



deep

# West Virginia Division of Mining and Reclamation

*Lewis A. Halstead*

Deputy Director

March 31, 2015



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# “Status of West Virginia Mining and Reclamation”



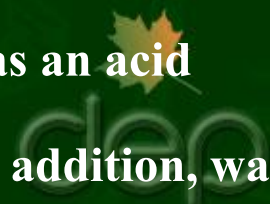
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From the First Surface mine drainage symposium:  
What are the requirements for water quality?

**OSM** requires water from the pond discharge to meet the effluent limits for areas mined after May 3, 1978 regardless of any mitigating circumstances. The effluent limits must be met until final bond release.

**EPA** responds only to citizen complaints and requires that the effluent limits be met until release of the grading bond. Monitoring and lab reports required.

**DNR** requires that no grading bond will be released which has an acid discharge (pH less than 6.0) regardless of any circumstances. In addition, water quality must meet the effluent limits without treatment to qualify for grading



What's happened in the last year?



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# Senate Bill 357



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(22-3-13(b)(11) With respect to surface disposal of mine wastes, tailings, coal processing wastes and other wastes in areas other than the mine working excavations: (A) Stabilize all waste piles in designated areas through construction in compacted layers, including the use of noncombustible and impervious materials if necessary, and assure the final contour of the waste pile will be compatible with natural surroundings and that the site will be stabilized and revegetated according to the provisions of this article; and (B) assure that the construction of any coal waste pile or other coal waste storage area utilizes appropriate technologies, such as capping or the use of liners, or any other demonstrated technologies or measures which are consistent with good engineering practices, to prevent an acid mine drainage discharge;



# contemporaneous reclamation

22-3-13(b)(26) The director shall promulgate for review and consideration by the West Virginia Legislature legislative rules or emergency rules during the 2016 Regular Session of the West Virginia Legislature, revisions to rules for

**contemporaneous reclamation** as required under subdivision (16), subsection (b) of this section. The secretary shall specifically consider the adoption of federal standards codified at 30 C. F. R. §§816.100-116 (1983) and 30 C. F. R. §§817.100-116 (1983) when proposing revisions to the state rule.



# Inactive Status

22-3-19(f) The secretary shall promulgate for review and consideration by the West Virginia Legislature legislative rules or emergency rules during the 2016 Regular Session of the West Virginia Legislature revisions to rules for granting **inactive status** under this article. The secretary shall Enr. Com. Sub. for S. B. No. 357] 22 specifically consider the adoption of federal standards codified at 30 C. F. R. §816.131 (1979) and 30 C. F. R. §817.131 (1979).



## ARTICLE 11. WATER POLLUTION CONTROL ACT.

### §22-11-6. Requirement to comply with standards of water quality and effluent limitations

(2) For purposes of both this article and sections 309 and 505 of the federal Water Pollution Control Act, compliance with a permit issued pursuant to this article shall be deemed compliance for purposes of both this article and sections 301, 302, 303, 306, 307 and 403 of the federal Water Pollution Control Act and with all applicable state and federal water quality standards, except for any such standard imposed under section 307 of the federal Water Pollution Control Act for a toxic pollutant injurious to human health. Notwithstanding any provision of this code or rule or permit condition to the contrary, water quality standards themselves shall not be considered “effluent standards or limitations” for [Enr. Com. Sub. for S. B. No. 357 the purposes of both this article and sections 309 and 505 of the federal Water Pollution Control Act and shall not be independently or directly enforced or implemented except through the development of terms and conditions of a permit issued pursuant to this article. Nothing in this section, however, prevents the secretary from modifying, reissuing or revoking a permit during its term. The provisions of this section addressing compliance with a permit are intended to apply to all existing and future discharges and permits without the need for permit modifications; and

# Hardness Based Aluminum

(7) Within thirty days of the effective date of this section, the secretary shall promulgate an emergency rule revising the statewide aluminum water quality criteria for the protection of aquatic life to incorporate aluminum criteria values using a hardness-based equation. Concurrent with issuing an emergency rule, the secretary shall also submit the proposed revisions and supporting documentation to the administrator of the Environmental Protection Agency.





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION III  
1650 Arch Street  
Philadelphia, Pennsylvania 19103-2029

January 30, 2014

Mr. Scott G. Mandirola, Director  
Division of Water and Waste Management  
West Virginia Department of Environmental Protection  
601 57<sup>th</sup> Street, SE  
Charleston, West Virginia 25304

Dear Mr. Mandirola:

Thank you for soliciting EPA's views on the West Virginia Department of Environmental Protection (WVDEP) proposed revision of statewide aluminum water quality criteria for the protection of aquatic life. As you may know, EPA is in the process of updating the existing Clean Water Act Section 304(a) criteria recommendations for aluminum. EPA's updated criteria will reflect consideration of the latest scientific information on aluminum toxicity, including new data on mussels' sensitivity and pH effects on aluminum toxicity.

EPA encourages West Virginia to monitor the latest research and any updates to EPA's 304(a) aluminum criteria in order to ensure that West Virginia's criteria are based on sound scientific rationale and are protective of aquatic life. As such, WVDEP should consider whether the proposed criteria are protective of mussels in West Virginia, as well as appropriately take into consideration potential pH interactions with aluminum toxicity, as well as hardness. EPA believes the results of the on-going research on aluminum toxicity will provide valuable information to aid West Virginia in development of an appropriate statewide aluminum criteria revision.

EPA reviewed West Virginia's proposed revisions to the aluminum criteria in 47CSR2 "Requirements Governing Water Quality Standards," and provided comments on July 29, 2013, asking West Virginia to consider a list of the latest studies on aluminum toxicity to aquatic life. EPA also shared West Virginia's revisions with the U.S. Fish and Wildlife Service (USFWS), who provided comments on July 19, 2013, expressing concerns regarding aluminum toxicity to mussel species, including federally listed endangered mussels, in West Virginia and citing two studies on impacts to

# EPA letter/USFWS comments

- Mussels sensitivity and pH effects on aluminum toxicity



While permits shall contain conditions that are designed to meet all applicable state and federal water quality standards and effluent limitations, water quality standards themselves shall not be incorporated wholesale either expressly or by reference as effluent standards or limitations in a permit issued pursuant to this article.





**§22-11-22a. Civil penalties and injunctive relief; civil administrative penalties for coal mining operations.**





# OSM



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# REG 8

|  |   |                            |
|--|---|----------------------------|
|              | U S DEPARTMENT OF THE INTERIOR<br>OFFICE OF SURFACE MINING<br>RECLAMATION AND ENFORCEMENT | Subject Number:<br>REG-8   |
|  | <b>DIRECTIVES<br/>SYSTEM</b>  | Transmittal Number:<br>967 |
|  |   | Date:<br>1-31-11           |
| Subject: Oversight of State and Tribal Regulatory Programs                                   |   |                            |
| Approval:  | Title: Director   |                            |

1. **Purpose.** This Directive and its appendices establish policies, procedures and responsibilities for conducting oversight of state and tribal regulatory programs. This Directive applies to all Office of Surface Mining Reclamation and Enforcement (OSM) organizational units and personnel involved in oversight of state and tribal regulatory programs starting with Evaluation Year 2011.
2. **Summary of Changes.** Extensive changes have been made to update information, clarify policy and procedures, and improve the readability and format of the Directive. Significant substantive changes include:
  - a. Underscoring the fundamental purpose of oversight;
  - b. Specifically addressing corrective action of issues and problems identified during oversight;
  - c. Specifying that the Oversight Steering Committee will be convened as needed by the Director/Deputy Director to exchange views and information to the implementation and results of oversight policies, standards and procedures and/or discuss national oversight review topics;
  - d. Clarifying that state permitting procedures and state-issued permits could be reviewed as part of oversight;
  - e. Clarifying inspection types and site selection and specifying independent inspections;
  - f. Enhancing outreach for both planning oversight and reporting results, including use of the Internet for information availability, dissemination, and notifications;
  - g. Adding a new hydrologic reclamation measurement to Reclamation Success to indicate how well streams are restored or replaced by mining and reclamation and specifying that contemporaneous reclamation and stream protection measures should be periodically evaluated as part of the Reclamation Success National Measurement Elements;
  - h. Enhancing Performance Agreement/Evaluation Plan format and content guidelines and establishing a schedule for preparation;

# •REG 8

Outlines the Office of Surface Mining and Reclamation oversight of State and Tribal Regulatory Mining Programs



- 2014 OSM Annual Report for West Virginia

- [www.osmre.gov](http://www.osmre.gov)
- Customer Service-AVS
- Off-Site Impacts- The total number of sites free of off-site impacts for 2014 was 87%
- Reclamation Success-granted 52 Phase III bond release totaling 5,420 acres


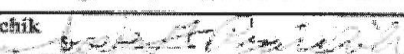


# Other

- The State conducted 21,135 inspections and issued 835 enforcement actions.
- OSMRE conducted a total of 273 inspections
- **Impoundment Inspections:** OSMRE continued the emphasis on a more in-depth review of slurry impoundments. Thirteen (13) impoundment inspections were conducted.



# REG 23

|   |  |                            |
|---|--|----------------------------|
|                                  | U.S. DEPARTMENT OF THE INTERIOR<br>OFFICE OF SURFACE MINING<br>RECLAMATION AND ENFORCEMENT<br><b>DIRECTIVES</b><br><b>SYSTEM</b> | Subject Code:<br>REG-23    |
|   |  | Transmittal Number:<br>966 |
|   |  | Date:<br>7-31-11           |
| Subject: Corrective Actions for Regulatory Program Problems and Action Plans                                      |  |                            |
| Approval: Joseph G. Pizarchik  |  | Title: Director            |

1. **Purpose.** This Directive provides corrective action procedures that apply when the Office of Surface Mining Reclamation and Enforcement (OSM) identifies problems with a state's or tribe's approved regulatory program, or the state's or tribe's actions under that program, that could, if left unaddressed, result in a failure by the state or tribe to effectively implement, administer, enforce, or maintain its approved regulatory program. The Directive also provides transparency to the corrective action process.

2. **Summary of Changes.** This Directive reinstates, revises, and renames previous Directive REG-23, "Development and Implementation of Action Plans," which was rescinded on July 26, 1996, in Transmittal Number 846, "Rescission of Directives." This Directive, "Corrective Actions for Regulatory Program Problems and Action Plans," includes strategies to correct Regulatory Program Problems and procedures to follow when a state or tribe fails to meet the terms of an Action Plan. In addition, the Directive clarifies and delineates OSM's roles and responsibilities in reporting and correcting Regulatory Program Problems.

