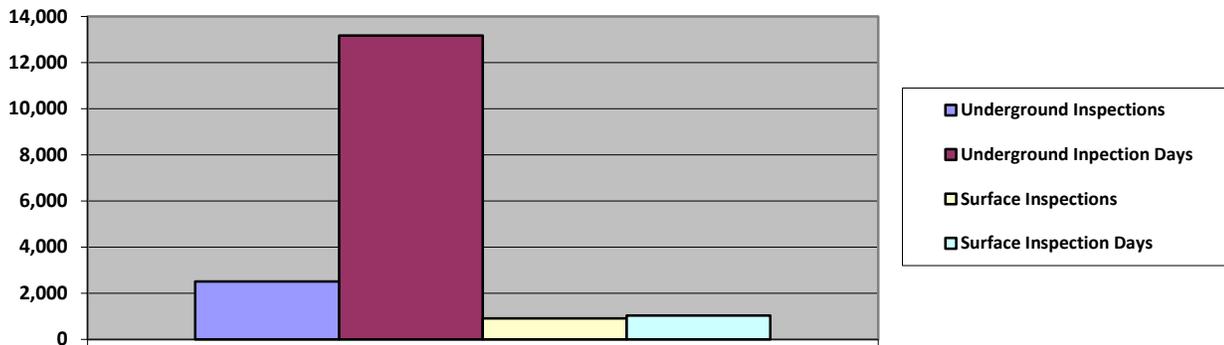
An OMSL inspector at work



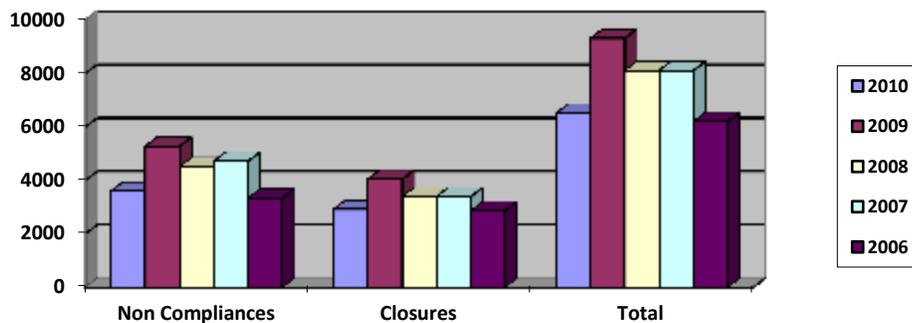
A typical point removal / area mine in Eastern Kentucky

Mine Inspections

Safety inspections of both surface and underground mining operations are made by well-qualified and trained inspectors, who are employed in the six district offices and mine rescue stations in the eastern and western coalfields of Kentucky. Inspectors carry out and enforce Kentucky laws as specified by KRS Chapters 351 – 352 and associated regulations. Inspectors report on the condition of the mine with a copy of the inspection report being provided to the operator or superintendent of each mine. Inspections are proactive accident prevention measures used to identify hazards and have them corrected before an injury or death can occur.



As can be seen in the charts on this page, in FY11, the Office conducted a total of 2,501 underground inspections in 13,180 inspection days. The Office also conducted 905 surface mine inspections in 2,036 days. During these inspections, the inspectors issued 5,321 underground violations and 1,189 surface violations. Below is a summary of the number of inspections conducted by the Office inspectors.



<u>Year</u>	<u>Violations Written</u>		
	<u>Non Compliances</u>	<u>Closures</u>	<u>Total</u>
2010	3592	2918	6510
2009	5272	4044	9310
2008	4508	3125	7633
2007	4714	3391	8105
2006	3338	2862	6200

Assessment of Penalties

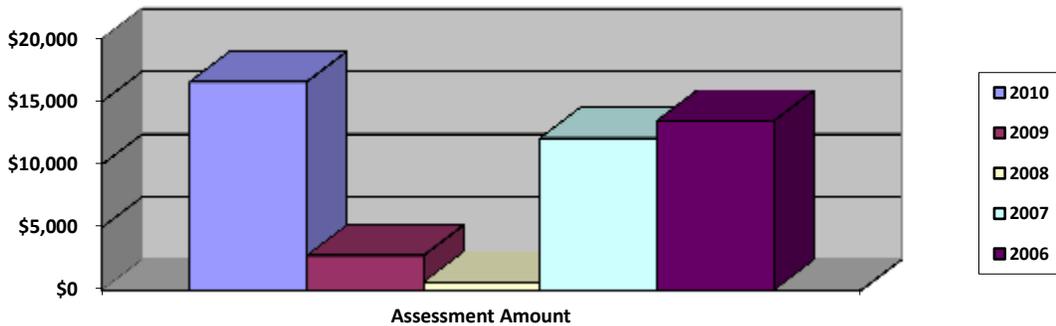
KRS 351.070 (15) provides the Commissioner with the authority to assess monetary penalties to licensed facilities for violation of roof control, mine seal construction plans, unsafe working conditions and ventilation plans.

Under the regulations promulgated pursuant to this provision, the Office considers a variety of factors in calculating a base penalty, including the licensed facility’s violation history, degree of cooperation, severity of the harm, the degree to which the violation places a miner in danger of imminent harm and acceptance by the facility of its responsibility for the violation. The Office can also take into account other mitigating and aggravating factors and a variety of other factors including culpability and the degree of potential harm or damage. Each factor provided by regulation has been assigned a specific point value. The final assessment

amount is reached by entering the base penalty as well as the points for each factor into an assessment matrix OMSL has created.

The amounts below are the penalty assessments for roof violations. To date the Office has not imposed any penalty assessments for violations of mine seal construction plans, unsafe working conditions or ventilation plans.

Roof Violations Assessment:



<u>Year</u>	<u>Assessment Amount</u>	
2010	\$16,568	(five cases)
2009	\$2,744	(three cases)
2008	\$627.50	(one case)
2007	\$12,098	(six cases)
2006	\$10,999	(five cases)

Training and Certifications

The Division of Safety Analysis, Training, and Certification provides miner training and grants certification at a professional level to those individuals who meet the appropriate requirements. The primary responsibility of the instructor is to develop programs from prepared course outlines and scripts and conduct the training. In FY11, 6,607 underground miners and 3,770 surface miners were trained in specified mining classes.

During the fiscal year, 20,075 miners were trained in the following courses: CPR (initial and retraining), Electrical, (initial and retraining), Gas Detection, Hoisting Engineer Initial, Mine Emergency Technician (initial and retraining), Mine Rescue (initial and retraining), Shot Firer Conventional, Surface and Underground Mine Foreman (initial and retraining), Surface and Underground Miner (initial and retraining), and Metal/Non Metal Retraining. 5,766 miners were tested on these topics throughout the six OMSL District Offices.



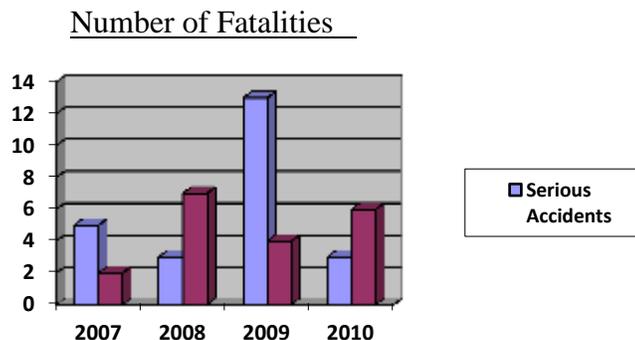
Mine Safety Rescue Teams

OMSL has a very long and proud history of providing mine rescue services to underground mining operations in Kentucky. The Office has taken steps to make sure that every miner who works in the Commonwealth knows that there are professional, competent, state mine rescue teams available for a response to an emergency. Mine rescue teams, with state of the art equipment, are stationed at each district office. By law there must be a team within sixty minutes driving time of any underground mine.

Serious Accidents and Fatalities

Regrettably, fatalities and serious injuries can occur at a mine site. A serious accident is one that causes physical injury and creates a substantial risk of death or causes serious and prolonged disfigurement, prolonged impairment of health, or prolonged loss or impairment of the function of any bodily organ. OMSL strives to keep such incidents to a minimum and as shown below, has been successful in maintaining fatalities and serious accidents at a low level. The ultimate goal of both the agency and the industry is to eliminate mine injuries and fatalities all together.

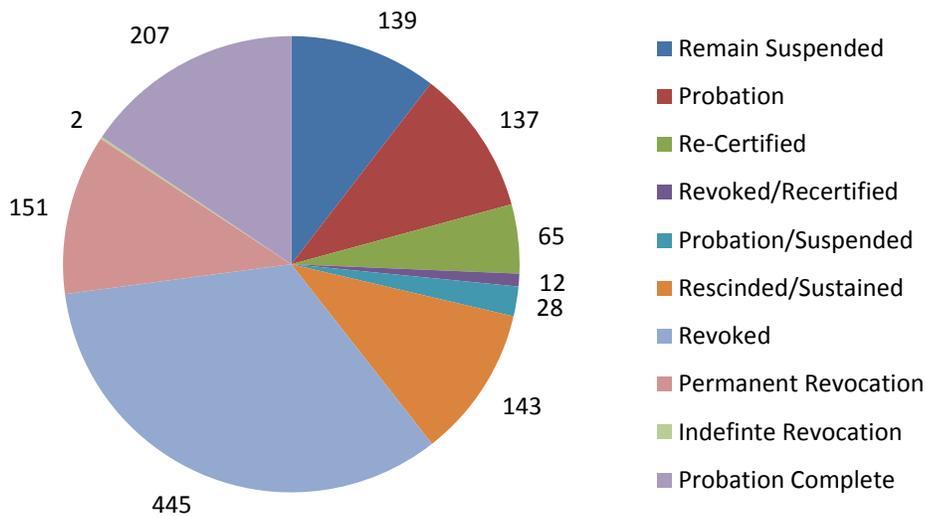
This goal is partly achieved through a rigorous investigation process where a team of mine safety analysts will interview the mine personnel and the person involved in the accident (assuming it is not a fatal) to determine if the accident can be attributable to human or equipment error. In certain cases, the investigation may lead to the filing of charges either against the operator, the mine or both.



Drug Screening

In December 2004, the Mine Substance Abuse Task Force was created specifically to address the growing problem of drug and alcohol abuse in the mining industry. After a completion of a study, House Bill 572 was enacted in 2006 which incorporated the recommendations of the study pertaining to drug and alcohol abuse in the workplace and mandated pre-certification drug testing, random drug testing, and post-accident drug testing. A total of 1,329 disciplinary actions have been taken since 2004. The graph on the next page depicts the entire history of drug violations reported since 2004.

Total Reported Drug Violations



Mine Safety Analysts

OMSL also aims to prevent mine accidents and fatalities by observing and evaluating the work habits of miners. At the same time the primary task of the safety analyst is to provide on-the-job counseling to the individual miner and assist in correcting any unsafe or potentially hazardous actions. OMSL is the only agency in the nation that has a mine safety analyst program. The mine safety analyst plays an important role in reducing the risk of fatalities or miners being seriously injured.

In this program, if an unsafe condition or practice is observed or documented, the mine safety analyst is to instruct the miner on how to perform the job safely and correctly. For this fiscal year, a total of 2,555 unsafe acts were observed for all coal mining activities. Observed safe acts totaled 25,824.

As in every profession, accidents can and will happen, and mining is no exception. OMSL tracks and analyzes the accidents reported to its staff to evaluate trends in order to alert the mining industry of changes that can be made to prevent future accidents. The Office also uses this data to improve training information to better prepare miners for such occurrences. For the upcoming fiscal year, OMSL will continue to do all that is necessary to protect the Kentucky coal miner, including filing additional administrative regulations requiring roll-over protection for heavy equipment and fallen rock protection on excavators.

Division of Oil and Gas

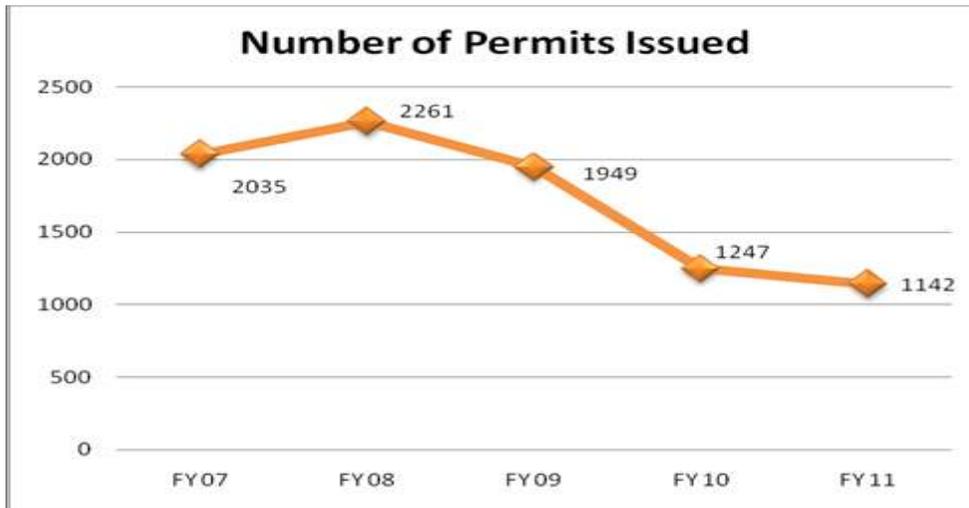
Overview

The Division of Oil and Gas is a small but important agency within DNR. Its principal function is to permit and license all oil and gas wells in Kentucky, as well as supervise the plugging of abandoned wells. It has an inspection staff of 14 inspectors and three supervisors, assigned to four regional offices in addition to the central office.

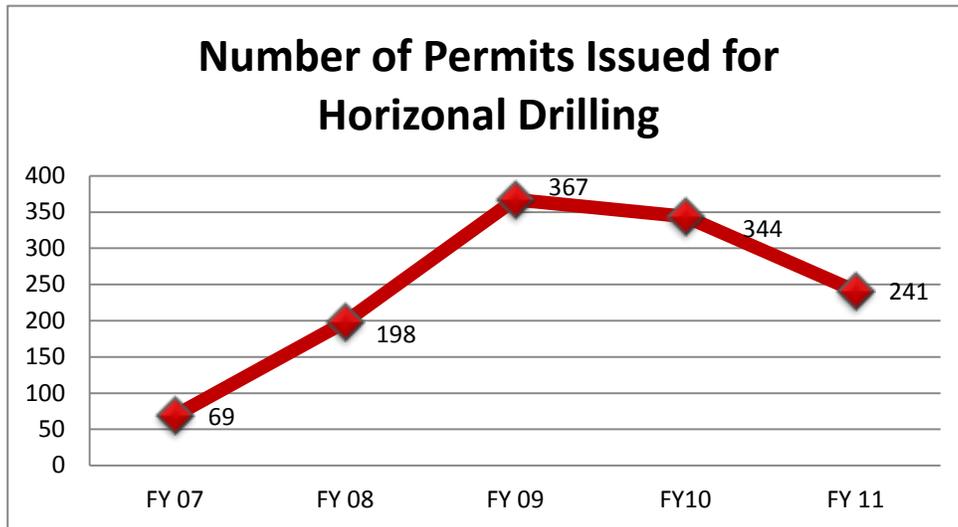


Permitting

The Division issues permits for the drilling of oil and gas wells statewide, with most of the wells located in the east, south central and western parts of the state. During FY11, the Division issued 1142 permits. As expressed in the chart below, the Division has seen a continual decline in the number of drilling permits over the past several years. A portion of this decrease is attributable to the overall economic downturn the Commonwealth has experienced in recent years. Although the overall permitting number is down, the Division continues to see a record number of requests for drilling permits involving horizontal/deviated drilling technology.

