

# Performance-Based Budget

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## DEPARTMENT OF ENVIRONMENTAL PROTECTION



Commonwealth of Pennsylvania  
Independent Fiscal Office  
January 2020



## **About the Independent Fiscal Office**

The Independent Fiscal Office (IFO) provides revenue projections for use in the state budget process along with impartial and timely analysis of fiscal, economic and budgetary issues to assist Commonwealth residents and the General Assembly in their evaluation of policy decisions. In that capacity, the IFO does not support or oppose any policies it analyzes, and will disclose the methodologies, data sources and assumptions used in published reports and estimates.

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The Independent Fiscal Office was created  
by the Act of Nov. 23, 2010 (P.L.1269, No.120).

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## INDEPENDENT FISCAL OFFICE

January 16, 2020

The Honorable Members of the Pennsylvania Performance-Based Budget Board:

Act 48 of 2017 specifies that the Independent Fiscal Office (IFO) shall “review agency performance-based budget information and develop an agency performance-based budget plan for agencies subject to a performance-based budget review.” This review “shall be completed in a timely manner and submitted by the IFO to the board for review.”

This report contains the review for the Department of Environmental Protection. All performance-based budget (PBB) reviews submitted to the Board contain the following content for each activity or service provided by the agency:

- a brief description of the activity, relevant goals and outcomes;
- a breakdown of agency expenditures;
- the number of full-time equivalent positions dedicated to the activity;
- select currently available metrics and descriptive statistics;
- any proposed metrics that the review recommends; and
- observations that should allow agencies to more effectively attain their stated goals and objectives.

The IFO submits this review for consideration by the PBB Board. The agency received a draft version of this review and was invited to submit a formal response. If submitted, the response appears in the Appendix to this review. The IFO would like to thank the agency staff that provided considerable input to this review. Questions and comments can be submitted to [contact@ifo.state.pa.us](mailto:contact@ifo.state.pa.us).

Sincerely,

MATTHEW J. KNITTEL  
Director

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# Background and Methodology

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Act 48 of 2017 is known as the Performance-Based Budgeting and Tax Credit Efficiency Act. The act requires the Independent Fiscal Office (IFO) to develop performance-based budget (PBB) plans for all agencies under the Governor's jurisdiction once every five years based on a schedule agreed to by the Secretary of the Budget and the Director of the IFO.<sup>1</sup> The act directs the IFO to evaluate and develop performance measures for each agency program or line item appropriation. As determined by the IFO to be applicable, the measures shall include the following: outcome-based measures, efficiency measures, activity cost analysis, ratio measures, measures of status improvement of recipient populations, economic outcomes or performance benchmarks against similar state programs or similar programs of other states or jurisdictions.

Most states use some form of PBB for at least a portion of their budget.<sup>2</sup> For many, that requirement implies that agencies merely compute and publish self-selected performance metrics on an annual basis. Those metrics may or may not be reviewed by policymakers. For Pennsylvania, the act requires the IFO to submit plans to the PBB Board for review and approval. The PBB Board reviews plans at a public hearing at which agency heads or their representative must attend to offer additional explanations if requested. The PBB Board has 45 days after submission to approve or disapprove plans. Per Act 48, approved plans shall be taken into consideration by the Governor and General Assembly during the annual budget development and implementation process. Disapproved plans will be returned to the IFO with recommended modifications.

Despite the extensive use of PBB across state governments, misconceptions still exist regarding the budget approach and the general goals it seeks to accomplish. For the plans submitted to the PBB Board, the approach can be characterized as follows:

- The explicit linkage of actual agency spending on activities to relevant outcome measures.
- An alternative budget framework that can be used to guide the allocation of state resources to improve outcomes for state residents.
- An approach that emphasizes program results and performance metrics to inform high-level budget decisions.

These definitions show that PBB is a broad-based budget approach that shifts emphasis from incremental budgeting to a results-based framework. Under incremental budgeting, policymakers use funding levels from the prior year and base funding decisions on any new demands placed upon an agency. For most agencies, performance metrics are not part of that process. A PBB approach considers performance metrics in making funding decisions. It is a top-down approach that focuses on goals and outcomes. Other efficiency initiatives such as Lean and Continuous Improvement are bottom-up approaches that focus on process improvement through streamlining operations, the elimination of redundancies and a focus on customer needs.

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<sup>1</sup> See the Appendix for the PPB review schedule.

<sup>2</sup> For example, 31 states use PBB for some portion of their higher education budget. See "Performance-Based Budgeting in the States," NCSL Fiscal Policy Research, Vol. 24, No. 35 (September 2016).

The performance-based budget in this report differs from a traditional budget in several key respects. The main differences are summarized by this table:

<b>Traditional versus Performance-Based Budget</b>		
	<b>Traditional Budget</b>	<b>Performance Budget</b>
Organizational Structure	Line Items or Programs	Agency Activities
Funds Used	Appropriated Amounts	Actual Expenditures
Employees	Authorized Complement	Actual Filled Complement
Needs Assessment	Incremental, Look to Prior Year	Prospective, Outcome-Based

The PBB plans track agency funding based on activities because they can be more readily linked to goals and objectives, and therefore, ultimate outcomes. Activities are the specific services provided by an agency to a defined service population in order to achieve desired outcomes. The funds for agency activities include all actual expenditures used to deliver services: labor, benefits, operating and allocated overhead costs. The PBB plans track all expenditures regardless of funding source and provide data for the current year and five historical years so that policymakers can view recent trends. It is noted that data for the upcoming budget year (FY 2020-21) are not included in this report.

The plans submitted to the PBB Board include many types of measures. Plan measures include: inputs (funding levels, number of employees), outputs (workloads), efficiency (cost ratios, time to complete tasks), outcomes (e.g., recidivism), benchmark comparisons to other states and descriptive statistics. The final category includes a broad range of metrics that provide insights into the work performed by an agency and the services provided. Those metrics supply background, context and support for other metrics, and they may not be readily linked to efficiency or outcome measures. The inclusion of such measures supports the broader purpose of the PBB plans: to encourage a more informed discussion regarding agency operations and how they impact state residents. Descriptive metrics provide relevant information to policymakers that increase their general knowledge of agency operations. They also provide agencies a platform to discuss the work they do and the services they provide.

In general, the plans submitted to the PBB Board are best used (1) to monitor broad agency trends and cost drivers, (2) to evaluate agency performance over time and (3) to inform questions to agencies regarding their operations. The plans cannot identify optimum funding levels or provide a direct comparison of relative effectiveness across most programs.

*Note on data: Unless otherwise noted, performance metrics used in this report were supplied by the agency under review. Those data appear as submitted by the agency and the IFO has not reviewed them for accuracy. For certain years, data are not available (e.g., due to a lag in reporting). In these cases, "--" denotes missing data. All data related to expenditures and employees are from the state accounting system and have been verified by the IFO and confirmed by the agency. Tables that use those data may not sum to totals due to rounding.*

# Department of Environmental Protection Overview

## Mission Statement

The Department of Environmental Protection's (DEP) mission is to protect Pennsylvania's air, land and water from pollution and to provide for the health and safety of its citizens through a cleaner environment. The Department will work as a partner with individuals, organizations, governments and businesses to prevent pollution and restore our natural resources.

## Services Provided

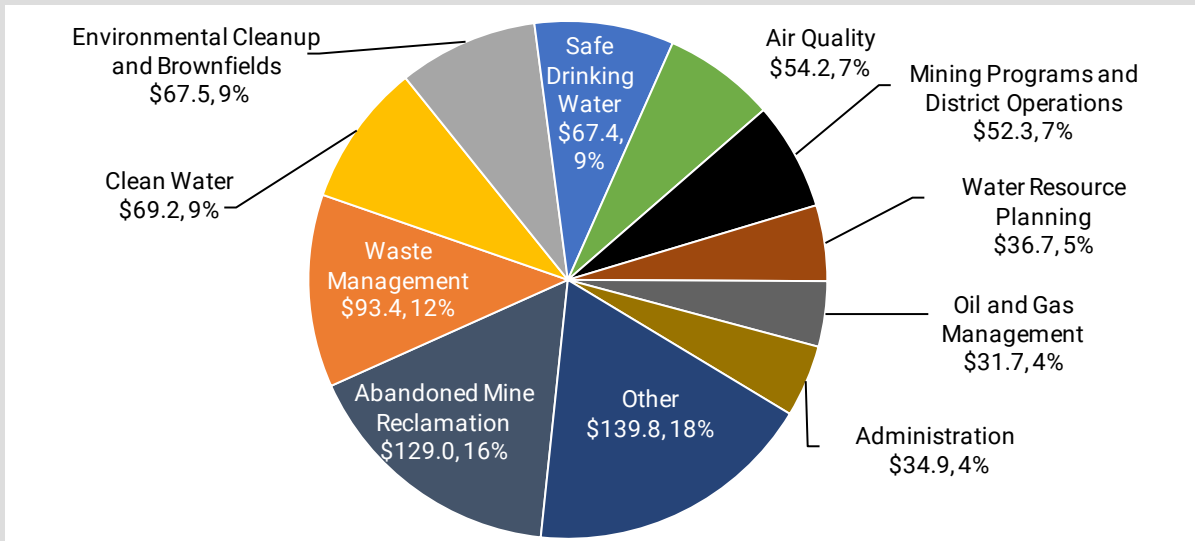
For this report, the services provided by DEP are classified into 17 general activities.

Department of Environmental Protection: Activities and Primary Services Provided	
Activity	Primary Service
1 Clean Water.....	Protect and preserve the waters of the Commonwealth
2 Safe Drinking Water.....	Manage the federal and state Safe Drinking Water Act
3 Waterways and Wetlands.....	Regulate dams, reservoirs and water obstructions
4 Chesapeake Bay.....	Manage state activities related to the Chesapeake Bay
5 Water Resource Planning.....	Oversee the management of statewide waters
6 Vector Management.....	Protect citizens from black flies and West Nile Virus
7 Oil and Gas Management.....	Manage statewide oil and gas environmental programs
8 Air Quality.....	Monitor air quality to meet environmental standards
9 Radiation Protection.....	Minimize exposure to controllable radiation
10 Waste Management.....	Manage statewide waste programs
11 Environmental Cleanup and Brownfields.....	Clean up contaminated sites and regulate storage tanks
12 Mining Programs and District Operations.....	Ensure mining activities are compliant with regulations
13 Abandoned Mine Reclamation.....	Restore lands affected by historical mining
14 Mine Safety.....	Ensure health and safety of miners throughout the state
15 Energy Programs.....	Guide Pennsylvanians to smarter energy choices
16 Laboratory Services.....	Test environmental samples to protect the environment
17 Administration.....	Provide leadership and support to DEP programs

For the purpose of this review, the following conventions are noted:

- The expenditure data and number of filled full-time equivalent (FTE) positions for each activity reflect the allocation of administrative and executive staff and funding resources to specific agency activities.
- The FY 2019-20 budgeted funds are spending authority and may not reflect actual projected spending. For example, federal spending authority allows for current and potential future funding opportunities within the budget year.

**Department of Environmental Protection  
FY 2019-20 Budgeted Expenditures by Activity**



Note: Expenditures in dollar millions. The Other category combines Waterways and Wetlands, Chesapeake Bay, Vector Management, Radiation Protection, Mine Safety, Energy Programs and Laboratory Services.

**Department of Environmental Protection  
Filled Full-Time Equivalent (FTE) Positions**

	14-15 Actual	15-16 Actual	16-17 Actual	17-18 Actual	18-19 Actual	19-20 Budget
<b>Average Weekly FTE Positions by Activity</b>						
Clean Water	295	286	264	260	262	261
Safe Drinking Water	224	206	187	195	216	254
Waterways and Wetlands	184	182	174	169	161	168
Chesapeake Bay	33	33	38	38	39	42
Water Resource Planning	33	40	48	44	44	47
Vector Management	40	39	37	34	34	42
Oil and Gas Management	195	201	191	181	177	188
Air Quality	259	253	247	241	241	236
Radiation Protection	106	104	100	101	104	110
Waste Management	191	187	181	178	169	170
Environmental Cleanup and Brownfields	219	220	208	197	198	210
Mining Programs and District Operations	239	238	237	233	220	229
Abandoned Mine Reclamation	153	163	174	171	174	184
Mine Safety	77	77	75	73	68	71
Energy Programs	26	25	24	24	29	34
Laboratory Services	66	63	64	64	67	68
Administration	<u>167</u>	<u>164</u>	<u>173</u>	<u>113</u>	<u>116</u>	<u>128</u>
<b>Total</b>	<b>2,508</b>	<b>2,482</b>	<b>2,422</b>	<b>2,318</b>	<b>2,321</b>	<b>2,442</b>
<b>Personnel Cost/FTE (\$ thousands)</b>	<b>\$100.1</b>	<b>\$104.9</b>	<b>\$112.4</b>	<b>\$113.9</b>	<b>\$114.2</b>	<b>--</b>

**Department of Environmental Protection  
Expenditures by Fiscal Year**

	14-15	15-16	16-17	17-18	18-19	19-20
	Actual	Actual	Actual	Actual	Actual	Budget
<b>Expenditure by Activity</b>						
Clean Water	\$56.0	\$54.0	\$44.1	\$42.3	\$42.1	\$69.2
Safe Drinking Water	47.0	41.7	30.4	28.8	34.4	67.4
Waterways and Wetlands	24.1	24.9	24.1	23.5	23.5	28.2
Chesapeake Bay	10.3	11.3	11.9	11.6	14.9	21.7
Water Resource Planning	6.1	7.5	31.4	30.0	32.4	36.7
Vector Management	11.2	11.5	11.3	12.5	11.5	14.0
Oil and Gas Management	23.7	24.7	24.5	23.5	24.2	31.7
Air Quality	39.6	40.9	42.3	41.2	40.7	54.2
Radiation Protection	15.1	14.7	15.3	14.7	15.2	19.2
Waste Management	54.7	68.9	62.5	55.7	61.4	93.4
Environmental Cleanup and Brownfields	46.6	62.5	53.7	47.8	50.7	67.5
Mining Programs and District Operations	34.8	35.7	37.9	36.5	36.9	52.3
Abandoned Mine Reclamation	45.8	44.5	73.0	64.5	60.4	129.0
Mine Safety	11.5	11.7	12.1	11.7	11.8	11.7
Energy Programs	18.5	18.3	19.2	10.3	11.7	30.1
Laboratory Services	11.8	11.9	12.1	12.2	12.6	15.0
Administration	<u>21.8</u>	<u>22.1</u>	<u>29.2</u>	<u>27.6</u>	<u>32.1</u>	<u>34.9</u>
<b>Total</b>	<b>478.6</b>	<b>506.7</b>	<b>535.1</b>	<b>494.4</b>	<b>516.4</b>	<b>776.3</b>
<b>Expenditures by Object</b>						
Personnel Services	\$251.0	\$260.3	\$272.3	\$263.9	\$265.2	\$266.4
Operational Expenses	108.3	119.0	138.0	129.3	136.1	249.3
Grants	84.9	101.5	88.6	77.8	92.3	168.4
Other <sup>1</sup>	<u>34.5</u>	<u>25.9</u>	<u>36.2</u>	<u>23.4</u>	<u>22.9</u>	<u>92.2</u>
<b>Total</b>	<b>478.6</b>	<b>506.7</b>	<b>535.1</b>	<b>494.4</b>	<b>516.4</b>	<b>776.3</b>
<b>Expenditures by Fund</b>						
General Fund (State)	\$131.1	\$134.6	\$150.5	\$144.0	\$152.9	\$135.1
General Fund (Augmentations)	34.4	32.8	32.3	31.3	30.6	37.1
General Fund (Federal)	95.5	90.6	113.8	106.2	104.6	252.9
General Fund (Restricted)	73.2	67.1	72.0	68.8	70.6	88.6
Hazardous Sites Cleanup Fund	33.5	49.6	40.1	36.5	36.7	47.3
Recycling Fund	28.7	43.1	31.7	29.4	37.8	70.3
Clean Air Fund	23.8	24.6	25.8	23.9	23.6	28.1
Environmental Stewardship Fund	17.3	15.3	17.3	15.9	17.6	40.5
Storage Tank Fund	11.2	11.2	11.5	9.8	11.6	15.3
Other Funds <sup>2</sup>	<u>29.8</u>	<u>37.8</u>	<u>40.2</u>	<u>28.7</u>	<u>30.6</u>	<u>60.9</u>
<b>Total</b>	<b>478.6</b>	<b>506.7</b>	<b>535.1</b>	<b>494.4</b>	<b>516.4</b>	<b>776.3</b>

Notes: Expenditures in dollar millions. Actual expenditures are listed in the year the expenditure was recorded.