3. **Definitions.**

a. **Action Plan.** A detailed schedule of specific measures to be taken to resolve Regulatory Program Problems identified during OSM's oversight of a state or tribal regulatory program.

b. **Regulatory Program Problem.** An issue identified during OSM's oversight of a state or tribal regulatory program that could result in a failure by the state or tribe to effectively implement, administer, enforce, or maintain all or any portion of its approved regulatory program, including a state's or tribe's failure to adopt and implement program amendments that are required under 30 CFR Part 732 and 30 CFR Subchapter T.

4. **Policy.**

States and tribes with approved regulatory programs are required to implement, administer, enforce, and maintain those programs in accordance with the Surface Mining Control and Reclamation Act of 1977 (SMCRA), OSM's implementing regulations, and the provisions of the approved program. This Directive provides procedures for Field Office Directors (FODs) to follow when they identify Regulatory Program Problems, as defined above. The principal focus

# REG 23

Provides corrective action procedures that apply when OSM identifies problems with a state's approved regulatory program or actions under that program, if left unaddressed, result in a failure by the state of effectively implement its approved regulatory program.

- ▶ **Enter into an Action Plan**



# Action Plan


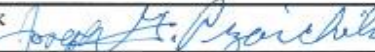
## Slurry Impoundment Breakthrough Potential:

➤ During EY 2012, the CHFO Completed a Study of Breakthrough Potential at Slurry Impoundments in West Virginia

## Monitoring Underground Coal Mining

➤ Draft Guidance Manual for Monitoring Underground Coal Mining-CFO has determined that, due to the importance of this matter, an action plan will be proposed in EY2015 to bring this subject to completion.

# INE-35

|   |   |                            |
|---|---|----------------------------|
|                                  | <b>U.S. DEPARTMENT OF THE INTERIOR<br/>OFFICE OF SURFACE MINING<br/>RECLAMATION AND ENFORCEMENT</b><br><br><b>DIRECTIVES<br/>SYSTEM</b> | Subject Number:<br>INE-35  |
|   |   | Transmittal Number:<br>968 |
|   |   | Date:<br>1-31-11           |
| Subject: Ten-Day Notices  |   |                            |
| Approval: Joseph G. Pizarchik  | Title: Director   |                            |

1. **Purpose.** This directive establishes policy and procedures for the issuance of ten-day notices (TDNs) to state and tribal regulatory authorities (RAs), the evaluation of RA responses to those notices, and informal review of Field Office Director determinations with respect to those responses.

The Office of Surface Mining Reclamation and Enforcement's (OSM's) TDN regulations are set forth at 30 CFR 842.11 and 843.12. In general, absent an imminent danger or harm scenario, OSM must issue a TDN to an RA when it has reason to believe a violation exists or when, on the basis of a Federal inspection, it determines that a violation exists (and OSM has not issued a previous TDN for the same violation). OSM must conduct a Federal inspection or reinspection, as appropriate, when, in response to a TDN, the RA fails to take appropriate action to cause the violation to be corrected or to show good cause for failure to do so. See 30 CFR 842.11(b)(1) and 843.12(a)(2).

On July 14, 1988 (53 FR 26728), OSM published amended Federal inspection and enforcement regulations that established a uniform standard for evaluation of RA responses to TDNs. Under that standard, which appears in 30 CFR 842.11(b)(1)(ii)(B)(2), OSM will accept an RA response to a TDN as constituting appropriate action to cause a violation to be corrected or good cause for failure to do so unless the RA has acted in a manner that is arbitrary, capricious, or an abuse of discretion under the approved regulatory program. The rule also identifies measures that would constitute appropriate action [see 30 CFR 842.11(b)(1)(ii)(B)(3)] and circumstances under which the RA would have good cause for not taking appropriate action [see 30 CFR 842.11(b)(1)(ii)(B)(4)]. Finally, the rule establishes a process by which an RA may request informal review of a Field Office Director's determination that the RA failed to take appropriate action in response to a TDN or show good cause for failing to do so. See 30 CFR 842.11(b)(1)(iii). Since promulgation of the rule, OSM has issued two versions of this directive and three change notices, all of which have been rescinded.

2. **Summary of Changes.** This is a new directive.

3. **Definitions.**

a. **Appropriate action,** as provided under 30 CFR 842.11(b)(1)(ii)(B)(3), means enforcement or other action authorized under the approved regulatory program to cause a violation to be corrected.

# 733 petition



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**National Wildlife Federation**  
Northeast Regional Center  
149 State Street  
Montpelier, VT 05602  
802.552.4325 (James Murphy Direct)  
jmurphy@nwf.org

**SENT VIA EMAIL AND FIRST CLASS MAIL**

June 24, 2013

Joseph Pizarchik  
Director  
Office of Surface Mining Reclamation and Enforcement  
1951 Constitution Avenue, N.W.  
Washington, D.C. 20240  
Email: Director\_Pizarchik@osmre.gov

**RE: Section 733 Petition Seeking Termination of West Virginia's Approved SMCRA Program and the Immediate Implementation and Promulgation of a Federal Regulatory Program**

Dear Director Pizarchik:

Pursuant to 30 U.S.C. § 521(b) and 30 C.F.R. § 733.12, please find enclosed a Section 733 petition seeking termination of West Virginia's approved Surface Mining Control and Reclamation Act program and the immediate implementation and promulgation of a Federal regulatory program, along with Appendices. This petition is filed by eighteen concerned organizations, listed in the petition. Also enclosed is a CD-ROM containing several documents supporting the petition.

As required by 30 C.F.R. § 733.12(a)(2), we expect a response within sixty days.

**APPALACHIAN CATHOLIC WORKER;  
APPALACHIAN VOICES;  
CATHOLIC COMMITTEE OF APPALACHIA;  
CENTER FOR BIOLOGICAL DIVERSITY;  
CENTER FOR HEALTH, ENVIRONMENT & JUSTICE;  
CHRISTIANS FOR THE MOUNTAINS;  
COAL RIVER MOUNTAIN WATCH;  
EARTHJUSTICE;  
KEEPER OF THE MOUNTAINS FOUNDATION;  
LEAGUE OF WOMEN VOTERS OF WEST VIRGINIA;  
MOUNTAIN HEALTH AND HERITAGE ASSOCIATION;  
NATIONAL WILDLIFE FEDERATION;  
OHIO VALLEY ENVIRONMENTAL COALITION;  
SIERRA CLUB;  
WEST VIRGINIA CITIZEN ACTION;  
WEST VIRGINIA ENVIRONMENTAL COUNCIL;  
WEST VIRGINIA HIGHLANDS CONSERVANCY; and  
WEST VIRGINIA RIVERS COALITION**





United States Department of the Interior



OFFICE OF SURFACE MINING  
RECLAMATION AND ENFORCEMENT

Charleston Field Office  
1027 Virginia Street, East  
Charleston, West Virginia 25301

DEC 31 2013

Randy Huffinan, Cabinet Secretary  
West Virginia Department of  
Environmental Protection  
601 57<sup>th</sup> Street, SE  
Charleston, West Virginia 25304

Dear Mr. Huffinan:

Enclosed is a copy of the Office of Surface Mining Reclamation and Enforcement's (OSM) response to the June 24, 2013, petition requesting an evaluation of West Virginia's program under the procedures outlined in 30 CFR 733. We advised the petitioners that 14 of the 19 allegations will not be further evaluated under the 30 CFR 733 procedures. We will review the following remaining five allegations pursuant to 30 CFR Section 733.12(a)(2):

1. WVDEP Fails to Address Potential Flooding Impacts in the Permitting Process with Storm Water Runoff Analysis (SWROA);
2. WVDEP Fails to Issue SMCRA Violations Where National Pollutant Discharge Elimination System (NPDES) Violations Exist;
3. WVDEP Fails to Regulate Selenium Pollution;
4. WVDEP Fails to Properly Define Impacted Areas in Cumulative Hydrologic Impact Analysis (CHIA) Results in Harm to Watersheds; and
5. WVDEP Fails to Require Properly Protective Soil Removal and Reclamation Measures for Mining Sites.

The review and decisions under 30 CFR 733.12(a)(2) are delegated to the Regional Director so the five reviews will be conducted under his authority. We will conduct the evaluations in a manner similar to that provided for under the existing oversight performance agreement between your office and mine. Under that agreement, you have the opportunity to assign team members to each evaluation and work with us to develop a work-plan for management review. We will contact your office shortly for participants on the review teams. Additionally, while 14 allegations do not warrant further evaluation under the 30 CFR 733(a)(2) process, several of the areas covered in those allegations are still included as topics in the existing performance agreement.

We anticipate initiating all five evaluations this year, developing a work plan for each but, due to their complex nature, do not expect to complete all in 2014. We will work with the individual



- Storm Water Runoff Analysis(SWROA)
- WVDEP WVDEP Fails to issue SMCRA violations on DMRs. Fails to Regulate Selenium Pollution.
- WVDEP Fails to Properly Define Impacted Areas in Cumulative Hydrologic Impact Analysis (CHIA) Results in Harm to watersheds. Fails to Regulate Selenium Pollution.
- WVDEP Fails to Require Properly Protective Soil Removal and Reclamation Measures for Mining Sites



# NOI



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MAR 20 2015

Patrick C. McGinley\*  
Attorney at Law  
737 South Hills Drive  
Morgantown, WV 26501  
Phone: 304-552-2631 -Fax: 304-292-9822  
email: pmcginley@igc.org  
\* Bar: Pennsylvania & West Virginia

**NOTICE OF INTENTION TO SUE PURSUANT TO 30 U.S.C. § 1270(a)(2)**

To: Sally Jewell, Secretary of the Interior  
United States Department of the Interior  
18th and C Streets, N.W.  
Washington, D.C. 20240

March 17, 2015

Pursuant to 30 U.S.C. § 1270(b) and 30 C.F.R. § 700.13, Coal River Mountain Watch, Ohio River Valley Environmental Coalition, Inc., West Virginia Highlands Conservancy, Inc., West Virginia Rivers Coalition, Sierra Club, National Wildlife Federation, and Center for Biological Diversity (collectively "the Citizens") notify you that they intend to initiate a civil action against you immediately under Section 520 of the Surface Mining Control and Reclamation Act of 1977, as amended ("SMCRA"), specifically 30 U.S.C. § 1270(a)(2), to compel you to perform acts or duties under SMCRA which are not discretionary with you. Your failure to perform these acts or duties constitutes a violation of SMCRA that immediately affects the Citizens' legal interests so as to allow them to commence their intended action against you immediately upon sending this notice or as soon thereafter as they may file the necessary papers. Alternatively, if (1) any court determines that the Citizens may not commence their intended action against you immediately after providing this notice or (2) the Citizens elect to delay filing their intended action for 60 days from the date of this notice or longer, this notice informs you that the Citizens intend to