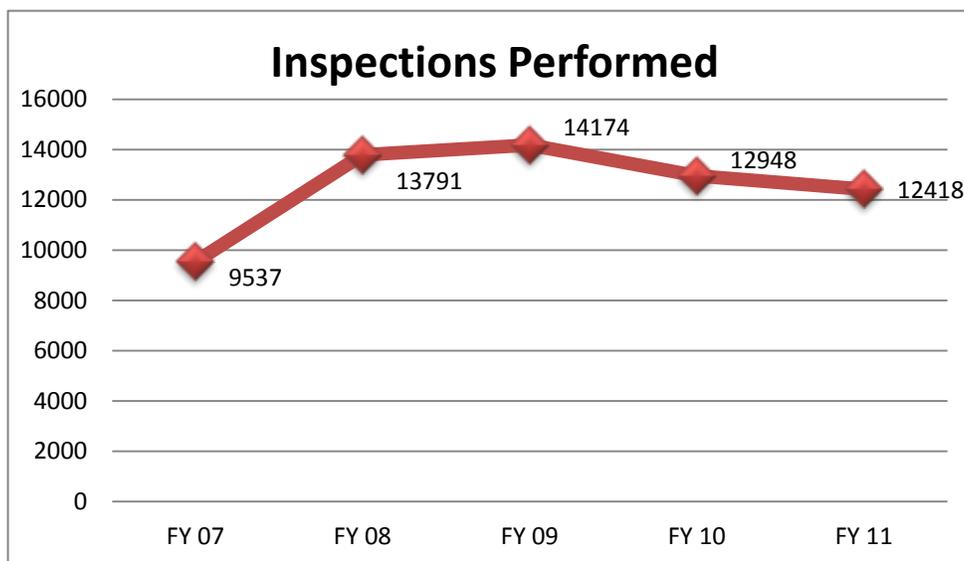


During FY11, the Division issued 241 permits for horizontal/deviated wells, accounting for approximately 21 percent of the overall permits issued. The trend toward increased horizontal drilling is a phenomenon the Division expects to see continue. Industry representatives have stated that one horizontal well is equivalent to four vertical wells. As the horizontal drilling trend continues, the Division will likely see a decrease in the overall number of permits issued.



Compliance

The Division's inspectors ensure that permits are obtained for any well drilled in the state and inspect each well to ensure compliance with the State's Oil and Gas Conservation Act. The field personnel also provide instruction and inspect the plugging of all wells upon abandonment. They investigate complaints from well operators, as well as the surface and mineral owners, to protect correlative rights and prevent waste and loss of natural resources. During FY11, the Division inspectors performed 11,052 well site inspections and 1,366 gathering line inspections, which is a figure slightly down from FY10. The downward trend may be reflective of the fact there is less activity taking place in the oil fields.

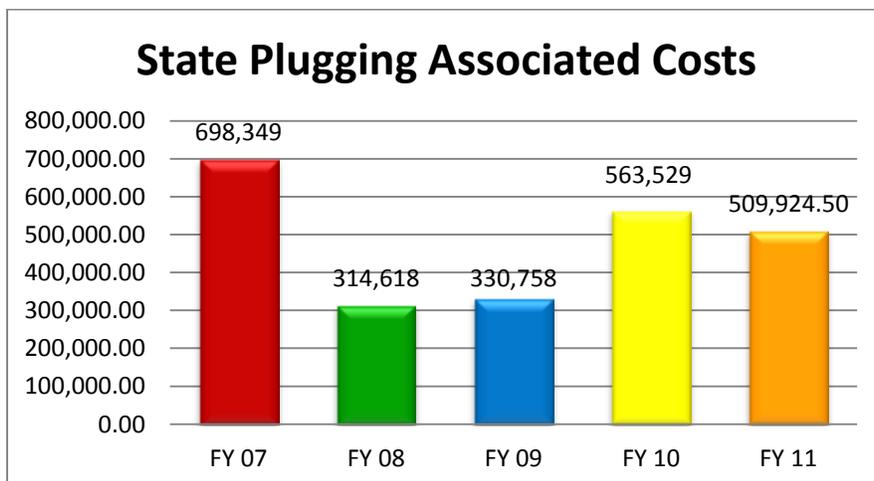
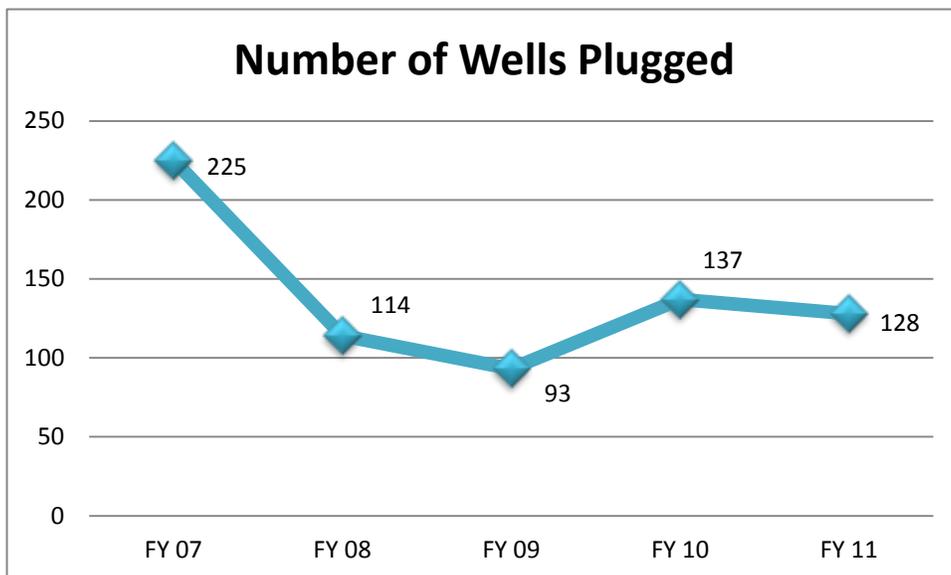


Abandoned Well Plugging Program

Each year, the Division plugs abandoned wells, using independent contractors, who submit bids (estimates) to the Division for approval. The contractors are paid with funds from the Abandoned Well Plugging Fund. The Division uses a priority scale based on environmental and safety hazards in deciding which wells to plug. This year's plugging program began in the spring of 2011, and contractors are continuing to work on the current bid package. Information received thus far for the fiscal year indicates that 128 abandoned wells were plugged with a total of \$509,924.50 being expended from the plugging fund. Over the past 5 years, the Division has plugged 697 abandoned wells for a total of \$2,417,179.20.

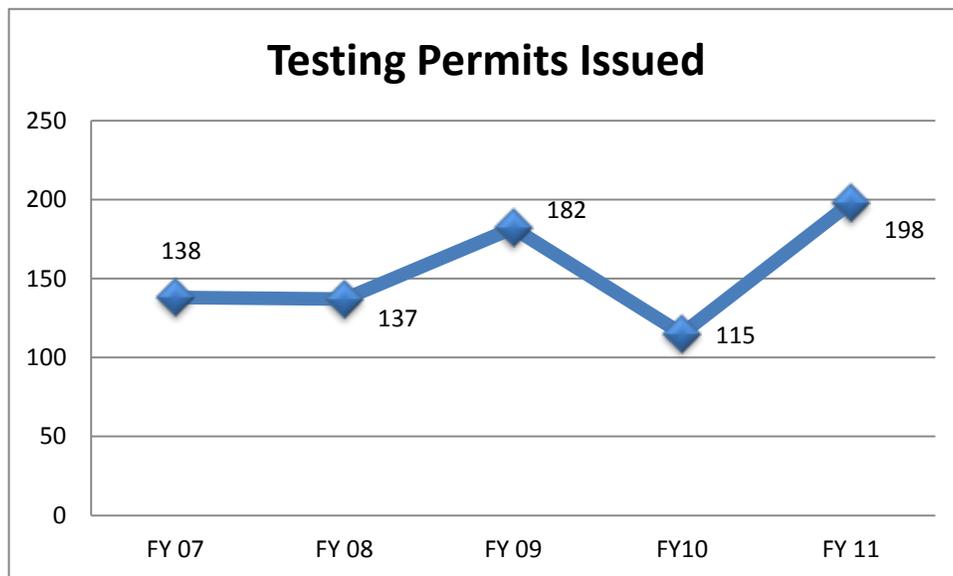


Assistant Director Marvin Combs provides instruction for the plugging of an abandoned well



Testing Permits

The Division has a testing permit program where oil and gas operators can test an abandoned well to determine whether it would be feasible to bring the well back into production. By placing abandoned wells back into production, the program generates revenue for the Commonwealth and relieves the Division of the expensive burden of sealing numerous abandoned wells.



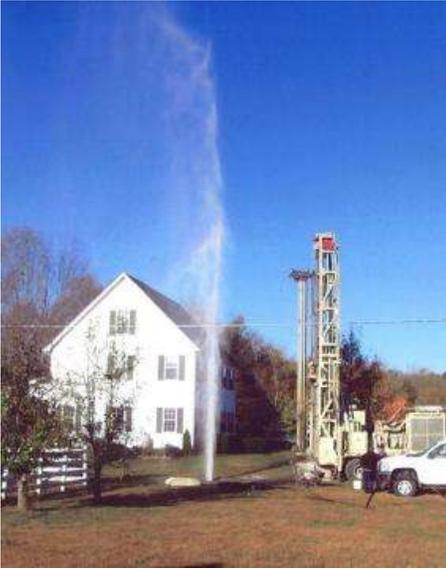
Administrative Hearings

Administrative hearings involving the Division are performed by the Cabinet's Office of Administrative Hearings. There are generally three types of hearings: coal objections, spacing variances and forced poolings. During FY11, 123 oil and gas cases were handled by the Office of Administrative Hearings. This figure has remained fairly consistent over the past five years.

Underground Injection Well Control Program

The Division is seeking primary responsibility from the US EPA for administering the Class II-Underground Injection Well Program as set out in Section 1425 of the Safe Water Drinking Act. The application for primacy was received by EPA Regional Office in Atlanta in September 2010. Currently there are 3,420 Class II wells in the Commonwealth of Kentucky. This initiative would provide one-stop shopping for oil and gas operators who develop and operate Class II wells. The Division's goal for the upcoming fiscal year is to actually achieve primacy and begin administering this program on its own, subject to oversight from the USEPA.

Geothermal Drilling Issues



Geotherman borehole (water) Nelson county

In some cases, the gas is vented and flared (right photo). In other situations, the boreholes have been grouted with cement to control the release of natural gas. The determining factor in deciding whether to vent or cement is the amount of gas volume and proximity of the bore holes to houses or buildings.



Geothermal – flared Lincoln county

Mine Permits

The Division of Mine Permits (the Division or DMP) evaluates and determines whether a permit application should be issued. Permit applications include detailed mining and reclamation plans, and the Division requires all surface and underground coal mining operations in Kentucky at a minimum to meet all the performance standards for environmental and public protection and reclamation required under SMCRA. Part of the permitting process includes the implementation of the CHIA program as outlined in Part I of this Report.

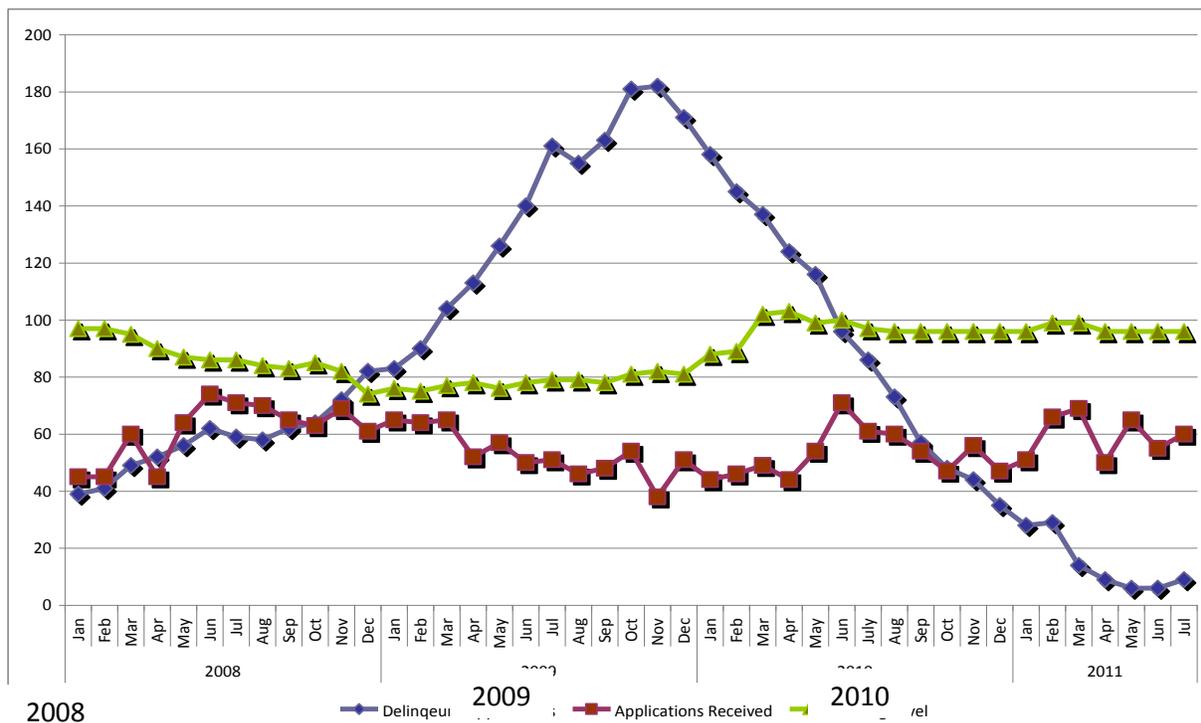
The Division is authorized to have 102 employees and is actively filling a small number of vacancies. Mine Permits is divided into five branches, two of which are devoted to permit review. The other three branches focus on permit systems, information systems and technical assistance.

Improving the Permit Delinquency Rate

During FY11, the DMP processed 655 permitting actions as broken down into the following categories: 68 new permits, including 10 slurry applications; 125 amended permits; 65 major revisions; and 397 minor revisions.

The 2009 Strategic Plan mandated DMP to increase the size of its staff, thereby reducing the delinquency rate for the issuance of permits. By law, DMP is obligated to issue a new permit within sixty-five working days from the date the new permit application is submitted for review, not counting the days the permit has been returned to the applicant for corrections. Other permitting actions may have a shorter deadline for processing. Approving all of the varied permitting actions within the prescribed regulatory timeframe is difficult for any permitting agency, but it is particularly so for permits related to coal mining. Nevertheless, during FY11, DMP made remarkable progress in improving its delinquent permit ratio.

The graph below demonstrates the amount of permits actions received, delinquents and the staffing level of the Division from January 2008 to July 2011.



finished. This process is unique to western Kentucky and demonstrates how important it is to maintain prime agricultural lands, a feature that is not normally seen in eastern Kentucky. The new employees saw the entirety of an active mining operation, from its start with topsoil removal, to the drilling and loading of blast holes, and finally, the removal of coal and backfilling.



E-Permitting

The Division endeavors to use electronic technology to its greatest advantage and has made the process of submitting an application more efficient and streamlined. The first electronic permit was submitted November 19, 1999. Since that date, the Division has worked tirelessly to make it accessible and user friendly to all applications. Electronic permitting was made mandatory on January 3, 2011, and its acceptance by the industry has been highly successful.

The Division will continue to use and implement the electronic permitting because this technology facilitates the online submission and review of permitting actions. The use of technology is a win-win for both the industry and the agency, resulting in a faster and more thorough review of permit applications by the consultant and the permit reviewer.

Mine Reclamation and Enforcement

The Division of Mine Reclamation and Enforcement (DMRE) is charged with the duty of conducting environmental inspections of all mining and blasting operations in the state to ensure compliance with state and federal regulations. There are 1,885 permitted mining operations in the Commonwealth of Kentucky, totaling nearly two million acres in various stages of development and reclamation.