1 Includes fixed asset expenses, non-expense items, miscellaneous expense transfers and budgetary reserves.

2 Includes the following funds: Acid Mine Drainage Abatement and Treatment, Conservation District, Coal and Clay Mine Subsidence Insurance, Noncoal Surface Mining Conservation, Surface Mining Conservation and Reclamation, Underground Storage Tank Indemnification, Coal Lands Improvement, Energy Development, Environmental Education, Growing Greener Bond, Marcellus Legacy, Mine Safety, Nutrient Management, Remining Financial Assistance, Motor License, Land and Water Development, and Capital Facilities.

## Performance-Based Budget Plan: Key Metrics and Observations

This report includes numerous performance metrics, but certain metrics are critical to the overall operation of the agency. The agency has also undertaken various initiatives that should be monitored over time. For those initiatives, this report may include recommended performance metrics. Notable metrics (both current and recommended) that policymakers should monitor closely include the following:

**DEP's transition to electronic permitting and inspections has achieved significant productivity gains.** For the time period examined, Oil and Gas Activity personnel inspected 20 percent more sites than prior to implementation of the e-inspections solution. Likewise, the Safe Drinking Water Activity has demonstrated higher productivity and decreased costs related to permitting workloads. However, average permit and inspection costs have increased in other activities, potentially due to the need to train current and new employees during the transition to electronic platforms. Policymakers should continue to monitor productivity metrics to ensure that further efficiencies and cost savings are realized throughout the department.

**Compared to other states, a high share of Pennsylvania residents received water from a community water system with an acute health-based violation in recent years.** Environmental Protection Agency (EPA) data show that Pennsylvania has significantly more community water systems than states with comparable populations, potentially leading to inefficiencies and higher rates of non-compliance. During the time period reviewed, Pennsylvania community water systems ranked among the highest in the country for acute health-based violations and population impacted. In 2018, DEP increased permit fees and created a new annual fee for public water systems to increase staff and resources.

**Pennsylvania's legacy of coal mining and oil and natural gas drilling represents a significant challenge for the department.** The Oil and Gas Management and Abandoned Mine Reclamation activities address the impacts from legacy coal mining and oil and gas drilling operations throughout the state. According to DEP, there are more than one million structures in Pennsylvania that are located above abandoned coal or clay mines. Furthermore, DEP has located more than 12,100 abandoned oil and gas wells and estimates that there are approximately 200,000 more abandoned wells that have not been identified. These issues can pose significant threats to the citizens and environment of the Commonwealth.

**Pennsylvania air quality has improved considerably and compares favorably to surrounding metro areas.** According to data from EPA, Pennsylvania's air quality improvement has kept pace with or exceeded other comparable states and major metro areas over the last 15 years. Data collected at outdoor air quality monitors across most Pennsylvania counties show that the proportion of days with good air quality by EPA standards has shown significant improvement.

**Pennsylvania lags behind other states in Chesapeake Bay Watershed pollution reduction.** Pennsylvania failed to meet the two most recent Chesapeake Bay pollution targets and is furthest away from meeting the latest 2025 final pollution targets among participating states. Despite being the largest contributor of nitrogen and phosphorus into the Bay, data show that Pennsylvania devotes less state resources to restoration of the watershed than three other states. In its Phase 3 Watershed Implementation Plan (WIP), DEP estimates that in order to meet current pollution reduction targets by 2025, an increased investment of approximately \$324 million per year in both public and private funding would be necessary.

# Activity 1: Clean Water

The Clean Water Activity protects and preserves the waters of Pennsylvania, including 85,146 miles of streams and 99,654 acres of significant publicly-owned lakes. This activity (1) establishes and monitors the attainment of water quality standards, (2) permits and inspects several types of land and facility pollutant discharges, (3) permits and regulates municipal sewage systems, (4) conducts technical outreach for wastewater treatment facilities and wastewater operators and (5) administers the nutrient trading program as one part of the Chesapeake Bay restoration strategy.

The goal of the Clean Water Activity is that Pennsylvania's waters will be compliant with applicable legal and environmental standards. The desired outcomes are that Pennsylvania's waters can accommodate wildlife, recreation and the supply of drinking water.

This activity is partially funded by fees collected for National Pollutant Discharge Elimination System and Water Quality Management permitting programs.

## Resources

Clean Water: Expenditures and Filled FTE Positions						
	14-15	15-16	16-17	17-18	18-19	19-20
	Actual	Actual	Actual	Actual	Actual	Budget
<b>Expenditures by Object</b>						
Personnel Services	\$29.28	\$30.42	\$30.65	\$30.11	\$31.23	\$31.00
Operational Expenses	8.70	8.55	7.90	8.37	8.24	17.06
Grants	15.44	12.72	3.58	3.28	1.74	14.53
Other <sup>1</sup>	<u>2.58</u>	<u>2.29</u>	<u>1.98</u>	<u>0.56</u>	<u>0.86</u>	<u>6.60</u>
<b>Total</b>	<b>56.00</b>	<b>53.97</b>	<b>44.11</b>	<b>42.32</b>	<b>42.07</b>	<b>69.19</b>
<b>Expenditures by Fund</b>						
General Fund (State)	\$14.16	\$15.75	\$17.21	\$14.46	\$17.53	\$13.52
General Fund (Augmentations)	1.89	1.70	1.74	1.56	1.34	2.00
General Fund (Federal)	9.35	8.07	7.48	6.13	4.47	23.19
General Fund (Restricted)	15.52	15.76	13.37	16.55	16.65	15.51
Environmental Stewardship Fund <sup>2</sup>	8.24	6.85	1.11	0.47	0.40	6.98
Acid Mine Drainage Abate. & Treatment <sup>2</sup>	2.45	1.92	0.34	0.14	0.05	3.86
Conservation District Fund <sup>2</sup>	2.08	2.08	0.25	0.00	0.00	0.93
Nutrient Management Fund	0.97	0.94	1.71	2.45	1.35	1.59
Other Funds	<u>1.34</u>	<u>0.88</u>	<u>0.91</u>	<u>0.57</u>	<u>0.29</u>	<u>1.63</u>
<b>Total</b>	<b>56.00</b>	<b>53.97</b>	<b>44.11</b>	<b>42.32</b>	<b>42.07</b>	<b>69.19</b>
<b>Average Weekly FTE Positions</b>	<b>295</b>	<b>286</b>	<b>264</b>	<b>260</b>	<b>262</b>	<b>261</b>
<b>Personnel Cost/FTE (\$ thousands)</b>	<b>\$99.2</b>	<b>\$106.4</b>	<b>\$116.3</b>	<b>\$116.0</b>	<b>\$119.1</b>	<b>--</b>
Notes: Expenditures in dollar millions. Actual expenditures are listed in the year the expenditure was recorded. Due to the allocation of expenditures, data reflect a portion of administrative and executive staff and funding resources.						
1 FY 19-20 includes \$2.4 million in budget reserves.						
2 A reorganization in DEP's water programs shifted expenditures and FTEs to Water Resource Planning after FY 15-16.						

## Performance Measures

Clean Water						
	14-15	15-16	16-17	17-18	18-19	19-20
<b><u>Descriptive</u></b>						
# Authorization applications received <sup>1</sup>	6,983	7,748	7,245	8,462	7,168	--
# Facilities receiving authorizations	2,370	2,327	2,271	2,943	2,591	2,400
Statewide stream and river miles	--	--	--	--	--	85,146
Miles of streams deemed impaired <sup>2</sup>						
Aquatic life	--	9,821	--	17,498	--	17,498
Water supply	--	50	--	84	--	84
Fish consumption	--	2,052	--	2,817	--	2,817
Recreation	--	7,398	--	9,484	--	9,484
<b><u>Output</u></b>						
# Applications disposed	7,023	7,313	6,974	8,301	7,354	--
# Inspections	6,575	6,121	6,901	5,732	5,030	5,400
Acres of stream buffers installed	1,862	499	1,311	398	1,500	1,500
<b><u>Efficiency</u></b>						
Avg. cost per authorization disposed <sup>3</sup>	\$1,448	\$1,433	\$1,527	\$1,279	\$1,514	--
Authorizations disposed per FTE <sup>4</sup>	93	101	99	120	106	--
Avg. cost per inspection <sup>3</sup>	\$615	\$707	\$612	\$723	\$842	--
Inspections per inspector <sup>4</sup>	164	152	185	157	141	--
% Applications processed on time <sup>5</sup>	89%	82%	73%	75%	86%	90%
Avg. response time for all complaints (days)	5	4	5	5	5	5
<b><u>Outcome</u></b>						
Miles of impaired streams restored	--	319	--	208	--	25
% EPA inspection goal reached <sup>6</sup>	--	148%	147%	190%	--	--
% Violations resolved	72%	77%	66%	66%	69%	70%
% Facilities with no recorded violations <sup>7</sup>	99.7%	99.6%	99.7%	99.7%	99.8%	--
Notes:						
1 Authorizations include all types of permits, licenses and certifications.						
2 Stream types cannot be combined for a statewide total. A stream can fall into several categories.						
3 Average costs do not reflect certain non-personnel expenses.						
4 Includes only the FTEs associated with authorizations disposed or inspections for respective metrics.						
5 Processed within time frame allowed in DEP's Permit Decision Guarantee Policy.						
6 EPA Compliance Monitoring Strategy inspection goal reached for sewage and industrial wastewater facilities.						
7 Not all facilities are inspected in a given year.						



## Activity 2: Safe Drinking Water

The Safe Drinking Water Activity manages the federally delegated drinking water program and implements both the federal and state Safe Drinking Water Act and associated regulations.

The goals of the Safe Drinking Water Activity are to ensure that operators meet licensing requirements (including education, testing and training requirements) and to uphold drinking water standards through permitting, inspections, compliance assistance and enforcement. The desired outcome is that all Pennsylvanians that use water from a public water system will have a safe and reliable supply of drinking water.

This activity is partially funded by fees that apply to all public water systems. New annual fees that were established in 2018 for all public water systems are also included in this activity.

### Resources

Safe Drinking Water: Expenditures and Filled FTE Positions						
	14-15	15-16	16-17	17-18	18-19	19-20
	Actual	Actual	Actual	Actual	Actual	Budget
<b>Expenditures by Object</b>						
Personnel Services	\$21.14	\$20.45	\$20.02	\$20.29	\$22.71	\$24.62
Operational Expenses	6.81	6.02	5.31	5.46	5.85	13.78
Grants	15.70	12.87	2.43	1.09	0.68	14.75
Other	<u>3.36</u>	<u>2.38</u>	<u>2.60</u>	<u>1.99</u>	<u>5.20</u>	<u>14.29</u>
<b>Total</b>	<b>47.01</b>	<b>41.72</b>	<b>30.36</b>	<b>28.82</b>	<b>34.44</b>	<b>67.43</b>
<b>Expenditures by Fund</b>						
General Fund (State)	\$13.74	\$11.10	\$12.52	\$13.30	\$16.01	\$11.22
General Fund (Augmentations)	1.03	0.85	0.87	0.82	0.62	0.96
General Fund (Federal)	13.65	14.05	11.22	10.45	12.98	32.79
General Fund (Restricted)	3.51	3.10	3.21	3.26	4.27	8.95
Environmental Stewardship Fund <sup>1</sup>	8.24	6.83	0.68	0.30	0.23	6.84
Acid Mine Drainage Abate. & Treatment <sup>1</sup>	2.45	1.92	0.34	0.14	0.05	3.86
Conservation District Fund <sup>1</sup>	2.08	2.08	0.25	0.00	0.00	0.93
Other Funds	<u>2.31</u>	<u>1.78</u>	<u>1.27</u>	<u>0.57</u>	<u>0.29</u>	<u>1.89</u>
<b>Total</b>	<b>47.01</b>	<b>41.72</b>	<b>30.36</b>	<b>28.82</b>	<b>34.44</b>	<b>67.43</b>
<b>Average Weekly FTE Positions</b>	<b>224</b>	<b>206</b>	<b>187</b>	<b>195</b>	<b>216</b>	<b>254</b>
<b>Personnel Cost/FTE (\$ thousands)</b>	<b>\$94.2</b>	<b>\$99.1</b>	<b>\$107.0</b>	<b>\$104.3</b>	<b>\$105.1</b>	<b>--</b>

Notes: Expenditures in dollar millions. Actual expenditures are listed in the year the expenditure was recorded. Due to the allocation of expenditures, data reflect a portion of administrative and executive staff and funding resources.

1 A reorganization in DEP's water programs shifted expenditures and FTEs to Water Resource Planning after FY 15-16.

## Performance Measures and State Benchmarks

Safe Drinking Water						
	14-15	15-16	16-17	17-18	18-19	19-20
<b>Descriptive</b>						
# Authorization applications received <sup>1</sup>	2,138	2,392	2,340	2,226	2,439	--
# Community Water Systems (CWS) statewide	1,999	1,989	1,966	1,957	1,958	--
Residents served by a CWS (millions)	10.6	10.6	11.4	11.4	11.5	--
<b>Output</b>						
# Applications disposed	1,755	2,159	1,941	2,037	2,051	--
# Inspections	5,745	5,434	4,744	4,251	4,874	--
<b>Efficiency</b>						
Avg. cost per authorization disposed <sup>2</sup>	\$3,362	\$2,970	\$3,318	\$3,276	\$3,273	--
Authorizations disposed per FTE <sup>3</sup>	41	50	46	48	50	--
Avg. cost per inspection <sup>2</sup>	\$1,053	\$1,111	\$1,270	\$1,430	\$1,573	--
Inspections per inspector <sup>3</sup>	96	97	86	74	69	--
% Applications processed on time	82%	86%	82%	87%	86%	90%
Avg. response time for all complaints (days)	5	8	7	6	4	4
<b>Outcome</b>						
% Population served by CWS that meets all health-based (HB) drinking water standards	94%	92%	92%	77%	86%	90%
% CWS that meet HB drinking water standards	93%	92%	91%	92%	92%	93%
% CWS with a sanitary survey inspection conducted within the last 3 years	92%	85%	82%	77%	78%	80%
% Violations resolved	84%	83%	81%	77%	53%	80%
Notes:						
1 Authorizations include permits, licenses and certifications.						
2 Average costs do not reflect certain non-personnel expenses.						
3 Includes only the FTEs associated with authorizations disposed or inspections for respective metrics.						