# Inspection:

- Frequency
- Scope
- Reporting



# CHIA

- Cumulative Impact Area
  - Anticipated mining



# EPA



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# Petitions to EPA

- Sierra Club and others



# Withdrawal Petitions

petitioned EPA to withdraw W.Va. State programs

- Unlawfully requiring consideration of compliance costs in NPDES permit appeals
- Failing to permit point source discharges from bond forfeiture, AML sites and sites with bond release
- Unlawfully allowing and extending compliance schedules



During Region 3's 2014 States Mining Meeting, four (4) critical areas were identified to be taken up by State and Federal workgroups:

1. Bond Release
2. Bond Forfeiture
3. Reasonable potential analysis
4. Remining



# Bond Release

1. Regulatory analysis of how SMCRA bond release and NPDES post mining requirements align
2. Protection of water quality after bond release
3. Evaluation of sampling requirements under the CWA to monitor compliance with technology and water quality-based effluent limits prior to bond release and assignment of post mining limits





# Bond Forfeiture

1. Examining and developing a watershed permitting approach
2. Utilizing trading and offsets
3. Use of variances



# Reasonable Potential Analysis and Narrative Criteria

1. Determining if new alternatives are available that are sufficiently protective.
2. Deciding which methods that were discussed in guidance can be agreed to for future permits.
3. Establishing options for conducting reasonable potential evaluations using those new alternatives and the previous methods to ensure that permits will include sufficiently stringent limits.
4. Determine data options for determining reasonable potential for new and existing mines.

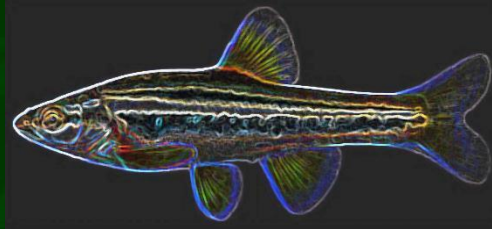


# Remining

1. Provide ground rules for pre-SMCRA remining programs in TMDL watersheds that will lead to more efficient permitting processes
2. Recommendations for permitting remining operations; both new operations and previously unidentified operations in a current TMDL watershed that consider:
  - TMDL revisions that shift LAs to WLAs
  - Shifting of WLAs amongst permittees in a TMDL watershed
  - Water quality trading
  - Permitting offsets



# State-Specific Aquatic Life Criteria for Selenium



- WV Legislature adopted HB2579 during 2013 Regular Session; Effective July, 2013
- Mandates WVDEP to propose new selenium criteria within two years for legislative approval
- Requires implementation of criteria as a threshold standard
- Prescribes a monitoring plan, including water chemistry and fish population studies
- Results of studies to be used by WVDEP to develop state-specific criteria
- Does not change existing criteria in the interim



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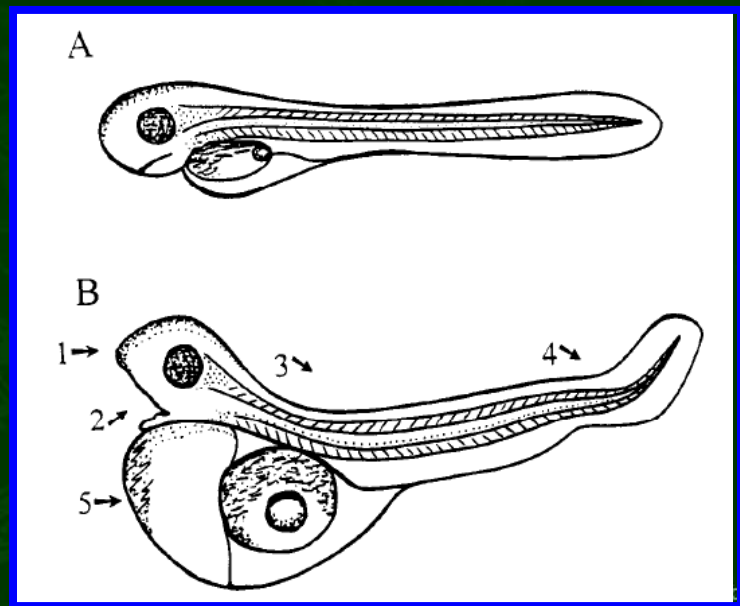


# WV Selenium Study

## Major Components

- 25 monitoring sites
- Water chemistry monitoring and speciation analyses
- Fish tissue monitoring
  - Whole body
  - Egg/Ovary
  - Stomach contents
- Early life stage evaluations
  - Deformity rate determinations
- Data reporting
- Criteria calculation





# Big Sandy Crayfish and Guyandotte River Crayfish

*Cambarus callainus, C. veteranus*

## Crayfish: Important and Fascinating

Crayfishes, including the Guyandotte River and Big Sandy crayfishes, are interesting creatures that play an important role in stream environments by recycling animal and plant matter and serving as food for other wildlife, including sport fish.

Keeping streams healthy for crayfish also benefits people by ensuring clean water for drinking, wading and fishing.

## Appalachian Natives in Decline

Researchers in the early 20th century found these crayfishes across two watersheds connecting Kentucky, Virginia and West Virginia. These areas were just beginning to undergo chemical and physical changes linked to extensive mining, logging and population growth across two watersheds in Kentucky, Virginia and West Virginia.

Today, the Big Sandy crayfish is found in four isolated populations across the three states, and the Guyandotte River crayfish is found at a single site in West Virginia.

Historical and ongoing erosion and sedimentation from mining, timber harvesting, unpaved roads, and off-road

The U.S. Fish and Wildlife Service is reviewing the status of both crayfish species. According to a 2013 settlement agreement with the Center for Biological Diversity, we will complete this review by April 2015 and determine if these species warrant listing under the Endangered Species Act.

The Big Sandy crayfish is state-listed as endangered in Virginia and recognized as a species of special concern in Kentucky. The Guyandotte River crayfish is considered critically imperiled in West Virginia.



*Big Sandy crayfish*

vehicle (ORV) use have made many streams within their historical ranges unsuitable for the crayfishes.

In the future, threats from natural gas extraction, proposed highway construction, and ORV use are expected to increase. Additionally, the small, isolated populations of both species and their inhibited gene flow make them even more vulnerable to extirpation. A single event like a contaminant spill could eliminate an entire population.

## Where Are They?

At about 3-4 inches long, both crayfishes live beneath loose, large boulders in streams and rivers, blending in with their olive-brown to light green shell. Their presence typically indicates good water quality and relatively silt-free, rocky stream bottoms. They live an average 5 to 7 years, and because they don't reproduce until 3 to 4 years of age, their populations can take a long time to rebound.



*An example of ideal habitat for these crayfish. The Dry Fork stream in West Virginia supports a stable Big Sandy crayfish population.*

Zachary Loughman, West Liberty University

Zachary Loughman, West Liberty University



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# Fish and Wildlife Update 2014



- Continue work with USFWS on endangered species consultation for permits using 1996 BO for guidance
- OSM and USFWS developing MOU on the 1996 BO, although guidance document exists; RA's to be updated March 2015
- Changes to Bat Survey methods
- Second increase in level of effort required in last two years for Bat surveys
- Acoustic monitoring has been introduced as a survey method by USFWS
- Proposed listing of Northern Long-eared Bat; decision due April 2015
- USFWS settled lawsuit with CBD and must review 5 species a year from a list of 404 aquatic and aquatic dependent species and consider listing as threatened or endangered





# ARRI Update 2014



Appalachian Regional Reforestation Initiative's (ARRI) Forestry Reclamation Approach (FRA).

- The overall number of SMCRA permits and the acreage approved has declined significantly the last two years approx. 50% of what was permitted in 2012
- 2013 90% to FRA of all permits approved ; 8846 acres to FRA 95.4% all acreage permitted  
3 million trees planted on 5,500 acres
- 2014 73% to FRA of all permits approved ; 5624 acres to FRA 90% all acreage permitted ;  
3 million trees planted on 5,700 acres



- Web site

[www.wvdep.org](http://www.wvdep.org)



WV Department of Environmental Protection - Windows Internet Explorer

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**Inside DEP**  
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**Permitting**  
Narrative Water Quality Permitting Guidance  
e-Permitting/eDMR  
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**How Do I...?**  
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File a FOIA Request  
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**Agency Geospatial Technologies**  
ITO's GIS Unit  
Map Applications  
GIS Data  
[See More](#)

**Events**  
Cabell County Tire Collection  
03/08/2014  
ePermitting and eDMR/eReporting Training  
03/20/2014  
Licensed Remediation Specialist exam set  
03/26/2014  
[See More](#)

Click Here for Chemical Spill Information

**System Upgrade Underway**  
The West Virginia Department of Environmental Protection is undergoing a major overhaul of its electronic data information system. WVDEP's new Integrated Regulatory

**Spotlight**



Done

start iTunes Start Menu IOS Devices for GIS ... Lewis 2012.pptx - Mic... WV Department of En...

Local intranet 100%

11:05 AM

# TAGIS Flex Searchers

The screenshot shows a web browser window titled "Mapping Applications | WVDEP/TAGIS Server - Windows Internet Explorer". The address bar shows the URL "http://tagis.dep.wv.gov/home/Applications". The browser's menu bar includes "File", "Edit", "View", "Favorites", "Tools", and "Help". The search bar contains "WVDEP". The page content features the TAGIS logo and the text "WVDEP Technical Applications and GIS Unit". A navigation menu includes "APPLICATIONS", "REPORTS", "GIS DATA", "MAP SERVICES", "CONTACT", and "DEP HOME". The main content area is titled "Mapping Applications" and includes a "Recent" sidebar with links to "site usage", "Mine Near Kanawha State Forest", and "LIDAR data downloads available". The main text describes the geospatial applications and lists three tools: "Coordinate Conversion Tool", "Mining Data Explorer", and "Oil and Gas Permit Locations". The Windows taskbar at the bottom shows the Start button, several open applications, and the system clock displaying "11:07 AM".