Organizational Details

The enforcement program is administered through the Frankfort Central Office and five regional offices. The Frankfort central office provides administrative and technical support to the Division's field staff throughout the state and is composed of three separate branches: Field Enforcement, Non-Coal Review, and Blasting and Explosives. The Field Enforcement Branch is further divided into four sections. The Assessments and Records Section maintains records of all violations and determines the amount of penalty, if any for each violation. The Technical Support Section reviews Citizens' Requests for Inspections, conducts aerial over flights of all active surface mines, and investigates hydrologic and geologic impacts related to surface mining. The Bond Release and Forfeiture Section retains bonds and releases them upon approval of bond release applications that are submitted after mining reclamation has been completed. The Administrative Support Section (Leslie Stratton) oversees all the financial transactions for the Division, including procurements and equipment inventory.

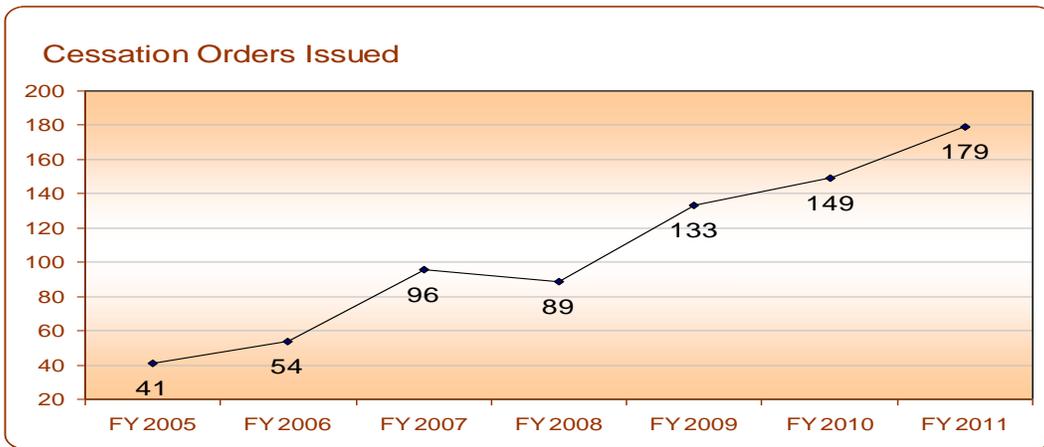
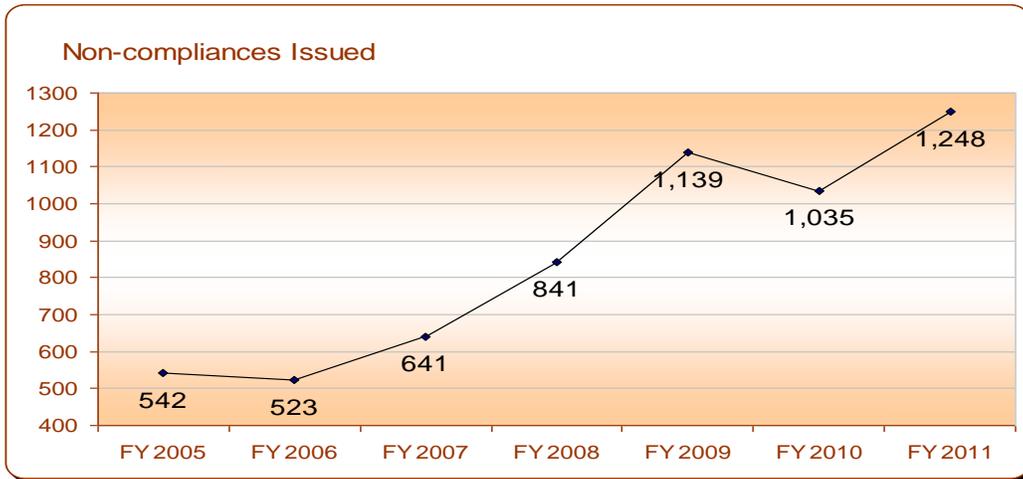


The Division can be reached by phone at (502) 564-2340 or on its Web site at <http://dmre.ky.gov>

Field enforcement activities are handled through the five regional offices, located at Madisonville in western Kentucky, and at London, Middlesboro, Pikeville, and Prestonsburg in eastern Kentucky. In addition to the 22,333 on-site inspections performed this year, DMRE staff also conducted detailed records reviews, responds to citizens' complaints, and took enforcement actions as necessary. In FY11, the Division presently had an authorized employee load of 180 Inspectors / supervisors, administrative staff, supervisors, and technical personnel. Information set out below is for FY11, which ended June 30, 2011.

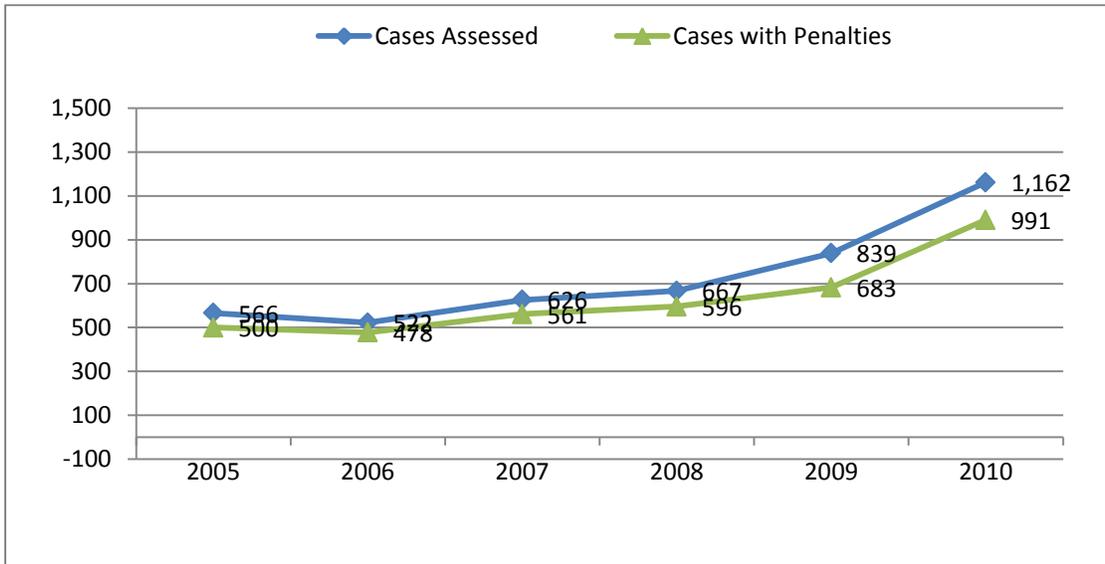
Enforcement Activities

In July 2008, the Department informed the coal industry that it would re-emphasize to the Division inspectors that all violations were to be written when identified, except for violations that could be immediately fixed on site before the inspector left and which did not have an off-site impact. That policy continues in force today. The result has been a sharp increase in the number of noncompliances and cessation orders, as evidenced by the following graphs.



Assessment Activities.

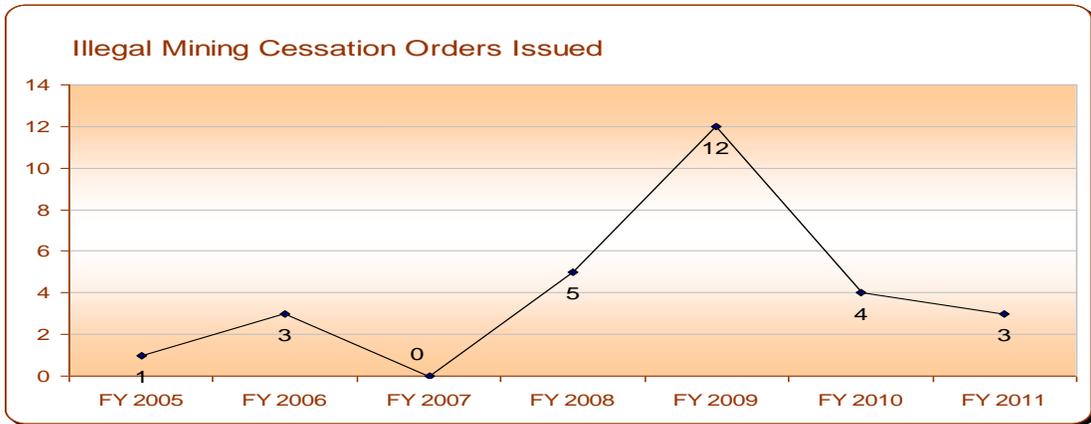
Each noncompliance and cessation order must be reviewed within a fixed period of time to determine whether a penalty should be assessed for the violated standard. Not unexpectedly, the total number of cases being assessed has also increased, as evidenced by the following chart. Broadly speaking, the number of cases assessed doubled in 2009 and 2010.



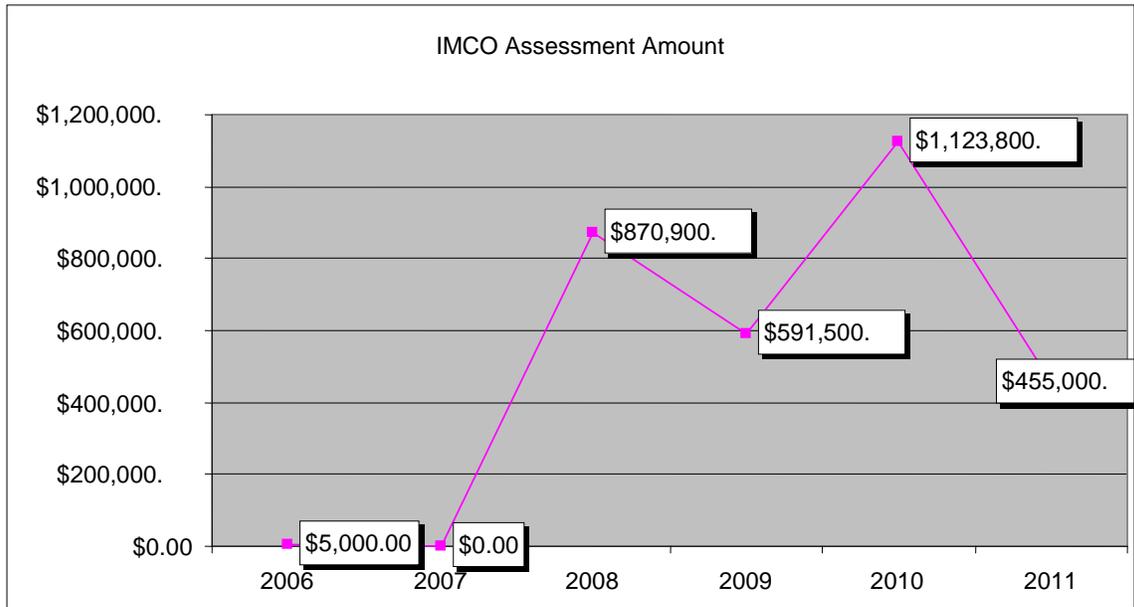
The dollar amount of the assessments for this period also went up nearly three-fold, increasing from approximately \$3 million in 2005 to over \$10 million in 2010.

Illegal Mining

Part of the increase in assessments is attributable to the assessments that were imposed against coal entities for mining coal without a mining permit. Below is a graph depicting the number of companies cited for mining without a valid permit (Illegal Mining), and the year they were cited. The second graph shows the sharp rise in the amount of assessments.



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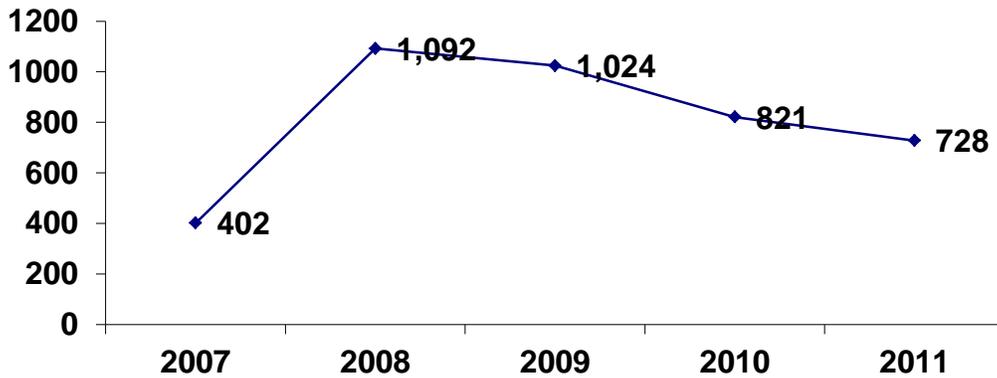
Citizen's Requests for Inspections

In addition to regular inspections, DMRE staff also performs inspections in response to Citizen's Requests for Inspection. By law, any citizen may request an inspection of a mine site, which he or she believes to be in violation of any mining regulation. DMRE technical staff also performs investigations of alleged environmental and property damage at citizens' requests. These investigations frequently require the assistance of technical specialists who perform activities such as seismographic monitoring and water well testing. DMRE received a total of 728 Citizen Requests for Inspection in 2011, of which 111 resulted in the issuance of a noncompliance. During the fiscal year, the Division managed to significantly reduce the backlog of open cases needing technical assistance. At the present time, there is no significant backlog of open cases.



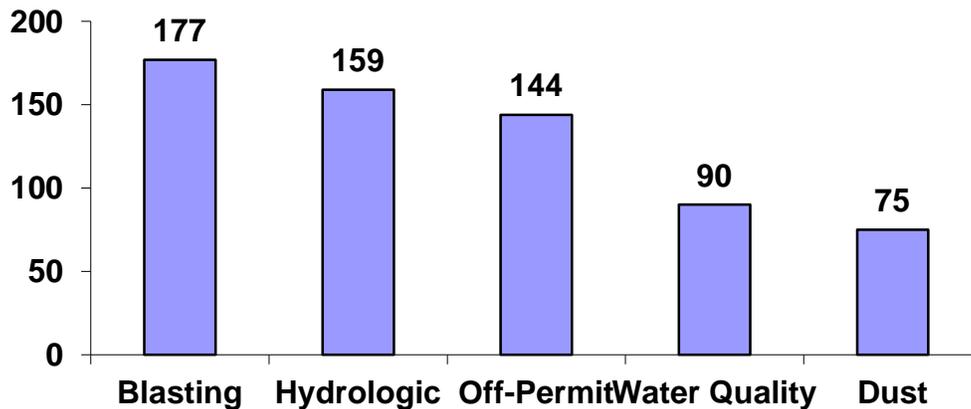
From left to right – Camille Lane, Branch Manager Field Service Branch, Mike Ramey, Supervisor and Kristin Gale, then complaints coordinator

Citizen Requests for Inspection



The most common requests involved blasting, hydrologic impacts, off-permit disturbance, water quality and dust.

Common Citizen Complaints



New Initiatives- Taking of Water Samples for CHIA Program

A new activity for DMRE inspectors this year has been its collaboration with DMP in performing the required sampling needed for the implementation of the CHIA process. Two to four inspectors from each regional office are now assigned the responsibility of trend station monitoring, a job which often requires weekend work. In order to perform this duty, the staff has received intensive training on proper sampling and monitoring protocols from the Commissioner's staff.

Non-Coal Enforcement Activities

The Non-Coal Branch of DMRE regulates non-coal mining activities such as sand and gravel and quarry operations. The branch is composed of eight employees: five inspectors one administrative specialist, one technical specialist and one branch manager. There are 231 permitted non-coal mining operations in Kentucky. During the 2011 fiscal year, the Non-Coal Branch conducted 1,651 inspections of non-coal mine sites, issued 12 Notices of Noncompliance, and collected \$8,025.00 in penalties. The branch also issued four new permits and resolved 82 permitting actions during the Fiscal Year.



