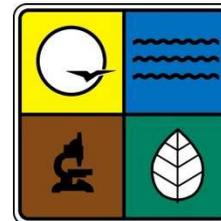


# Clean Water Activities & Expenditures

---

Clean Water Fees Stakeholder  
Meeting

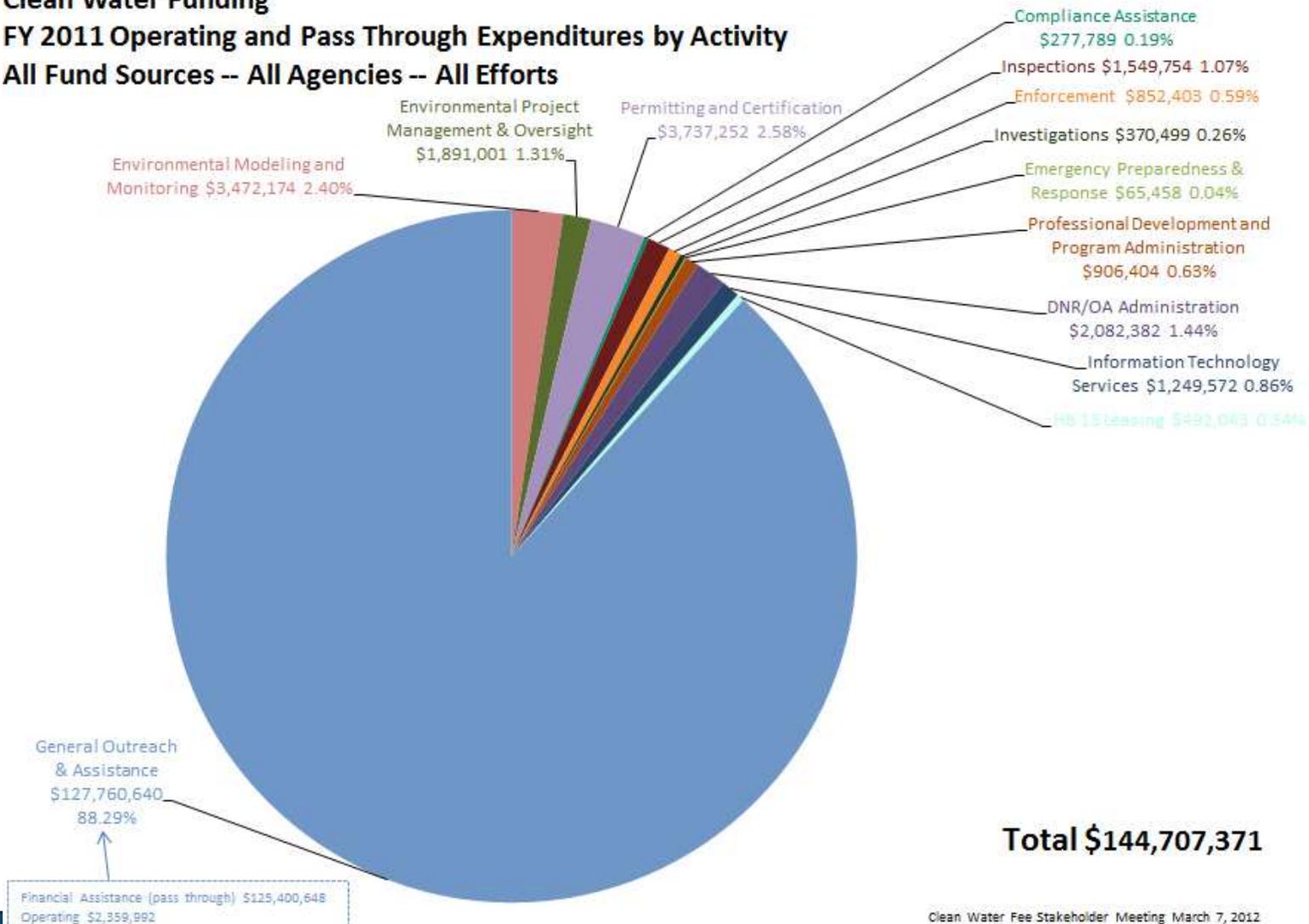
03/07/2012



**MISSOURI**  
DEPARTMENT OF  
NATURAL RESOURCES

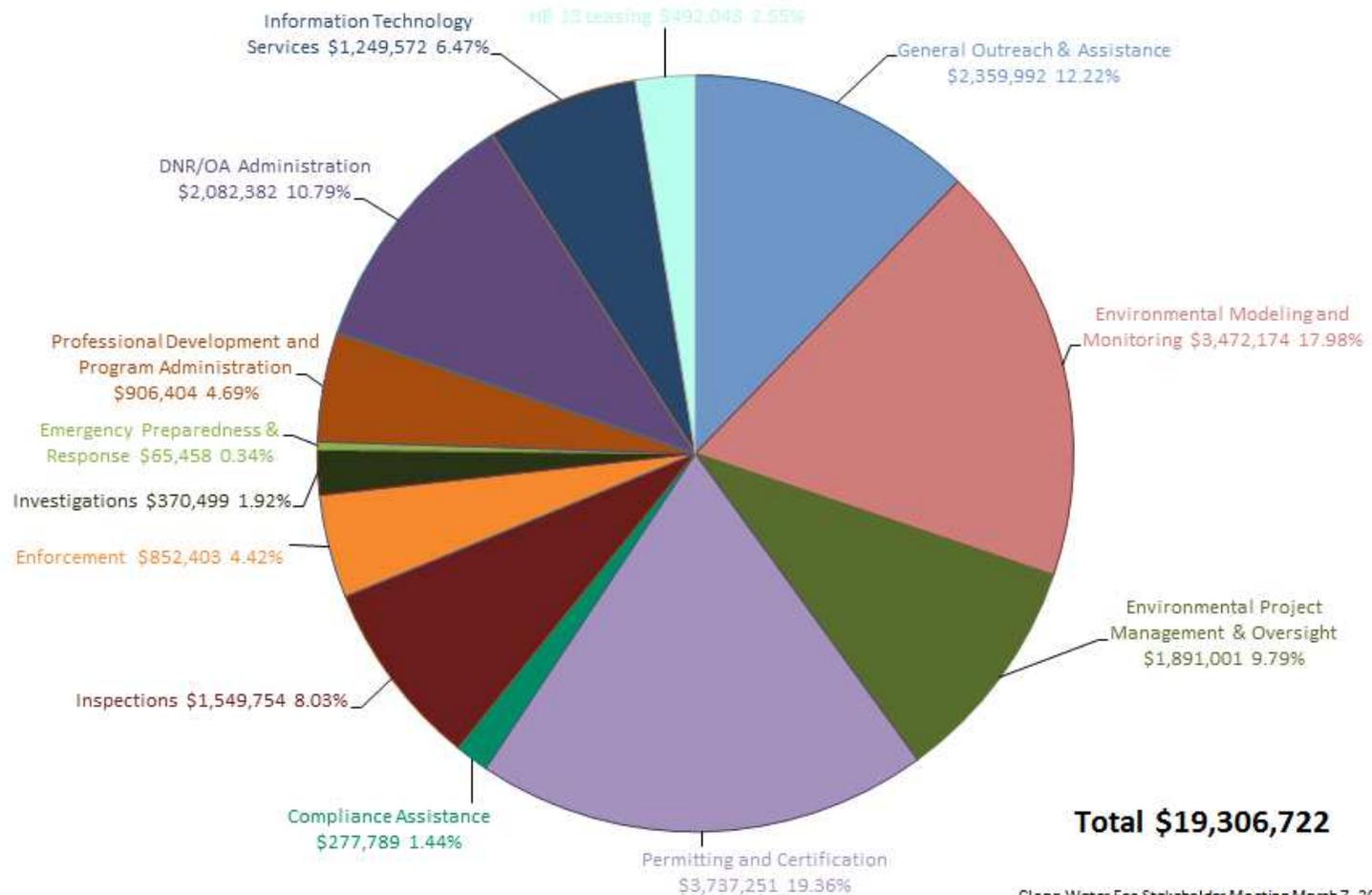
# Missouri Department of Natural Resources

## Clean Water Funding FY 2011 Operating and Pass Through Expenditures by Activity All Fund Sources -- All Agencies -- All Efforts