Mapping Applications | WVDEP/TAGIS Server - Windows Internet Explorer

http://tagis.dep.wv.gov/home/Applications

File Edit View Favorites Tools Help

Google WVDEP Search Share More

Sign In

Favorites Suggested Sites Web Slice Gallery

Mapping Applications | WVDEP/TAGIS Server

Page Safety Tools

**TAGIS**  
WVDEP Technical Applications and GIS Unit

APPLICATIONS REPORTS GIS DATA MAP SERVICES CONTACT DEP HOME

Home / Mapping Applications

## Mapping Applications

The following geospatial applications allow access to WVDEP environmental data using only an Internet connection and a web browser.

Applications are organized on the web page based on frequency of use. The applications are developed using ESRI's Flex and Javascript API's running on the Agency's ArcGIS Server cluster.

### Coordinate Conversion Tool

This application allows it's user to input location based on either latitude and longitude, UTM or state plan coordinates. It then allows the user to convert these values.

Coordinate Conversion Tool

### Mining Data Explorer

This applications allows the users to look at information dealing with water based datasets that are released after being tested through out the state of West Virginia.

Mining Data Explorer

### Oil and Gas Permit Locations

This application uses Oil and gas permit information and production data available to the general public through this internet service free of charge. These oil and gas related data are originated from the information reported to the Office of Oil and Gas by WVDEP.

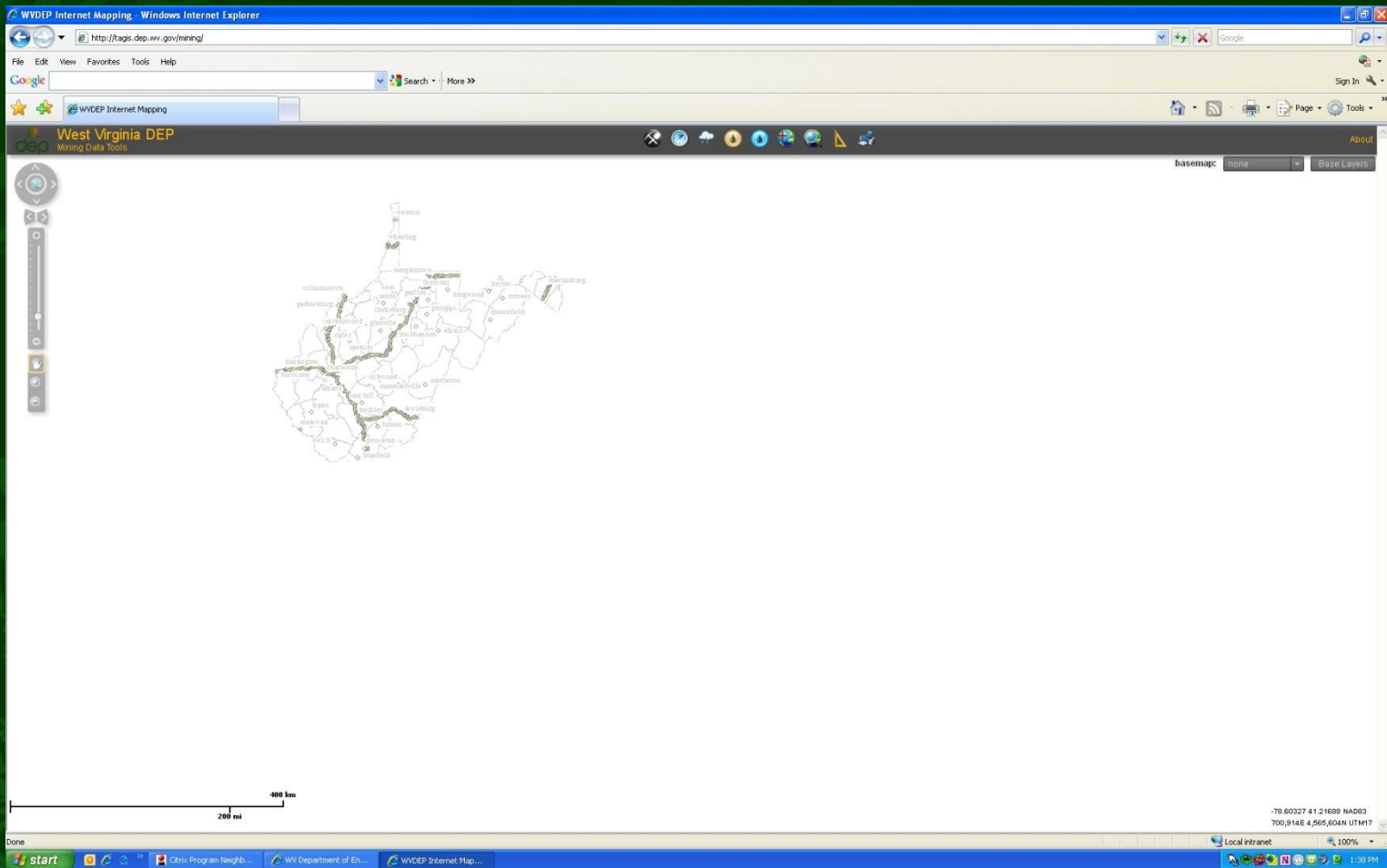
Recent

- site usage
- Mine Near Kanawha State Forest
- LIDAR data downloads available

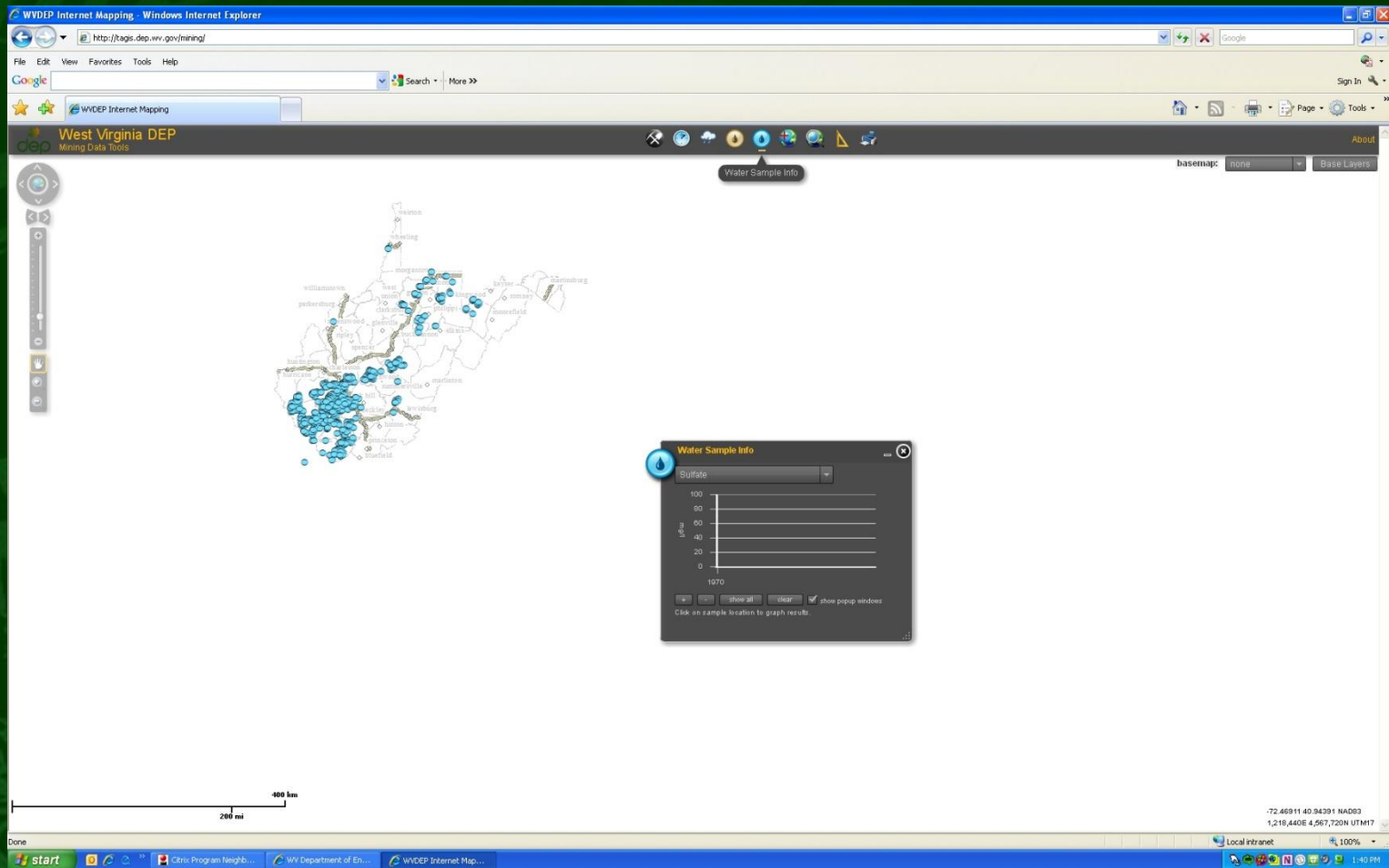
Local Intranet 100%

start iTunes Start Menu IOS Devices for GIS ... Lewis 2012.pptx - Mc... Mapping Applications ... 11:07 AM