Figure 1 Depiction of a typical quarry operation.



Mark Tarter – Branch Manager (appointed September 2011). Debbie Caldwell, Administrative Specialist

Explosives and Blasting Branch Activities

The goal of the Blasting and Explosives Branch (E&B) is to ensure that all blasting activities are performed in a safe manner as outlined in the regulations. The branch is composed of 14 employees: Nine inspectors, divided into two sections, headed up by two technical specialists, and one branch manager. The branch employees regulate blasting in the state on all coal mines, construction sites, and non-coal mining operations, such as rock quarries and sand and gravel operations.



Blasting operations in eastern Kentucky.

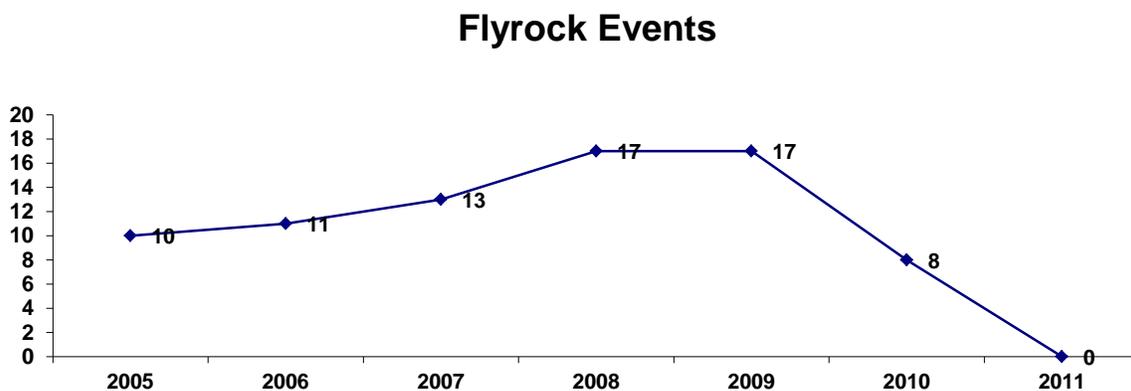


From left to right: Michael Roark, Technical Assistant, Raymond Hudson, Branch Manager and Donnie Tyson, Technical Assistant

From 2005 to 2008, there were an increasing number of flyrock events, creating an apprehension within the agency as to the safety of the state's citizens. OSM also expressed its concerns about the subject, when in 2008 it added flyrock events as a special study for its oversight reports.

In February 2009, the Department directed an enhanced enforcement strategy against blasters mandating that a blaster's license would be immediately suspended pending further investigation if a blaster was involved in a flyrock event. In March 2010, the policy was revised, incorporating a new directive that so-called Purchase or Receive Licenses issued by the Department to the employer of the blaster would be suspended for a period of up to 20 days, if a blasting contractor's employees had more than two flyrock events in six months.

The success of this initiative is reflected in accompanying chart.



As a continuation of this strict scrutiny policy, the Explosives and Blasting Branch in 2011 conducted a review of the previous year's violations in order to identify factors that contributed to a flyrock event. That information was then used to compile a list of "Suggested Blaster Training Topics." This list is available on the DMRE Web site and has also been incorporated into required blaster training to ensure that every blaster in Kentucky receives the information.

The branch has also evaluated the proposed blast plans in areas where there are steep slopes or other situations that may require special precautions. As part of this initiative, the branch implemented a process requesting blasters conducting activities in "high risk" situations to submit a Flyrock Prevention Plan (FPP). These plans are developed by the permittee and blasting contractor with the help of the branch. The branch is also asking operations that have had "near misses" to submit an FPP.

Blaster Training

In 2010, the General Assembly amended KRS Chapter and increased the amount of required retraining for licensed blasters from 16 hours every three years to eight hours of Department approved training each year. After the adoption of this bill, the branch implemented a guidance document outlining the prerequisites for obtaining approval as a trainer. Blaster training has been a primary focus of the branch for some time and as noted above, the training has had the effect of reducing flyrock events and improving overall safety of blasting operations.

Part III - Enhancing the Environment and Quality of Life

The Department is not only responsible for the protection of the environment as discussed in the previous section, it also has an affirmative obligation under law and its strategic plan to promote, improve, enhance, and develop the environment for the benefit of all Kentuckians. Under the 2009 Strategic Plan, the Department has an obligation of:

- Restoring lands through its Abandoned Mine Lands Program that were destroyed by mining prior to the adoption of the federal surface mining law in 1982 and not reclaimed because they were either abandoned or orphaned;
- Constructing water lines for communities that lost their original source of water due to mining activities taking place before 1982;
- Promoting reforestation in compliance with the Forestry Reclamation Approach as set out in Reclamation Advisory Memorandum (RAM) 124;
- Ensuring that logging operations employ measures that protect water quality;
- Assisting, advising and aiding farmers and other Kentuckians living in the 121 Conservation Districts;
- Promoting, preserving and protecting over 11.9 million acres of forest land; and
- Protecting Kentucky's forest resources from environmental threats such as fires, pests and diseases.²

These tasks are handled by the Divisions of Abandoned Mine Lands, Forestry and Conservation. The Division of Abandoned Mine Lands (DAML) has the primary responsibility of restoring the lands of Kentucky that were badly damaged by the lightly regulated coal mining industry prior to 1982, when the Commonwealth assumed primacy for the enforcement of the Surface Mining Control and Reclamation Act. As will be discussed in more detail, DAML is funded through a surcharge levied on the production of coal in this state, a portion of which is returned to Kentucky for land reclamation and other projects, such as water line installation, when it is determined that a water supply had been destroyed by pre-law mining, i.e. mining operations taking place prior to 1982.

The Kentucky Division of Forestry (KDF) is charged with the task of managing and protecting the forest lands of the Commonwealth. The Division coordinates its programs with a variety of agencies, such as the United States Forest Service and the U.S. Fish and Wildlife Service. The Division also assists DAML and DMRE by supplying trees for the reforestation. Finally, the Division in cooperation with the Department for Energy Development and Independence (DEDI), is assigned the responsibility under the strategic plan of developing carbon sequestration strategy through its management of the Commonwealth's forests and woody biomass.

The agency that conceivably has the most one-on-one contact with the people of the Commonwealth is the Division of Conservation in that, in cooperation with a 121 Conservation Districts, it assists the landowners and farmers of with a myriad of issues. The Division carries out its statutory and regulatory mandates through a variety of commissions and programs, such as the Soil and Water Commission, the Agriculture Water Quality Authority Board, and through grants, which fund the Equipment and Infrastructure Revolving Fund and the Agriculture District Program.

² This task is shared jointly with the Commissioner's office and has already been addressed in Part 1 of this Report.

Abandoned Mine Lands

DAML acts throughout the eastern and western coal fields of Kentucky to protect the public from health and safety problems caused by mining that occurred prior to 1982. The Abandoned Mine Land (AML) program is a state implemented, 100 percent federally funded program. The federal government receives its funding for the AML program by collecting fees for each ton of coal produced by mining operations nationwide. Annually, the Commonwealth of Kentucky receives an AML Grant from the United States Department of the Interior, Office of Surface Mining (OSM). The annual grant received for FY11 was in excess of \$30 million.



Inspectors, staff and consultants working on AML projects

Reclamation Projects

The AML program is a collaborative effort among private land owners; industry representatives; federal, state and local agencies; and public interest groups. Restoration of damage lands is accomplished through a reclamation process using contractors, who are selected through an impartial competitive bid process. Landslides, water-filled pits, open mine portals and dilapidated equipment and buildings are all good examples of the hazards that can be found on abandoned mine sites and have to be eliminated, reclaimed or removed.

Emergency Reclamation

During FY 2010-11, OSM discontinued its emergency reclamation program in Kentucky. DAML has assumed responsibility for emergency response and any resulting reclamation. Areas that are in need of immediate, i.e. “emergency” assistance, are designated as being high priority projects, and the Division’s responses are coordinated with OSM.

During FY11, the Division has been in the process of implementing a reorganization to better cope with “emergency” reclamation and is planning to open an office in eastern Kentucky. The agency is also responding to all emergency requests that were previously made to OSM.

Enhancement Rule Projects

The AML Enhancement Rule Projects are a special type of reclamation action, with a focus on reclaiming abandoned mine lands that have little likelihood of otherwise being reclaimed. In other words, these lands are reclaimed when a determination is made that there is little or no likelihood that the areas might be re-mined or restored by the private sector through a new surface mining activity. By law, an enhancement project allows the AML contractor to remove coal processing waste from an abandoned mine site (e.g. coal refuse or slurry site) and sell the coal to offset the cost of the project. No AML funds are expended to conduct the project. The land is then reclaimed via grading and revegetation. At a later time, trees are planted on the project site.

The benefits of AML Enhancement Rule Projects are:

- offending problem completely removed
- site reclaimed and restored to original appearance,
- trees planted on site
- recovered fossil fuel provide a source of energy
- government saves money

As depicted below, one such project successfully completed during FY11 is the Masters Branch Refuse project. The telephone pole in the photographs below offers a good reference point as to the scope of this project.



Master's Branch before reclamation



Master's Branch restored Enhancement Project Funds

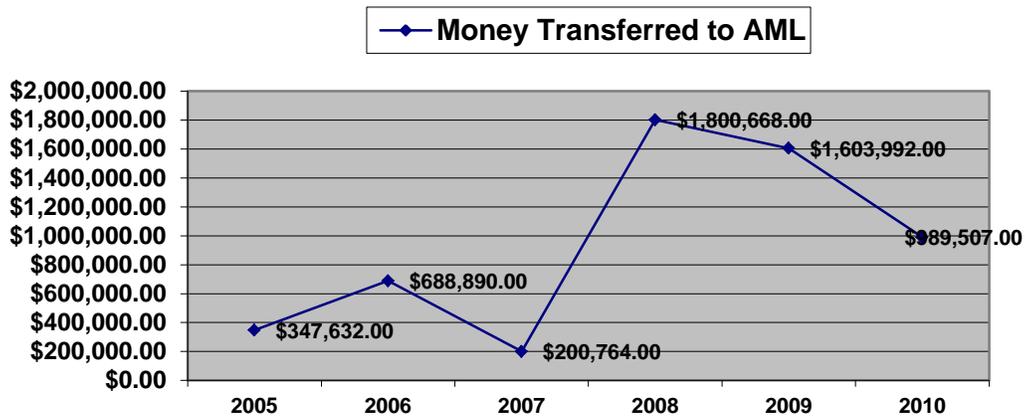
Bond Forfeiture Reclamation Program

Since 1982, coal companies have been required to post a reclamation bond prior to mining a site in an amount that should be sufficient to restore a mining project to its premining condition, if the surface mining operator defaults on his obligation. If a coal company fails to mine and reclaim a site to the standards specified in its mining permit, the bond is forfeited to the Commonwealth. Forfeited funds are used to reclaim the site for which the bond was posted.

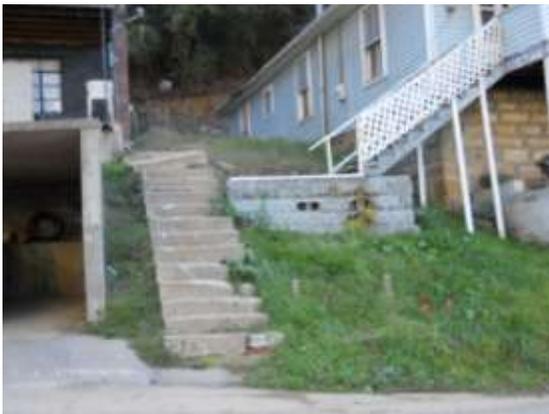
Starting in 2008, emphasis was placed on the procedure by which DMRE could fast track a bond forfeiture. Under the regulations, if a permit is expired and otherwise abandoned, the DMRE Director can issue a bond forfeiture determination, which becomes a final order after 30 days, unless an objection is filed by the permittee or surety. As reflected in the graphs below, the results of this initiative were impressive with a nearly five-fold increase in number of forfeitures and a three-fold increase in the amount of bond proceeds transferred to the Division of Abandoned Mine Lands.



These forfeitures resulted in the following amounts being transferred to the Division of Abandoned Mine Lands for reclamation work on forfeited permits:



The Anita Smith Reclamation Project is typical of the kind of work DAML performs in reclaiming areas that have been damaged by the effects of prelaw mining. In the case of Anita Smith, water from a pre-1982 deep mining was consistently saturating the hillside next to her house and damaging the concrete steps.



Smith residence pre-reclamation, Hazard Ky., depicting a consistently wet hillside and damaged concrete steps from mine drainage



Landowner, Anita Smith, (left) proudly standing with project inspector, Stefanie Crowe, on the Smith's newly repaired property

Some projects result in a greater sense of satisfaction, as evidenced in a letter by Ms Smith where she said:

“I am just so thankful for everyone’s hard work. Our hillside was a complete mess with water running everywhere, the mosquitoes and mold were a nightmare and our basement was constantly flooding. I am so pleased with the work AML has done for us. ...My grandson now has a safe place to play and my neighbors don’t have to have their guests meet them at the end of the street anymore.”

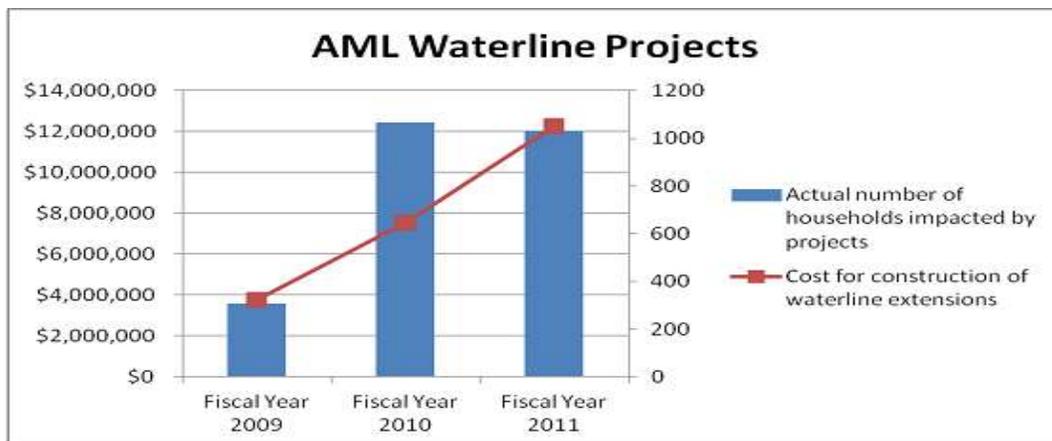
The amount of acreage reclaimed each year varies depending on funds that are available. During FY11, due to excessively wet weather, fewer acres were reclaimed than usual. On average, however, the Division reclaims approximately 150 acres per year.

Water Line Projects

The Division operates a water supply replacement program in coordination with local water districts that extends waterlines into areas where groundwater supplies have been contaminated by pre-1982 coal mining. DAML funds the cost of these water replacement projects, based on the mining impacts found in groundwater quality studies. Over the past five years, DAML successfully added nearly 2,600 households to a safe drinking water source, such as a municipal water company. Below is a chart of the 2010-2011 Fiscal Year accomplishments.

2010-2011 Fiscal Year Accomplishments			
<i>Totals for AML Reclamation Projects</i>		<i>Totals for AML Waterline Projects</i>	
Number of hazards reclaimed	126	Miles extended	108
Actual number of people impacted by projects	540	Actual number of households impacted by projects	1,033
Potential number of people impacted by projects	1,270	Cost for construction of waterline extensions	\$12,276,000
Cost of reclamation	\$13,368,725.26		

The following chart represents the progress that the Division has made over the past three years in supplying water to households, primarily in eastern Kentucky. The large increase occurring in FY11 is a result of a change in federal law, which radically changed the funding formula for AML fees returned to a given state.