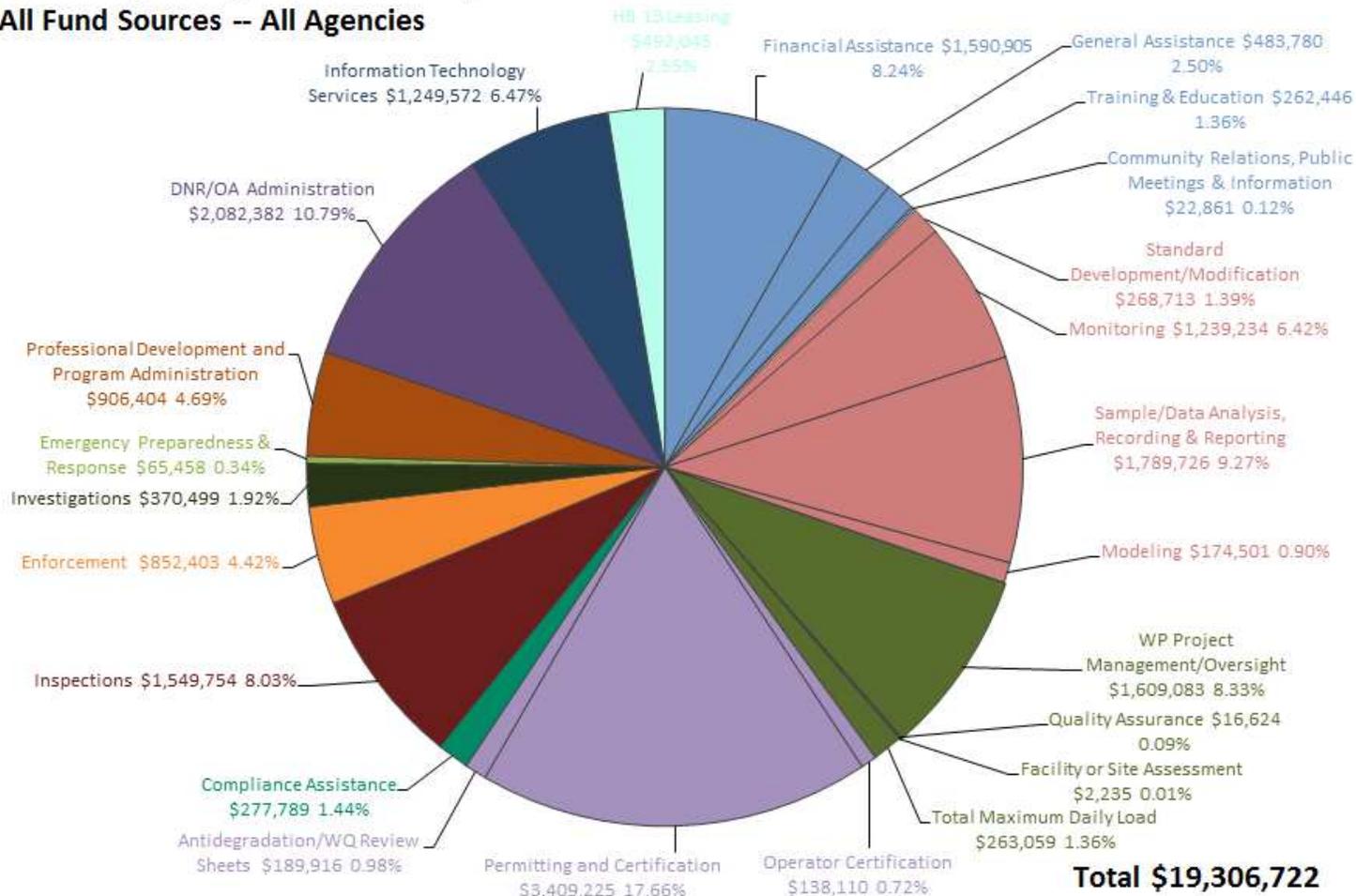
# Missouri Department of Natural Resources

## Clean Water Funding FY2011 Operating Expenditures by Activity (excludes Pass Through) All Fund Sources -- All Agencies



# Missouri Department of Natural Resources

## Clean Water Funding FY 2011 Operating Expenditures by Service All Fund Sources -- All Agencies

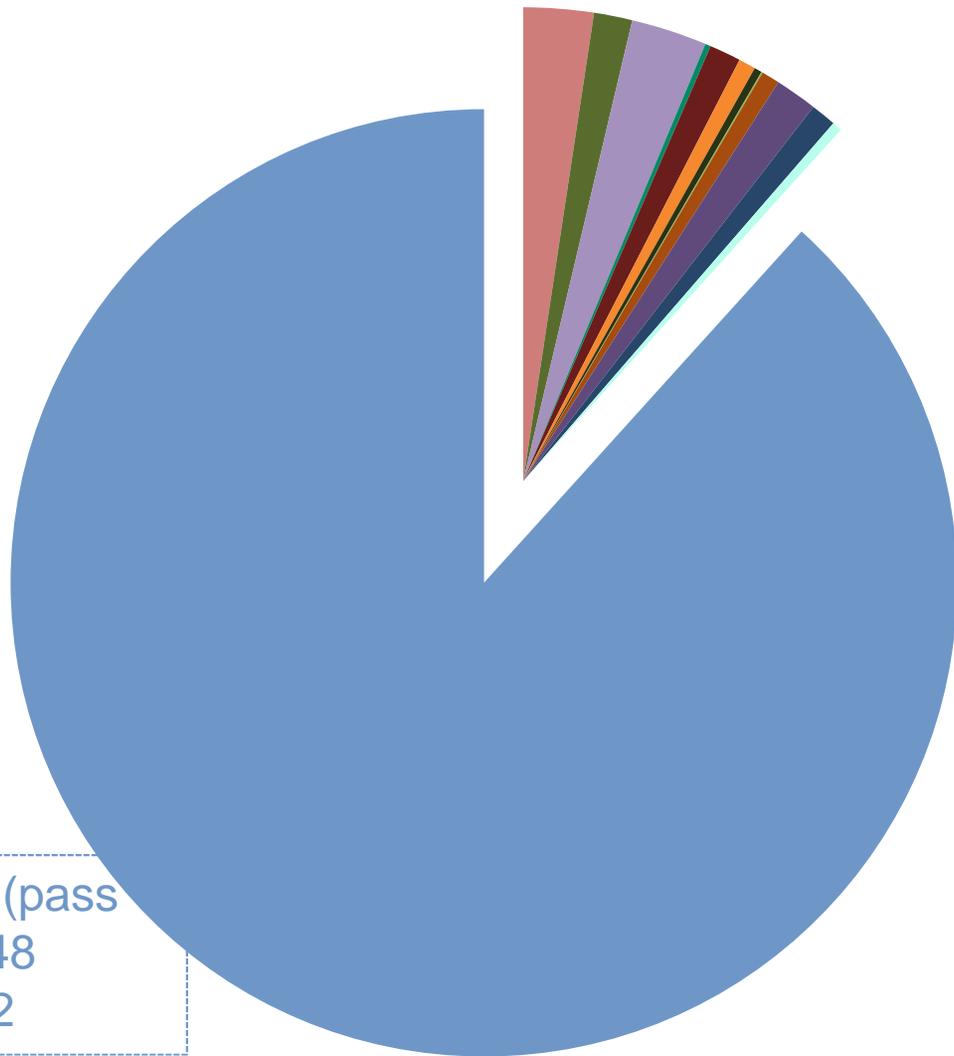


Clean Water Fee Stakeholder Meeting March 7, 2012

# General Outreach and Assistance

General  
Outreach  
& Assistance  
\$127,760,640  
88.29%

Financial Assistance (pass  
through) \$125,400,648  
Operating \$2,359,992



# General Outreach and Assistance



Financial Assistance



General Assistance

Community Relations and  
Public Engagement



Training and  
Education

# Financial Assistance – Wastewater Infrastructure

- Gravois Arm Sewer District
- Rural Sewer Grants and 40% Construction Grant
- More than \$1.39M for treatment plant and collection system



The bottom line: From 1989 through FY2011 the Department has provided \$2.1 billion to Missouri communities

## Financial Assistance – Nonpoint Source

- Dardenne Creek Watershed Alliance – multiple small funding streams
- 319 grant for over \$51k to implement NPS projects and outreach
- Fine sediment deposition decreased 25%
- 6 mile segment de-listed from 303(d) list for inorganic sediment



The bottom line: Since 1989, the Department has awarded more than \$51M in 319 Nonpoint Source Implementation grants to address water quality issues in Missouri

## General Outreach and Assistance – General Assistance

- DNR worked with local businesses to install storm water control adjacent to Lake Taneycomo
- Removed 75-80% of pollutants
- Ensure greater protection of a local economic driver and trophy trout fishing area



The bottom line: When DNR works with the public and businesses, Missourians win

# General Outreach and Assistance

## Training & Education – Missouri Stream Team

- Working partnership with citizens
- Encourage education, stewardship and advocacy
- 3,672 active stream teams and 1,109 water quality monitoring trips in 2010



The bottom line: During 2010 Stream Teams reported over 146,000 volunteer hours to help protect Missouri's water quality

# General Outreach and Assistance

## Training & Education

- Participation in environmental field trips
- Hands-on service learning projects
- In 2011, 678 7<sup>th</sup> graders participated in Missouri DNR Camp and DNR Expo

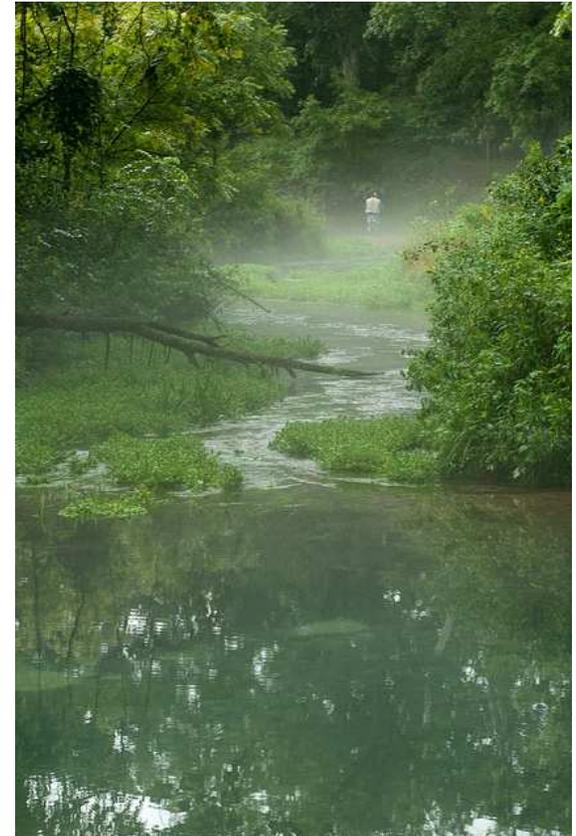


The bottom line: Education outreach allows us to connect kids to water quality at a local level

## General Outreach and Assistance

### Community Relations and Public Engagement

- Stakeholder engagement is crucial to our success
- We actively engage our partners in formal settings and upon request for specific issues
- Time investment to prepare for, conduct and follow-up on stakeholder meetings