Population Served by a CWS with an Acute Health-Based Violation (2018)				
	Population Served by a CWS	Population Served by CWS w/ AHBV	% Population Served by CWS w/ AHBV	50 State Rank
<b>Pennsylvania</b>	<b>11.5</b>	<b>1.5</b>	<b>13.4%</b>	<b>50</b>
New Jersey	8.8	0.7	5.7%	48
New York	18.2	0.2	2.5%	34
North Carolina	8.4	0.1	0.7%	26
Illinois	12.0	0.1	0.6%	23
Ohio	10.3	0.0	0.4%	17
Virginia	7.0	0.0	0.1%	15
Michigan	7.3	0.0	0.0%	11
<b>National</b>	<b>306.8</b>	<b>10.0</b>	<b>3.3%</b>	<b>--</b>
Notes: Populations in millions. Acute health-based violations (AHBV) are a subset of health-based violations. The EPA defines AHBVs as violations that may cause illness after a short-term exposure. Population figures reflect a violation at any point of the calendar year, regardless of duration. States were selected based on population and proximity.				
Source: U.S. Environmental Protection Agency. Calculations by the IFO.				

## Activity 3: Waterways and Wetlands

The Bureau of Waterways Engineering and Wetlands (BWEW) provides for the comprehensive regulation and supervision of dams, reservoirs and water obstructions and encroachments. The BWEW operates one of the few state-level comprehensive flood protection programs in the United States. The program coordinates the planning, design and construction of federal flood control and bank stabilization projects. The Dam Safety Program oversees the regulation of approximately 3,400 dams and reservoirs throughout Pennsylvania to protect residents and property downstream of low, significant and high hazard dams. High hazard dams are defined by the Association of State Dam Safety Officials (ASDSO) as dams where failure or misoperation will likely result in the loss of human life. The term high hazard is not related to the condition of the dam or its likelihood of failure.

The goals of the Waterways and Wetlands Activity are to (1) protect public health and safety related to flooding and hydraulic structures and (2) mitigate any adverse environmental impacts. The desired outcome is that Pennsylvania's residents and environment will be protected from encroachments that could degrade water quality and endanger lives and property.

This activity is partially funded by Chapter 105 permit fees. These fees include dam fees and water obstruction and encroachment fees. Additional revenue for this activity includes submerged lands license charges and limited power annual fees.

### Resources

Waterways and Wetlands: Expenditures and Filled FTE Positions						
	14-15	15-16	16-17	17-18	18-19	19-20
	Actual	Actual	Actual	Actual	Actual	Budget
<b>Expenditures by Object</b>						
Personnel Services	\$20.31	\$20.95	\$21.44	\$20.62	\$20.47	\$22.21
Operational Expenses	2.69	2.88	1.89	2.49	2.51	5.37
Grants	0.77	0.82	0.21	0.24	0.34	0.92
Other	<u>0.33</u>	<u>0.20</u>	<u>0.55</u>	<u>0.10</u>	<u>0.18</u>	<u>-0.32</u>
<b>Total</b>	<b>24.10</b>	<b>24.86</b>	<b>24.09</b>	<b>23.45</b>	<b>23.50</b>	<b>28.18</b>
<b>Expenditures by Fund</b>						
General Fund (State)	\$15.94	\$17.32	\$19.81	\$17.89	\$18.63	\$14.99
General Fund (Augmentations)	2.21	2.00	-0.45	0.76	0.50	1.26
General Fund (Federal)	1.20	1.46	1.32	0.94	0.64	5.64
General Fund (Restricted)	4.35	3.73	2.99	3.52	3.41	3.45
Other Funds	<u>0.40</u>	<u>0.35</u>	<u>0.43</u>	<u>0.35</u>	<u>0.31</u>	<u>2.85</u>
<b>Total</b>	<b>24.10</b>	<b>24.86</b>	<b>24.09</b>	<b>23.45</b>	<b>23.50</b>	<b>28.18</b>
<b>Average Weekly FTE Positions</b>	<b>184</b>	<b>182</b>	<b>174</b>	<b>169</b>	<b>161</b>	<b>168</b>
<b>Personnel Cost/FTE (\$ thousands)</b>	<b>\$110.2</b>	<b>\$115.3</b>	<b>\$123.0</b>	<b>\$122.0</b>	<b>\$127.0</b>	<b>--</b>

Note: Expenditures in dollar millions. Actual expenditures are listed in the year the expenditure was recorded. Due to the allocation of expenditures, data reflect a portion of administrative and executive staff and funding resources.

## Performance Measures and State Benchmarks

Waterways and Wetlands						
	14-15	15-16	16-17	17-18	18-19	19-20
<b>Descriptive</b>						
# Authorization applications received <sup>1</sup>	3,901	4,125	3,752	2,770	2,771	--
# High hazard dams statewide	767	756	752	747	744	744
# High hazard dams with Emergency Action Plan	680	688	695	703	710	717
<b>Output</b>						
# Applications disposed	3,901	3,472	4,049	3,355	2,688	--
# Inspections	884	796	903	891	742	--
Approved Mitigation Banking Credits (stream feet)	1,935	0	4,150	103,085	9,953	75,416
Approved Mitigation Banking Credits (wetland acres)	2	0	3	57	8	100
<b>Efficiency</b>						
% Applications processed on time <sup>2</sup>	94%	93%	86%	93%	92%	95%
% Annual dam inspections conducted on time <sup>3</sup>	87.8%	86.8%	85.9%	86.4%	85.4%	88.0%
<b>Outcome</b>						
% High hazard dams with Emergency Action Plan	89%	91%	92%	94%	95%	96%
% Violations resolved	53%	64%	80%	45%	59%	65%
% Facilities with no recorded violations <sup>4</sup>	99.5%	99.5%	99.6%	99.6%	99.8%	--

Notes:

- 1 Authorizations include permits, licenses and certifications.
- 2 Processed within the time frame allowed in DEP's Permit Decision Guarantee Policy.
- 3 Annual dam inspections are to be conducted by December 31 of each year.
- 4 Not all facilities are inspected in a given year.

High Hazard Dams: Top Ten States (2018)				
	# High Hazard Dams		Have Emergency Action Plan	
	Number	Rank	Percent	Rank
Missouri	1,463	1	30%	47
Texas	1,411	2	80%	30
North Carolina	1,307	3	57%	43
California	805	4	74%	36
<b>Pennsylvania</b>	<b>744</b>	<b>5</b>	<b>95%</b>	<b>11</b>
Georgia	630	6	62%	42
Colorado	453	7	98%	6
Oklahoma	449	8	90%	21
West Virginia	432	9	75%	35
New York	424	10	98%	6
<b>United States</b>	<b>15,629</b>	<b>--</b>	<b>74%</b>	<b>--</b>

Source: U.S. Army Corps of Engineers.

## Activity 4: Chesapeake Bay

The Chesapeake Bay Office has two main functions: (1) develop the Phase 3 Watershed Implementation Plan and (2) coordinate Pennsylvania's activities related to the goals of the Chesapeake Bay Partnership.

The goal of the Chesapeake Bay Activity is to meet EPA requirements in the specified time frame, such as the EPA's Total Maximum Daily Load reduction goals by 2025. The expected outcome is to protect water quality and the wildlife, tourists and industries that rely on the proper management of activities that affect the Bay.

### Resources

Chesapeake Bay: Expenditures and Filled FTE Positions						
	14-15	15-16	16-17	17-18	18-19	19-20
	Actual	Actual	Actual	Actual	Actual	Budget
<b>Expenditures by Object</b>						
Personnel Services	\$3.26	\$3.35	\$3.85	\$3.69	\$3.83	\$4.06
Operational Expenses	1.73	2.33	2.15	2.72	2.71	5.08
Grants	4.97	5.30	5.36	4.79	7.77	11.81
Other	<u>0.39</u>	<u>0.31</u>	<u>0.52</u>	<u>0.42</u>	<u>0.57</u>	<u>0.76</u>
<b>Total</b>	<b>10.35</b>	<b>11.29</b>	<b>11.87</b>	<b>11.62</b>	<b>14.88</b>	<b>21.71</b>
<b>Expenditures by Fund</b>						
General Fund (State)	\$4.75	\$4.75	\$5.00	\$5.11	\$4.99	\$2.06
General Fund (Augmentations)	0.25	0.25	0.31	0.28	0.22	0.30
General Fund (Federal)	4.85	5.80	5.72	5.59	9.02	15.26
General Fund (Restricted)	0.13	0.14	0.23	0.22	0.22	0.21
Environmental Stewardship Fund	0.03	0.03	0.27	0.11	0.15	3.32
Other Funds	<u>0.34</u>	<u>0.32</u>	<u>0.35</u>	<u>0.32</u>	<u>0.28</u>	<u>0.56</u>
<b>Total</b>	<b>10.35</b>	<b>11.29</b>	<b>11.87</b>	<b>11.62</b>	<b>14.88</b>	<b>21.71</b>
<b>Average Weekly FTE Positions</b>	<b>33</b>	<b>33</b>	<b>38</b>	<b>38</b>	<b>39</b>	<b>42</b>
<b>Personnel Cost/FTE (\$ thousands)</b>	<b>\$97.7</b>	<b>\$100.3</b>	<b>\$101.5</b>	<b>\$95.9</b>	<b>\$97.4</b>	<b>--</b>
Note: Expenditures in dollar millions. Actual expenditures are listed in the year the expenditure was recorded. Due to the allocation of expenditures, data reflect a portion of administrative and executive staff and funding resources.						

## Performance Measures and State Benchmarks

Chesapeake Bay						
	14-15	15-16	16-17	17-18	18-19	19-20
<b>Descriptive</b>						
# PA farming operations in the Bay watershed	--	--	--	--	34,000	--
<b>Output</b>						
# Agriculture plans developed <sup>1</sup>	617	24	78	309	389	450
<b>Outcome</b>						
Bay pollution as % of target (Nitrogen) <sup>2</sup>	--	--	--	118%	123%	--
Bay pollution as % of target (Phosphorus) <sup>2</sup>	--	--	--	102%	109%	--
Bay pollution as % of target (Sediment) <sup>2</sup>	--	--	--	107%	--	--
% Agricultural acres inspected <sup>3</sup>	--	--	11%	10%	10%	10%

Notes:

1 Up to 38 conservation districts will employ up to 46 Bay Technicians to provide assistance to agricultural and other landowners to develop nutrient management plans, conservation/agricultural erosion and sedimentation control plans and best management practices.

2 Based on Chesapeake Bay Phase 3 Watershed Implementation Plans (WIP).

3 Percent of total agricultural acreage inspected by DEP and the conservation districts to ensure farms are using management practices that limit nitrogen, phosphorus and sediment runoff.

Chesapeake Bay Pollution by State (2018)						
	2018 Pollution as % of Target			% Pollution Reduction 2009 to 2018		
	N	P	Sed	N	P	Sed
<b>Pennsylvania</b>	<b>123.4%</b>	<b>108.6%</b>	<b>106.9%</b>	<b>4.7%</b>	<b>13.8%</b>	<b>10.1%</b>
Delaware	121.2	99.7	81.5	8.2	14.7	18.0
District of Columbia	63.6	52.9	90.4	41.5	19.7	8.2
Maryland	105.7	94.7	86.6	8.3	10.8	15.0
New York	113.5	98.3	102.0	1.6	14.7	3.0
Virginia	96.8	95.1	100.8	14.6	11.9	7.2
West Virginia	94.6	86.0	82.3	4.2	31.2	25.7

Note: N stands for nitrogen, P stands for phosphorus, Sed stands for sediment. 2017 pollution levels and targets are used for sediment.

Sources: Chesapeake Bay Watershed Implementation Plans from each participating state. U.S. Environmental Protection Agency.

- In 2018, Pennsylvania's pollution into the Bay exceeded its target by 23.4 percent for nitrogen, 8.6 percent for phosphorus and 6.9 percent for sediment.
- From 2009 to 2018, Pennsylvania reduced nitrogen pollution into the Bay by 4.7 percent, phosphorus pollution by 13.8 percent and sediment pollution by 10.1 percent.

### Chesapeake Bay Expenditures by Fiscal Year

	FY 14	FY 15	FY 16	FY 17	FY 18	FY 19
<b>Federal</b>	<b>\$484</b>	<b>\$464</b>	<b>\$494</b>	<b>\$508</b>	<b>\$617</b>	<b>\$307</b>
U.S. Dept. of Agriculture	155	156	161	163	184	160
U.S. Dept. of Commerce	16	16	16	17	16	9
U.S. Dept. of Homeland Security	83	65	80	83	108	31
U.S. Dept. of Interior	46	41	42	38	35	22
U.S. Environmental Protection Agency	184	186	196	204	274	86
<b>State<sup>1</sup></b>	<b>--<sup>2</sup></b>	<b>\$1,274</b>	<b>\$948</b>	<b>\$993</b>	<b>\$951</b>	<b>\$995</b>
District of Columbia	\$28	40	121	146	133	138
Delaware	1	1	1	1	1	1
Maryland	-- <sup>2</sup>	871	429	460	545	563
New York	7	7	9	14	12	12
<b>Pennsylvania</b>	<b>54</b>	<b>87</b>	<b>54</b>	<b>92</b>	<b>57</b>	<b>36</b>
Virginia	177	226	248	245	195	242
West Virginia	18	42	86	36	8	3
<b>Total</b>	<b>--<sup>2</sup></b>	<b>\$1,737</b>	<b>\$1,443</b>	<b>\$1,501</b>	<b>\$1,568</b>	<b>\$1,302</b>

Notes: Figures in dollar millions. Fiscal years 2014 through 2018 are actual expenditures, fiscal year 2019 is budgeted. Federal figures are by federal fiscal year, state figures are by state fiscal year.

1 All state program spending for watershed restoration. Reported by the states to the Chesapeake Bay Program.

Pennsylvania data reflect state and federal expenditures for DEP water programs related to the Chesapeake Bay.

2 Incomplete due to the exclusion of Maryland expenditures.

Source: Chesapeake Bay Program.