Two of the more significant water projects occurring during FY11 were the Breathitt County extension project that began in April, 2011, and the announcement of the construction grant for Phase II of the South Perry County Water Supply Project.

The Breathitt County project will cost about two million dollars and has a projected completion date of January 2012. The waterline and pump stations will be constructed by G & W Construction of Morehead with the water tanks to be installed by Laurel Construction of London. Nesbitt Engineering of Lexington will provide engineering and inspection services. A groundwater contamination study performed by DAML has determined the area to have been impacted by AML-eligible past mining. Residents of Caney Creek, Right Fork Caney Creek, Upper and Lower Beaver Dam, Fugate Fork, Laurel Fork, Church Road, and Buckhorn Creek Road up to the Robinson Forest Camp areas located off Troublesome Creek will be served by this project. Approximately 90,740 linear feet of waterline will be constructed with approximately 215 water meters being installed.



Unpainted tank installed as part of Breathitt County project

The South Perry County Project, Phase II will include installation of a booster pump station, a 338,000 gallon water storage tank and approximately 90 water hookups for local residences. Construction will be performed by G & W Construction Co. Inc. of Morehead, Ky. Work is underway and is expected to be completed by early summer in 2012. Citizens living along Ky. Rte. 699 up to the tank on Bee Tree Branch will receive water service. Additionally, residents along Ky. Rte. 463 from its junction with Route 699 to 1,250 feet past Lynn Branch and including Lynn Branch will be served under this project.

Forestry

The mission of the Division of Forestry is to:

Protect, conserve and enhance the forest resources of the Commonwealth through a public informed of the environmental, social and economic importance of these resources.



The goals of the Division are to:

- Defend the forest from human, environmental and biotic threats;
- Promote forest uses that are sustainable and environmentally sound;
- Facilitate improved public awareness of forest contributions and environmental stewardship; and
- Manage Division resources to provide a high level of public service in all program areas.

Organization

The Kentucky Division of Forestry (KDF) is comprised of its main office in Frankfort and nine district offices, which serve as few as six counties or as many as 23 counties per district. The Division operates two tree nurseries: Gilbertsville (western Kentucky- Marshall County), and West Liberty (eastern Kentucky – Morgan County). The coordinator for the Division’s Federal Excess Property Program is also located at the nursery in West Liberty. The Division manages nine State Forests covering nearly 41,117 acres. The Frankfort central

office has 25 staff members with the remainder of the Division employees located in the various field offices and nurseries.

The Division is particularly excited by the fact that it will soon be celebrating its 100th anniversary in 2012. Originally known as the Board of Forestry as established in 1912 by the Kentucky General Assembly, KDF is the oldest state forestry agency in the South. The Division started out initially as a fire control agency and has evolved into the multifaceted agency it is today, with over 300 full- time, interim and emergency employees.

Forest Assessment, Community Outreach, Major programs and Measurable Impacts

An important task of the Division is to assess the size and condition of its forest resources. In addition, KDF conducts a number of environmental and educational programs, including the ones listed below. The following is a summary of the activities performed by Division with respect to these programs during the past fiscal year:

- **Kentucky Statewide Assessment of Forest Resources and Strategy (Forest Action Plan)**

In FY11, the Division

- Began implementing the Division's long-term strategies set out in the Forest Action Plan to address threats to the forest resources.
- Prioritized strategies and action steps that the Division, partners, land managers and conservationists can use to maintain or improve the biological diversity in Kentucky's forest.
- Continued data collection for federal Forest Inventory and Analysis program in which the Division determined:

- Kentucky's forests cover 11.9 million acres or 47 percent of the State. Ninety-nine percent of the forestland (12.251 million acres) is considered available for timber production.
- The Cumberland Plateau and the Appalachians in the eastern portion of the State are the most heavily forested. The central and western portions of the state, although less densely forested, account for 50 percent of the total forestland area.
- Oak and hickory forestation remains the dominant forest type in Kentucky; however, red maple has taken over as the dominant individual species in the state and is more numerous than all oak species combined.

- **Forest Stewardship Program**

- Completed 687 forest management/stewardship plans for 84,575 privately-owned acres.
- Assisted forestland owners in planting 1,155 acres of native Kentucky tree seedlings.
- Marked 3,555 acres of timber stand improvement to encourage quality growth on the residual forest stand.
- Created and improved 4,613 acres for wildlife habitat enhancement by forest management activities
- Assisted forest landowners with 2,232 acres of timber harvests (276,658 board feet) and marked an additional 875 acres (226,245 board feet) ready for harvest.

- **Environmental Education Program**

- Participated in 68 Career Day workshops for K-12 and 2,082 college-aged students and seven Envirothon training and competitions for 144 high school students.



Ranger Seth Dykes teaches a budding firefighter.

- Presented general forestry and Smokey Bear fire prevention discussions to 10,462 K-12 students during 4-H camps, FFA camps, scout camps and local environmental days.



Forester Bridgett Abernathy brought Smokey Bear to meet some new friends.

- Hosted 3 Project Learning Tree Workshops for 69 formal and non-formal educators.
 - Hosted and participated in 58 Arbor Day programs statewide and distributed 289,640 seedlings through Division employees and local county conservation districts for local events.
- Landowner Outreach Program
 - At over a hundred different events involving 6,340 landowners, Division employees presented “Woodland Owner Short Courses,” supplied forest management, forest health and fire control information, and conducted local forestry and farm field days and workshops.

- Developed in conjunction with the UK Forestry Extension, three issues of the Kentucky Woodlands Magazine, which were distributed to forestland owners across the state. Over 12,000 landowners receive the free magazine triennially. Each issue contained a variety of articles pertaining to forest management, health, invasive species, champion trees, utilization and educational opportunities. The issues are available at <http://www.ca.uky.edu/KYWoodlandsmagazine/about.php>.
- Hosted two “Got Cedar - Now What?” workshops for landowners that have eastern red cedar on their property. Over 200 landowners/loggers attended and learned about options as to how they manage and potentially sell red cedar.
- Hosted the Tri-state Ohio River Valley Woodland and Wildlife Conference with Indiana and Ohio forestry divisions and extension offices for 150 landowners at General Butler State Resort Park.
- Hosted three regional “Biomass Logging in Kentucky” workshop, which over 300 landowners, loggers and land managers attended.
- Participated in the Reforest the Bluegrass, Reforest Northern Kentucky, Reforest Frankfort and ARRI tree planting projects for over 900 attendees.
- Displayed and participated in 105 local fairs, festivals, carnivals, parades and trade shows.



- Urban and Community Forestry Program

- Assisted 26 communities to become designated as a Tree City USA.® of which five communities received annual growth awards.
- Assisted five universities in obtaining and maintaining Tree Campus USA awards for their commitment to campus tree care through their collaboration with students, faculty, staff and community organizations. These included Centre College, University of Louisville and Western Kentucky University as new designees with Northern Kentucky University and Berea College as return designees.
 - Worked with three municipal utility companies: Owen Electric Cooperative, Bowling Green and Owensboro. They received Tree Line USA® awards for demonstrating their outstanding commitment to proper tree care and management.



- State Forest and Land Acquisition Programs

- Finalized the acquisition of the Division’s ninth State Forest- Marion County Wildlife Management Area and State Forest. This 2,293 acre property is jointly owned and managed with the Department for Fish and Wildlife Resources.
- Added 73 acres to Tygarts State Forest, bringing the total to 948 acres. The property was purchased with KHLCF funds.
- Awarded \$3.25 million for the purchase of Big Rivers Corridor Phase I from Forest Legacy Program, project was ranked fourth nationally.
- Assisted the Pennyryle Area Development District, Pennyryle Park, Friends Group, and local governments in developing horse parking areas, trails and other recreational enhancements at Pennyryle State Park. The group was awarded the Spirit of Kentucky Award at the 2011 Governor’s Conference for Local Issues.



- Forest Resource Utilization Program

The Forest Resource Utilization Program is a major component of the efforts by the Division to fulfill the strategic plan requirements of supporting statewide effort. To that end the Division:

- Co-hosted with the Kentucky Forest Industries Association and UK, the Kentucky Wood Expo and the Win with Wood project,
- Worked cooperatively with UK Forestry on a web-based wood industry directory.
- In partnership with Mountain Association of Community Economic Development and the American Tree Farm System, provided certification opportunities for private forestland owners. Certification has allowed forestland owners to participate in carbon market opportunities while providing for the sustainability of the forest resource.
- Nurseries
 - } Sold 2.2 million trees, generating \$612,042.72 in revenue.
 - } Established seed orchards to secure our future supply of seed for the following species, southern red oak, swamp chestnut oak, pin oak, bald cypress, roughleaf dogwood, river birch, overcup oak, sawtooth oak and Chinese chestnut.
 - } Allocated nearly 50 percent of the orders for federal cost-share programs for private land tree plantings. Provided matching trees to all of the state's 121 county conservation districts for distribution at local Arbor Day events for a total of 289,640 seedlings.
 - } Continued to partner with the American Chestnut Foundation and the Kentucky Chapter of the American Chestnut Foundation to develop an American chestnut seed orchard and test plantings on state forests.



Nursery at Gilbertsville, Ky.

Nursery at West Liberty in Morgan County



Protecting the Commonwealth's Forests

• Timber Harvesting Compliance

In a major effort to bring under control bad logging practices that were causing significant environmental harm to forests of the Commonwealth, the General Assembly in 2000 enacted legislation that requires commercial

timber harvesting operations to have a master logger on site and in charge of operations. Additionally, the logger / operator must use appropriate best management practices to prevent water pollution.

- Enforcement Activities (FY11)

- Conducted 5,133 total inspections of commercial timber harvests.
- Issued 232 written warnings, resulting in 117 informal conferences to resolve the warnings.
- Issued 43 notices of violation for warnings not resolved and additionally issued 34 special orders, 13 emergency orders.
- Conducted 17 administrative hearings which resulted in:
 - ♣ 11 bad actor designations and assessment of \$12,302.50 in penalties of which over 50 percent were collected (\$6,761).

- Enforcement Actions (Cumulative to end of FY11)

Since the implementation of the timber harvest compliance program, the Division has:

- Performed 65,611 inspections.
- Issued 3,944 written warnings, and held 1,677 informal conferences by which the written warnings were resolved.
- Issued 789 notices of violations due to warnings not being resolved, and additionally issued 532 special orders and 249 emergency order.
- Conducted 280 administrative hearings since 2000 which resulted in:
 - ♣ 179 bad actor designations and assessment of \$464,330.51 in bad actor penalty fees of which \$82,858.51 has been collected (17.84%)

- Educational efforts for Kentucky Loggers

As part of the enforcement program, the Division in partnership with the University of Kentucky and the Kentucky Forest Industries Association has focused on the education and training of loggers in an effort to teach them sound, environmental techniques for the removal of timber using best management practices.

- Conducted 22 one-day continuing education Kentucky Master Logger programs that had 445 graduates.
- Issued 66 temporary Master Logger designation cards, 28 reciprocity applications and cards and 327 renewed Master Logger designation cards.
- Conducted seven 3-day Kentucky Master Logger programs with 197 graduates.

- Kentucky Firewise Program

- ┌ Assisted four new communities in developing a Community Wildfire Protection Plan bringing the total to 43.
- ┌ Granted \$314,116 of cost-share funding to 18 recipients to develop or improve the existing community's Firewise program.
- ┌ The Division has awarded \$1,872,435 in Firewise cost-share grants since 2004.
- ┌ Conducted 11 Firewise workshops and gave eight presentations and participated in two Firewise Community Days.

- Fire Management Program

- ┌ Suppressed 1,546 wildfires that burned 36,417 acres.

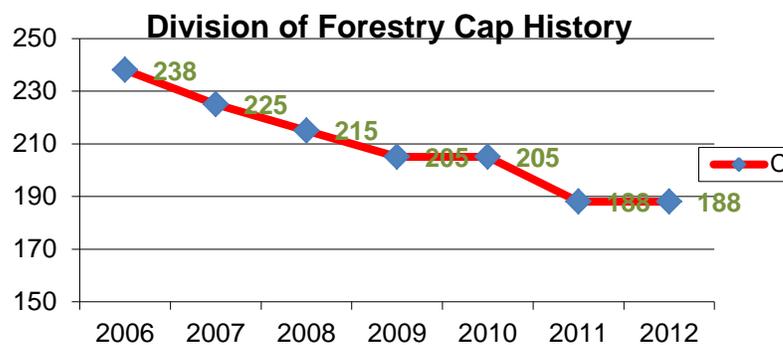


- } Coordinated the Tennessee / Kentucky Wildland Fire Academy to train 32 KDF employees in wildfire suppression techniques.
- } Allocated \$252,960 in Volunteer Fire Assistance Grants to 78 rural fire departments.
- } Coordinated the online sale of Federal Excess Personal Property of 61 items, including 27 vehicles.
- } Mobilized one strike team of engines to Florida and Georgia to assist in fire suppression activities in those states.

Challenges

- Budgetary and Personnel Reductions

Reductions in the 2011-2012 Executive Budget and additional general fund reductions have significantly impacted forestry programs and mandates. Since 2006, KDF has lost 50 positions from a high of 238 in 2007 to its present cap of 188 positions. The loss of staff has affected the Division's ability to conduct timber harvesting inspections, assist rural volunteer fire Departments, provide landowner assistance, conduct forest inventories, control insect, disease and invasive plant outbreaks and present education programs. As can be seen in the chart below, KDF has been understaffed for a number of years, and the steady loss of personnel has resulted in additional challenges to the Division in meeting its mandates as outlined in KRS Chapter 149.



- Customer Service

Providing service to forest landowners remains a significant challenge for the Division due to the following factors:

- ♣ The total number of landowners has increased.
- ♣ More communities are requesting assistance with fire-wise and urban forestry needs.
- ♣ There are new encroaching threats from invasive forest insects and pests.
- ♣ There is an ever increasing emphasis on the importance of the Commonwealth's forests in providing energy and other environmental benefits to the state.

The Division continues to rely on its partners, the Kentucky Association of Consulting Foresters, University of Kentucky Cooperative Extension Service and the Kentucky Department of Fish and Wildlife Resources, to assist it in meeting these demands. With an expanding workload, the Division has worked with other partners such as the Division of Conservation, USDA, Natural Resources Conservation Service, Farm Bureau, and the Kentucky Woodland Owners Association to reach out to the more than 467,000 forest landowners across the state.

- Wildfire

The highest priority of the Division is its rapid and effective response to wildfire. With the reduction in personnel, however, the Division has fewer first responders available. To deal with the loss of first responders, the Division is constantly recording and analyzing its wildfire occurrence data in an effort to be as efficient as possible in positioning its limited resources to respond to wildfires. Additional interim employees are hired during the fall and spring fire seasons to address gaps in the Division's workforce. Funding grants from the US Forest Service to rural volunteer fire departments have been focused on the acquisition of wildfire fighting equipment and training.

Wildfires are a constant danger both to the public and to the Division personnel. As noted by earlier in this report, one of the Division firefighters lost his life fighting an arson fire in September 2010. As a result, there has been an enhanced emphasis on personnel safety and well being.

- Woody Biomass



Harvesting forests for the biomass market differs in significant ways from the removal of trees that are sawn into lumber or sent to the pulp mill. The removal of all of the woody biomass, including the smaller trees and less economically desirable trees, limbs and tops, leaves and other down material normally left behind from timber harvesting, has a significant and arguably adverse impact to soil productivity, soil compaction, water quality/quantity, wildlife habitat, all of which contribute to forest sustainability. This new and emerging market presents a significant challenge to the Division. Woody biomass can be a significant contributor to the energy resources of this state. Such activities, however, must be performed with care and sensitivity to the environment.