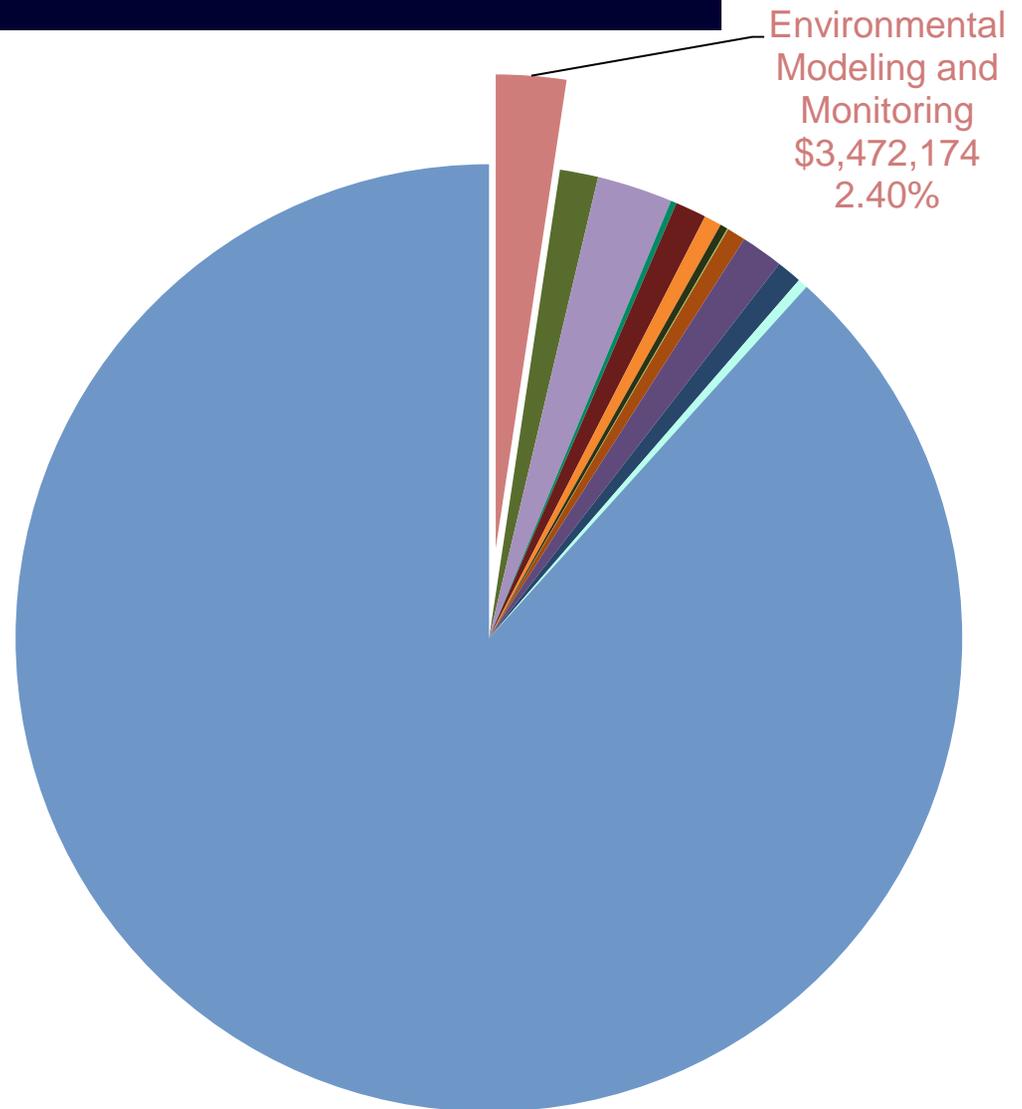
The bottom line: DNR actively works with and engages our partners

## General Outreach and Assistance – Requirements

	Federal Statute – Clean Water Act 33 U.S.C. §1251 et seq.	Federal Regulations – 40 CFR	State Statutes	State Regulations
<b>GENERAL OUTREACH &amp; ASSISTANCE</b>				
Financial Assistance	Sections 201 – 221, 319  (33 U.S.C. §1281 - §1301, §1329)	40 CFR Parts 31, 35	644.101 – 644.124 RSMo	10 CSR 20-4
General Assistance	NA	NA	NA	NA
Training & Education	NA	NA	NA	NA
Community Relations and Public Engagement	NA	NA	NA	NA

# Environmental Modeling & Monitoring

- Standards Development and Modification
- Monitoring
- Sample and Data Analysis
- Modeling



## Standards Development and Modification

- Protect waters for fishing, swimming, boating, irrigation and other uses
- Heavy stakeholder involvement from creation through regulation



The bottom line: Water Quality Standards help protect Missouri's 186,000 stream miles and nearly 300,000 lake acres

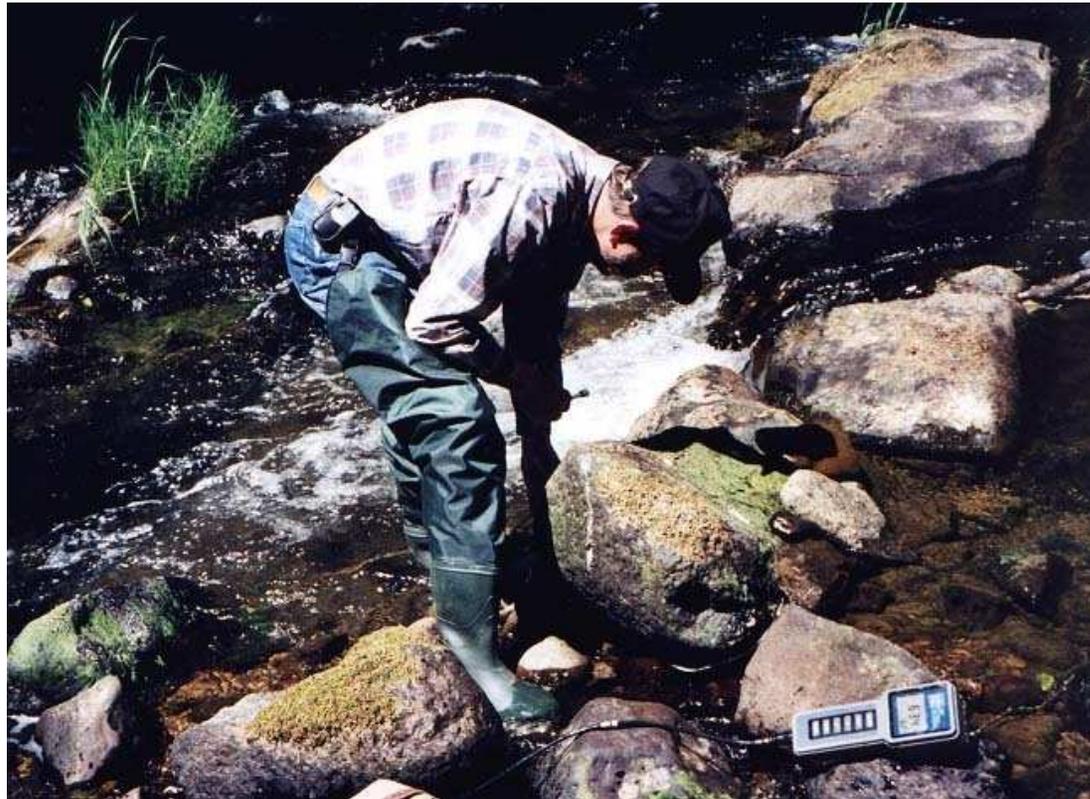
# Standards Development and Modification - Flexibility

- Empire Electric
  - Variance
  - Site specific criteria
- Metropolitan St. Louis Sewer District
  - Mississippi River UAA
- City of Blue Springs
  - Site specific criteria



The bottom line: We work with facilities to achieve compliance with WQS

# Monitoring and Sample/Data Analysis



The bottom line: Water quality monitoring provides crucial information to protect Missouri's lakes and streams

# Modeling

- Can provide relief from effluent limits in some situations
- Permit and TMDLs models help ensure permit holders know requirements to meet Water Quality Standards
- Developing load reduction models to support 319 projects



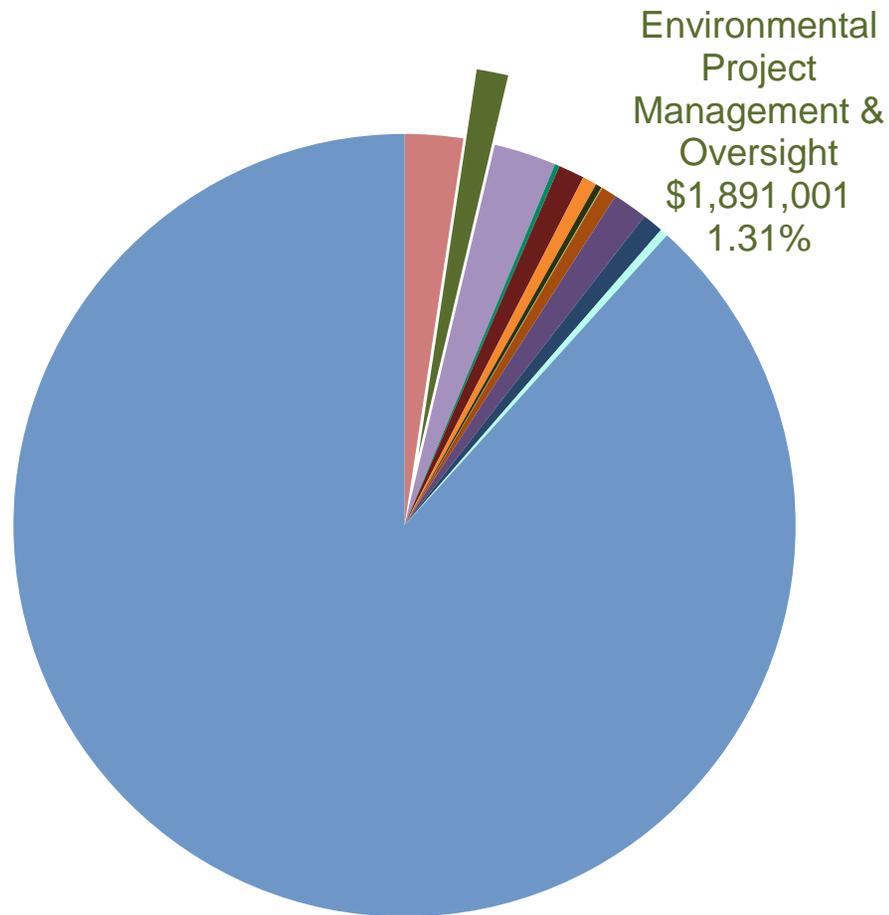
The bottom line: Water Quality modeling is an effective tool to help make water quality decisions