### Pennsylvania Financial Support by Agency

	14-15	15-16	16-17	17-18	18-19	19-20
Environmental Protection <sup>1</sup>	<b>\$32.1</b>	<b>\$36.9</b>	<b>\$43.8</b>	<b>\$33.9</b>	<b>\$34.5</b>	--
Conservation and Natural Resources	2.3	3.7	9.0	10.8	4.2	--
Agriculture <sup>2</sup>	26.6	31.1	35.0	34.0	36.5	--
Public Utility Commission <sup>3</sup>	33.9	27.7	25.7	4.1	9.4	--
Other <sup>4</sup>	<u>22.4</u>	<u>31.5</u>	<u>108.1</u>	<u>134.4</u>	<u>71.0</u>	--
<b>Total</b>	<b>117.3</b>	<b>130.9</b>	<b>221.6</b>	<b>217.2</b>	<b>155.6</b>	--

Notes: Figures in dollar millions.

1 Includes Chapters 102 and 105 Program permit processing fees, Conservation District Fund Allocation Program, Growing Greener Program, Environmental Education grants and Dirt and Gravel Roads Program.

2 Includes Farmland Preservation and Resource Enhancement and Protection (REAP) Program funding.

3 Includes Unconventional Gas Well funding.

4 Includes PennVest NPS Stormwater funding and federal funding from the Natural Resource Conservation Service and EPA Section 319 Program.

Source: Department of Environmental Protection.

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## Activity 5: Water Resource Planning

This activity includes (1) the Office of Water Resource Planning, (2) the Division of Planning and Conservation, (3) the Watershed Support Section, (4) the State Water Plan, (5) the Conservation District Support Section and (6) the Compacts and Commissions Office. The office manages the Growing Greener grant program, oversees the department's non-point source pollution remediation program and provides support for conservation districts.

The expenditures within this activity include (1) the Conservation District Fund, which provides grants to 66 County Conservation Districts, (2) County Conservation District Watershed Specialist position grants, which assist 65 counties in funding those positions, (3) Growing Greener and Section 319(h) grants, (4) the Great Lakes Restoration Initiative and (5) the Coastal Resources Management grants within the two coastal areas of Lake Erie and the Delaware Estuary.

The goals of the Water Resource Planning Activity are to oversee the management of Pennsylvania's waters through monitoring, reporting, planning and coordination, and to support that management through grants and technical assistance. The desired outcome is that Pennsylvania's water resources are satisfactory in quality and quantity from a statewide perspective.

### Resources

Water Resource Planning: Expenditures and Filled FTE Positions						
	14-15	15-16	16-17	17-18	18-19	19-20
	Actual	Actual	Actual	Actual	Actual	Budget
<b>Expenditures by Object</b>						
Personnel Services	\$3.27	\$3.96	\$4.72	\$4.16	\$4.41	\$4.05
Operational Expenses	0.99	1.01	1.07	1.12	1.33	2.32
Grants	1.56	2.30	25.02	23.93	25.94	28.89
Other	<u>0.34</u>	<u>0.26</u>	<u>0.58</u>	<u>0.77</u>	<u>0.77</u>	<u>1.46</u>
<b>Total</b>	<b>6.15</b>	<b>7.53</b>	<b>31.39</b>	<b>29.98</b>	<b>32.45</b>	<b>36.73</b>
<b>Expenditures by Fund</b>						
General Fund (State)	\$4.37	\$4.63	\$5.11	\$4.34	\$4.72	\$3.21
General Fund (Augmentations)	0.25	0.26	0.32	0.27	0.22	0.30
General Fund (Federal)	0.86	1.25	6.09	4.54	5.01	12.09
General Fund (Restricted)	0.31	0.44	0.62	0.59	0.95	0.58
Environmental Stewardship Fund <sup>1</sup>	0.03	0.59	14.87	14.62	16.00	17.17
Conservation District Fund <sup>1</sup>	0.00	0.00	3.79	4.49	4.54	2.69
Other Funds	<u>0.34</u>	<u>0.35</u>	<u>0.59</u>	<u>1.13</u>	<u>1.01</u>	<u>0.68</u>
<b>Total</b>	<b>6.15</b>	<b>7.53</b>	<b>31.39</b>	<b>29.98</b>	<b>32.45</b>	<b>36.73</b>
<b>Average Weekly FTE Positions</b>	<b>33</b>	<b>40</b>	<b>48</b>	<b>44</b>	<b>44</b>	<b>47</b>
<b>Personnel Cost/FTE (\$ thousands)</b>	<b>\$99.5</b>	<b>\$98.4</b>	<b>\$98.1</b>	<b>\$93.7</b>	<b>\$99.2</b>	<b>--</b>

Note: Expenditures in dollar millions. Actual expenditures are listed in the year the expenditure was recorded. Due to the allocation of expenditures, data reflect a portion of administrative and executive staff and funding resources.

<sup>1</sup> A reorganization in DEP's water programs shifted expenditures and FTEs to this activity beginning in FY 16-17.

## Performance Measures

Water Resource Planning						
	14-15	15-16	16-17	17-18	18-19	19-20
<b>Outcome</b>						
Pollutants removed through NSPP <sup>1</sup>						
Sediment (million tons)	0.3	0.3	0.2	0.3	--	--
Metals (million pounds)	21.3	21.3	21.5	21.9	--	--
Nutrients (million pounds)	17.8	18.8	15.5	14.7	--	--
Acidity (million pounds)	22.6	23.6	28.9	27.4	--	--
% Coastal consistency determinations						
completed within required time frame	100%	100%	100%	100%	100%	100%
% Drought Contingency Plans completed						
of total applications	49%	75%	69%	58%	72%	75%
Note:						
1 NSPP stands for Nonpoint Source Pollution Program.						

## Activity 6: Vector Management

The Vector Management Activity includes the Black Fly Suppression Program and West Nile Virus Control Program. This activity also includes the newly allocated funding for tick-borne disease surveillance, which at this time is limited to the testing of ticks that are sent to the Bureau of Laboratories. Active surveillance is conducted throughout the Commonwealth for ticks that cause Lyme disease. Ticks are then tested for Lyme disease and other human pathogenic diseases at the Bureau of Laboratories, Vector Management microbiology lab and reported to the Pennsylvania Department of Health.

The goal of the Vector Management Activity is to minimize the exposure of residents to black flies and the West Nile Virus. Suppression activities will continue in targeted areas, and the public should be educated about the indicators of West Nile so they can notify DEP of possible new cases. The expected outcomes are that Pennsylvania's citizens and wildlife will be protected from West Nile Virus, and the number of black flies will be minimized.

### Resources

<b>Vector Management: Expenditures and Filled FTE Positions</b>						
	<b>14-15</b>	<b>15-16</b>	<b>16-17</b>	<b>17-18</b>	<b>18-19</b>	<b>19-20</b>
	<b>Actual</b>	<b>Actual</b>	<b>Actual</b>	<b>Actual</b>	<b>Actual</b>	<b>Budget</b>
<b>Expenditures by Object</b>						
Personnel Services	\$3.83	\$3.90	\$4.05	\$3.70	\$3.77	\$3.68
Operational Expenses	5.09	5.31	4.44	5.88	4.89	7.40
Grants	1.95	1.94	2.13	2.63	2.41	2.71
Other	<u>0.32</u>	<u>0.30</u>	<u>0.71</u>	<u>0.28</u>	<u>0.40</u>	<u>0.17</u>
<b>Total</b>	<b>11.19</b>	<b>11.46</b>	<b>11.33</b>	<b>12.48</b>	<b>11.46</b>	<b>13.96</b>
<b>Expenditures by Fund</b>						
General Fund (State)	\$9.47	\$9.70	\$9.43	\$10.51	\$9.46	\$11.57
General Fund (Augmentations)	1.07	1.10	1.14	1.30	1.41	1.18
General Fund (Federal)	0.16	0.17	0.25	0.17	0.07	0.33
General Fund (Restricted)	0.13	0.14	0.14	0.16	0.21	0.18
Other Funds	<u>0.36</u>	<u>0.35</u>	<u>0.38</u>	<u>0.35</u>	<u>0.31</u>	<u>0.71</u>
<b>Total</b>	<b>11.19</b>	<b>11.46</b>	<b>11.33</b>	<b>12.48</b>	<b>11.46</b>	<b>13.96</b>
<b>Average Weekly FTE Positions</b>	<b>40</b>	<b>39</b>	<b>37</b>	<b>34</b>	<b>34</b>	<b>42</b>
<b>Personnel Cost/FTE (\$ thousands)</b>	<b>\$96.1</b>	<b>\$100.7</b>	<b>\$109.7</b>	<b>\$107.7</b>	<b>\$109.6</b>	<b>--</b>
<p>Note: Expenditures in dollar millions. Actual expenditures are listed in the year the expenditure was recorded. Due to the allocation of expenditures, data reflect a portion of administrative and executive staff and funding resources.</p>						

## Performance Measures and State Benchmarks

Vector Management						
	14-15	15-16	16-17	17-18	18-19	19-20
<b>Descriptive</b>						
# Counties threatened by the spread of WNV <sup>1</sup>	--	--	--	--	--	67
# Counties inundated by black flies	--	--	--	--	--	54
<b>Output</b>						
Acres treated for vector control (thousands)	598	391	464	518	400	400
<b>Efficiency</b>						
Activity cost per acre treated (\$ thousands) <sup>2</sup>	\$18.7	\$29.3	\$24.4	\$24.1	\$28.7	\$29.5
<b>Outcome</b>						
Reported cases of West Nile Virus	13	30	16	20	130	--
West Nile Virus incidence rate <sup>3</sup>	0.10	0.23	0.13	0.16	1.02	--
Reported cases of Lyme disease	7,487	9,427	11,443	11,900	10,208	--
Lyme disease incidence rate <sup>3</sup>	58.6	73.6	89.4	93.1	79.7	--
<b>Benchmark: Incidence Rate State Rank</b>						
West Nile Virus incidence rate <sup>4</sup>	20	19	17	14	36	--
Lyme disease incidence rate <sup>4</sup>	48	48	50	48	49	--
Notes:						
1 WNV stands for West Nile Virus.						
2 Includes all expenditures related to the Vector Management Activity.						
3 Cases per 100,000 people. Population based on U.S. Census Bureau estimates.						
4 For ranks, 50 denotes highest incidence rate in the country.						
Source: Disease data from the National Center for Disease Control (CDC) and PA Department of Health (DOH).						

Interstate Comparison Disease Incidence Rates (2018)				
	Lyme Disease Incidence <sup>1</sup>		West Nile Virus Incidence <sup>1</sup>	
	Rate	Rank	Rate	Rank
<b>Pennsylvania</b>	<b>79.7</b>	<b>49</b>	<b>1.02</b>	<b>36</b>
Delaware	52.2	45	1.03	38
New Jersey	32.3	43	0.68	31
West Virginia	30.7	42	0.11	6
Maryland	14.8	39	0.74	34
New York	12.5	38	0.50	22
Ohio	2.1	33	0.56	26
<b>National</b>	<b>7.2</b>	<b>--</b>	<b>0.81</b>	<b>--</b>
Notes:				
1 Cases per 100,000 persons. Includes neuroinvasive and non-neuroinvasive cases of WNV.				
Sources: For Lyme disease, Pennsylvania rates are from the PA DOH and other states from CDC. For WNV, all data is from the CDC. DOH state data may vary from CDC.				

## Activity 7: Oil and Gas Management

The Office of Oil and Gas Management administers the statewide oil and gas conservation and environmental programs to facilitate the safe exploration, development, and recovery of Pennsylvania's oil and gas resources in a manner that will protect the Commonwealth's natural resources and environment. The office regulates the drilling of wells, the construction of well sites and closely related activities. The office (1) develops policy and programs for the regulation of oil and gas development and production, (2) oversees the oil and gas permitting and inspection programs, (3) develops statewide regulations and standards, (4) conducts training programs for industry and (5) works with the Interstate Oil and Gas Compact Commission.

The goal of the Oil and Gas Activity is to ensure that the extraction of natural resources is performed in a manner that protects the environment and residents' health. The desired outcome is that Pennsylvania's air, soil and waters are kept free from pollutants that may result from oil and gas operations.

This activity is primarily funded by (1) a per well fee that is deposited into the Well Plugging Fund, (2) \$6 million from Act 13 Impact Fee receipts, (3) well permit surcharges that are deposited into the Orphan and Abandoned Well Plugging Funds and (4) civil penalties.

### Resources

Oil and Gas Management: Expenditures and Filled FTE Positions						
	14-15	15-16	16-17	17-18	18-19	19-20
	Actual	Actual	Actual	Actual	Actual	Budget
<b>Expenditures by Object</b>						
Personnel Services	\$18.66	\$19.97	\$20.47	\$18.90	\$19.11	\$21.84
Operational Expenses	3.66	3.76	2.97	3.53	3.76	7.98
Grants	0.06	0.08	0.00	0.00	0.00	0.02
Other	<u>1.31</u>	<u>0.91</u>	<u>1.08</u>	<u>1.04</u>	<u>1.28</u>	<u>1.85</u>
<b>Total</b>	<b>23.69</b>	<b>24.72</b>	<b>24.52</b>	<b>23.47</b>	<b>24.15</b>	<b>31.69</b>
<b>Expenditures by Fund</b>						
General Fund (State)	\$1.48	\$1.75	\$1.76	\$1.80	\$1.86	\$2.09
General Fund (Augmentations)	0.92	0.83	0.84	0.75	0.53	0.88
General Fund (Federal)	0.07	0.11	0.13	0.08	0.13	1.20
General Fund (Restricted)	20.87	21.69	21.42	20.50	20.83	26.69
Other Funds	<u>0.35</u>	<u>0.34</u>	<u>0.38</u>	<u>0.35</u>	<u>0.81</u>	<u>0.82</u>
<b>Total</b>	<b>23.69</b>	<b>24.72</b>	<b>24.52</b>	<b>23.47</b>	<b>24.15</b>	<b>31.69</b>
<b>Average Weekly FTE Positions</b>	<b>195</b>	<b>201</b>	<b>191</b>	<b>181</b>	<b>177</b>	<b>188</b>
<b>Personnel Cost/FTE (\$ thousands)</b>	<b>\$95.8</b>	<b>\$99.6</b>	<b>\$107.0</b>	<b>\$104.6</b>	<b>\$107.7</b>	<b>--</b>

Note: Expenditures in dollar millions. Actual expenditures are listed in the year the expenditure was recorded. Due to the allocation of expenditures, data reflect a portion of administrative and executive staff and funding resources.