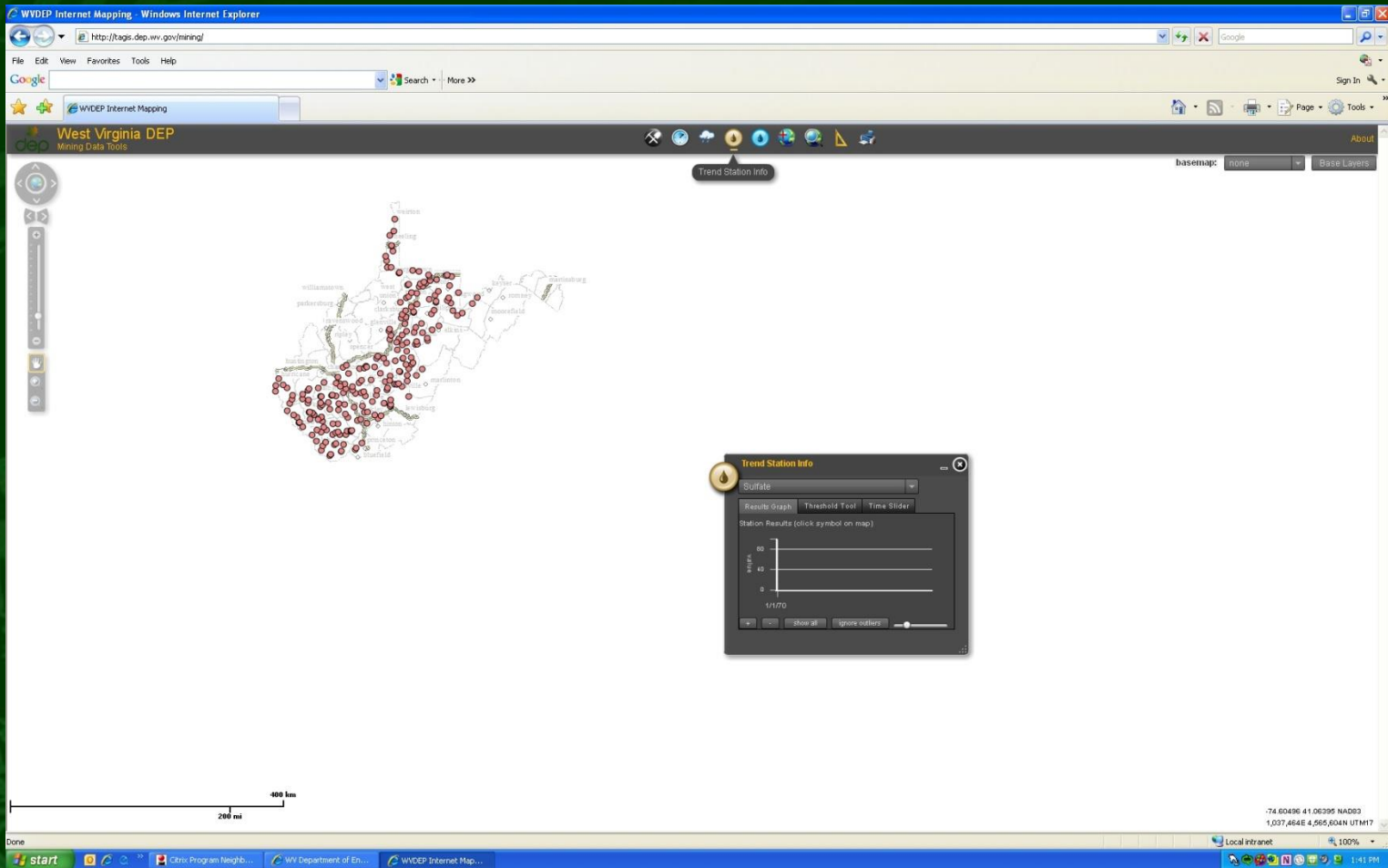
# Mining Data Explorer



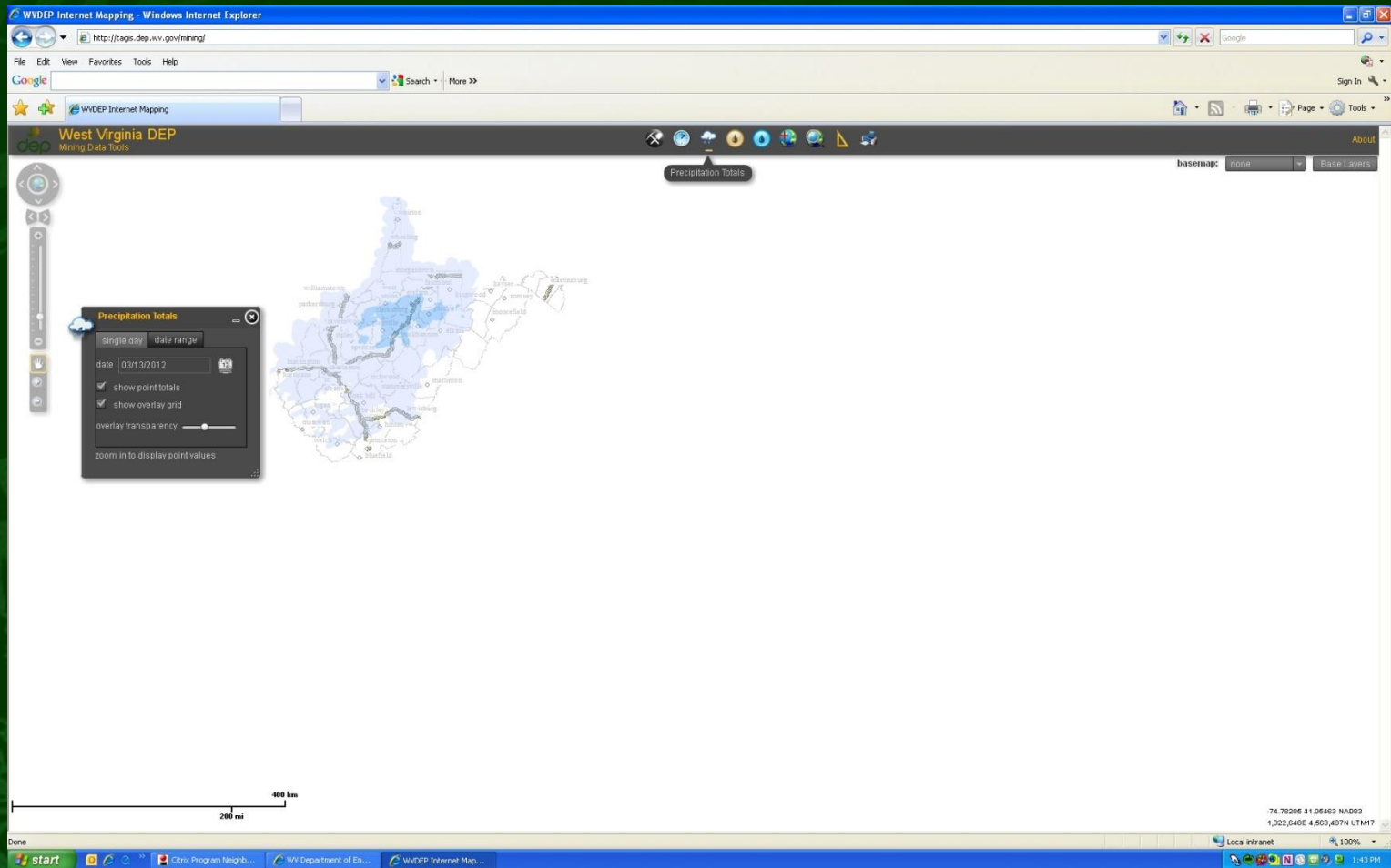
# EQUIS Art III Water Quality Data



# Trend Station Data

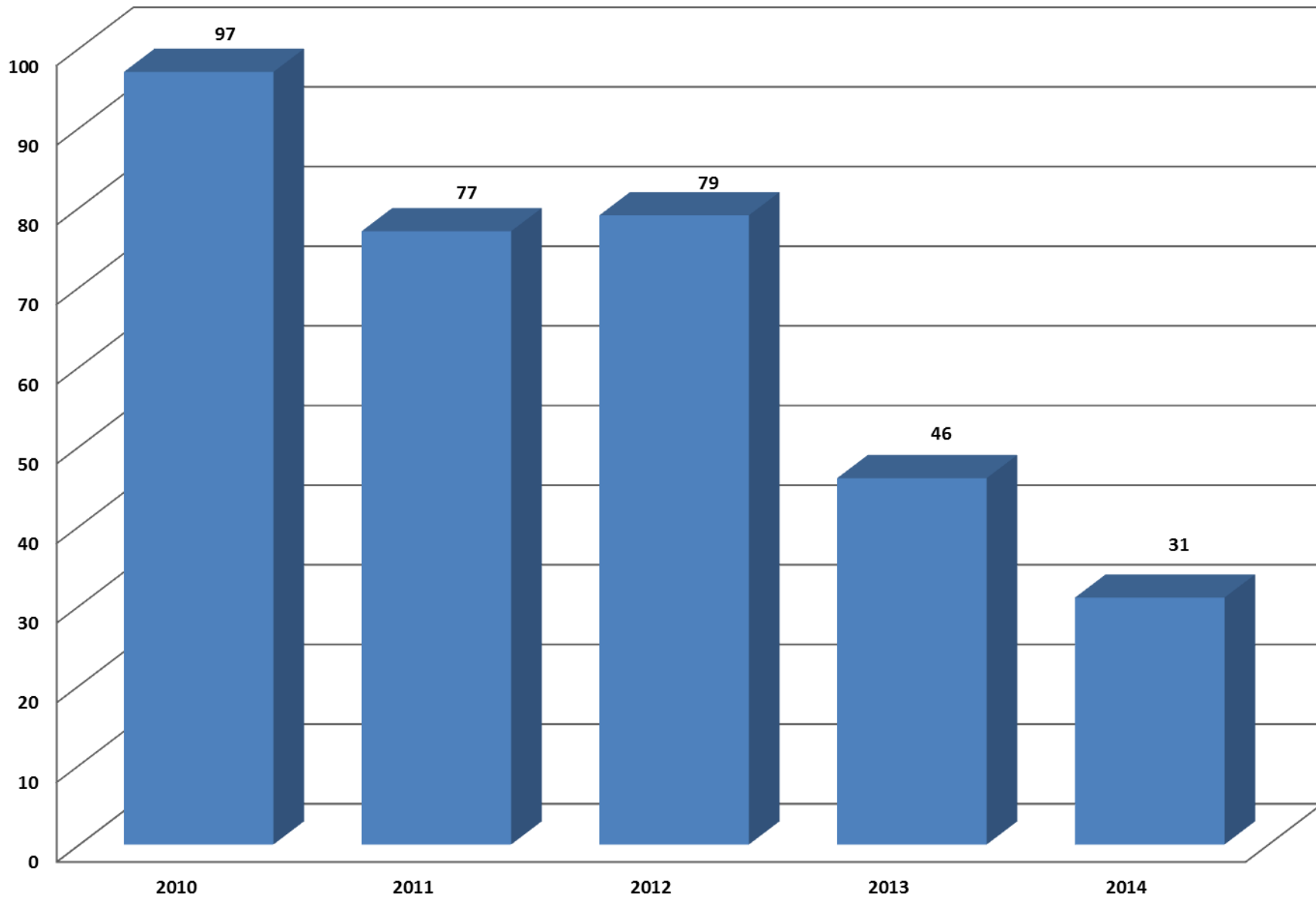