## Environmental Modeling and Monitoring Requirements

	Federal Statute – Clean Water Act 33 U.S.C. §1251 et seq.	Federal Regulations – 40 CFR	State Statutes	State Regulations
<b>ENVIRONMENTAL MODELING AND MONITORING</b>				
Standards Development & Modification	Section 303 (33 U.S.C. §1313)	40 CFR Part 131	644.026, 644.036 RSMo	10 CSR 20-7.031
Monitoring	Sections 303, 305 (33 U.S.C. §1313, §1315)	40 CFR Parts 122, 130, 131	644.026 RSMo	10 CSR 20-7.015 10 CSR 20-7.031 10 CSR 20-7.050
Sample and Data Analysis	Sections 303, 305 (33 U.S.C. §1313, §1315)	40 CFR Parts 122, 130, 131	644.026, 644.036 RSMo	10 CSR 20-7.015 10 CSR 20-7.031 10 CSR 20-7.050
Modeling	Sections 303, 305, 316, 319, 401, 402 (33 U.S.C. §1313, §1315, §1326, §1329, §1341, §1342)	40 CFR Parts 122, 130, 131	644.026 RSMo	10 CSR 20-7.015 10 CSR 20-7.031 10 CSR 20-7.050

## Environmental Project Management and Oversight

- Water Pollution Project Management & Oversight
- Quality Assurance
- Facility or Site Assessment
- TMDL Development



# State Revolving Fund Project Management

- Review applications and assign priority
- Intended Use Plan on public noticed and approved by the CWC
- Assist recipients to ensure successful project implementation
- Construction monitored regularly
- After construction, staff monitoring financial capability to meet debt obligations



The bottom line: DNR works with recipients to ensure project success and that debt obligations are paid back to the State Revolving Fund

# Nonpoint Source & Water Quality Planning Project Management

Project Manager assisting  
Marines planting a  
demonstration rain  
garden for Operation  
Brightside in St. Louis



The bottom line: Non point source project managers help ensure effective and innovative solutions

## Quality Assurance

- Sampling and analysis methods
- QAPP review for funded projects



## Facility/Site Assessment

- Initial phase of projects
- Ensure in compliance with department design criteria

*Photo courtesy of sewerhistory.org*



The bottom line: DNR ensures consistent standards are met for project implementation

# TMDL Development

- 30 mile segment of Courtois Creek impaired for lead, zinc, metals
- Reduced invertebrate species diversity
- Can affect human health through fish consumption
- TMDL approved in 2010

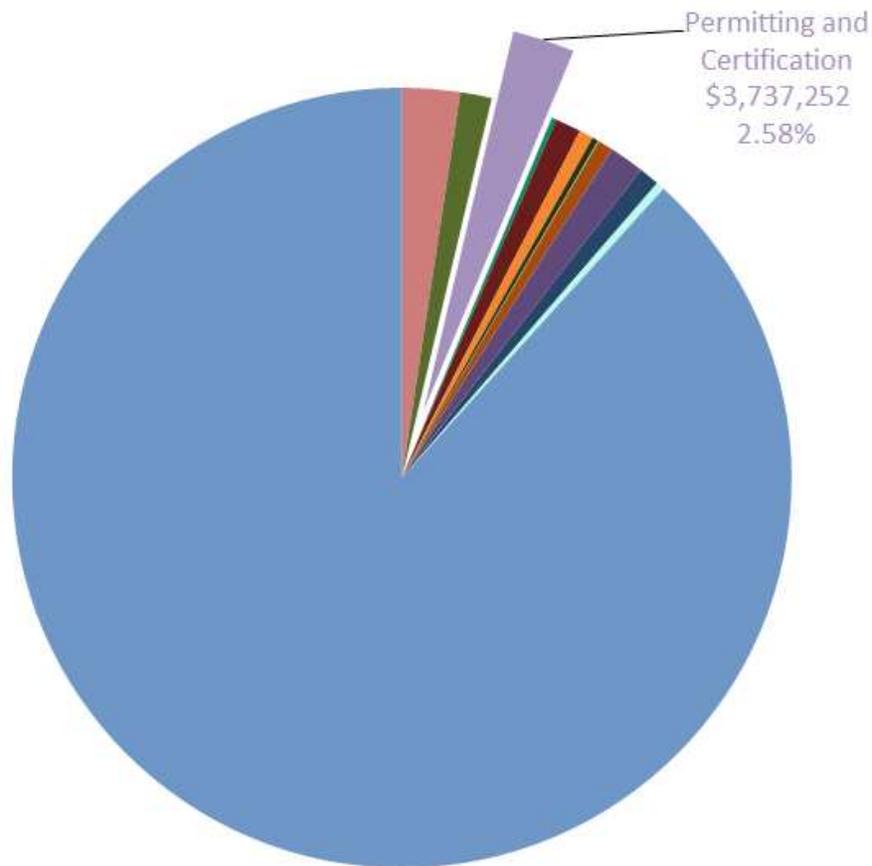


The bottom line: 263 TMDLs completed since 1999 to restore water quality

# Environmental Project Management and Oversight Requirements

	Federal Statute – Clean Water Act 33 U.S.C. §1251 et seq.	Federal Regulations – 40 CFR	State Statutes	State Regulations
<b>ENVIRONMENTAL PROJECT MANAGEMENT &amp; OVERSIGHT</b>				
Water Pollution Project Management & Oversight	Sections 201 – 221, 319, 601-607  (33 U.S.C. §1281 – 1301, §1329, §1381 – 1387)	40 CFR Parts 31, 33, 35	644.122, 644.598 RSMo	10 CSR 20-4
Quality Assurance	Sections 303, 305  (33 U.S.C. §1313, §1315)	40 CFR Parts 35, 122, 130, 131	644.026 RSMo	10 CSR 20- 7.015 10 CSR 20- 7.031 10 CSR 20- 7.050
Facility or Site Assessment	NA	NA	NA	NA
Total Maximum Daily Load Development	Section 303  (33 U.S.C. §1313)	40 CFR Part 130.7	644.026 RSMo	10 CSR 20- 7.031

# Permitting & Certification



## Permitting and Certification – Operator Certification

- Competent operators are critical to maintain compliance and lower costs
- A good operator can make up for a less than perfect plant; good plant design cannot make up for poor operations



The bottom line: Over 2,900 active wastewater and CAFO operators certified in FY2011 helps facilities perform efficiently and maintain compliance

## Permitting and Certification – Operator Certification

- Communities can use our web page to find operators in their area
- During emergencies, after a retirement



### Operator Search

Enter search criteria below and press "Search Operators"

[Search Operators](#) [Clear Form](#)

Certificate No:

First Name:  Last Name:  Middle Initial:

City:  Contract Operator:  DW  DS  WW  CF

#### Certification Type:

DW	DS	WW	CF
<input type="checkbox"/> A	<input type="checkbox"/> 3	<input type="checkbox"/> A	<input type="checkbox"/> A (Wet)
<input type="checkbox"/> B	<input type="checkbox"/> 2	<input type="checkbox"/> B	<input type="checkbox"/> B (Wet)
<input type="checkbox"/> C	<input type="checkbox"/> 1	<input type="checkbox"/> C	

### Operator Search Results Page

DW=Drinking Water Treatment DS=Drinking Water Distribution  
 WW=Wastewater CF=Concentrated Animal Feeding Operation (CAFO)

Click on a heading below to sort the table

View	Cert No	Name	Address	Contract	County	Cert	Level	Exp Date
<a href="#">View</a>	247	[REDACTED]	Centertown, MO	No	COLE	WW	A	06/30/2012
<a href="#">View</a>	12081	[REDACTED]	Jefferson City, MO	No	COLE	WW	C	04/30/2014
<a href="#">View</a>	3829	[REDACTED]	Jefferson City, MO	No	COLE	WW	C	06/30/2012
<a href="#">View</a>	8437	[REDACTED]	Jefferson City, MO	No	COLE	WW	C	04/30/2014

The bottom line: We help communities and certified operators find each other

# Permitting & Certification - Permitting

- 401 certification
- Operating Permits
- Construction Permits



## Permitting & Certification – 401 Certification

- Safety concerns at a Madison county low-water crossing
- Needed replacement and gravel removal
- Early and continuous coordination with our staff expedited the review



The bottom line: Up to 300 certifications processed each year help expedite safety improvements and pave the way for new development

# Permitting & Certification – Operating Permits

STATE OF MISSOURI  
DEPARTMENT OF NATURAL RESOURCES  
MISSOURI CLEAN WATER COMMISSION

**MISSOURI STATE OPERATING PERMIT**

In compliance with the Missouri Clean Water Law (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92<sup>nd</sup> Congress) as amended.

Permit No. MO-G49000

Owner:  
Address:  
Contaminating Authority:  
Address:  
Facility Name:  
Facility Address:  
Legal Description:  
UTM Coordinates:  
Receiving Stream:  
First Classified Stream and ID:  
USGS Basin & Sub-watershed No.:

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein.

**FACILITY DESCRIPTION**

All Outfalls (As listed in the permit application)  
SIC 44422, 2999, 3399  
Storm water and other specified discharges from limestone and other rock quarries, concrete, glass, and asphalt industries.

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.011.6 of the Law.