## Performance Measures

Oil and Gas Management						
	14-15	15-16	16-17	17-18	18-19	19-20
<b>Descriptive</b>						
# New wells drilled	1,738	704	824	925	892	--
# Authorization applications received <sup>1</sup>	8,087	6,656	6,641	5,851	5,904	--
<b>Output</b>						
# Applications disposed	8,145	6,292	5,655	7,690	6,040	--
# Drilling permits issued	3,554	1,886	1,629	2,516	1,907	--
# Inspections	29,276	35,277	34,590	36,900	37,152	--
# Oil and gas wells plugged by industry	795	889	615	554	486	--
# Oil and gas wells plugged by DEP	46	37	10	26	9	--
<b>Efficiency</b>						
Avg. cost per authorization disposed <sup>2</sup>	\$486	\$654	\$784	\$549	\$714	--
Authorizations disposed per FTE <sup>3</sup>	256	199	175	257	208	--
Avg. cost per inspection <sup>2</sup>	\$224	\$203	\$216	\$181	\$181	--
Inspections per inspector <sup>3</sup>	457	533	516	620	641	--
Avg. response time for all complaints (days)	--	2	8	7	2	--
% Well drilling permits processed on time <sup>4</sup>	--	52%	24%	31%	97%	100%
Avg. business days to process drilling permit	50	43	75	40	22	18
Avg. business days to process ESCGP <sup>5</sup>	78	117	85	66	67	37
<b>Outcome</b>						
Cumulative # wells plugged by industry	--	--	--	--	67,913	68,413
Cumulative # wells plugged by DEP	3,063	3,100	3,110	3,136	3,145	3,149
% New unconventional wells inspected	98%	93%	99%	97%	99%	99%
% Sites in full compliance <sup>6</sup>	98%	99%	98%	97%	96%	--
# Times DEP determines that a water supply was adversely affected by oil and gas activities	29	23	7	20	47	--
Notes:						
1 Authorizations include permits, licenses and certifications.						
2 Average costs do not reflect certain non-personnel expenses.						
3 Includes only the FTEs associated with authorization disposals or inspections for respective metrics.						
4 Permits processed within the time frame allowed in DEP's Permit Decision Guarantee Policy.						
5 ESCGP stands for Erosion and Sediment Control General Permit.						
6 Not all sites are inspected in a given year.						

## State and Regional Benchmarks

### Interstate Oil and Gas Management Comparison

	14-15	16-17	18-19
<u># Oil and gas drilling permits issued</u>			
Pennsylvania	3,554	1,629	1,907
Texas	25,792	8,113	13,307
West Virginia	638	223	433
<u>Avg. # days to process a drilling permit</u>			
Pennsylvania (business days)	50	75	22
Texas	15	3	3
West Virginia	85	109	102
<u>% Oil and gas inspections with violations</u>			
Pennsylvania	3.4%	2.4%	3.4%
Texas	14.1%	15.8%	8.0%
West Virginia	13.2%	5.6%	1.7%

Sources: Texas Railroad Commission, Pennsylvania Department of Environmental Protection and West Virginia Department of Environmental Protection.

### Pennsylvania Regional Comparison of Oil and Gas Permitting and Inspections

	14-15	15-16	16-17	17-18	18-19	19-20
<u># Oil and gas drilling permits issued</u>						
Southwest	952	760	729	1,346	824	--
Northwest	1,382	527	359	477	444	--
North-Central	1,220	599	541	693	639	--
<u>Avg. calendar days to issue drilling permit</u>						
Southwest	--	55	112	97	27	26
Northwest	--	31	49	53	28	23
<u>Avg. calendar days to issue ESCGP<sup>1</sup></u>						
Southwest	--	143	149	116	123	89
Northwest	--	120	126	61	--	54
North-Central	--	71	61	63	65	56
<u># Oil and gas inspections</u>						
Southwest	8,900	9,310	9,500	9,898	9,952	--
Northwest	13,500	14,442	12,988	13,082	11,988	--
North-Central	6,876	11,525	12,102	13,920	15,212	--
<u>% Inspections non-compliant<sup>2</sup></u>						
Southwest	1%	1%	1%	2%	2%	--
Northwest	3%	5%	5%	2%	1%	--
North-Central	3%	3%	3%	3%	2%	--

Notes:

1 ESCGP stands for Erosion and Sediment Control General Permit. Standard permit applications only.

2 Unconventional wells only.

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## Activity 8: Air Quality

The Air Quality Activity safeguards the health of Pennsylvanians by implementing the federal Clean Air Act and the Pennsylvania Air Pollution Control Act. This activity permits and inspects sources of air pollution, responds to air quality complaints and participates in emergency response. This activity includes the Volkswagen Settlement Trust Fund projects, which receive grants and rebate reimbursement for the purpose of reducing air pollution from diesel vehicles. As of December 2019, the total amount of funding awarded for grants and approved for rebate vouchers is \$24 million (including \$0.8 million in federal funds), of which \$9.1 million has been approved for reimbursement for completed projects and \$0.4 million has been reimbursed to the Commonwealth for administrative expenditures.

The goal of the Air Quality Activity is to ensure that Pennsylvania's air quality meets or exceeds National Ambient Air Quality Standards (NAAQS). This requires monitoring in key areas, upholding standards through permitting and inspection activities and prompt enforcement. The desired outcome is that Pennsylvania's air quality will minimize respiratory ailments and other health issues related to general air quality.

This activity is partially funded by permit fees, annual emission fees and civil penalties collected from regulated facilities.

### Resources

Air Quality: Expenditures and Filled FTE Positions						
	14-15	15-16	16-17	17-18	18-19	19-20
	Actual	Actual	Actual	Actual	Actual	Budget
<b>Expenditures by Object</b>						
Personnel Services	\$26.42	\$27.31	\$28.17	\$27.35	\$28.41	\$26.96
Operational Expenses	6.25	5.91	5.86	5.95	5.71	12.03
Grants	1.29	1.02	1.04	1.36	1.11	2.12
Other	<u>5.60</u>	<u>6.68</u>	<u>7.26</u>	<u>6.59</u>	<u>5.43</u>	<u>13.14</u>
<b>Total</b>	<b>39.55</b>	<b>40.93</b>	<b>42.33</b>	<b>41.24</b>	<b>40.66</b>	<b>54.23</b>
<b>Expenditures by Fund</b>						
General Fund (State)	\$9.69	\$10.10	\$10.26	\$10.05	\$9.67	\$9.84
General Fund (Augmentations)	1.21	1.03	1.07	0.96	0.69	1.13
General Fund (Federal)	5.72	5.82	6.18	7.00	7.38	14.69
General Fund (Restricted)	0.16	0.28	0.26	0.20	0.18	0.26
Clean Air Fund	22.52	23.43	24.28	22.74	22.49	26.66
Other Funds	<u>0.27</u>	<u>0.27</u>	<u>0.28</u>	<u>0.28</u>	<u>0.26</u>	<u>1.66</u>
<b>Total</b>	<b>39.55</b>	<b>40.93</b>	<b>42.33</b>	<b>41.24</b>	<b>40.66</b>	<b>54.23</b>
<b>Average Weekly FTE Positions</b>	<b>259</b>	<b>253</b>	<b>247</b>	<b>241</b>	<b>241</b>	<b>236</b>
<b>Personnel Cost/FTE (\$ thousands)</b>	<b>\$102.1</b>	<b>\$107.9</b>	<b>\$114.2</b>	<b>\$113.4</b>	<b>\$117.9</b>	<b>--</b>

Note: Expenditures in dollar millions. Actual expenditures are listed in the year the expenditure was recorded. Due to the allocation of expenditures, data reflect a portion of administrative and executive staff and funding resources.

## Performance Measures

Air Quality						
	14-15	15-16	16-17	17-18	18-19	19-20
<b><u>Descriptive</u></b>						
# Authorization applications received <sup>1</sup>	1,992	1,910	1,985	1,829	1,811	--
Hazardous air pollutants emitted (tons)	9,173	6,793	6,331	6,352	--	--
Total VW Settlement grant and rebate awards (\$ millions)	--	--	--	--	\$24	--
<b><u>Output</u></b>						
# Applications disposed	1,990	1,941	1,913	1,997	1,830	--
# Inspections	9,727	10,097	9,772	9,237	9,976	--
Penalties collected (\$ millions)	\$2.4	\$2.2	\$3.8	\$3.4	\$3.5	\$5.6
<b><u>Efficiency</u></b>						
% Air quality violations addressed in 180 days <sup>2</sup>	42%	31%	42%	39%	25%	52%
% Permits processed on time <sup>3</sup>	89%	87%	80%	79%	88%	90%
Avg. response time for all complaints (days)	11	6	7	6	7	6
% Due inspections conducted on time <sup>4</sup>						
Major facilities	98.5%	100.0%	100.0%	99.7%	99.6%	--
Minor facilities	100.0%	99.7%	99.5%	99.5%	99.7%	--
<b><u>Outcome</u></b>						
% Population living in counties meeting the 2015 Ambient Ozone Standard						
	--	60%	64%	69%	56%	76%
% Facilities with no recorded violations <sup>5</sup>	92%	93%	93%	94%	93%	--
% Violations resolved	71%	77%	75%	72%	65%	75%
VW Settlement NO <sub>x</sub> reductions achieved (tons)						
Annual	--	--	--	--	11.6	--
Lifetime	--	--	--	--	55.5	--
Notes:						
1 Authorizations include permits, licenses and certifications.						
2 High priority violations only.						
3 Processed within the time frame allowed in DEP's Permit Decision Guarantee Policy.						
4 Based on the required EPA inspection frequency for major and minor air quality facilities.						
5 Not all facilities are inspected in a given year.						

## Benchmarks

### Percent of Monitored Days with Good Air Quality in Metro Areas

	2004	2014	2018
Erie, PA	51.9%	62.8%	76.7%
Harrisburg, PA	39.3%	47.9%	68.8%
Pittsburgh, PA	10.7%	29.0%	37.3%
Philadelphia, PA	19.4%	23.0%	36.2%
Scranton, PA	55.5%	71.2%	82.2%
Baltimore, MD	26.8%	41.9%	57.0%
Chicago, IL	7.9%	16.4%	32.1%
Columbus, OH	31.7%	58.6%	69.6%
Detroit, MI	26.8%	34.8%	37.5%
New York, NY	21.0%	35.9%	42.7%
Washington, D.C.	27.6%	47.9%	53.2%

Note: AQI measurements based on Core-Based Statistical Areas (CBSA), which do not directly correspond to county monitors. For example, Philadelphia includes Camden, NJ and Wilmington, DE.

Source: U.S. Environmental Protection Agency.

### Percent of Monitored Days with Good Air Quality by County

County	2004	2014	2018	County	2004	2014	2018
Adams	46.7%	74.5%	80.5%	Indiana	68.9%	83.8%	90.4%
Allegheny	22.1%	45.8%	43.6%	Lackawanna	61.2%	71.8%	83.8%
Armstrong	71.0%	61.0%	81.9%	Lancaster	62.3%	34.2%	67.4%
Beaver	30.6%	60.5%	67.4%	Lawrence	71.2%	90.7%	91.9%
Berks	63.9%	58.1%	74.0%	Lebanon	--	52.9%	71.2%
Blair	75.3%	61.6%	81.8%	Lehigh	46.4%	91.5%	74.5%
Bradford	--	100.0%	87.1%	Luzerne	58.1%	94.5%	93.2%
Bucks	74.3%	56.4%	86.5%	Lycoming	83.4%	94.2%	94.8%
Cambria	63.4%	59.7%	81.8%	Mercer	52.2%	58.1%	76.4%
Centre	51.6%	71.5%	78.4%	Monroe	--	75.0%	89.9%
Chester	51.8%	59.5%	75.2%	Montgomery	74.0%	71.0%	80.7%
Clearfield	75.0%	95.1%	93.3%	Northampton	39.3%	60.5%	68.8%
Cumberland	47.2%	60.7%	74.0%	Philadelphia	36.6%	36.2%	59.5%
Dauphin	40.7%	56.2%	76.4%	Somerset	--	95.6%	92.4%
Delaware	64.8%	50.1%	52.9%	Susquehanna	--	--	92.0%
Elk	--	94.2%	92.6%	Tioga	78.0%	93.1%	89.3%
Erie	51.9%	62.8%	76.7%	Warren	69.3%	80.8%	99.5%
Fayette	--	--	80.3%	Washington	30.6%	39.2%	63.8%
Franklin	73.1%	92.3%	97.2%	Westmoreland	62.6%	63.8%	88.2%
Greene	73.0%	90.4%	89.7%	York	58.5%	63.6%	73.4%

Note: Not all counties have an outdoor monitor for AQI. Missing data denote no monitor in that year.

Source: U.S. Environmental Protection Agency. Calculations by the IFO.

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## Activity 9: Radiation Protection

The Radiation Protection Activity's areas include: radioactive material, radiation producing machines, radon, nuclear safety, low-level radioactive waste, emergency response and decommissioning/environmental surveillance around nuclear power plants. The activity (1) certifies all radon testers, mitigators and laboratories, (2) certifies or licenses activities involving the management, transportation, use or processing of radioactive materials and (3) registers or licenses radiation-producing machines (for example, X-ray machines).

The goals of the Radiation Protection Activity are to ensure that radioactive materials are properly used, transported and disposed of, and that radiological emergencies are properly addressed. Public education about radon testing must continue, especially in key areas of Pennsylvania where radon levels are among the highest in the nation. The desired outcome is that Pennsylvania's residents will be exposed to the minimum amount of controllable radiation.

This activity is primarily funded by fees collected for nuclear power plant surveillance and emergency response, radioactive material licenses, registrations of radiation-producing machines and the certification of radon services.

### Resources

Radiation Protection: Expenditures and Filled FTE Positions						
	14-15	15-16	16-17	17-18	18-19	19-20
	Actual	Actual	Actual	Actual	Actual	Budget
<b>Expenditures by Object</b>						
Personnel Services	\$11.06	\$11.19	\$11.71	\$11.82	\$12.40	\$12.72
Operational Expenses	2.58	2.44	2.46	2.44	2.44	5.47
Grants	0.14	0.17	0.19	0.10	0.06	0.23
Other	<u>1.29</u>	<u>0.90</u>	<u>0.94</u>	<u>0.33</u>	<u>0.34</u>	<u>0.75</u>
<b>Total</b>	<b>15.07</b>	<b>14.70</b>	<b>15.30</b>	<b>14.68</b>	<b>15.24</b>	<b>19.17</b>
<b>Expenditures by Fund</b>						
General Fund (State)	1.94	2.04	2.14	2.09	2.21	2.01
General Fund (Augmentations)	0.56	0.50	0.50	0.48	0.37	0.54
General Fund (Federal)	1.16	0.81	0.85	0.69	0.85	1.39
General Fund (Restricted)	11.03	10.98	11.41	11.04	11.47	14.50
Other Funds	<u>0.38</u>	<u>0.38</u>	<u>0.42</u>	<u>0.39</u>	<u>0.34</u>	<u>0.73</u>
<b>Total</b>	<b>15.07</b>	<b>14.70</b>	<b>15.30</b>	<b>14.68</b>	<b>15.24</b>	<b>19.17</b>
<b>Average Weekly FTE Positions</b>	<b>106</b>	<b>104</b>	<b>100</b>	<b>101</b>	<b>104</b>	<b>110</b>
<b>Personnel Cost/FTE (\$ thousands)</b>	<b>\$103.9</b>	<b>\$107.1</b>	<b>\$117.0</b>	<b>\$117.2</b>	<b>\$118.7</b>	<b>--</b>

Note: Expenditures in dollar millions. Actual expenditures are listed in the year the expenditure was recorded. Due to the allocation of expenditures, data reflect a portion of administrative and executive staff and funding resources.