# NexRAD Rainfall Data March 13<sup>th</sup> 2012

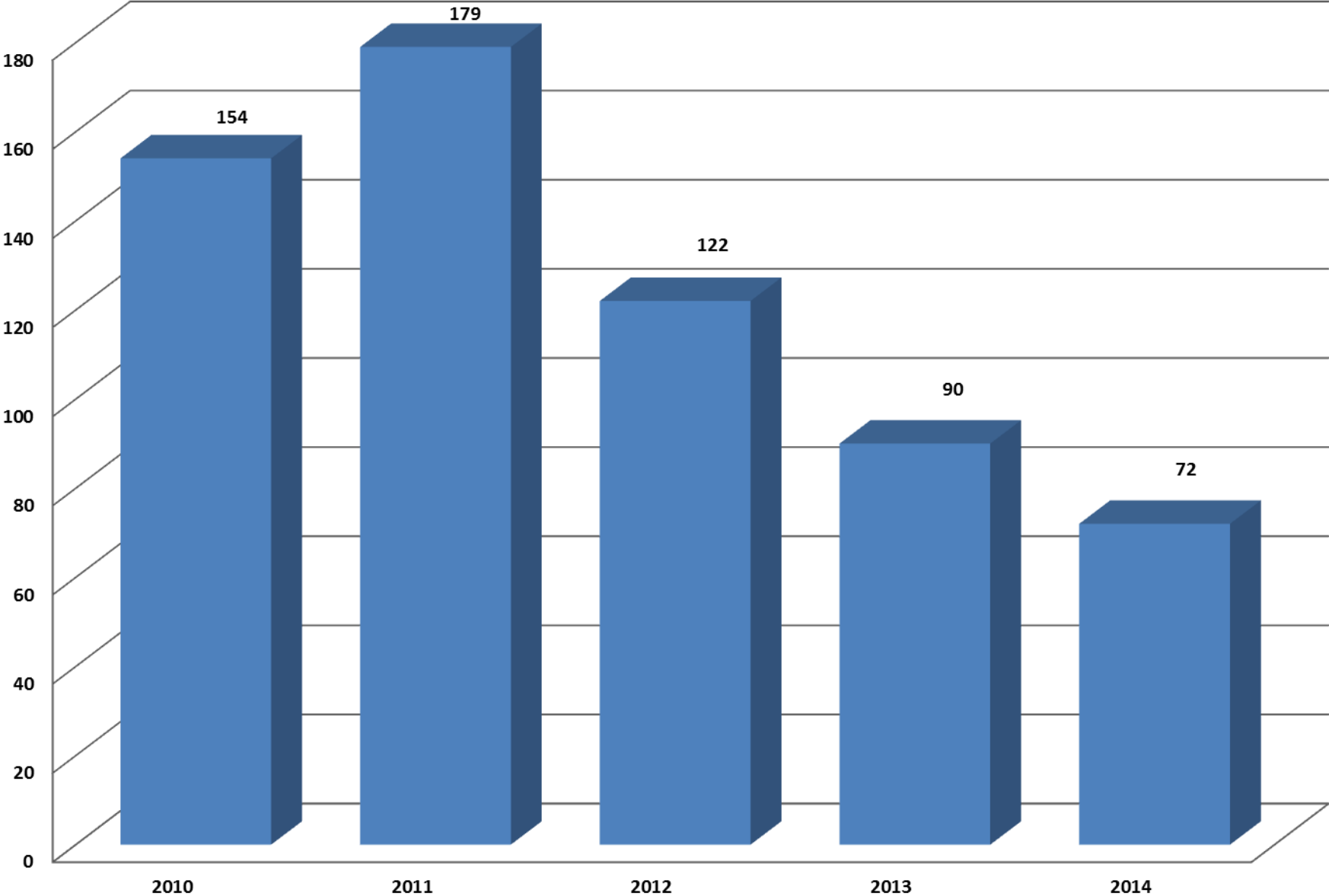




## Mining Submitted - New Permit and Amendment Applications

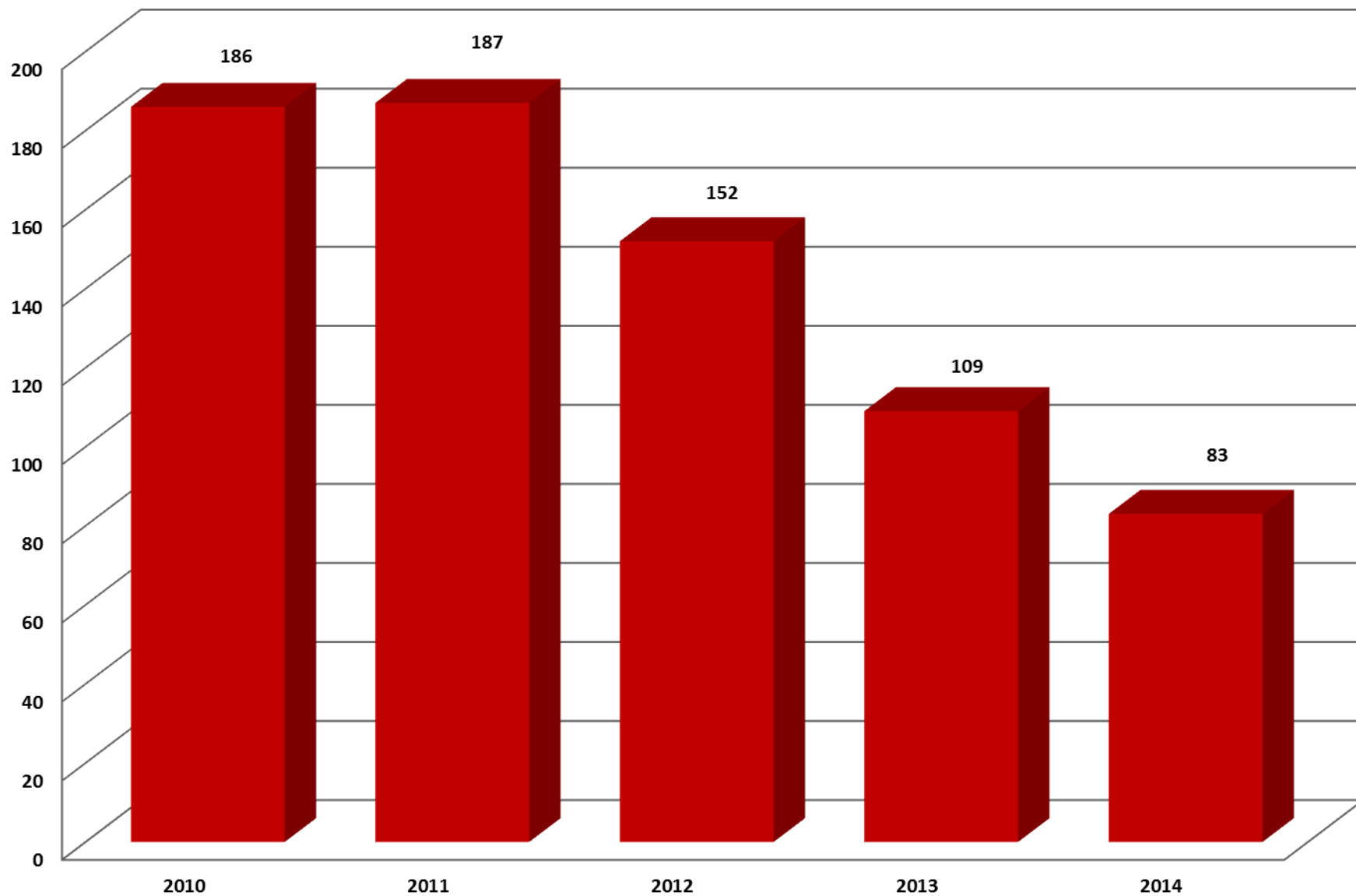


# Mining Submitted - Prospect Applications

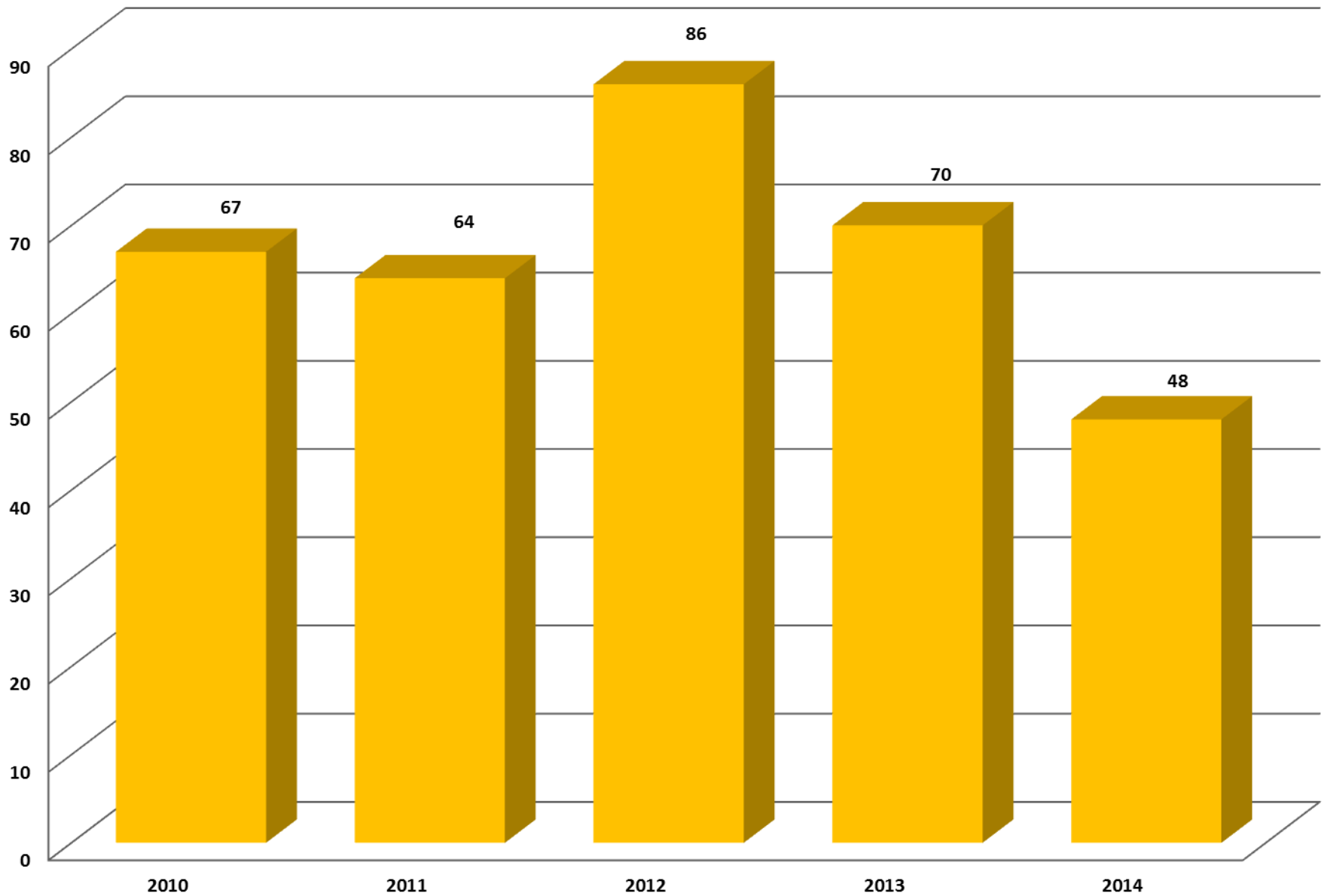