October 6, 2011  
Effluent Limit  
*Lina Parker Pauley*  
Missouri Permit Policy, Director, Department of Natural Resources

October 3, 2016  
Effluent Limit  
*John Nados*  
Missouri Permit Policy, Director, Department of Natural Resources

Master General Permits



General Permits



Site Specific Permits

The bottom line: DNR issued more than 2,800 Operating Permits in FY2011



## Operating Permits – a Tale of Two Permits



Small subdivision package plant



Wastewater treatment for a large municipality

The bottom line: All permits are not created equal, but resources to issue them sometimes are

## Operating Permits – the ‘Extras’

- Coaching applicants
- Applicant meetings to discuss limits and permit conditions
- Affordability analyses
- Long Term Control Plans
- Responding to public inquiries



The bottom line: We strive to provide responsive permitting customer service

## Permitting & Certification – Construction Permits

- Wastewater
- Sewer Extension
- CAFO
- Agricultural-Chemical



The bottom line: DNR issued more than 500 Construction Permits in FY2011

# Construction Permits

- Most plans and specifications are complete and compliant
- Some are not
  - Plans include wrong design flow
  - Plywood proposed as a baffling in chlorine contact tank
  - Undersized septic tanks
  - Components designed for actual flow rather than design flow



The bottom line: DNR oversight of wastewater construction prevents costly problems down the road

## Permitting & Certification – Antidegradation/WQ Review

- Water body's ability to maintain beneficial uses once discharge begins
- Prevent degradation
- New facilities or facilities that are expanding
- Review range of technical options for treatment
- Technical Assistance during planning stage

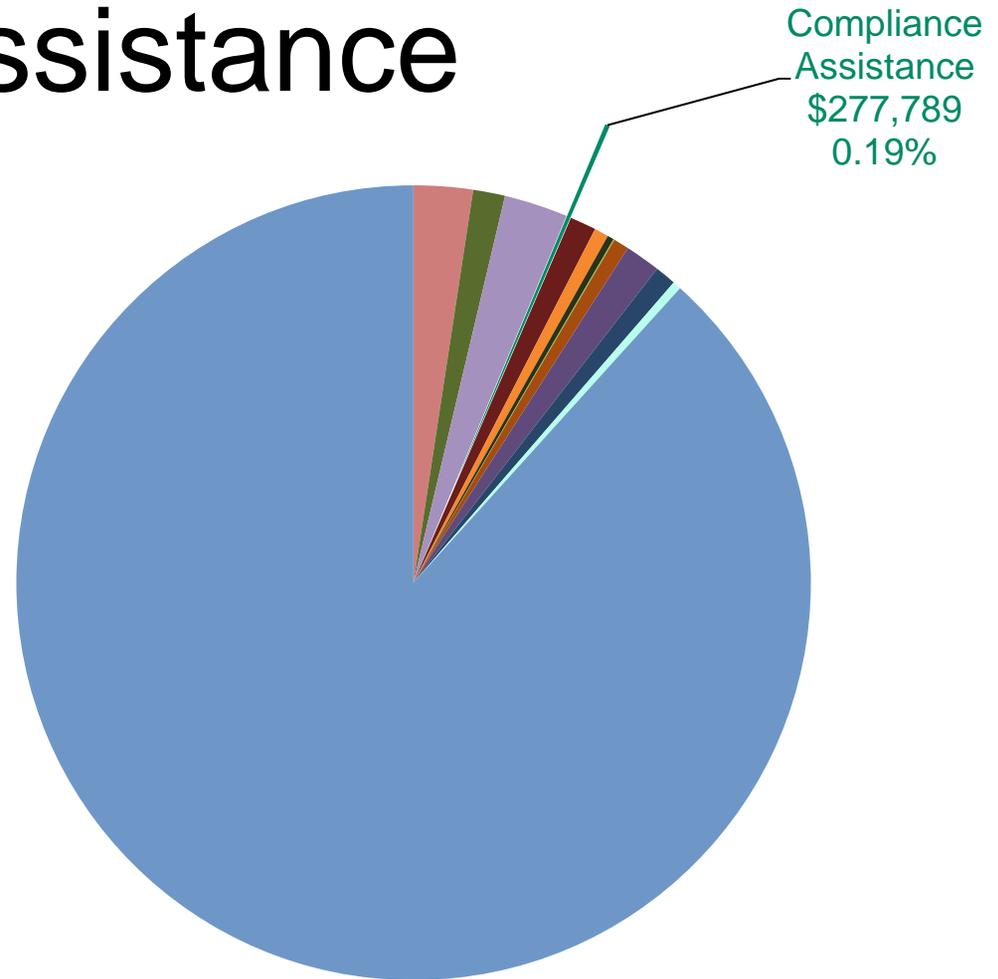


The bottom line: Antidegradation helps protect water quality while saving permittees future expenses as they plan for the life of the project

# Permitting & Certification Requirements

	Federal Statute – Clean Water Act 33 U.S.C. §1251 et seq.	Federal Regulations – 40 CFR	State Statutes	State Regulations
<b>PERMITTING &amp; CERTIFICATION</b>				
Operator Certification	NA	NA	644.026, 644.053 RSMo	10 CSR 20-9 10 CSR 20-14
Permitting & (401) Certification If time break into CP and OP Construction and Operating Permits & Certification (401)	Sections 401, 402  (33 U.S.C. §1341, 1342)	40 CFR Parts 122- 125, 130, 131, 133	644.026, 644.037, 644.038, 644.041, 644.051, 644.052, 644.053 RSMo	10 CSR 20- 6.010 10 CSR 20- 6.060 10 CSR 20-8
Antidegradation & Water Quality Review	Section 402  (33 U.S.C. §1342)	40 CFR Parts 122, 123, 124, 127	644.026, 644.051 RSMo	10 CSR 20- 6.020 10 CSR 20- 7.015

# Compliance Assistance



# Compliance Assistance

- Atlanta, Missouri
- New effluent limitations could have led to non-compliance at discharging lagoon
- Our assistance lead to conversion to a no-discharge system



The bottom line: Compliance Assistance helps communities and small businesses implement cost-effective, environmentally protective solutions

# Compliance Assistance

- Technical assistance during natural disasters
- Aid wastewater treatment facilities with bypass reporting requirements

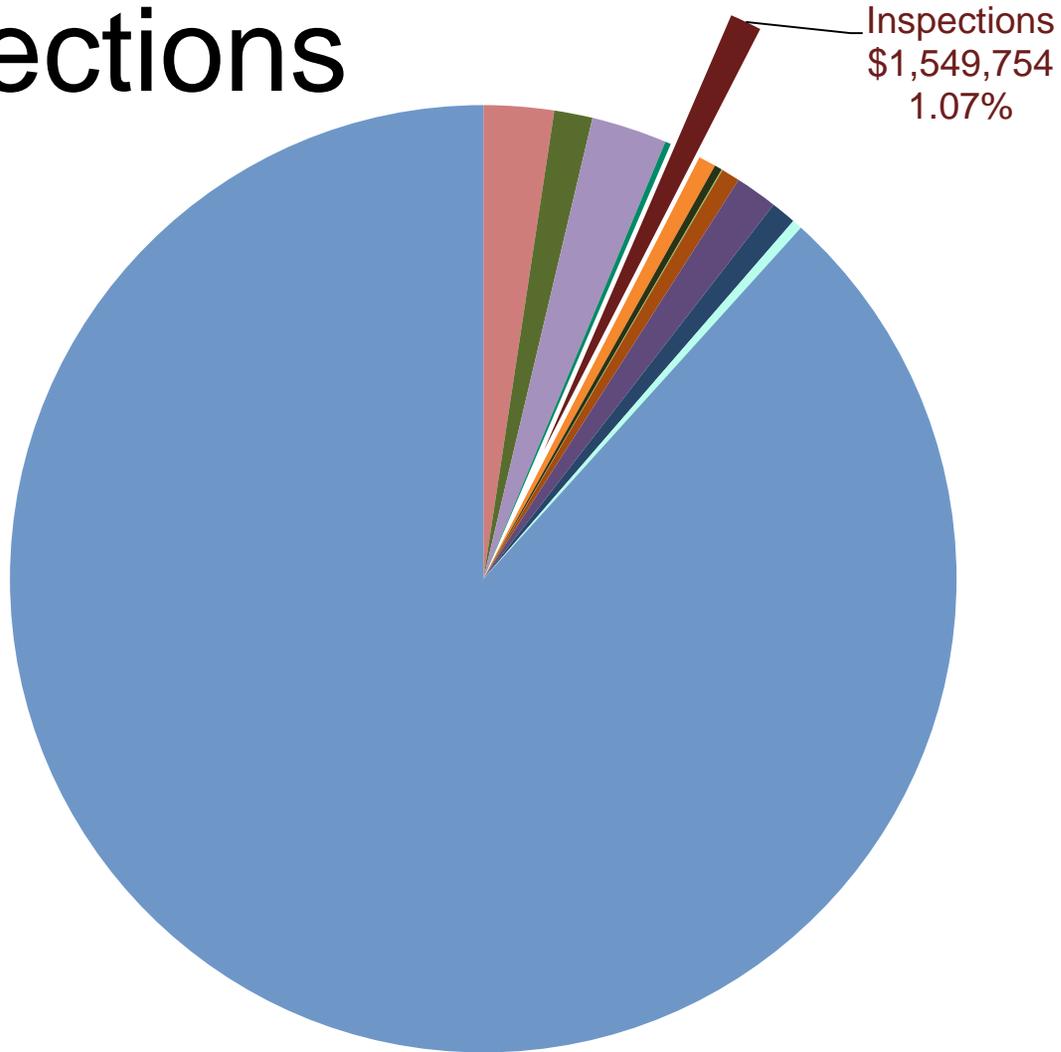


The bottom line: Compliance Assistance helps communities focus on other needs during natural disasters

## Compliance Assistance - Requirements

	Federal Statute – Clean Water Act 33 U.S.C. §1251 et seq.	Federal Regulations – 40 CFR	State Statutes	State Regulations
COMPLIANCE ASSISTANCE	NA	NA	644.056 RSMo	NA