According to the **Kentucky Statewide Assessment of Forest Resources and Strategy** (June 2010), the harvesting of woody biomass as a supplement to the energy needs of the nation could increase the economic potential of Kentucky's trees and forests. The assessment cautions, however, that over-harvesting and poor forest management could threaten the sustainability of Kentucky's forests, thereby weakening or ruining the emerging biomass industry and traditional forest industries. For these reasons, Goal 2-Issue 4-Tactics 2.3.2 and 2.3.4 were included in the Strategic Plan. These tactics require the Division to perform its oversight function of traditional tree harvesting, biomass removal, and forest management in such a way as to enhance the value and the sustainability of Kentucky's forest resources. Additionally, KDF has the task of developing criteria for the sustainable production of woody biomass, while keeping intact the production of raw materials of existing forest industries.

- Carbon Sequestration

Carbon sequestration is the process through which agricultural and forestry practices remove carbon dioxide (CO₂) from the atmosphere. The storage of CO₂ or other forms of carbon can help mitigate the effects of greenhouse gases. Forest landowners can potentially generate additional income from stored carbon on their managed forestlands. This is a program that is still in its infancy. The Division recently developed a Web site which sets out the information that a landowner needs to have before the property is marketed for the for so-called carbon credits. The Division has created a link at its Web site at <http://forestry.ky.gov>.

Conservation

Introduction

By law, the Division of Conservation is charged with providing assistance to Kentucky's 121 conservation districts to develop, administer and implement sound conservation programs across Kentucky. Kentucky's conservation districts are political units of state government, and the districts are organized within the boundary of their respective counties except for Logan County.³ Each local district is governed by a seven member Board of Supervisors, elected by the registered voters within that district.



The mission of the Division's is to:

- Assist Kentucky's local conservation districts in the development and implementation of sound soil and water conservation programs to manage, enhance, and promote the wise use of the Commonwealth's natural resources, and
- Responsibly administer the conservation programs of the Division to ensure through the conservation districts the availability of technical and financial assistance to the landowners and land users of Kentucky.

³Why are there 121 Conservation Districts when there are only 120 counties? Logan County was the first county to organize a conservation district, 70 years ago in 1941. Eventually as the idea caught on, other counties formed county wide districts. Logan County, however, did not want to give up its "first" in the Commonwealth status and thus, created two conservation districts.

The conservation districts have been organized for the special purpose of assisting landowners and land users in solving soil and water resource problems, setting priorities for conservation work to be accomplished and coordinating the federal, state and local resources to carry out these programs.

Organization

In comparison to other divisions of the Department, the Division of Conservation is relatively small in terms of employees, (11 central office employees – 11 field representatives – 1 field coordinator). The Division performs the majority of its work via the Soil and Water Commission and the Agriculture Water Quality Authority Board. It also assists farmers through the administration of a variety of grant programs, most notably the Equipment and Infrastructure Revolving Fund and the Agriculture District Program, as well as Direct District Fund Allocations, Environmental Grants, and special incentives funded through the Emergency Watershed Protection Program.

Soil and Water Conservation Commission

The Soil and Water Conservation Commission sets the policies by which the Division performs its duties. The Commission is made up of nine district supervisors, one from each of nine areas established by law. The Cabinet Secretary, the Commissioner of Agriculture, the Director of the Kentucky Agricultural Experiment Station, the Director of Kentucky Vocational Education and the State Conservationist for the U.S. Department of Agriculture or their designees serve as advisory members. The Supervisors are selected by the Cabinet Secretary, subject to the approval of the Governor. The Commission's principal duty is to assist local conservation districts in carrying out their responsibilities.



Soil and Water Conservation Commission members (L to R): Jack Roberts, Wayne Co., Ray Adams, Jefferson Co., Billy Doolin, Garrard Co., Scotty Parsons, Christian Co., and John McCauley, Farm Service Agency Executive Director at the January 2011 Commission Meeting

Direct Aid Funds

Direct aid funds are appropriated by the legislature through the budget process and are made available to conservation districts for the operation of their offices, including the hiring of administrative and technical assistance employees, paying office rent, and providing for other necessities of the district. Direct aid is distributed to districts through base level funding to each district and grant funding, based on requests submitted by conservation districts to the commission.

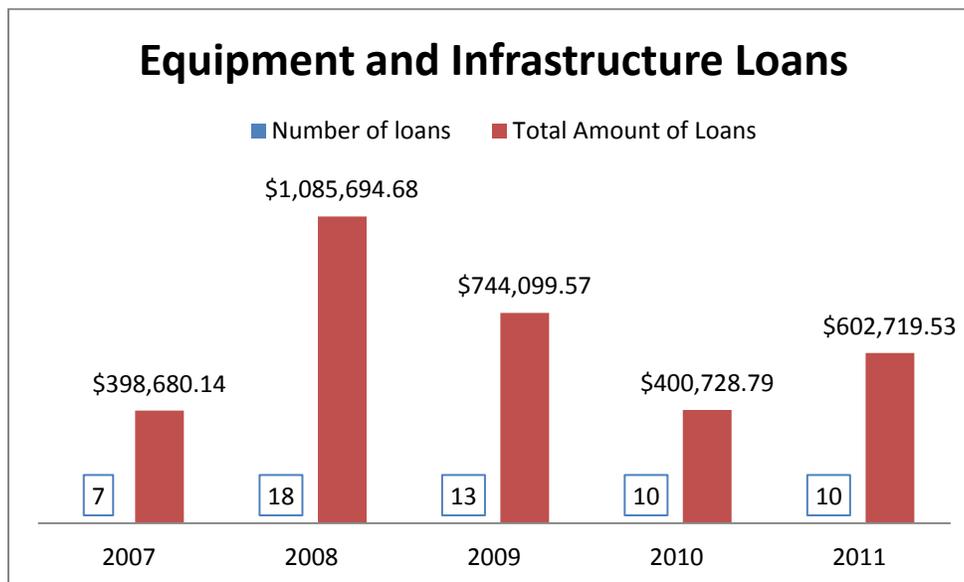
In FY11:

- \$975,000 was awarded to conservation districts in base funding, district employee salary assistance, and office funds. This amount is the same as was allocated in FY 2010.
- Of the \$975,000 awarded, direct aid supported:
 - 121 conservation district employees' salaries
 - 50 conservation district offices.

Equipment and Infrastructure Revolving Fund

The Equipment and Infrastructure Revolving Fund program provides loans to conservation districts for the purchase of heavy or specialized machinery, equipment and district office buildings that are used or located within the boundaries of the district. This program has enabled the Commonwealth to provide the equipment needed to construct proper conservation measures on land, as well as providing districts with the funding to purchase their own buildings in order to better serve the surrounding community.

- 10 Equipment Loans were made to conservation districts for a total of \$602,719.53, which is up from a low of 10 loans totaling \$400,000 in 2010. The increase may be indicative of a recovering economy in Kentucky.
- At the close of the fiscal year, there were 29 active equipment loans and four active infrastructure loans.



An example of the equipment that can be purchased through the loan program is a no-till drill tractor, following below. This piece of equipment prepares farm lands for seeding with a minimum of disturbance to the soil, thereby increasing productivity and reducing environmental impacts, such as soil runoff or erosion.

Figure 2 A no-till drill in use in Fayette County.



Soil Erosion and Water Quality Cost-Share Program

To improve water quality on agriculture and forest lands, the Soil Erosion and Water Quality Cost Share Program (CSP) provides financial assistance to individuals who want to implement best management practices on farms or in forest operation. Any person engaged in agricultural or silvicultural operations is eligible to apply through the local conservation district, which then oversees the installation of best management practices. In FY11, the Division:

- Installed 544 State Cost Share Best Management Practices (CSP) for a total of \$2,046,762.80
- Installed 179 Conservation Reserve Enhancement Program (CREP) practices for a total of \$565,188.71
- Allocated only five percent of state cost share funds for administrative purposes; the remaining 95 percent supported 31 conservation district employees during the fiscal year
- Awarded nine landowners a total of \$165,000 in funds derived from penalties paid to the Division of Water for violations of Kentucky's Clean Water Act. These funds assist landowners in correcting water quality problems.

Beginning in FY 2010 and continuing through FY11, new practices were added to the CSP to better address the needs of producers in Kentucky. The new practices included fallen animal composting and precision agriculture to assist with the Mississippi River Basin Initiative.



Fallen animal composting facility demonstration



Grassed waterway in Livingston County

The Division through its CSP also provides funds for environmental grants, which are awarded to the state's conservation districts. Conservation districts may apply for an environmental grant to address a special need in their county. Many districts assist their local fiscal courts with fallen animal removal through the Environmental Grant Program. During FY11, 55 Dead Animal Removal Grants were awarded for a grand total of \$275,000.00. Other grants are used for white goods clean-up, scrap metal collection, illegal dump clean-ups, and local cost-

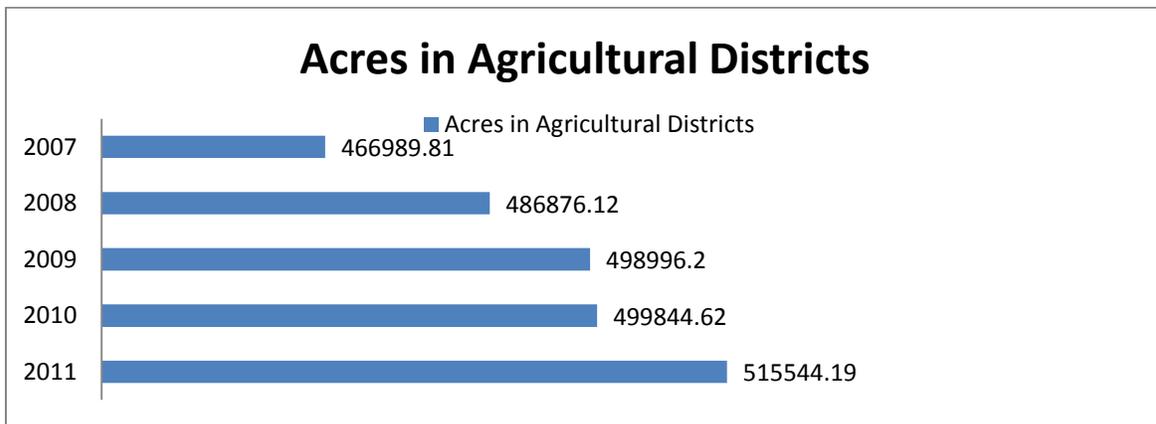
share programs. The total amount paid to Conservation Districts for Environmental Grants this year was \$603,772.50.



Items depicted are representative of white goods being removed and disposed of in a permitted solid waste land fill.

Agricultural District Program

The Division administers the Agricultural District Program created by the General Assembly in 1982. This program allows landowners or groups of landowners who own 250 acres or more active agricultural land to petition their local district for the creation of an agricultural district. The goal of this law is to protect the Commonwealth's prime agricultural land currently being used for food and fiber production from non-agriculture development. The program has been very successful during the past five years, with a cumulative total of 515,544.19 acres being added to the program since 2007. In FY11 nearly 30,000 acres were added to the program. However, this figure is a gross estimate and does not take into account the fact that during a given year, the number may be reduced due to landowner death, failure to recertify or removal of acres from the program for one reason or another.



In FY11:

- 9,109.92 net additional acres, belonging to 81 landowners, were added to agricultural districts through 13 new petitions and 22 amendments to active agricultural districts
- 45 active agricultural districts were recertified

As of June 30, 2011, there are 818 agricultural districts encompassing 515,544.19 acres belonging to 3594 landowners in 80 counties.



The Agricultural District Program helps preserve prime agriculture land from encroaching subdivisions, such as the one seen here

PACE

The Division's staff also supports the Kentucky Department of Agriculture's program, known as the Purchase of Agriculture and Conservation Easements (PACE) which is administered by the PACE Corporation. The staff routinely processes applications, ranks the applications according to the PACE Board's criteria, and provides geographic database as to locations of easements.

Agriculture Water Quality Act

The Kentucky Agriculture Water Quality Act was passed by the 1994 General Assembly with the goal of preventing pollution of surface water and groundwater resources from agriculture and silviculture activities. The act also created the Agriculture Water Quality Authority (AWQA), a 15 member peer group made up of representatives from various agencies, organizations and farmers. The authority established a statewide water quality plan. The authority may establish regional or priority watershed plans if necessary. The Division of Conservation is the lead agency in the implementation of this act.

In FY11, the AWQA:

- In conjunction with the Division of Conservation staff and conservation district employees, developed a grant project, in accordance with Section 319 of the Clean Water Act. The goal of this project is to survey landowners in different watersheds to determine their knowledge about the Agriculture Water Quality Act. To date, there have been 258 surveys taken in Fleming, Lincoln, Calloway, Barren, Hart and Logan Counties.
- Reviewed and revised many of the best management practices covered under the livestock portion of the Agriculture Water Quality Plan. The review of these practices continues into the 2012 fiscal year.
- Implemented a new initiative in conjunction with the MRBI or Mississippi River Basin Initiative with the goal of reducing nutrients from agriculture sources to address the hypoxia issue in the Gulf of Mexico. Efforts are underway by member groups to receive grant money in order to provide water quality monitoring to assist with the MRBI program.



Members of the Agriculture Water Quality Authority celebrate their 50th meeting since being created. Members from left to right: Corrine Mulberry, Amanda Gumbert, Pete Goodman, Steve Kull, Larry Thomas, Kevin Jeffries, Allen Kyle, Karen Woodrich, Angela Billings and Director Steve Coleman (seated).

Field Services

One of the principal functions of the Division is to provide field services to the conservation districts. The Division's 11 field representatives assist the 121 conservation districts in developing and implementing a conservation program. The field representatives have the responsibility of conducting conservation education and information programs; preparing financial reports and budgets in accordance with state law; coordinating in conjunction with other partner agencies, the implementation of federal, state, and local conservation programs at the district level; and finally, providing important communication links between the district, partner agencies and the Division.

During FY11, the field representatives attended 878 district board meetings. The field representatives and other Division staff members are held directly responsible for the education of the 847 district supervisors in the state.

This year, the district supervisors in Kentucky were recognized for their outstanding training efforts when Kentucky was one of only 13 states recognized by the National Association of Conservation Districts for its district officials training program.



At left, Crystal Renfro, one of the Division's 11 field representatives, talking to Carly Burton, district employee, at a fallen animal composting demonstration.

Special Initiatives for FY11

The Division of Conservation, the local conservation districts, the USDA-Natural Resources Conservation Service and local sponsors, such as fiscal courts, city councils, and other community organizations, were confronted with a massive amount of damage, resulting from the ice storms, hurricane-like rain storms and an exceptionally wet year that wreaked havoc throughout the state during the previous fiscal year. The Governor declared many of Kentucky's counties disaster areas, which made them eligible for funding assistance through the Federal Emergency Watershed Protection Program (EWPP). Without a statewide cooperative on the part of all of these agencies, many of Kentucky's rural areas and small cities would have not been able to cope with the massive amount of wreckage without suffering an immense economic hardship.



Stream bank restored with a rock retaining wall in Carter County using EWPP funds

During FY11:

- 11 Conservation District employees were partially funded through EWPP and completed 20 reclamation or repair projects in 11 counties
- The Division expended \$25,650.34 of the EWPP grant monies by the end of June 2011

Transition from CREP to MRBI

With the Conservation Reserve Enhancement Program (CREP) reaching its goal of 101,303 acres during the FY10, the Division renewed its partnership with the Natural Resources Conservation Service (NRCS) to address the issue of hypoxia (lack of breathable water for aquatic life) in the Mississippi River Basin. Hypoxia is caused in part by nutrient laden runoff (such as manure) from agricultural lands. The Mississippi River Basin Initiative is focused on the following objectives:

- Implementing focused conservation practices in the following targeted watersheds: Licking River, Lower Green Valley, Red River, Bayou de Chien (Mayfield watershed) and Obion
- Expanding and improving landowner education, participation, and cooperation in applying soil and water conservation practices to agricultural lands
- Enhancing landowner involvement in long-term land planning efforts through the development of Nutrient Management Plans and Kentucky Agriculture Water Quality Plans
- Strengthening the partnerships between the participating organization and agencies in such a way so that the relationships built during the four year effort will extend beyond the end of the MRBI initiative

- Providing project accountability to demonstrate that NRCS conservation practices can directly improve water quality by reducing nutrients, soil erosion and stream sedimentation
- Obligating \$2.3 million in 81 contracts covering 9,638 acres to install conservation practices using best management techniques, thereby reducing feedstock nutrients that cause hypoxia in the designated watersheds of the MRBI

Part IV – AWARDS AND NOTABLE EVENTS

Introduction

There can be no denying the fact that people (and also state agencies) take pleasure and pride in being recognized for exemplary performance of their duties. Such awards are a mechanism by which outstanding work can be appreciated. This section is devoted to the recognition of those who have been recognized for outstanding contributions to the Commonwealth.