# Mining Pending - New Permit and Amendment Applications

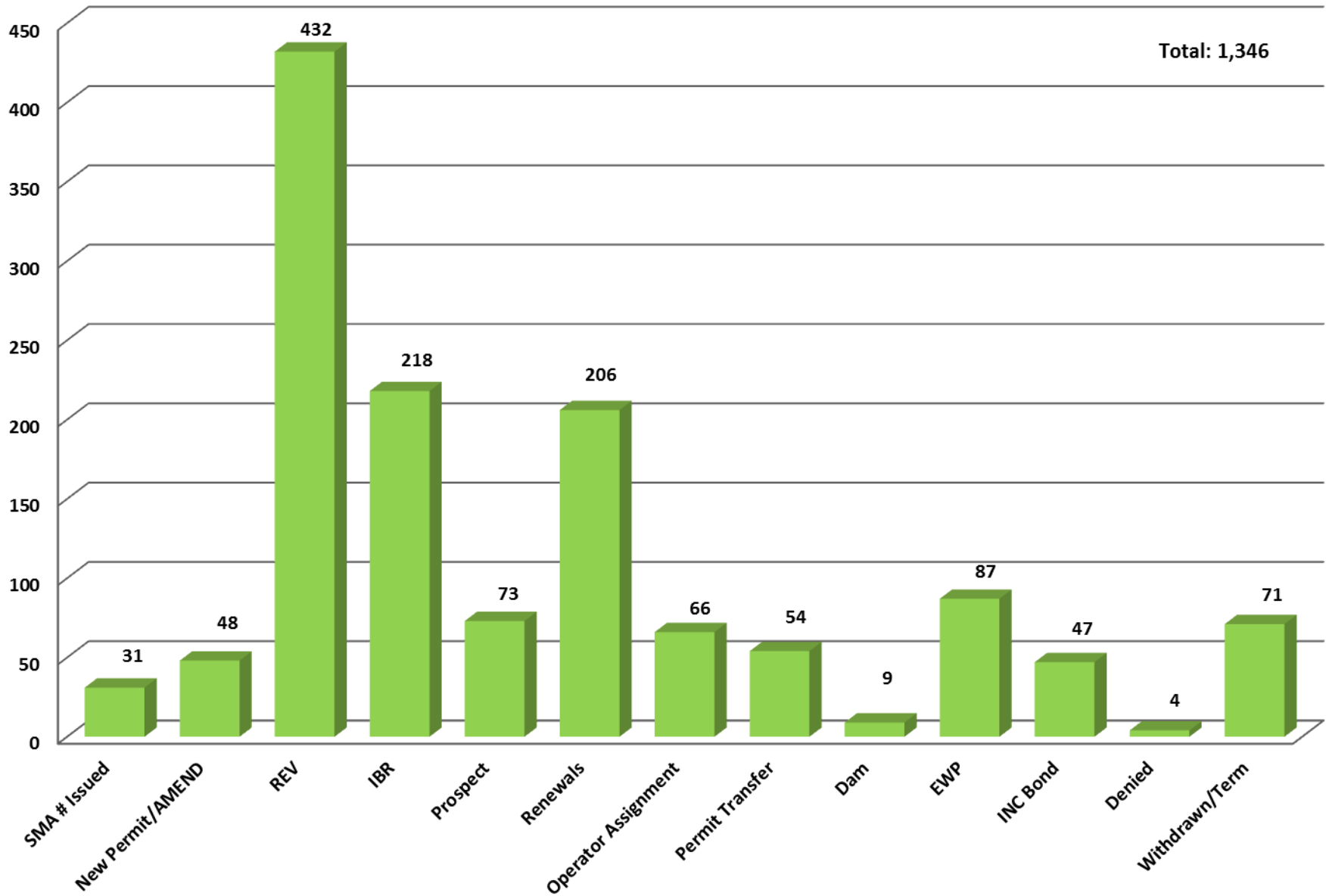
end of year



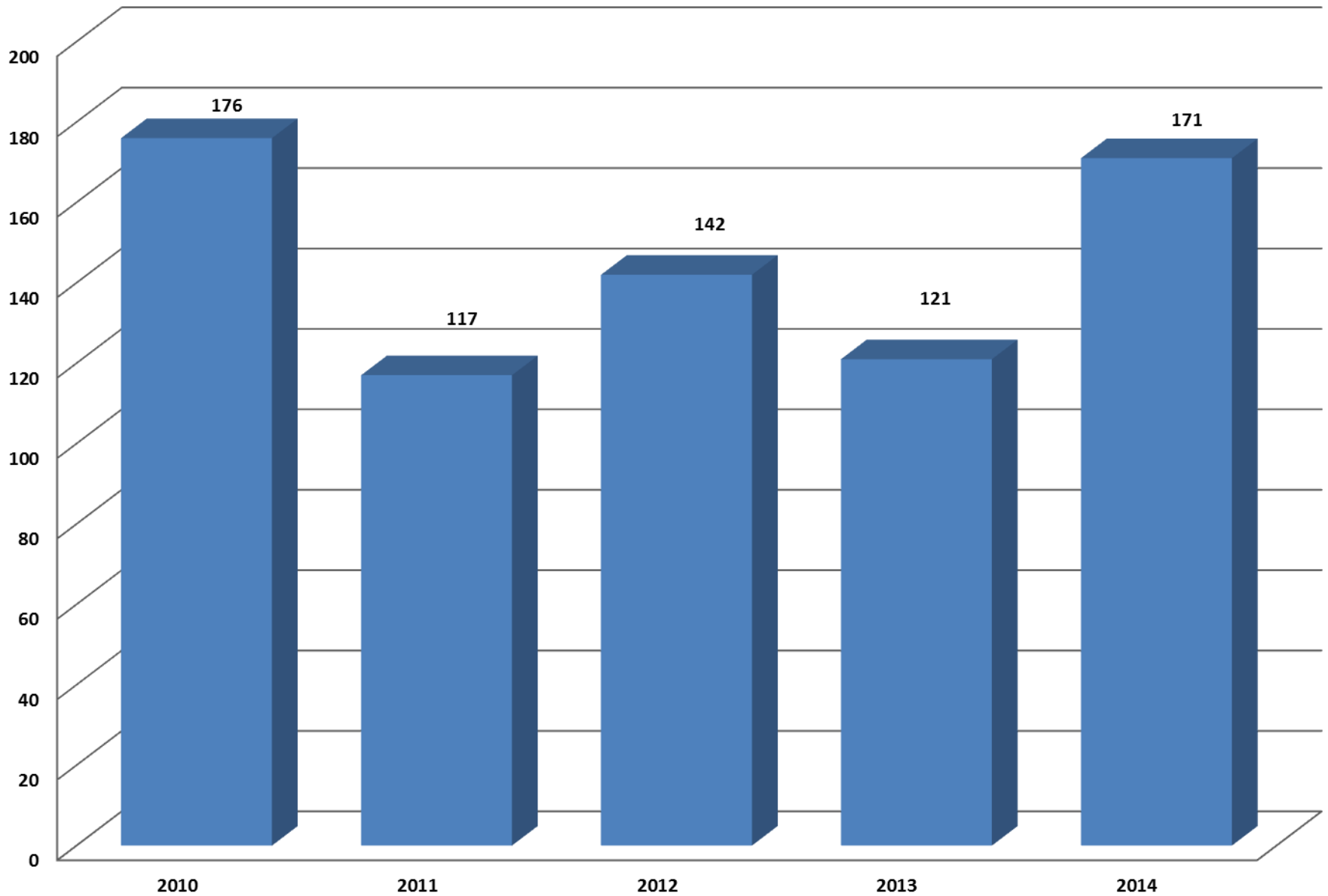
## Mining Issued - New Permit and Amendment Applications