# Inspections



## Inspections

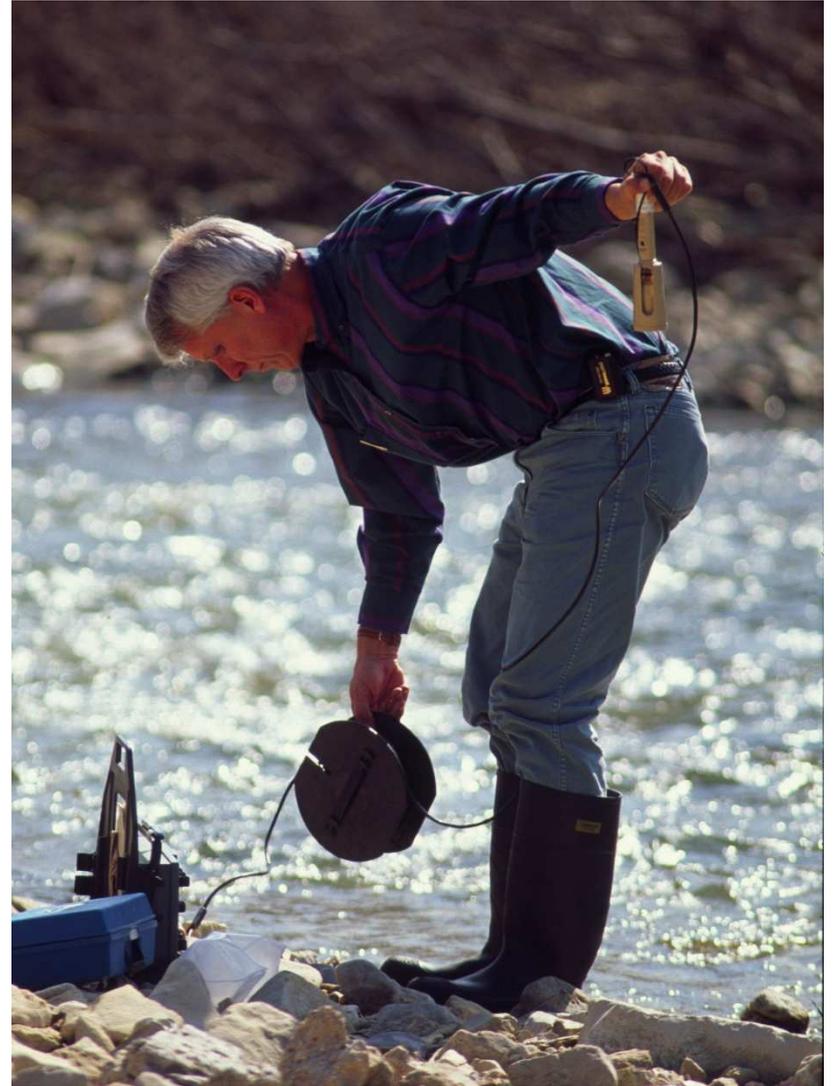
- Review of file material and compliance history
- On-site observation and evaluation of treatment process and analysis of wastewater samples
- Observing receiving stream and collecting discharge samples
- Provide on-site technical assistance and education



The bottom line: More than 1,900 inspections conducted in FY11 help ensure compliance with permit conditions, a level playing field for all, and protect public health and the environment

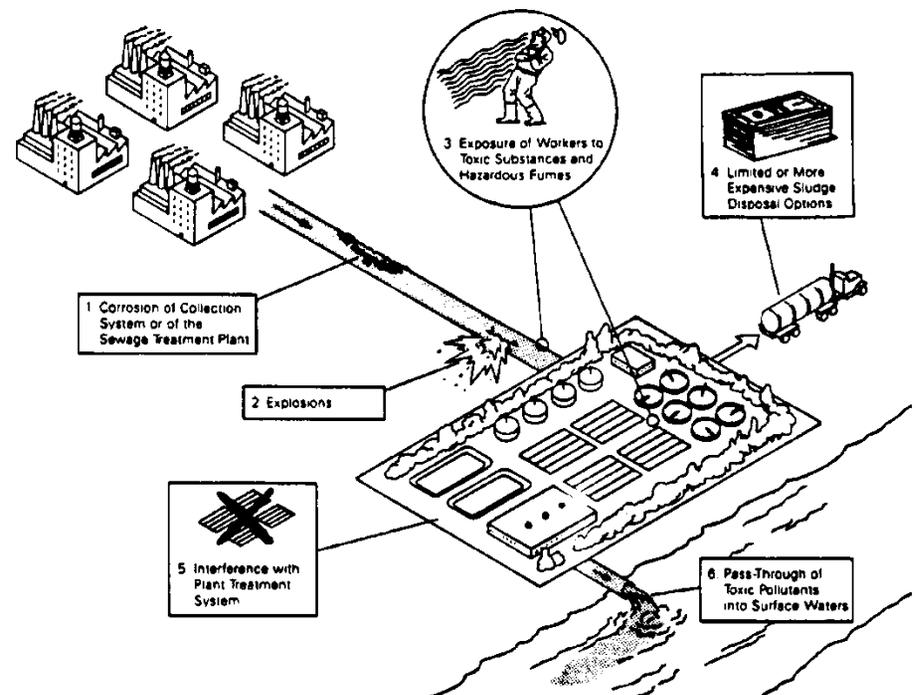
# Inspections

- 86% of facilities inspected in FY11 were in compliance
- Complete inspection report sent to facility
- Violations issued if appropriate



# Pretreatment Inspections

- Industries discharging to sanitary sewer system
- Discharge can cause O&M and compliance issues at city treatment plant

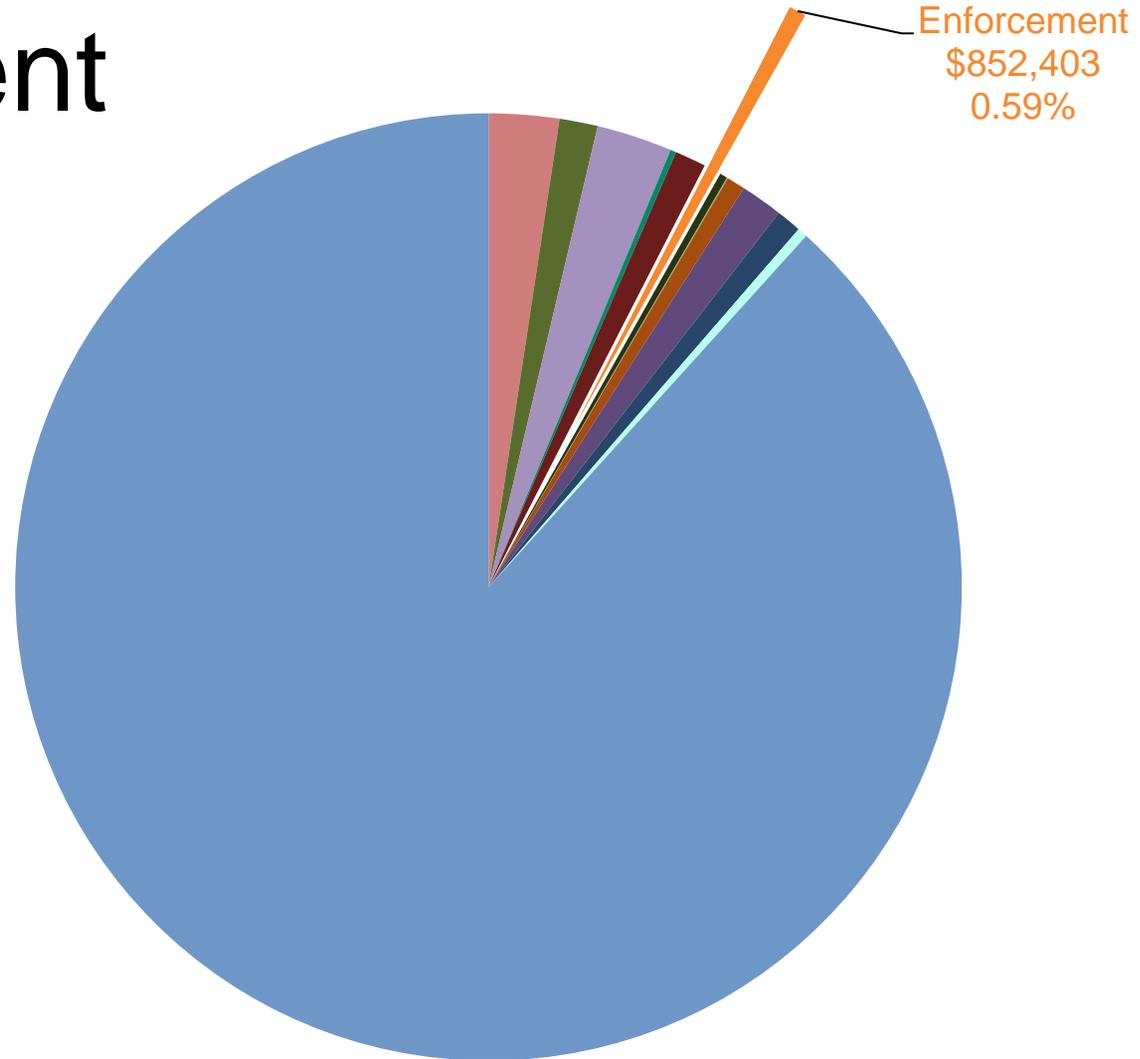


The bottom line: 30 pretreatment inspections in FY11 helped prevent costly damage to municipal wastewater treatment systems

## Inspection Requirements

	Federal Statute – Clean Water Act 33 U.S.C. §1251 et seq.	Federal Regulations – 40 CFR	State Statutes	State Regulations
INSPECTIONS	Section 308 (33 U.S.C. §1318)	40 CFR Part 123	644.026, 644.056 RSMo	NA