## Performance Measures

Radiation Protection						
	14-15	15-16	16-17	17-18	18-19	19-20
<b>Descriptive</b>						
# Authorization applications received <sup>1</sup>	570	633	560	601	557	--
# Radiation-producing machine registrations	10,671	10,781	10,576	10,452	--	--
# Radioactive material/accelerator licenses	1,127	1,122	1,112	1,105	--	--
# Radon service provider certifications	719	610	627	654	--	--
<b>Output</b>						
# Applications disposed	567	612	542	673	561	--
# Inspections	3,692	3,847	3,697	3,814	3,918	--
<b>Efficiency</b>						
% Due inspections conducted on time	100%	100%	100%	100%	100%	100%
Avg. response time for all complaints (days)	6	10	6	10	14	6
<b>Outcome</b>						
# Buildings with radon mitigated <sup>2</sup>	14,682	13,735	13,323	13,728	13,500	13,500
FEMA-graded Emergency Response Drills achieving highest possible grade	100%	100%	100%	100%	100%	100%
% Violations resolved	83%	78%	82%	80%	78%	85%
% Facilities with no recorded violations	96.9%	97.0%	97.1%	97.0%	96.7%	--
Notes:						
1 Authorizations include permits, licenses and certifications.						
2 DEP inspects and certifies radon service firms that install radon mitigation systems in homes and buildings.						

## State Benchmarks

Percent of Population Living in Zone 1 Counties (2018)		
	% Population in Zone 1	Rank
<b>Pennsylvania</b>	<b>64.7%</b>	<b>10</b>
<u>Top 5 States</u>		
North Dakota	100.0%	1
Iowa	99.4%	2
Colorado	94.9%	3
Montana	94.9%	4
Nevada	93.5%	5
<b>National</b>	<b>25.2%</b>	<b>--</b>
Note: Zone 1 counties are those with predicted average indoor radon screening levels greater than 4 picocuries per liter (pCi/L). EPA recommends that residents consider fixing their home for radon levels higher than 2 pCi/L.		
Source: U.S. Environmental Protection Agency.		

## Activity 10: Waste Management

The Waste Management Activity manages the statewide hazardous, municipal and residual waste programs. The activity (1) administers the municipal solid waste planning program, recycling and recycling grant programs and household hazardous waste (HHW) program, (2) provides oversight and management of the permitting and compliance of storage, processing, beneficial use, composting and disposal of solid waste, (3) permits and monitors solid waste collection, transportation, transfer, processing, resource recovery and disposal facilities, (4) implements the Waste Transportation Safety Program and (5) collects fees and reports associated with waste management operations in the Commonwealth. For the latest fiscal year, the expenditures for this activity include grants awarded to 59 counties for Recycling Coordinator reimbursement, 195 municipal recycling programs, seven counties for preparing municipal waste plans and 608 localities for municipal recycling performance.

The goal of the Waste Management Activity is to ensure that solid waste is handled, transported and disposed of properly. The desired outcomes are that the proportion of solid waste that is recycled will continue to increase, consumers and manufacturers will continue to minimize the amount of waste created and hazardous waste will be managed with no harm to public health or the environment.

This activity is partially funded by fees related to the receipt of waste at landfills and permits for waste facilities. It also includes collection of fines, penalties and bond forfeitures.

### Resources

Waste Management: Expenditures and Filled FTE Positions						
	14-15 Actual	15-16 Actual	16-17 Actual	17-18 Actual	18-19 Actual	19-20 Budget
<b>Expenditures by Object</b>						
Personnel Services	\$19.30	\$19.67	\$20.69	\$19.85	\$19.42	\$19.16
Operational Expenses	5.04	4.48	7.81	4.71	4.26	11.02
Grants	26.44	40.87	29.84	28.38	35.87	57.03
Other	<u>3.96</u>	<u>3.88</u>	<u>4.14</u>	<u>2.81</u>	<u>1.82</u>	<u>6.23</u>
<b>Total</b>	<b>54.74</b>	<b>68.90</b>	<b>62.49</b>	<b>55.75</b>	<b>61.36</b>	<b>93.44</b>
<b>Expenditures by Fund</b>						
General Fund (State)	\$12.74	\$12.99	\$15.33	\$13.25	\$12.96	\$12.94
General Fund (Augmentations)	0.91	0.79	0.80	0.74	0.52	0.86
General Fund (Federal)	3.97	4.12	4.65	3.80	3.98	7.51
General Fund (Restricted)	6.11	5.71	7.68	6.13	4.45	7.46
Recycling Fund	28.73	43.08	31.66	29.39	37.77	61.35
Hazardous Sites Cleanup Fund	2.05	1.98	2.11	2.22	1.50	2.29
Other Funds	<u>0.24</u>	<u>0.23</u>	<u>0.26</u>	<u>0.23</u>	<u>0.19</u>	<u>1.04</u>
<b>Total</b>	<b>54.74</b>	<b>68.90</b>	<b>62.49</b>	<b>55.75</b>	<b>61.36</b>	<b>93.44</b>
<b>Average Weekly FTE Positions</b>	<b>191</b>	<b>187</b>	<b>181</b>	<b>178</b>	<b>169</b>	<b>170</b>
<b>Personnel Cost/FTE (\$ thousands)</b>	<b>\$100.8</b>	<b>\$105.0</b>	<b>\$114.3</b>	<b>\$111.5</b>	<b>\$115.1</b>	<b>--</b>

Note: Expenditures in dollar millions. Actual expenditures are listed in the year the expenditure was recorded. Due to the allocation of expenditures, data reflect a portion of administrative and executive staff and funding resources.

## Performance Measures

Waste Management						
	14-15	15-16	16-17	17-18	18-19	19-20
<b>Descriptive</b>						
# Authorization applications received <sup>1</sup>	14,342	14,281	14,549	14,552	14,480	--
Out-of-state waste received (million tons)	7.2	7.1	7.5	7.9	8.3	--
In-state waste received (million tons)	14.3	14.3	13.9	14.9	15.5	--
Fees received for out-of-state waste (\$ millions)	\$36.7	\$36.3	\$38.5	\$39.7	\$42.6	--
Fees received for in-state waste (\$ millions)	\$69.0	\$69.1	\$67.5	\$72.0	\$74.8	--
% Landfills with at least 25% available airspace	80%	76%	79%	81%	80%	80%
<b>Output</b>						
# Applications disposed	14,287	14,184	14,533	14,601	14,477	--
# Inspections	6,077	6,406	5,614	5,429	5,415	--
<b>Efficiency</b>						
% Applications processed on time <sup>2</sup>	99%	99%	99%	99%	99%	99%
Avg. response time for all complaints (days)	11	11	9	9	9	9
<b>Outcome</b>						
Municipal solid waste disposed per capita (tons)	0.67	0.68	0.68	0.67	0.70	0.70
Municipal solid waste recycled (million tons)	--	7.15	10.30	7.25	7.30	7.35
E-waste recycled (million tons)	--	62.3	62.7	58.1	58.0	58.0
% Violations resolved	87%	87%	81%	82%	80%	85%
% Facilities with no recorded violations <sup>3</sup>	97.2%	97.0%	97.2%	97.0%	97.3%	--
Notes:						
1 Authorizations include permits, licenses and certifications.						
2 Processed within the time frame allowed in DEP's Permit Decision Guarantee Policy.						
3 Not all facilities are inspected in a given year.						



# Activity 11: Environmental Cleanup and Brownfields

The Environmental Cleanup and Brownfields Activity remediates contaminated properties and prevents releases from regulated storage tanks. This activity includes (1) the Land Recycling Division, which encourages the voluntary cleanup and reuse of contaminated commercial and industrial sites, (2) the Site Remediation Division, which manages the Hazardous Sites Cleanup Program (funded by the Hazardous Sites Cleanup Act (HSCA)), and coordinates with EPA on Superfund activities, among other duties and (3) the Storage Tank Division, which implements regulations for aboveground and underground storage tanks (AST and UST).

The goals of the Environmental Cleanup and Brownfields Program are to (1) facilitate public sector cleanup of contaminated, vacant or otherwise underutilized properties and return them to productive use and (2) protect residents and the environment from storage tank releases. The desired outcomes are that contaminated sites are returned to an ecologically and economically useful state and storage tank leaks are prevented.

This activity is partially funded by annual registration fees collected for aboveground and underground storage tanks, storage tank installation permit fees, Act 2 report review fees and unconventional gas well impact fees.

## Resources

Environmental Cleanup and Brownfields: Expenditures and Filled FTE Positions						
	14-15	15-16	16-17	17-18	18-19	19-20
	Actual	Actual	Actual	Actual	Actual	Budget
<b>Expenditures by Object</b>						
Personnel Services	\$22.83	\$24.34	\$24.46	\$22.59	\$23.10	\$20.87
Operational Expenses	13.34	28.20	19.09	19.45	21.85	34.31
Grants	6.10	6.20	6.17	2.03	2.40	7.81
Other	<u>4.29</u>	<u>3.78</u>	<u>3.98</u>	<u>3.76</u>	<u>3.31</u>	<u>4.52</u>
<b>Total</b>	<b>46.55</b>	<b>62.51</b>	<b>53.71</b>	<b>47.83</b>	<b>50.66</b>	<b>67.51</b>
<b>Expenditures by Fund</b>						
General Fund (State)	\$2.05	\$2.27	\$2.51	\$2.43	\$2.62	\$2.63
General Fund (Augmentations)	1.02	0.90	0.90	0.81	0.62	0.97
General Fund (Federal)	0.61	0.52	0.65	0.54	0.48	1.07
General Fund (Restricted)	0.35	0.46	0.45	0.42	0.38	0.51
Hazardous Sites Cleanup Fund	29.32	45.46	35.68	32.02	33.04	42.50
Storage Tank Fund	10.05	10.08	10.40	8.81	10.59	13.95
UST Indemnification Fund	2.85	2.66	2.73	2.63	2.83	5.39
Other Funds	<u>0.30</u>	<u>0.16</u>	<u>0.40</u>	<u>0.17</u>	<u>0.11</u>	<u>0.49</u>
<b>Total</b>	<b>46.55</b>	<b>62.51</b>	<b>53.71</b>	<b>47.83</b>	<b>50.66</b>	<b>67.51</b>
<b>Average Weekly FTE Positions</b>	<b>219</b>	<b>220</b>	<b>208</b>	<b>197</b>	<b>198</b>	<b>210</b>
<b>Personnel Cost/FTE (\$ thousands)</b>	<b>\$104.3</b>	<b>\$110.6</b>	<b>\$117.8</b>	<b>\$114.5</b>	<b>\$116.9</b>	<b>--</b>

Note: Expenditures in dollar millions. Actual expenditures are listed in the year the expenditure was recorded. Due to the allocation of expenditures, data reflect a portion of administrative and executive staff and funding resources.

## Performance Measures

Environmental Cleanup and Brownfields						
	14-15	15-16	16-17	17-18	18-19	19-20
<b>Descriptive</b>						
# Authorization applications received <sup>1</sup>	2,000	2,094	1,591	2,063	1,697	--
# Authorized storage tank facilities	--	--	12,262	--	--	12,514
# AST owners	--	--	3,536	--	--	3,508
# UST owners	--	4,311	4,236	4,180	4,079	4,002
Costs of active sites under HSCA (\$ millions)	\$16.0	\$23.4	\$19.5	\$16.4	\$20.4	\$20.5
<b>Output</b>						
# Applications disposed	1,973	2,094	1,569	2,040	1,682	--
# Inspections	7,812	8,107	6,968	7,323	7,824	--
# Active sites being remediated under HSCA	125	97	89	94	95	100
<b>Efficiency</b>						
% Applications processed on time <sup>2</sup>	100%	100%	100%	100%	100%	100%
Avg. response time for all complaints (days)	3	3	6	7	5	5
<b>Outcome</b>						
VCP: # sites completed <sup>3</sup>	389	355	346	369	350	350
VCP: # acres remediated <sup>3</sup>	3,345	3,053	2,976	3,173	3,010	3,010
AST compliance rate <sup>4</sup>	64%	60%	56%	54%	51%	57%
UST compliance rate <sup>4</sup>	75%	76%	69%	69%	66%	72%
% Storage tank releases cleaned up	89%	89%	90%	90%	91%	91%
% Violations resolved	75%	78%	78%	76%	84%	85%
% Facilities with no recorded violations <sup>5</sup>	90%	90%	91%	89%	89%	--
Notes:						
1 Authorizations include permits, licenses and certifications.						
2 Permits processed within the time frame allowed in DEP's Permit Decision Guarantee Policy.						
3 VCP stands for Voluntary Cleanup Program.						
4 Percentage of third-party inspections of storage tanks that show operational compliance during the fiscal year. Regulated UST systems are required to be inspected at least once every three years.						
5 Not all facilities are inspected in a given year.						

## Activity 12: Mining Programs and District Operations

This activity includes the Bureau of Mining Programs and the Bureau of District Mining Operations. The Bureau of Mining Programs develops and implements policy, procedures, documents, scientific analysis, technical guidance and statistical reporting in support of mine permitting, licensing and compliance operations. The Bureau of District Mining Operations implements the program through permitting, inspections and enforcement for mine sites for a given region or specific mining type. There are six District Mining Offices (DMOs) located in Knox, Pottsville, Cambria, California, Moshannon and New Stanton.

The goals of the Mining Program and the District Mining Offices are to ensure that mining activities are performed in a manner that protects residents and the environment in compliance with state and federal regulations. The expected outcome is that all mining activities will have minimal impact on Pennsylvania's soils, waters and mineral resources.

This activity is partially funded by fees collected for various types of mining permits as well as fees associated with other mining-related activities.

### Resources

<b>Mining Programs and District Operations: Expenditures and Filled FTE Positions</b>						
	<b>14-15</b>	<b>15-16</b>	<b>16-17</b>	<b>17-18</b>	<b>18-19</b>	<b>19-20</b>
	<b>Actual</b>	<b>Actual</b>	<b>Actual</b>	<b>Actual</b>	<b>Actual</b>	<b>Budget</b>
<b>Expenditures by Object</b>						
Personnel Services	\$23.53	\$24.24	\$25.80	\$25.08	\$24.46	\$23.04
Operational Expenses	5.72	6.04	6.65	6.42	6.09	14.39
Grants	1.51	2.30	1.70	1.54	1.81	3.15
Other	<u>4.03</u>	<u>3.09</u>	<u>3.79</u>	<u>3.42</u>	<u>4.50</u>	<u>11.74</u>
<b>Total</b>	<b>34.79</b>	<b>35.66</b>	<b>37.94</b>	<b>36.46</b>	<b>36.87</b>	<b>52.32</b>
<b>Expenditures by Fund</b>						
General Fund (State)	\$12.32	\$12.57	\$13.74	\$12.58	\$12.60	\$13.12
General Fund (Augmentations)	1.17	1.04	1.07	0.98	0.67	1.12
General Fund (Federal)	10.74	10.43	11.05	11.00	11.98	18.87
General Fund (Restricted)	1.07	0.84	1.01	1.38	0.92	1.02
Coal & Clay Mine Subsidence Insurance	3.17	3.49	3.73	4.29	3.99	6.25
Noncoal Surface Mining Conservation	2.77	3.03	3.56	3.59	3.57	4.00
Surface Mining Conserv & Reclamation	3.09	3.47	3.14	2.13	2.55	5.43
Other Funds	<u>0.45</u>	<u>0.79</u>	<u>0.64</u>	<u>0.52</u>	<u>0.59</u>	<u>2.51</u>
<b>Total</b>	<b>34.79</b>	<b>35.66</b>	<b>37.94</b>	<b>36.46</b>	<b>36.87</b>	<b>52.32</b>
<b>Average Weekly FTE Positions</b>	<b>239</b>	<b>238</b>	<b>237</b>	<b>233</b>	<b>220</b>	<b>229</b>
<b>Personnel Cost/FTE (\$ thousands)</b>	<b>\$98.4</b>	<b>\$101.6</b>	<b>\$108.8</b>	<b>\$107.5</b>	<b>\$111.3</b>	<b>--</b>

Note: Expenditures in dollar millions. Actual expenditures are listed in the year the expenditure was recorded. Due to the allocation of expenditures, data reflect a portion of administrative and executive staff and funding resources.