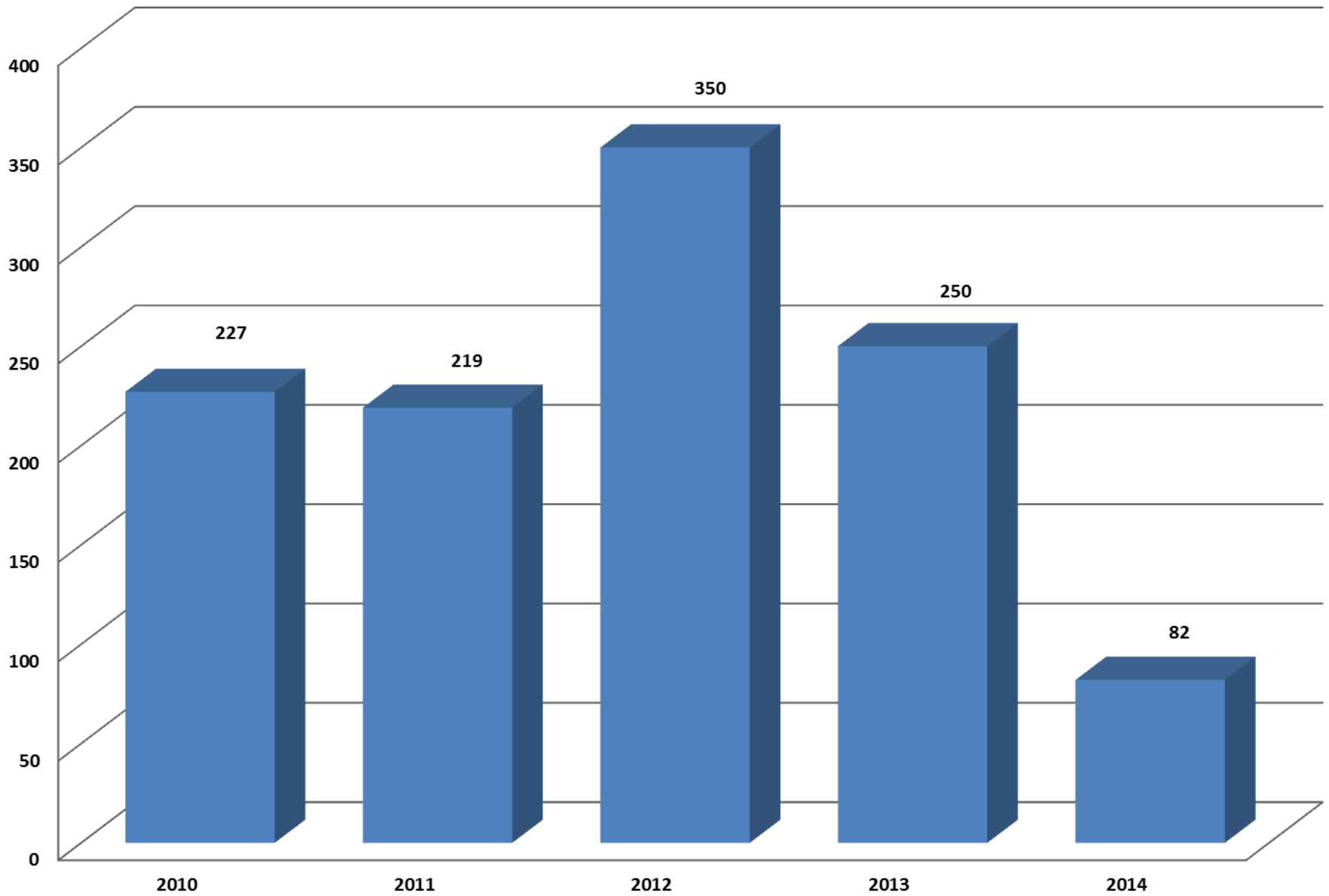
# Mining Actions by Type Statewide 2014



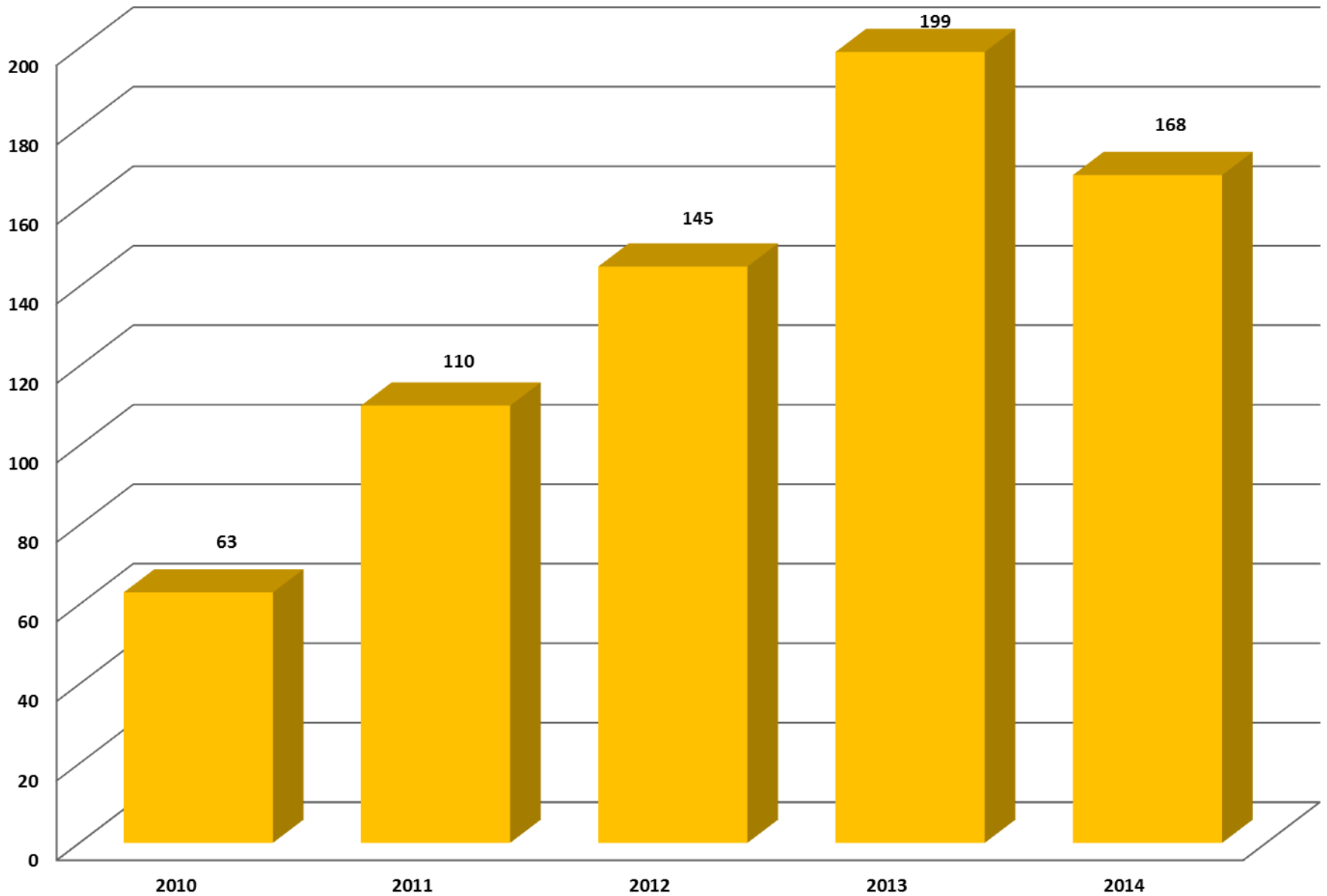
## NPDES Submitted - New Permit and Major Modification



## NPDES Submitted - Reissuance

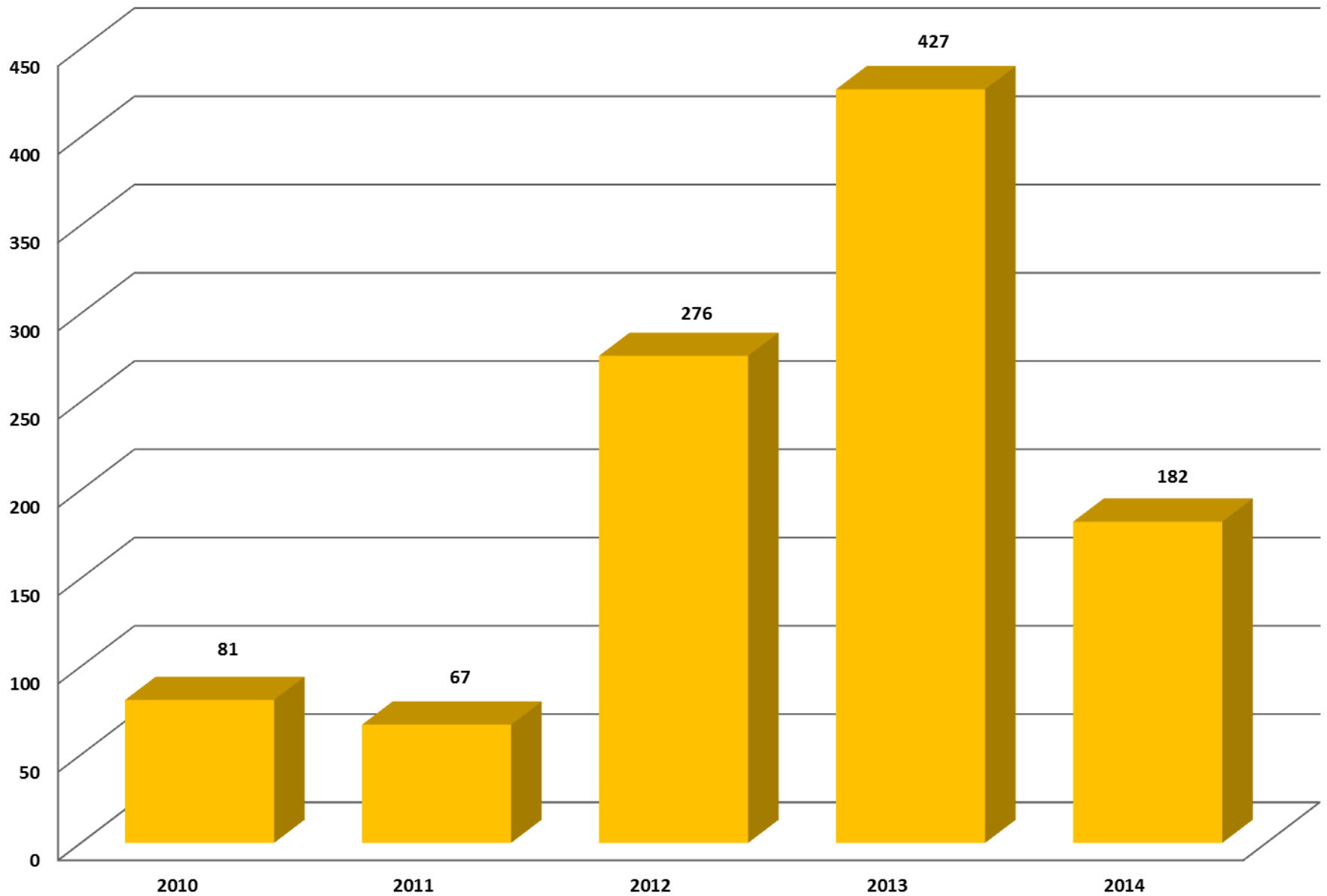


## NPDES Issued - New Permit and Major Modification





## NPDES Issued - Reissuance



# FOIAs

**DEP processed 1,800+ FOIA requests in 2014.**



MARCH 18, 2015 CHARLESTON, WEST VIRGINIA

WEDNESDAY

PARTLY CLOUDY HIGH: 48 LOW: 29

DETAILS, 9A



# Charleston Gazette

THE STATE NEWSPAPER — OUR 142ND YEAR

wvgazette.com



## State to look at mining, illness

DEP, Public Health to  
review possible risks

By Ken Ward Jr.  
Staff writer

The Tomblin administration said Tuesday that it would initiate an evaluation of the growing body of studies that have

mental protection  
ment



# THANKS



west virginia department of environmental protection  
*Promoting a Healthy Environment*