# Enforcement



## Enforcement

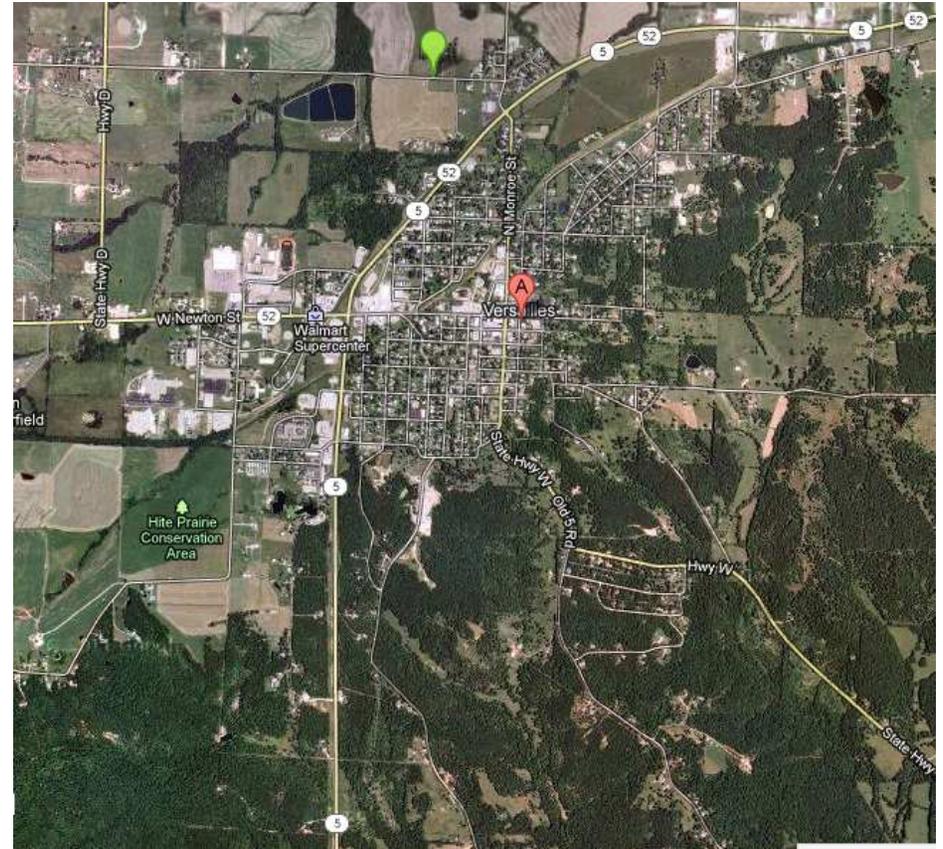
- Most violations are resolved through our Conference Conciliation & Persuasion process
- Some violations directly referred to enforcement
- Immediate threat to public health or the environment
- Some violations result in economic advantage for the violator



The bottom line: To ensure a level playing field the department applies consistent compliance standards

# Enforcement

- Enforcement can provide a more flexible compliance schedule
- Resolving violations through enforcement can help communities dealing with large, complex and costly issues



The bottom line: Enforcement actions can provide a mechanism for communities to plan infrastructure improvements

# Enforcement



The bottom line: 37 cases were ultimately referred to the AGO in FY2011

# Enforcement & Affordability

- Affordability provisions in HB89 apply to enforcement decisions
- Process to evaluate and incorporate findings are highly unique to each circumstance

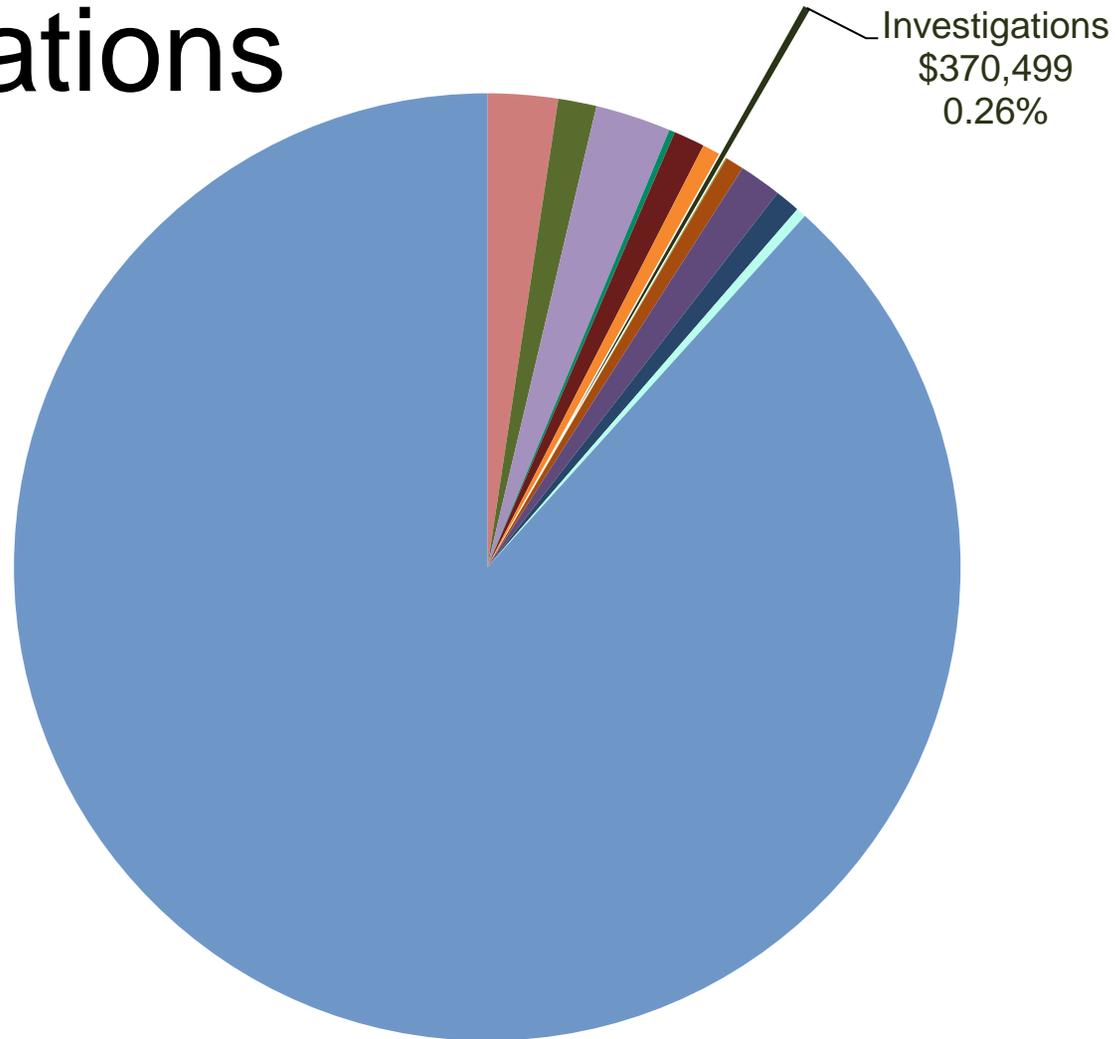


The bottom line: Affordability can provide flexibility to communities, but puts strain on already limited state resources

# Enforcement Requirements

	<b>Federal Statute – Clean Water Act 33 U.S.C. §1251 et seq.</b>	<b>Federal Regulations – 40 CFR</b>	<b>State Statutes</b>	<b>State Regulation s</b>
<b>ENFORCEMENT</b>	<b>Sections 301 – 320  (33 U.S.C. §1311 – 1330)</b>	<b>40 CFR Part 123</b>	<b>644.056, 644.076, 644.079, 644.096 RSMo</b>	<b>NA</b>

# Investigations



# Investigations

- Citizen reported environmental concern
- Food waste and grease in a sinkhole
- DNR actions stopped dumping
- Site returning to its natural state



The bottom line: 2,880 Investigations performed in FY11 allowed the department to respond to citizen concerns and protect human health and the environment

# Investigations

- Swine effluent release from unclassified AFO
- Abnormally high rainfall caused lagoon overflow and ground saturation
- Operation attempts to block release were not effective
- Staff provided assistance on emergency mitigation and preventing future discharges



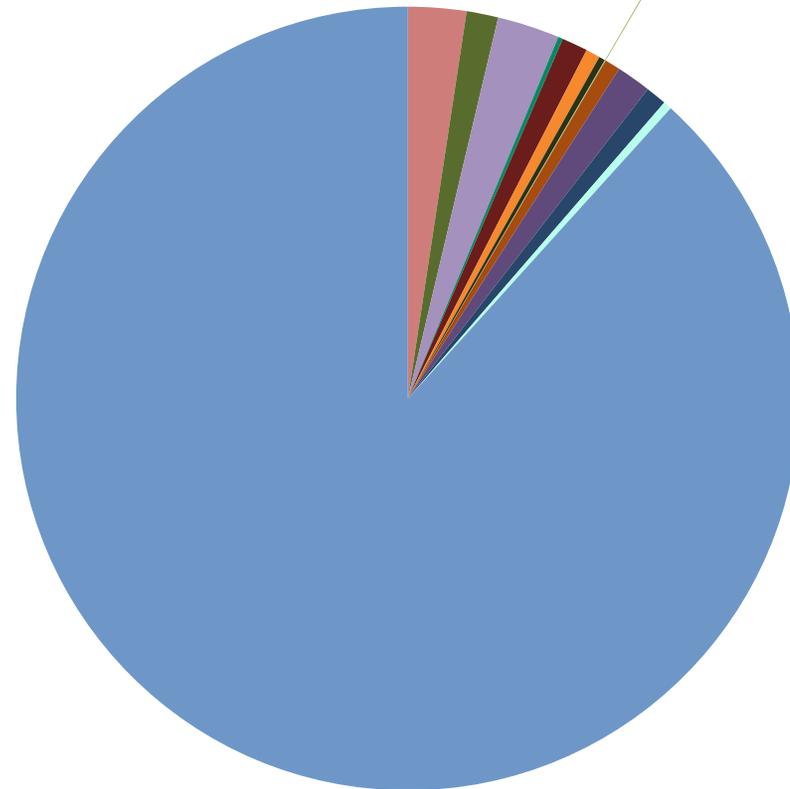
The bottom line: Investigations can help protect public health

# Investigations Requirements

	<b>Federal Statute – Clean Water Act 33 U.S.C. §1251 et seq.</b>	<b>Federal Regulations – 40 CFR</b>	<b>State Statutes</b>	<b>State Regulations</b>
<b>INVESTIGATIONS</b>	<b>N/A</b>	<b>40 CFR Part 123</b>	<b>644.056 RSMo</b>	<b>NA</b>

# Emergency Preparedness & Response

Staff assist wastewater treatment plants after natural disasters such as flooding, tornados and ice storms.