## Performance Measures

Mining Programs and District Operations						
	14-15	15-16	16-17	17-18	18-19	19-20
<b><u>Descriptive</u></b>						
# Authorization applications received <sup>1</sup>	5,611	6,162	5,320	5,854	5,184	--
<b><u>Output</u></b>						
New mine subsidence insurance policies	2,832	3,221	5,681	5,295	5,400	5,700
# Applications disposed	5,648	5,603	5,490	5,738	5,483	--
# Inspections	22,013	21,470	20,999	19,885	18,141	--
<b><u>Efficiency</u></b>						
Avg. cost per authorization disposed <sup>2</sup>	\$1,197	\$1,235	\$1,365	\$1,250	\$1,437	--
Authorizations disposed per FTE <sup>3</sup>	108	110	103	116	107	--
Avg. cost per inspection <sup>2</sup>	\$351	\$377	\$404	\$413	\$427	--
Inspections per inspector <sup>3</sup>	305	294	279	274	279	--
% Permits processed on time <sup>4</sup>	78%	80%	96%	89%	88%	90%
% Due inspections conducted on time	81%	89%	90%	92%	90%	90%
Avg. response time for all complaints (days)	3	3	5	4	4	4
<b><u>Outcome</u></b>						
Mine subsidence insurance policies in place	58,011	58,137	60,526	62,441	63,541	64,500
% Coal mining permits free from off-site impacts	94%	94%	93%	90%	90%	92%
% Violations resolved	84%	78%	90%	87%	83%	85%
% Facilities with no recorded violations <sup>5</sup>	90%	90%	91%	90%	89%	90%
Notes:						
1 Authorizations include permits, licenses and certifications.						
2 Average costs do not reflect certain non-personnel expenses.						
3 Includes only the FTEs associated with authorization disposals or inspections for respective metrics.						
4 Processed within the time frame allowed in DEP's Permit Decision Guarantee Policy.						
5 Not all facilities are inspected in a given year.						

## Activity 13: Abandoned Mine Reclamation

The Abandoned Mine Reclamation Activity resolves mine fires, mine subsidence, dangerous highwalls, open shafts and portals, mining-impacted water supplies and other hazards resulting from pre-1977 coal mining practices. These activities are conducted in accordance with requirements established by the federal Office of Surface Mining (OSM) and under authority of the Surface Mining Control and Reclamation Act (SMCRA). Grants to Pennsylvania from OSM provide the funding for Abandoned Mine Lands (AML). The SMCRA requires that active coal operators pay an AML fee on each ton of coal mined. The OSM collects the fee and distributes it through annual grants to the AML states and tribes according to a distribution formula established in the law.

The goal of the Abandoned Mine Reclamation Activity is to restore the lands affected by historical mining operations to a suitable condition. The desired outcome is that abandoned mine lands will be safe for residents and the environment and will minimize the risk of mine fires, subsidence, safety hazards and acid mine drainage into Pennsylvania's waters.

This activity is primarily funded by annual grants from the federal AML Fund, which is funded by the coal industry via fees paid on each ton of coal mined.

### Resources

<b>Abandoned Mine Reclamation: Expenditures and Filled FTE Positions</b>						
	<b>14-15</b>	<b>15-16</b>	<b>16-17</b>	<b>17-18</b>	<b>18-19</b>	<b>19-20</b>
	<b>Actual</b>	<b>Actual</b>	<b>Actual</b>	<b>Actual</b>	<b>Actual</b>	<b>Budget</b>
<b>Expenditures by Object</b>						
Personnel Services	\$14.61	\$15.97	\$18.20	\$17.70	\$19.00	\$21.31
Operational Expenses	27.07	23.11	47.84	34.91	30.64	76.85
Grants	0.23	0.40	0.94	2.63	5.14	4.47
Other	<u>3.88</u>	<u>5.04</u>	<u>6.04</u>	<u>9.25</u>	<u>5.67</u>	<u>26.39</u>
<b>Total</b>	<b>45.79</b>	<b>44.51</b>	<b>73.02</b>	<b>64.49</b>	<b>60.45</b>	<b>129.02</b>
<b>Expenditures by Fund</b>						
General Fund (State)	\$3.97	\$4.26	\$4.42	\$4.86	\$4.36	\$4.03
General Fund (Augmentations)	0.76	0.70	0.78	0.72	0.53	0.79
General Fund (Federal)	39.85	36.18	55.79	52.34	45.30	99.94
General Fund (Restricted)	0.11	0.12	0.16	0.12	0.15	0.16
Acid Mine Drainage Abate. & Treatment	0.13	2.22	10.98	5.66	9.16	22.18
Other Funds	<u>0.97</u>	<u>1.03</u>	<u>0.90</u>	<u>0.79</u>	<u>0.95</u>	<u>1.92</u>
<b>Total</b>	<b>45.79</b>	<b>44.51</b>	<b>73.02</b>	<b>64.49</b>	<b>60.45</b>	<b>129.02</b>
<b>Average Weekly FTE Positions</b>	<b>153</b>	<b>163</b>	<b>174</b>	<b>171</b>	<b>174</b>	<b>184</b>
<b>Personnel Cost/FTE (\$ thousands)</b>	<b>\$95.2</b>	<b>\$97.9</b>	<b>\$104.7</b>	<b>\$103.3</b>	<b>\$108.9</b>	<b>--</b>

Note: Expenditures in dollar millions. Actual expenditures are listed in the year the expenditure was recorded. Due to the allocation of expenditures, data reflect a portion of administrative and executive staff and funding resources.

## Performance Measures

Abandoned Mine Reclamation						
	14-15	15-16	16-17	17-18	18-19	19-20
<b><u>Descriptive</u></b>						
Total unreclaimed acreage (thousands)	295	296	307	308	304	315
<b><u>Output</u></b>						
# AML/AMD reclamation projects and contracts initiated <sup>1</sup>	206	192	185	222	230	200
# AML/AMD reclamation projects and contracts completed <sup>1</sup>	228	196	182	229	229	220
Citizens who requested assistance with an abandoned mine that were investigated and resolved	602	581	523	655	908	600
<b><u>Efficiency</u></b>						
Avg. cost per acre reclaimed (\$ thousands)	\$30.2	\$41.0	\$79.6	\$83.1	\$84.8	\$63.7
<b><u>Outcome</u></b>						
Cumulative acres reclaimed through AML program (thousands)	30.2	31.2	31.7	32.2	32.8	33.4
Acres reclaimed under the Government-Financed Construction Contract program	1,195	263	150	36	370	90
Restored miles of streams <sup>2</sup>	--	190	0	0	25	4
Notes:						
1 AML stands for Abandoned Mine Land. AMD stands for Acid Mine Drainage.						
2 Miles for FY 15-16 represents cumulative miles restored prior to 2016.						

## Activity 14: Mine Safety

The Mine Safety Activity ensures the health and safety of miners in all underground mines throughout Pennsylvania. The program inspects mines, investigates accidents, approves engineering plans, trains miners, responds to emergencies, approves equipment and issues certifications.

The goal of the Mine Safety Activity is to ensure that all mining operations are performed in a manner that is safe for workers and the surrounding community. The desired outcome is to minimize the risk and occurrence of worker accidents.

This activity is partially funded by mine certification fees, fines and civil penalties.

### Resources

<b>Mine Safety: Expenditures and Filled FTE Positions</b>						
	<b>14-15</b>	<b>15-16</b>	<b>16-17</b>	<b>17-18</b>	<b>18-19</b>	<b>19-20</b>
	<b>Actual</b>	<b>Actual</b>	<b>Actual</b>	<b>Actual</b>	<b>Actual</b>	<b>Budget</b>
<b>Expenditures by Object</b>						
Personnel Services	\$9.03	\$9.32	\$9.76	\$9.85	\$9.70	\$8.84
Operational Expenses	2.48	2.43	2.42	2.06	2.15	4.36
Other	<u>0.02</u>	<u>-0.08</u>	<u>-0.03</u>	<u>-0.19</u>	<u>-0.01</u>	<u>-1.55</u>
<b>Total</b>	<b>11.53</b>	<b>11.67</b>	<b>12.15</b>	<b>11.72</b>	<b>11.84</b>	<b>11.65</b>
<b>Expenditures by Fund</b>						
General Fund (State)	\$9.97	\$10.17	\$10.27	\$10.41	\$10.23	\$7.40
General Fund (Augmentations)	0.42	0.39	0.39	0.38	0.28	0.43
General Fund (Federal)	0.61	0.61	0.94	0.47	0.90	1.87
General Fund (Restricted)	0.11	0.12	0.13	0.11	0.11	0.14
Other Funds	<u>0.42</u>	<u>0.38</u>	<u>0.42</u>	<u>0.35</u>	<u>0.31</u>	<u>1.82</u>
<b>Total</b>	<b>11.53</b>	<b>11.67</b>	<b>12.15</b>	<b>11.72</b>	<b>11.84</b>	<b>11.65</b>
<b>Average Weekly FTE Positions</b>	<b>77</b>	<b>77</b>	<b>75</b>	<b>73</b>	<b>68</b>	<b>71</b>
<b>Personnel Cost/FTE (\$ thousands)</b>	<b>\$117.8</b>	<b>\$121.7</b>	<b>\$130.2</b>	<b>\$134.1</b>	<b>\$141.7</b>	<b>--</b>
<p>Note: Expenditures in dollar millions. Actual expenditures are listed in the year the expenditure was recorded. Due to the allocation of expenditures, data reflect a portion of administrative and executive staff and funding resources.</p>						

## Performance Measures

Mine Safety						
	14-15	15-16	16-17	17-18	18-19	19-20
<b>Descriptive</b>						
# Authorization applications received <sup>1</sup>	503	296	196	115	85	--
# Persons working at underground mines	4,734	3,947	2,986	3,151	3,162	3,270
# Producing underground mines	75	72	65	64	60	--
<b>Output</b>						
# Applications disposed	536	329	199	178	102	--
# Inspections	2,495	2,452	2,219	2,131	2,274	--
# Equipment approvals	198	112	117	88	84	91
# Miner certifications	1,231	751	615	555	669	600
# Mine plan approvals	326	189	182	223	269	315
<b>Efficiency</b>						
% Inspections conducted on time						
Anthracite						
Mine inspection	36%	64%	80%	50%	67%	75%
Electrical	73%	82%	58%	33%	62%	75%
Bituminous						
Electrical	100%	100%	100%	87%	95%	100%
Industrial materials	85%	86%	91%	86%	81%	90%
<b>Outcome</b>						
Total violations	2,458	2,141	1,668	1,737	1,824	--
Lost employee hours from accidents per 200,000 hours	2.24	2.47	2.63	2.50	2.50	2.50
# Accidents per 1,000 mine workers	9.93	9.37	12.06	18.41	18.03	--
# Fatalities per 1,000 mine workers	0.63	0.25	0.00	0.32	0.95	--
Note:						
1 Authorizations include permits, licenses and certifications.						



## Activity 15: Energy Programs

The Energy Programs Office (EPO) is the energy office for the state and serves as the Commonwealth's main point of contact with the U.S. Department of Energy.

The goal of the EPO is to reduce pollution and overall energy usage by promoting smarter energy choices, such as the implementation of energy conservation and efficiency measures and the use of renewable and alternative energy solutions. The desired outcomes are a general reduction in statewide pollution and energy consumption.

### Resources

Energy Programs: Expenditures and Filled FTE Positions						
	14-15	15-16	16-17	17-18	18-19	19-20
	Actual	Actual	Actual	Actual	Actual	Budget
<b>Expenditures by Object</b>						
Personnel Services	\$2.20	\$2.59	\$2.47	\$2.48	\$3.59	\$3.26
Operational Expenses	1.38	1.32	1.70	2.22	1.44	3.86
Grants	8.40	14.18	9.60	5.37	6.42	19.80
Other	<u>6.51</u>	<u>0.23</u>	<u>5.42</u>	<u>0.26</u>	<u>0.26</u>	<u>3.23</u>
<b>Total</b>	<b>18.48</b>	<b>18.32</b>	<b>19.19</b>	<b>10.32</b>	<b>11.71</b>	<b>30.14</b>
<b>Expenditures by Fund</b>						
General Fund (State)	\$2.12	\$2.11	\$2.19	\$2.29	\$3.06	\$1.93
General Fund (Augmentations)	0.22	0.22	0.21	0.21	0.27	0.26
General Fund (Federal)	2.71	1.22	1.48	2.45	1.40	17.10
General Fund (Restricted)	9.34	3.50	8.84	4.51	6.27	8.88
Energy Development Fund	0.03	0.74	0.21	0.11	0.10	1.19
Growing Greener Bond Fund	0.10	3.80	2.57	0.36	0.10	0.00
Marcellus Legacy Fund	3.61	6.38	3.31	0.03	-0.01	0.00
Other Funds	<u>0.35</u>	<u>0.34</u>	<u>0.38</u>	<u>0.35</u>	<u>0.52</u>	<u>0.78</u>
<b>Total</b>	<b>18.48</b>	<b>18.32</b>	<b>19.19</b>	<b>10.32</b>	<b>11.71</b>	<b>30.14</b>
<b>Average Weekly FTE Positions</b>	<b>26</b>	<b>25</b>	<b>24</b>	<b>24</b>	<b>29</b>	<b>34</b>
<b>Personnel Cost/FTE (\$ thousands)</b>	<b>\$86.2</b>	<b>\$105.3</b>	<b>\$101.2</b>	<b>\$103.2</b>	<b>\$122.9</b>	<b>--</b>

Note: Expenditures in dollar millions. Actual expenditures are listed in the year the expenditure was recorded. Due to the allocation of expenditures, data reflect a portion of administrative and executive staff and funding resources.