It is also appropriate to acknowledge the loss of those who have worked so hard in the never ending task of improving and protecting the environment and reflect upon their contributions to the state:

Awards and Special Recognitions

2011 Arbor Day Award

The Appalachian Regional Reforestation Initiative (ARRI) is a partnership of the coal mining industry, state and federal regulatory authorities and forestry agencies in seven states. The partnership, developed and implemented by the DNR, was formed in 2004 to help restore the beauty of the Appalachian Mountains by encouraging innovative techniques for mine reclamation, primarily through so-called rough grading and planting of seedlings on mine areas that have not been heavily compacted.

During FY11, the *National Arbor Day Foundation Award* recognized ARRI for its innovative efforts with its annual Arbor Day Award. The award recognized those individuals or agencies that represent the highest standards possible for tree planting and conservation. The award was given in recognition of the fact that since 2007 ARRI, with the assistance of private industry, has reforested approximately 45,000 acres with more than 30 million trees.



Paul Rothman, center and Leah MacSwords, Forestry Director, accept the Arbor Day Award from John Rosenow, CEO Arbor Day Foundation, on behalf of ARRI.



Typical display table for an ARRI promotional event

Arbor Day Awards

On May 6, 2011, Commissioner Carl Campbell presented the Kentucky *ARRI Award* to Heritage Coal Co. LLC for “Excellence in Reforestation” on its Ohio County surface mining operation.

According to Campbell, “The reforestation of Kentucky surface mining operations is of primary importance and a long-term goal of DNR. I am extremely pleased with the on-going reforestation efforts of James River Coal Co. and other progressive companies in the coal industry, the University of Kentucky, Eastern Kentucky University and all other state and federal agencies who have partnered with us to achieve substantial progress with this goal.”



Commissioner Campbell presenting 2011 ARRI Award to representatives from Heritage Coal

Special Recognitions for the Division of Conservation

Steve Coleman and Tom Perrin

During the National Conservation Partnership Meeting, Mr. Tom Perrin, State Conservationist for the Natural Resources Conservation Service, presented its *State Conservationist Award* to Steve Coleman, Director of the Kentucky Division of Conservation. The award was given in recognition of Coleman’s 36 years of service as a Conservation Division employee during which, for the past 17 years, Coleman has been Division Director. During this meeting, Tom Perrin was also recognized by the Kentucky Association of Conservation Districts (KACD) for his service to the state conservation districts while he was the Kentucky State Conservationist, from which he retired in 2010.



Steve Coleman, left, accepting State Conservationist Award from Tom Perrin, Kentucky State Conservationist.

Envirothon

Envirothon is a competitive, problem-solving, natural resources experience for students in grades 9 through 12. While the event is competitive, environmental education is the bottom line. With the support of natural resource professionals, the students are trained as to how real life environmental problems are solved. The students work in teams of five to solve environmental problems. The Division of Conservation is one of many sponsors, both state and private, of this event.



Students at two of the work stations at the Envirothon competition

DuPont Manual High School topped all other groups, in the Envirothon competition held May 19-20, 2011 at the Kentucky Leadership Center near Nancy, Ky. In July, the winning team represented Kentucky at the Canon Envirothon, an international event hosted by Mount Allison University in Sackville, New Brunswick, Canada and placed 22nd out of 56 teams. Green County FFA went on to compete in the Environment and Natural Resources Career Development Event at the National FFA Convention in Indianapolis, IN.

Students were tested on their environmental knowledge in five areas: soils, aquatics, forestry, wildlife, and “Fresh and Salt Water Estuaries.” During the state competition, students were also judged on an oral presentation dealing with “Fresh and Salt Water Estuaries.”

Jim Claypool Art Contest

The Division of Conservation, in partnership with the Kentucky Farm Bureau, sponsors the *Jim Claypool Art and Writing Contest*. This year’s theme was “Kentucky Soil: All Hands In.” Students across the Commonwealth used the this theme to create 38,437 art entries and 14,144 writing entries. Judges from the local conservation districts chose county winners, whose entries were subsequently judged at state competition. A distinguished panel of judges, with a variety of environmental backgrounds, selected statewide winners in both categories on Feb. 8, 2011.

State winners of this year’s award are:

- First place: Emily Welch, Bourbon County;
- Second place: Jacob McCurry, Harlan County; and
- Third place: Caroline Hamilton, Jefferson County.

Special Recognitions by Division of Forestry

Robert E. Browning, Jr Award

The Division of Forestry, in conjunction with the United State Forest Service, Southern District, annually gives an award to a forester who has shown an outstanding talent for educating children and young adults as to the danger of forest fires. The award was named in honor of Robert E. Browning, Jr, a South Carolina wildland fighter, who lost his life in 1994 fighting a fire on the Storm King Mountain in Colorado.

The award was given this year to Forest Ranger Ricky Parnell. Parnell is a forest ranger technician in Metcalfe County and has been with KDF more than 11 years. As a forest ranger technician, Parnell fights forest fires, inspects timber harvest operations and conducts forest fire prevention education programs. He also works with residents, local officials and the media to help prevent and reduce the number of fires.

Outstanding Forest Steward Award

Each year, the Kentucky Division of Forestry recognizes a landowner who has shown exceptional stewardship accomplishments. Forest stewardship involves cooperative planning and management of natural resources in an effort to prevent loss of habitat and promote sustainability. The recipients of the award are nominated by natural resource professionals from the Kentucky Division of Forestry, the Kentucky Department of Fish and Wildlife Resources or the U.S. Department of Agriculture's Natural Resource Conservation Service (NRCS).

Dr. James W. Middleton from Hart County was selected as the 2010 Outstanding Forest Steward. Middleton owns more than 5,000 acres of land with 3,300 acres of woods. His family has practiced exemplary forest management techniques on the property since the 1950s.



Left Brian Yager, Central District Forester congratulates Forest Ranger Technician Ricky Parnell



Dr. Middleton with Central District's Chief Forester, Robert Bean

Commissioner's Awards for Excellence in Reclamation

A Commissioner's Reclamation Award, is given each year to companies that have distinguished themselves through their outstanding reclamation activities of surface mining operations. Nominees are submitted from each of the five regional offices within the Division of Mine Reclamation and Enforcement located in London, Madisonville, Middlesboro, Prestonsburg and Pikeville, with one award given for each office. In 2009, ICG Hazard, (London), Patriot Coal (Madisonville), Jamieson Construction (Middlesboro), Miller Brothers (Prestonsburg) and Fleenor Mining (Pikeville) were recognized for their outstanding reclamation work. In 2010, B&W Resources (London), Dyson Creek Coal (Madisonville), Alden Resources (Middlesboro), Enterprise Coal Co (Prestonsburg); and Labco (Pikeville) were honored for their outstanding and significant reclamation achievements.

The winners of the 2011 Commissioner's Awards for Excellence in Reclamation are worthy members of this very elite group. All five companies have exhibited an exemplary diligence in reclaiming mines sites upon completion of mining or as a re-mining project. Below is a brief description of the recipients and the reasons given by the reclamation inspectors in support of their nominations.

London - Lexington Coal Company, LLC Permit Number 860-0415 near Bearville, Ky

When Permit No. 860-0145 was transferred to Lexington Coal Company from a bankrupt permittee, the abandoned permit had unreclaimed highwall, hollow fills that were too steep with poor drainage and acidic soil that required extra lime to facilitate vegetative growth. Due to the Lexington Coal Company's diligence and commitment to fulfilling the reclamation plan, the site has been successfully reclaimed to a beneficial post mining land use of fish and wildlife habitat. As a result of the company's reclamation efforts, this permit was featured in the November 2010 issue of *Progressive Farmer* demonstrating how successful farming can be achieved on mined areas.



Permit No. 860-0145 Overview of permit looking at Hollowfill No. 6

Madisonville - Patriot Coal Company, L.P. Permit No. 851-0043 Hebbardsville, Ky.

The successful reclamation of this permit is evidenced by the fact that the numerous stream enhancements projects on the permit have created a natural habitat for new herbaceous species and wildlife. Stream restoration has occurred in the same general vicinity of the original streams which closely approximate their pre-mining meandering nature. The post-mining land use has been restored to its approximate pre-mining land configuration and includes nearly 300 acres of forest land, approximately 90 acres of cropland and a little over 20 acres dedicated to a fish and wildlife habitat. As a result of Patriot Coal's reclamation efforts, post-mining land uses have been achieved as designated by the landowner.



The restoration completed at this site provides Henderson County with [Overview of Permit No. 851-0053 showing areas suitable for cattle grazing and farming](#) exceptional post mining land uses and a facility that can be used for recreational purposes.

It should be noted that from 2009 to date, the permittee had not been cited for any violations of the surface mining laws or regulations.

Middlesboro – Sandlick Coal Company, Permit No. 848-0302 Harlan County.



[Permit No. 848-0302 looking south at reclaimed Wallins and Smith contour seam.](#)

Sandlick Coal Company greatest success was the establishment of an effective sediment control plan, which significantly reduced the effects of rainstorm runoff, thereby preventing soil erosion and promoting the stability of the backfill. As shown in the center of the photograph, Sandlick has taken great care in the construction of the rock drains going down the backfilled slopes to channel runoff and prevent erosion. Sandlick placed rock drains at each area where a potential water flow crosses the backfill, effectively slowing the velocity of water and directing it through less erosive material until a natural drain is reached. Such measures are not required by the regulations but the company reclamation engineer concluded that prevention of rills and gullies would help alleviate the need for major maintenance repair at a later date, which would facilitate obtaining a bond release.

Prestonsburg- Davis Energy, LLC, - Permit No. 858-0221, Davisville, KY.

This permit, in the Prestonsburg area, is a testament to the fact that with diligent work, organization and commitment, destroyed natural resources can be recovered and the land can be reclaimed for future generations to enjoy, not only aesthetically, but financially. The reclamation of this site resulted in a beneficial post mining land use of hay or pastureland. In accordance with the post mining land use plan, Davis Energy reclaimed the land to create gentle rolling hills, with additional flat land that had fewer steep slopes. Reclamation was accomplished pursuant to the landowner's written statement that he wanted to use the restored land for pasturage and cattle grazing.



Permit No. 858-0221 looking from Pond No. 1 to reclaimed Hollowfill No. 1

Pikeville - Premier Elkhorn Coal Company - Permit No. 898-0400 near Shelby Gap in Pike and Letcher Counties.

Premier Elkhorn has established a diverse and permanent vegetative cover on the mined areas in accordance with the regulations and the approved reclamation plan. The establishment of exfoliating bark species of trees has been incorporated for the protection of the Indiana Bat, as well as providing cover for all types of wildlife. Premier Elkhorn is working with the Appalachian Regional Reforestation Initiative (ARRI) on reforestation of certain areas that had previously been reclaimed and granted Phase III bond release. Premier Elkhorn's willingness to work with ARRI and other organizations to promote reforestation as a reclamation technique is well known within the industry. The reclamation of this site resulted in a beneficial post mining land use of fish and wildlife and pastureland which is in accordance with the landowner's wishes.



Overview of a portion of permit showing establishment of diverse forested area.

Carl Wedekind.

The Kentucky Heritage Land Conservation Fund acknowledges the years of service given to it by Carl Wedekind, who passed away in August 2011. Carl was an early volunteer with the Nature Conservancy, helping to hire its first Kentucky staff and managing a successful two-year capital campaign. In 1995, Carl was appointed by the governor to the first Kentucky Heritage Board and has served since as vice-chair. Over the years, the Heritage Land Board in partnership with other agencies has funded the preservation of more than 30,000 acres of Kentucky natural lands. His work and his dedication to the preservation of the unique and historic lands of the Commonwealth will always be remembered.



Carl Wedekind -June 4, 1924 – July 2, 2011

Donald Ray Lam

A longtime Kentucky Division of Forestry (KDF) ranger and wildland firefighter, Donald Ray Lam Jr., passed away on Feb. 17, 2011, after a courageous battle to overcome injuries sustained while fighting a forest fire in western Kentucky last September. Lam, 58, served as the forest ranger technician for Caldwell, Crittenden and Lyon counties and had assisted with fire suppression efforts on the local, state and national level for nearly 12 years. He was also a member of Cedar Bluff Baptist Church and a U.S. Navy veteran. Lam is survived by his wife, Jeannie Swatzell Lam; a brother, Ronald Lam of Goreville; a step-son, Dusty Cooper; and a step-daughter, Dakota Son.



Don Lam, who loved educating children, plants a tree at Playhouse Daycare in 2009



Front row left – At the Black Frog Complex Fire in Idaho and Montana in 2003

Appendix

Annual Report

FY 2011



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Commonly Used Acronyms

The following acronyms are used in this report:

ANE	Administration and Enforcement Grant
ACSI	Appalachian Clean Streams Initiative
AMD	Acid Mine Drainage
AML	Abandoned Mine Land
AOC	Approximate Original Contour
ARRI	Appalachian Regional Reforestation Initiative
AWQA	Agriculture Water Quality Authority
BMP	Best Management Practice
CD	Conservation District
CHIA	Cumulative Hydrologic Impact Assessment
CO	Cessation Order
COE	Army Corps of Engineers (United States)
CR	Contemporaneous Reclamation
CREP	Conservation Reserve Enhancement Project
CRI	Citizens' Request for Inspection
CSP	Cost Share Practices
CWA	Clean Water Act
DAML	Division of Abandoned Mine Lands
DEP	Department of Environmental Protection
DMP	Division of Mine Permits
DMRE	Division of Mine Reclamation and Enforcement
DNR	Department for Natural Resources
DOC	Division of Conservation
DOW	Division of Water
DTAS	Division of Technological and Administrative Support
EEC	Energy and Environment Cabinet
EPA	Environmental Protection Agency (U.S.)
EPPC	Environmental and Public Protection Cabinet
EQC	Environmental Quality Commission
ER	Enhancement Rule
EWPP	Emergency Watershed Protection Program
EY	Evaluation Year
FOD	Field Office Director
FPOP	Fill Placement Optimization Process
FRA	Forestry Reclamation Approach
FSA	Farm Service Agency
FTACO	Failure to Abate Cessation Order
FY	Fiscal Year – July 1 – June 30.
GIS	Geographic Information System
HLCF	Heritage Land Conservation Fund
HUC	Hydrologic Unit Code
KACD	Kentucky Association of Conservation Districts

KDF	Kentucky Division of Forestry
KHLCF	Kentucky Heritage Land Conservation Fund
KPDES	Kentucky Pollutant Discharge Elimination System
KY	Kentucky
LFO	Lexington Field Office (Office of Surface Mining)
MRBI	Mississippi River Basin Initiative
MRP	Mining Reclamation Plan
MSHA	Mine Safety and Health Administration
MTM	Mountain Top Mining
NC	Notice of Non-Compliance
NACD	National Association of Conservation Districts
NEPA	National Environmental Protection Act
NOI	Notice of Intent to Sue
NOV	Notice of Violation
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
OMSL	Office of Mine Safety and Licensing
OSMRE	Office of Surface Mining Reclamation and Enforcement, commonly OSM
OSRW	Outstanding State Resource Water
PACE	Purchase of Agriculture and Conservation Easements
PMLU	Post-Mining Land Use
RA	Regulatory Authority
RAM	Reclamation Advisory Memorandum
SMCRA	Surface Mining Control and Reclamation Act of 1977
SMIS	Surface Mining Information System
TDN	Ten-Day Notice
TVA	Tennessee Valley Authority
UK	University of Kentucky
US FWS	United States Fish and Wildlife Service

The Department for Natural Resources developed a set of goals and objectives to work toward achieving the mission statement of the cabinet. These goals and objectives pertinent to natural resources in the Commonwealth are:

DNR GOAL 1. Natural resource development activities such as agriculture, oil and gas drilling, logging and mining are done in an environmentally responsible manner.