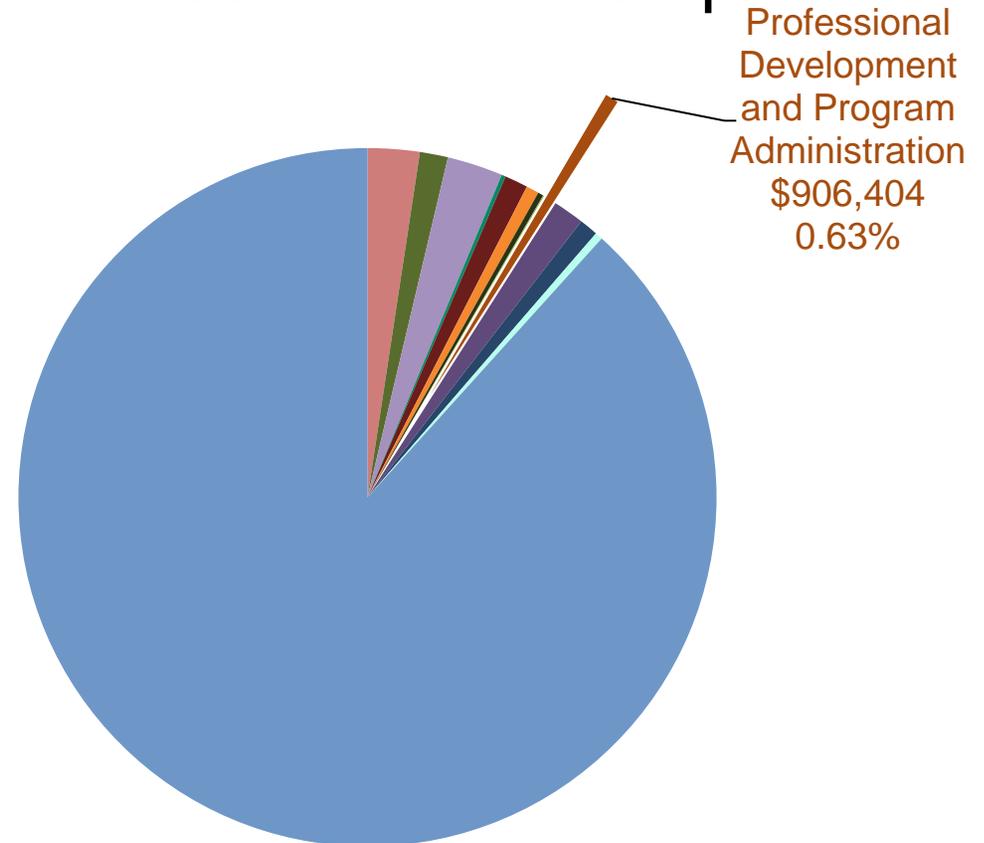
Emergency Preparedness & Response  
\$65,458  
0.04%

The bottom line: The Department helps lessen environmental damage from emergency wastewater releases



## Program Administration and Professional Development

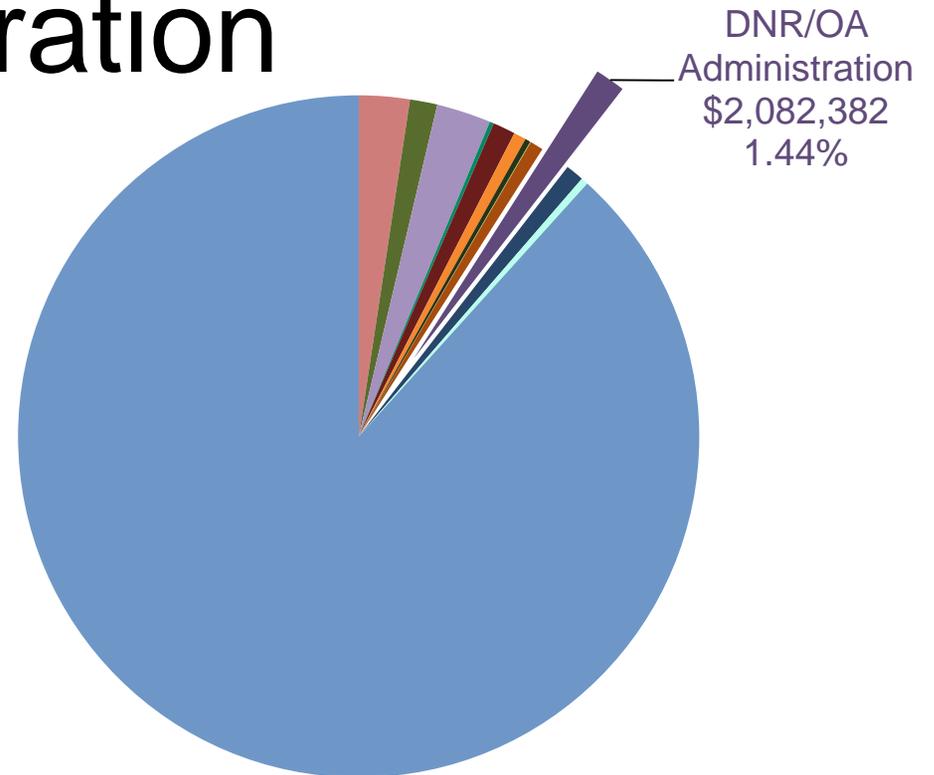
- Base support and oversight for all Clean Water activities
- Policy development and implementation
- Budget, training, human resources, legislation, regulation
- Federal grant administration



The bottom line: Crucial to ensure that technical staff have the tools and training they need to provide quality service to our constituents

# DNR/OA Administration

- Department and Division Direction & Leadership
- Human Resources
- Accounting & Budget
- Internal Audit & General Services
- Strategic Planning
- Policy and Legal Counsel
- State's Central Services

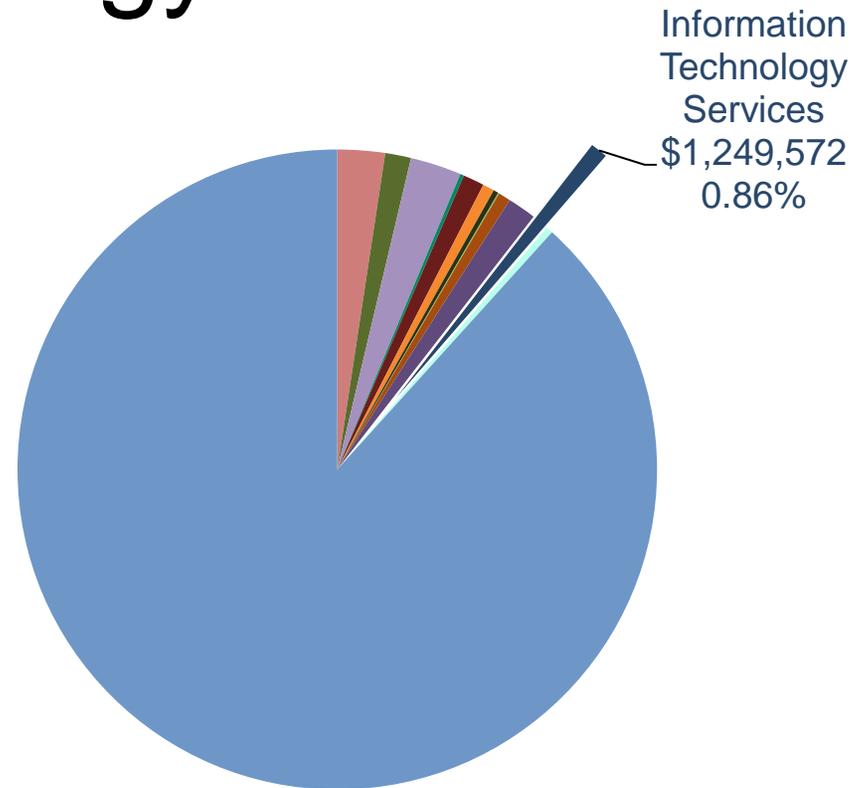


The bottom line: Critical to maintaining a departmental focus and consistent approach in meeting our mission

## Information Technology Services

### Examples

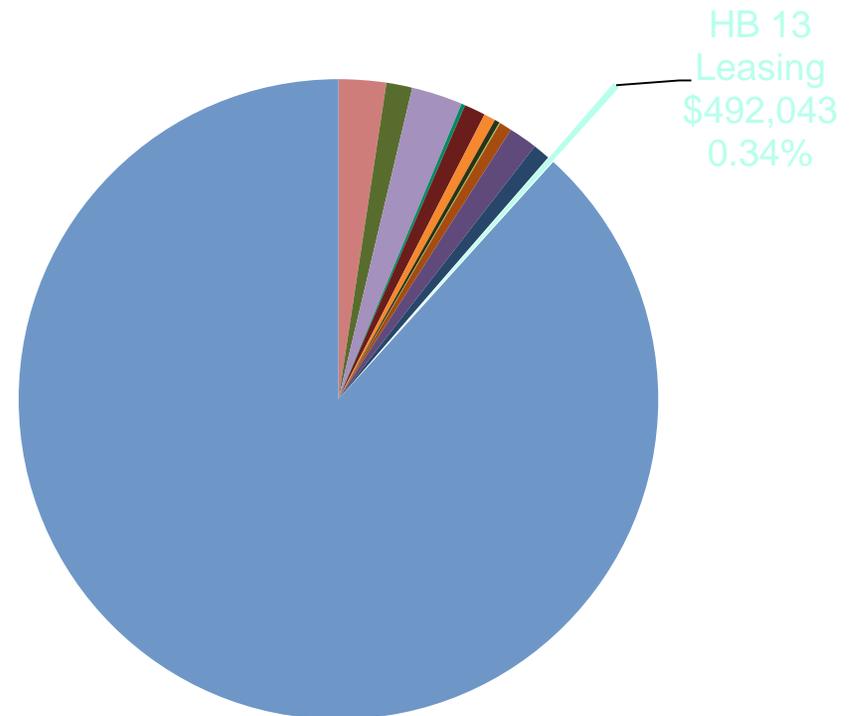
- ePermitting for Land Disturbance Permits
- SSO Bypass on-line reporting
- Identity Management
- User-friendly GIS interface



The bottom line: IT provides improved customer service and tools we need to get our jobs done

# House Bill 13 - Leasing

- Leasing costs for facilities not owned by the state
- Utilities
- Costs of operations for state-owned buildings



The bottom line: Adequate facilities are required for us to serve and meet with constituents