## Performance Measures and State Benchmarks

Energy Programs						
	14-15	15-16	16-17	17-18	18-19	19-20
<b>Output</b>						
# Alternative fuel incentive rebate awards	434	497	724	671	2,251	2,000
# Alternative fuel incentive grant awards	29	0	37	25	44	32
Alternative fuel grant and rebate awards (\$ millions) <sup>1</sup>	\$6.5	\$0.9	\$5.3	\$3.9	\$9.9	\$8.5
<b>Outcome</b>						
Greenhouse gas emissions reduction progress <sup>2</sup>	-9.1%	-13.3%	-8.1%	-7.7%	-13.5%	-14.8%
Alternative fuels vehicle deployment <sup>3</sup>	2,087	2,773	3,599	4,364	7,694	12,700
Energy saved from PEDAs grants and loans (MWh/yr) <sup>4</sup>	--	--	--	--	16,802	59,133
Level 2 Electric Vehicle Charging Stations	--	--	--	--	395	445
DC Fast Charging Stations	--	--	--	--	70	79
Compressed natural gas refueling stations	43	52	63	74	81	115
<b>Benchmark</b>						
PA energy efficiency and conservation ranking <sup>5</sup>	20	17	19	19	18	18

Notes:

- 1 Alternative Fuels Incentive Program.
- 2 Percent reduction in net greenhouse gas emission since 2005 (greenhouse gas inventory from DEP).
- 3 Electric vehicles registered with PennDOT.
- 4 PEDAs is the Pennsylvania Energy Development Authority.
- 5 National ranking by the American Council for an Energy-Efficient Economy.

Interstate Comparison of ACEEE Energy Efficiency and Conservation Ranking						
	2014	2015	2016	2017	2018	2019
<b>Pennsylvania</b>	<b>20</b>	<b>17</b>	<b>19</b>	<b>19</b>	<b>18</b>	<b>18</b>
Delaware	25	24	22	24	22	21
Maryland	9	7	9	10	10	7
New Jersey	19	21	24	23	18	17
New York	7	9	5	7	6	5
Ohio	25	27	29	31	29	33
West Virginia	46	45	44	47	49	48

Source: American Council for an Energy Efficient Economy (ACEEE), State Energy Efficiency Scorecard.

The American Council for an Energy-Efficient Economy releases an annual State Energy Efficiency Scorecard, which ranks all 50 states on their policy and program efforts to save energy. The Council ranks every state in six categories: utility programs, transportation, building energy codes, combined heat and power, state initiatives and appliance standards. This table represents Pennsylvania's ranking in this scorecard over the last six calendar years compared to border states.

## Activity 16: Laboratory Services

The Bureau of Laboratories (BOL) tests environmental samples to protect public health and the environment. The BOL also has a Laboratory Accreditation Section that accredits other laboratories that provide compliance tests for DEP programs. The BOL tests environmental samples submitted by DEP programs and other state and federal environmental agencies. The DEP programs determine the type of sample and the number of samples to be submitted to the BOL to meet their regulatory, monitoring and investigative requirements. The BOL ensures the technology, expertise, accreditation status and capacity for testing to protect public health and the environment.

The goal of this activity is to ensure quality and timely data for the department. The expected outcome is informed decision-making by the department to protect the environment and public health.

The funding for this activity includes the collection of registration fees, the billable hours completed by the laboratories and fines and penalties.

### Resources

<b>Laboratory Services: Expenditures and Filled FTE Positions</b>						
	<b>14-15</b>	<b>15-16</b>	<b>16-17</b>	<b>17-18</b>	<b>18-19</b>	<b>19-20</b>
	<b>Actual</b>	<b>Actual</b>	<b>Actual</b>	<b>Actual</b>	<b>Actual</b>	<b>Budget</b>
<b>Expenditures by Object</b>						
Personnel Services	\$6.16	\$6.24	\$6.59	\$6.49	\$7.02	\$7.51
Operational Expenses	4.97	4.94	5.09	5.20	4.85	5.98
Other	<u>0.65</u>	<u>0.68</u>	<u>0.46</u>	<u>0.49</u>	<u>0.74</u>	<u>1.48</u>
<b>Total</b>	<b>11.78</b>	<b>11.87</b>	<b>12.14</b>	<b>12.17</b>	<b>12.61</b>	<b>14.98</b>
<b>Expenditures by Fund</b>						
General Fund (State)	\$0.58	\$0.18	\$0.38	\$0.34	\$0.21	\$1.51
General Fund (Augmentations)	11.09	11.59	11.69	11.71	12.30	13.28
General Fund (Federal)	0.03	0.00	0.00	0.00	0.01	0.02
General Fund (Restricted)	0.09	0.10	0.07	0.12	0.09	0.12
Other	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.04</u>
<b>Total</b>	<b>11.78</b>	<b>11.87</b>	<b>12.14</b>	<b>12.17</b>	<b>12.61</b>	<b>14.98</b>
<b>Average Weekly FTE Positions</b>	<b>66</b>	<b>63</b>	<b>64</b>	<b>64</b>	<b>67</b>	<b>68</b>
<b>Personnel Cost/FTE (\$ thousands)</b>	<b>\$93.5</b>	<b>\$98.7</b>	<b>\$103.3</b>	<b>\$100.9</b>	<b>\$105.5</b>	<b>--</b>
<p>Note: Expenditures in dollar millions. Actual expenditures are listed in the year the expenditure was recorded. Due to the allocation of expenditures, data reflect a portion of administrative and executive staff and funding resources.</p>						

## Performance Measures

Laboratory Services						
	14-15	15-16	16-17	17-18	18-19	19-20
<b>Descriptive</b>						
Lab analytical rate (per billable hour)	\$181.8	\$182.4	\$190.0	\$190.0	\$190.0	\$190.0
Lab registration fees (\$ millions)	\$1.20	\$1.40	\$1.43	\$1.65	\$1.63	\$1.64
# Laboratories accredited <sup>1</sup>	453	431	413	413	392	399
<b>Output</b>						
Billable hours	61,144	60,827	58,059	58,483	59,501	60,000
# On-site compliance assessments performed	124	125	140	133	117	120
# Compliance complaints investigated	8	5	6	4	9	5
Tests completed (000s)						
Biological	20	22	30	32	30	31
Inorganic	390	390	380	410	430	420
Organic	380	390	370	360	430	400
Radiation	70	13	10	13	13	13
# Private well samples tested	2,458	2,091	2,295	2,922	3,000	3,000
<b>Efficiency</b>						
Sample turn-around time <sup>2</sup>						
Biological	4	3	3	4	3	4
Inorganic	26	25	22	19	22	21
Organic	17	15	18	19	22	21
Radiation	23	27	35	35	25	30
<b>Outcome</b>						
% Results rated acceptable for proficiency testing	96%	97%	97%	96%	97%	97%
# Major action events implemented for gross non-compliance to accreditation standards	6	9	10	9	4	2
Private well water compliance rate	82%	79%	78%	78%	73%	73%
Fines/penalties collected (\$ thousands)	\$335	\$261	\$141	\$235	\$412	\$400
Notes:						
1 Accredited by state and National Environmental Laboratory Accreditation Program (NELAP) standards.						
2 Average days elapsed between date sample received and date test completed.						

## Activity 17: Administration

The Administration Activity provides leadership, stewardship and support services for over 2,300 employees in 24 locations across the Commonwealth.

The goals of the Administration Activity are attentive management of agency operations, soundly developed and consistently applied environmental policy, efficient allocation of resources, prudent decision-making and the delivery of agency services with state-of-art technology and Lean methodology. The key technological and operational advances targeted and improved since 2015 include permitting, inspections, document management and grants administration. Expected outcomes include a regulated community and citizenry that is satisfied with service delivery and transparency.

### Resources

<b>Administration: Expenditures and Filled FTE Positions</b>						
	<b>14-15</b>	<b>15-16</b>	<b>16-17</b>	<b>17-18</b>	<b>18-19</b>	<b>19-20</b>
	<b>Actual</b>	<b>Actual</b>	<b>Actual</b>	<b>Actual</b>	<b>Actual</b>	<b>Budget</b>
<b>Expenditures by Object</b>						
Personnel Services	\$16.09	\$16.40	\$19.23	\$19.27	\$12.56	\$11.25
Operational Expenses	9.82	10.27	13.41	16.37	27.36	22.04
Grants	0.31	0.38	0.38	0.47	0.54	0.19
Other	<u>-4.40</u>	<u>-4.91</u>	<u>-3.83</u>	<u>-8.49</u>	<u>-8.37</u>	<u>1.42</u>
<b>Total</b>	<b>21.82</b>	<b>22.14</b>	<b>29.18</b>	<b>27.62</b>	<b>32.08</b>	<b>34.91</b>
<b>Expenditures by Fund</b>						
General Fund (State)	\$11.76	\$12.89	\$18.42	\$18.28	\$21.76	\$21.11
General Fund (Augmentations)	9.46	8.66	10.10	8.59	9.52	10.84
General Fund (Restricted)	0.02	0.01	0.01	0.00	0.00	0.01
Other	<u>0.58</u>	<u>0.57</u>	<u>0.66</u>	<u>0.74</u>	<u>0.80</u>	<u>2.95</u>
<b>Total</b>	<b>21.82</b>	<b>22.14</b>	<b>29.18</b>	<b>27.62</b>	<b>32.08</b>	<b>34.91</b>
<b>Average Weekly FTE Positions</b>	<b>167</b>	<b>164</b>	<b>173</b>	<b>113</b>	<b>116</b>	<b>128</b>
<b>Personnel Cost/FTE (\$ thousands)</b>	<b>\$96.2</b>	<b>\$100.1</b>	<b>\$111.1</b>	<b>\$170.3</b>	<b>\$108.1</b>	<b>--</b>

Note: Expenditures in dollar millions. Actual expenditures are listed in the year the expenditure was recorded. Due to the allocation of expenditures, data reflect a portion of administrative and executive staff and funding resources.

## Performance Measures

<b>Administration</b>						
	<b>14-15</b>	<b>15-16</b>	<b>16-17</b>	<b>17-18</b>	<b>18-19</b>	<b>19-20</b>
<b><u>Descriptive</u></b>						
Agency FTE	2,508	2,482	2,422	2,318	2,321	2,442
# Right to know requests received	1,309	1,516	2,017	2,047	940	950
Overtime costs (\$ thousands)	\$548	\$462	\$562	\$784	\$767	\$989
HR costs (\$ thousands)	\$2,037	\$1,911	\$1,982	\$1,693	\$2,547	\$3,729
IT costs (\$ thousands)	\$11,615	\$11,956	\$18,502	\$21,874	\$23,154	\$28,686
<b><u>Efficiency</u></b>						
HR cost per agency FTE	\$812	\$770	\$818	\$730	\$1,097	\$1,527
IT cost per agency FTE	\$4,631	\$4,817	\$7,639	\$9,437	\$9,976	\$11,747
Overtime costs per agency FTE	\$218	\$186	\$232	\$338	\$331	\$405
<b><u>Outcome</u></b>						
Ratio of vacant vs. filled positions	9.8%	4.5%	7.9%	7.6%	9.6%	--
% Conversion to electronic grants	--	--	5.7%	20.0%	65.7%	74.2%
% Inspectors moved to e-inspection solution	--	--	8.0%	14.0%	45.0%	65.0%
Turnover rate (salary)	8.0%	6.0%	6.0%	7.0%	8.0%	--
Turnover rate (total)	12.0%	11.0%	10.0%	10.0%	12.0%	--
Note:						
1 In FY 17-18, executive agency HR services and IT complement were consolidated under the Office of Administration (OA). During this transitional year, executive agencies continued to pay the personnel costs associated with the HR and IT complement transferred to OA. Beginning in FY 18-19, agencies are billed for these services as well as for a portion of the HR and IT enterprise budget previously appropriated to OA.						

# Appendix

## Performance-Based Budgeting and Tax Credit Review Schedule

Year		Performance-Based Budgets				
1	Corrections	Board of Probation and Parole	PA Commission on Crime & Delinquency	Juvenile Court Judges' Commission	Banking and Securities	General Services
2	Economic & Community Development	Human Services – Part 1	Health	Environmental Protection	PA Emergency Management Agency	State
3	PennDOT	Human Services – Part 2	State Police	Military & Veterans Affairs		
4	Education	Human Services – Part 3	Aging	PA Historical & Museum Commission	Agriculture	Labor and Industry
5	Drug and Alcohol Programs	Insurance	Revenue	Executive Offices	Environmental Hearing Board	Conservation and Natural Resources
Year		Tax Credits				
1	Film Production	New Jobs	Historic Preservation Incentive			
2	Research and Development	Keystone Innovation Zones	Mobile Telecom and Broadband	Organ and Bone Marrow		
3	Neighborhood Assistance	Resource Enhancement and Protections (REAP)	Entertainment & Economic Enhancement	Video Game Production	Keystone Special Development Zones	
4	Educational Tax Credits	Coal Refuse and Reclamation	Mixed Use	Community-Based Services		
5	Resource Manufacturing	Brewers'	Computer Data Center	Manufacturing and Investment	Waterfront Development	Rural Jobs and Investment

## Agency Response



December 13, 2019

Matthew J. Knittel  
Independent Fiscal Office  
Rachel Carson State Office Building  
400 Market Street  
Harrisburg, PA 17105

Dear Director Knittel:

Thank you for the opportunity to review the draft Performance-Based Budget Plan for the Pennsylvania Department of Environmental Protection (DEP). Through the process of working with the Independent Fiscal Office (IFO) on this report, we have been able to step back and view our agency as a whole. This experience will definitely result in benefits to the public. The IFO staff went above and beyond to understand the details of DEP and educate themselves on the subject matter. It was a pleasure collaborating with them for the better part of a year.

With any effort of this kind, there will be items that receive less of the spotlight than others. While this is an accurate picture of DEP's duties and activities, I appreciate this opportunity to note a few that are important to us.

- **Permit backlog management:** Through several years of decreased funding and a corresponding reduction in staff, a sizable backlog of permit applications accumulated in the Regional Offices. Beginning in July 2017, DEP publicly committed itself to reducing that backlog. The number of permits that were overdue at that time was 8,715. As of December 9, 2019, we have reduced that number to 512. Within some programs, this effort involved the reorganization of staff, internal pilot projects, and even mandatory overtime. The results of this effort can most prominently be seen in the number of permits disposed in the Clean Water and Oil and Gas programs in fiscal year 2017-18. Since then, DEP has used new technology to build management dashboards through which this progress can be monitored. We identified a problem, developed a solution, and turned it into a lasting improvement for the taxpayers.
- **Electronic permitting and electronic inspections:** The IFO includes these initiatives in the report, but it should be further explained that they represent a new era in efficiency for DEP. They make processes faster for the regulated community; increase the quality of data; and allow for higher levels of productivity from our staff, who are funded by the taxpayers. Through the electronic inspection platform, the entries made by inspectors in the field flow directly to our central database, eliminating the need for inspectors to later sit down and type their reports. The Oil and Gas program has seen a 21% increase in staff productivity as a result. Through electronic permitting, applicants no longer need to send paper checks through the mail, and forms can only be submitted if they are complete. We are devoting considerable staff and resources to roll out this technology across the entire agency.

Secretary  
Rachel Carson State Office Building | P.O. Box 2063 | Harrisburg, PA 171052063 | 717.787.2814 | [www.dep.pa.gov](http://www.dep.pa.gov)



DEP will take ownership of the performance goals in this report and use them to guide its future course. We will continue to identify areas of improvement that can make us not only more efficient from a quantitative point of view, but more effective in achieving our environmental mission.

Thank you again for the opportunity to review and comment.

Sincerely,

A handwritten signature in black ink, appearing to read 'Patrick McDonnell', written over a light blue horizontal line.

Patrick McDonnell  
Secretary