Objective 1 – Ensure that requirements of the Surface Mining Control and Reclamation Act of 1977 (SMCRA) and the Clean Water Act (CWA) as it applies to mining operations are met for all Kentucky mining operations.

Objective 2 – Encourage citizen participation in coal mine permitting and enforcement processes.

Objective 3 – Ensure that logging operations employ measures to protect water quality.

Objective 4 – Reduce residual impacts from pre-SMCRA mining by using the additional grant funds from 2006 SMCRA Amendments to increase the number of AML reclamation projects, AMD projects, and water supply projects.

Objective 5 - Evaluate the current Division of Oil and Gas regulatory program to ensure that it is adequate to prevent waste, protect correlative rights and protect the environment while encouraging responsible development and production of crude oil and natural gas resources.

DNR GOAL 2. Support statewide efforts to develop alternate energy sources and carbon sequestration opportunities.

Objective 1 – Enhance Kentucky's forest resources to improve their contributions to the environment and economy through management and reforestation activities.

Objective 2 – Promote reforestation (according to the Forestry Reclamation Approach) and wildlife habitat enhancement as the preferred choice for post-mining land uses to provide for enhanced wildlife habitat, recreational opportunities, high-value hardwoods for timber production, improved hydrologic conditions, and sequestration of carbon as a means to control greenhouse gas accumulation.

Objective 3 – Support the use of Agriculture Water Quality Act plans and practices in the development and production of bio-feed stocks for energy production.

Objective 4 - Increase the adoption of agricultural best management practices for proper conservation and wise use of Kentucky's soil, water and other natural resources.

DNR GOAL 3. The natural resources of Kentucky are protected, managed and enhanced to provide maximum benefits to the people and economy of Kentucky.

Objective 1 – Establish programs and partnerships to reduce the incidence and impact of wildland fires in Kentucky.

Objective 2 – Protect Kentucky's forest resources from environmental threats such as fires, pests and diseases.

Objective 3 – Protect prime farmland for agricultural production.

Objective 4 – Promote the establishment of new wetland areas as a part of natural resources development activities under the guidance of the Wetlands Working Group.

Objective 5 – Promote stewardship of Kentucky’s natural resources.

Objective 6 – Kentucky Heritage Land Conservation Fund (KHLCF) will continue to promote the conservation and management of ecologically significant lands throughout the Commonwealth.

DNR GOAL 4. Coal mining, logging, firefighting and agricultural activities are performed in a safe manner.

Objective 1 – Prevent flyrock incidents related to coal and non-coal mining.

Objective 2 – DNR divisions will provide training to increase workplace safety and reduce worker accidents and injuries.

Objective 3 - Reduce serious mine accidents and fatalities.

Objective 4 – Provide underground coal mine licensees in Kentucky with the option to request OMSL provide MSHA-mandated mine rescue team coverage that complies with the increased training and contest participation requirements under the federal MINER Act.

Objective 5 – Assist Water Conservancy Districts in addressing the continuing issue of conservancy district dams that need maintenance, breach analysis or emergency action plans.

The Department uses these objectives to conserve and sustain Kentucky's natural resources while simultaneously ensuring the protection of our citizens, our environment and our workers. The Department uses indicators developed from the above goals and objectives to track the Department’s progress in this *Annual Report*, and will continue in later additions.

Measures for **Permitting**:

- Total number of permits pending.
- Total number of permits pending that exceeds regulatory time frames.
- Percentage of permit reviews completed within regulatory time frames.
- Percentage of permit reviews that exceed regulatory time frame.

Measures for **Reclamation**:

- Acres reclaimed on a surface mine.
- The number of abandoned wells reclaimed vs. total wells.
- Acres per land use permitted.
- AML acres reclaimed.

Measures for **Enforcement**:

- Surface Mining Control and Reclamation Act (SMCRA) Enforcement Actions.
- SMCRA Penalties.
- Office of Mine Safety and Licensing (OMSL) total inspections conducted.
- Forestry inspections conducted.
- Forestry related enforcement activities.

Measures for **Mine Safety:**

- OMSL drug violations within the Commonwealth.
- The number of serious accidents and the number of fatal accidents.

Measures for **Resource Status and Conservation:**

- The status and makeup of the Commonwealth's forests.
- Emerald ash borer quarantined counties.
- The status of Conservation Districts in the Commonwealth.
- Soil erosion and water quality cost share programs.
- The total acres of agriculture districts in the Commonwealth.
- The number of fallen animal grants distributed.

Measures for **Policy Developments:**

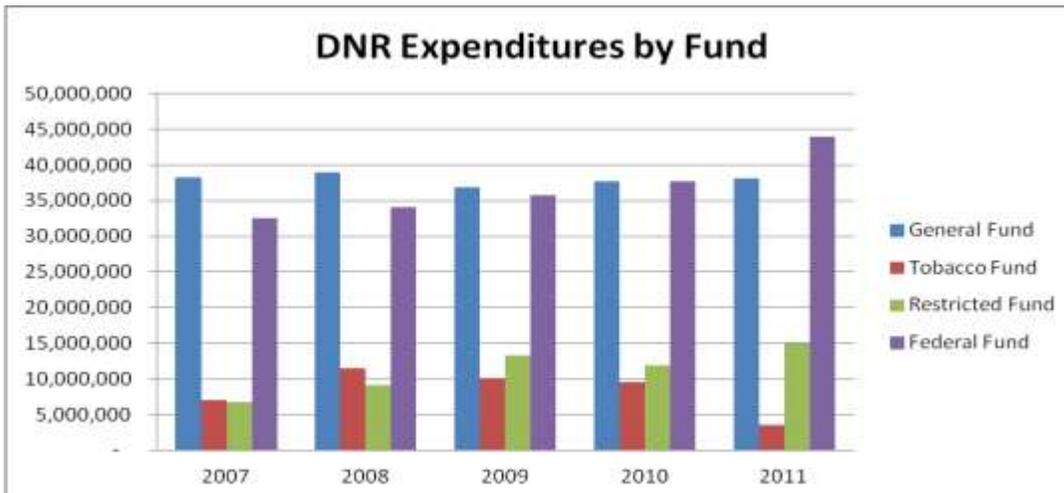
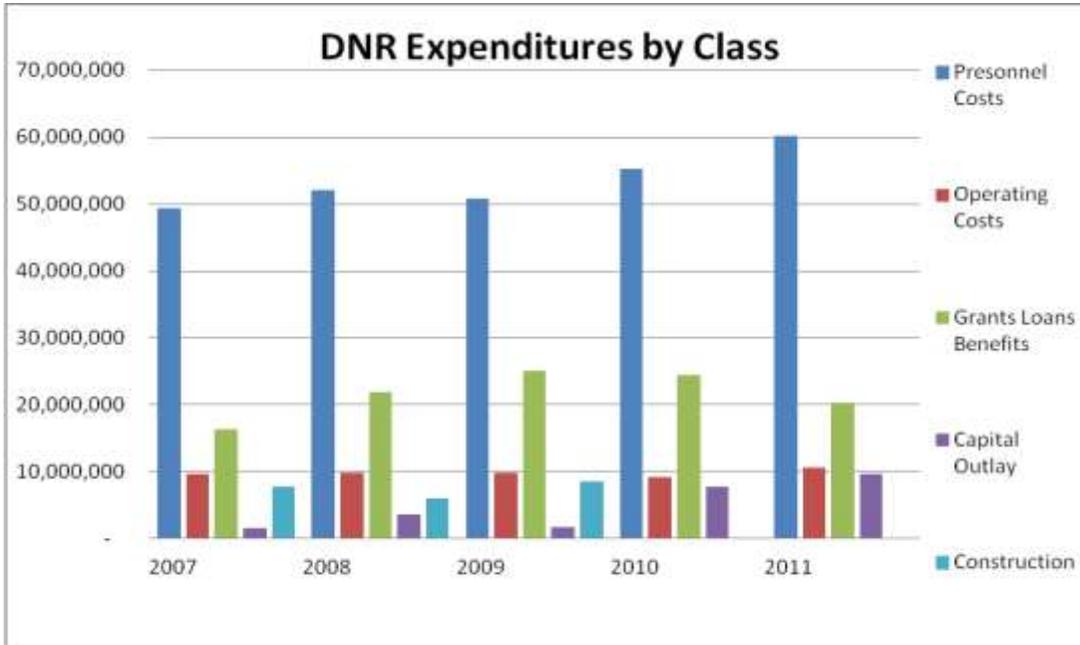
- The status of departmental regulatory developments.
- Statutory developments impacting the Department for Natural Resources.

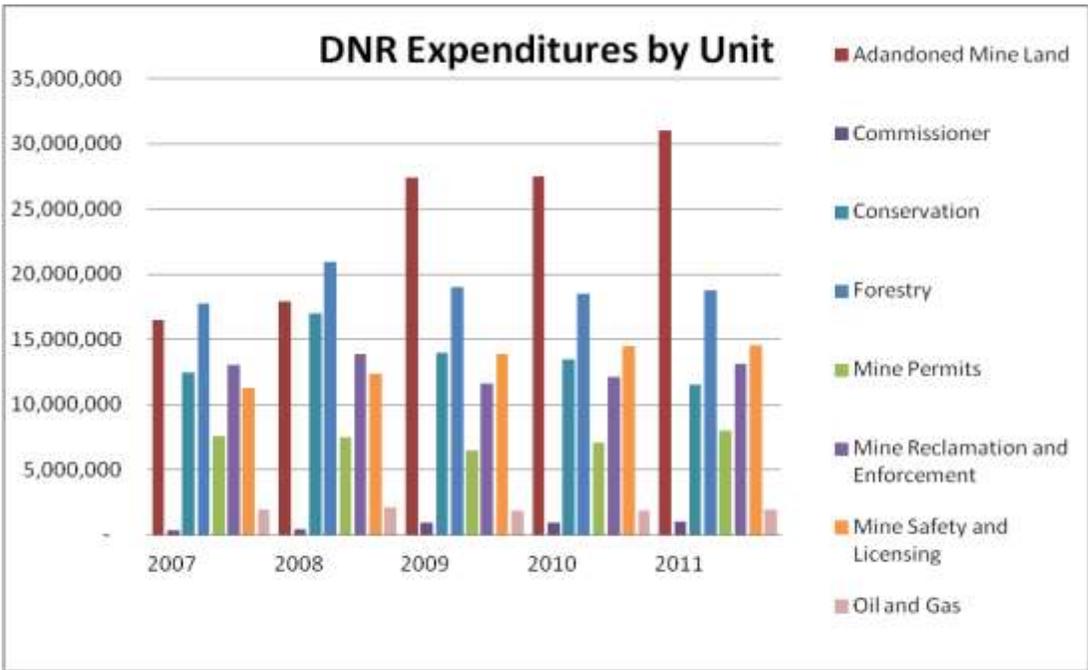
Measures for **Administration and Services:**

- The Department for Natural Resources budget.
- Full time personnel numbers with associated full time cap positions.
- Special Projects:
 - Status of the Indiana Bat.
 - Activities of the wetlands working group.
 - Objectives and status of the Fill Placement Optimization Process.
 - Progress of the Cumulative Hydrologic Impact Assessment.
 - Underground Injection Control Authorization status.
 - List of the 2010 Commissioner's Award for Excellence in Mining Reclamation.
 - Green River Conservation Reserve Program.

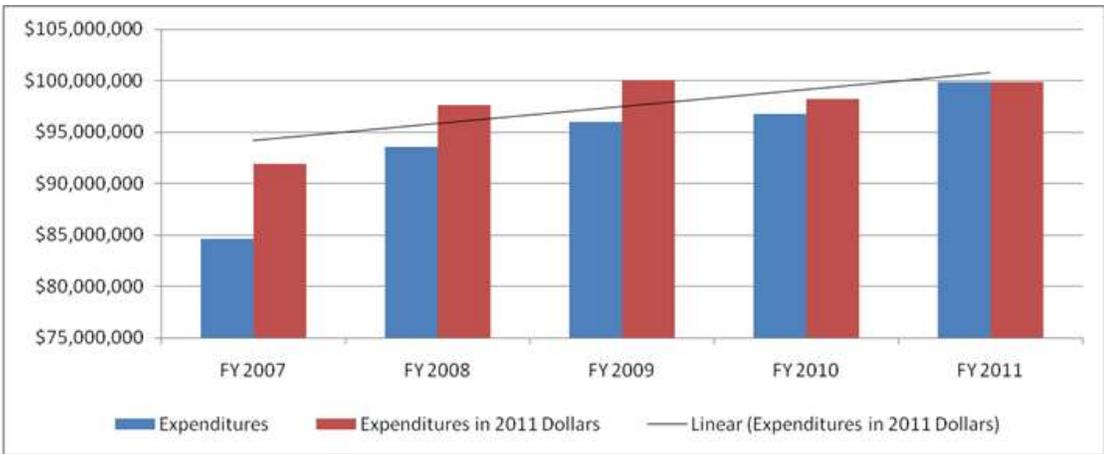
By the Numbers – Budget and Personnel Data

The following constitutes additional budget information and provides data as to DNR expenditures by class (categories) by funds and by unit.





This chart also appears in the Annual Report at page 5.



Authorized Positions

	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>
DNR Commissioner's Office	3	3	10	11	11	11
Division of Technical and Administrative Support	16	16	8	8	9	9
Forestry	225	225	201	201	188	188
Conservation	26	26	24	24	23	23
Mine Reclamation and Enforcement	185	185	186	185	185	185
Mine Permits	101	100	89	105	102	102
Abandoned Mine Lands	80	94	94	94	94	94
OMSL	7	7	12	12	12	12
Safety Inspection and Licensing	80	80	97	112	110	110
Safety Analysis Training and Certification	47	47	65	65	65	65
Explosives and Blasting	9	9				
Investigation	6	5				
Oil and Gas	29	29	25	26	26	26
Total DNR	814	826	811	843	825	825
Mine Safety Review Commission				1	1	1
	814	826	811	844	826	826

Full Time Filled Positions

	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
DNR Commissioner's Office	3	2	10	11	10
Division of Technical and Administrative Support	15	13	8	9	8
Forestry	212	193	199	188	186
Conservation	25	23	23	22	22
DNR-Bond Pool	1	1	1	1	1
Mine Reclamation and Enforcement	177	166	157	185	169
Mine Permits	90	85	77	102	96
Abandoned Mine Lands	73	70	83	94	88
OMSL	6	6	10	12	11
Safety Inspection and Licensing	77	72	85	97	96
Safety Analysis Training and Certification	46	46	55	65	59
Explosives and Blasting	8	8			
Investigation	5	5			
Oil and Gas	26	26	25	26	26
Total DNR	764	716	733	812	772
Mine Safety Review Commission			0	0	0
	764	716	733	812	772

Acknowledgments

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DOC	Steve Coleman /Kimberly Richardson
KDF	Leah MacSwords / Steve Kull / Diana Olszowy, Stewardship Branchl
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DOG	Kim Collings
OMSL	Johnny Greene / Amy Hislope / Lisa Franklin/ Beth Minch
TAS	Linda Potter
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